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COUNTY BOROUGH OF ST. HELENS.



33RD

ANNUAL REPORT

OF THE

Medical Officer of Health.

1905.

St. Helens:

WESTWORTH & SONS, PRINTERS & STATIONERS, LOWE STREET,

1906.

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HEALTH COMMITTEE.

NOVEMBER, 1905.

THE RIGHT WORSHIPFUL THE MAYOR, (Councillor H. MARTIN, J.P.)

Alderman J. FORSTER, J.P., Chairman.

„ J. MASSEY, J.P., Deputy-Chairman.

„ SIR DAVID GAMBLE, Bart., K.C.B., J.P.

„ J. C. GAMBLE, J.P.

„ J. GREEN, J.P.

Councillor H. B. BATES, L.S.A.

„ F. J. BROWN.

„ J. FISHER.

„ T. HAMBLETT.

„ W. MOLYNEUX.

„ P. J. O'KEEFFE, L.R.C.P., L.R.C.S.

„ H. H. PEET.

SUB-COMMITTEES.

HOSPITALS.

THE RIGHT WORSHIPFUL THE MAYOR.

Alderman J. FORSTER, J.P.

„ J. MASSEY, J.P.

„ SIR DAVID GAMBLE, Bart.,
K.C.B., J.P.

Councillor H. B. BATES, L.S.A.

„ F. J. BROWN.

„ P. J. O'KEEFFE, L.R.C.P.,
L.R.C.S.

SANITARY.

THE RIGHT WORSHIPFUL THE MAYOR.

Alderman J. FORSTER, J.P.

„ J. MASSEY, J.P.

„ SIR DAVID GAMBLE, Bart.,
K.C.B., J.P.

„ J. C. GAMBLE, J.P.

„ J. GREEN, J.P.

Councillor H. B. BATES, L.S.A.

„ W. MOLYNEUX.

„ P. J. O'KEEFFE, L.R.C.P.,
L.R.C.S.

INFANT MILK SUPPLY.

THE RIGHT WORSHIPFUL THE MAYOR.

Alderman J. FORSTER, J.P.

„ J. MASSEY, J.P.

„ SIR DAVID GAMBLE, Bart.,
K.C.B., J.P.

Councillor H. B. BATES, L.S.A.

SEWAGE.

THE RIGHT WORSHIPFUL THE MAYOR.

Alderman J. FORSTER, J.P.

„ J. MASSEY, J.P.

„ SIR DAVID GAMBLE, Bart.,
K.C.B., J.P.

„ J. C. GAMBLE, J.P.

Councillor H. B. BATES, L.S.A.

—+∞— STAFF. —∞+—

Medical Officer of Health, Public Analyst and Medical Superintendent of the Infectious Diseases Hospitals,

JOHN J. BUCHAN, M.D., D.P.H.

Chief Inspector of Nuisances, Building Inspector, and Inspector under the Food and Drugs Acts :—

W. JAS. MILLIGAN.

District Inspectors :—

EDWARD HOUGHTON.	Central, North and South Eccleston Wards.
JAS. STUBBS.	Parr, East and West Sutton Wards.
JOHN A. ROBINSON.	Hardshaw, North and South Windle Wards.
W. J. STEVENS.	Factory and Workshop, and Drainage Inspector.

Superintendent of the Public Abattoir :—

WILLIAM SUGDEN.

Female Health Visitors :—

MISS A. WYNNE.	Midwives' Act and Infant Hygiene.
MISS E. PRICE.	School Nurse and Infant Hygiene.

Head Clerk :—

ROBERT H. JACKSON.

Assistant Clerk :—

HARRY LOWE.

Two Disinfectors, one Hospital Porter, one Laboratory Assistant,
and one Office boy.

Matron of the Infectious Diseases Hospitals :—

MISS M. BURGESS.

*To the Chairman and Members
of the Health Committee.*

GENTLEMEN,

I have the honour to present to you the Annual Report on the Health of the Borough for the year 1905.

The report is divided into three parts dealing with Vital Statistics, Records of Disease, and General Sanitary Administration.

The birth rate was 36.05 per 1000 of the population, which is again one of the highest recorded in the great towns.

The death rate was 17.21 per 1000 of the population; this is the lowest on record. The infantile mortality rate was 132 per 1000 births; this also is the lowest on record.

The prevalence of Zymotic disease was low, that of Typhoid Fever being the lowest yet recorded.

All these results are exceedingly satisfactory, the remarkable reduction in the death rate, with the low infantile mortality rate and the maintenance of a high birth rate being specially gratifying.

In the third portion of the report many details of the work done are given, and I would draw special attention to the reference on page 71, to the need for drainage in Parr and Sutton.

I have pleasure in reporting the excellent work done by the Staff during the year, and I have to acknowledge with thanks the kindness and assistance which I have on all occasions received from the members of the Committee.

I am, Gentlemen,

Your obedient Servant,

JOHN J. BUCHAN.

Medical Officers Department,

Town Hall, St. Helens.

23rd May, 1906.

I.

Vital Statistics.

SUMMARY FOR 1905.

POPULATION—Estimated to the middle of the year—

	Males ...	46429	}	Total ...	89,843
	Females ...	48414			
Increase during the year					1,121

MARRIAGES	...	...	...	...	...	...	...	529
Annual Rate of Persons Married per 1000 of the Population ...								11·76

BIRTHS	...	...	Males ...	1,651	}	Total ...	3,239
			Females ...	1,588				
Annual Rate of Births per 1000 of Population								36·05

DEATHS	...	...	Males ...	819	}	Total ...	1,545
			Females ...	726				
Annual Rate of Mortality per 1000								17·21
			Males ...	17·6	}	Total ...	17·21	
			Females ...	16·7				

Total Deaths from Zymotic Diseases	...	...	...	...	169
Annual Rate of Mortality from Zymotic Diseases	...	...	...	...	1·88
Infantile Mortality Rate, 1905	...	...	...	...	132

Area of Borough	...	...	...	...	7,285 acres.
Highest altitude—at Brown Edge	...	...	...	...	268 ft. above ordnance datum.
Lowest altitude—at Blackbrook	...	...	...	...	75 ft. above ordnance datum.

POPULATION.

The population of the Borough at the middle of 1905 calculated upon the census returns, was 89,843, being an increase of 1,121 over that of last year. The population at the Census of 1901 was 84,410, and at the census of 1891, 72,413.

The number of inhabited houses at the end of last year was found to be 18,080. This gives an inhabited house rate of 4·9 persons per house.

The average density of population is 12·3 persons to the acre ; the density varies in different wards from 4·2 in West Sutton to 129·5 in South Windle. This is seen in the following table :—

DISTRIBUTION AND DENSITY OF POPULATION.

WARDS.	Population Census 1901.	Population estimated to June 30, 1905.	Area of each Ward.	Persons per Acre, 1905.
			<small>Acre.</small>	
Eccleston, North ...	10551	11321	235·439	48·1
Eccleston, South ...	8835	9662	621·625	15·5
Central ...	7235	7443	94·459	79·1
Windle, North ..	11475	12338	697·084	17·7
Windle, South ..	8315	8680	67·116	129·5
Hardshaw ...	9690	10179	342·684	29·7
Sutton, East ...	8771	9227	1312·319	7·0
Sutton, West ...	9524*	10260*	2429·151	4·2
Parr ...	10014	10733	1484·550	7·2
Whole Borough ...	84410	89843	7284·427	12·3

* Including Rainhill Asylum.

The proportion of young lives in the population as is seen in Table VI. at the end of the Report, is very great. In St. Helens 14·3 per cent. of the persons living are under five years of age, while in England and Wales generally, only 11·4 per cent. are under that age. This peculiarity in the population of the Borough is of great importance in considering its statistics, as the general mortality rate will be affected much more by a prevalence of disease among infants and children than by a prevalence among adults.

Increase of Population.—The increase in the population of 1905 over that of 1904 is 1,121. The natural increase for the year under consideration, or the excess of the number of births over that of the deaths is 1,692. If this be interpreted, it means that during the year 1905 there was a nett emigration from St Helens of 571 persons.

BIRTHS.

The number of Births registered during 1905 was 3,239. This number is 82 below that registered in 1904, The birth-rate, therefore is 36.05 per 1000 of the population.

In the following Table will be found the number of births registered in each quarter of the year from 1895, with the birth rate for each year :—

YEAR.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.	Rate per 1000 per year.	
1895	884	796	775	710	3165	32.8	
1896	777	783	714	768	3042	37.4	
1897	823	769	813	788	3193	38.5	
1898	896	776	767	823	3262	38.4	
1899	802	762	763	788	3115	35.9	
1900	886	743	768	701	3098	35.0	
1901	815	765	792	756	3128	36.9	
1902	848	798	801	775	3222	37.4	
1903	819	845	819	938	3421	39.1	
1904	824	848	788	861	3321	37.4	
Mean of 10 years } ...	837	788	780	790	3196	36.8	
1905	Males...	451	402	412	386	1651	} 36.05
	Females	421	387	403	377	1588	
	Total ..	872	789	815	763	3239	
	Rate per 1000	38.8	35.1	36.2	33.9		

It will be observed that during 1905, the highest birth-rate was registered in the 1st Quarter.

The birth rate in St. Helens is much above that of England and Wales.

or of the Great Towns generally. Of the 76 Great Towns, only Rhondda and Merthyr Tydfil have a higher birth rate than St. Helens. (See Table B, page 20).

The following table gives the birth rate for each year from 1895 in England and Wales, the Great Towns, and St. Helens:—

YEAR.	BIRTH RATES.		
	England and Wales.	Great Towns.	St. Helens.
1895	30·3	31·3	39·8
1896	29·7	30·7	37·4
1897	29·6	30·7	38·5
1898	29·4	30·3	38·4
1899	29·3	30·1	35·9
1900	28·9	29·4	35·0
1901	28·5	30·0	36·9
1902	28·6	30·0	37·4
1903	28·4	27·4	39·1
1904	27·9	29·0	37·4
Means	29·0	29·8	37·5
1905	27·2	28·2	36·05

It will be seen, therefore, that the birth rate for England and Wales during 1905 was 1·8 below the average for the previous ten years while that for St. Helens was 1·5 below the average for the same period.

Of the 3,239 children born during 1905, 1,651 were males and 1,588 were females, this being in the proportion of 100 males to 96·1 females.

The distribution of the births in the various Wards of the Borough in 1905 was as follows :—

Ward.	Number of Births.	Birth Rate per 1000.
North Eccleston ...	483	42·6
South Eccleston ...	411	42·5
Central ...	197	26·4
North Windle ..	331	26·8
South Windle ...	291	33·5
Hardshaw ...	342	33·5
East Sutton ...	390	42·2
West Sutton ...	312	30·4
Parr ...	482	44·9

The birth rate was therefore highest in Parr, North Eccleston, and South Eccleston, and lowest in Central and North Windle.

Illegitimacy.—St. Helens has always had a comparatively low rate of illegitimacy, and this record is still maintained.

Of the 3,239 births registered during 1905, 68 were illegitimate. This is in the proportion of 979 legitimate and 21 illegitimate births in every 1,000. It is unfortunate, however, that proper corrections cannot be made for the births occurring in the Workhouse at Whiston.

The following table shows the proportional amount of illegitimacy per 1,000 births in past years :—

Year.	Legitimate.	Illegitimate.
1895	975	25
1896	972	28
1897	977	23
1898	972	28
1899	978	22
1900	978	22
1901	976	24
1902	977	23
1903	978	22
1904	977	23
1905	979	21

DEATHS.

The deaths of 1,470 persons took place during 1905 within the Borough of St. Helens. Of these 780 were males and 690 females.

For comparative purposes certain corrections for deaths in Public Institutions have to be applied as follows :—

DEATHS IN PUBLIC INSTITUTIONS.

(a) *In the Borough of St. Helens.*

Name of Institution.	Total Deaths.	Deaths of Patients from St. Helens.
Borough Sanatorium ...	31	28
County Asylum (old) ...	62	0
Providence Hospital ...	51	48
St. Helens Hospital ...	60	55
Total ...	204	131

(b) *Outside the Borough of St. Helens.* The following deaths of persons belonging to St. Helens occurred in Public Institutions outside the Borough :— Whiston Workhouse, 132; County Asylum (new), 4; Liverpool Hospitals, 12; Total, 148.

There thus falls to be subtracted the deaths of 73 persons who died within the Borough, but whose residence was elsewhere, and to be added the deaths of 148 persons whose residence was in St. Helens, but whose death occurred outside the Borough. The total number of deaths is therefore 1545, giving a death rate of 17·19 per thousand of the population. This rate is 3·8 per 1,000 below the rate in the preceding year, and 2·9 per 1,000 below the mean rate in St Helens for the preceding 10 years. This is the lowest rate yet recorded for the Borough (see page 19).

In England and Wales the death rate for 1905 was 15·2 per 1,000, being 1·0 below the rate for 1904, and 2·0 below the mean rate for the preceding 10 years.

In making a comparison between these death rates it is necessary to allow for the difference in the age and sex constitution of the populations. This, as explained in previous reports, may be done by multiplying the death rate of St. Helens by a "factor of correction," allowing for this difference. The Registrar-General gives this factor as 1·0839, which, when applied, gives a corrected death rate of 18·6 per 1,000 in St. Helens. The comparative mortality figure for 1905 is therefore 1223; this means that a population living in England and Wales generally, which in 1905 would have given 1,000 deaths, would, if living in St. Helens alone, have given 1223 deaths.

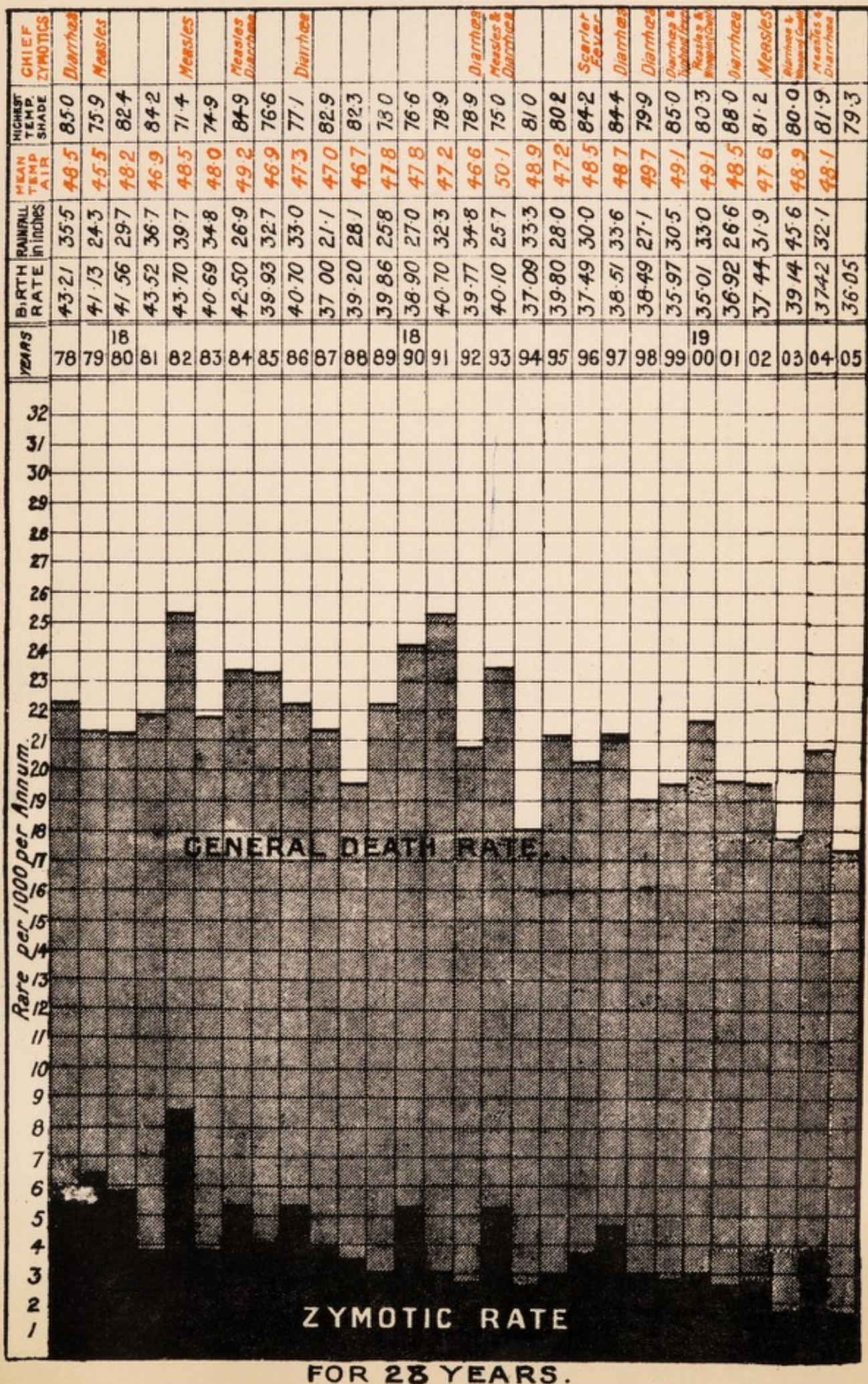
On pages 20 and 21 will be found the death rates for the other great towns in England and Wales during 1905, when it will be seen that 13 towns have a higher death rate than St. Helens.

The following table shows the deaths from the principal disease groups in 1905 and in the preceding ten years :—

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Zymotic diseases	276	326	388	285	278	319	245	243	166	372	204
Parasitic diseases	2	2	5	2	—	3	1	—	—	2	2
Dietic diseases	4	2	7	5	4	7	7	1	10	3	1
Constitutional diseases ..	241	230	234	219	222	264	209	265	232	253	230
Developmental ,, ..	122	96	101	114	99	125	123	143	125	139	163
Diseases of Nervous System	182	197	182	210	217	237	181	211	211	165	164
,, ,, Respiratory ,,	344	356	375	332	379	439	326	142	364	370	326
,, ,, Circulatory ,,	88	77	71	73	90	100	94	82	89	106	110
,, ,, Digestive ,,	146	150	148	154	157	176	192	135	113	167	139
Other local diseases ..	47	39	51	43	52	54	54	55	67	48	69
Deaths from violence	53	61	48	56	55	52	65	56	68	50	62
Ill-defined diseases	169	132	136	148	147	138	150	109	90	113	72
All causes	1674	1668	1746	1641	1700	1914	1675	1702	1535	1788	1542

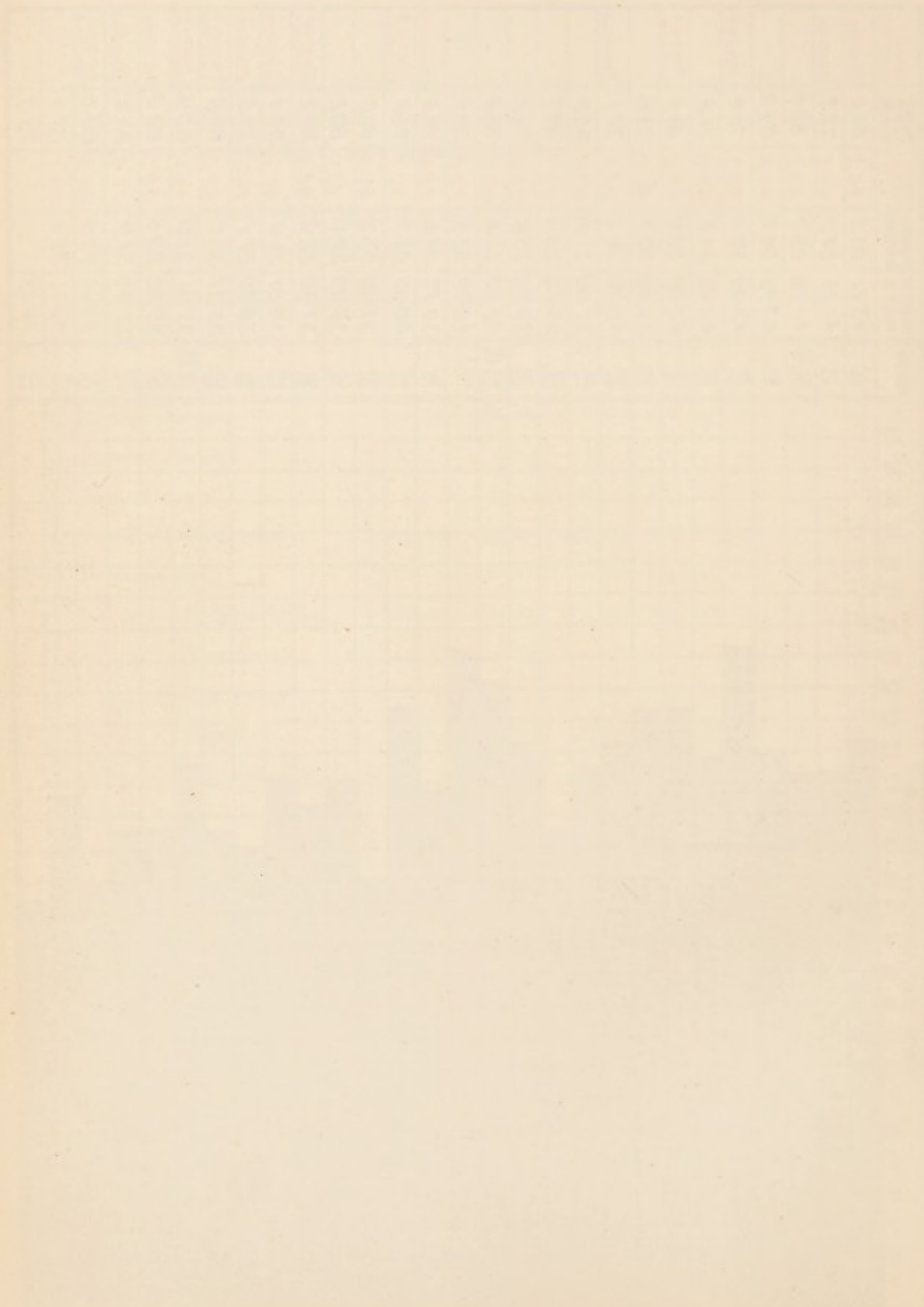
The decrease in the number of deaths is most marked in the zymotic group where there were 168 deaths less than in the preceding year. A considerable decrease is also noted among the respiratory and digestive diseases, and a slight increase has occurred among developmental and other local diseases.

CHART NO. 1.



FOR 28 YEARS.

CHART NO. 1



The death rate, the factor of correction, corrected death rate and comparative mortality figure for each of the different wards in the Borough for 1905, are shown in the following table:—

WARDS.	Death-rate.	Factor of Correction.	Corrected Death Rate.	Comparative Mortality figure.
North Eccleston	15·2	1·0556	16·0	1052
South Eccleston	16·6	1·0737	17·8	1171
Central	16·9	1·1331	19·1	1256
North Windle ...	11·5	1·1310	13·0	855
South Windle ...	14·0	1·0957	15·3	1006
Hardshaw ...	17·7	1·1009	19·0	1250
Sutton, East ...	19·2	1·0693	20·5	1348
Sutton, West ...	13·9	1·0630	14·7	967
Parr	17·2	1·0489	18·0	1184

The death-rate in the first quarter of the year was 19·4, in the second 16·9, in the third 17·4, and in the fourth quarter 14·6 per 1,000; the rate was therefore greatest in the first quarter of the year; the low death rate in the third and fourth quarters is worthy of notice.

The death-rate among the male population was 17·6 per 1,000, and among the female 16·7.

Mortality at Different Ages.—The death rates at each age group during the past 6 years are seen in the following table. The marked decrease in the rate in the earlier years of life is to be noted.

AGES.	Death Rate per 1,000 of the Population at each age Group.					
	1900	1901	1902	1903	1904	1905
Under 1 year ...	196·2	192·9	203·3	175·7	210·4	154·7
1 to 2 years ...	78·5	67·1	69·9	53·6	97·1	63·4
2 „ 3 „ ...	22·9	28·3	25·9	21·1	37·9	27·9
3 „ 4 „ ...	15·1	10·5	14·5	13·1	23·7	13·5
4 „ 5 „ ...	10·2	11·9	11·3	8·7	12·6	10·1
5 „ 10 „ ...	4·6	5·0	5·3	5·9	4·2	4·1
10 „ 15 „ ...	2·1	2·8	2·5	2·5	2·6	2·2
15 „ 20 „ ...	4·0	3·5	3·4	3·4	3·2	3·7
20 „ 25 „ ...	6·1	6·3	5·5	3·3	3·8	4·8
25 „ 35 „ ...	9·6	7·8	6·9	6·8	5·1	6·3
35 „ 45 „ ...	14·5	13·7	13·6	10·5	10·4	9·5
45 „ 55 „ ...	26·9	21·0	20·5	20·9	18·3	18·0
55 „ 65 „ ...	46·5	38·0	40·5	37·6	35·0	35·0
65 „ 75 „ ...	96·7	70·8	79·1	69·9	77·6	84·9
75 „ 85 „ ...	137·6	154·8	144·0	160·7	165·7	172·3
Upwards of 85 years.	285·7	74·0	281·2	312·5	312·5	218·7
All under 5 years ...	69·0	66·4	68·0	57·0	79·3	56·2
All over 5 years ...	13·2	11·5	11·7	10·9	10·2	10·6
All ages ...	21·6	19·7	19·7	17·5	20·9	17·1

Infantile Mortality Rate.—The Infantile mortality rate in 1905 was 132 per 1,000 births; the rates for past years are shown in the following table, which compares them with the corresponding rates in the Great Towns, and in England and Wales generally :—

YEAR.	INFANTILE MORTALITY RATE.		
	England and Wales.	Great Towns.	St. Helens.
1895	161	182	181
1896	148	168	177
1897	156	176	181
1898	160	178	172
1899	163	182	157
1900	154	172	188
1901	151	168	175
1902	133	144	167
1903	132	144	138
1904	146	160	174
Average of 10 yrs.	150	167	171
1905	128	140	132

It will be seen that the infantile mortality is 42 per 1000 below that for last year and 39 per 1000 below the mean for the past ten years. This rate is the lowest yet recorded. Reference to Table B, page 20, will show that 47 of the Great Towns had a higher infantile mortality rate than St. Helens; the Borough has never occupied so satisfactory a comparative position before, and considering its high comparative birth rate it is especially pleasing to record such a low infantile mortality rate.

In the various Wards of the Borough this rate during 1905 was as follows :—North Eccleston, 118; South Eccleston, 121; Central, 188; North Windle, 109; South Windle, 147; Hardshaw, 152; East Sutton, 150; West Sutton, 125 Parr, 120.

The rate was therefore highest in Central and lowest in North Windle Wards.

In analysing the causes of deaths in children under one year of age it will be seen from the following table that the deaths from diarrhoea, digestive diseases, measles, respiratory diseases and tubercular diseases have much decreased during the past year.

DEATH RATES PER 1000 LIVING UNDER 1 YEAR.

DISEASE.	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Measles	3·36	2·56	8·61	·70	1·37	4·37	·35	6·38	0·00	9·10	3·23
Whooping Cough ..	1·87	12·44	2·51	3·51	5·15	8·40	1·05	3·38	6·28	4·73	5·39
Diarrhœa	23·18	16·83	30·51	31·59	21·29	22·51	27·01	11·27	12·94	29·48	14·75
Other Zymotics ..	1·12	5·29	1·76	2·10	·34	1·7	1·40	1·12	2·58	·72	1·79
<i>All Zymotics</i>	<i>29·53</i>	<i>35·12</i>	<i>43·42</i>	<i>37·90</i>	<i>28·15</i>	<i>36·98</i>	<i>29·82</i>	<i>22·17</i>	<i>21·82</i>	<i>44·04</i>	<i>25·19</i>
Tabes Mesenterica ..	5·23	6·58	8·25	5·26	3·09	6·05	7·01	7·14	4·07	5·82	4·31
Other Tubercular Dis.	3·74	3·66	5·02	3·86	4·12	3·02	3·85	4·88	4·40	8·00	3·23
<i>All Tubercular Dis. ..</i>	<i>8·97</i>	<i>10·24</i>	<i>13·27</i>	<i>9·12</i>	<i>7·21</i>	<i>9·07</i>	<i>10·87</i>	<i>12·02</i>	<i>8·50</i>	<i>13·83</i>	<i>7·55</i>
Premature Birth ..	28·05	21·59	16·87	23·51	18·54	19·82	23·50	33·07	25·89	24·75	25·18
Nervous System ..	25·80	21·96	23·33	19·65	18·20	24·86	21·40	24·80	25·52	21·84	16·91
Respiratory System ..	39·64	34·77	34·10	35·45	24·38	29·23	28·07	47·35	38·10	32·76	20·51
Digestive System ..	19·82	10·24	5·74	15·44	6·52	9·74	5·26	12·02	9·98	28·75	24·47
Enteritis	8·60	15·00	20·46	11·82	17·51	21·17	22·10	9·77	6·65	10·92	7·55
Debility	30·66	25·25	25·48	23·16	25·06	20·82	23·85	22·17	19·97	24·02	14·39
Marasmus	15·33	10·98	12·56	18·60	15·79	16·12	18·24	12·40	7·76	10·92	7·91
Other Causes.. ..	11·96	12·81	12·20	5·96	7·55	6·05	9·82	7·51	11·46	9·71	12·59
Total Mortality ..	215·42	198·00	207·50	198·66	168·95	196·2	192·98	203·3	175·7	210·4	154·7

Mortality at Different Ages.—The mortality rate between 1 and 60 years of age in St. Helens during 1905 was 9·7 per 1000; over 60 years of age the rate was 74·5 per 1000. In England and Wales the rates at these ages were 7·5 and 66·8 per 1000 respectively.

The text on this page is extremely faint and illegible. It appears to be a historical record or a list of entries, possibly related to the county of Middlesex during the reign of King Charles II. The content is too light to transcribe accurately.

Table A.—Vital and Mortal Statistics for St. Helens during 30 years.

YEARS.	Population.	Birth Rate.	Death Rate.	Zymotic Death Rate.	DEATHS FROM							
					Small Pox.	Measles.	Scarlet Fever	Typhoid and Continued Fever.	Typhus Fever.	Diarrhoea.	Whooping Cough.	Diphtheria.
1876	51190	45·60	23·28	5·1	0	102	21	40	1	86	7	15
1877	52430	44·33	22·84	3·2	0	2	12	34	1	74	48	11
1878	53700	46·21	23·99	4·2	c	4	22	40	0	132	15	20
1879	55010	41·13	22·40	5·7	0	143	83	34	2	52	2	3
1880	56340	41·56	20·05	4·6	c	0	27	40	2	130	71	1
1881	57711	43·52	21·69	2·92	c	14	28	56	0	76	3	3
1882	58972	43·70	25·46	7·4	c	250	36	33	1	85	36	6
1883	60263	40·69	21·65	2·5	c	3	14	31	1	69	24	11
1884	61584	42·50	24·16	5·3	0	131	16	33	2	131	9	11
1885	62932	39·93	23·32	3·5	c	81	13	7	1	56	53	11
1886	64311	40·70	22·46	5·2	0	102	34	28	0	122	41	10
1887	65718	37·00	21·69	3·9	0	53	35	34	0	101	28	11
1888	67158	39·20	19·80	3·1	0	38	11	22	0	65	61	21
1889	68628	39·86	23·50	4·18	0	78	3	81	1	85	15	29
1890	70132	38·90	25·43	5·3	0	19	181	24	1	74	68	13
1891	71666	40·70	26·02	3·0	0	54	24	26	0	78	29	9
1892	73240	39·77	20·55	2·64	1	23	18	25	0	84	31	12
1893	75370	40·10	23·46	5·3	5	135	6	52	0	168	19	16
1894	*77690	37·09	18·02	2·21	0	21	14	26	2	38	61	10
1895	*79400	39·8	21·08	3·08	1	54	9	59	0	101	14	8
1896	*81136	37·49	20·24	3·63	0	38	59	40	0	63	78	17
1897	*82910	38·51	21·0	4·22	0	87	44	33	0	133	33	20
1898	*84730	38·49	19·3	3·09	0	17	24	30	0	140	34	16
1899	*86588	35·97	19·6	2·74	0	21	8	43	0	114	41	15
1900	*88480	35·0	21·6	3·04	0	59	25	19	0	91	56	19
1901	*84734	36·9	19·7	2·56	0	7	29	34	0	95	17	3
1902	*86040	37·4	19·7	2·60	0	59	52	25	0	50	18	20
1903	*87385	39·1	17·5	1·72	0	1	26	18	0	53	30	23
1904	*88722	37·4	20·9	3·96	3	131	17	13	—	120	49	22
1905	*89843	36·05	17·2	1·18	0	41	16	2	0	66	26	18

* These figures include Population in Area added 1894.

TABLE B.

TABLE SHOWING COMPARATIVE STATISTICS BETWEEN
ST. HELENS AND THE 75 OTHER GREAT TOWNS DURING 1905.

TOW	Population	Birth Rate per 1000	Death Rate per 1000	Infantile Rate per 1000 Births	Zymotic Rate per 1000
76 Great Towns ..	15,609,377	28·2	15·7	140	1·88
London	4,684,794	27·1	15·6	131	1·71
Croydon	147,704	26·4	12·5	95	·98
Willesden	138,080	30·0	11·6	112	1·72
Hornsey	84,070	18·5	7·6	66	·46
Tottenham	116,232	30·9	12·8	115	1·31
West Ham	294,997	30·7	14·8	153	2·98
East Ham	123,381	29·8	11·7	125	2·27
Leyton	114,555	28·1	10·3	94	1·37
Walthamstow ..	116,297	28·9	10·8	106	1·70
Hastings	66,820	17·7	12·8	113	·90
Brighton	127,183	23·0	13·5	101	·56
Portsmouth	201,975	28·0	16·6	133	2·64
Bournemouth ..	66,168	16·8	12·3	83	·50
Southampton ..	114,897	25·0	14·4	132	2·37
Reading	77,674	25·7	13·4	121	1·54
Northampton ..	92,441	20·9	12·6	126	1·22
Ipswich	70,802	27·7	14·6	144	1·26
Great Yarmouth ..	52,353	27·4	15·8	132	·86
Norwich	116,741	27·8	16·3	174	1·60
Plymouth	116,000	25·6	16·8	135	1·44
Devonport	76,864	29·1	13·9	113	1·05
Bristol	358,515	27·0	14·6	122	1·50
Hanley	64,667	33·6	19·3	195	2·80
Burton-on-Trent ..	52,424	25·4	11·5	87	·67
Wolverhampton ..	99,456	28·7	15·0	137	2·26
Walsall	92,998	29·9	14·1	141	1·42
Handsworth (Staffs). ..	61,721	24·1	10·1	80	·63
West Bromwich ..	67,823	31·6	16·7	146	3·21
Birmingham	542,959	29·3	16·2	154	1·90
Kings Norton	69,630	25·7	9·1	89	·78
Smethwick	62,605	30·6	13·3	137	1·75
Aston Manor	81,320	26·3	13·1	145	2·02
Coventry	75,134	28·7	14·6	108	1·49
Leicester	228,132	25·9	13·3	148	1·62
Grimsby	68,153	29·2	14·8	174	2·78
Nottingham	251,671	26·5	16·5	155	2·27
Derby	122,207	25·4	14·6	151	1·52

TABLE B (Continued)

TOWN.	Population	Birth Rate per 1,000	Death Rate per 1,000	Infantile Rate per 1,000 Births	Zymotic Rate per 1,000
Stockport	98,320	27·2	16·7	168	1·96
Birkenhead	116,035	32·0	15·4	127	1·86
Wallasey	62,460	26·6	12·5	98	1·08
Liverpool	730,143	33·3	19·6	153	2·59
Bootle	62,758	33·1	18·2	155	2·88
Wigan	86,581	33·8	18·6	164	3·14
Warrington	68,301	35·5	17·0	147	2·69
Bolton	178,111	25·0	15·1	167	1·94
Bury	58,594	21·8	16·3	147	1·26
Manchester	631,185	29·5	18·0	157	2·25
Salford	231,514	30·7	16·9	148	2·57
Oldham	140,225	24·3	18·0	150	2·10
Rochdale	86,390	21·8	16·7	133	1·25
Burnley	101,682	26·3	16·6	173	2·33
Blackburn	133,067	24·1	16·2	146	2·01
Preston	115,721	28·3	17·9	154	3·15
Barrow-in-Furness	60,306	30·4	14·6	135	1·99
Huddersfield	94,888	23·8	17·0	119	1·10
Halifax	108,419	19·2	14·6	131	·98
Bradford	286,799	21·1	15·2	144	1·42
Leeds	456,787	27·1	15·2	151	1·61
Sheffield	440,414	29·8	17·0	167	3·20
Rotherham	59,794	32·1	13·7	123	1·30
York	82,362	28·0	14·2	129	1·41
Hull	258,127	30·1	16·3	152	2·37
Middlesborough	98,369	35·0	21·0	173	2·99
Stockton-on-Tees	52,425	30·5	17·8	150	2·49
West Hartlepool	71,313	29·2	15·8	146	2·04
Sunderland	152,761	34·4	18·6	142	1·24
South Shields	109,360	32·1	16·1	146	1·84
Gateshead	120,620	32·7	15·5	138	1·66
Newcastle-on-Tyne	264,511	32·1	16·8	135	1·33
Tynemouth	53,595	33·2	19·3	153	1·45
Newport (Mon.)	72,880	31·3	15·8	125	1·30
Cardiff	180,054	28·6	13·4	118	1·14
Rhondda	124,988	37·5	19·1	200	2·83
Merthyr Tydfil	73,848	38·3	22·1	193	4·04
Swansea	96,384	31·9	16·7	131	1·37
St. Helens	89,843	36·05	17·1	132	1·88

TABLE C.
WEEKLY RETURNS OF BIRTHS AND DEATHS FOR 1905.

1904.		Deaths from all causes.	Annual Rate per 1000.	Deaths from seven principal Zymotics.	Annual Rate per 1000, for Zymotics.	Births.	Annual Rate per 1000.	
Week ending	January	7	39	22.5	2	1.1	69	39.8
"	"	14	30	17.3	2	1.1	66	38.0
"	"	21	40	23.0	4	2.2	78	45.0
"	"	28	25	14.4	3	1.7	63	36.3
"	February	4	34	19.6	1	0.5	81	46.7
"	"	11	27	15.5	2	1.1	71	40.9
"	"	18	26	15.0	3	1.7	58	33.4
"	"	25	33	19.0	2	1.1	43	24.8
"	March	4	34	19.6	2	1.1	69	39.8
"	"	11	29	16.7	1	0.5	64	36.9
"	"	18	29	16.7	7	4.0	84	48.4
"	"	25	37	21.3	7	4.0	62	35.7
"	April	1	35	20.1	4	2.2	64	36.9
"	"	8	24	13.8	1	1.1	62	35.7
"	"	15	43	24.8	8	4.6	48	27.6
"	"	22	30	17.3	6	3.4	58	33.4
"	"	29	37	21.3	9	5.1	54	31.1
"	May	6	29	16.7	5	2.8	80	46.1
"	"	13	23	13.2	1	.5	73	42.1
"	"	20	27	15.5	4	2.2	72	41.5
"	"	27	26	15.0	1	.5	51	29.4
"	June	3	23	13.2	1	.5	53	30.5
"	"	10	32	18.4	5	2.8	77	44.4
"	"	17	29	17.3	2	1.1	57	32.8
"	"	24	24	15.0	1	.5	55	31.7
"	July	1	15	8.6	2	1.1	49	28.2
"	"	8	22	12.6	5	2.8	83	47.8
"	"	15	25	14.4	0	.0	77	44.4
"	"	22	26	15.0	1	.5	70	40.3
"	"	29	23	13.2	10	5.7	55	31.7
"	August	5	35	20.1	6	3.4	74	42.6
"	"	12	34	19.6	9	5.1	37	21.3
"	"	19	46	26.5	11	6.3	59	34.0
"	"	26	33	19.0	13	7.5	46	26.5
"	September	2	22	12.6	5	2.8	49	28.2
"	"	9	29	17.3	3	1.7	80	46.1
"	"	16	26	15.0	1	.5	59	34.0
"	"	23	21	12.1	2	1.1	57	32.8
"	"	30	33	19.0	3	1.7	69	39.8
"	October	7	18	10.3	1	.5	52	30.0
"	"	14	18	10.3	0	.0	44	25.3
"	"	21	17	9.8	2	1.1	64	36.9
"	"	28	23	13.2	2	1.1	70	40.3
"	November	4	24	13.8	1	.5	54	31.1
"	"	11	27	15.5	3	1.7	66	38.0
"	"	18	17	9.8	1	.5	55	31.7
"	"	25	34	19.6	1	.5	52	30.0
"	December	2	28	16.1	2	1.1	52	30.0
"	"	9	29	16.7	1	.5	73	42.1
"	"	16	15	8.6	2	1.1	73	42.1
"	"	23	40	23.0	1	.5	58	33.4
"	"	30	25	14.4	1	.5	49	28.2

II.

Records of Disease.

Records of Sitka.

THE ZYMOTIC DISEASES.

The principal Zymotic Diseases recognised in this country are Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Typhus Fever, Typhoid Fever, and Epidemic Diarrhœa.

The total deaths from these diseases in 1905 was 169, giving a mortality rate for this group of 1·88 per 1,000. In 1904 the number of deaths was 352 and the rate was 3·96. In England and Wales the rate in 1905 was 1·52 per 1,000.

The Zymotic death rates during the past six years are seen in the following table. The rates in all the diseases show a decrease in 1905.

MORTALITY RATES PER 1,000 SINCE 1900.

	1900	1901	1902	1903	1904	1905
Small Pox ..	0·00	0·00	0·00	0·00	0·03	0·00
Measles ..	0·66	0·07	0·68	0·01	1·47	0·45
Scarlet Fever ..	0·28	0·34	0·60	0·29	0·17	0·17
Diphtheria ..	0·21	0·38	0·23	0·26	0·24	0·20
Whooping Cough	0·63	0·20	0·20	0·34	0·55	0·28
"Fever" ..	0·21	0·40	0·29	0·20	0·12	0·02
Diarrhœa ..	1·02	1·41	0·58	0·60	1·35	0·73
	3·04	2·56	2·60	1·72	3·96	1·88

The mean death rate for Zymotic Diseases over quinquennial periods is seen in the following table, which shows that though temporary fluctuations have occurred this death rate is continuously falling.

ZYMOTIC DEATH RATE SINCE 1875.

Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.
1875	5·3	1880	4·6	1885	3·5	1890	5·3	1895	3·0	1900	3·0
1876	5·1	1881	2·9	1886	5·2	1891	3·0	1896	3·6	1901	2·5
1877	3·2	1882	7·4	1887	3·9	1892	2·6	1897	4·2	1902	2·6
1878	4·2	1883	2·5	1888	3·1	1893	5·3	1898	3·0	1903	1·7
1879	5·7	1884	5·3	1889	4·1	1894	2·2	1899	2·7	1904	3·9
Mean	4·7		4·5		3·9		3·6		3·3		2·7

1905 1·88

On pages 20 and 21, will be found the Zymotic rates for the past year in the great towns in England and Wales, where it will be seen that 82 towns had a higher rate than St. Helens; last year only 9 had a higher rate.

The Zymotic death rate in the first quarter of the year was 1·71 ; in the second 2·01 ; in the third 3·00 ; and in the last quarter ·76 per 1,000 of the population. It was therefore greatest in the third quarter.

In Table VII., page 84, will be found certain details regarding the deaths from Zymotic diseases with reference to age and locality.

The diseases to be notified under the Infectious Disease Notification Act, 1889, are small-pox, cholera, diphtheria, membranous croup, erysipelas, scarlet fever, and the fevers known by any of the following names :—typhus, typhoid, enteric, relapsing, continued or puerperal.

The number of such notifications received from Medical Practitioners during the year was 609. This was 146 less than the number for the previous year.

NOTIFICATIONS IN PAST 10 YEARS.

1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
1698	1308	762	752	934	1090	1525	1024	755	609

These numbers do not include the notifications of chicken-pox required from time to time nor the voluntary notifications of phthisis pulmonalis.

Small Pox.—Cases notified, 1 ; deaths, 0 ; fatality per cent. 0·0.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	0	0	0	0	0	0	4	27	34	1
Deaths	0	0	0	0	0	0	0	0	3	0
Fatality per cent	—	—	—	—	—	—	0	0	8·8	0·0

St. Helens was free from Small-pox from April 12th, 1904, to April 29th, 1905, when a case was notified in the Central Ward. The patient was seen by his medical attendant, in consultation with the Medical Officer of Health, and removed to Old Wint Hospital without delay. Re-vaccinations were diligently carried out in the vicinity of the case, all the contacts being included. A thorough disinfection was carried out, and the neighbourhood was kept under close supervision and no further cases occurred. The patient was an aged labourer, who was apparently infected on or about the 15th April, when there was a large influx of visitors into the town. No other source of infection could be definitely ascertained. He had been vaccinated in infancy, and showed 3 marks, but had not been re-vaccinated.

The following table gives the vaccination returns for St. Helens since 1891. The figures have been supplied by Mr. Griffin, Vaccination Officer for St. Helens.

VACCINATION RETURNS SINCE 1891.

YEAR	1 Births.	2 Vaccinated.	3 Insus-ceptible	4 Dead.	5 Con. Obj'e't'r	6 Post-poned.	7 Removed	8 Un-accounted	Percentage not Vaccinated including Columns 5, 6, 7, 8
1891	*2827	2345	15	386	—	—	76	5	3·3
1892	*2817	2424	6	318	—	—	63	6	2·7
1893	*2856	2378	14	371	1	—	91	1	3·7
1894	*2711	2284	10	312	1	—	99	5	4·3
1895	*2943	2443	17	378	3	1	99	2	4·1
1896	*3006	2538	14	356	—	4	92	2	3·7
1897	*3209	2680	11	390	4	7	110	7	4·9
1898	*3238	2696	15	383	14	1	103	15	4·6
1899	*3126	2625	32	346	10	3	94	16	4·8
1900	*3148	2654	10	367	5	12	82	18	4·2
1901	3157	2639	4	391	11	29	59	24	4·4
1902	3245	2788	4	342	7	12	58	34	3·8
1903	3391	2977	8	325	2	6	62	11	2·6
1904	3375	2940	7	341	10	10	42	25	2·8

*The above Returns are for St. Helens Sub-District of the Prescot Union, which does not include quite the whole of the Borough.

The Borough compares very favourably in respect to vaccination with other towns.

Measles.—Cases, 807 ; Deaths, 41 ; Fatality per cent., 5·08.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	—	582	212	470	828	355	1245	30	2194	807
Deaths	38	87	17	21	59	7	59	1	131	41
Fatality per cent	—	14·9	8·0	4·4	7·1	1·9	4·7	3·3	5·9	5·0

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens ..	·46	1·04	·20	·24	·66	·07	·68	·01	1·47	·45
England and Wales	·55	·40	·42	·30	·39	·40	·38	·27	·35	·32

The epidemic of Measles reported on last year continued with somewhat abated severity during the early months of 1905, but towards the end of this year the disease was absent from the town.

The monthly incidence and ward distribution of the cases are seen in the following table, which shows that Parr and West Sutton were the wards most affected while the greatest prevalence of the disease was in March.

CASES OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar	Apl.	May	J'ne	July	Aug	Sep.	Oct.	Nov	Dec.	Total.
Eccleston, North	9	15	26	17	5	5	1	1	2	—	—	—	81
Eccleston, South	4	25	6	2	—	12	—	—	4	—	—	—	53
Central	2	14	41	5	—	—	—	—	—	—	—	—	62
Windle, North..	2	5	18	10	11	12	2	3	—	—	—	—	63
Windle, South..	1	6	25	11	24	4	—	—	—	—	—	—	71
Hardshaw .. .	5	—	7	9	8	—	—	1	1	—	—	—	31
Sutton, East ..	11	27	21	7	3	—	—	—	—	3	1	—	73
Sutton, West ..	—	15	82	59	22	4	1	—	2	1	—	1	187
Parr	87	62	13	8	14	1	—	—	—	—	1	—	186
Totals .. .	121	169	239	128	87	38	4	5	9	4	2	1	807

The deaths occurring month by month since 1896 are shown in the following table, where it will be noticed that the number of deaths has always tended to fall during September and October, forming a contrast to the number occurring in the other months. This fact is probably related to the schools being closed for summer holidays during the preceding two months. The maximum number of deaths occur in the winter months.

DEATHS OCCURRING IN EACH MONTH SINCE 1896.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	S pt.	Oct.	Nov.	Dec.	Total.
1896	1	3	11	10	2	1	4	2	0	2	1	1	38
1897	0	1	2	2	15	19	9	8	6	3	13	9	87
1898	2	1	0	1	2	8	1	0	1	0	1	0	17
1899	0	0	0	0	0	2	0	0	1	5	4	9	21
1900	19	9	6	9	5	2	3	5	1	0	0	0	59
1901	0	0	1	0	1	1	0	0	0	1	0	3	7
1902	7	7	8	8	9	9	1	2	2	5	1	0	59
1903	0	0	1	0	0	0	0	0	0	0	0	0	1
1904	0	2	21	31	9	16	19	4	0	3	11	15	131
1905	6	1	12	13	4	3	1	0	0	0	1	0	41
Totals...	35	24	62	74	47	61	38	21	11	19	32	37	461

The fatal cases occurred almost wholly among children under 5 years of age, only 2·4% of the deaths being recorded in persons over that age. This can be seen in the following table, which shows the record since 1896.

AGES AT DEATH FROM MEASLES—1896 TO 1905.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	Total.
0 to 3 months...	0	0	0	0	1	0	2	0	3	0	6
3 „ 6 „	0	2	0	0	1	0	1	0	0	0	4
6 „ 12 „	7	22	2	4	11	1	14	0	22	9	92
1 „ 2 years ...	14	32	12	8	25	3	28	0	49	17	188
2 „ 3 „	11	19	2	7	12	1	6	0	27	5	90
3 „ 4 „	3	3	0	1	4	0	3	0	15	4	33
4 „ 5 „	3	6	1	1	2	0	3	1	11	5	33
5 „ 10 „	0	2	0	0	3	2	2	0	4	1	14
Over 10 „	0	1	0	0	0	0	0	0	0	0	1
Total at all Ages...	38	87	17	21	59	7	59	1	131	41	461

The procedure adopted in the control of Measles was the same as that described in detail in the report of last year. Information of the cases was got from the school attendance officers, school teachers, and during the enquiries of the sanitary inspectors, and it was felt that the great majority of the cases came to the knowledge of the department. The visiting, subsequent supervision, disinfection, and school and other notices involved a large amount of work during the year. Of the 40 schools in the Borough, the attendance at 10 was severely affected by this disease. The number of children excluded by the Health Department in 1905 on account of measles was 1471; they were in attendance at the following schools:—

SCHOOL.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Totals
St. Peter's	114	1	3	—	—	—	—	—	—	—	4	—	122
Council, Allanson-st.	11	52	3	—	1	—	2	—	—	—	—	—	69
Wesleyan, Park-rd. ..	7	—	—	4	12	—	—	—	—	—	—	—	23
St. Thomas'	2	2	9	5	4	—	1	—	6	—	—	—	29
Christ Church	—	2	2	—	—	30	—	—	—	—	—	—	34
British, Peasley Cross	1	72	33	35	5	—	—	—	—	—	—	—	146
St. Joseph's, „ ..	—	—	53	39	8	4	—	—	—	—	—	—	104
Holy Trinity „ ..	—	2	116	24	20	—	—	—	—	—	—	—	162
Sutton National	11	10	7	4	4	—	—	—	—	—	—	—	36
Sacred Heart	2	84	28	7	—	3	—	—	—	—	—	—	124
Cowley C., North-rd.	3	5	1	3	6	4	—	—	—	—	—	—	22
York St.	1	11	41	3	5	4	—	—	—	—	—	—	65
Lowe House	4	—	5	39	48	3	—	—	—	—	—	—	99
Wolseley-rd.	5	6	29	4	4	8	2	1	—	—	—	—	59
Laffak	—	—	—	—	6	21	—	—	—	—	—	—	27
Mount Street	—	—	71	15	—	—	—	—	—	—	—	—	86
British, Arthur-st. ..	4	—	7	11	—	1	—	—	—	—	—	—	23
Holy Cross	—	3	8	11	12	1	—	2	—	—	—	—	37
19 other Schools ..	39	16	36	22	44	19	4	13	3	5	2	1	204
TOTALS	204	266	452	226	179	98	9	16	9	5	6	1	1471

The Medical Officer advised the closure of the Infant Department of the following schools to prevent the spread of Measles:—

British Schools, Peasley Cross	...	...	...	Feb. 8th to Feb. 29th.
Holy Trinity Schools, do.	...	...	...	Mar. 20th to Apl. 10th.
St. Joseph's Schools, do.	...	...	...	Mar. 30th to Apl. 20th

Scarlet Fever. Cases, 270; deaths, 16; fatality per cent., 5·92

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	1310	914	385	335	580	719	1224	728	416	270
Deaths	59	44	24	8	25	29	52	26	17	16
Fatality per cent ..	4·5	4·8	6·2	2·38	4·3	4·03	4·2	3·57	4·08	5·92

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens	·72	·53	·28	·09	·28	·34	·60	·29	·17	·17
England and Wales	·18	·14	·11	·12	·12	·13	15	·12	·11	·11

The prevalence of Scarlet Fever in 1905 again showed a considerable fall, the number of cases notified being less than in any year since 1895

The disease was most prevalent in South Eccleston, East Sutton, and West Sutton wards. The largest number of cases notified in any one month occurred in October. The following table giving the monthly and ward distribution of the cases shows that during 1905 there was no epidemic prevalence of Scarlet Fever.

CASES OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep	Oct.	Nov.	Dec.	Total
North Eccleston	3	1	—	6	3	—	—	1	1	3	3	2	23
South Eccleston	1	2	2	1	2	8	3	5	7	9	8	1	49
Central	1	—	1	1	—	1	3	—	1	4	1	1	14
North Windle ..	3	4	3	1	3	2	4	2	—	2	4	—	28
South Windle ..	1	1	4	—	1	2	1	—	2	3	2	—	17
Hardshaw	2	—	3	4	3	8	2	1	1	2	1	3	30
Sutton East	2	10	5	2	4	1	3	5	2	4	2	3	43
Sutton West ...	2	1	5	6	4	6	4	1	4	3	2	2	40
Parr	3	6	1	3	3	4	—	—	2	3	—	1	26
Total ..	18	25	24	24	23	32	20	15	20	33	23	13	270

The greatest incidence of the disease fell on the early years of life, 80·3% of the cases being under 10 years of age. The disease was most fatal between the ages of 1 and 3 years, giving a fatality rate then of 15·5 per cent. of the cases notified.

CASES AND DEATHS AT VARIOUS AGES.

Ages ..	Months.				Years.												
	0-3	3-6	6-9	9-12	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10 to 15	15 to 20	20 & over	Total
Cases ..	2	1	4	4	22	23	28	22	39	24	25	9	14	28	10	15	270
Deaths	—	1	1	2	4	3	2	—	1	—	1	1	—	—	—	—	16

The 270 cases occurred in 229 houses as follows:—In 199 houses (73% of the cases) only one case occurred; in 21 houses two cases occurred; in 7 houses three cases occurred and in 2 houses four cases occurred. In the 229 houses in which cases of scarlet fever occurred there were 323 other children who were said not to have had scarlet fever previously and who did not contract it during the year.

The number of cases removed to hospital was 210, or 77·7 per cent of the cases. The 210 children were removed from 180 houses in which the number of remaining susceptible children who did not contract the disease during the year was 278. In 49 other houses all of which were large and commodious 60 cases were isolated at home, and in these the number of remaining susceptible children who did not contract the disease was 45. This result shows a considerable advantage for hospital isolation over isolation in large houses. In addition to isolation the other precautions adopted were visits of enquiry by the Sanitary Inspectors and in some cases by the Medical Officer, disinfection and the supply of disinfectants, and exclusion of the children of an infected household from school.

Diphtheria. Cases, 181; deaths, 18; fatality per cent, 9·94.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	72	66	60	64	77	85	93	126	169	181
Deaths	17	20	16	15	19	33	20	23	22	18
Fatality per cent ..	23·6	30·3	26·6	23·4	24·6	38·8	21·50	18·25	13·01	9·94

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens	·20	·24	·18	·17	·21	·38	·23	·26	·24	·20
England and Wales	·29	·24	·24	·29	·29	·27	·23	·18	·17	·16

Diphtheria of late years has shown a considerable tendency to increase and in 1905 more cases were notified than in any of the ten preceding years. On the other hand, the fatality rate seems to be steadily diminishing, and the disease in 1905 was less fatal than in any previous year recorded. The

following table gives the monthly and ward distribution of the cases. It will be seen that the wards which have suffered most severely were Hardshaw, North Windle and North Eccleston.

CASES OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
North Eccleston	2	2	1	—	1	1	3	1	3	7	1	3	25
South Eccleston	—	2	2	1	1	—	—	1	1	—	5	2	15
Central	—	—	2	1	1	—	2	—	1	6	1	1	15
North Windle..	2	3	4	3	4	1	1	2	1	5	2	3	31
South Windle..	2	2	—	1	1	1	1	—	—	1	2	1	12
Hardshaw	5	1	—	4	—	3	2	1	4	2	8	2	32
East Sutton....	1	1	1	2	3	5	3	—	2	2	—	—	20
West Sutton ..	1	1	—	—	3	0	—	—	3	—	—	1	9
Parr	—	1	2	4	2	2	—	4	1	2	2	2	22
Totals ..	13	13	12	16	16	13	12	9	16	25	21	15	181

The greatest incidence of the disease fell on children under ten years of age, and the disease was most fatal at the ages from 1 to 4 years.

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-15	15-20	Over 20	Total
Cases ..	1	7	13	19	27	14	16	10	7	10	13	14	30	181
Deaths ..	1	5	6	3	1	—	—	1	—	—	—	—	1	18
Fatality per cent	100	71·4	46·1	15·7	3·70	0·0	0	10·0	0	0	0	0	3·3	9·94

Despite the increase in the notifications, the only epidemic prevalence of the disease occurred in October and November, when an outbreak affecting the Infant department of Cowley Council School took place. On the first appearance of the disease the medical officer visited the school and examined all the scholars with the following result. One child was present suffering from Diphtheria in Standard I having a typical membrane on his throat; 15 children had sore throats, and of this number, in 7, bacteriological examination revealed the presence of the Diphtheria bacillus. One of the children absent from school, visited at home, and not medically attended, was also found suffering from Diphtheria, with a membrane on its throat. In addition to these, 5 cases were notified in the

same Class by medical practitioners in the town, so that 14 cases in all were found infected with Diphtheria, out of a total of 61 children in the Class. In these circumstances the Medical Officer thought it well to recommend the closure of the Infant Department for a period of three weeks, from Monday, November 19th, and this was followed with good results. The school at the same time was disinfected, and all other precautionary measures taken. While the outbreak could not be held to have arisen from insanitary circumstances, the condition of this school was carefully enquired into, and various improvements in its structure were carried out on the recommendation of the Medical Officer.

These 181 cases occurred in 169 houses as follows :—in 159 houses (87·8% of the cases) only one case occurred ; in 8 houses two cases occurred, and in two houses three cases occurred. In the 169 houses in which the cases of diphtheria occurred there were 240 children under 10 years of age, who were said not to have had diphtheria within six months previously, and who did not contract it during the year.

The number of cases removed to hospital was 93, or 51·38 per cent of the cases. The 93 children were removed from 87 houses in which the number of remaining susceptible children who did not contract the disease during the year was 140. In 82 houses, which were almost all large and commodious, 88 cases were isolated at home, and in these the number of remaining susceptible children who did not contract the disease was 100.

In 19 or 11·2 per cent. of the houses in which diphtheria occurred, drainage defects were found.

The methods adopted in the control of Diphtheria, in addition to the usual means of hospital isolation, etc., were the supply of antitoxin for prophylactic and curative purposes, and the bacteriological examination of the throat in all suspected cases. These were extensively used and proved of great service both to the public and the medical attendant, and it is hoped that in the near future they will be even more extensively employed. Altogether 240 bottles of 2000 units of antitoxin were distributed in 1905 by the local authority, and 246 bacteriological examinations done on account of this disease, (see page 52).

Whooping Cough. Deaths 26.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS	78	33	34	41	56	17	18	30	49	26

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens	·96	·39	·40	·47	·63	·20	·20	·34	·55	·28
England and Wales	·41	·35	·31	·30	·34	·30	·29	·27	·34	·25

This disease was most prevalent in East Sutton ward. The largest number of deaths occurred in the 1st quarter and in the month of March.

DEATHS OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
North Eccleston	1	1	2	—	—	—	—	—	—	—	—	—	4
South Eccleston	—	—	—	—	—	—	—	—	—	—	—	—	—
Central	—	—	—	—	—	—	1	—	—	—	—	—	1
North Windle..	—	2	1	—	—	1	—	—	—	—	—	—	4
South Windle..	1	—	—	—	—	—	—	—	—	—	—	—	1
Hardshaw	—	1	1	—	1	1	—	1	—	—	—	—	5
Sutton, East ..	—	—	—	1	1	—	—	2	—	1	—	1	6
Sutton, West ..	—	—	—	1	—	—	—	—	—	—	1	—	2
Parr	—	—	—	—	—	1	—	—	2	—	—	—	3
Totals ..	2	4	4	2	2	3	1	3	2	1	1	1	26

The deaths were all of children under 5 years of age.

DEATHS AT VARIOUS AGES.

0-3 months	3-6 months	6-12 months	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.
3	4	8	6	0	3	2

Whooping cough was therefore less prevalent in 1905 than it had been in the two preceding years. At present this disease is very difficult to control as it is believed to be infectious for some period before the characteristic symptoms develop, which would therefore make many of the usual preventive measures, were they adopted, of no great value. The public, however, ought to regard this as a dangerous infectious disease, and the sufferers both for their own sakes and for the protection of the other members of the community, ought not to be allowed to go about in public places; the movements of child-contacts of these cases should also be controlled.

Typhoid Fever. Cases, 37; Deaths, 2; Fatality per cent. 5·4.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	166	147	136	221	123	164	81	76	61	37
Deaths	40	33	30	43	19	34	25	18	13	2
Fatality per cent.	23·8	22·4	22·6	19·4	15·4	20·7	30·8	23·7	21·3	5·4

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens ..	·49	·39	·36	·49	·21	·40	·29	·20	·14	·02
England & Wales	·17	·16	·18	·20	·17	·16	·13	·10	·09	·09

The prevalence of Typhoid Fever in 1905 in St. Helens was the lowest on record and this is also true of the fatality rate.

It is specially pleasing to be able to record the continued diminution of Typhoid Fever in St. Helens and for the first time in the history of the Borough the mortality rate from this disease has been lower than that of England and Wales generally.

CASES OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar	Apl.	May	J'ne	July	Aug	Sep.	Oct.	Nov	Dec.	Total.
North Eccleston	—	2	1	—	1	—	—	1	—	2	1	—	8
South Eccleston	—	1	—	1	—	—	—	—	—	—	—	—	2
Central ..	2	—	—	—	—	—	—	—	—	—	—	—	2
North Windle..	—	—	—	—	1	—	—	2	—	—	—	1	4
South Windle..	—	—	—	—	—	—	1	1	1	—	—	—	3
Hardshaw ..	—	1	—	1	—	—	—	1	—	—	1	—	4
East Sutton ..	1	—	1	—	—	—	1	—	1	—	1	1	6
West Sutton ..	—	—	2	1	1	—	1	—	—	—	—	—	5
Parr	1	—	—	—	—	—	—	2	—	—	—	—	3
Total ..	4	4	4	3	3	0	3	7	2	2	3	2	37

The following table shows the sickness rate per 1000 of the population in each ward since 1896.

MORBIDITY RATE PER 1000 IN EACH WARD.

WARDS.	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Eccleston, North..	2·29	1·83	1·69	3·22	1·34	1·49	0·46	1·81	·71	·70
Eccleston, South..	2·19	0·83	1·75	2·28	1·23	2·38	1·18	0·63	·20	·20
Central	1·68	1·52	0·80	1·68	0·55	1·66	0·42	0·13	1·36	·27
Windle, North ..	3·71	4·27	1·36	1·43	2·20	2·28	1·18	0·66	·73	·32
Windle, South ..	2·18	1·01	1·21	2·15	1·37	2·43	0·84	1·59	·11	·32
Hardshaw ..	1·59	1·55	1·52	2·88	1·82	1·75	1·53	0·70	·99	·39
Sutton, East ..	·55	·53	·94	1·13	0·91	1·86	0·67	0·77	·65	·64
Sutton, West ..	2·27	2·44	·76	1·70	0·73	1·84	0·61	1·00	·76	·54
Parr	2·15	1·89	4·23	6·06	2·17	1·80	1·36	1·14	·75	·25
Whole Borough ..	2·07	1·78	1·60	2·55	1·37	1·93	0·94	0·86	·68	·41

The number of cases of Typhoid Fever was greatest between the ages of 5 and 25 years

CASES AND DEATHS AT VARIOUS AGES.

	Under 5 years.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	Over 55	Total.
Cases ...	3	11	13	4	—	6	—	37
Deaths ...	—	—	1	1	—	—	—	2

Comparing the morbidity rates from Typhoid Fever in the Great Towns, St. Helens occupies quite a favourable place, 20 having a higher sickness rate; comparing the mortality rate it is seen that 13 towns have a higher death rate from this cause. This disease a few years ago in St. Helens was recurring in autumn epidemics of considerable and sometimes of great severity, and the continued gradual reduction in the number of cases occurring annually is a matter of great interest, and demonstrates the wisdom of the policy adopted by the Health Committee.

In no case was there any evidence of milk or water infection. The cases occurred in 34 houses as follows:—in 32 houses one case occurred, while in 2 other houses, two and three cases occurred respectively. The sanitary conveniences in 12 cases were privy middens; in 13, tub and pail; and in 12, water closets. Defective drains were found in 13·9 per cent of the houses.

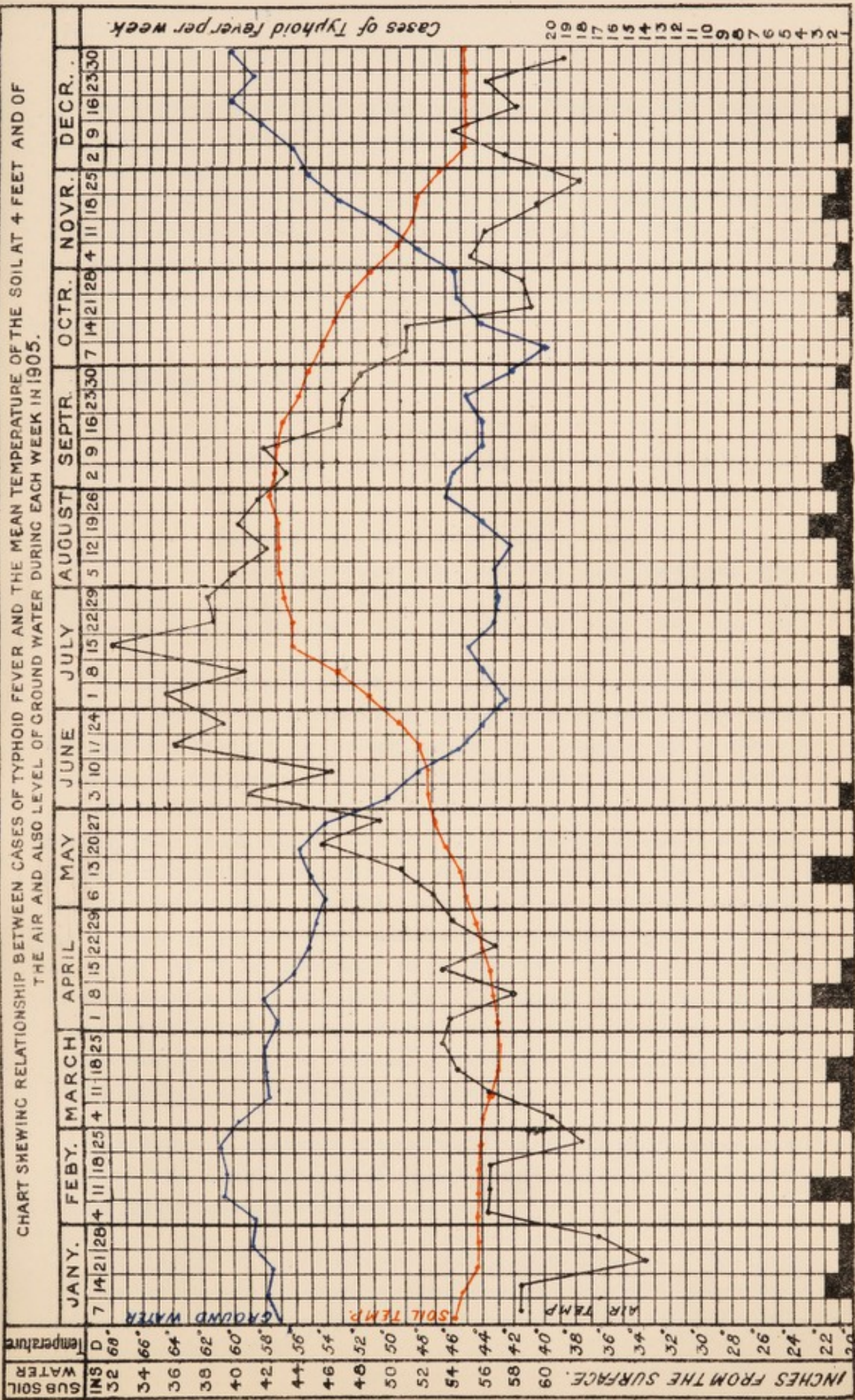
The weekly number of cases of Typhoid Fever are shown in the appended chart (No. 2) in relation to the temperature of the soil at four feet, the mean temperature of air and the level of the sub-soil water. It will be seen that the numbers were greatest when the soil temperature reached 57 °F.

Of the cases notified, 29, or 78·4 per cent, were removed to hospital.

The precautions adopted to prevent the spread of the disease were the same in former years, namely (1) enquiry as to the source of infection and the existence of insanitary conditions in the house; (2) immediate removal of insanitary conditions in the neighbourhood of the house; (3) the removal by means of special pails, of all infective and infected material, twice or thrice weekly; (4) the supply of disinfectants twice a week, and the final disinfection of the premises; and (5) the removal of the patient, when practicable, to hospital.

CHART No. 2.

CHART SHEWING RELATIONSHIP BETWEEN CASES OF TYPHOID FEVER AND THE MEAN TEMPERATURE OF THE SOIL AT 4 FEET AND OF THE AIR AND ALSO LEVEL OF GROUND WATER DURING EACH WEEK IN 1905.



As Typhoid Fever is a disease which is frequently also personally infectious, it is important to recognize the milder cases, many of which are apt to be thought of a simpler nature. The value of bacteriology in the diagnosis of this disease is now accepted by all, and considerable advantage of the opportunities offered was taken by the medical men of the town, and proved of great value both to their patients and to the Borough. In all 46 bacteriological examinations were made on this account during 1905, (see page 52).

Diarrhoea.—Deaths 66.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS	63	133	140	114	91	97	50	53	120	66

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
St. Helens.. ..	.77	1.60	1.65	1.31	1.02	1.14	.58	.60	1.35	.73
England & Wales..	.55	.86	.96	.98	.69	.91	.38	.50	.86	.59

The disease now to be considered is distinguished by special features of its own. No immediate cause can usually be discovered for the attack. Although not confined to any one season this disease is apt to occur in epidemics in the early autumn, particularly after a hot dry summer. Infants—especially those that are hand-fed—and young children are particularly liable to be attacked, and to both of these the disease is very fatal, but older children and adults are not wholly free from this illness, which is then usually less severe. Diarrhoea is in most cases a prominent symptom, but it varies in degree and is sometimes accompanied by an amount of depression out of all proportion to its severity. The illness, like other zymotics, tends to run a definite course. The disease is probably of microbic origin, but the actual organism has not been definitely recognised. It would seem certain, however, that infection is conveyed by food, and that improper feeding creates a strong pre-disposition to attack.

The disease is known by a great variety of names, which increases the difficulty of the classification of the cases, and it would be of great advantage if some distinctive name were generally used

The number of deaths recorded in 1905 from Diarrhoea in St. Helens was considerably below the average and gave a death rate of .73 per 1,000 as against 1.35 for 1904. In England and Wales the death rate from Diarrhoea in 1905 was .59 per 1,000.

The deaths occurred in greatest number in Parr and South Windle wards, but many also occurred in North Eccleston and North Windle. These are the four wards which last year also recorded the highest rates. The largest number of deaths were recorded in the month of August.

DEATHS OCCURRING IN EACH WARD MONTH BY MONTH.

WARDS.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
North Eccleston	—	—	—	1	—	—	2	5	2	—	—	—	10
South Eccleston	—	—	—	—	—	—	1	2	—	1	—	—	4
Central	—	—	—	—	—	—	—	3	—	—	—	—	3
North Windle..	—	1	1	—	—	—	2	5	1	—	—	—	10
South Windle..	—	—	—	1	—	1	2	7	1	—	—	—	12
Hardshaw	—	—	—	—	—	1	—	2	2	—	—	—	5
Sutton, East....	—	—	—	—	—	—	—	4	—	—	—	—	4
Sutton, West...	—	—	—	—	—	1	1	4	—	—	—	—	6
Parr	—	—	1	—	—	1	3	3	4	—	—	—	12
Total ..	—	1	2	2	—	4	11	35	10	1	—	—	66

The following table recording the deaths from 1895 shows that by far the larger number of deaths (over 84%) occur in the third Quarter.

DEATHS IN EACH MONTH SINCE 1895.

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
January ...	0	1	2	0	1	1	1	0	3	1	0
February ...	0	0	1	0	2	0	0	0	0	1	1
March ...	0	0	0	1	0	2	0	1	0	0	2
1st Quarter ...	0	1	3	1	3	3	1	1	3	2	3
April ...	1	3	0	0	0	2	0	1	1	1	2
May ...	1	2	2	2	0	0	1	1	1	0	0
June ...	4	6	3	4	0	2	2	3	0	0	4
2nd Quarter ...	6	11	5	6	0	4	3	5	2	1	6
July ...	29	22	13	16	28	13	33	0	3	14	11
August ...	39	15	79	54	47	42	50	5	19	61	35
September ...	12	9	25	51	29	23	7	26	16	30	10
3rd Quarter ...	80	46	117	121	104	78	90	31	38	105	56
October ...	12	3	3	9	5	4	1	8	7	9	1
November ...	3	1	4	3	1	1	1	3	3	3	0
December ...	0	1	1	0	1	1	1	2	0	0	0
4th Quarter ...	15	5	8	12	7	6	3	13	10	12	1
Total each y'r	101	63	133	140	114	91	97	50	53	120	66

CHART NO. 1



The ages at death of the fatal cases in each year from 1897 is shown in the following Table, where it will be seen that 62·1 per cent. of the cases last year were under one year of age.

AGE.	1897	1898	1899	1900	1901	1902	1903	1904	1905	Total
0 to 3 months	15	13	7	17	13	6	8	16	2	97
3 „ 6 „ ...	24	36	28	23	30	8	16	26	16	207
6 „ 12 „ ...	46	41	27	27	34	16	11	39	23	264
1 „ 2 years...	26	31	26	11	13	9	11	23	13	163
2 „ 3 „ ...	4	6	3	4	2	4	—	8	2	33
3 „ 4 „ ...	6	4	3	—	1	2	—	2	1	19
4 „ 5 „ ...	1	—	—	1	3	—	1	1	—	7
Over 5 „ ...	11	9	20	8	1	5	6	5	9	74
Totals ...	133	140	114	91	97	50	53	120	66	864

The number of deaths from diarrhoea in each year bears distinct relationship to the meteorological conditions. This is seen in the appended chart which shows the weekly number of deaths from Diarrhoea with the corresponding air temperature, the temperature of the soil at 4 feet, together with the level of the subsoil water. It will be noted that the relationship of the number of deaths with the temperature of the soil at 4ft, was most marked. Diarrhoea became most prevalent in the 2nd week of August when the soil temperature reached 57°. The greatest number of deaths occurred in the 4th week of August, the soil temperature reaching its maximum in the same week.

In young children the relationship between the method of feeding and the occurrence of infantile diarrhoea is close. Of the 41 children under one year who died from this cause, 9 only were breast fed while the remaining 32 were hand fed. In the 3024 visits paid last year by the women sanitary inspectors to births in the poorer parts of the town, where these deaths most frequently occur, it was found that only 271 or 9·0 per cent of the children

were wholly hand fed, while 103 or 3·4 were fed partly on the breast and partly by hand. It therefore follows that in 1905 7·8% of hand fed children died from diarrhoea, while only ·3% of the breast fed children died from the same cause, so that 26 hand fed infants died from this cause for every one breast fed who died. In the 32 hand fed infants who died of diarrhoea, 17 were fed on condensed milk, or some patent food, and 15 on cows' milk. There was no special incidence of the cases among the customers of any one milk supply, 10 sources of milk being involved in the 15 fatal cases using cows' milk. Of the hand fed infants, in 10, feeding bottles with long rubber tubes were used, in 21, boat shaped bottles with no tubing were in use, while in one the infant was fed with bread.

A proper means of infant feeding is of the utmost importance in the prevention of this disease, and it is ignorance and carelessness in this particular that causes year after year the high infantile mortality from diarrhoea. Mothers' milk is the natural food for the infant and every healthy mother ought to suckle her child. In those cases where artificial feeding is necessary, properly prepared cows' milk should only be used. It is now admitted by everyone that the best preparation of cows' milk obtainable is that supplied now by numerous Corporations at their Infant Milk Depôts and it is a matter for great regret that the people of St. Helens, which to its credit led the way in this direction, have not taken more advantage of the opportunities afforded them.

The women Sanitary Inspectors have continued the visitation of births, giving advice on Infant Hygiene, but it is extremely difficult to influence many of the women who regard the ideas and prejudices of the grandmother as of much greater value. During the autumn months information and instructions on the subject were left at every house in the Borough when a birth had occurred.

Influenza. Deaths, 17.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS	7	17	13	19	33	16	6	10	15	17

This disease was most prevalent in Parr and North Windle wards where 4 and 3 deaths occurred respectively. With one exception, the deaths were those of persons between 20 and 85 years of age.

Puerperal Fever. Cases, 12; deaths, 5. Fatality per cent,

		RECORD OF PREVIOUS YEARS.									
		1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	.. ..	11	19	7	9	15	16	14	6	3	12
Deaths	.. ..	7	10	4	8	9	7	4	0	1	5
Fatality per cent.		63·6	52·6	57·1	88·8	60·0	43·7	28·5	0·0	33·3	41·6
*No. of births to each death	.. ..	434	319	815	389	416	446	805	—	3321	647

*Not including still births, abortions, etc., which are occasionally followed by Puerperal Fever.

This is a disease with a very high fatality rate, but the cases are now much less met with than in former years. The Midwives' Act will enable still further measures to be adopted in the prevention of this disease.

Erysipelas. Cases, 108; deaths, 6; Fatality per cent., 5·66.

		RECORD OF PREVIOUS YEARS.									
		1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Cases	.. ..	137	162	173	121	138	106	109	61	73	108
Deaths	.. ..	4	3	3	3	2	2	3	0	1	6
Fatality per cent.		2·91	1·85	1·73	2·47	1·44	1·88	2·75	·00	1·36	5·66

The cases occurring in each ward were as follows :—North Eccleston, 12; South Eccleston, 13; Central, 6; North Windle, 17; South Windle, 8; Hardshaw, 13; Sutton East, 17; Sutton West, 11; Parr, 11.

Erysipelas is not infectious in the same fashion as the other notifiable diseases, as it spreads specially where surgical cleanliness is not observed in wounds. It is usually frequent in an industrial town like St. Helens where minor accidents are numerous: the cases for several years past have been of a very mild character. Of the cases notified, 10, or 9·2 per cent were removed to hospital.

GENERAL AND LOCAL DISEASES.

The deaths occurring in the Borough during 1905 are set out on table VII, page 84, which shows the age periods and ward distribution of each disease. This section only deals with those diseases which call for special notice.

Phthisis Pulmonalis. The total number of deaths arising from this disease last year was 118, a decrease of 22 from that of the preceding year.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS ..	130	117	112	120	146	114	143	127	140	118

MORTALITY RATE PER 1000 IN PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1902	1901	1903	1904	1905
St. Helens	1.60	1.44	1.32	1.94	1.65	1.34	1.66	1.45	1.58	1.31
England & Wales	1.30	1.53	1.51	1.34	1.33	1.26	1.23	1.20	1.23	—

The wards most affected in 1905 were North Windle and Central. The great majority of the deaths occurred between 15 and 55 years of age, the largest number being recorded from 25 to 35 years.

DEATHS AT VARIOUS AGES.

YEARS ..	—1	—5	—10	—15	—25	—35	—45	—55	55—
DEATHS ..	4	16	12	—	20	26	21	13	6

A system of voluntary notification of Phthisis has been in operation in St. Helens since the end of 1899. The cases are reported to the Medical Officer of Health by the medical attendant, who is paid the ordinary notification fee for each case.

NOTIFICATIONS IN EACH YEAR.

1900	1901	1902	1903	1904	1905
66	54	80	66	85	71

Certain cases have been notified on two or more occasions but the numbers given refer to the notifications of new cases in each year. The following re-notifications have been received :—In 1901, 2; in 1902, 2; in 1903, 1; in 1904, 4; and in 1905, 1.

On the receipt of the notification certificate the case is visited and enquiries are made as to the possible source of infection, the facilities for isolation, and the general housing condition of the patient. Instructions are given as to what ought to be done in isolation and in the disposal of the expectoration, and the cases are kept under observation until death, or removal from the district of the local authority occurs. Disinfection of the

house is done from time to time during the progress of the case and after death, and so that this may be carried out in all cases whether notified or not, information of all deaths from phthisis is received from the Registrar, on their being registered.

The defects in this method of the administrative control of phthisis are not few. In the first place voluntary notification of phthisis has not proved a success in St. Helens; the proportion of new cases to the number of deaths in each year has varied about 50 per cent, while the cases notified are frequently so far advanced in the disease that death takes place in a week or two, although they have been freely spreading the disease for many months before notification. Further, many of the cases are only notified when about to be removed to the Workhouse or other hospital. During the past six years 205 of the 422 cases notified are known to have died. Death took place in 51 cases within a week of notification, in 43 others within a month, in 69 others within three months, in 31 others within six months, in 10 other cases within a year, and 1 case over a year after notification. In 24 of the cases death had already taken place before the notification certificate was received. During this same period, 18 of the notified cases were made known to the Health Department immediately before removal to the Workhouse, and 9 just prior to entering a hospital, and 4 before leaving the Borough.

Voluntary notification of phthisis is believed to be successful in Brighton and certain other towns, but the apparent success in these towns of this method of gaining information has arisen from the large number of cases which are got from the public hospitals and dispensaries. In St. Helens there are no similar institutions, and the information which the local authority requires has to be largely derived from the private practitioner, and medical practitioners in their private capacity have frequently strenuous objection to notification. Indeed it is only the compulsory nature of the notification of ordinary infectious illness that protects in many cases the medical practitioner from his patient.

In the second place the possibility of efficient isolation in many of the cases is remote, as under the present housing conditions it is impossible to give the working class sufferer a bedroom to himself. In most cases two or three other persons are occupying the same room as the patient, and with the dread of fresh air that is so prevalent, spread of the disease is bound to occur. In 1905 no less than 15 cases out of the 71 notified were found to be living under such conditions, where a reasonably proper isolation of the case could not be obtained. Further it is well nigh impossible to inculcate

the elementary principles of the hygienic treatment of this disease by merely a few minutes conversation with the consumptive. Theoretically he will admit fresh air is a good thing, but it gives him a "cold," while the sputum flask is to him altogether a ridiculous refinement. To meet these and other objections, the Council this year determined to admit to the available unoccupied space in the Borough Sanatorium cases of phthisis pulmonalis for isolation, and for practical teaching in the hygiene of their disease. The work of bacteriological examination of the sputum for practitioners in these cases was continued throughout the year, but more advantage might have been taken of the facilities afforded, (see page 52).

Of the 71 cases investigated during the year, 11 were found dying or dead when first visited immediately after receipt of the notification. In 20 there had been previous cases of phthisis in the family as a source of infection; in 12 the houses were ill-lighted and ill-ventilated; in 5 they were damp, while in 11, other defects were found.

Other Tubercular Diseases. The total number of deaths arising from these diseases was 54; this is an increase of 3 over that of the preceding year. The mortality rate from this cause for 1905 was .60 per 1000. The main diseases here included are Intestinal Tuberculosis and Tabes Mesenterica, which gave rise to 28 deaths, and Tubercular Meningitis, which gave rise to 20.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS ..	49	56	50	48	50	44	55	44	51	54

The ward most affected was East Sutton.

Only 19 of the deaths were of persons over 2 years of age; 11 being over 5 years.

AGE INCIDENCE AT DEATH.

Years ..	-1	-5	-10	-15	-25	-35	-45	-55	55—
Deaths ..	17	26	3	3	2	1	—	2	—

Cancer and Malignant Diseases. From this cause death arose in 38 cases, a decrease of 4 from the number recorded in the preceding year. The mortality rate for St. Helens for 1904 was .42 per 1,000.

RECORD OF PREVIOUS YEARS.

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
DEATHS ..	35	40	44	35	46	31	35	37	42	38

The mortality rate from these diseases shows a tendency to increase in most parts of the country. This increase is more apparent than real, being partly due to the better recognition of obscure cases and to methods of classification, but it probably does to some extent exist. Two of the deaths registered last year were from Sarcoma, and the remaining 36 were from Cancer. The ward most affected was East Sutton, where 8 deaths occurred. As cancer is a disease of later life, almost all the deaths occurred after 45 years of age.

DEATHS AT VARIOUS AGES.

Years	—35	—45	—55	—65	—75	75—
Deaths	4	3	12	11	6	2

In 35 of the deaths the internal organs were affected, in only 3 was the disease in the external tissues.

Respiratory Diseases.—The number of deaths from these diseases was 326, a decrease of 44 from the previous year. This gives a mortality rate of 3.62 per 1000.

DEATHS IN PREVIOUS YEARS.

Years..	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Bronchitis ..	171	186	169	213	219	163	214	189	184	158
Pneumonia ..	154	167	145	130	192	133	156	149	146	129
Others ..	31	22	18	36	28	30	32	26	40	39
Total ..	356	375	332	379	439	326	402	364	370	326

The wards most affected were East Sutton, Hardshaw, North Eccleston, and West Sutton.

DISTRIBUTION OF DEATHS FROM BRONCHITIS AND PNEUMONIA.

WARDS.	BRONCHITIS.							PNEUMONIA.						
	1899	1900	1901	1902	1903	1904	1905	1899	1900	1901	1902	1903	1904	1905
Eccleston, North..	19	27	22	28	23	20	16	10	15	16	16	14	14	20
Eccleston, South..	17	24	22	22	27	24	14	9	11	5	8	8	17	7
Central ..	40	29	27	28	27	15	10	7	16	12	18	6	3	12
Windle, North ..	8	19	7	18	18	10	10	9	15	6	12	14	19	6
Windle, South ..	19	19	19	14	9	11	13	14	10	14	6	13	17	13
Hardshaw ..	28	31	13	27	23	34	17	21	20	17	17	28	15	23
Sutton, East ..	26	10	20	25	25	20	25	24	30	20	32	28	23	21
Sutton, West ..	20	22	17	27	13	14	15	20	5	26	31	21	19	12
Parr ..	36	38	16	25	24	36	18	16	24	17	16	17	19	11

Deaths from Violence. The total number of deaths from this cause was 62, as against 50 in the preceding year. This gives a mortality rate for

St. Helens of $\cdot 69$ per 1000 for 1905, compared with $0\cdot 57$ for England and Wales generally. The deaths were accounted for as follows:—Accident or negligence, 56; Homicide, 2; and Suicide, 4.

During 1905 the Coroner held 64 inquests on the bodies of persons belonging to St. Helens, and certified 108 deaths.

Uncertified Causes of Death. The deaths included in this class are those uncertified by either a registered medical practitioner or by the Coroner. The number of uncertified deaths registered in St. Helens during the past year was 67, being $4\cdot 4$ per cent of the total deaths registered. In England and Wales during 1905, the percentage of uncertified deaths was $1\cdot 6$.

The proportion of uncertified deaths in St. Helens is very large, only two of the 76 great towns in England and Wales showing a higher figure. The ages at death of these cases in the Borough in 1905, and the reputed causes of death, are shown in Table VIII. at the end of the report.

It will be noticed that 44 , or two-thirds of these deaths occurred in children under one year of age, while 29, or all the deaths from premature birth or congenital debility, were of children under one week. It is easy to understand how death in the majority of the cases took place in persons not medically attended, but it is distinctly more difficult to account for the fact that year after year in St. Helens a very large proportion of uncertified deaths takes place in comparison with other towns. This seems certainly to indicate that there is a distinct apathy on the part of the public in seeking medical attendance in all cases of illness. Possibly also another reason for this may be that the facilities for free medical attendance for the non-parochial poor are not so great in St. Helens as in many other towns.

The Registrar General, in his report for 1904, draws attention to the uncertified deaths in four towns, including St. Helens, and states:—
“Why these places should as a rule find themselves so situated is a matter to which I think attention should be directed.”

III.

General Sanitation.

III

General Introduction

GENERAL SANITATION.

HOSPITALS.

The Borough possesses 156 beds in its two hospitals for the isolation of persons suffering from infectious disease. The commoner infectious diseases are treated at the Borough Sanatorium at Peasley Cross, where there is accommodation for 120 patients, while small-pox is treated in the Small-pox Hospital at Old Wint, where 36 patients can be isolated. The Sanatorium was well occupied during the whole year, and the Small-pox Hospital was in use from 29th April to 25th May. The total number of cases admitted to both hospitals was 388, of which 14 were admitted from the Urban District of Haydock.

The proportion of cases treated in hospitals last year was 61·4 per cent. of the cases notified, and the following statement shows the percentage of cases so treated during the last ten years.

PROPORTION OF CASES TREATED IN HOSPITAL.

Years	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Percentage of Cases Notified..	18·3	20·1	32·0	50·5	47·5	56·9	49·3	55·6	56·3	61·4

The percentage of removals in each of the notifiable infectious diseases for last year is as follows :—Small-pox, 100 per cent.; Scarlet Fever, 77·7; Diphtheria, 51·3; Enteric Fever, 78·4. These figures, are eminently satisfactory. Owing to the recently increased accommodation at the Sanatorium, the isolation of cases of Diphtheria was possible, and this was largely taken advantage of. In this disease, which was more prevalent than in any previous year, hospital isolation was of the greatest service both in the prevention of its spread and in the better nursing and treatment of the sufferers. The hospital isolation of Erysipelas and Puerperal Fever is not in most cases, necessary in the interests of public health.

In St. Helens, from the nature of the community, it is especially necessary to remove to hospital a large proportion of the cases of infectious disease, and it is gratifying to be able to report that very little difficulty was found in inducing all patients whose removal was desirable to go to the hospital. The development of hospital isolation in the town is well seen in

the following table, which gives the statistics since the Sanatorium was opened in 1881.

YEAR.	No. remain- ing in Sanatorium on Dec. 31.	Number Admitted	No. who died in Sanatorium.	Total Days in Sanatorium of Patients.	Accommodation.
1882	—	9	3	—	Rooms in Peasley Vale, used as Wards and for Administrative purposes.
1883	—	14	1	—	
1884	—	36	6	—	
1885	—	9	0	—	
1886	—	17	3	—	
1887	—	38	11	—	
1888	—	25	4	—	
1889	—	116*	15	—	
1890	—	128†	20	—	
1891	—	89	10	—	
1892	—	134	15	—	Outbuildings converted into three Wards.
1893	—	150	25	—	
1894	19	182	22	6184	
1895	44	259	54	8962	2 New Pavilions used in addition to above.
1896	46	311†	15	16630	
1897	36	263	24	12955	
1898	51	263	28	12742	Large Pavilion and Observation Block opened.
1899	37	401*	37	18049	
1900	88	445†	31	19203	2 New Pavilions opened.
1901	73	620†	44	26255	
1902	99	753†	50	32879	
1903	77	617†	36	28067	
1904	63	456	28	22353	
1905	43	388	31	16528	

* Enteric Fever Epidemic

† Scarlet Fever Epidemic.

At the beginning of the year 63 patients were in the hospitals, and during the year 388 were admitted, making 451 under treatment. Of these 377 were discharged recovered, and 31 died, leaving 43 in the hospitals on December 31st.

ADMISSIONS, DISCHARGES AND DEATHS DURING 1905.

DISEASE.	Patients in Hospital on Jan. 1st.		Admitted.		Discharged recovered.		Died.		Remaining in Hospital on Dec. 31st.	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Small Pox ..	—	—	1	—	1	—	—	—	—	—
Scarlet Fever ..	21	26	104	107	110	114	7	10	8	9
Diphtheria ..	1	1	51	50	39	42	3	3	10	6
Enteric Fever ..	11	3	25	18	28	18	4	1	4	2
Diarrhoeal Diseases ..	—	—	6	3	6	3	—	—	—	—
Other Diseases ..	—	—	11	8	6	7	1	1	4	—
Observation ..	—	—	1	3	1	2	—	1	—	—
Totals ..	33	30	199	189	191	186	15	16	26	17
	63		388		377		31		43	

The proportion of deaths among the patients discharged during the year was 7·59 per cent. compared with 5·95 in 1904. The general fatality rate depends largely on the proportion of the cases treated, as certain diseases have a much lower rate than others. In Small-pox 8·0 per cent. of the cases treated died; in Scarlet Fever 7·51; in Enteric Fever 9·80; and in Diphtheria 6·80 died. These rates compare favourably with those usually recorded for each disease, and this is all the more satisfactory as it is frequently only the worst cases that are removed to hospital.

The total number of days spent in hospital by all the patients was 16,528; this gives an average duration of residence of 42·6 days per patient. The figures for each disease are given in the following table:—

DISEASE.	Small Pox.	Scarlet Fever.	Diphtheria	Enteric Fever.	Diarrhœal Diseases.	Oth'r Diseases (including observation cases).
Total duration of days in Hospitals	26	10888	2783	2258	132	441
Average duration in days per patient treated	26	51·5	27·5	52·5	14·6	19·1

The staff on duty at the Sanatorium at the end of the year consisted of the matron, 2 charge nurses, four staff and nine probationer nurses, 14 maids and two porters.

BACTERIOLOGICAL LABORATORY.

During the past year the number of specimens received from medical practitioners in the Borough for bacteriological examination in cases of diphtheria, typhoid fever, and tubercule was 316, of which 118 proved positive and 198 negative.

BACTERIOLOGICAL SPECIMENS—1905.

Disease Specimens.	Number Received.	Results.	
		Positive.	Negative.
Diphtheria—swab ...	246	92	154
Typhoid Fever—blood	46	17	29
Tubercle :—Sputum ...	18	6	12
Urine ...	4	3	1
Pus ...	2	—	2
Total... ..	316	118	198

The number of specimens received was much larger than that in the preceding year. They consisted for the most part of swabs from the throat in cases of suspected diphtheria, and this means of examination proved of the utmost value in enabling the physician to arrive at an accurate diagnosis as well as ascertaining when the case became free from infection. The number of specimens from cases of typhoid fever was small, there being very few cases of this disease notified in 1905. There does not seem to have been sent in for examination a number of specimens from cases of tubercle at all corresponding with the number of such cases in the Borough; a certain number of these examinations may however have been carried out by the practitioners themselves.

Bacteriological examination of specimens must be looked upon only as an aid to the diagnosis of disease, and it proves exceedingly helpful where the clinical symptoms are as yet not fully developed, or are indefinite, or have disappeared, but this examination should not be understood to entirely govern the diagnosis, and where definite clinical symptoms do exist the physician in attendance ought at once to notify, without waiting for the bacteriological result.

In addition to these, urine was sent in for microscopic examination for tube casts in six cases, in four of which they were found, while in one case it was sent in for chemical examination in a case of diabetes.

HOUSING.

The number of inhabited houses in the County Borough of St. Helens at the end of 1905 was 18080; the number built during the year was 366. Six representations were presented to the Committee, certifying that fourteen houses were in a state so dangerous to health as to be unfit for human habitation. In addition to these, 48 houses were rendered vacant during 1905 and finally pulled down, as a result of the action of the Committee in the previous year. These 62 houses were situated in Dale Street, Stone Street, Mertonbank Road, Bold Street, Fleet Lane, Prospect Road, Crab Street and Newton Road.

In St. Helens only 0·4% of the families live in one roomed houses, whereas in Dublin 36%, in Glasgow 24%, and in London and Edinburgh 14% live in houses of this size.

The number of notices served by the Department for various house improvements was 3544. In many cases other improvements were carried out by bringing the matter personally before the parties concerned without the service of a notice. The number of notices served for overcrowding and cleansing of the house was 226; here also much was done by the Inspectors personally, and in only exceptional cases was a notice served.

Common Lodging Houses.—The number of these registered is 10, as against 11 in 1904. They contain 74 sleeping rooms and give accommodation to 304 adults. During the year one house ceased to be used as a common lodging house, and two applications for registration as common lodging houses were received for houses not previously used as such. The local authority could not approve after inspection of any of these latter houses, and accordingly registration was refused. The number of inspections of common lodging houses made during 1905 was 137, and 26 notices were served in relation to them. All the houses were limewashed in April and October.

Houses Let in Lodgings.—In order to facilitate inspection and prevent overcrowding in houses occupied by more than one family, 59 houses were placed on the register during 1905 as houses let in lodgings. These houses were inspected from time to time, but no overcrowding was detected on any occasion.

FOOD SUPPLY.

Milk.—The total number of cowsheds in use within the Borough was 36; 2 were registered during the year, and 1 ceased to be used. The number of persons registered as purveyors of milk, exclusive of cowkeepers, at the end of 1905 was 82; during the year 23 were added and 7 ceased business. 297 inspections of these premises were made by the District Sanitary Inspectors, and in connection with them it was necessary to serve 26 notices. Overcrowding of the cowshed is still complained of in certain cases, and the need for improvement in this direction has been urgently brought before two of the cowkeepers. The number of milk cows in St. Helens is 248, but this is only a small proportion of those supplying the town with milk. The Veterinary Inspector examined all the cows in the Borough during the year, in order to detect the existence of tubercular disease of the udder. All were apparently healthy except one, from which samples of milk were taken for further investigation. Bacteriological examination in these, however, failed to reveal the presence of tubercle bacilli.

Infant Milk Depot.—The number of infants on the books of this institution during 1905 was 170, but of this number 54 were fed only for a short period. As in previous years a large number of infants were only brought to the Depot when hand feeding at home was disagreeing with the child, and no less than 70 out of 170 infants were thus suffering from gastro intestinal disorders when first brought. Among the 170 fed only 8 deaths occurred, giving a rate of 47 per 1,000, the lowest rate yet recorded for the Depot. The eight deaths were due to whooping cough 1; bronchitis 1; gastro intestinal disorders 3; and other causes 3. Of the 116 infants who were kept continuously on the milk, the ages when first fed were as follows:—Under 1 month, 19; between 1 and 2 months, 16; between 2 and 3 months, 16; between 3 and 6 months, 37; and over 6 months, 28. Of those under one month old, 8 were under one week when first brought to the Depot.

YEAR.	No. of Children on books.	Death-rate per 1000 among children at Depot.	Infantile Death-rate for Borough.
1899	232	103	157
1900	332	102	188
1901	282	106	175
1902	200	82	167
1903	183	54	137
1904	160	68	174
1905	170	47	132

The whole question of infant feeding has been kept prominently before the public during the year, and the special advantages of the Depot milk for feeding those unfortunate infants who have to be reared by hand has been explained to all the mothers in the poorer districts of the town. It is fortunate that in St. Helens so few infants are hand fed (see page 39), but of the estimated 450 children who are being artificially fed, only about a third used the Depot milk. The following is a statement of the cost for the last five years.

<i>Current Expenditure—</i>	1901-1902.			1902-1903.			1903-1904.			1904-1905.			1905-1906		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Wages for Attendance ..	119	2	2	116	7	9	108	13	11	98	13	6	97	4	8
Milk	185	5	10	185	13	4	123	19	2	105	5	5	97	2	6
Rent of House & Rates ..	18	0	0	21	15	0	22	3	11	22	10	5	22	5	3
Sugar	14	2	6	16	6	6	9	2	0	7	11	0	9	19	0
Fuel, Gas and Water ..	9	19	10	15	4	8	12	2	8	12	1	0	11	10	0
Sundries	22	19	6	22	16	1	25	11	7	25	11	9	17	6	10
Renewal of Bottles, &c..	33	6	5	62	1	2	24	14	2	27	18	0	16	5	3
	<hr/>			<hr/>			<hr/>			<hr/>			<hr/>		
	402	16	3	440	4	6	326	7	5	299	11	1	271	13	6
Income from sale of Milk	245	16	3	208	16	8	139	13	8	123	7	6	86	19	1
	<hr/>			<hr/>			<hr/>			<hr/>			<hr/>		
Amount falling on Rates	£157	0	0	£231	7	10	£186	13	9	£176	3	7	£184	14	5

The cost to the town has been relatively small, and has been more than repaid by the gain of life that has resulted. This institution is not one in which a patent food is prepared in a secret process, nor is it a dispensary where a medicine is distributed to sick infants. It ought to be rather an object lesson to the mothers of the Borough of how milk ought to be prepared for feeding infants who cannot be reared on the breast.

Meat.—At the end of 1905 there were, in addition to the Public Abattoir, 10 Licensed Private Slaughter Houses in the Borough—9 for cattle and pigs, and 1 for pigs only. The number of butchers slaughtering in licensed premises in the Borough, outside the Public Abattoir, was 15. The work of meat inspection at the Public Slaughter House is carried out by the Abattoir Superintendent, who is a practical butcher holding the certificate in meat inspection of the Royal Sanitary Institute. In any case of doubt or difficulty he consults with the Medical Officer of Health and Veterinary Inspector, and this arrangement has worked smoothly and satisfactorily. All the meat prepared for human food and leaving the Public Abattoir is sound and wholesome, but the meat prepared in the private slaughter houses cannot be made subject to the same efficient supervision. These latter have been visited frequently by the District Inspectors, and many requests for

advice with regard to the wholesomeness of the food have been received from the butchers slaughtering in them. Shop inspection has been carried out regularly, and the Market has been visited at least each Friday and Saturday night. When unsound meat was discovered where there had been no obvious intention to expose it for sale as human food, it was destroyed with the written consent of the owners, but owing to difficulties arising in three cases it became necessary to have the meat condemned by a magistrate.

The number of animals slaughtered in St. Helens during 1905 was 15,385; of these 9,060 were killed in the Public Abattoir and 6,325 in licensed private slaughter houses.

ANIMALS SLAUGHTERED IN ST. HELENS SINCE 1897.

ANIMALS KILLED.	1897	1898	1899	1900	1901	1902	1903	1904	1905
No. of Beasts killed within the Borough in public and private slaughter houses for market purposes ..	2852	3088	3416	3647	3318	4937	3229	3049	2632
No. of Sheep	4487	3520	3048	3537	3780	3957	3288	3747	4161
No. of Calves	427	443	401	413	338	451	343	329	301
No. of Pigs	6384	5957	6594	7748	6810	7899	8942	9729	8291
Total	14150	13008	13459	15345	14246	17244	15802	16854	15385
Beasts killed in the Corporation slaughter house, which are included in the above number	6520	7430	7550	9597	8957	11381	9867	11457	9060

CATTLE BEASTS SLAUGHTERED SINCE 1896.

	Public Abattoir.	Private Slaughter Houses.
1896	1763	1634
1897	1976	879
1898	2465	623
1899	2682	784
1900	3131	516
1901	2690	628
1902	4140	797
1903	2710	519
1904	2533	516
1905	2197	435

Unsound Food seized or given up during the year ending December 31st, 1905.

100 Quarters of Beef affected with Tuberculosis.	
138 Pairs of Beasts Lungs	do.
61 Beasts Livers	do.
50 Beasts Hearts	do.
1 Beasts Head	do.
22 Beasts Bellies	do.
27 Pairs Beasts Udders	do.
11 Spleens	do.
22 Sets of Rumens	do.
12 Sets of Pigs Offal	do.
6 Carcases of Pork	do.
16 Quarters of Beef, affected with emaciation.	
20 do. permeated with Medicine.	
4 Carcases of Pork suffering from Swine Erysipelas.	
3 Livers infested with Cysts.	
2 Pairs of Lungs infested with Cysts.	
7 Livers infested with Flukes.	
7 Pairs Lungs infested with Flukes.	
21 Pairs of Udders affected with Mastitis.	
5 Hearts affected with Pericarditis.	
3 Livers affected with Necrosis.	
4 Pigs Plucks affected with Cirrhosis.	
2 Livers affected with Cirrhosis.	
1 Head affected with Actinomycosis.	
2 Pairs of Pigs Lungs affected with Pleurisy.	
3 do. affected with Pneumonia.	
4 Livers affected with Echinococcus Veterinorum.	
2 Pairs Sheeps Lungs affected with Strongylus Rufescens.	
4 Full Sets of Cow Viscera permeated with Medicine.	
1 Pork Pig affected with Dropsy and Emaciation.	
110 lbs. Country Killed Pork, Putrid.	
40 Boxes Codlings	do.
3 Boxes Kidneys	do.
4 Bags Mussels	do.
38 Boxes Fish	do.
13 Boxes Herrings	do.
11 Boxes Kippers	do.

Food and Drugs.—At the beginning of the year the administration of the Food and Drugs Acts was transferred to the Health Committee, and the work in connection with the sampling and analysis has been carried out by the officers of the Health Department and Public Analyst. During 1905, 201 samples were taken, and on analysis 9 were found not to be genuine while 10 others were of poor quality. Where the samples were not genuine, in one case, when fat was deficient to the extent of 33·3 per cent., legal proceedings were instituted, and the vendor fined £1 and costs. In a second case where enquiries were made as to the cause of the deficiency in fat, in accordance with the recommendations of the circular letter of the Board of Agriculture issued on 27th March, 1905, the dairyman stated he had noticed one of his cows to be giving very poor milk. On sampling, unexpectedly, the milk from this cow at the cowshed, it was found of very poor quality. The whole matter was the subject of correspondence with the Board of Agriculture, who could suggest no remedy for the protection of the public against the sale of such milk. In the other cases where the samples were certified not genuine, the amount of adulteration was very small, and legal proceedings were not instituted after hearing the vendors explanations, but their supplies have been kept under special observation.

The issue of the circular letter in March, just referred to, has much increased the difficulties of local authorities in dealing with cases of milk adulteration, and has placed on their officers grave responsibilities in adjudicating on "special circumstances indicating the commission of fraud," which ought to rest rather on the Magistrates.

REPORT OF PUBLIC ANALYST FOR 1905.

The following Table shows the work done by the Public Analyst during the year 1905.

Name of Sample Analysed.	Number of Samples Analysed.	Number of such Samples which were found to be genuine.	Number of such Samples which were found to be adulterated.	No. of Cases in which a Summons was taken out.
Milk	111	102	9	1
Butter	56	56	—	—
Cheese	1	1	—	—
Lard	6	6	—	—
Margarine	1	1	—	—
Margarine Cheese	1	1	—	—
Coffee	4	4	—	—
Tea	1	1	—	—
Vinegar	6	6	—	—
Whiskey	2	2	—	—
Beer	9	9	—	—
Brandy	1	1	—	—
Stout	1	1	—	—
Spirits of Nitre	1	1	—	—
Total	201	192	9	1

Water Supply.—Samples have been taken from the softening works daily, and tested as to their hardness. Each sample is obtained by allowing the softened water to drop for twenty-four hours into a glass vessel. At the end of this time the contents are well mixed, and the sample taken. In this way a true sample is obtained.

	No. of Samples Tested.	Mean Hardness.
January	31	10·3
February	28	10·3
March	31	10·4
April	30	10·2
May	31	10·3
June	30	10·0
July	31	10·2
August	31	10·3
September	30	10·2
October	31	10·2
November	30	10·1
December	31	10·2

Total 365 Mean for the year = 10·2.

The average hardness of the unsoftened water was 21·7.

Full analyses were made of St. Helens water on two occasions during the year, and the results showed the water to be of great purity.

FACTORIES AND WORKSHOPS.

The number of workshops on the Register at the end of the year was 164. A large amount of work was done in the inspection of these places, the details of which are set out afterwards in tabular form. Notices were received from the Factory Inspector of commencement to occupy a factory or workshop, and of sanitary defects. The number of new workshops notified by this department to the Home Office was 14, and of workshops given up 20. The standard of 250 cubic feet of air space per head was well recognised, but the workers themselves show an indifference in using the means of ventilation provided. It was generally found that the workshops were kept in a clean condition; it was necessary to serve 53 notices.

Employers do not make their return of home workers with punctuality, and were specially called upon by letter to do so, as under the Factory and Workshop Act employers are bound, under a penalty, to make these returns at the stated times, February and August.

There are 105 bakehouses in the Borough, 2 of which are underground. The number of notices served was 21, all of which were complied with.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, and HOMEWORK

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	21	3	—
Workshops (Including Workshop Laundries.)	604	49	—
Workplaces	11	—	—
Homeworkers' Premises ..	12	—	—
Total	648	52	—

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	11	11	—	—
Want of Ventilation	1	—	—	—
Overcrowding	1	1	—	—
Want of drainage of floors	—	—	—	—
Other Nuisances	17	17	—	—
Sanitary accommodations				
{ insufficient	1	1	—	—
{ unsuitable or defective..	1	—	—	—
{ not separate for sexes ..	3	1	—	—
<i>Offences under the Factory & Workshop Act :—</i>				
Illegal occupation of underground bakehouses (S. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (SS. 97 to 100).	17	17	—	—
Failure as regard list of outworkers (S. 107)	—	—	—	—
Giving out work (unwholesome (S. 108) to be done in premises which are				
{ infected (S. 110) ..	—	—	—	—
Allowing wearing apparel to be made in premises infected by scarlet fever or small-pox (S. 109).	—	—	—	—
Other Offences	—	—	—	—
Total	52	48	—	—

3.—OTHER MATTERS.

Class.		Number.	
Matters notified to H.M. Inspectors of Factories :—			
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		2	
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Acts (S. 5)	Notified by H.M. Inspector..	1	
	Reports of Action taken) sent to H.M. Inspectors.	1	
Other		2	
Underground Bakehouses (S. 101) :—			
Certificates granted during the year		—	
In use at the end of the year		2	
Homework :—		Number of	
<i>List of Outworkers</i> :—(S. 107) :—		Lists.	Outworkers.
Lists received		3	5
Addresses of outworkers	{ forwarded to other Authorities ..		—
	{ received from other Authorities ..		1
<i>Homework in unwholesome or infected premises</i> :—		Wearing Apparel ;	Other.
Notices prohibiting homework in unwholesome premises (S. 108)		—	—
Cases of infectious disease notified in homeworkers' premises		—	—
Orders prohibiting homework in infected premises (S. 110)..		—	—
Workshops on the Register (S. 13 ¹) at the end of the year.			
Workshops		164	
Bakehouses		105	
Total number of workshops on Register ..		269	

4.—WORKSHOPS CLASSIFIED ACCORDING TO THE INDUSTRY.

Dress and mantle making ...	47	Flour Packers ...	1
Milliners ...	20	Herbal Brewers ...	1
Tailors... ..	12	Pearl Ash Manufacturers ...	1
Stocking Knitters ...	7	Seltzogene Charge Makers... ..	1
Joiners, Builders, Cabinet-makers, Plumbers, &c. }	14	Tea Wrapping ...	1
Blacksmiths, Wheelwrights }	9	Drysalters ...	1
Coach Builders, Masons }	9	Bottling Stores ...	1
Weighing Machine Repairers	1	Lead Light Makers ...	2
Cloggers and Boot Repairing	44		
Tinsmiths	1		164

MIDWIVES' ACT.

This Act came into operation on the 1st April, 1905, after which date no woman can take or use the title of midwife or any description implying that she is a person specially qualified to practise midwifery unless she be certified under the Act. The number of midwives who have been so certified and who are practising in the area of the County Borough of St. Helens is 48. The qualifications of these persons are as follows:—

CERTIFICATED.

Liverpool Lying-in Hospital	...	...	...	9
Obstetrical Society of London	...	...	...	9
Glasgow Maternity Hospital	1

UNCERTIFICATED.

In bona-fide practice July, 1901	29
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The County Borough Council is the local supervising authority over midwives within its area, and its duties as such comprise the general supervision of all midwives in St. Helens, the investigation of charges of malpractice, negligence, or misconduct, the suspension of midwives from practice in certain circumstances, and the reporting of midwives to the Central Midwives' Board in other cases. It is the duty of midwives each year to notify the local supervising authority of their intention to practise within the area, to keep a careful record of their cases in a certain prescribed manner, to notify at once to the authority those cases of difficulty or danger in which a registered medical practitioner had to be sent for, or where the death of the mother or child takes place, or where a still birth occurs, or where puerperal fever or other infectious disease is set up. These duties have thrown a large amount of new work on the department during the year. The homes of all the midwives have been visited, their case books, bags of appliances, etc., inspected, and many other enquiries made into their mode of practice. In order to more fully acquaint the midwives of their new duties and responsibilities, a course of lectures was specially arranged for them; they were held in the Municipal Technical School, 15 lectures in all were given, and 35 midwives attended regularly. The notification of still births has been checked by arrangement with the registrar of the cemetery, and this has been found to work satisfactorily. The total number of intimations received from midwives in accordance with the rules of the Central Midwives' Board, in 1905, was 111; 38 of these were on account of still births, 4 on account of puerperal fever, 8 on account of premature births, and 61 on account of difficulty and danger arising in the cases

requiring medical help. In the 61 cases requiring medical help, the causes were stated as follows:—19, uterine inertia; 10, forceps required; 9, hæmorrhage; 5, adherent placenta; 3, breech presentation; 3, rigidity of cervix; 3, rupture of perineum; 2, transverse presentation; 2, retained membranes; 2, prolapse of cord; 2, high temperature; 1, placenta prævia; 1, heart disease; and 2, causes not given. All the intimations were judiciously enquired into, and in many other instances the midwives consulted the department as to the proper administrative procedure to be followed in special circumstances. In the cases of puerperal fever, disinfection by steam and formalin of the midwife's clothing and house was carried out when necessary. It is satisfactory to be able to report that a large amount of the work was done with the help and co-operation of the midwives themselves, and it would seem from the first year of its working that the Act will prove a great instrument for good in St. Helens.

SCHOOL HYGIENE.

During the past year a considerable amount of attention has been paid to the condition of the children attending the public elementary schools. The school attendance officers and the school teachers reported to the department cases of non-notifiable infectious illness among the scholars as well as dirty children, children infested with animal parasites or with any suspicious skin eruption, and children suffering from neglected ailments. In the case of non-notifiable infectious diseases, visits were made at the houses and isolation, disinfection, and exclusion from school attended to, which in the other instances pressure was brought to bear upon the parents to have the conditions remedied so that the sufferers might be able to resume school attendance without danger to themselves or other children.

The number of visits paid by the female inspectors to the schools for such reasons was 183, while the number paid to the houses was 2,803. Excluding the cases of measles elsewhere reported on, in all 625 cases were under observation and they were suffering as follows:—Verminous conditions and sore heads, 137; ringworm, 29; itch, 6; eczema and other skin diseases and neglect, 238; sore eyes and ears, 72; non-notifiable infectious diseases (excluding measles), 116; and other causes, 27. To deal more effectively with these cases the Council in the current year decided to appoint a hospital trained nurse, who will devote the greater part of her time to such school work. The Medical Officer examined a large number of these children and advised as to their exclusion from school. Six children were certified for

special schools and two pupil teachers by request were examined as to the condition of their health before entering upon their duties.

A special inspection was made of the children attending St. Patrick's School, Mount Street, and St. Mary's School, Wolseley Road, when a short anthropometric survey of the children attending these schools was taken; their height and weight and any physical defects were noted, their eyesight was examined, and the general nutrition and condition of each child recorded.

MISCELLANEOUS.

Black Smoke.—The method of time recorded in previous years was continued in 1905, each chimney being under observation for half-an-hour, and all emissions of black smoke for a longer period than five minutes being considered nuisances. The total number of observations taken in 1905 was 396, and in 60, or 14·9 per cent., black smoke was emitted for a longer period than five minutes continuously. The percentage of offences to the number of observations in each year is as follows:—1902, 28·5; 1903, 22·1; 1904, 16·9; and 1905, 14·9. From these figures it would seem that in recent years considerable improvement has taken place in the smoke nuisance in St. Helens. No statutory notices have ever been served on offending manufacturers, but almost invariably the manufacturer has made some effort to improve the conditions, where brought under his notice. A special enquiry was made during the year into the chimneys of the Borough liable to the emission of black smoke, and a report was presented to the Committee on the subject early in the current year.

Offensive Trades.—There are ten offensive trades established in the Borough with the sanction of the Local Authority: they are:—4 tripe boilers, 1 gut scraper, 1 bone boiler, 1 fat boiler, 1 soap boiler, and 2 manure manufacturers. Two applications for permission to establish offensive businesses were considered by the Health Committee, but they were both refused. The premises where these trades were carried on were systematically visited during the year; 101 inspections were made of them by the sanitary inspectors, but it was only found necessary on two occasions to serve statutory notices. Serious complaint, however, has been made with respect to two of these trades, one a bone boiler and the other a manure manufacturer. In both instances the owners of the premises signified their willingness to do everything to abate the offensive conditions arising, and measures were taken which certainly caused considerable improvement, but the premises are being kept under close observation.

Legal Proceedings.—The following is a list of the cases for the year 1905, in which it was found necessary to institute legal proceedings:—

DATE.	OFFENCE.	RESULT.
24th March ...	Adulterated Milk	Fined 20/- and costs.
22nd May ...	Exposing child suffering from Scarlet Fever	Fined 20/- and costs.
22nd May ...	Inhabiting buildings declared unfit for human habitation (3 cases)	One person fined 10/- and costs and 2/6 per day afterwards, and another fined 2/6 per day and costs.
5th June ...	Do. (4 cases)	One person fined 10/- and costs and 2/6 per day afterwards.

WEEKLY RECORD OF METEOROLOGICAL CONDITIONS TAKEN AT VICTORIA PARK.

WEEK ENDING.	Mean Barometer.	Maximum Temp.	Minimum Temp.	Mean Temp.	Mean Soil Temp. (4 feet.)	Rainfall (total in.)	WIND											Force of Wind.		
							Direction of Wind.								Total Mileage	Max-mileage per hour.	Max Gust.			
							Number of Hours per Week.													
							N	NE	E	SE	S	SW	W	NW						
Jan. 7	29.946	53.0	22.0	41.8	46.0	.50	..	2	..	7 1/2	13	7 1/2	59	37 1/2	2895	32	52			
" 14	29.913	51.0	33.0	41.8	45.4	.40	1	..	4	30	14	35	52	31 1/2	2314	26	42			
" 21	29.668	42.0	23.0	33.5	44.5	.25	..	..	28	62 1/2	42 1/2	13 1/2	13	8	1211	18	28	
" 28	30.258	45.0	28.0	36.7	44.5	.15	6 1/2	..	9	27	17 1/2	6	6	28	1038	12	19			
Feb. 4	30.073	51.0	39.0	43.9	44.5	.21	..	..	..	..	..	6	110	51 1/2	1573	16	27
" 11	30.036	53.0	31.5	43.6	44.5	.40	4	..	4	11 1/2	11	30 1/2	42	41 1/2	844	13	21			
" 18	30.100	53.0	30.0	43.3	44.5	.29	6	..	..	..	5 1/2	31	70	52	1188	26	29
" 25	29.958	54.0	27.8	37.7	44.2	.03	38	29 1/2	15 1/2	..	10	10	14	35	1679	20	30			
Mar. 4	29.358	46.8	29.0	39.5	44.0	.74	20 1/2	17 1/2	2	7 1/2	34	13	48	24 1/2	1476	33	44			
" 11	29.397	51.0	36.0	43.8	43.8	.73	1	..	..	12	36	34	44	40	2158	28	39	
" 18	28.807	54.5	38.0	45.5	43.1	1.26	..	..	2	12	68	43 1/2	27	16	1796	26	40	
" 25	29.651	60.0	36.0	46.7	43.0	.33	6	2 1/2	18 1/2	66	36	3	14	21 1/2	1211	20	31			
Apl. 1	29.654	53.0	37.0	40.0	43.0	.96	..	..	..	2	11	57 1/2	70	27	1817	28	38
" 8	29.671	52.5	29.0	42.0	43.3	1.14	15 1/2	8	11	13 1/2	21 1/2	16	23	29	2052	32	50			
" 15	29.407	58.5	37.0	46.5	43.5	.34	5	..	15	58	40	18	18 1/2	13	1507	18	28			
" 22	29.830	60.0	30.5	43.1	44.0	.00	24	79 1/2	46	..	..	..	6	12	2226	27	37
" 29	29.954	52.0	37.0	45.9	44.3	.73	19 1/2	1	..	..	21	50	35	36 1/2	1723	30	41	
May 6	29.647	57.0	37.0	47.0	45.0	.62	8	11	25 1/2	21	40	24 1/2	29 1/2	8 1/2	1662	23	36			
" 13	30.086	63.0	39.0	49.2	45.2	.12	15 1/2	..	..	2	4	..	47	76 1/2	1569	24	31	
" 20	30.097	72.0	41.0	54.1	46.2	.00	8	45	80	18 1/2	..	..	5	10	1668	20	27	
" 27	29.834	64.0	32.5	50.4	47.0	.03	22 1/2	17 1/2	20 1/2	6	16	27	23	22 1/2	1167	16	27			
June 3	30.012	71.0	44.0	58.8	47.5	.34	8 1/2	1	2	6	52 1/2	31 1/2	31 1/2	31 1/2	1143	18	33			
" 10	29.851	67.0	37.0	53.3	47.5	.83	25 1/2	55 1/2	48	6	2	5	3	15	1685	22	35			
" 17	29.689	73.5	41.0	63.2	48.0	.25	3 1/2	11 1/2	99 1/2	12 1/2	1 1/2	..	..	1 1/2	1796	20	30	
" 24	29.837	76.5	47.5	60.3	49.5	1.27	5	..	32	32	31 1/2	21 1/2	21 1/2	16	1058	22	35			
July 1	29.726	80.0	52.0	64.0	51.1	.25	19 1/2	11	58	20 1/2	6	2	25	25 1/2	997	21	31			
" 8	29.929	73.0	47.0	59.0	53.1	.17	4	..	11	15	15 1/2	9	46	67	1109	20	25			
" 15	29.882	82.0	55.0	67.6	56.0	.28	4	..	11	28 1/2	7	35	40	45 1/2	1067	14	27			
" 22	29.885	73.0	53.0	61.1	56.0	.21	..	..	4	12	8	21 1/2	48	74	1251	20	31	
" 29	29.790	73.0	47.0	61.4	56.8	.35	23	..	5	9 1/2	9	11	41	70 1/2	1079	16	34			
Aug. 5	29.502	70.0	45.0	59.8	57.0	1.03	1	1 1/2	8 1/2	28	24	18 1/2	58	13	1726	22	38			
" 12	29.787	66.0	50.0	57.8	57.0	.51	2	..	10	18 1/2	13	22	42 1/2	50 1/2	1424	20	32			
" 19	29.933	73.0	47.0	59.5	57.0	.52	10	..	42	27	30 1/2	15 1/2	25	16	1242	30	46			
" 26	29.586	66.0	49.5	58.0	57.5	1.39	..	1	34	18	35	21	36 1/2	22	1275	20	32			
Sept. 2	29.613	66.0	44.0	56.3	57.2	.55	37	1 1/2	7 1/2	5	1	8	44	44	1388	20	44			
" 9	29.546	65.0	50.0	57.9	57.0	.57	..	..	3	13 1/2	49	49	42 1/2	10	1526	28	40	
" 16	29.898	62.0	38.0	52.9	56.8	.95	8	..	7	4	13	31 1/2	63	41	1304	20	37			
" 23	30.103	62.0	40.5	52.7	55.9	.00	10 1/2	3 1/2	67	32	1	2	17 1/2	34 1/2	968	20	29			
" 30	29.685	60.0	37.0	51.2	55.0	.08	40 1/2	56 1/2	21	7	..	1	6	36	1201	20	35			
Oct. 7	29.656	58.0	35.0	48.5	54.2	.63	29 1/2	..	..	..	2 1/2	8 1/2	22	82 1/2	2090	29	49
" 14	30.124	56.0	33.0	48.7	53.5	.48	33	..	1	2	..	..	53	67	1297	26	42	
" 21	29.786	52.0	28.5	40.3	52.5	1.44	8 1/2	2 1/2	..	..	..	3	8	26	1014	24	40
" 28	29.962	53.0	29.0	41.1	51.0	.23	28 1/2	1	3 1/2	9 1/2	21	11 1/2	33 1/2	59 1/2	1028	22	36			
Nov. 4	29.129	52.5	37.0	44.4	49.3	.87	..	6 1/2	39	38 1/2	48	13	8	..	738	14	22			
" 11	29.396	52.0	36.0	43.5	48.5	.98	4 1/2	4	6	23	46	35	22	18 1/2	966	16	27			
" 18	29.621	53.0	27.0	40.1	48.0	.49	39 1/2	47 1/2	31 1/2	10 1/2	4	1 1/2	15 1/2	18	744	18	30			
" 25	29.622	50.5	21.0	37.5	46.8	.72	3	..	18	30	29 1/2	10	40	12 1/2	822	16	28			
Dec. 2	29.476	51.0	32.5	42.2	45.0	1.69	1 1/2	14 1/2	5 1/2	28 1/2	33	9	20 1/2	8	1834	40	68			
" 9	29.765	53.5	37.0	45.7	45.0	.12	..	..	..	3	19 1/2	35 1/2	23	5 1/2	1532	20	33
" 16	30.396	47.5	32.0	41.5	45.0	.00	..	..	15	27 1/2	9	13	35	26	980	16	24	
" 23	29.962	52.0	37.0	43.2	45.0	.11	..	..	..	45	44	5 1/2	18	1 1/2	1470	24	38
" 30	29.652	46.5	32.5	38.2	45.0	.07	..	..	4	38 1/2	30	..	..	..	1225	16	26
Totals						26.61	551	427	878 1/2	909 1/2	1030	947	1680	1561 1/2	Highest readings					
Mean	29.775	59.3	37.1	47.8	48.8										2895	40	68			

RAINFALL

AT ECCLESTON HILL WATER WORKS FOR 30 YEARS.

	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885
January ..	1.70	1.70	3.54	*	.49	.08	2.72	2.58	3.51	1.78
February ..	3.60	4.50	1.77	*	.80	4.17	1.73	3.38	2.33	2.35
March ..	2.34	2.43	1.13	1.42	1.37	2.41	2.15	.53	2.49	1.94
April ..	3.25	3.13	2.20	1.14	.66	1.23	4.06	1.09	1.07	1.38
May ..	.42	2.69	4.34	1.58	1.90	3.35	1.71	.68	0.82	2.14
June ..	2.61	1.07	3.32	3.10	2.15	2.60	6.07	2.90	2.11	3.32
July ..	2.74	5.32	1.40	4.53	5.82	3.47	5.27	3.32	3.30	1.91
August ..	3.50	6.16	4.87	5.15	2.38	6.60	4.41	2.25	2.02	1.98
September ..	3.96	3.01	5.06	3.77	2.90	2.46	3.10	6.41	3.09	4.58
October ..	2.90	3.46	3.94	2.07	3.13	3.14	3.00	5.81	1.49	5.99
November ..	4.96	2.50	3.94	.61	2.03	2.91	3.43	2.60	1.57	3.18
December ..	4.38	2.90	*	.61	6.16	4.30	2.12	1.65	3.12	2.18
Totals ..	36.36	38.87	35.51	24.37	29.79	36.72	39.77	33.20	26.92	32.73

* Gauge broken.

	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
January ..	3.99	0.98	0.93	0.65	3.17	1.01	1.80	0.89	1.87	2.06
February ..	0.80	0.61	0.61	1.53	0.19	0.08	1.54	3.07	4.02	0.04*
March ..	1.84	1.33	1.89	1.27	2.28	0.76	0.73	0.77	2.21	0.89
April ..	1.12	1.06	1.09	1.92	1.31	1.95	1.15	0.39	1.59	1.74
May ..	4.25	2.03	0.66	2.47	1.58	2.13	3.36	1.30	2.48	0.54
June ..	1.68	0.91	2.54	0.35	2.27	3.39	4.08	1.74	2.23	0.82
July ..	3.03	1.17	6.87	2.98	2.43	3.26	3.20	3.32	3.66	3.72
August ..	1.74	1.50	3.31	4.75	3.67	6.50	4.15	2.79	4.77	3.31
September ..	3.47	5.36	1.56	2.25	1.48	2.92	3.80	3.85	0.72	1.17
October ..	4.05	2.37	1.85	2.84	2.09	3.49	6.25	2.18	3.79	5.13
November ..	3.04	1.17	4.98	2.49	6.41	2.92	2.44	1.88	2.56	2.65
December ..	4.00	2.61	1.89	2.39	0.14	3.93	1.96	3.55	3.44	2.88
Totals ..	33.01	21.10	28.18	25.89	27.02	32.34	34.84	25.73	33.34	25.35

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
January ..	1.13	1.11	2.05	3.84	4.29	2.13	0.36	2.36	2.55	1.05
February ..	1.54	2.35	1.91	1.82	2.65	1.08	1.51	1.97	3.17	1.52
March ..	2.94	2.09	0.73	2.34	*	1.56	2.03	2.11	1.25	3.16
April ..	1.48	2.27	1.40	3.27	1.53	2.14	1.96	1.86	1.36	2.46
May ..	0.51	1.33	3.88	3.28	1.36	0.78	3.82	3.21	1.92	0.59
June ..	3.83	3.52	2.87	2.03	2.36	1.72	1.49	1.79	1.96	2.05
July ..	1.92	1.15	0.52	2.37	0.93	1.40	1.75	4.16	0.76	1.91
August ..	3.18	4.88	4.54	1.49	5.67	2.78	2.51	4.43	4.28	3.33
September ..	6.28	4.90	1.28	4.17	0.83	0.95	1.18	4.68	2.56	1.71
October ..	3.18	1.88	4.55	3.03	3.66	3.68	3.39	7.70	1.86	3.43
November ..	1.31	4.61	2.42	0.56	3.31	3.42	1.95	3.60	1.28	3.64
December ..	4.56	3.99	2.84	1.89	2.96	3.86	2.26	1.47	2.27	0.50
Totals ..	31.86	34.08	28.99	30.09	29.55	25.50	24.21	39.34	25.22	25.35

* Rain Gauge out of order.

SANITARY WORK.

SANITARY INSPECTORS.	Central.	North Eccleston.	South Eccleston.	Parr.	East Sutton.	West Sutton.	Hardshaw.	North Windle.	South Windle.	Total.
Infectious Diseases:—										
Visits of Enquiry	76	84	91	101	133	69	93	106	61	814
Removals to Hospitals	27	37	47	43	55	44	49	43	24	369
Re-inspections	34	40	49	70	138	39	55	99	61	585
Intimations to Schools	64	66	112	146	144	124	145	198	80	1079
Houses Disinfected.. .. .	35	41	56	61	69	49	69	68	34	482
Sets of Beds, &c., Disinfected	27	36	50	53	68	44	67	68	11	424
Nuisances:—										
Inspections	2560	1223	1080	1944	831	844	1503	1334	1012	12331
Complaints	82	63	28	20	18	17	44	42	41	355
Preliminary Notices	267	130	160	650	404	328	365	334	278	2916
Statutory Notices	89	41	48	225	34	42	146	62	71	758
Abated	273	181	163	671	372	325	337	324	261	2907
Black Smoke:—										
Observations.. .. .	29	10	46	66	12	95	90	55	..	403
Intimations	5	..	7	15	1	13	15	5	..	61
Replies	3	..	6	9	..	11	15	4	..	48
Common Lodging Houses:—										
Inspections	107	..	..	..	..	..	30	..	..	137
Notices	22	..	..	..	..	..	4	..	..	26
Abated	10	..	..	..	..	..	4	..	..	14
Noxious Trades:—										
Inspections	64	4	2	17	9	1	4	..	..	101
Notices	2	..	..	..	..	..	..	..	..	2
Abated	1	..	..	..	..	..	..	..	..	1
Dairies, Cowsheds, & Milkshops										
Inspections	38	34	7	38	32	23	35	53	37	297
Notices	1	3	1	5	7	4	1	1	3	26
Abated	1	2	1	2	7	3	..	..	2	18
Slaughter Houses:—										
Inspections	57	23	..	..	42	17	24	14	26	203
Notices	2	1	..	..	2	1	..	..	..	6
Abated	2	1	..	..	2	1	..	..	..	6
Food and Drugs:—										
Visits to Shops	77	5	20	28	22	17	39	25	21	254
Samples Taken	53	16	8	14	13	12	49	48	14	227
Proceedings .. .. .	..	..	..	..	..	..	..	..	..	..
Factory and Workshops:—										
Inspections	81	62	45	34	52	33	124	58	107	396
Visits to Home Workers .. .. .	..	1	2	..	..	1	1	4	4	13
Notices	8	6	2	1	2	5	8	5	16	53
Abated	44	9	38	1	3	2	60	17	8	92
Drain Tests:—										
Old Drains	241	1	204	..	11	4	262	13	..	736
Preliminary Notices	55	..	53	..	1	1	56	9	..	175
Statutory Notices	20	1	31	1	1	1	33	13	..	101
New Drains	11	31	22	81	58	33	132	49	22	439
New Drains Retested	2	15	12	22	8	12	27	14	14	126
WOMEN INSPECTORS.										
Infant Feeding:—										
Visits	166	548	103	434	430	376	415	322	230	3024
Dirty Houses and Children:—										
Cases dealt with	261	66	56	85	110	48	165	111	98	1000
Schools:—										
Visits	49	11	3	7	8	28	24	33	20	183
Intimations	258	99	22	247	171	266	58	128	207	1456
Disease:—										
Visits	72	152	58	209	120	202	76	114	115	1118
Re-inspections	68	60	17	125	115	191	22	52	35	685
Disinfections	31	38	3	55	45	131	14	40	31	388
Midwives' Act:										
Inspections	1	1	2	3	5	10	9	1	1	33
Intimations	3	8	5	..	11	12	2	2	..	43

The work of the Inspectors during 1905 is seen in detail in the foregoing tables for each ward of the Borough. It will be seen that the work has much increased within recent years, when several new departments of work such as Factory and Workshop Inspection, Systematic Drain Testing, Midwives' Act, School Hygiene, and Food and Drugs Acts, have come more under observation. Details of the notices under the Public Health Act are seen in the following table.

NUMBER OF SANITARY NOTICES SERVED.	1897	1898	1899	1900	1901	1902	1903	1904	1905
To Clean Choked Drains and W.c.'s ..	291	193	285	331	361	375	446	346	387
„ Repair or Re-lay Defective Drains ..	87	167	209	250	241	157	157	73	169
„ Drain Dwelling-Houses	5	15	11	3	6	4	7	5	10
„ Disconnect and Ventilate Drains ..	..	84	210	270	228	253	393	107	137
„ Disconnect Downspouts	19	60	144	109	175	33	95	45	32
„ Repair or Lengthen W.P. to Slopstones	49	53	67	94	85	54	51	60	64
„ Provide W.P. to Slopstones	12	29	46	40	35	25	22	29	43
„ „ Slopstones	19	34	34	53	62	57	21	12	21
„ Repair W.C.'s, Baths, Basins, and Lavatories	26	13	23	48	34	27	38	38	70
„ Repair Roofs of Dwelling-houses ..	129	131	214	182	181	108	169	56	119
„ Cleanse Backyards, Privies, & Passages ..	21	37	24	46	28	27	16	39	50
„ „ and Whitewash Filthy Dwellings	27	31	35	23	14	18	45	19	33
„ Provide Doors to Privies, Pail Closets, and Ashpits	239	252	283	385	298	278	301	459	476
„ Repair or Re-hang Doors to Pail Closets, Ashpits and Privies	141	120	157	299	259	96	712	370	289
„ Repair Privies and Ashpits	1	51	36	70	86	76	68	48	129
„ „ Eaves and Downspouts	134	101	98	124	75	75	103	67	121
„ Provide „ „ „	22	50	37	41	32	50	51	244	115
„ Repair Pavement, etc., Backyards ..	128	267	240	371	298	224	197	218	213

Number of Sanitary Notices Served.	1897	1898	1899	1900	1901	1902	1903	1904	1905
To Cut Gutters .. .. .	..	..	..	..	..	..	..	..	204
„ Repair Pavement & Floors in Dwelling-houses .. .. .	..	..	47	69	73	61	20	34	59
„ Remove Fowls, Pigeons, etc., from Dwellings	6	16	7	6	3	4	3	—	9
„ Remove Pigs	17	6	21	31	21	19	9	12	23
„ „ Rubbish	15	29	35	48	24	7	3	9	24
„ „ Manure	24	6	18	16	20	18	8	10	17
„ Reconstruct Middensteads .. .. .	..	..	..	11	26	11	25	6	4
„ Clean Foul Ditches and Cesspools	22	25	106	45	41	43	21	9	28
„ Provide or Repair Ashboxes	32	54	715	170	116	165	719	786	536
„ Overcrowding	31	24	24	23	26	18	42	10	20
„ Replaster Walls or Ceilings of Dwellings .. .. .	..	86	95	108	152	70	72	35	79
„ Prevent Dampness in Dwellings .. .. .	..	..	..	25	57	53	13	29	25
„ Remove Sheds, etc., from Backyards .. .. .	..	..	..	..	33	11	7	12	10
„ Remedy Defects in Bakehouses.. .. .	10	8	4	2	4	24	40	6	24
„ „ „ Workshops.. .. .	..	..	..	7	5	15	14	2	15
„ „ „ Cowsheds & Dairies	12	3	7	..	31	12	1	3	21
„ Provide Water Supply .. .. .	..	..	18	9	13	14	11	16	11
„ Miscellaneous	164	122	207	175	164	156	84	101	173
Foul Ashpits to be Reconstructed to W.C.'s	218	92	227	135	87	102	160	71	102
Totals	1895	2159	3714	3619	3394	2740	4144	3454	3862

Considerable difficulty was experienced in dealing with nuisances arising in certain districts of Parr and East Sutton. This was especially felt in Newton Road, Derbyshire Hill, and parts of East Sutton, where many conditions recur from time to time which can only be effectually remedied by conversion of the insanitary privies and ashpits to a water carriage and dry ash system. In addition also many ditches in these districts are forming offensive nuisances through stagnation of the sewage in them. These improvements have not as yet been able to be carried out on account of the want of a proper system of general drainage and sewage purification for this district, but during the current year plans have been submitted to and approved of by the Health Committee for the remedying of this matter.

In the Borough generally the conversion of privy-ashpits to the water carriage system is progressing satisfactorily. This work is rendered possible through the terms of the local Act of 1898, whereby the elaborate and difficult procedure of the Public Health Act is obviated. The present position in this matter is shown in the following table, which shows also the number of conversions carried out during the past year. In most of the cases little difficulty was experienced in getting the owners to carry out these improvements to their property, but in 27 cases where the conditions were worst, and continued to exist despite the expiry of the notice, it became necessary to get tenders and carry out the work at the expense of the owners. These latter conversions were carried out under the supervision of the Chief Inspector of Nuisances without any undue friction with the owner, who ultimately, in every case, was well satisfied with the result.

Number of Tub and Pail Closets at end of 1904	...	...	...	6875
Number Demolished during 1905	...	...	...	74
„ Converted to Water Closets, 1905	..	...	..	64
				138
Number at end of 1905	...	...	...	6737
Number of Old Ashpits at end of 1904	...	...	...	2303
Number Demolished during 1905	...	...	...	4
„ Converted to Water Closets	...	...	...	80
				84
Number at end of 1905	...	...	...	2219
Number of Water Closets at end of 1904	..	...	...	4667
Number of Tub and Pail Closets Converted during 1905	...	...	...	64
„ Old Ashpits	„	„	„	80
„ New Houses built during 1905	...	...	...	366
				510
Number at end of 1905	...	...	...	5177
Number of Closets on No. 2 System	...	...	...	81

It will thus be seen that 47·3 per cent. of the closets are on the Tub and Pail system, 15·6 per cent. are Privy Middens, and 36·4 per cent. Water Closets.

APPENDIX A.

The following information is supplied by Mr. Geo. J. C. Broom, M.I.C.E., F.G.S., Borough Engineer.

CANAL BOATS ACT.

The following is a copy of the Annual Report of the Inspector under this Act to the Local Government Board :—

In compliance with Section 3 of the Canal Boats Act, 1884, I have to present to you my Annual Report as to the execution of the Canal Boats Acts, 1877 and 1884, for the year ending December 31st, 1905.

(1) The Corporation of St. Helens have appointed me to be Inspector under the Canal Boats Act, in addition to my duties as Borough Engineer. No special remuneration is made for my duties under the Canal Boats Acts.

(2) The number of boats inspected in 1905 was 8, against 13 in 1904. There were four infringements of the Acts and Regulations on three of the boats inspected. The total number of persons housed on board the eight boats was 16—14 males and 2 females, an average of 2 persons per boat. Each of the boats was registered for 3 persons. No children were found on board any of the boats.

(3) Two boats contravened Section 3 of the Act of 1877, the Masters of the boats not having the certificates of registration. The other boat contravened Section 3 of the Act of 1877, and Article 9, part 4, of the Regulations of 1878, the Master not having a certificate of registration and the boat not having been painted for three years.

(4) No legal proceedings for infringements were taken during the year.

(5) Complaint notes were served for each of the above infringements, and certificates were received from the Inspector of another Registration Authority, stating that the causes of complaint had been remedied.

(6) No case of Infectious disease was discovered on any boat during the year, nor was any case reported to the Medical Officer of Health.

- (7) No boats were detained for cleansing or disinfection.
 (8) No boats are at present on the Register.
 (9) No boats were registered during 1905.

I append hereto a table showing the foregoing facts.

I am, Gentlemen,

Your obedient servant,

GEO. J. C. BROOM,

Canal Boats Inspector for the County Borough
 of St. Helens, Registration Authority.

PLANS.

Plans Deposited and Approved by the Health Committee.

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
For Dwelling-houses	253	310	329	386	284	293	370	677	626	353	509
„ Other Buildings	24	31	26	22	23	21	12	23	34	21	17
„ Alterations to Existing Buildings	48	44	40	46	47	52	81	27	128	85	43
Total.....	325	385	395	454	354	366	463	727	788	459	569

The following Table shows the several Wards of the Borough in which Buildings have been erected during the years mentioned :—

Year.	Eccleston North	Eccleston South	Windle North	Windle South	Sutton, East	Sutton, West	Central	Hardshaw	Parr	Total
1896	15	63	57	12	6	36	—	12	43	244
1897	16	28	65	5	15	15	—	7	44	195
1898	40	28	99	14	40	15	—	48	40	324
1899	19	6	42	7	42	11	2	27	80	236
1900	38	56	28	11	16	9	—	21	85	264
1901	26	77	27	1	27	35	8	60	54	315
1902	20	53	14	1	72	11	5	29	54	259
1903	67	84	37	18	100	23	8	43	38	391
1904	105	53	37	16	59	1	7	47	70	395
1905	19	93	44	13	42	10	1	90	54	366

STREETS.**Sewering, Levelling, Paving, Flagging, Channelling, and Completing.**

Silkstone-street, from Bridgeman-street to Roscoe-street.

Windus-street.

Cleveland-street.

Manville-street.

Cowper-street.

Clifton-street, from Birchley-street to Hardshaw-street.

Crown-street.

Stevens-street.

Fisher-street.

Clyde-street, from Lowe-street to the Brook.

Nicholson-street.

Sewering, Levelling, Macadamizing, Paving, Flagging, Channelling and Completing.

Elm-road, late Hall-lane.

Levelling, Macadamizing, Flagging, Channelling, and Completing.

Bishop-road, from Windleshaw-road, for a distance of 104 feet in a northerly direction

FOOTPATHS.**Paving, Flagging, Channelling, and Making Good.**

Footpath, Reginald-road.

„ Windle-street.

„ Junction-lane.

„ Dentons-green-lane.

„ Nos. 56-156, Ramford-street.

PUBLIC HIGHWAYS.**Paving.**

Waterloo-street, from Milk-street to Cross-street.

Hamer-street, from Westfield-street to North John-street.

PASSAGES.**Sewering, Levelling, Paving, Channelling, and Completing.**

Passage, rear of Nos. 2-52, Fidler-street, and No. 40, West-street.

„ „ Owen, Whittle, Fidler, and West-streets.

„ „ Nos. 202-214, Elephant-lane.

„ „ Owen, West, Carlow, and Thompson-streets.

„ along gable of No. 96, Stanhope-street, and Nos. 105 and 100, Argyle-street.

„ between Exeter-street, Grafton-street, Rivington-street, and Douglas-street.

„ „ Nos. 15-27, Bolton-street, and St. Joseph's School.

„ rear of Nos. 1-19, Marshalls Cross-road, No. 8-30, Sutton-road, No. 1-31, Cleveland-street, and along gable No. 31, Cleveland-street.

„ „ Nos. 72-128, Elephant-lane, and Nos. 15-57, Parliament-street.

- Passage rear of Nos. 60-70, Elephant-lane, Nos. 2, 8, and St. Mary's School, Crown-street.
- „ „ Nos. 5-69, Robins-lane, and along gable of No. 5, Robins-lane.
- „ „ Nos. 36-40, Rodney-street.
- „ „ Nos. 52-66, Bronte-street, and Nos. 47-57, Sidney-street, and along gables of No. 66, Bronte-street, and No. 57, Sidney-street.
- „ „ Nos. 2-30, Clarke-street, Nos. 69-81, Hall-street, and Nos. 87-89, Shaw-street.
- „ „ Nos. 139-171, and between Nos. 149-151, Brynn-street.

Draining, Levelling, Paving, Channelling, and Completing.

- Passage, rear of Nos. 2-20, North-road.
- „ „ Nos. 129-131, Boundary-road, and along gable of No. 75, Campbell-street.
- „ „ Nos. 117-125, Stanhope-street, and Nos. 134-142, Morley-street.
- „ „ Nos. 132-142, Duke-street.
- „ „ Nos. 78-81, Brook-street.
- „ „ Nos. 93-105, Kirkland-street, and along gables of No. 46, Grant-street, and No. 63, Albion-street.
- „ between Devon-street, Exeter-street, Windsor-road, and Rivington-street.
- „ „ Exeter-street, Grafton-street, Windsor-road, and Rivington-street.
- „ „ Grafton-street, Knowsley-road, Windsor-road, and Rivington-street
- „ rear of Nos. 2-18, Rigby-street, and Nos. 10-18, Waterloo-street.
- „ „ Nos. 97-145, Parr Stocks-road.
- „ between Cleveland-street, Manville-street, Beaufort-street, and Marshalls Cross-road.
- „ rear of Nos. 4-28, Roby-street, and Nos. 1-27, French-street.
- „ „ Nos. 28-44, Nutgrove-road, and No. 2, Nut-street.
- „ „ Nos. 207-237, Marshalls Cross-road.
- „ „ Nos. 99-103, Napier-street.
- „ „ 132-142, Napier-street, Nos. 21-33, St. Paul-street, and along gables Nos. 132, Napier-street, and 21, St. Paul-street.
- „ „ Nos. 2-20, Virgil-street.
- „ „ Nos. 165-177, Cambridge-road, and along gable of No. 177, Cambridge-road.

Levelling, Flagging, and Completing.

- Passage, rear of Nos. 19-27, Back Bolton-street.

Sewering, Levelling, Flagging, and Completing.

- Passage, rear of Nos. 47-55, Ashcroft-street, and Nos. 62-72, Dudley-street.

STREETS AND PASSAGES DECLARED PUBLIC HIGHWAYS.

- Bishop-road, from a point 104ft. width of Windleshaw-road to Cowley Hill-lane.
- Horace-street, from Boundary-road to Virgil-street.
- Virgil-street, from Hanover-street to Horace-street.
- Duncan-street, from Croppers Hill to Glover-street.
- Elliott-street.
- Passage rear of Nos. 13-35, Cowley Hill-lane, and Nos. 14-36, Wolseley-road.
- „ „ Nos. 4-26, Nutgrove-road, and Nos. 3-15, Scholes-lane.

Passage rear of Nos. 1-113, Eldon-street.

- „ „ Nos. 6-36, Croppers Hill, and Engineer Drill Hall.
 „ „ Nos. 2-36, Havelock-street, and Nos. 81-113, Wilson-street.
 „ „ Havelock, Lyon, Chester, and Campbell-streets.
 „ „ Lyon, Raglan, Chester, and Campbell-streets.
 „ „ Nos. 83-107, Westfield-street, No. 48, St. Thomas'-street, and Nos.
 2-16, Gilbert-street, and along gable of No. 46, St. Thomas'-street.
 „ „ Nos. 2-16, Gilbert-street, and along gable of No. 46, St. Thomas'-street.
 „ „ Westfield-street and Edward-street, and along gable of No. 4,
 Edward-street.
 „ „ Nos. 72-108, Liverpool-road, and Nos. 13-29, Peter-street.
 „ „ St. Paul, Napier, and Chester-streets, and St. Paul's Church.
 „ „ Nos. 10-34, Williamson-street.
 „ „ Pocket Nook, Barber, Atlas, and Vernon-streets.
 „ „ Nos. 37-53, Crab-street.
 „ „ Nos. 68-72, North-road, and along gable No. 43, Cooper-street.
 „ „ Nos. 148-162, Boundary-road, Nos. 9-55, Horace-street, Nos. 2-58,
 Hanover-street, and along gable of 58, Hanover-street.
 „ between Nos. 42-44, Harris-street
 „ rear of Nos. 20-26, Cowley Hill-lane, Nos. 58-62, Cooper-street, and Nos.
 63-69, Atherton-street.
 „ „ Nos. 14-30, Ross-street and Johnson-street, and along gable of No.
 14, Ross-street.
 „ „ Nos. 3-13, Pemberton-street, Nos. 52-66, Borough-road, and Nos.
 2-12, Duncan-street.
 „ „ Nos. 1-9, Duncan-street, Nos. 40-50, Borough-road, and Nos. 35-41,
 Crispin-street.
 „ „ Nos. 9-29, and along gable of No. 26, Carlton-street.
 „ from Sandfield Crescent to St. James-street.
 „ rear of Nos. 156-160, Duke-street, and Nos. 17-25, Chorley-street.
 „ „ Brynn-street and Hardshaw-street, from Cansfield-street to Standish-
 street.
 „ „ Nos. 152-162, College-street.
 „ „ Nos. 118-124, Harris-street, and Nos. 95-99, Dentons Green-lane.
 „ „ Nos. 86-94, Dentons Green-lane, and along gable No. 69, Keswick-road.
 „ „ Nos. 92-114, Peasley Cross-lane.
 „ „ Nos. 124-174, Parr Stocks-road, and Nos. 2-40, Fleet-lane.
 „ „ Nos. 70-98, Friar-street, and Nos. 23-35, Seddon-street.

APPENDIX B.

In this Appendix are included the tables of vital statistics required by the Local Government Board.

TABLE I.

TABLE SHOWING CERTAIN MORTALITY STATISTICS IN THE COUNTY BOROUGH OF ST. HELENS FOR THE YEARS 1895—1905.

Year.	Population estimated to Middle of each year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		Deaths in Public Institutions.	Deaths of Non-Residents registered in District.	Deaths of Residents registered beyond District.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	Number.	Rate per 1000 Births registered.	Number.	Rate.*				Number.	Rate.*
1895 ..	79490	3165	39·8	576	181	1674	21·0	195	88	105	1691	21·2
1896 ..	81136	3042	37·4	542	177	1668	20·4	194	110	85	1643	20·2
1897 ..	82910	3193	38·5	578	181	1746	21·0	189	102	99	1743	21·0
1898 ..	84730	3262	38·4	566	172	1641	19·3	198	119	93	1615	19·0
1899 ..	86588	3145	35·9	492	157	1700	19·6	217	125	107	1682	19·4
1900 ..	88480	3100	35·0	584	188	1914	21·6	233	119	111	1906	21·5
1901 ..	84734	3128	36·9	550	175	1675	19·7	209	96	132	1711	20·1
1902 ..	86040	3222	37·4	541	167	1702	19·7	243	109	118	1711	19·8
1903 ..	87385	3421	39·14	475	138	1535	17·5	209	96	129	1568	17·9
1904 ..	88722	3321	37·4	578	174	1788	20·1	160	66	137	1859	20·9
Averages for years 1895-1904	85021	3196	37·5	548	171	1704	19·9	204	103	111	1712	20·1
1905	89843	3239	36·05	430	132	1470	16·3	204	73	148	1545	17·2

* Rates calculated per 1000 of estimated population.

Area of District in acres (exclusive of area covered by Water) .. 7284·427 Acres.

Total population at all ages	84,410	} At Census of 1901.
Number of inhabited houses	15,122	
Average number of persons per house	5·58	

TABLE II.

TABLE SHOWING CERTAIN MORTALITY STATISTICS, CLASSIFIED ACCORDING TO WARDS, IN THE COUNTY BOROUGH OF ST. HELENS FOR THE YEARS 1895 TO 1905.

NAMES OF LOCALITIES.	NORTH ECCLESTON.			SOUTH ECCLESTON.			CENTRAL.			NORTH WINDLE.			SOUTH WINDLE.		
	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.
1895	9472	210	90	7739	114	44	8321	160	53	8747	161	64	8614	142	55
1896	9579	187	88	8187	119	47	8321	170	50	9152	173	55	8699	161	57
1897	9788	202	75	8366	140	53	8503	179	54	9352	180	58	8889	167	71
1898	10003	218	95	8549	107	36	8690	138	48	9558	166	63	9084	140	51
1899	10222	184	66	8736	128	45	8880	157	48	9768	147	39	9283	153	50
1900	10453	227	91	8926	136	40	9073	179	56	9980	181	69	9484	170	61
1901	10007	221	94	7958	150	64	9616	139	41	8755	161	56	9872	182	69
1902	10840	209	87	9256	139	46	7130	144	57	11810	168	50	8310	146	53
1903	11009	183	65	9400	143	50	7240	127	43	12002	145	51	8439	119	40
1904	11178	265	99	9544	170	53	7350	117	39	12186	170	51	8568	190	67
Averages of Years 1895 to 1904.	10265	210	85	8666	134	48	8312	150	48	10131	165	55	8924	157	57
1904	11321	172	55	9662	161	52	7443	126	37	12338	142	36	8680	122	43

TABLE II.—CONTINUED.
TABLE SHOWING CERTAIN MORTALITY STATISTICS—CONTINUED.

NAMES OF LOCALITIES.	HARDSHAW.			SUTTON EAST.			SUTTON WEST.			PARR.			WHOLE BOROUGH.		
	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Deaths at all Ages.	Deaths under 1 year.
1895	9970	219	68	9031	157	43	8542	311	70	8964	200	89	79400	1674	576
1896	10056	209	59	9074	154	38	8797	280	60	9270	215	88	81135	1668	542
1897	10276	231	70	9272	157	42	8989	304	71	9475	186	84	82910	1716	578
1898	10502	230	70	9475	147	51	9186	296	63	9683	199	89	84730	1641	566
1899	10732	218	56	9683	173	51	9388	309	66	9896	231	71	86588	1700	492
1900	10966	231	63	9893	176	45	9593	338	64	10112	256	95	88480	1914	584
1901	10796	191	54	9652	153	41	8682	284	54	9396	194	77	84734	1675	550
1902	9750	198	63	8838	171	54	9826	314	51	10280	213	80	86040	1702	541
1903	9901	210	65	8975	178	41	9979	235	46	10440	195	74	87385	1536	475
1904	10052	255	87	9112	195	53	10132	224	46	10600	202	83	88722	1788	578
Averages of Years 1894 to 1903. ...	10300	219	65	9380	166	45	9311	289	59	9811	209	83	85012	1701	548
1904 ...	10179	181	52	9227	178	58	10260	143	39	10733	185	58	89843	1542	430

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1905.

CAUSES OF DEATH.	DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES.										DEATHS IN LOCALITIES (AT ALL AGES).							Deaths in Public Institutions.
	All Ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	North.			South.			East Sutton.	West Sutton.	Parr.		
								North Eccleston.	South Eccleston.	Central.	North Windle.	South Windle.	Hardshaw.					
Small-pox	41	9	31	1	..	..	..	8	2	6	3	2	1	2	13	4	1
Measles	16	4	9	3	..	..	..	3	4	..	..	..	..	1	4	3	14
Scarlet Fever	26	15	11	..	..	..	..	4	..	1	..	..	..	5	2	3	..
Whooping Cough	18	1	15	1	..	..	..	1	2	4	..	..	..	2	1	..	4
Diphtheria and membranous croup	3	..	3	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Croup .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fever { Typhus	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	5
{ Enteric .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
{ Other Continued .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	17	..	..	1	2	13	1	1	2	1	..	..	..	2	2	4	3
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea	66	41	16	1	..	4	4	10	4	3	..	..	..	5	6	11	3
Enteritis	40	21	14	..	..	3	2	6	14	5	2	..	..	2	3	..	1
Puerperal Fever	5	..	..	..	2	3	..	1	..	1	2	..	..	1	..	1	1
Erysipelas	6	3	..	..	1	2	..	1	..	..	..	..	..	..	1	1	1
Other septic diseases	4	1	1	1	1	..	..	1	..	..	..	..	..	..	1	..	1
Phthisis	118	4	16	12	20	66	..	12	11	14	16	11	12	10	9	10	15	
Other Tubercular Diseases	54	17	26	6	2	3	..	4	5	5	7	5	7	8	4	6	..	
Cancer, Malignant Disease	38	..	..	..	1	29	8	3	7	3	1	3	6	8	2	3	10
Bronchitis	158	36	25	4	51	42	42	16	14	10	10	13	17	25	15	18	13	
Pneumonia	129	14	37	9	7	53	9	20	7	12	6	13	23	21	12	11	24	
Pleurisy	6	..	3	..	2	1	1	1	..	..	1	..	..	4	..	..	1
Other Diseases of Respiratory Organs	33	7	11	3	1	9	2	2	11	..	2	2	2	4	9	1	1	
Alcoholism, Cirrhosis of Liver	10	..	..	..	8	2	2	2	1	2	..	..	..	1	..	2	2
Veneral Diseases	3	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Premature Birth	70	70	..	..	..	..	..	10	10	3	6	..	..	8	12	12	..
Diseases and Accidents of Parturition	11	..	..	..	1	10	..	1	1	1	1	..	..	3	1	2	..
Heart Diseases	96	3	1	6	13	53	20	9	8	2	19	4	10	9	10	12	19	
Accidents	56	3	13	9	8	18	5	6	2	4	9	3	3	11	7	8	22	
Suicides	4	..	..	..	4	..	..	1	..	1	..	..	..	1	..	1	..
All other causes	512	181	60	14	15	118	124	50	55	46	36	47	72	42	27	73	66	
All causes	1542	430	292	71	74	455	220	172	161	126	142	122	181	178	143	185	204	

TABLE V.
INFANTILE MORTALITY DURING THE YEAR, 1905.
 Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	DEATHS UNDER ONE YEAR																
	UNDER 1 WEEK.	1-2 WEEKS.	2-3 WEEKS.	3-4 WEEKS.	TOTAL UNDER 1 MONTH.	1-2 MONTHS.	2-3 MONTHS.	3-4 MONTHS.	4-5 MONTHS.	5-6 MONTHS.	6-7 MONTHS.	7-8 MONTHS.	8-9 MONTHS.	9-10 MONTHS.	10-11 MONTHS.	11-12 MONTHS.	TOTAL DEATHS UNDER ONE YEAR.
All Causes } Certified ..	46	21	25	14	106	35	26	32	19	28	29	24	26	25	18	18	386
All Causes } Uncertified ..	27	1		2	30	1	3	1	4	2		1		1	1	1	44
Common Infectious Diseases.																	
Smallpox ..					..												9
Chicken-pox ..					..												4
Measles ..					..				1								1
Scarlet Fever ..					..												15
Diphtheria : Croup ..					..				1								41
Whooping Cough ..					..				8	5	7	5	4	3	3	2	
Diarrhoea, all forms ..					..												9
Enteritis (not Tuberculous) ..				1	1			2									
Gastritis, Gastro-intestinal Catarrh ..					3			5	1	2	4	3	4	2		1	39
Wasting Diseases.																	
Premature Birth ..	45	6	9	5	65	3	2										70
Congenital Defects ..	5		2	1	8	2											11
Injury at Birth ..	2				2												2
Want of Breast Milk ..					..												1
Atrophy, Debility, Marasmus ..	10	5	5	5	25	6	5	10	2	5	2	1	2	3			61
Tuberculous Diseases																	
Tuberculous Meningitis ..					..												5
Tuberculous Peritonitis : Tabes Mesenterica ..			1		1		1		1	1	2		1	1	1		12
Other Tuberculous Diseases ..					..								1				4
Erysipelas ..					..												3
Syphilis ..					..							
Rickets ..					..							
Meningitis (not Tuberculous) ..					..												11
Convulsions ..	6	2	4	4	16	5	6	1	5	1	4	1	2	3	2	1	35
Bronchitis ..	1	1			2	1	1	3	2	5	4	6	2	3	3	4	36
Laryngitis ..					..												14
Pneumonia ..		1			..			2			1	2	2	2		3	3
Suffocation, overlaying ..		3			12	4		3		4	4	3	3	3	4	1	44
Other Causes ..	73	22	25	16	136	36	29	33	23	30	29	25	26	25	19	19	430

Table VI.
AGE CONSTITUTION OF THE POPULATION.

AGES.	CENSUS, 1891, Old Borough Area.	CENSUS, 1901, Extended Borough.	Estimated Population at each Age in the Extended Borough, 1904.
Under 1 year	2398	2611	2779
1 to 2 years	2143	2397	2552
2 ,, 3 ,,	2140	2380	2533
3 ,, 4 ,,	2068	2358	2509
4 ,, 5 ,,	1967	2324	2473
Total under 5 years	10716	12070	12846
5 to 10 years	9221	10884	11564
10 ,, 15 ,,	8334	9727	10324
15 ,, 20 ,,	7441	8546	9163
20 ,, 25 ,,	6582	7961	8266
25 ,, 30 ,,	6023	7274	7769
30 ,, 35 ,,	5129	6047	6452
35 ,, 40 ,,	4465	5257	5604
40 ,, 45 ,,	3674	4451	4740
45 ,, 50 ,,	2685	3688	3935
50 ,, 55 ,,	2434	2860	3064
55 ,, 60 ,,	1620	1999	2164
60 ,, 65 ,,	1407	1679	1806
65 ,, 70 ,,	763	998	1079
70 ,, 75 ,,	461	590	652
75 ,, 80 ,,	227	249	279
80 ,, 85 ,,	83	99	104
85 ,, 90 ,,	19	23	24
90 ,, 95 ,,	4	5	5
95 ,, 100 ,,	—	3	3
	71288	84410	89843

Table VIII.

UNCERTIFIED DEATHS—1905.

DISEASE.	MONTHS.			YEARS.							Total
	0-3	3-6	6-12	1-5	10-15	25-35	35-45	45-55	56-66	Over 65	
Congenital Debility	29	—	—	—	—	—	—	—	—	—	29
Convulsions	4	6	—	4	—	—	—	—	—	—	14
Irritation of Stomach	—	1	—	1	—	—	—	—	—	—	2
Measles	—	—	1	—	—	—	—	—	—	—	1
Whooping Cough ..	—	—	1	—	—	—	—	—	—	—	1
Teething	—	—	—	1	—	—	—	—	—	—	1
Pemphigus	1	—	—	—	—	—	—	—	—	—	1
Heart Disease ..	—	—	—	—	—	1	1	—	1	—	3
Bronchitis	—	—	1	—	—	—	1	—	2	—	4
Pneumonia	—	—	—	—	—	—	—	1	—	—	1
Epilepsy	—	—	—	—	—	1	2	—	—	—	3
Apoplexy	—	—	—	—	—	—	1	—	1	—	2
Colic	—	—	—	—	—	—	1	—	—	—	1
Rupture	—	—	—	—	—	—	—	—	—	1	1
Septicæmia	—	—	—	—	1	—	—	—	—	—	1
Senile Decay ..	—	—	—	—	—	—	—	—	—	2	2
TOTALS	34	7	3	6	1	2	6	1	4	3	67