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County

Borough of



Middlesbrough

HEALTH DEPARTMENT.

ANNUAL REPORTS

AND

VITAL STATISTICS

FOR THE YEAR

1902.

MIDDLESBROUGH:
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1903.

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County Borough of Middlesbrough.

Sanitary and Sanatorium Committees.

HIS WORSHIP THE MAYOR (COUNCILLOR JOHN HEDLEY, M.D., J.P.),

ALDERMAN S. A. SADLER, M.P., J.P.,

Chairman of the Sanitary Committee.

Mr.	Alderman	R. Archibald	Mr.	Councillor	J. Forbes
"	,,	T. Baker	,,	,,	J. Hansey
,,	,,	W. J. Bruce, J.P.	"	,,	W. Harkess
",,	,,	R. Burrows	,,	,,	T. Hornung
22	,,	T. Carter, J.P.	,,	,,	C. Imeson
,,	,,	A. Hinton, J.P.	,,	,,	J. Jackson
,,	,,	J. McLauchlan, Chairman of	,,	,,	A. Main
		the Sanatorium Committee	,,	,,	R. Mascall
,,,	,,	J. F. Wilson, J.P.	,,	,,	A. Mattison, Vice-Chairman
Mr.	Councillor	T. Baines			of the Sanitary Committee
55	,,	J. Bosher	,,	,,	W. Meggeson
,,	,,	G. Carey	"	,,	J. Pannell
,,	,,	E. Cone	,,	,,	E. Pilkington
,,	,,	P. Considine, B.A., M.B.	,,	,,	T. G. Poole
,,	,,	G. Cook	,,	,,	J. Reveley
,,	,,	T. Dent	,,	,,	W. Roberts
,,	,,	T. Dodgson	,,	,,	M. Robinson
,,	,,	F. Dodsworth	,,	,,	J. Roddy
"	"	A. C. Dorman, J.P.	,,,	"	G. Wycherley

Refuse Sub-Committee.

ALDERMAN S. A. SADLER, M.P., Chairman,

Mr. (Councill	or A. Mattison, Vice-Chairman	Mr. (Councill	or Carey
,,	,,	Meggeson	,,	23	Hansey
,,	,,	Pilkington	,,	,,	Roberts

Medical Officer of Health and Superintendent of Fever Hospitals.

CHARLES V. DINGLE, M.D., B.Hy., D.P.H., etc.

Sanitary Staff:

Chief Sanitary Inspector :

MR. GEORGE H. ANDERSON, Assoc. SAN. INST.

Assistant Sanitary Inspectors:

THOMAS McDONALD.

H. COLEMAN, C.S.I.

W. SMITH, C.S.I.

H. WATSON, C.S.I.

Lady Sanitary Inspector and Health Visitor:

MISS E. BENTHAM, C.S.I

Foreman Inspector of Scavengers

G. STEVENSON.

Clerk:

HENRY RAWDON.

Matron of the Corporation Sanatorium:

MISS K. BELL.

Borough of Middlesbrough, 1902.

Area of Municipal Boro	ugh		2,	824 Acres
Number of Houses				18,881
Length of Public Street	s			42 Miles
Rateable Value				£344,816
Population (Estimated I	902)	•••		93,354
Death Rate			20.48	per 1,000
Birth Rate			36.09	per 1,000
Zymotic Rate			2.4	per 1,000
Infantile Deaths per 1,0	000 Bi	rths		182
Average Death Rate fo	r 10 y	ears	20.79	per 1,000



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To the Chairman (Colonel S. A. Sadler, M.P.) and Members of the Sanitary Committee of the Corporation of the County Borough of Middlesbrough.

Gentlemen,—Herewith I beg to submit my Fifth Annual Report on the Health and Sanitary Condition of the County Borough of Middlesbrough, viz.: that for the year ending December 31st, 1902.

In the following Report it will be found that the health of the Borough as a whole has shown an improvement during the past year, the death rate having decreased from 21.8 per 1,000 to 20.4 per 1,000. On analysing the returns for the various districts and Wards, it is found that there is a very considerable variance. Taking the town in districts, it will be found that South of the Railway, with a population of 78,212, the year 1902 has been a healthy one, the corrected death rate for this part of the Borough for the year being 18.7 per 1,000; whereas North of the Railway, with a population of 15,142, the death rate was 28.3 per 1,000. Such a marked difference in two adjoining districts is most striking, and is so serious that every effort should be made to lower, if possible, the high death rate in the North district. Comparing the yearly death rates in the Wards confirms the fact that the North side is much more unhealthy than the South side, it being at once seen that the Marsh Ward has by far the highest death rate.

On examining the causes of death in the district North of the Railway for the past year, it is found that deaths of infants under 1 year of age are not above the average of similar deaths in the districts South of the Railway. The following causes of death have been high, viz.: Scarlet Fever, Diarrhœa, Phthisis, Pneumonia, Deaths from Accidents, and Heart Disease. A very large proportion of deaths in Public Institutions (viz., 98 out of 264 persons belonging to Middlesbrough) were from the North district, the chief causes of these deaths being the same as given above.

To improve the health of this district the speediest method would be some scheme of rehousing a large proportion of its population. I would impress upon the Committee that in considering such a scheme it would be most unwise to leave the existing houses standing.

The general improvement which is shown to have taken place during the past year is almost entirely due to the absence of Summer Diarrhoea. Cool summer months, with frequent

showers keeping the dust well laid, proved to be most salutary to Middlesbrough. This once more shows that one of the most important factors in preserving the health of an Urban population is the proper watering and cleansing of the streets, especially during hot summer weather.

During the past year Zymotic Diseases have been very prevalent, chiefly Scarlet Fever and Diphtheria. These diseases have been general over a great part of England, and especially in the North. 80 per cent. of the Scarlet Fever cases were removed to the Isolation Hospital, and 33 per cent. of the Diphtheria cases. There can be no question that the removal of so many infectious cases from the town must have had a very considerable influence in checking the spread of these diseases.

Enteric Fever has been less prevalent; there is one point which is, however, significant in connection with these cases during the past year, and that is, that the proportion of cases occurring in houses with ashpit accommodation have very considerably increased. The abolishing of all ashpits is a question that requires to be seriously considered, the present rate of conversion from one system to the other being extremely slow.

Cowsheds and Dairies .- In April, 1902, I presented a Report on the Cowsheds situated in the Borough. Many of the buildings in which the Cows are kept are dilapidated wooden buildings, quite unsuitable for the purpose for which they are used. It was found that many of the Cowbyres lacked light and ventilation The Report presented to you has not as yet received your attention. The Milk Supply of the Borough is not altogether satisfactory, for the following reasons. In the first instance many of the Cowbyres in the Borough are not what they should be, but as the larger portion of the Milk Supply is brought into the town from outside districts, this is not so important. Secondly, Milk is retailed by 429 Milk Shops and 22 Dairies The Milk retailed in small Shops is stored along with goods, such as petroleum oil and onions, which give off odours readily communicated to the Milk, others of a dusty nature, such as potatoes, vegetables, flour, &c. In many cases the Shops are very dirty. When it is considered that Milk is the most important and necessary diet of infants and children, and is a fluid which is exceptionally liable to contamination, and which is the ready means of communicating such diseases as Tubercular Diseases, Scarlet Fever and Diphtheria, it is seen how great a danger there is to the health of a community when the daily supply of Milk passes through so many hands. Taking as an example the Milk supply of the houses attacked with Scarlet Fever and Diphtheria in Middlesbrough during the past year, we find that in one instance 405 households bought Milk from 113 different retailers, and that in the other instance 135 households bought Milk from 58 different retailers; beside these, 187 households bought no fresh Milk at all, but used, and fed their infants on, Condensed Milk, some brands of which from analysis have been found to be of hardly any nutritive value. Those who visit such houses are well acquainted with the condition the half used tin of Condensed Milk is generally found in.

"The Housing of the Working Classes Act."—This problem as far as Middlesbrough is concerned is still unsolved. In a joint Report prepared by Mr. Baker, the Borough Surveyor, and myself, at the request of the General Purposes Committee, will be found particulars of the housing accommodation and overcrowding in the Borough.

Briefly summarising this Report, it is found that the provision of houses to meet the requirements of the increasing population is being well maintained; that the overcrowding in Middlesbrough is not excessive; it is always possible to find houses which are overcrowded, but taking groups of houses or localities there is no general overcrowding. That the average persons per house is highest in the Marsh Ward, being 6·1 persons per house, compared with 5·2 persons per house in the whole Borough.

Comparing the Census returns for 1891 and 1901, it is seen that an improvement in the housing of the population is steadily going on.

The high death rate in the Marsh Ward, and North of the Railway generally, points to unhealthy houses and surroundings, but as I have reported before, this is probably due more to the area being congested than to the houses being overcrowded.

The following houses have been certified as unfit for habitation, namely:-

No. 2 Hudson Street

" 16 Baker Street

" 29 Frederick Street

" 31 Frederick Street.

In each case the necessary repairs were carried out.

"The Factory and Workshops Act, (1901)."—This came into operation on the 1st of January, 1902. In Middlesbrough, the Factory and Workshops Act bras always been well administered, the new Act extends the scope of the work, especially in the direction of Domestic Workshops, Workplaces, and Home Work.

As specified in the Act—a special report (Appendix B) on the Administration of the Act in this Borough is included in this Report.

"The New Licensing Act" which has just come into force, although not a sanitary measure, will undoubtedly do much to improve the health of Urban populations. Such diseases as Pneumonia and Heart Disease, so prevalent in the district North of the Railway, are greatly affected by intemperance. Intemperance cannot be said to effect the attack rate so much as the Mortality. It is found that an attack of Pneumonia is almost invariably fatal to an intemperate man.

"The Midwives Bill," which was passed in July, 1902, and comes into force on April 1st, 1903, will to a great extent give the Borough Corporation the control of those practicing Midwifry in the Borough.

"Common Lodging Houses."—There are 23 on the Register, all of which are on the North Side of the Railway Many of these are unsatisfactory, and are far from being up-to-date. Several have been registered for a long period. Some of the worst are in the Vine and Princess Streets district, the kitchens and living rooms being practically underground rooms. The license having been granted, it is impossible to do away with these, except by condemning the houses as unfit for habitation.

Appendix C of this Report gives the Vital Statistics of the Borough of Middlesbrough for the past 25 years. For purposes of comparison, and for reference, this will be found to be of considerable value. A short summary is also given of the principal sanitary proceedings during those years. Great difficulty, owing to the incompleteness of the available information for some of the earlier years, has been experienced in drawing up this Report.

STATISTICS RELATING TO BIRTHS, DEATHS, CAUSES OF DEATH, ZYMOTIC DISEASES, Etc.

Death Rate.—During the 52 weeks ending December 31st, 1902, there were 1,912 deaths registered in the Borough, representing a death rate of 20:48 per 1,000 of the population. During the year 1901 there were 1,995 deaths registered, which gave a death rate of 21:84 per 1,000.

The number of non-residents who died in the Borough and of residents who died outside the Borough during the year 1902 was equal, being 45. The corrected death rate and total number of deaths being, therefore, the same as the death rate and number of registered deaths given above. The corrected death rate for the year 1901 was 21.90 per 1,000.

The following are the death rates for the past 10 years :-

1893	 21.03	1898	 21.77	*	22.04
1.894	 17.65	1899	 22.00	*	22.17
1895	 19.31	1900	 24.81	*	25.07
1896	 19.64	1901	 21.84	*	21.90
1897	 19.16	1902	 20.48	*	2048

The average death rate for these 10 years being 20.76 per 1,000.

^{*} Corrected death rates.

The death rates for the deaths registered in the various districts into which the town is divided for statistical purposes during 1902 and 1901 were:—

	1902.	1901.
North of the Railway	21·32 per 1,000	23:38 per 1,000
East of Linthorpe Road	16.02 ,,	15'64 ,,
West of Linthorpe Road	16.57 ,,	19.62 ,,

The corrected death rates for the districts during 1902 (i.e., the deaths registered in the districts, together with deaths of persons belonging thereto but dying outside the Borough, and also including deaths of persons dying in Public Institutions belonging to the various districts, but eliminating deaths of non-residents) were :—

North of the Railway	 	 28.3 p	er 1,000
East of Linthorpe Road	 	 17.8	,,
West of Linthorpe Road	 	 19.6	,,

Table I. gives these rates for the past 19 years, in Appendix C, will be found the death rates in the various districts for the past 25 years.

The death rates in the four quarters of 1902 were :-

1st quarter	 Deaths	450	 equal to	a rate of	19.29 pe	r 1,000
2nd quarter	 ,,	503	 >>	11	21.55	"
3rd quarter	 ,,	480	 ,,	1)	20.56	22
4th quarter	 ,,	479	 ,,	,,	20.52	,,

The quarterly death rates in the various districts during 1902 were :-

Districts.		Death Rates per 1,000.							
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarte				
North of Railway		20.6	17:0	26.7	20.3				
East of Linthorpe Road		14.6	19.0	14.4	15.4				
West of Linthorpe Road		15.8	17.5	15 5	17.3				

The death rate for the whole Borough for the first half of the year was 20.42 per 1,000.

" " second half of the year was 20.54 per 1,000.

Mortality at the Different Age-Periods.—The 1,912 deaths during 1902 were made up of 616 under 1 year of age, being 32·21 per cent. of the total deaths; 329 over 1 year of age and under 5 years, being 16·68 per cent. of the total deaths; 67 over 5 and under 10 years of age, being 3·50 per cent. of the total deaths; 28 over 10 and under 15 years

of age, being 1.46 per cent. of the total deaths; 85 over 15 years and under 25 years of age, being 4.44 per cent of the total deaths; 560 over 25 years and under 65 years of age, being 29.28 per cent. of the total deaths; 227 over 65 years of age, being 11.87 per cent. of the total deaths.

The following table compares these rates with those of the previous four years :-

Ages.	Percenta	ge of Deaths a	t various Age-	periods to tota	l Deaths.	
	1898	1899	1900	1901	1902	
Under 1 year	28.77	27.93	27.51	32.93	32.21	
1 and under 5 years	16.21	17.93	12.83	18.89	16.68	
5 and under 10 years	2 8	2.5	2.3	2.3	3.5	
16 and under 15 years	1.9	1.1	0.8	1.45	1.46	
15 and under 25 years	6.1	4.9	5.4	4.5	4.4	
25 and under 65 years .	29.8	29.7	31.2	28.92	29.28	
65 years and over	14.2	15.3	20.0	10.91	11.87	

The monthly death rates per 1,000 of the population in the various Wards of the Borough for the year 1902 were as follows:—

Wards	January	February	March	April	May	June	July	August	September	October	November	December
Ayresome	21.65	8.6	13.04	20.31	22:32	11.76	11.39	5.21	13.55	21.00	15.34	16 69
Acklam	11.82	16.3	19.37	13.71	22.13	12:19	19:23	16.22	10.68	20:62	22.88	10.31
Cannon	19:45	26.2	16 73	24.44	15.30	21.44	20.88	32.03	23.01	29:30	17.32	25.03
Cleveland	20.80	14.1	11.14	24.73	20.80	14.81	15:90	16.17	24.74	14-27	29.78	19.17
Exchange	17:15	14.2	19:95	16.19	25 67	20.68	21.41	12.77	22.14	27.13	22.14	15.57
Grove Hill	10.79	11 0	11.07	16.09	14 48	18.18	15.53	13.20	9.62	13:50	12.97	13.33
Linthorpe	15.71	11.3	11:30	19.46	19.43	13.12	11.11	19:11	16.40	22.23	14.37	- 9.49
Marsh	25.97	26.3	28.19	20.17	30.40	26.89	34.63	23.18	42.54	29.19	27.99	23.85
Newport	26.73	29.9	13:31	22.60	33.96	31.69	25.98	23 56	35.28	17:14	24.36	25.97
Vulcan	23.14	28.8	24.61	25.36	34.72	17:97	23.14	12.92	31.51	21.66	16 36	28.14

The average rates per 1,000 per annum for these Wards being-

Ayresome	 	15 07	Grove Hill	 	13.33
Acklam	 	16.28	Linthorpe	 	15.50
Cannon	 	22.84	Marsh	 	28.69
Cleveland	 	18.86	Newport	 	25.87
Exchange	 	19.56	Vulcan	 	28.61

Births.—The number of births registered in the Borough during the year 1902 was 3,370; composed of 1,754 males and 1,616 females, giving a birth rate for the year of 36·09 per 1,000 population. During the previous year there were 3,328 births, the birth rate being 36 44 per 1,000 population. The natural increase *i.e.*, the excess of births over deaths, during the year 1902 being 1,458.

In 1901 the natural increase was 1,333.

The following have been the birth rates during the past 10 years :-

1893	 	38.76	1898	 	32.52
1894	 	35.76	1899	 	33.47
1895	 	32.91	1900	 	34.46
1896	 	31.70	1901	 	36.44
1897	 	33.35	1902	 	36.09

the average birth rate for these years being 34.54 per 1,000 of the population.

Uncertified Deaths.—During the year there were 54 uncertified deaths.

The causes of death were given as follows :-

Convulsions		 14	Meningitis	 	2
Heart Diseas	e	6	Hernia	 	1
Premature B	irth	 10	Rheumatism	 	1
Natural Cau	ses	 6	Marasmus	 	1
Debility		 4	Phthisis	 	1
Bronchitis		 3	Gastritis	 	1
Old Age		 2	Diarrhœa	 	1
Disease of th		 1			

54

Of these, 34 were under 1 year of age.

The proportion of uncertified deaths to total deaths being 2.8 per cent.

The principal **Zymotic Diseases** (which include Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, "Fever"—Typhus, Simple, Continued, and Enteric—and Diarrhœa) caused 224 deaths, the number in the previous year being 270.

The Zymotic rate for 1902 being 2.4 per 1,000 compares favourably with the rate 2.9 per 1,000 of the previous year. This lower rate was the result of a great diminution of deaths from Epidemic Diarrhoea during the summer of 1902, as compared with the number of such deaths in the previous year.

Notifiable Diseases.—The total number of Infectious Diseases notified during the year 1902 was 879, in the previous year 680 cases were notified. The chief increase during the past year being among cases of Scarlet Fever and Diphtheria. There was a considerable decline in Enteric Fever notifications.

Small-Pox.—After two years absence, Small-Pox once more appeared in the town during the past year. The first case being imported directly from London. Altogether there were 4 cases notified as follows:—

Date	Profession, etc.	Λge	Sex	Condition as to Vaccination	Result
Case No. 1— March 4th	One of a troup of Acrobats. Had the disease fully developed on arrival in Middlesbrough	18	Male	2 good Vaccination marks done in in- fancy. No Re- Vaccination	A discrete case, made good re- covery
No. 2— March 18th	Probably infected from 1st case, having been at music hall where above case performed	28	Female	3 faint marks done in infancy, No Re-Vaccination	Severe case, confluent on face, some Hœmorrha- gic spots on body, made good re- covery
No. 3— March 21st	Sailor, probably con- tracted disease in London	40	Male	1 mark of small size. No Re- Vaccination	Severe Confluent case, died March 31st
No. 4— April 2nd	Sold Papers in a Shop frequented by Foreign Sailors. Probable source of infection being Spanish Sailors	21	Female	2 marks of small size. No Re- Vaccination	Mild attack, made good recovery

These cases were all removed to the Corporation Small-Pox Hospital. No second case occurred amongst the other members of the various families. All contacts were removed to the Corporation Small-Pox Hospital, at Hemlington, and kept in quarantine.

Enteric Fever.—121 cases were notified, of which 23 proved fatal

The rate of mortality to cases notified being 190 per cent. Of the 121 cases notified 61 (=50.4 per cent.) were removed to the Isolation Hospital, in 1901. 39.1 per cent. of the cases were isolated.

The death rate from Enteric Fever per 1,000 of the population during the past year was 0.24.

The following have been the death rates per 1,000 of the population in Middlesbrough from Enteric Fever during the past 10 years:—

1893	 	.61	1898	 	.35
1894	 	.26	1899	 	.24
1895	 	.32	1900	 	.17
1896	 	.40	1901	 	.33
1897	 	.32	1902	 	.24

The greatest number of cases occurred in the Cannon, Ayresome, and Marsh Wards. See Tables VII, X and XI.

Of the 121 cases notified 37 occurred in houses with Ashpit accommodation.

82 ,, ,, Ashpan ,, 2 ,, Water Closet ,,

that is 30.5 per cent. of the cases occurred where there were Ashpits and 67.7 Ashpans.

showing that during the past year there was a great increase of Enteric Fever at houses with Ashpit accommodation.

The 121 cases of Enteric Fever notified occurred in 110 houses.

102	houses	had	each	1	case	=	102
6	,,		,,	2	cases	=	12
1	,,			3	,,	=	3
1	11			4	,,	=	4
110	houses						121 cases.

The following Sanitary defects were found :-

Dirty houses	 	6
Dilapidated back yard	 	5
Dilapidated privies	 	4
Gullies not trapped -	 	1
Drains defective	 	2

70 of those attacked were males and 51 females.

The Ages of	Ages of those who died			
Under 1 year of age			Nil	Nil
1 and under 5 years	***		16	3
5 and under 15 years			32	3
15 and under 25 years			33	6
25 and under 65 years			40	11
65 years and over			Nil	Nil
Total	***		121	23

They occurred in the following districts :-

North of the Railway	East of Linthorpe Road	West of Linthorpe Road
24	25	72
The	following were removed to Hosp	ital—
15	10	36

The following were the occupations of those attacked by Enteric Fever :-

Home Dutie	es and	Infants	 	44	Farmer	 		1
Attending S	School		 	30	Errand Boy	 		1
Boilersmith	s		 	3	Hawker	 		1
Porter			 	1	Iron Workers	 		3
Grocers			 	2	Painter	 		1
Joiner			 	1	Tailor	 		1
Railway Gu	nard		 	1	Sailor	 		1
Horse Driv	er		 	1	Engine Drivers			2
Clerks			 	2	Shipwright	 		1
Rivetters			 	3	Caulker	 		1
Barman			 	1	Picture Framer			1
Labourers			 	12	Wire Worker			1
Packer			 	1	Milkman	 		1
Occupation	not k	nown	 	3			-	

121

From this list of the occupations of those attacked by Enteric Fever it is seen that the greatest proportion (61.1) are women and young children of or about school age.

Scarlet Fever.—There were 500 cases notified and 42 deaths from Scarlet Fever during the year 1902, against 376 cases and 27 deaths the previous year.

The rate of mortality to cases notified for 1902 being 8.4 per cent.

Of the 500 cases notified 403 (= 80.6 per cent.) were removed to the Isolation Hospital. In the previous year 70.7 per cent. of the cases notified were removed.

Ages of the	Ages of those who died		
Under 1 year	 	7	3
1 and under 5 years	 	175	28
5 and under 15 years	 	265	11
15 and under 25 years	 	41	Nil
25 and under 65 years	 	12	Nil
65 years and over	 	Nil	Nil
Total	 	500	42

They occurred in the following districts :-

North of the Railway	East of Linthorpe Road	West of Linthorpe Road
70	157	273
The	following were removed to Hosp	ital—
62	121	220

The 500 cases occurred in 405 houses.

342	houses	had			 1	case	each	=	342	
45	"	,,			 2	cases	each	=	90	
14	,,	"			 3	,,	,,,	=	42	
2	,,	,,			 4	,,	,,	=	8	
1	22	,,			 6	cases		=	6	
1	Public	Insti	tution	had	 12	,,		=	12	
405	houses	had			 				500	cases.
									_	

368 of the children who contracted Scarlet Fever attended school. Of these-

41 attended the Fleetham Street Board School.

41	22	Newport	,,	22
	11	1	2.7	7.7

- 36 ,, Victoria Road ,, ,,
- 32 ,, St. Mary's Roman Catholic School.
- 28 , Denmark Street Board School.
- 25 ,, Lower East Street ,, ,,
- 22 ,, Grange Road ,, ,,
- 22 ,, St. John's School.

The households in which Scarlet Fever occurred were supplied by no less than 113 different retailers of milk and 135 used condensed milk, chiefly the Calf Brand, which is of poor nutritive value.

Diphtheria.—This disease has been much more prevalent in the town during the past two years than formerly. During 1902, there were 164 cases notified, 58 of which ended fatally.

The number of cases notified and deaths from this disease during the past 5 years have been as follows:—

DIPHTHERIA	1898	1899	1900	1901	1902
Cases Notified	54	30	25	68	164
Deaths	14	9	3	19	58

The 164 cases during 1902 occurred in the following districts:—

North of the Railway	East of Linthorpe Road	West of Linthorpe Road		
11	50	103		
The	following were removed to Hos	pital—		
5	15	35		

33.5 per cent. of the total cases notified being removed to the Isolation Hospital.

The ages of those attacked, were :-

$\Lambda \mathrm{ge}$		Cases Notified	Ages of those who died
Under 1 year		8	4
1 and under 5 years		66	41
5 and under 15 years		66	12
15 and under 25 years	***	17	1
25 and under 65 years		7	Nil
65 and over		Nil	Nil
Totals		164	58

The rate of mortality being 35:3 per cent. of the cases.

These houses were supplied by 58 separate milk retailers, 52 bought condensed milk and no fresh milk.

Cases occurred among the children attending the following Schools :-

Victoria Road 13 ,, St. Mary's 4 St. Patrick's 2 Convent 1 Grange Road 10 ,, Marton Road 5 Ayresome 2	Newport Board	28	cases	Boundary Road	6	St. Paul's	3	Hugh Bell 1
Grange Road 10 ,, Marton Road 5 Ayresome 2	Fleetham St.	14	,,	South End	4	St. John's	2	Marsh St. 1
	Victoria Road	13	,,	St. Mary's	4	St. Patrick's	2	Convent 1
Denmark St. 8 ,, East Street 3 St. Hilda's 1	Grange Road	10	,,	Marton Road	5	Ayresome	2	
	Denmark St.	8	,,	East Street	3	St. Hilda's	1	

Measles.—This disease was not very prevalent during the past year, the deaths numbered 10, against 43 and 25 in the two previous years.

Whooping Cough—Caused 31 deaths during 1902. There were 32 in 1901, and 39 in 1900. They occurred as follows:—North of the Railway 2; East of Linthorpe Road 11; West of Linthorpe Road 18.

Erysipelas.—74 cases were notified, and there were 5 deaths, one only of these was that of a child under 1 year of age.

Continued Fever.—5 cases were notified, there were no deaths. Two of these cases were removed to the Isolation Hospital.

Puerperal Fever.—4 cases were notified, one ended fatally. One was North of the Railway, 2 West of Linthorpe Road, and 1 East of Linthorpe Road.

Infantile Mortality.—There were 616 deaths of Infants under 1 year of age during 1902, being a decrease of 41 compared with the previous year.

The deaths under 1 year of age represent 32.21 per cent. of the total deaths, and give a mortality figure of 182 per 1,000 of the births.

The chief causes of death of Infants under 1 year of age were:—Marasmus 151, Convulsions 72, Premature Birth 69, Pneumonia 59, Enteritis 41, Diarrhœa 39. See Table VI.

The deaths in the four quarters were :-

1st quarter	2nd quarter	3rd quarter	4th quarter
128	142	163	183

The percentage of Infantile deaths to total deaths in these four quarters being:—
28.4 per cent. 28.2 per cent. 33.9 per cent. 38.2 per cent.

During the year 1902 there was a marked decline in deaths from summer Diarrhœa.

Infantile deaths divided into the districts in which they occurred:-

	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
North of the Railway	26	17	35	29	107
East of Linthorpe Road	35	44	42	46	167
West of Linthorpe Road	65	75	80	101	321
Public Institutions	. 2	6	6	7	21
	128	142	163	183	616
	MODELLE	-	-		

The percentage of Infantile deaths to total deaths in the district being :-

	Tot	tal Deaths	Infantile	Deaths		
North of the Railway		323	107	=	33.4 1	er cent.
East of Linthorpe Road		480	167	=	34.6	,,
West of Linthorpe Road	***	800	321	=	40.1	,,

The percentages of deaths under 1 year to total deaths in the Borough during the past five years have been :—

1988 1899 1900 1901 1902 28·7 per cent. 27·93 per cent. 27·5 per cent. 32·9 per cent. 32·2 per cent.

Diseases of the Respiratory System.—417 deaths were registered from these diseases, in 1901 there were 424 deaths, and in 1900, 734 deaths from Respiratory diseases.

Of the 417 deaths, 306 were from Pneumonia, and 87 from Bronchitis, being an increase of 22 deaths from Pneumonia, and a decrease of 30 deaths from Bronchitis, compared with the previous year.

Deaths from Respiratory diseases account for 21.8 per cent. of the total deaths. In 1901 they accounted for 26.7 per cent.

During 1899 the mortality from Pneumonia per 1,000 of the population living was 4.2

,,	1900	,,	,,	,,	33	,,	5.5
,,	1901	1)	,,	,,	,,	,,	3.1
,,	1902	,,	,,	,,	,,	,,	3.1

Pneumonia during 1902 was again very fatal to young children under 5 years of age, no less than 41·1 per cent. of the total deaths being under that age.

Phthisis and Tubercular Diseases caused 204 deaths, a decrease of 21 on those of the previous year. Taking into consideration the increase of population these diseases do not appear to be increasing proportionally.

The following are the yearly deaths from all Tubercular diseases for the past 8 years:—

1895	1896	1897	1898	1899	1900	1901	1902
156	175	177	198	215	247	225	204

Of the 204 deaths during 1902, 23 were from Tabes Mesenterica, 28 from Tubercular Meningitis, 123 Phthisis, and 30 from other Tubercular diseases. Of these 24 occurred North of the Railway, 60 East of Linthorpe Road, 87 West of Linthorpe Road, and 33 in Public Institutions.

Diarrhœal Diseases.—The mortality from Diarrhœa was exceptionally low, 60 deaths were registered during 1902. Of these, 89 were under 1 year of age—i.e., 65 per cent. In the previous year there were 117 deaths from this cause, and 81 were under 1 year of age=69.2 per cent.

Of the 60 deaths, 21 occurred North of the Railway, 5 East of Linthorpe Road, and 34 West of Linthorpe Road.

Vaccination.—During the past year 2,661 Certificates of successful Vaccination were received by the Vaccination Officer, in the previous year there were 2,273 such Certificates received.

The number of Certificates granted to persons claiming exemption under the Conscientious Objection Clause of the 1889 Act have been very few, only eight such Certificates having been granted during the year.

Still-Born Children.—In addition to the 616 deaths of children under one year of age there were 164 Still-Born Children interred in the Linthorpe Cemetery. This does not include the total of such for the whole Borough, as no doubt many have been interred at the North Ormesby Roman Catholic Cemetery.

During the past seven years the numbers of such burials at the Linthorpe Cemetery have been :—

1896	***	***	132	1900	 	181
1897	***		137	1901	 ***	198
1898			139	1902	 	164
1899			163			

Of the 154 during the year 1902, 135 were certified as having been Still-Born by Medical Practitioners and 29 by Midwives.

Illegitimate Children.—104 of the births during 1902 were those of illegitimate children. The numbers in previous years were :—

1898	 96	1900	 108
1899	 114	1901	 131

Marriages.—The number of marriages solemnised in the Sub-District of Middlesbrough during the year 1902 was 902. There were 892 Marriages in the previous year.

Female Sanitary Inspector and Health Visitor.

During the year ending December 31st, 1902, Miss E. Bentham reports that 5,577 visits were made to houses situated in some of the worst localities in the Borough. Advice and instruction was given on Cleanliness, Ventilation, Personal Hygiene, and the Care and Feeding of Infants.

Of these 5,577 visits, 2,741 were first visits, and 2,836 were re-visits.

Of the 2,741 houses visited, 643 were found to be dirty, and 41 were very filthy. These were persistently re-visited, with the result that about two-thirds became much cleaner, and one-third became thoroughly clean and apparently permanently improved. A few owing to removal were lost sight of. In a great many of the houses visited a marked improvement was observed, not only in the cleanliness of the houses and the people, but also in the care they took in the feeding of their young children.

The following were the Streets visited during 1902 :-

owing were the Streets	visited	auring	1902 :	_		
Locality.					Number of	Houses visited.
Tyne Street						21
Wear Street						17
Princess Street						48
Olive Street						48
Graham's Yard			***			11
Harrison's Yard						5
Pine Street						28
Brook Street						8
Spring Street				10		13
Redcar Street						22
Bottomley's Yard						2
Robinson's Yard						8
Barrett's Yard						4
Mineral Street						24
Albert Mews						48
Albion Place						15
Woodhouse Terrace						44
Robinson Street						36
Paradise Place						12
Alma Street		***				14
Fidler's Yard					***	5
Grange Street						14
James Street						13
Green's Yard					***	8
Thompson Street						15
Duncombe Street						146
Robinson's Buildings						8

Locality				N	umber of	Houses visited.
Byers' Yard						6
Davison Street						50
Bolckow Street						60
Graham Street						35
Hardman Street						30
Newcastle Row						18
Spark's Buildings						9
Storey's Buildings						8
Hawdon's Buildings						4
Lloyd Street						38
Frances Street						60
Henry Street						32
Dundas Street						62
Rock Street						46
Garden Street						78
Rushford Street						42
Victoria Street						34
Lumley Street						180
Spencer Street						126
Pearson Street						20
Colne Street						42
Thomas Street						48
Argyle Street						94
Total number of	of Visi	its in tl	iese Str	eets		1,739
Number of Od	d Visi	ts in ot	her Stre	eets		1,002
Number of Re						2,836
То	tal nu	mber of	Visits			5,577

The following Sanitary defects were found to exist and were referred to the Sanitary Department:—

Defective privy and ash	pit re	oofs	 	121
Defective pans			 	41
Ashpit and privy doors	to re	fix	 	70
Defective house roofs			 	54
Leaking ashpits			 	5
Defective ceilings			 	11
Defective privy seats			 	5
Drains and yard gullies	block	ked	 	65
Public Health Notices			 	281
Defective water closet			 	1

In addition to the above visits, 40 meetings have been held and addresses on Hygiene given at them.

Under the Factory and Workshops Act, 530 visits have been made to Workshops, 209 to Domestic Workshops, 34 to Workplaces, and 98 to Home Workers.

No serious cause of complaint or sanitary defect was found in any of these, and any suggestions regarding cleanliness, ventilation, or better sanitary accommodation were readily accepted and carried out by the owners and proprietors.

Summary of Visits made by Miss Bentham during 1902: -

	Total	Visits		 6,959
Out Workers				 98
Work Places				 34
Domestic Workshops		***		 209
Shop Assistants' Sea	ts Act			 199
Shop Hours Act				 312
Factory and Worksh	ops Act		***	 530
Re-Visits			140	 2,836
Visits to Houses				 2,741

Out of 2,741 houses visited it was found that 1,043 had no facilities for washing clothes and a far greater number had no drying accommodation, very few have yards large enough to dry washing in, the consequence being that the living and sleeping rooms are constantly used for this purpose, even though at the same time they are often occupied by children and adults suffering from Respiratory and other diseases.

The provision of Washhouses and Baths is one which the Sanitary Committee should deal with at an early opportunity.

Miss Bentham in her visits from house to house has not noticed any great amount of overcrowding, the greatest danger of this being in sub-let and tenement houses.

Details of the Workshops, Domestic Workshops, Workplaces, &c., are included in the Special Report on the Factory and Workshops Act, 1902, Appendix B.

I have the honour to be, Gentlemen,

Your obedient Servant,

The Health Department,
Middlesbrough,
February, 1903.

CHARLES V. DINGLE, M.D.,
Medical Officer of Health.

TABLE I.—Showing the Annual Death Rates per 1,000 in the various Districts of the Borough for the past 19 years.

YEARS	Death Rate per 1,000 West of Boundary Road	Death Rate per 1,000 East of Boundary Road	Death Rate per 1,000 North of the Railway
1884	 21.57	19.76	15.09
1885	 20.47	19.69	18:38
1886	 19.38	19 64	19:46
1887	 19.12	19:09	16.48
1888	 19.26	\$2.50	21.71
1889	 20.33	16.23	17:54
1890	 21.96	16:09	20.90
1891	 21:46	19:34	20.51
1892	 21.46	15 97	20.02
1893	 19:40	15.89	16.82
1894	 17:30	13.04	19 41
1895	 18:06	14.86	18.46
1896	 19-58	14.56	20.09
1897	 19-23	13.49	20.55
1898	 19*31	15:37	20.53
1899	 19.84	15.65	26.31
1900	 23.74	17.14	27.26
	West of Linthorpe Road	East of Linthorpe Road	North of the Railway
1901	 19 62	15.64	23.38
1902	 16 57	16.02	21.32

TABLE II-Summary of the Monthly Rates during 1902.

	1902	Death Rates North of the Railway	Death Rates East of Linthorpe Read	Death Rates West of Linthorpe Road	Deaths in Public Institu- tions	Total Deaths	Monthly Death Rates for Borough	Births	Monthly Birth Rates for Borough	Monthly Death Rates corrected by climinating Deaths of Non- Residents
	January	 21.73	17 39	19.98	24	175	22:55	301	38.80	21.78
	February	 20.60	15:23	16:32	22	136	19:40	257	36.28	18.83
	March	 20.21	14.24	12.98	25	139	17:91	268	34 54	17:13
	April	 12 81	19:06	21:41	23	158	20.58	815	41.04	20.19
	May	 20.20	20.43	18.52	39	193	24.33	303	38 20	23.33
	June	 20.07	17:85	16:12	19	152	19.86	241	31.40	19:40
	July	 24.76	14:52	14.87	29	160	20.17	303	38.20	19.92
	August	 17:10	14:12	14.13	28	140	18.15	272	34.29	17.65
	September	 36 91	15.42	17.38	23	176	22.93	276	35.97	22.80
	October	 22.52	18.46	17:30	27	174	21.93	297	37:44	21.56
	November	 17:62	15.82	17:38	28	158	20.57	268	34.81	20.05
1	December	 20.50	11.78	16.82	22	147	18:53	269	33.92	18:41

TABLE III. - Monthly Births and Deaths for 1902.

				1 /				
Month	S		Male	Female	Total	Male	Female	Tota
January			151	159	301	100	75	175
February		***	128	129	257	67	69	136
March			127	141	268	76	63	139
April			167	148	315	90	68	158
May			171	132	303	130	63	193
June			132	109	241	73	79	152
July	***		157	146	303	95	65	160
August			135	137	272	79	65	144
September			148	128	276	96	80	176
October			148	149	297	95	79	174
November			140	128	268	79	79	158
December			150	119	269	77	70	147
Totals			1,754	1,616	3,370	1,057	855	1,912

Birth Rate for Year = 36.09 per 1,000.

Death Rate for Year = 20.48 per 1,000

Average Birth Rate for 10 Years = 34.47 per 1,000.

The average Death Rate for 10 Years = 20.79 per 1,000

The natural increase during 1902, i.e., the excess of Births over Deaths was 1,458; in 1901, it was 1,533, and in 1900, it was 936, showing a steady increase.

The following are the Rates for England and Wales for 1902:-

 Birth Rate
 ...
 28.6 per 1,000

 Death Rate
 ...
 16.3 ,, ,,

 Zymotic Rate
 ...
 1.6 ,, ,,

 Infantile Mortality
 ...
 133

The Rates in the 76 Great Towns were :-

Birth Rate 30.0 per 1,000

Death Rate 17.4 ,, ,

Zymotic Rate... ... 2.12 ,, ,,

Infantile Mortality ... 145

TABLE IV.-Summary of the Ages at Death in the Four Quarters of 1902

	Total Deaths in the different Age Periods	616	829	29	28	85	260	227	1,912	
	Public Institutions	1~	20	c)	Н	-	31	131	11	479
QUARTER	YewlisH lo diroX	59	18	01	-	61	22	60	77	
4тн Quz	West of Linthorpe Road	101	31	00	10	9	48	15	209	
41	East of Linthorpe Road	46	16	-75	-	9	28	15	116	
	Public Institutions	9	6	7	г	6	SS	16	80	480
QUARTER	Verting To divox	100	19	v	Н	00	150	00	101	
р Оп	West of Linthorpe Road	80	88	10	77	10	41	0.1	188	
3RD	East of Linthorpe Road	42	15	10	-	49	28	16	111	
	Public Institutions	9	6	00	-	6	53	19	81	503
RTER	North of Railway	17	13	10	7	9	52	63	67	
2ND QUARTER	West of Linthorpe Road	22	1	6	00	00	55	26	212	
2N	Fast of Linthorpe Road	44	26	н	61	01	65	17	143	
_	Public Institutions	2	10	9	III	-	200	50	17	450
QUARTER	North of Railway	26	6	00	NII	45	27	6	18	2.18
r Qua	West of Linthorpe Road	29	00	1-	44	9	52	19	191	
lsr	East of Linthorpe Road	500	17	ÇI	61	52	65	17	110	
	AGE PERIODS	Under 1 year of age	I year and under 5 years	5 years and under 10 years	10 years and under 15 years	15 years and under 25 years	25 years and under 65 years	65 and over	Totals	

TABLE V .- Deaths in Public Institutions during the year 1902.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
The Workhouse	12	14	16	11	27	6	16	15	13	12	19	12	173
Infirmary	4	5	5	7	7	6	6	9	6	3	4	7	69
Sanatorium	8	3	4	5	5	7	7	4	4	12	5	3	67
Totals	24	22	25	23	39	19	29	28	23	27	28	22	309

Of these 98 were admitted from the District North of the Railway.

40 ,, , , East of Linthcrpe Road.

126 ,, ,, , West ,, ,,

45 were Deaths of Non Residents.

TABLE VI.—Causes of Death of Children under 1 Year of Age during 1902.

Diseases	5		1st quarter	2nd quarter	3rd quarter	4th quarter	Totals
Measles			1	1			2
Scarlet Fever				1	2		3
Diphtheria			2	1	1		4
Croup				1	***		1
Diarrheea			4	3	21	11	39
Syphilis				4	2	3	9
Erysipelas	***		1				1
Whooping Cough		3 7000	5	4	4	1	14
Rickets			1	2			3
Tabes Mesenterica			1	4	2	7	14
Tubercular Meningitis			3	1		2	6
Other Tubercular Disc			2	1	2	3	8
1			1				1
Premature Birth			18	20	15	16	69
111				1	1		2
Atelectasis Congenital Malformati	0000		1	2		2	5
Simple Meningitis			3	4		6	17
Communitations		200	16	18	4 17	21	72
		20 9233		1000000	177.5	10/1/20/20/20	1
Organs of Special Sens		**				1	7
Heart Disease			2	2	2	1	1
Laryngitis			7.7	1		***	
Bronchitis		- 14	11	8	3	10	82
Pneumonia		***	14	9	17	19	59
Dentition			1	1	1	***	3
Disease of Stomach	***	141	3	2	1	2	8
Enteritis		***	6	7	12	16	41
Nephritis	***		***		1	1	2
Disease of Integument	ary Syste	m	1	1	1	1	4
Suffocation			4	2	1	3	10
Obstruction of Intestin	nes		***	1			1
Jaundice				2	2	2	6
Diseases of Locomotive	System	***		1			1
Cellulitis				1			1
Debility and Marasmu	S	***	22	31	47	51	151
Burns				2			2
Hernia			***	1	1		2
Abscess		10.24				1	1
Accidental Injuries			***		1		1
Ill-defined Causes			5	2	2	3	12
Totals			128	142	163	183	616

TABLE VII.—Notifications received from Medical Practitioners during the various Months of 1902.

			Small-Pox	Searlet	Diphtheria	Typhoid	Continued	Typhus	Puerperal	Mem. Croup	Erysipelas	Totals
January		 		62	18	23	1				5	109
February		 		38	13	6	1				6	64
March		 	3	43	19	5					6	76
April		 	1	51	14	3					8	77
May		 		59	8	8				4	6	85
June		 		63	8	13				2	8	94
July		 		40	12	10	2		2		4	70
August		 		20	11	13						44
September		 		23	8	11					7	49
October		 		53	27	11			1		10	102
November		 		24	17	10			1		4	56
December		 		24	9	8	1			1	10	58
Total	s	 	4	500	164	121	5		4	7	74	879

TABLE VIII.—Showing the Wards in which Notifiable Diseases occurred during 1902

WARDS				Small-Pox	Scarlet	Diphtheria	Typhoid	Continued	Typhus	Puerperal	Croup	Erysipelas	Totals
Ayresome				2	83	45	16			***		7	15
Acklam					55	9	11			1	1	4	8
Cannon					43	7	21				2	6	7
Cleveland					33	21	11			1		7	7
Exchange				1	43	15	7				1	5	7
Grove Hill					77	12	12	1				9	11
Linthorpe					36	14	4	3				4	6
Marsh					42	14	14			1	2	14	8
Newport					52	20	12	1		***	1	7	9
Vulcan				1	36	7	13			1		11	6
T	otals			4	500	164	121	5		4	7	74	87

TABLE IX.—Deaths from the Principal Zymotic Diseases in the various districts during 1902.

Diseases.		East of Linthorpe Road	West of Linthorpe Road	North of the Railway	Public Institutions	Totals	
Measles	 	Nil	5	3	2	10	
Scarlet Fever	 	4	4	5	29	42	
Diphtheria	 	12	27	2	17	58	
Enteric Fever	 •••	Nil	7	1	15	23	
Whooping Cough	 	11	18	2	Nil	31	
Diarrhœa	 	5	34	21	Nil	60	
Totals	 	32	95	34	63	224	

TABLE X.—Showing the number of Typhoid Fever Cases and the various Wards in which they occurred during the year 1902.

N.			Ayresome	Acklam	Cannon	Cleveland	Exchange	Grove Hill	Linthorpe	Marsh	Newport	Vulcan	Totals
January			 5	5	1	3	2	3	***	1	1	2	23
February	**	***	 1			1		1		3			6
March	***		 					1		1	1	2	5
April			 							1	2		3
May			 1	1	1				1	1	2	1	8
June			 2		2	1	1	1	1	2	2	1	13
July			 1	1	2		1	2		2	1		10
August			 	2	4			1		2		4	13
September			 1		4	1	1	1		1		2	11
October			 3		- 3		1	1		1	1	1	11
November			 2		2	4					2		10
Décember	***		 		3	1	1	1	1	***		1	8
	Totals		 16	9	22	11	7	12	3	15	12	14	121

TABLE XI.—Showing the number of Enteric Fever Cases in the various Wards, and the kind of Closet in use.

		Wards		Ashpits	Ashpans	W.C 's	Totals
Ayresome				 1	15	***	16
Acklam				3	6		9
Cannon				 15	7		22
Cleveland		***	•••	 5	6		11
Exchange				 4	2	1	7
Grove Hill			***	 	12		12
Linthorpe				 	2	1	3
Marsh	***			 1	14		15
Newport				 4	8		12
Vulcan		44.1	***	 4	10		14
		Totals		 37	82	2	121

TABLE XII.—Showing Causes of Death and Ages at Death of Persons dying within the Borough, but not belonging thereto

	-							
Totals	01	60	61	00	15	20		45
Scarlet Fever	:	:	Н	:	:	:	-5"	-
Marasmus	н	:	:	:	:	:		"
Disease of Stomach	:	:	;	г	:	:		-
Disease of Intestines	:	:	:	:	Ç1	:		51
Congenital moitemroflaM	-	:	:	:	:	. :		-
γbobjexλ	:	:	;	-	:	2		60
Alcoholism	:	:	:	:	1	:		1
Accidental Injuries	:	;	:	:	Ç1	:		. 61
Tevid To sisodriio		:	:	:	:	1		-
Сапсег	:	:	:	:	ç1	¢1		4
sisididq	:	:	:	:	70	:		10
Enteric	:	:	:	:	1	:		-
Diphtheria	:	:	7	:	:	:		1
oga bio	:	:	:	:	г	13		14
sitigatinal	:	cı	:	:	:	:		64
Pneumonia	:	-	:	Н	1	2		10
		:			:	:		:
	:	:	:	:	:	:		1
	:	:	:	:	:	:		:
RIODS.	:	:	:	:	:	:		Totals
Age Periods.	:	er 5	der 15	ider 25	ıder 65	:		Tota
	Under 1 year	1 year and under 5	5 years and under 15	15 years and under 25	25 years and under 65	65 and over		

				ı
	:		:	
	York	Newcastle	India	
	00	01	1	
	пмо		West Hartlepool	
	Grangeto	Redear .	West Ha	
	TH.	00	00	
to which they belonged:-	North Ormesby	Port Clarence	Normanby	
h they	12	00	9	
o whic	:		:	
laces t			:	
he Towns and P	Thornaby	South Bank	Eston	

TABLE XIII.-Deaths occurring Outside the Borough of Persons belonging thereto.

Totals	÷	00	00	10	52	6	45
Apoplexy	:	:	:	:	г	:	-
General Paralysis of the Insane	:	:	:	1	00	:	4
oga bio	:	:	:	-	:	4	4
ning oingro eassid		:		:	00	00	9
вітепА	:	:	:	_	-	:	5
bisease of Glands	:	:	÷	:	-	:	-
Rheumatism	:		:	:	г	;	-
Peritonitis	:	:	-	:	:	:	-
Disease of the Repro-	:	:	:	:	П	:	-
Дишош.	:	:	Ē	:		÷	-
Intestinal noitentisdO	:	:	:	:	-	÷	-
Disease of Bones	:	П	1	:	;	:	C1
Hodgkins Disease	:	:	:	:	1	:	-
Accidental seimint	:	-	ı	П	:	-	77
Heart Disease	:	:	:	:	00	1	60
Pneumonia	:	-	:	:	63	:	60
Other Tuberenlar Diseases	:	1	:	-	:	_	63
Сапсег	:	:	:	7	00	÷	4
sisidtd		:	:	:	62	1	61
Puerperal Fever	:	:	:	:	-	:	1
	:	:	:	:	:	i	:
AGES AT DEATH	Under 1 year	1 and under 5 years	5 and under 15 years	15 and under 25 years	25 and under 65 years	65 years and over	Totals
A	Und	1 an	5 an	15 a	25 a	65 y	

The Public Institutions in which the above died were :- The North Ormesby Cottage Hospital and the Cleveland Asylum.

TABLE XIV .- Vital Statistics of Whole District during 1902 and Ten Previous Years.

		Bir	тнѕ	UNDE	THS R ONE OF AGE		HS AT AGES	stitu-	nts tutions	tutions	Net Dea all Ages ing to the	belong-
YEAR	Population estimated to Middle of each Year	Number	Rate*	Number	Rate per 1,000 Births Registered	Number	Rate*	Total Deaths in Public Institu- tions in the District	Deaths of Non-Residents Registered in Public Institutions in the District	Deaths of Residents Registered in Public Institutions beyond the District	Number	Rate*
1	2	3	4	5	6	7	8	9	10	11	12	13
1892	76,876	2,762	35.76	508	183	1,542	19.87	145				
1893	80,300	2,736	38.04	475	173	1,597	21.03	167				
1894	83,399	2,637	35.76	381	144	1,449	17:65	162				
1895	84,962	2,758	32.91	536	194	1,615	19:31	217				
1896	86,991	2,747	31.70	467	170	1,686	19.64	183				
1897	88,124	2,956	33.35	509	172	1,706	19.16	197				
1898	89,246	2,904	32.52	566	199	1,967	22.04	369				
1899	93,515	3,130	33.45	575	183	2,058	22.00	269	33	49	2,074	22.17
1900	97,007	3,343	34.46	663	198	2,407	24.81	337	39	72	2,440	25.15
1901	91,317	3,328	36.44	657	197	1,995	21.84	262	40	45	2,000	21.90
Averages for years 1892-1901	87,173	2,930	34.43	533	181	1,802	20.73	230	37	55	2,171	23:07
1902	93,354	3,370	36.09	616	182	1,912	20.48	309	45	45	1,912	20:48

^{*}Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as hoving actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the substraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums.

Total population at all Ages					91,317	
N 1 0 T 1 10 1 TF				***	17,633	At Census
Average Number of Persons per	House				5.17	of 1901.
Area of District in Acres (exclus	ive of	Area	covered	by W	ater, 2,824.	

TABLE XV.-Vital Statistics of separate Localities in 1902 and previous years.

-							
Road.	Deaths under I year.	d.	224	227	314	Road 373	332
West of Boundary Road.	Deaths at all Ages.	Ü	574	638	903	Lin thorpe Road 1,043 373	948
of Bou	Births regis- tered.	ъ.	:	:	:	of Lin	:
West	Population esti- mated to middle of each Year,	a,	29,976	32,153	34,415	West 47,095	48,256
oad,	Deaths under I year.	d.	200	205	233	Road 143	173
ıdary R	Deaths at all Ages.	5	663	189	853	orpe 507	455
East of Boundary Road,	Births regis-	9.	:	:	:	Linth orpe	:
East	Population esti- mated to middle of each year,	a.	41,428	43,503	44,733	East of 29,083	29,956
ray.	Deaths under 1 year.	d.	131	138	1117	127	109
North of the Railway.	Deaths at all Ages.		368	470	278	450	430
th of th	-siger affrid fered.	9.	:	:	:	:	:
Nor	Population esti- mated to middle of each year.	α.	17,842	17,859	17,859	15,139	15,142
	Deaths under 1 year.	d.	566	575	663	657	614
Whole District.	Deaths at all Ages.	6.	1,967	2,074	2,440	2,000	1,912
Vhole I	Births regis-	ъ.	2,904	3,130	3,340	3,328	3,370
	Population esti- mated to middle of each Year.	a.	89,246	93,515	97,007	91,317	93,354
			:	:	:	:	:
Names of Localities.			:	:	:	:	:
s of Lo	YEAR,		:	:	;	:	:
Name			1898	1899	1900	1901	1902

Notes.—(b) Deaths of residents occurring in public institutions beyond the district are to be included in sub-columns c of this table, and those of non-residents registered in public institutions in the district excluded.

(c) Deaths of residents occurring in public institutions, whether within or without the district, are to be allotted to the respective localities according to the addresses of the deceased.

TABLE XVI.-Cases of Infectious Disease notified in Middlesbrough during the Year 1902.

2	Λ'n	wlieA													
TEACH		Morth shit	:	:	10	:	:	62	:	15	:	:	:	:	85
No. of Cases removed to Hospital from each Locality.	equ	West Lintho Roa	61	:	50	:	:	220	:	36	:	:	:	:	н 293
No. of C Hospi	eqr	East Lintho Roa	23	:	15	:	:	121	:	10	į	2	:	:	150
IFIED IN		Morth the WlisA	:	:	11	10	20	20	:	24	:	:	1	:	131
TOTAL CASES NOTIFIED IN EACH LOCALITY.	adre	West Lintho Roa	ে	:	103	2	33	273	:	72	:	1	67	:	H 488
TOTAL C	adr	East Lintho Roa	63	:	20	:	21	157	:	22	:	44	1	:	260
.		65 and up- wards	:	:	:	;	7	:	:	:	:	:	:	:	1
ISTRIC		25 to 65	C3	:	7	:	48	12	:	40	:	00	61	:	114
HOLE L	-Years.	15 to 25	01	:	17	:	10	41	:	33	:	:	63	:	100
IN W	At Ages-	5 to 15	:	:	99	¢1	6	265	:	32	:	1	:	:	375
OTIFIED IN WHOLE DISTRICT.	V	1 to 5	:	:	99	4	00	175	:	16	:	1	:	:	265
CASES NO		Under	:	:	80	1	63	7	:	:	:	:	:	:	18
0.0		At all Ages Under	4	:	164	1	74	200	:	121	:	20	4	:	879
			:	:	:	:	:	:	:	:	:	:	:	:	:
	ASE.		:	:	:	:	:	:	:	:	;	:	:	:	:
	NOTIFIABLE DISEASE.		:	:	:	dnoro si	:	16	er	10	ever	fever	ever	:	Totals
	Notifial		Small-pox	Cholera	Diphtheria	Membranous croup	Erysipelas	Scarlet fever	Typhus fever	Enteric fever	Relapsing fever	Continued fever	Puerperal fever	Plague	Tc
					- 1										

H. Isolation Hospital is situated in this district.
Small-Pox Cases removed to Corporation Small-Pox Hospital at Hemlington.

TABLE XVII. Causes of, and Ages at, Death during Year 1902.

	Deat	ths in w	rhole D	District :	at subje	ined A	ges		in Loc		ntions
CAUSES OF DEATH.	All Ages	Under 1 Yr.	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	East of Linthorpe Road	West of Linthorpe Road	North of the Railway	Deaths in Public Institutions
Small-Pox Measles Scarlet Fever Whooping Cough Diphtheria and Membranous Croup Croup Croup Fever { Typhus Enteric Other continued Epidemic Influenza Cholera Plague Diarrhœa Enteritis Puerperal Fever Erysipelas Other Septic Diseases Phthisis Other Tubercular Diseases Phthisis Other Tubercular Disease Bronchitis Pneumonia Pleurisy Other Diseases of Respiratory Organs Alcoholism Cirrhosis of Liver } Venereal Diseases Premature Birth Diseases and Accidents of Parturition Heart Diseases Accidents Suicides Chickenpox All other Causes	10 41 31 57 5 22 8 60 49 2 5 1 120 83 42 87 394 6 11 15 10 69 128 74 6 1 1655	2 3 14 4 1	8 28 16 41 3 3 119 4 10 32 11 67 6 2 4 174	10 11 11 1 3 8 14 2 9				10 11 17 1 5 3 5 16 2 1 33 29 20 19 85 2 2 4 1 25 2 48 14 179	6 16 18 36 4 13 4 58 45 15 55 127 4 7 6 6 35 7 55 29 3 337	4 15 2 4 4 1 21 8 1 1 29 9 7 13 92 2 5 3 9 1 25 31 3 1 137	2 29 17 1 15 1
All Causes	1,912	614	329	96	82	572	219	534	948	430	309

TABLE XVIII. RETURN OF DEATHS FOR THE YEAR 1902.

	Grand Total		10 83 11 83 11 83	09	10	511	9	F- 00 51 62
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Public Institutions.	15 Yrs. and ander 25		::-:4::	:	:	:::	:	:: ::
ublic	10 Yrs. and ander 15		117 1111	:	:	:::	:	11 11
Ь	5 Yrs. and 01 rebnu		:- :: : : : : : : : : : : : : : : : : :	:	:	:::	:	11 11
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South of Railway Linthorpe R	10 Yrs, and ander 15		: : 7 : 7 : :	:	:	:::	1	1111
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South of Railway—East of Linthorpe Road.	25 Yrs, and nnder 65		1	63	:	- : i	1	2 :: 22 ::
lway.	15 Yrs and under 25		111111	:	:	:::	:	:: -:
h of Railway—E Linthorpe Road.	10 Yrs. and under 15		111111	:	:	:::	:	11 11
ath o	5 Yrs. and under 10		::::	:	:	:::	:	11 11
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		or	s. na)	· :	z :	:::	š :	- :: ::
	TH	Specific, Febrile, or Zymotic Diseases.	-MeaslesScarlet Fever (Scarlatina) -DiphtheriaWhooping CoughEnteric or Typhoid Fever -Influenza	2—Diarhæa, Disentery	3—Veneral Diseases, —Syphilis	ES.	II.—Dietic Diseases, -Chronic Alcoholism, Delirium Tremens	Constitutional Diseases. matism ets ets s. Malignant ss s Mescnterica
	DEATH	Specific, Febrile, CZymotic Diseases.	ISE.	2—Diarrhæa, Dysentery	ISE :	4—Septic Diseases. Erysipelas Pysemia, Septicemia -Puerperal Fever	II.—Dietic Disease 1—Chronic Alcoholism, Delirium Tremens	III.—Constitution DiseasesRheumatismRicketsCancer, Malignant DiseaseTabes Mescnterica
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		eifi	-MassesNeaslesScarlet Feve -Diphtheria -Whooping C -Enteric or T -Influenza -Chickenpox	REI	3—Venereal —Syphilis	4—Seltic Erysipelas -Pyemia, S	Die	Co Di Di ers, er, s M
	US	pe d	Mr. eas arb iph hoc nter dhu	OLA	VE	rys yaer	hro	II.—Co Di Rheums Rickets Cancer, Disease Tabes N
	CAUSE		1—Mrash - Measles - Scarlet I - Diphthe - Whoopii - Enteric	TA	S	4300	H PA	
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Return of Deaths-continued.

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	H.	Tubercular Meningitis, Hydrocephalus Phthisis	nd		200	Developmental Diseases.			es.	1—DISEASES OF NERVOUS SYSTEM. —Inflammation of Brain or Membranes	Brain, Hemiplegia, Brain Paralysis	Paralysis of the Insane Epilepsy	(Spasm of Glottis) Paralysis Agitans.	Paraplegia, Disease of Spinal Cord	
	CAUSE OF DEATH	n : :	Scrofulous Diseases	Amemia, Chlorosis, Leucocythemia	Mellitus	ier	. : !	ations	VLocal Diseases.	VER.) f Br	gia,	Ins Ins	8.8	Paraplegia, Disease of Spinal Cord	:
)E	Tubercular Mening Hydrocephalus Phthisis	ula	In In	131	S.		011	Se	N. o.	leg.	Paralysis of the In Epilepsy Convulsions	Spasm of Glottis) Paralysis Agitans.	ise	5
	I	Malu	Dist.	H H	7	Develope Diseases.	51	75	D	ASES OF SYSTEM imation inbranes	din	E E	Silo	9_8	900
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Return of Deaths-continued.

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ANNUAL REPORT OF THE CHIEF SANITARY INSPECTOR FOR THE YEAR 1902.

Sanitary Department,

Municipal Buildings,

Middlesbrough.

To the Chairman and Members of the Sanitary Committee.

Gentlemen,—I have the honour to lay before you my Sixteenth Annual Report on the operation of the Sanitary Department.

During that period there were 4,533 Notices served on Owners to abate the undermentioned Nuisances:—

Back Yards Re-laid with S	Scoriæ	Bricks,	Concre	te, etc.	 	 195
Back Yards Repaired					 	 109
Back Passages Re-laid wit	h Scor	iæ Bricl	ζS		 	 45
Back Passages Repaired					 	 48
Dilapidated Ashpits and I	Privies				 	 517
Old Ashpits Abolished					 	 73
Pail Closets Substituted					 	 136
Pail Closets Abolished					 	 4
Water Closets Substituted	l				 	 4
Dilapidated Ashpans (Ren	newed)				 	 1,469
Foul Drains Cleansed					 	 511
Defective Drains, New Gu	illies F	Re-fixed			 	 101
Sink Drains Disconnected	from S	Sewers a	and Tra	pped	 	 21

Dilapidated Spouting and Fallpipes						204
Ashpit Doors Off (New ones fixed)						121
Privy Doors and Seats Off (New ones fixed	l) .					319
Defective Pail Closets, reduced to size of A	shpans					64
Offensive Deposits						8
Dilapidated Yard Walls						22
Dilapidated Dwelling-house Roofs						155
Foul Cellar Drains Cleared						10
Dilapidated Ashpits Abolished (Water Clos	sets Su	bstitute	d)			2
Offensive Yards (Fowls Removed)						24
Foul Water Closet Drains Trapped						4
Dilapidated Kitchen and Scullery Floors (I	Re-laid	with C	oncrete)		56
Dilamidated Cinhamata Diagram					•••	35
Dilapidated Gully Covers (Renewed)						81
Dilapidated Sinkstones (Renewed)						21
Dilapidated Brickwork over Gullies .						21
Dilapidated Haussa						20
Offensive Well						1
Overcrowding						2
Dilapidated Stable Floors (Re-laid with Co	ncrete)					2
Offensive Workshops, to Cleanse						4
Dilapidated Workshop Floors and Roofs, to	o Repai	r				3
I 00 . 1 1 6 1 6 317 . 4						3
Dilapidated Cellar Floors (Relaid with Con	crete)					6
Dilapidated Manure Pits						6
Horses kept in Back Yards						4
New Water Closets Fixed						4
Defective Boiler Chimneys						2
Dirty and Filthy Premises						2
Public Health Notices						1,418
Whitewashing						123
9						

The foregoing particulars only represent the cases where formal Notices have been served, and do not include Nuisances prevented or abated by the verbal request of your Inspectors.

N.B.—One Notice frequently deals with several separate Nuisances.

MAIN DRAINS.

In addition to the above our Staff have cleared 8,189 yards of Main Drains in back passages, and relaid with proper gradients 623 yards.

428 yards of Glazed Stoneware Sanitary Pipes have also been relaid, in lieu of old broken land tiles, segment, &c.

8 new Flushing and Examination Chambers have been constructed, 9 new Gullies, and 19 Grates and Frames have also been fixed.

75 Manholes (in the old parts of the town) have been regularly emptied and cleansed as often as found necessary.

693 Choked Drains have also been cleared by the aid of Cooper's Patent Vacuum Pump, free of charge to the owners.

DISEASED AND UNWHOLESOME FOOD.

During the year 12 seizures of diseased and unwholesome food were made, as shewn in the undermentioned table:—

Number of Seizures.	Article.	Weight.
5	Beef	2,800 lbs.
1	Mutton	70 ,,
1	Pork	69 ,,
2	Veal	115 .,
2	Rabbits	52
1	Bananas	300

In every case the articles of food were destroyed with the consent of the owners, notice to inspect the same having been previously given to your Inspector.

SLAUGHTER HOUSES

Number	on Reg	ister		 	 39
Public			•••	 	 1

It is with much regret that I have again to record a loss in the working of the Public Slaughter House. Although our population increases rapidly, the trade in this particular department remains practically stationary. The reason for this is not far to seek. Butchers all over the country have a rooted antipathy against public slaughter houses, and when not absolutely compelled to use them, will endure any inconvenience and crowd into small private ones, rather than slaughter under Municipal control. A section of the trade have been extremely energetic during the past year in their endeavours to obtain an extension of the number of private slaughter houses. They maintain that a slaughter house is a butcher's workshop, and claim that wherever a butcher has accommodation at the rear of his premises, he should be allowed a private slaughter house. The last private slaughter house license you granted was in 1888, for premises situate near the Toll Bar in Ormesby Road, built by the Owners of the Middlesbrough Estate, and now occupied by the Co-operative Society. Since that year the Council have steadily refused to entertain any new applications.

In 1890 a Public Health Amendment Act was passed, by which the Council were empowered to grant licenses to be in force for such time and such time only (not being less than twelve months) that the Council may think fit to specify. This was a step in the right direction, but unfortunately it did not apply to those in existence prior to that date.

One butcher has, however, had his license transferred from Lower Commercial Street to up-to-date premises constructed to our satisfaction at the rear of Dock Street, thereby forfeiting a perpetual license for an annual one. I would suggest that we encourage this principle, as by so doing licenses would be distributed and placed in districts where most useful, the number would not be increased, and each one so changed would come directly under the control of the Council.

I would again remind the Committee that if Slaughter Houses were not undesirable buildings to have in our midst it would be unnecessary to license them.

All the slaughter houses have been regularly inspected, and the Bye-Laws strictly enforced.

OFFENSIVE TRADES.

Number on R	legister, Tripe Boilers	 		15
,,	Tallow Chandler	 		1
***	Tallow Melter	 		1
,,	Soap Boiler	 		1
,,	Gut Scrapers	 	***	3

The above have been regularly inspected, and as far as the nature of the trades will allow, have been kept in a fairly clean condition.

MILK SHOPS, DAIRIES AND COWSHEDS.

Number	on	Register,	Milk Sho	ps	 	 429
	,,,		Dairies		 	 22
	,,		Cowsheds		 	 23
						474

The Dairies and Cowsheds have been regularly inspected and kept in a fairly clean state, each year the whole of the latter being limewashed.

Many of the smaller premises registered for the sale of Milk are unsuitable for the purpose, owing to the variety of the articles sold. It is not an unfrequent occurrence to find Milk, Paraffin Oil, and even Coals sold in the same shop. We, however, keep the various premises as clean as the nature of the sales will allow.

PUBLIC BAKEHOUSES.

Number on Register Situated as under :—	18
199, Linthorpe Road	40, Fleetham Street
101, Russell Street	329, Newport Road
57, Wilson Street	6, Vine Street
79, Corporation Roa	d 88, Denmark Street
15, Elizabeth Street	42, Russell Street
29, Durham Street	5, Nicholas Street
41, Milbank Street	Back Adam Street
24, Stockton Street	6, Gurney Street
79, do.	29, do.

These have been regularly inspected during the past year, and found to be kept in a clean condition. Where necessary the Bye-Laws have been strictly enforced.

The number on Register includes three underground Bakehouses. Verbal notice has been found sufficient for the occupiers to have them limewashed as required.

FRIED FISH SHOPS.

There are 63 shops occupied in the Borough for the sale of Fried Fish and Chipped Potatoes, and their number is still increasing. They are as a rule remarkably well fitted up, and the materials used are of the best description. The public now look upon them as a necessity, and we rarely have any complaints as to the manner in which they are conducted. They are chiefly established in the most populous districts, and they undoubtedly offer to the working classes cheap, wholesome, nutritious food, in a very convenient form.

FOOD AND DRUGS.

During the year 112 samples of food and drugs have been procured and submitted to the Borough Analyst (Mr. J. E. Stead) for analysis, with the undermentioned result:—

Samples	Number Submitted	Genuine	Doubtful	Fat Extracted	Adulterated
Milk	36	22		12	*2
Skimmed Milk	1	1			
Condensed Milk	6	6			
Butter	39	39			
Vegetable Butter	1	1			
Lard	11	11			
Cheese	9	9			
Jams	3	3			
White Pepper	1	1			
Golden Syrup	1	1			
Yeast	1	1			
Disinfectants	3	3			
			_	_	_
	112	98		12	2
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The Standard recently fixed by the Board of Agriculture describing all Milks containing less than 3 per cent. of Fat to be deemed adulterated, unless the contrary should be proved, has been most unfortunate for local authorities in general, and for us in particular.

Of the 36 samples submitted to the Borough Analyst for analysis during the past year no less than 14 were returned deficient in fat and two adulterated with 7 per cent. of added water. In three cases legal proceedings were instituted against farmers residing outside our district, and at their request your Sanitary Inspector, together with an experienced milker, proceeded to the farms in question in the early mornings and witnessed the milkings take

^{*} Both samples certified to contain 7 per cent. of added water, and to be slightly deficient in cream.

place. At two of the farms the Milk was found to be practically the same as the first sample, and upon receiving the Analyst's Certificate to that effect the cases were promptly withdrawn and notice of the same given to the defendants.

In one case the sample taken at its destination contained—

					100.00	per cent.
Fats	•••	•••	 ***	• • •	2.50	,,
Solids r	ot fat		 		8.98	"
Water			 		88.52	per cent.

On visiting the defendant's farm at 5 o'clock a.m. and witnessing the milking of the cows, the sample was certified to contain—

Water			 	 87.98	per cent.
Solids	not fat	t	 	 8.71	,,
Fats			 	 3.31	,,
				100.00	per cent.

Notwithstanding the vast difference in the above analyses, the case was defended by the Cleveland Farmers' Defence Association, who have organised themselves to protest against the Board of Agriculture's Standard, and to defend all prosecutions instituted by local authorities in their district.

Several members of this Association were called for the defence, including the Secretary and Treasurer (both local farmers), who stated that the new Standard was too high, and that they had taken several samples from the same herd of cows, which, upon analysis, proved to be practically the same as the first sample taken by your Inspector.

After a lengthy hearing, in which a large number of witnesses were examined, the Stipendiary Magistrate dismissed the case, but ordered the defendant to pay the costs. In the other two cases that were withdrawn (although the samples were below the Standard), upon the application of the Solicitor (who was retained and instructed by the Farmers' Defence Association), they were awarded three guineas costs against the Corporation, for costs they had incurred in preparing the cases.

Under the circumstances it was deemed inadvisable to institute legal proceedings in the other cases, as the probability of obtaining a verdict seemed very remote. It has, therefore, been our custom where the quality of the Milk has fallen slightly below the Standard, to warn the seller.

During the year one provision merchant was fined 60s. for refusing to sell to the Inspector, for analysis, one pound of Butter.

Factory and Workshops Act, Shop Hours Act, and Shop Assistants Seat Act are dealt with in the Medical Officer's Report.

INFECTIOUS DISEASES.

During the year 879 cases of Infectious Diseases were notified to the Medical Officer of Health.

Enquiries were made into their cause or origin, necessitating 3,616 visits by your Inspectors. 525 cases were removed to the Sanatorium for treatment.

When the patients are treated in their own homes, a printed list of instructions to be observed is left at each infected house, all necessary Sanitary appliances, Disinfectants and Oil are supplied free, and the bedding, clothes, &c., disinfected immediately on recovery of the patient. 841 bedrooms have also been disinfected.

COMMON LODGING HOUSES.

There are 24 Common Lodging Houses in the Borough, all situated on the North side of the Railway.

The Houses registered contain 182 rooms for sleeping purposes, and afford accommodation for 1,049 lodgers nightly.

They have been regularly inspected and kept as far as possible in a clean state.

COLLECTION AND DISPOSAL OF NIGHT SOIL,

The present year has seen a great development with regard to the above. Members of the Council will remember that the North-Eastern Railway Company refused to convey this commodity by rail during the Summer months, and we were compelled to Barge the Night Soil out to sea.

Even by this system we were heavily handicapped, in as much as the high tides frequently prevented the loading of the Barge. However, I am pleased to state that an elevated tip has now been erected, and the difficulty has been satisfactorily overcome.

With the advent of a Night Foreman our working system has been thoroughly re-organized. In previous years each ashpan was emptied once a week, now all are emptied twice a week. This has necessitated increasing the number of workmen, and has of course also increased the cost, but, when the improved sanitary condition of the town is considered, and the beneficial influence it will undoubtedly have on the health of the inhabitants, we are of opinion that the money is well spent.

In conclusion I have again to thank the Inspectors under my charge for the energetic manner in which they have at all times discharged their duties, particularly to the Senior Assistant, Mr. Thomas McDonald, my special thanks are due, for his ready and willing assistance at all times.

I am, Gentlemen, your obedient Servant,

GEORGE H. ANDERSON, Chief Sanitary Inspector.

APPENDIX A.

THE COUNTY BOROUGH OF MIDDLESBROUGH.

SANATORIUM REPORT FOR THE YEAR 1902.

To the Chairman (Alderman J. McLauchlan) and Members of the Sanatorium Committee.

Gentlemen,—During the year 632 patients have been under treatment at the Sanatorium. Of these 589 were admitted from the Borough of Middlesbrough, 41 were admitted from outside districts, and 2 were members of the Staff.

The cases from outside districts were :-

DISTRICTS,		Scarlet Fever	Diphtheria	Enteric Fever	Doubtful Case	Totals
North Ormesby		1	1			2
Thornaby		10	4	***	1	15
South Bank			***	1		1
Stokesley		20				20
Lackenby				1		1
Middlesbrough Ru	ral	2				2
Totals		33	5	2	1	41

Scarlet Fever.—493 cases were under treatment. Of these 29 died and 464 recovered. The death rate being 5.8 per cent. of the cases. In the previous year the death rate was 8.3 per cent. of these cases.

The death rate for cases treated at their own homes in the town during 1902 was 13.5 per cent.

80 6 per cent. of the total cases notified in the Borough were removed to the Sanatorium.

Enteric Fever.—75 cases were treated, and of these 59 recovered and 16 died. The death rate being 21.3 per cent. of the cases. In the previous year the mortality was 12.1 per cent. The death rate for cases remaining at home was 14.0 per cent.

Many of the cases admitted at the Sanatorium proved to be severe cases of Pneumonia.

50.4 per cent. of the cases notified were removed to the Sanatorium.

Diphtheria.—60 cases were admitted. Of these, 44 recovered and 16 died, the death rate being 26.6 per cent. of the cases. The death rate for cases remaining at home was 86.6 per cent. Of the cases notified in the Borough 33.5 per cent. were removed to the Sanatorium. 1902 was the first year during which cases of Diphtheria were admitted into the Sanatorium for treatment.

Smallpox.—4 cases were admitted at the Hemlington Smallpox Hospital, 3 in March and 1 in April. Of these 3 recovered and 1 died.

Besides these 4 cases, there were 29 persons who had been in contact with those suffering from Smallpox removed to Hemlington and kept in isolation for from 2 to 3 weeks.

None of these developed Smallpox.

During the past year the Hospital accommodation has been taxed to its uttermost. A temporary Ward had to be built for the accommodation of Scarlet Fever patients, and all the Wards have been in constant use. A commencement has been made with the building of the two new Ward Pavilions, and when complete they will be an invaluable help to the efficiency of the Hospital.

Disinfection.—The work of this Department has been double that of former years. 7,401 articles have been removed and disinfected during 1902, compared with 3,792 articles in 1901.

52

slatoT	493	10	09	61	г	1		632
December	60	4	00	:	:	:		33
Мочетbег	86	10	9	:	:	:		39
October	25	10	65	:	:	:		78
September	60	1-	00	:	:	:		85
dsugπ∆	14	00	1	:	:	:		53
LluL	8	1-	1	63	:	:		14
oung	8	1-	G1	:	:	-		528
Man	220	00	г	:	:	:		54
lingA	69	. 00	9	:	1	÷		55
Изтећ	60	7	63	:	:	:		36
Бергилгу	76	i 7	-1	:	:	:		80
Lienuel	ox sc	6 6	:	;	:	:		70
Remaining in Hospital, Dec. 31st, 1901,	er ve	6	:	:	:	:		655
		: :	:	:	:	:		:
		: :	:	:	:	:		:
si.		: :	:	:	:	:		:
DISEASES.		: :	1	:	:	:		:
Drs	Sourlet Forcer			Continued	Pneumonia	Septicomia	4	Totals
	Ž,	E E	Di	8	Pn	Sej		To

TABLE I.-The following Cases were admitted to the Sanatorium during 1902.

TABLE II.-The Admissions in Table I. after Observation proved to be.

Contract of the Contract of th							
Ysinnəlq		1	:	:	:	:	-
Urticaria	-	:	:	:	:	:	-
Influenza Cold		64	:	:	:	:	64
Satiritis		-	:	:	;	:	
German Measles	ox.	:	:	1:	:	:	00
Scarlet Fever and Whooping Cough	01	:	:	:	;	:	00
Scarlet Fever and Diphtheria	01	:	;	:	:	:	60
Measles	-	1. :	:	:	:	:	-
Scarlet Fever and Chickenpox	4	:	:	:	:	:	4
Tonsilitis	-	:	:	:	:	:	1
Phthisis		-	:	:	:	:	-
Bronchitis		-	:	:	:	:	-
Septicemia			-	:	:	:	-
Pneumonia		7	:	:	г	-	6
Continued Fever		: :	:	2	:	· ·	63
Diphtheria		: :	59	:		:	59
Enteric Fever		62	:	:	:	:	62
Searlet Fever.	47.0	:	:	:	:	:	472
		:	:	:	:	:	
		: :	:	:	:	:	1
		: :	:	:	:	- :	:
D AS		: :	:	:	:	:	:
Notified as		:	:	:	:		:
×	Seavlet Fover	Enteric Fever	Diphtheria	Continued Fever	Pneumonia	Doubtful	Totals
)						

TABLE III.-The following Deaths occurred at the Sanatorium during the year 1902.

sfatoT	29	16	16	19
December .	63	21	:	4
November .	00	1	-	10
October	64	67	9	10
September	H	53	1	4
3su2π Λ	64	ÇI	1	10
Yul	4	:	н	10
oung	4	6)	1	1-
Кију	00	63	п	9
firqA	00	;	01	10
М атећ	Ç1	1	1	4
February	П	1	г	60
Tannaty	ÇI	н	:	00
	:	:	÷	:
	:	:	:	:
	:	:	:	:
DISEASE.	:	:	:	:
Drs	Scarlet Fever	Enteric Fever	Diphtheria	Totals

Of these, two were deaths of cases admitted from outside districts, viz. :-

1 Diphtheria ,, Thornaby.

¹ Searlet Fever admitted from Stokesley.

TABLE IV.—The following Infected Articles were removed to the Sanatorium and Disinfected during 1902.

-													
Totals	11	25	616	1,028	523	91	18	00 01	17	31	4,641	344	7,401
December	1	0	30	45	13	1	0	0	0	0	496	30.00	621
Хочешьег	10	2	***	26	600	00	9	1	0	0	420	53	594
October	00	1	29	134	38	8	1	0	0	1-	393	19	703
September	-	0	25	47	22	00	1	0	0	4	255	19	377
tsuguΛ	0	-	19	40	6	г	0	0	0	0	216	22	808
Amp	1	0	27	28	55	63	0	0	0	0	563	27	200
June	60	00	27.	123	520	1	0	0	62	7.0	346	24	643
May	1	67	26	132	83	17	0	10	63	00	418	36	802
friqA	24	63	62	112	09	16	1	7	01	Ť	395	14	674
March	6	11	52	11	99	11	90	13	00	00	529	99	877
Reprinsiy	23	Ç1	38	55	46	1	1	1	00	0	280	11	446
January	10	1	87	149	88	10	0	0	0	0	300	10	656
	1	:	:			:	:	:	:	:		i	:
TED	:	:	:	:	:	2	:	:	:	:	:	:	:
ISINFEC	:	:	:	:	:	:	:	:	:	:	:	cles	Totals
ARTICLES DISINFECTED	:	:	:	l Sheets	;	:	gings	:	Mats	:	Apparel	ther Arti	T
An	Beds	Mattresses	Blankets	Quilts and Sheets	Pillows	Bolsters	Bed Hangings	Carpets	Rugs and Mats	Cushions	Wearing Apparel	Sundry other Articles	

APPENDIX B.

FACTORY AND WORKSHOPS ACT, 1901.

Report on the administration of this Act in the County Borough of Middlesbrough for the Year 1902.

Section 132 of the Act specifies that "The Medical Officer of Health of every District Council shall, in his Annual Report to them, report specifically on the administration of this Act in Workshops and Workplaces, and he shall send a Copy of his Annual Report, or so much of it as deals with this subject to the Secretary of State."

In compliance with the above Section I beg to report as follows:—

Workshops.—There are 411 Workshops registered in the Borough of Middlesbrough, viz:—

					Number	Emp	loying
List of Tr	ades				of each	Males	Females
Dress and Mantl	e Make	ers		 	108		380
Milliners .				 	31		110
Tailors				 	42	49	136
Boot and Shoe M	fakers	and Re	pairers	 	50	130	
Joiners and Cab	inet Ma	ikers		 	43	264	5
Hosiery Knitters	3			 	11		53
Blacksmiths				 	9	36	
Watchmakers				 	4	21	
Plumbers				 	13	71	
Tinsmiths			4 < 9	 	6	23	
Coach Builders	and Re	pairers		 	6	28	
Wheelwrights	***			 	1	2	
Shirt and Under	clothin	g Make	ers	 	1	13	
Picture Frame M	fakers			 	3	13	1
Upholsterers				 	6	10	7
Cycle Repairers				 	2	5	
Slipper Makers				 	2	10	3
Sweet Boilers		,		 	5	12	34
Salt Packers				 	3	2	9
Beer Bottlers				 	2	12	13
Saddlers				 	3	9	
Wood Carvers				 	1	2	
Bakers				 	18	35	
French Polisher	S			 	3	10	

					Number	Em	ploying
Lis	st of T	rades			of each	Males	Females
Coopers			 		4	17	
Compass Adjus	ters		 		2	12	
Paper Bag Mak	ters		 		3		15
Dentists			 		2	4	
Leather Cutters	s		 		1	4	
Mattress Maker	's		 		1	4	2
Scale Makers a	nd Rep	pairers	 		2	11	
Bottle Washers			 		3	4	10
Badging Names	on G	lass	 		1		2
Bookbinders			 		1	6	3
Lubricating Ba	g Mak	ers	 		2	3	6
Marine Stores			 		4	1	25
Electrical Engin	neers		 		2	6	
Engravers			 		2	6	
Wireworker			 		1	4	
Clog Maker			 	***	1	2	
Boot Repairer			 		1	9	
White Smith			 		1	2	
Brickmakers			 		3	33	
Tallow Chandle	er		 		1	2	
					411	887	814

During the past year 1,354 visits have been made by the Inspectors to the above. The following Nuisances were found and have since been abated:—

Workshops to Lime wash	***	 	***	34
New Ashpans provided		 ***		12
Dilapidated Workshop Floors and Re	oofs repaired	 		3
New Steps provided		 		1
New Closet Seats re-fixed	***	 		3
Offensive Urinal removed		 		1
Insufficient ventilation		 		4
Premises found unsuitable for busines	ss	 1.0	***	2
No abstract of Act		 ***		12
Accumulation of Rubbish to remove		 		1
,	Totals	 		73

During the year 1902, 64 new Workshops have been added to the Register, namely:-

Sweet Boilers	 4	Picture Framers	 3
Joiners	 8	Blacksmiths	 4
Dressmakers	 11	Tailors	 6
Boot Repairers	 11	Tinsmiths	 2
Dentists	 2	Electrical Engineers	 2
Cabinet Maker	 1	Saddler	 1
French Polishers	 2	Hosiery Knitters	 2
Cooper	 1	Salt Packer	 1
Engravers	 2	Slipper Maker	 1
		77	
			64

Very few Nuisances have been found during the year, and it is satisfactory to note that all complaints and recommendations have received prompt attention by the various owners and occupiers of Workshops.

In addition to the 411 Workshops, there are 34 Workplaces on the Register, namely :-

Kitchens of Cafes an	nd Rest		 29	
Ice Cream Rooms				 4
Temperance Hotel			• • • •	 1
				34

The above were all visited during the year, and it was found that there were 100 girls and 2 men employed. The following Sanitary defects were found:—

Deficient ventilation	•••	 	 	 7
Defective drain		 	 	 1
Want of cleanliness		 	 	 7

The Sanitary accommodation was found to be sufficient, 10 were provided with Water Closets and 24 with Pan Closets.

In no case was there any overcrowding.

Domestic Workshops. — 134 Domestic Workshops have been Registered, namely:—

Dressmaking and Plain Sewin Millinery	g		 		34
m :: :			 411	***	3
Tailoring		***	 		1
Herb Beer Making			 		4
Ice Cream ,,			 		2
Confectionary making			 		6
Paper Flowers ,,			 		1

This work is carried on in the kitchen or a living room of private houses. No overcrowding of the workrooms was noticed, and in all cases the work was being carried on under fairly satisfactory conditions.

In addition to the above there are 42 Home Workers employed by the proprietors of 13 shops, they were employed doing the following work, viz.:—

Shirt Maki	ng		 	9
Undercloth	ning Ma	king	 	23
Knitting			 	2
Tailoring			 	8
				42

98 visits were paid to these homes, and it was found that the conditions under which the work was done were fairly good.

No Infectious Diseases have occurred during the year in any of the houses at which home work was carried on.

The following Infectious Diseases occurred at Workshops, viz. :-

Disease.	Name of Business.
1 Scarlet Fever	Tailor
1 Erysipelas	Drapery Establishment
1 Diphtheria	Dressmaking
1 Scarlet Fever	Drapery Establishment
-	

APPENDIX C.

A RECORD OF THE MORTALITY STATISTICS AND THE SANITARY PROCEEDINGS OF THE PAST TWENTY-FIVE YEARS.

A SHORT SYNOPSIS OF THE PRINCIPAL PROCEEDINGS RELATING TO SANITATION IN MIDDLESBROUGH DURING THE YEARS 1876 TO 1901.

The original Scheme of Drainage of the Borough by Mr. Lawson was reported upon on July 22nd, 1869.

The Main Sewers were laid down in 1873. Between that date and the year 1877, when this summary commences, there were many law suits over the compensation to be paid to various property owners for the privilege of carrying the Sewers through their property.

Previous to this date there are no printed Minutes available for reference.

1877 and 1878.—Ormesby Beck complained of as a nuisance. An order made by the Langbaurgh Magistrates that the nuisance be abated.

Borrowing powers obtained for £45,000 for Street Paving. It was decided to adopt Blue Flint Paving for the following Streets, viz.:—Market Place, East Street, South Street, Linthorpe Road, Marton Road, Cannon Street, Wilson Street, Corporation Road and part of Newport Road.

Report on the Drainage, North of the Railway. The Sewers in this district discharged directly into the River and were not connected with the Drainage System.

£35,000 borrowed March 31st, 1871, for draining the North side. This was all expended on Outfall Sewers into the River.

Report on Ventilation of Sewers by Pressure or Vacuum.

Grant of 50 tons of Coke per week at one penny per ton to Relief Committee.

Report on the bad Sanitary Condition of Florence, Frances, Lloyd, and Charlotte Streets.

Refusal to grant Slaughter House License in Duncombe Street, it being urged that it would be a public and private inconvenience. A petition against granting this license was presented by the residents in that district.

The Relief Committee at work distributing Soup.

January, 1879.—The wages of Getters-out of Manure reduced from 1s. 3d. to 1s. 2d. per ton.

The Dairies, Cowsheds and Milkshops Order, 1879, adopted.

A Loan of £3,000 obtained for New Cemetery.

November, 1879.—The Stockton and Middlesbrough Turnpike, made by public subscription in 1858, was freed from toll.

Provisional Order applied for to enable the Water Board to take more than 60 million gallons per week from the River Tees at Broken Scar.

Complaint of there being sewage in Ormesby Beck.

January, 1880.—£1,300 borrowed for 30 years for Drainage Expenses. A complaint of nuisance from Black Smoke. Ordered that the nuisance be abated.

February, 1880.—Letter from T. Rudd, Esq., of Tolesby Hall, regretting that in a new town such as Middlesbrough there should be such a closing in of vast spaces with small houses, often unfit for habitation, and many other circumstances preventing the making of Middlesbrough either elegant, useful, or in some respects a healthy town such as a new town should have been, and further regretting the vast amount of debt and want of open spaces.

Arrangements made for celebrating the Jubilee of Middlesbrough.

March, 1880.—The Overseers certified the following to be the occupied and unoccupied houses in Middlesbrough Township:—Total houses, 7,800; empty, 800; occupied, 7,000. In Linthorpe Township:—Total houses, 4,365; empty, 1,191; occupied, 3,174. The average persons per house being 5.7.

September, 1880.—A complaint made of a nuisance from Sewer Gas in Marton Road.

A Ventilating Shaft was erected at Livingston's Works.

October, 1880.—Complaint made that a large stock of Manure was in hand at the Yard. Ordered that the price be reduced 6d. per ton.

November, 1880.—Flooding took place in Denmark Street, Marsh Road, West Bridge, &c. Ordered that a Storm Water Overflow be constructed to join the Outfall Sewer in Stockton Street.

December, 1880.—Complaint of the condition of the Roadway and Drains in Linthorpe Crescent. The Corporation reply that they are not liable for these. January, 1881.—Proposal to put down a Storm Water Overflow at Newport, of 4 feet diameter, at a cost of £1,000.

Ordered that application be made to the Local Government Board for a Provisional Order to enable the Corporation to temporarily repair Private Roadways and Footpaths and to recover the cost of the same from the property owners.

April, 1881.—Tenders amounting to £964, &c., accepted for the construction of the Newport Storm Water Overflow.

May, 1881.—Application made for borrowing powers for £1,200 for this work.

September, 1881 —A Memorial from the residents in Lower Commercial Street complaining of the smoke nuisance Ordered that notices to abate the nuisance be served.

November, 1881 —The high death rate among children attributed, by the Medical Officer of Health, to debility, consequent upon the privations endured by many of the poorer classes during the past two or three years.

The Census returns show the population to be 55,288.

A conviction obtained for allowing a smoke nuisance in Ormesby Road.

December, 1881.—A Report presented on an Outbreak of Smallpox.

Set Pots reported to be an encroachment upon yard areas. Ordered that they be removed.

January, 1882.—Ordered that a Disinfecting Apparatus be erected at the Fever Hospital.

February, 1882.—Proposal to provide Public Swimming Baths.

Letter from the Local Government Board on the pollution of the River Tees.

March, 1882.—Complaint of nuisance arising from the use of town manure on gardens in the Borough.

APRIL, 1882.—Ordered that a Petition be prepared and presented to Parliament in favour of a Bill for the better Notification of Infectious Diseases.

A Memorial presented signed by 213 persons, complaining of the Hawking of Fruit and Vegetables round the Streets.

May, 1882.—The adoption of the Public Baths and Washhouses Act was recommended.

June, 1882.—A Sub-Committee appointed to consider the question of Extending the Borough.

October, 1882.—The question of Lighting the Town by Electricity was discussed.

Recommended that a site in Grange Road be purchased for the purpose of erecting Baths, area of site 1,110 yards, at a cost of 10s. per yard.

NOVEMBER, 1882.—A complaint that the Streets are seas of mud and water.

DECEMBER, 1882.—Foot and Mouth Disease breaks out in Borough.

A Loan for £2,500 for Baths applied for.

Tenders for the erection of the Municipal Buildings accepted.

Erection of the Chimney and Furnace at the Lloyd Street Manure Depot at a cost of £135

The Extension of the Borough Boundaries, so as to include the whole of the Parliamentary Borough, was discussed but not approved of.

A Quarantine Station for vessels infected with Cholera appointed.

The Water Board's attention drawn to the pollution of the River by sewage, as stated in the letter from the Local Government Board.

July, 1883.—A Cholera Committee, representing Stockton, Middlesbrough, and other Local Authorities, was formed with power to provide a Hospital.

Cholera Regulations issued by the Local Government Board.

Flooding in Marsh Road.

The Loan for Baths increased to £3,400.

Permission given to connect various Sewers with the new Chimney at the Manure Shed for ventilation purposes.

The Brig "Remembrance" bought for a Floating Hospital.

The Sanitary Sub-Committee recommend a Storm Water Outlet, 4ft. diam., to discharge into the Ormesby Beck at Cargo Fleet.

November, 1883.—Houses in Cook's Yard declared unfit for habitation.

Ordered that a fee of 2s. 6d be paid to Medical Practitioners for Notifications of Infectious Diseases.

Tenders for the erection of Baths accepted at a cost of £2,776.

December, 1883.—A Slaughter House License granted for Unthank Street.

Ordered that the Borough Surveyor submit Plans and Estimate for the construction of a permanent Sewer on the proposed road between Linthorpe and Newport, and to include in his Estimate the cost of a temporary 18m. Pipe Sewer to intercept the flood water finding its way to Marsh Road.

March, 1884.—A Tender accepted for a new Sewer at Newport at a cost of £589.

APRIL, 1884.—Ordered that a Small-Pox Ward be built at the rear of the Hospital at an estimated cost of £800.

September, 1884.—Ordered that Land belonging to the Corporation near the Gas Tanks on the Marshes be utilised for the erection of a suitable Tent for the reception of cholera patients if necessary.

October, 1884.—Ordered that the Middlesbrough Owners be requested to grant permission for the erection of a Shaft at the corner of Marton and Cargo Fleet Roads for the purpose of ventilating the sewers.

November, 1884.—Sub-Committees appointed to inspect the Sanitary condition of the respective Wards.

Ordered that Midgley's Ventilators and Sewer Gas Purifiers be fixed at the top of Marton Road.

January, 1885.—The "Prevalence of Want" given as a cause of the high death rate (= 31.94 per 1,000).

The Sub-Committee recommend a New Sewer from Linthorpe Road to Newport Road.

Ordered that £1,000 be borrowed for executing this work.

March, 1885.—A Slaughter House License granted in Cannon Street.

A Report presented on the bad Sanitary Condition of Nile and Vine Streets. The following reasons given:—

- 1. The faulty original construction.
- 2. Dilapidations from wear and tear.
- 3. The habits of the occupants.

Ordered that the requisite notices to abate the nuisances be served.

May, 1885.—Slaughter House License granted.

June, 1885.—A Report from Dr. Page, Inspector to the Local Government Board, on the want of ventilation for the sewers and the want of cleanliness in the back passages.

October, 1885.—A complaint as to Sewer Gas in the Premises near Albert Bridge and Zetland Road.

November, 1885.—Report by the Medical Officer on the dirty and wet condition of the back passages.

February, 1886.—Distribution of Coke owing to distress.

May, 1886.—Contract let for Sewer in Parliament Road, £1,417.

July, 1886 —Permission to build a Slaughter House in Grange Road granted.

Letter from Local Government Board enclosing a complaint against the Smoke Nuisance caused by the North-Eastern Steel Works. Ordered that no action be taken.

December, 1886.—Outbreak of Typhus Fever.

January, 1887.—Marsh Road District flooded.

Bye-Laws submitted and approved for Seamen's Lodging House.

February, 1887.—The Borough Surveyor recommended that a new and improved Slag Scoriæ Crossing be laid down. Ordered to be carried out between Gilkes Street and Linthorpe Road.

March, 1887.—Outbreak of Smallpox.

April, 1887.—A Slaughter House License granted in Avon Street.

October, 1887.—Report on the unsatisfactory condition of Common Lodging Houses.

Ordered that new Bye-Laws be prepared.

New Storm Water Sewer in Parliament Road completed.

November, 1887.—Complaint of nuisance caused by Slaughter Houses in Mount Street and Milbank Street.

DECEMBER, 1887.—Common Lodging House Bye-Laws adopted.

February, 1888.—£300 borrowed for four extra Slipper Baths.

March, 1888.—Complaint against Defective Cesspool in Marsh Road District. Ordered that the nuisance be abated.

Order to abate Defective Cesspools in Punch and Bargate Streets.

APRIL SRD, 1888.—Heavy rainfall, high water 1 foot above level of Marsh Road.

Plans for Branch Sewers in Bright Street and Marton Road passed.

Report on the condition of Marsh Road by the Borough Surveyor, this district being drained by a 3ft. Circular Sewer, part of the Main Drainage System, the surface of the carriageway being 2ft. lower than the level of certain high floods.

This and adjacent Streets were laid out and partly built upon previous to Incorporation by the extension of the Borough in 1866. Constructed on bog land and have settled. Estimated cost of putting into thorough repair being £1,900.

May, 1888.—Ordered that the Middlesbrough Owners and all other property owners be supplied with water free of charge for watering private streets.

The inhabited houses in the Borough in November, 1887, were 13,067; at Census, 1881, there were 10,391. Estimated population, 1887, = 69,255.

June, 1888.—The Middlesbrough Improvement Act of 1877 gave power to borrow £45,000 for Paving, but was not carried out. In 1878 it was again proposed to pave several streets, but was not carried out owing to a Memorial against it. The same question was again brought up in June, 1888, and the Surveyor recommended Tar Macadam instead of Paving.

Letter from Local Government Board, stating that an Inspector would be sent to Middlesbrough to investigate the severe Outbreak of Pneumonia.

July, 1888.—Report suggesting locks be fitted to Pan Closet Doors stated that there were 6,000 Pan Closets and the cost of fitting locks would be £300. Pan Closets were introduced 17 years prior to this date.

The Town Clerk was ordered to report on the question of an Act of Parliament to extend the Borough Boundaries under the Local Government Bill.

August, 1888.—Report on Manure Disposal. Stated to be 3,689 ashpits emptied once in 14 days, and 6,000 pans, 1,700 of which were emptied twice a week. The total cost for disposal of Manure for 12 months being £4,137, receipt for sale of Manure being £2,351, being a total loss of £1,785.

OCTOBER, 1888.—Middlesbrough made a County Borough by the Local Government Act of 1888.

Report by the Town Clerk on the Artisans' Dwellings Act.

NOVEMBER, 1888.—Quarterly Meetings of Council to be held at 6 p.m.

Report on the provision of more Public Conveniences in the Borough. Ordered that Tenders be invited for three.

A Sub-Committee appointed to give directions for the cleansing of back passages.

December, 1888.—License for Slaughter House granted to Co-operative Society in Ormesby Road.

January, 1889.—Plans for laying out new Streets approved. Ordered that the Middlesbrough Owners be asked to widen Princess Road to the width of Southfield Villa Road. This was refused.

Reported that there were no deaths from Pneumonia North of the Railway during this month, and the Medical Officer suggests that the regular and thorough cleansing by the scavengers and deluging with disinfectants may have had something to do with this immunity.

February, 1889.—Ordered that the cleansing of yards and back passages as carried out North of the Railway be extended to the rest of the town.

Playgrounds for Children Refusal of the School Board to throw open the School Playgrounds, after school hours, to the public.

A Committee appointed to inspect Common Lodging Houses. They report that they are far from what they should be as regards cleanliness, separation of the sexes, &c. Ordered that the Watch Committee be asked to make arrangements for a regular inspection of Common Lodging Houses.

April, 1889.—Pneumonia made a notifiable disease for six months. Interim Report of Dr. Ballard on the Epidemic of Pneumonia received.

May, 1889.—The Sanitary Sub-Committee recommended that a Crematorium be erected at a cost of £600.

June, 1889.—9 acres of land for extension of Cemetery bought at £450 per acre.

July, 1889.—An additional Sanitary Inspector appointed.

August, 1889.—Report on the Pollution of the River Tees.

October, 1889.—Report on the very dilapidated condition of Woodhouse Terrace.

November, 1889.—Extension of the Borough considered.

December, 1889.—Proposed New Sewer along Ayresome Lane and Roman Road.

April, 1890.—Ordered that 2 acres of land be purchased for extensions to Fever Hospital.

May, 1890.—Complaint of nuisance arising from manure deposited in gardens along Linthorpe Road and Union Street. June, 1890.—Report from Mr. Verity on the difficulty of getting a demand for all the nightsoil. 1,000 tons in hand.

Sums of £4,535 and £3,352 borrowed for Cemetery purposes.

Final Report of Dr. Ballard on Epidemic of Pneumonia received.

July, 1890. – Petition from inhabitants against allowing Ice Cream Vendors selling Ice Cream in the Streets.

August, 1890.—Severe rain and flooding of cellars, &c.

September, 1890.—Outbreak of Typhoid Fever.

OCTOBER, 1890.—The Public Health Amendment Act, 1890. Parts 2, 3, 4 and 5 adopted.

DECEMBER, 1890.—Infectious Diseases Prevention Act, 1890, adopted.

Re-division of Wards. The Town Clerk ordered to report upon this.

January, 1891.—Plans for a Smallpox Hospital, to be erected upon ground at the Sanatorium, ordered to be prepared.

February, 1891.—Ordered that the question of emptying ashpans oftener be considered at a Special Meeting.

The Streets and Sanitary Committees combined in an inspection of the town. They inspected the Marshes and Swatters Carr Estate, and recommended that the owners raise the floor and yard levels with concrete, and that a report be presented on the drainage of the Marshes.

A Sub-Committee appointed to consider the question of Bye-Laws for houses let in lodgings or occupied by members of more than one family.

Dr. Barry's Report on the Epidemic of Typhoid Fever received.

March, 1891.— Complaints against Ice Cream Stalls in the Streets.

Report on the Marsh Road District. The laying down of numerous drains and sewers has acted on a subsoil drainage and caused the bog to contract and so lower the level of the locality by 2 feet in some places. The Sewer in Marsh Road is 3 feet diameter, 2,500 feet in length, and has a gradient of 1 in 1,009. This receives the drainage of the Newport District. The Borough Surveyor recommends a large intercepting and storage Sewer to be laid down Cannon Street and Boundary Road, and so into the Station Street Sewer, with a Pumping Station if required.

December, 1891.—A Petition in favour of dividing the town into 10 Wards received.

April, 1892.—Special Meeting held to consider the great distress prevalent in the town. Coke at 1d. per ton granted to the Relief Committee.

July, 1892.—The question of Underground Urinals reported upon and deferred.

Bill in Parliament passed in June.

September, 1892.—The Mayor, at the request of the Licensing Justices, called attention to the insanitary state of the licensed property and certain yards in the Borough. A Sub-Committee was appointed to report on this.

The Corporation invite offers of land for Asylum purposes.

December, 1892.—A Public Meeting held in the Town Hall re division of Wards.

The Building Bye-Laws ordered to be revised and reported on.

February, 1893.—The Drains and Sewers flushed with Perchloride of Mercury as a precaution against Cholera.

March, 1893.—Report on the Factory and Workshops Act of 1878, and amending Acts of 1883 and 1891-2

The consent of the Privy Council to the Borough being divided into 10 Wards received.

May, 1893.—The names of the 10 Wards fixed and Councillors apportioned thereto.

June, 1893.—Report on the revision of the Building Bye-Laws received.

July, 1893.—A Committee appointed to report upon the desirability of providing open spaces for children of the town.

September, 1893.—Precautions taken against Cholera.

Ordered that an Inspector under the Factory and Workshops Act be appointed.

October, 1893.—Application for a Loan of £1,200 for Drainage Works.

NOVEMBER, 1893.—Tenders for Drainage Works accepted for £1,181.

DECEMBER, 1893.—Report on the Disinfection of Sewers and Drains.

Cost of disinfectants used for ashpits and ashpans was £288 per annum.

January, 1894.—A Joint Meeting held to consider the scheme of a Public Wharf and Landing Place. Reported that it would be convenient for the Sanitary Committee for taking Manure to sea should the Railway outlet be blocked. It was ordered that the scheme be adopted, and Plans and Specifications prepared.

Smallpox accommodation. It was decided not to adopt additional accommodation, but to provide an Isolation Block.

February, 1894.—Sewer in Southfield Road commenced.

March, 1894.—Increase in the Streets—number in 1883 was 200, in 1893 292, or 35 miles against 25 miles. The cost of the Highways in 1883 being £3,743, and in 1893 £6,105, the cost per superficial yard in 1883 being 1.443d., and in 1893 1.979d. for sweeping and repairing. Scavenging in 1883 cost £1,616, or a net cost of 1.74d. per ton, and in 1893 £3,835, or 3.08d. per ton.

August, 1894.—Complaint from Marske against nuisance caused by carriage of nightsoil by the N.E.R. Refusal of the N.E.R to carry any more nightsoil to Marske until the warm weather is over.

OCTOBER, 1894.—£840 borrowed for Isolation Block at Sanatorium.

December, 1894.—Complaint of nuisance from sewage in Grove Hill Beck.

Opposition to a Slaughter House in Simpson Street License not granted.

Flooding in Marsh Road. Petition from inhabitants of that district received.

February, 1895.—A request asking the Corporation to start relief works for the unemployed, also a letter from the Local Government Board suggesting the same.

Application made to borrow £600 for Slipper Baths.

A Committee appointed to consider the question of a Public Slaughter House for Middlesbrough.

March, 1895.—Recommended that the Slaughter House belonging to the Middlesbrough Owners be leased for seven years at a rental of £50 per annum.

May, 1895.—Extension of Storm Water Outfall Sewer at Newport to the low water line.

September, 1895.—Drainage of the Borough. Ordered that the Stockton Street Sewer be examined and cleaned out. That the Water Main be taken out of the Parliament Road Sewer, and that a site for a Pumping Station be looked for, and that a Penstock be constructed at the corner of Linthorpe and Parliament Roads.

OCTOBER, 1895.—Rules for Slaughter House adopted.

The Tees Commissioners offer to supply barge and take rubbish, &c., to sea for £4 per day.

December, 1895.—The Sanitary Inspector reports on the advisability of emptying ashpans twice a week.

Stockton Street Sewer to be cleaned out at a cost not exceeding £50.

Tenders for Penstocks received and tender let, the Cargo Fleet one for £38, and the Parliament Road one £45.

A 7 years' lease of the Middlesbrough Owners' Slaughter House entered upon for the purpose of a Public Slaughter House.

Flooding at Albert Bridge. Ordered that extra grates be provided for taking the storm water.

APRIL, 1896.—Report by the Borough Surveyor on barging nightsoil to sea, with the comparative cost as against the then present system.

June, 1896.—Decided to provide four additional Slipper Baths.

Two acres of land to be purchased from the Cemetery Committee for extension purposes at the Sanatorium, application to be made to the Local Government Board for power to borrow £13,400 for the Sanatarium and £25,600 for Smallpox Hospitals.

Building Bye-Laws to be forwarded to the Local Government Board for approval.

September, 1896.—Report on the Stockton Street Sewer.

November, 1896.—The Local Government Board refuse to sanction loan for £25,600 for Smallpox Hospital on site adjoining the existing Isolation Hospital.

January, 1897.—A loan for £850 sanctioned for the purpose of paving Denmark Street.

It was proposed that this Street be paved with Scoriæ Bricks.

March, 1897.—Report on the advisability of adopting the Marton Beck Valley Sewer.

Ordered that an estimate of the cost of executing this work be prepared.

Tenders invited for a Disinfector and House to be erected at the Sanatorium.

Tenders for erecting Carburetted Water Gas Plant accepted.

April, 1897.—Ordered that Mr. Mansergh be asked to come to Middlesbrough to report fully on the Drainage of the Borough.

Ordered that Plans be prepared for laying out Victoria Square.

July, 1897.—A gift of £1,000 from Mrs. Thompson to provide a recreation ground for working class district.

The Sand Hole presented to the Corporation for a recreation ground.

SEPTEMBER, 1897.—Report on Drainage of Borough and Prevention of Floods received from Mr. Mansergh.

OCTOBER, 1897.—Drainage scheme. The Sanitary Committee ordered—

- 1. That a Sewer be constructed along Snowdon Road.
- 2. That such Sewer be 8 feet circular, at a cost of £10,000.
- 3. That the construction of a Pumping Station stand over.
- 4. That tenders be invited for the new Fewer.
- 5. That the desirability of constructing a Sewer along the Marton Beck Valley be considered.

NOVEMBER, 1897.—The Smallpox Epidemic commenced.

DECEMBER, 1897.—The Sanitary Committee ordered that the Snowdon Road Sewer be constructed of brickwork, a loan of £10,547 to be applied for.

A Report by the Town Clerk on the Licensing of Slaughter Houses. No new license had been granted in Middlesbrough since the passing of the Public Health Amendment Act of 1890.

May, 1898.—Appointment of first Medical Officer of Health to devote the whole of his time to the duties of the office.

June, 1898.—A loan of £1,200 obtained for the purpose of building an Underground Urinal.

July, 1898.—Report on the unsatisfactory condition of the Sewers in Marsh Road and Russell Street.

August, 1898.—A loan of £12,000 sanctioned by the Local Government Board for five years to meet the expenditure on the Smallpox Epidemic.

SEPTEMBER, 1898.—Plans, Specifications and Estimates prepared for a new 3ft. Iron Sewer along Marsh Road.

OCTOBER, 1898.—Building Bye-Laws under discussion.

Severe Flooding in the Marsh Road District.

DECEMBER, 1898.—Ordered that £4,000 be borrowed for laying an Iron Pipe Sewer in Marsh Road. The work to be carried out by the Corporation workmen.

January, 1899.—Ordered that the Medical Practitioners of the Town be asked to notify cases of Pneumonia for six months.

April, 1899.—Slaughter House License refused.

Ordered that in the future the Sweeping and Cleansing of the Back Passages be placed under the control of the Sanitary Inspector.

June, 1899.—Tenders for an Underground Urinal let for £1,520.

Loan of £3,096 granted for the Marsh Road Sewer.

Report on the Small-Pox Epidemic and Vaccination.

September, 1899.—Ordered that a loan of £3,700 be applied for for Extensions to the Baths.

October, 1899.—Report on the Meteorological Influences on the Health of Middlesbrough.

March, 1900.—Final Report on the Smallpox Epidemic of 1897-1898.

A Sub-Committee examined the whole of the Streets in the Marsh Ward and recommended that a sum for the repair of the Streets in this Ward proportionate to the area of the same be included in the Estimates, and that this Committee will again report upon the particular streets that most need repairs. The Committee were very much dissatisfied with the condition of the private streets, yards and passages, and with the structural and sanitary condition of some of the property of which they have taken note.

Reports on the conditions of the Streets in various Wards.

APRIL, 1900.—Belle Vue Farm, Hemlington, purchased for £3,000 for hospital purposes. Ordered that a loan of £3,400 be applied for.

MAY, 1900 .- A Report on the Smoke Nuisance by the Sanitary Inspector.

Summary of Reports on Outbreaks of Epidemic Pneumonia in various districts of the country.

Report on the Dairies and Cowsheds Order of 1885 and 1886.

Cleansing and Scavenging the Town. The Sub-Committee recommend as follows:—
That information be obtained as to the cost of—

- 1. The Erection of a Destructor.
- 2. The Disposal of Manure by Destructor.
- The Barging of Manure to Sea.

Ordered that Cannon Street be paved with Scoriæ Bricks, and that application be made for a loan of £5,310. August, 1900.—Complaint from the North-Eastern Railway Company of the nuisance caused by the Manure Depôt.

Report on the Disposal of Manure. The Sub-Committee recommend that as an experiment arrangements be made for barging the nightsoil to sea, and that a barge be hired for this purpose.

Report by the Town Clerk on the Housing of the Working Classes Act, 1890 and 1900.

SEPTEMBER, 1900.—Deputation from the Middlesbrough Sanitary and Housing Reform Association, urging the adoption of Part III. of the Housing of the Working Classes Act, 1890. Ordered that the Surveyor prepare Plans and Estimates of the cost of erecting 50 Houses.

OCTOBER, 1900 .- New Building Bye-Laws were approved and adopted.

November, 1900.—Encroachments on Yard Areas. The Surveyor asked to report upon this question.

Housing of the Working Classes. Report on Workmen's Dwellings, together with designs of houses, &c.

4 roomed houses at a cost of £136 per house.

6 ,, · ,, £190 ,, And

4 tenement blocks at £489 ,, of 4 tenements.

Ordered that the Surveyor ascertain where suitable land can be purchased for this purpose.

DECEMBER, 1900.—Erection of Ventilating Shafts on the line of Sewers.

Pumping Station. Ordered that the site on Messrs. Cochrane's property be approved.

Report by the Surveyor re Workmen's Dwellings. A Sub-Committee appointed to obtain offers of suitable sites for cottages.

JANUARY, 1901.—£109 collected for the relief of those who suffered from the result of the late severe Flooding in Marsh Road District.

February, 1901.—Special Report on Infantile Morality.

May, 1901.—The Barge "Saltburn" purchased at a cost of £1,120 for the purpose of taking night soil to sea.

JUNE, 1901.—Appointment of a Lady Sanitary Inspector and Health Visitor.

26 houses in Nile Street certified as unfit for habitation.

OCTOBER, 1901.—Report on Tuberculosis.

Ordered that application be made for a loan of £7,840 for the building of Smallpox Hospitals.

December, 1901.—Deputation from the Butchers' Association asking for licenses to be granted for private slaughter houses.

Ordered that application be made for a loan of £1,600 for purposes of building a Pumping Station.

Report by the Sanitary Inspector on the Collection and Disposal of Nightsoil.

Letter from Alderman Hinton dealing with the mortality statistics of the town, &c.

Monthly Death Rates in the various Districts for the Years 1876 to 1901, the principal Causes of High Death Rates being specified.

1876		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		 16.95	23:34	24.78	98	21 69		Bronchitis
February		 18:49	17.35	13.36	73	16.40		
March		 16.18	20 03	22.05	88	19.42		
April		 10.01	20.34	18.71	75	16.35		
May		 12.32	20 34	20.71	81	17:79		
June		 9 24	13.76	16.04	59	13.01		
July		 13.86	14 96	15.37	66	14.73		
August		 14.64	19.75	18.71	80	17:70		
September		 11.61	15.56	14.70	63	13.90		
October	***	 15.40	13.11	16 04	66	14.85		
November		 12.32	13.76	15.37	62	13.81		
December		 15.40	23:34	24.72	96	21.15		Diseases of Respiratory System
		13.83	17.97	17:96	907	16.73		

1877.		North	East	West	Total Deaths	Death Rates	Birth Rate	
January		 13.09	20.34	21.38	83	18.27		
February		 11.68	18.15	18.82	68	16.21		
March		 9.24	23.34	19.38	80	17:32		
April		 20 03	19.15	18.71	86	19.29		
May		 13.86	15.56	22.72	78	17:38		
June		 9.25	15.56	20.05	68	14.95		
July		 11.55	12.56	13:36	56	12.49		
August		 17.72	16.15	15:37	73	16.41		
September		 12.32	15.56	22.72	76	16.86		
October		 19.19	16.15	15.37	75	16.90		
November		 20.80	17:30	14.03	77	17.37		
December		 11.55	27 53	21.38	93	20.15		Diseases of Respiratory Syste
		14.19	18.11	18.60	913	16.96		

187	8	North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		13.86	17:95	18.04	75	16.61		
February		 23.36	20.09	26.06	90	23.17		Whooping Cough
March		 13.10	20.94	18.71	80	17.58		
April		 17.72	20.34	19:38	86	19.14		
May		 16.17	19.15	16.04	77	16.04		
June		 13.08	16.15	24.06	80	17.76		
July		 24.65	25.54	22.72	102	22 97		Diarrhœa.
August		 31.58	25.13	32 08	131	29.58		Infantile Diarrheea
September		 13.99	20.94	23.34	89	19.42		
October		 9.24	21.54	20.05	78	16.93		
November		 19 26	24.33	28 75	112	24.78		Infantile Debility and Fevers.
December		 17.72	20.94	21.38	90	20.01		
		15.97	21 25	22 30	1,090	20 33		

187	9	North	East	West	Total Deaths	Death Rate	Birth Rate	
January		 19:26	17 35	16 70	79	17:77		
February		 10.01	19.75	26.06	85	18.60		
March		 18.49	21.54	15:37	83	18:46		
April		 12 32	18.55	17:37	73	16.08		
May		 16.95	16.75	18:71	78	17 47		
June		 7.70	19.75	16.70	68	14:71		
July		 16 95	17:35	22.73	85	19.01		
August		 18:49	9.57	14.03	61	14.03		
September	***	 16:17	16.15	16 04	72	16:12		
October		 19.26	13.86	14.70	71	15.94		
November		 11.55	14.96	18.71	68	15 07		
December		 15.40	18.65	25:39	90	19.81		
		15.21	17:01	18.54	913	16.92		

18	880		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January			 11.55	27.53	20.71	92	19:93	37:40	
February			 13.79	20.34	15.37	79	17.69	35.61	
March			 15.39	13.59	16 99	77	15.66	28.65	
April			 18.89	14.67	16 39	85	16.65	38.24	
May			 11.13	20.65	16:39	89	18.10	34.99	
June	***		 15.39	17.94	12.00	78	15.86	39.46	
July			 14.69	19.02	20.03	97	19 70	38.04	
August	***		 28.80	25.00	21.88	134	27.25	36.82	Infantile Diarrhoea
September			 36.21	39 68	39.45	178	36.21	38.44	Do and Bronehiti
October		***	 12:59	25.50	21.24	105	21:36	34.99)
November			 16.79	21:20	21 85	108	21.97	39 05	Infantile Deaths
December	***		 17:49	14.68	16 99	93	18 91	34.58	
			17.72	21.65	20.19	1,215	20.77	34.77	

1	881		N.	E.	W.	Death Rate	Total Deaths	Birth Rate	
January			 17:49	19.02	24.28	23.39	115	36.85	Convulsions and
February			 17.43	17.07	25.59	22.03	100	34.82	Bronchitis
March			 18.80	10.87	14.56	16.88	83	49.80	
April			 25.61	18.22	17.76	21.27	98	37.98	
May			 11.41	12.32	13:32	15.19	70	42.97	0.00
June			 16 78	9 64	12.05	13.45	62	40 58	1
July			 14.13	13.40	20 94	17:14	79	38.19	- O. W.
August			 12 36	9.12	16.50	14:10	65	37.98	
September			 15.01	20 90	14.59	19.31	89	46.01	
October			 14.13	12:33	13:32	14.97	69	42.32	
November		***	 18.55	13.40	12.69	16.27	75	46 01	
December			 21.20	14.47	18:40	20.40	94	37 11	
			16.90	14.22	17:00	17:95	999	40 71	

. 18	882		N.	Е.	W.	Death Rate	Total Deaths	Birth Rate	Chief Causes of high Death Rates
January		 	17:66	17.69	22:21	20.61	95	44 66	
February		 	18.55	19.93	23.48	22.57	104	38.19	Pneumonia and Bronchitis
March		 	24.73	18.23	18:40	21.92	101	40.15	
April		 	17.66	21.97	17:13	21 27	98	47.75	
May			31 80	21.44	26.01	28-21	120	39.28	Do.
June		 	33.26	21.44	27 92	28 43	131	52:30	Whooping Cough
July		 	19.67	20.02	17:06	20.31	103	37.20	
August		 	24.12	31.61	30.60	31 74	161	43 38	Diarrhea
September		 	21 (3	19 49	22 95	22.67	115	41.01	Do.
October		 	15 60	25.82	21:12	22.67	115	43.70	Respiratory Disease
November		 	21.70	20 00	22.95	22 48	114	42:39	Do.
December		 	21.03	18.93	22:36	23 66	120	36.65	Do.
			22 28	21.37	22.93	23.87	1,387	42:55	

18	883		North	East	West	Total Deaths	Death Rate	Birth Rate	
January			 20:35	19.49	20.00	119	23.46	44.89	Tubercular and Respiratory Disease
February			 15.60	18.96	22:36	107	21.09	35.69	
March			 21.70	17.91	21.18	122	24.05	40.42	Do.
April			 15.60	18:44	15.88	109	21.49	38.84	
May			 21 70	22.13	21.13	119	23.46	54.42	Infantile Deaths
June			 14.24	18.44	19.41	101	19.91	43.77	
July			 18:31	12:11	18:24	87	17:15	44 56	
August			 18:99	10.53	20.59	93	18.33	41.01	
September			 16.95	20.55	24.15	116	22.81	40.42	
October			 14.92	16.86	21.12	105	20.70	41.21	
November			 18.37	22.65	22.41	117	23:07	41.40	Scarlet Fever
December		•••	 11.92	20:55	27.65	113	23.26	41.21	Do.
			17.63	18.21	21.17	1313	21 56	42.32	

1	884		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January			 11.53	17.91	17.65	93	18:33	45.55	
February		171	 13:56	17:34	17:06	92	18:14	42.98	
March			 20 35	17:91	18:24	103	20:31	41 60	
April			 13:56	16.86	21.12	105	20.70	41 60	
May		***	 12:21	12.95	13.53	92	18.14	44.36	
June			 14 92	16.33	17.€5	90	17:74	45.35	
July	***		 17.63	20.02	27.65	117	23:07	49 90	Diarrhoea
August		***	 10.85	17.91	24.12	107	21:09	43.77	
September		***	 18.99	19.97	22.95	116	22.87	42.59	Po.
October			 14.24	16.86	25.89	105	20.70	49.87	
November			 11.52	26.87	22 95	117	23 07	38 84	Measles
December			 21.70	32 67	27 06	162	31 94	41 62	Do. and Bronchitis
			15.09	19:76	21:57	1,299	21 34	43.92	

1	885		North	East	West	Total Deaths	Peath Rate	Birth Rate	
January			 28.49	23:71	27 06	116	28:79	44.17	Whooping Cough,
February			 28.66	20.55	27.41	127	27 13	53:83	Measles,
March		***	 21 03	24.85	39.42	157	30.95	42 98	and Bronehitis
April			 14.92	22:65	24 12	119	23.46	46.53	and bronenitis
May			 22:38	15.80	20.07	111	21.87	37:26	
June			 16:28	15.28	20.00	98	19:32	45:94	
July			 18:31	16:56	15.88	100	19:71	41.80	
August			 16.28	16.33	10.00	87	17:15	40.62	
September			 13:53	14 73	11.18	74	14:19	38 05	
October			 10.17	13.17	16:47	79	15.57	42.00	
November			 14.24	16.86	14:12	84	16:56	38:45	
December	***		 16.28	35.47	20.00	126	24 84	42.98	Measles and Respiratory Diseases
			18 38	19.69	20.47	1,308	21.62	42.96	

18	386		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January			 13.05	23.71	17:65	107	21 09	44.17	
February			 19.10	20.55	16.57	102	21.79	41.87	
March			 21.03	25.82	31.23	155	30.56	47.12	Pneumonia. Infantile
April			 16.95	11.07	11.18	86	16.95	38.94	
May			 18:31	16.85	22.95	117	23.07	43.97	Tubercular and
June			 17.63	21.60	20.00	115	22.67	39.43	Respiratory Diseases
July			 16.28	16:33	15:30	94	18.53	45.55	
August			 14.92	13.70	16.47	88	17:35	43.31	
September			 28.49	20.02	21.18	124	24 45	34.50	Diarrhœa and Scarlet Fever
October			 23.06	20.23	17:06	113	22 28	39.24	
November			 22.38	18:96	21.18	114	22.48	39.04	
December		***	 22.38	26.87	21.78	136	26.81	38.84	General Causes Infantile
			19.46	19.64	19.38	1,351	21.88	40.88	

188	7		North	East	West	Total Deaths	Death Rate	Birth Rate	
January			18:19	15:28	20.00	107	20.09	41.01	
February			14.18	16.33	17.65	90	17.74	34.70	
March			18:99	24.76	20.59	119	23.46	43.97	Respiratory Diseas
April		***	21.70	21 07	21 77	132	26.03	31.94	Do. and Small-Po
May			24 42	20.55	27.06	135	26.62	42.87	Do. and Measle
June			20:35	18.96	15.88	115	22.67	43.57	Pneumonia
July			8.81	16.33	12.94	75	14.78	37.87	
August			8.81	18.96	20.00	93	18:34	42.59	
September			11.53	14.75	20.59	89	17:55	43.38	
October			16.95	18.87	18:24	100	19.71	41.41	
November	***		16.95	21.07	21.18	112	22.08	39.43	Bronchitis and Infantile Debility
December			16:95	22.13	13:53	97	19:12	33.71	
			16.48	19.09	19.12	1,264	20.76	39.70	

188	8	North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		 16:95	14.75	17:06	91	17:94	42.00	
February		 25.77	19.96	17:06	121	23.86	40 03	Pneumonia
March		 40 70	25.29	18.83	170	33.52	42.59	Do.
April		 29.84	22.24	23.91	166	28.76	39.82	Do.
May		 33.24	37.85	29.27	217	37.60	41.75	Do.
June	***	 23.06	33 36	26.35	183	31.70	35 52	Do.
July	***	 14.74	18.76	19.63	130	21.90	34.34	
August		 18:07	17.92	15:32	112	19.04	34.68	
September		 16.95	18 24	19.56	112	19.04	35.00	
October		 22.63	18.76	18.67	125	21:22	36.89	
November		 29.57	16.53	13:38	122	21.43	33.73	
December		 25.10	26.72	12.11	137	23.73	29.62	Whooping Cough Small-pox
		24.71	22.50	19.26	1,686	25.00	37.16	

18	889		North	East	West	Total Deaths	Death Rate	Birth Rate	
January			 21.70	18-68	11.22	109	18.88	40.54	
February			 11.02	25.06	19 55	117	21.96	35.85	Measles
March			 17:30	16.96	23.93	134	21.61	46.29	Bronchitis
April			 12.89	17.97	19.03	118	19:39	36.33	
May			 12.88	14 84	20.49	120	19.72	41.92	
June			 16.28	11.72	21.55	113	18:57	32.71	
July			 22.13	16:29	25.37	144	23 22	37.26	Infantile
August	***		 21.03	18.78	24.11	149	24 11	31.87	∫ Diarrhœa
September			 19.67	13.42	22.88	126	20:38	34.30	
October			 19 67	11 50	19:06	105	16.97	37.90	
November		**	 14.24	13 80	15:25	101	16:34	36.10	
December			 21.70	15.72	21.45	132	21:36	29 77	General Causes
			17:54	16.53	20:33	1,463	20.21	36.76	

1	890		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rate
January			 14 64	11.88	14:36	100	15.87	43.18	
February		* ***	 27.92	16.61	19 62	131	22 96	35.76	General Causes
March		***	 15.80	13.92	22.51	126	20.00	34.13	
April		***	 25.10	18.02	20.97	145	23.45	33.33	Pneumonia,
May			 17.97	19.18	22 91	140	22.22	35.24	Chest, &c.
June			 21.70	11 30	19.11	110	17.54	39.53	
July			 14.64	17.00	22.87	138	21.58	38.31	
August			 14.64	16.26	27:91	134	20 95	32 68	
September			 30.07	18:29	26.08	150	24.25	45.41) P P
October			 20.58	15.48	27:38	156	24.33	33.38	Enteric Epidem
November			 18.57	17.53	21.27	134	21.65	40.56	
December			 29.21	17.69	19:62	151	23.54	33.38	Bronchitis
			20.90	16.09	21.96	1,615	21.52	37.07	

18	391		North	East	West	Total Deaths	Death Rate	Birth Rate	Severe Weather, December, 1890
January			 27.88	31.70	27.84	215	33.54	40.71	Enteric& Pneumonia
February			 22.91	14.28	24.24	129	22.27	39.20	
March			 21.90	22.12	25.55	178	27.76	38.84	Pneumonia
April		***	 24.01	27.87	28.36	191	30.70	43.47	Pneumonia and Influenza
May			 16.59	21.71	28.74	163	25.42	39.46	
June			 22.69	19:09	24.11	146	23.59	43.31	Pneumonia and Measles
July			 12.93	12.53	14.14	102	15.91	36.59	
August			 20.58	13.27	16.88	112	17.47	34.16	
September			 17.88	8 78	12.21	85	13.73	42.82	100
October			 16.20	12.16	15.12	100	16.14	36.52	
November			 15.81	17.95	16.15	116	18 74	35.71	
December			 26.55	20.64	24.18	174	27.19	34 79	Pulmonary Diseases Severe Weather
			20.51	19:34	21.46	1,711	22:70	39 63	

1	892		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January			 22.45	25.57	23.48	173	26.42	35:59	Pulmonary, due to severe weather.
February			 26.25	18.98	21.78	145	23.73	36.67	Influenza
March			 25.82	17:00	11.74	128	19.55	35.74	
April			 19.89	13.58	18.71	117	18:51	34.50	4.97
May	***		 15.89	14.17	20.32	121	18:48	42.01	
June			 18.52	12 11	15.91	107	16.80	40.35	
July		***	 12.58	12 75	14 90	99	15.12	36.66	
August			 11.25	13.76	17.61	104	15.75	37 42	
September			 20.58	17:62	29.48	153	24.21	32.12	Infantile Diarrheea
October			 14 56	18.07	15.80	119	16.87	35.13	
November			 27.44	13.58	21.05	182	21.02	30.86	Infantile Deaths
December			 25.10	14.52	23.94	144	21.99	32.08	Respiratory Diseases
=			22.02	15.97	19:56	1,542	19.87	35.76	

18	893		North	East	West	Total Deaths	Death Rate	Birth Rate	
January		***	 13.24	17:00	24:39	145	22.15	38.95	Infantile Deaths
February			 15.39	18 04	23.00	122	20.63	32.29	
March			 16.56	17 71	24.84	132	20.92	34.83	
April			 24.69	13.28	21.99	148	22.47	41.80	Whooping Cough
May			 14.56	16:30	18:51	118	18.02	36.20	
June			 16.28	17	55	111	17.25	38.80	1
July			 10.82	15.93	20.76	119	18.57	36.21	140
August			 18.54	11:11	18.06	134	20.47	31.30	
September	***		 21.77	24.96	27 60	174	27.52	32.88	Enteric Fever
October			 13.84	18:10	17 08	126	18.42	35.10	
November		***	 18.44	20.80	20.87	155	23.48	31.51	Enteric Fever and Pneumonia
December			 17.80	11.52	15.77	113	16.52	31.68	
			16 82	15.89	19.40	1,597	21.03	35.04	

18	894		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		 	17:14	13.21	16:20	128	16 22	36.85	
February		 	15:31	13:48	23.23	120	19.42	32.37	
March		 	16.48	12:50	15.57	104	15.20	33.19	
April		 	17 07	12.04	16.14	111	16:61	34.27	
May		 	14.50	12.91	16.02	114	16.46	35.39	
June		 	23.90	10.37	19.73	121	18.10	31.72	
July		 	21 75	13 88	19.91	133	19.21	30.91	
August		 	29.00	16.92	13.42	135	19.52	31.49	
September		 	21.11	11.71	19.73	129	19:30	23.31	
October		 	19 11	13.24	16:45	117	16.90	33.08	
November		 	18:44	11.77	21.16	125	18.70	32.92	
December		 	19.11	14.48	12.12	112	16.18	32.66	
			19.41	13.04	17:30	1,449	17.65	35.76	

1898	j.	N.	E.	W.	Total Deaths	Death Rate	Birth Rate	
January		 15.82	15.18	16.45	121	17:47	38.28	
February	144	 13.85	10.66	11:50	100	15.58	32 88	
March	***	 21.73	19.01	20.70	167	23.51	29.99	Influenza and Ches
April		 24.55	19.32	19.69	164	24 04	35.85	Do.
May		 14.32	12.56	18 82	121	17.65	35.74	
June		 15.69	10.95	9 63	93	13.56	31.36	
July		 20.46	11.84	13.97	120	16.94	35.43	
August		 17 26	14.02	23.26	145	20.47	31.90	Scarlet Fever
September	***	 24.56	14.81	29 76	166	24.09	34.86	Diarrhea, Scarlet
October		 18.47	21.55	17 45	164	22.72	26.60	Fever, Enteric Do.
November		 15.00	15.68	17.60	131	18.75	35.36	
December		 19.81	12.74	14.96	123	17:04	27.71	
		18.46	14.86	18.06	1,615	19:31	32.91	

1896	3.	N.	E.	W.	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		 18.53	12.14	13.71	117	16.22	80.08	
February		 17:57	14.92	13.77	117	17:33	27:55	
March		 16.49	12.14	16.62	116	16.06	35.89	
April		 16.39	11.83	20.61	121	17 32	32.22	
May		 14.51	14.91	17:51	133	18:43	28.68	
June		 18.41	13:39	21.35	44	20.14	32.83	
July		 17:14	17.60	20.68	156	21.11	31.67	I c in D
August		 26:39	19.95	29.26	192	25.98	31.94	Infantile, Pneu- monia, Measles,
September	***	 21.13	13.04	17.18	126	17 62	32.16	Convulsions
October		 24.41	15.51	21.49	158	21.38	37.77	Pneumonia
November		 24.42	16.37	20.53	150	20.97	33.84	Irregular weather
December		 25.73	12.91	22.30	156	21.11	25.58	
		20 09	14.51	19.58	1,686	19.64	31.68	-

1897		N.	E.	W.	Total Deaths	Death Rate	Birth Rate	
January	***	 21.77	14.68	19:22	150	20.04	34.72	
February		 24.77	12.18	18:57	140	20.65	33.19	
March		 26.32	10.33	17:97	134	17:90	34.33	D ' 1
April		 24.54	15.42	23.17	170	22.33	32.02	Pneumonia and Influenza
May	***	16.49	12 67	20.02	129	17.23	32.47	Weather bad
June		 15.00	14.21	24.00	155	21.39	30.64	
July		 16.49	12.22	15.31	120	15.83	33.64	Infantile
August .		 26.37	16.19	21.59	169	22.29	31.47	Diarrhœa
September		 15.68	16.73	19:40	143	19.47	35.85	
October		 22.43	7.38	16.88	114	15.03	34.69	
November		 16.36	13.21	17.86	137	18.67	31.75	
December		 20.45	16.76	16.88	145	19.12	35.48	
		 20.55	13.49	19.23	1,706	19.16	33.35	

1898	s.	N.	E.	W.	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		 19:13	18.51	11.78	145	19:12	34.43	
February		 13.11	12.56	12.56	156	22.61	29.56	Small-Pox
March		 22.19	16.21	26.88	263	35.36	39.11	Do.
April		 19:51	13.32	20:41	174	23.39	31.59	Do.
May	***	 23.04	10.20	16 70	141	18 60	29.14	
June		26.56	18:48	14.17	156	21.26	35.91	
July		 23.11	11.93	23.56	155	20.86	30.21	
August		 19 13	14.23	25.92	156	20.54	35.74	Infantile
September		 27.23	19.06	27.18	185	25.40	32.30	Diarrhea
October		 21.74	20.44	14.77	155	20.44	30.86	
November		 15.24	11:41	15.77	119	16.00	31.06	
December		 16.47	18.17	22.75	162	21:36	30.60	
		20.53	15.37	19:31	1,967	22.07	32.51	

18	399		North	East	West	Total Deaths	Death Rate	Birth Rate	
January			 19:75	17:58	16:11	158	19.88	34.11	
February		***	 16.62	10.78	17:82	120	16.72	29:40	Pneumonia
March			 26.98	15.65	20.49	185	23.18	30 33	* actinonia
April			14.27	16:48	16.26	150	19:51	31.86	
May			32.92	17 02	16:45	183	23.03	36.50	Do.
June			 31.33	16.22	18 92	175	22.46	38.51	
July			 21.05	12.71	17:19	145	18:25	33.48	
August	***		 44:12	21.63	29.26	252	31.72	36.63	Diarrhœa, etc.
September	***		 30.74	14 52	27:61	191	24.84	33.82	Do.
October			 26.98	15:14	19:40	171	21.25	32.97	
November			 25.19	12.29	18.16	149	19:37	33.79	
December		•••	 24.35	17.03	20.12	179	22.53	30 09	Pneumonia
			26 19	15 58	19.81	2,058	21.89	33.45	

19	900		North	East	West	Total Deaths	Death Rate	Birth Rate	Chief Causes of high Death Rates
January		1	 44.12	21.57	24.78	266	32.27	35.92	Pneumonia Epidemic
February			 20:43	19.80	24.23	207	27.81	34.66	Do.
March			 40.20	20.70	27:34	258	31.30	40.04	Do.
April	100		 27.83	20.65	33.23	250	31 34	37.92	Do.
May		***	 26.26	17.88	26.32	214	25.96	35.06	Do.
June			 23.12	18.48	26.84	207	25 95	35.49	Do.
July			 24.39	13.16	18.81	162	19.66	34.83	
August			 26.42	15.76	23.94	195	23.65	32.39	Diarrhœa, etc.
September	***		 22.45	15.76	24.40	175	21.93	33.86	
October			 23.06	14.46	18:12	167	20.26	35.06	
November			 21.10	17:10	16.59	162	20.31	29.47	
December			 22:39	10.50	14.17	144	17:47	29.24	
			27.26	17.14	23 74	2,407	24.81	34.46	

1	901		North	East	West	Total Deaths	Death Rate	Birth Rate	
January			 20.43	14.63	15:99	158	18 51	33 79	
February		***	 12.37	12.49	19 47	137	17:76	33.99	
March	***		 13.15	14.35	13.76	137	16.05	29.41	
April			 25.38	10 04	20:15	173	23.01	41.97	Infantile and General Causes
May			 25.37	11 31	13:99	146	18:82	35.32	
June			 20 62	9.59	11:36	113	15.04	32.78	
July			 11 61	17:19	13.99	125	16 11	38.68	
August			 31 04	17:39	31.95	229	29.52	32.61	Diarrhœa
September			 22:45	12.10	27:37	177	23.57	35.30	Do.
October			 20 96	16.16	24.73	186	23.98	42.41	Typhoid Fever
November			 30.51	24.96	22.72	201	26.77	38.95	Pneumonia & Fevers
December			37.32	18:19	24 24	213	27.44	32.61	Do.
	No.		23.38	15.64	19.62	1,995	21.84	36.44	

AGES AT DEATH, 1876-1901.

YEAR	1 and under	1-5	5—10	10—15	15—25	25 60	60 and over	Ages unknown	Total
1876	327	159	18	17	53	249	83	1	907
1877	355	152	34	-	328	-	44		913
1878	372	269	42	8	1	218	108		1,090
1879	274	162	41	6	0	230	146		913
1880	417	292	89	5	2	222	144		1,215
1881	313	187	6	5	69	273	142		999
1882	476	285	48	29	68	309	172		1,387
1883	361	226	65	36	95	329	201		1,313
1884	379	299	63	40	66	291	161		1,209
1885	397	281	60	22	64	319	165		1,308
1886	420	243	59	27	69	315	218		1,351
1887	374	222	55	35	78	306	194		1,264
1888	415	265	44	29	87	554	292		1,686
1889	444	275	45	31	78	369	226		1,468
1890	481	243	50	35	102	474	230		1,615
1891	485	264	68	37	93	472	292		1,711
1892	508	265	44	18	70	374	263		1,542
*1893	476	273	44	24	68	371	222	119	1,597
1894	381	254	49	23	78	433	231		1,449
1895	536	265	47	33	93	379	262		1,615
1896	467	379	63	29	97	414	237		1,686
1897	509	305	58	21	108	431	274		1,706
1898	566	319	56	38	121	587	280		1,967
1899	575	369	52	24	101	612	325		2,058
1900	663	309	16	21	132	753	483		2,407
1901	657	377	46	29	90	577	219		1,995

^{* 119} Deaths the ages of which are not recorded

