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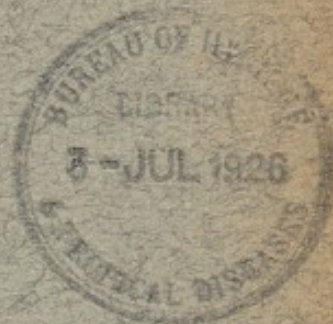


of Middlesbrough.

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HEALTH DEPARTMENT.

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# Annual Report

AND

## VITAL AND MORTALITY STATISTICS

FOR THE YEAR 1925.

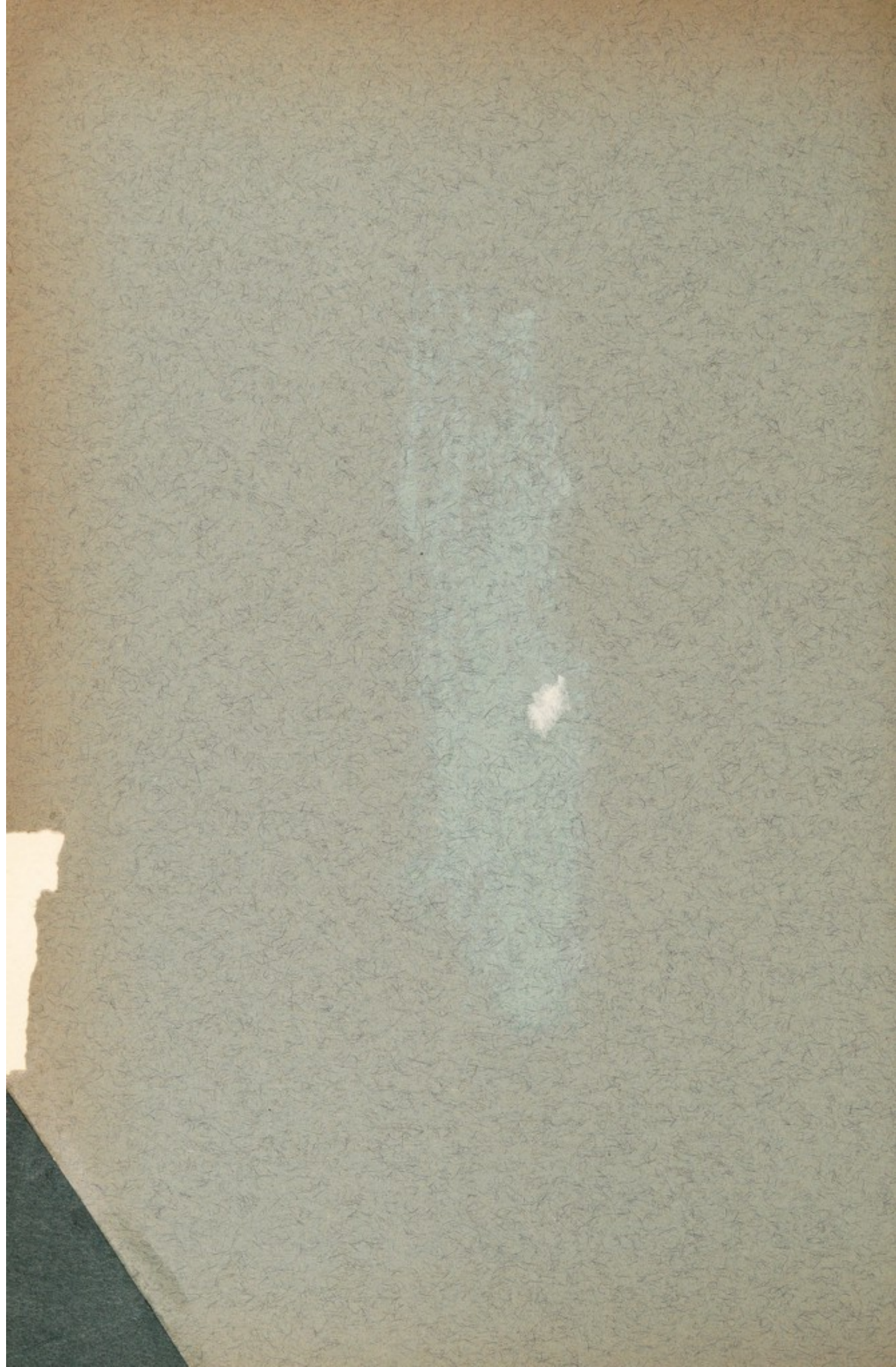
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1926.







County Borough



of Middlesbrough.

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HEALTH DEPARTMENT.

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# Annual Report

AND

VITAL AND MORTALITY  
STATISTICS

FOR THE YEAR 1925.

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Middlesbrough :

JORDISON & Co., LTD., PRINTERS, LITHOGRAPHERS, &c.

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1926.





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# COUNTY BOROUGH OF MIDDLESBROUGH.

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Vice-Chairman—ALDERMAN TREVELYAN THOMSON, M.P.

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P. SULLIVAN, S. A. SADLER, J.P., C. B. WOOD.

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M.B., J.P., T. D. STEWART, J.P., P. SULLIVAN, C. B. WOOD.



## STAFF.

MEDICAL OFFICER OF HEALTH AND SUPERINTENDENT OF HOSPITALS.

\*CHARLES V. DINGLE, M.D., B.Hy., D.P.H.

ASSISTANT MEDICAL OFFICER OF HEALTH :

WILLIAM L. TULLIS, M.D., Ch.B., D.P.H.

TUBERCULOSIS OFFICER :

\*F. J. HENRY, M.C., M.B., F.R.C.S., D.P.H. (BARRISTER-AT-LAW).

MATERNITY AND CHILD WELFARE MEDICAL OFFICER :

\*MRS. GRACE H. GIFFEN DUNDAS, F.R.C.S., D.P.H.

VENEREAL DISEASES MEDICAL OFFICER (PART TIME) :

\*ARTHUR BRYANS, L.R.C.P. & S. (Ed.), L.R.F.P.S. (GLAS.).

CHIEF SANITARY INSPECTOR.

\*†‡THOMAS P. DIXON, MEM. S.I.A., MEM. R.S.I.

ASSISTANT SANITARY INSPECTORS :

†A. W. LUCAS (Factories, Workshops, etc.).

†H. WATSON.

†H. MORGAN (Resigned July, 1925).

†‡S. E. ELLIS.

†‡S. SWIFT (Resigned July, 1925).

†H. WHITFIELD.

†E. HOUGHTON (Resigned Aug., 1925).

†M. GUTHRIE (Probationer).

†‡E. J. CUMMINGS (Resigned July, 1925). †F. FRANKS (Appointed August, 1925).

†J. N. MARTIN (Appointed Aug., 1925). †A. C. WALKER (Appointed Aug., 1925).

HEALTH VISITORS :

\*†MISS L. BELL (Supervisor).

\*†MISS M. JONES (Resigned)

\*†MISS M. A. BLAKE.

April, 1925).

\*§||MISS M. NESBIT (Appointed July, 1925).

\*†¶MISS M. VEITCH.

\*§||MISS E. H. CARTER.

NURSES :

\*MISS M. OWEN, TUBERCULOSIS.

\*MISS STOCKTON, TUBERCULOSIS.

\*MISS R. McLOUGHLIN, MEASLES (Resigned Jan., 1926).

MISS G. VAUGHAN (Appointed Jan., 1926).

MATRONS :

MRS. B. GARDNER : CORPORATION FEVER, TUBERCULOSIS & SMALLPOX HOSPITALS.

\*§||MISS A. DAVIES : MUNICIPAL MATERNITY & CHILDREN'S HOSPITAL.

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G. DANNELL.

MISS DANBY.

FOREMAN SCAVENGER : G. STEVENSON.

MANURE SALESMAN : T. WILSON.

\* Salaries rank for Exchequer Grant.

† Sanitary Inspector's Certificate of R.S.I.

‡ Meat Inspector's Certificate of R.S.I.

§ Certificate of Central Midwives Board.

|| State Registered Nurse.

¶ Health Visitor's Diploma, Board of Education.

THE HEALTH DEPARTMENT,  
MUNICIPAL BUILDINGS,  
MIDDLESBROUGH,  
APRIL, 1926.

To the Chairman (Alderman A. Mattison) and Members of the Sanitary Committee.

Ladies and Gentlemen,

I have the honour to present for your consideration my twenty seventh Annual Report on the Health of the County Borough of Middlesbrough. Under the Sanitary Officers Order of 1922, the report for the year 1925 is required to be a Survey Report, and the Medical Officer is requested by the Minister of Health to deal comprehensively with the measures of progress made in the area in the improvement of the public health and on the extent and character of the changes made in the public health services during the past five years.

I have endeavoured to set forth by means of comparative tables the progress which has taken place in the improvement of health in this town during the past five years, and for a further comparison, I have added an addendum to this report, setting forth the Vital Statistics of the County Borough of Middlesbrough from the time records were first kept to the present date. A study of these records will show the great advance which has been made in all directions. There has been not only a great saving of life, but also an equal improvement in the conditions under which the inhabitants of the town are living. Perhaps the two greatest problems which have to be faced in the future are the excessive mortality from Respiratory diseases and the problem of Tuberculosis. Many remedies and theories have been advanced for dealing with the Tubercular problem, but so far with only slight success and it would appear that the question of good Housing is by far the more important.

Looking back for a period of more than a quarter of a century, and comparing the Sanitary circumstances of the town then and now, I feel that the Sanitary Committee must be more than satisfied with the progress they have made and that the expenditure on their many schemes for improvement has been money well spent. It is impossible to estimate the value of a life saved.

I have the honour to be,

Ladies and Gentlemen,

Your obedient servant,

*Charles V. Dringle*

Medical Officer of Health.





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# ANNUAL REPORT

## of the Medical Officer of Health for 1925.

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### NATURAL AND SOCIAL CONDITIONS OF THE AREA.

The County Borough of Middlesbrough is situated in the North Riding of the County of Yorkshire on the south bank of the River Tees in a bend the river takes, about seven miles from its mouth. The town has a frontage to the river of four miles.

After passing the town, the river opens out into a wide estuary and is exposed to the full force of winter gales from the North East, blowing in off the North Sea. The town is built upon low lying ground, most of which was formerly swamp and bog, and was in parts below high water level. This low ground has been made up with tipped slag from the iron works. The subsoil is part glacial beds of boulder clay, over which are the more recent deposits of esturian mud together with patches of sand, gravel, marine warp and peat. To the south of the town, the ground gradually rises, for a distance of ten miles to the Cleveland Hills. The oldest part of the town, which was first incorporated in 1853 was built on a small mound of sand and gravel above 40 ft. high above ordnance datum. In this part of the town the houses have become overcrowded on the area, and are generally dilapidated. The newer parts of the town are built in long streets at right angles to one another. The houses are built of brick, are two storied for the most part and self contained, having two to three bedrooms.

The present town was incorporated in 1853 when the population was about 8,000 ; its boundaries have been extended in 1858 when the population was 16,200, in 1866—27,186, and 1874—45,000 and lastly in 1913—107,993. It has an area of 4,323 acres of which an area of 173 acres is tidal land ; of the remainder, approximately 1,034 acres are more or less unsuitable for building purposes.

The Population for the year 1925 is estimated by the Registrar General to be 136,200 ; at the Census of 1921 the population was returned as 131,103, consisting of 66,201 males and 64,893 females, the private families numbered 27,891 in 25,541 separate dwellings the rooms per person being 0.89 and the number of persons per acre 31.5.

There are now estimated to be 27,322 inhabited houses.

The rateable value of the Borough is £653,296, and a penny rate represents a sum of £2,152.



**Occupations.**—The town of Middlesbrough originally began as a port for the shipment of coal, but on the discovery of iron ore in the Cleveland Hills, it at once developed into one of the chief centres of the iron smelting industry, and the majority of the male population are still engaged in the iron trade.

Of males, 12 years of age and over, the number engaged in the chief occupations in the district at the Census of 1921 was :—

Metal Workers	..	308	per 1,000 males 12 years of age and over.
Labourers	..	120	„ „ „
Water Transport	..	54	„ „ „
Commercial	..	56	„ „ „
Builders	..	48	„ „ „
Railway Workers	..	39	„ „ „
Road Transport	..	19	„ „ „
Professional	..	13	„ „ „
Shipbuilders	..	12	„ „ „

Of Females 12 years of age and over, the number engaged in certain occupations at the Census of 1921, was :—

Commercial	..	201	per 1,000 females 12 years of age and over.
Tailoresses	..	73	„ „ „
Personal Service	..	19	„ „ „
Transport	..	13	„ „ „

The proportion of Female workers per 1,000 male workers was 249.

At the present time and for the past few years, there has been severe depression in the staple trades of the town and district. For some years shipbuilding in the borough has entirely ceased. Many of the large ironworks have been partially or entirely closed down and the shipping trade of the port has been far below normal.

#### UNEMPLOYMENT, POOR LAW RELIEF, AND EXTENT TO WHICH HOSPITAL AND OTHER FORMS OF GRATUITOUS MEDICAL RELIEF ARE UTILIZED.

**Unemployment.**—Taking an average month during 1925, the number of men and women receiving out of employment benefit was men 8,300, women 350.

**Poor Law Relief.**—The number of persons in receipt of relief on January 1st 1926 :—

1. Able bodied (Men, Women & Children) 3,846, Weekly Cost £1,066.
2. Old, Disabled & Sick „ 3,681, „ £1,267.

Monthly average of out-door relief during 1921 to 1925 :—

		Able bodied		Old, Disabled & Sick	
		Persons	Cost.	Persons.	Cost.
March	1921	Nil		8,094 ..	£3,067
„	1922 ..	33,518	£6,591	11,391 ..	£4,252
„	1923 ..	25,257..	£3,918	10,970 ..	£3,877
„	1924 ..	20,834..	£3,245	11,734 ..	£4,075
„	1925 ..	7,378 ..	£1,562	13,428 ..	£4,422
„	1926 ..	16,389..	£4,554	13,204 ..	£4,148

Institutional and Hospital Medical Relief :—

Institution.	No. of Beds	Average Weekly Inmates	Patients Admitted 1925	
			M.	F.
Holgate (Union) Hospital .. ..	272	558	1,275	713
Guardians Children's Homes. ..	..	153	..	..
Broomlands (Union) Children's Hospital.. ..	55	..	107	84
Mental Hospital .. ..	430	334	..	..
North Riding Infirmary .. ..	150	..	1,785	..
North Ormesby Hospital .. ..	143	..	2,238	..
Carter Bequest Hospital (opened January, 1926) ..	52	..	..	..



### VITAL STATISTICS.

**Deaths.**—The total Deaths registered in the district during 1925 were 2,123, giving a crude death rate of 15.58 per 1,000 of an estimated population of 136,200. The nett deaths belonging to the district were 1,984 and the death rate corrected by the factor for standardizing is 15.56 per 1,000 population.

The following are the average death rates in five yearly periods. :—

Years.	Death rate per 1,000 population.
1901-1905	21.01
1906-1910	19.59
1911-1915	19.65
1916-1920	19.45
1921-1925	15.16

The death rate per 1,000 population in the various Districts of the town during the past five years have been :—

Ward.	..	..	1921	1922	1923	1924	1925	Average for 5 years.
Ayresome	..	..	10.53	9.99	8.02	10.26	8.98	9.56
Acklam	..	..	12.20	12.67	11.27	13.32	10.72	12.04
Cannon	..	..	14.87	20.12	13.44	20.93	18.60	17.59
Cleveland	..	..	15.68	13.81	13.98	18.25	16.55	16.86
Exchange	..	..	12.23	12.81	13.13	13.02	13.36	12.91
Grove Hill	..	..	9.19	9.00	10.78	9.83	10.57	9.88
Linthorpe	..	..	11.55	10.91	11.46	9.86	10.68	10.89
Newport	..	..	16.46	20.03	16.61	24.96	19.96	19.61
Ormesby	..	..	13.96	13.58	13.19	16.51	13.62	12.18
St. Hildas	..	..	26.00	23.42	21.44	30.17	22.29	24.67
Vulcan	..	..	13.99	15.61	13.99	17.29	14.81	15.14

The four Wards Cannon, Cleveland, Newport and St. Hildas have death rates higher than the average for the whole Borough, but the St. Hildas Ward stands out as having an exceptionally high rate.

601 Deaths equal to 30.2 per cent of the total deaths occurred in Public Institutions. In the St. Hildas Ward out of a total of 292 deaths, 83 occurred in the Union Hospital being 28.4 per cent of the total deaths in that area.

## Registered Deaths in the St. Hildas Ward, 1925.

Total Deaths	at ages														Totals
	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	over 65	
Males ..	28	16	3	5	1	5	3	1	..	8	13	18	32	24	157
Females	29	15	4	7	3	3	4	2	5	7	8	14	12	22	135
Totals ..	57	31	7	12	4	8	7	3	5	15	21	32	44	46	292
% of Total Deaths	19.5	10.6	7.8			5.1		2.7		12.3		26.0		15.7	

The proportion of deaths under 1 year of age to total deaths in the St. Hildas Ward, being 19.5 per cent. For the whole Borough, this proportion was 21.2 in 1924 and 17.2 in 1925. For England and Wales in 1924 the proportion was 11.6 per cent.

Percentage of Deaths at various Age Periods to total Deaths in Middlesbrough, from 1921-1925.

Year.	Under 1 year	1 & under 2 yrs.	2 & under 5 yrs.	5 & under 15 yrs.	15 & under 25 yrs.	25 & under 45 yrs.	45 & under 65 yrs.	65 years & over
1921	26.4	8.0	4.0	3.3	4.7	12.4	20.5	20.4
1922	21.4	8.6	5.2	2.9	4.7	12.6	23.0	21.3
1923	18.1	7.7	6.5	3.7	4.4	12.7	23.3	23.1
1924	21.2	10.6	6.9	3.5	4.3	12.2	21.1	19.9
1925	17.2	6.8	6.4	5.0	4.8	12.4	23.8	23.1
Mean of 5 years	20.9	8.4	5.8	3.7	4.5	12.5	22.3	21.5
1924 County Boroughs Northern Area. England.	14.4	4.8	3.6	3.0	4.3	11.7	25.9	31.8

Compared with other County Boroughs in Northern England, it will be seen that



the proportion of deaths under 5 years of age in Middlesbrough is 12.3 per cent higher ; 10% of this increase being in the period under 2 years of age.

### Deaths from Principal Causes.

Disease.	Proportion per 1,000 Deaths from all causes.				
	England & Wales	Middlesbrough		St. Hildas Ward	
	1924	1924	1925	1924	1925
Measles .. .. .	10	10	26	17	30
Whooping Cough .. .. .	8	33	9	32	13
Influenza .. .. .	40	61	19	57	17
Tuberculosis of Respiratory System .. .. .	69	87	87	120	102
Other forms of Tuberculosis	18	17	24	22	23
Cancer, Malignant Disease	106	60	66	47	44
Disease of the Heart ..	128	62	82	57	88
Bronchitis .. .. .	80	91	85	128	109
Pneumonia (all forms) ..	82	209	167	211	170
Premature Birth & diseases of Early Infancy .. .. .	45	65	62	52	51
Violence (all forms) ..	36	26	38	20	17
Diarrhoea & Enteritis ..	16	24	19	42	30

It is evident from the above table that Respiratory diseases are the chief cause of death in this area and that deaths from these causes bear a much greater proportion to the total deaths than in other areas. One out of every four deaths in Middlesbrough is due to Respiratory Disease.

The excess mortality from Respiratory Diseases is confined chiefly to Pneumonia ; the deaths from Bronchitis and other Respiratory Diseases comparing favourably with those for the North of England.

Disease.	Proportion per 1,000 deaths from all causes.		England & Wales
	1924	1925	1924
Bronchitis .. .. .	91	85	80
Pneumonia (all forms) .. .. .	209	167	82
Other Respiratory Diseases .. .. .	12	11	12
All Respiratory Diseases .. .. .	314	263	174
Infants under 1 year of age .. .. .	407	266	—

**Mean Mortality per 1,000 population for 5 yearly periods.**

Year.				Bronchitis	Pneumonia	Other Respiratory Diseases	Total Respiratory
1901-5	..	..	..	1.13	3.31	0.24	4.69
1906-10	..	..	..	1.16	3.58	0.22	4.97
1911-15	..	..	..	1.37	3.34	0.26	4.99
1916-20	..	..	..	1.33	3.51	0.27	5.12
1921-25	..	..	..	1.24	2.58	0.19	4.02

**Deaths from Pneumonia (all forms), 1921 to 1925, showing Sexes and Ages at death.**

Year	SEX	AGES AT DEATH								Total	Per Cent. of Total Deaths	Per 1000 of Popu- lation
		Under 1 Year	1 to 2 years	2 to 5 years	5 to 15 years	15 to 25 years	25 to 45 years	45 to 65 years	Over 65 years			
1921												
	Male ..	33	40	15	6	10	31	33	14	182	15.5	2.21
	Female ..	30	24	14	2	5	14	12	12	113		
1922												
	Male ..	57	39	14	2	11	31	48	14	216	19.5	2.84
	Female ..	47	46	19	3	5	14	18	15	167		
1923												
	Male ..	30	32	18	5	5	21	26	18	155	14.3	1.87
	Female ..	19	16	13	4	2	14	18	12	98		
1924												
	Male ..	75	51	31	3	2	25	37	18	242	20.9	3.51
	Female ..	69	64	38	10	5	15	22	14	237		
1925												
	Male ..	38	34	28	10	3	17	28	18	196	19.8	2.44
	Female ..	28	25	17	8	5	12	22	20	137		



**Births.**—The number of Births registered during 1925 was 3,503, the nett births numbered 3,501, the birth rate being 25.70 per 1,000 of the population.

The mean birth rates during the following periods were :—

1901-05	..	36.25 per 1,000.
1906-10	..	34.05 „
1911-15	..	31.46 „
1916-20	..	27.39 „
1921-25	..	27.80 „

It will be seen that the birth rate declined very rapidly from the commencement of the war period, the last five years show a slight tendency to increase.

The mean birth rates in the various districts of the town during the past five years were :—

Wards.	Mean Birth Rate. 1921-25	
Ayresome	..	17.48 per 1,000 population.
Acklam ..	..	20.13 „
Cannon ..	..	36.13 „
Cleveland	..	28.22 „
Exchange	..	17.90 „
Grove Hill	..	21.88 „
Linthorpe	..	21.49 „
Newport	..	36.34 „
Ormesby	..	28.45 „
St. Hildas	..	34.99 „
Vulcan	..	25.82 „

#### Infantile Mortality.

The nett deaths under one year of age during 1925 was 342, equal to an infant mortality rate of 97 per 1,000 births.

The mean Infant Mortality rates during the following periods were :—

1901-5	..	181
1906-10	..	160
1911-15	..	145
1916-20	..	138
1921-25	..	109

## Neo Natal Deaths.

Age Distribution of Infantile Mortality. Deaths per 1,000 Births.

Age	Middlesbrough.					Northern Area County Boroughs	England and Wales
	1905-9	1910-14	1915-19	1920-24	1925	1924	1924
Under 4 weeks ..	47	46	46	42	42	38	33
4 weeks to 3 months	30	25	23	18	12	16	12
3 to 6 months ..	33	22	22	18	12	15	11
6 to 9 months ..	26	23	23	21	15	14	9
9 months to 12 months	26	24	23	19	14	13	9

Compared with the rates in the County Boroughs of the Northern area, there is an excess of deaths in the age period under four weeks. Taking the figures for Middlesbrough as a whole, they show signs of a steady improvement in the Infantile Mortality rates at all age periods.

## Infantile Mortality from various Causes.—Deaths per 1,000 Births.

Disease.	Middlesbrough.		County Boroughs in Northern Area.
	1920-24	1925	1924
Common Infectious Diseases .. ..	5.7	4.8	5.2
Premature Births .. ..	21.9	21.7	21.6
Wasting Diseases .. ..	37.2	34.2	35.9
Diarrhoea and Enteritis .. ..	14.9	7.4	9.6
Tubercular Diseases .. ..	1.2	1.9	1.8
Respiratory Diseases .. ..	33.6	25.9	13.3
Convulsions .. ..	7.0	3.9	5.2



## The Infantile Mortality Rates in the Various Districts.

Districts.	Deaths per 1,000 Births.	
	1920-1924 (mean)	1925
Ayresome .. .. .	79	115
Acklam .. .. .	90	82
Cannon .. .. .	131	105
Cleveland .. .. .	120	97
Exchange .. .. .	99	95
Grove Hill .. .. .	77	69
Linthorpe .. .. .	87	55
Newport .. .. .	158	95
Ormesby .. .. .	119	131
St. Hildas .. .. .	161	136
Vulcan .. .. .	139	102

		1921-1925	1925
Deaths of Legitimate Infants per 1,000 Births .. .. .	—	108	96
Deaths of Illegitimate Infants .. .. .	—	146	131

## General Provision of Health Services.

### PROFESSIONAL NURSING IN THE HOME.

**General.**—This is provided by the Middlesbrough and District Nursing Association. The Association is supported by voluntary contributions, but receives grants from the Corporation for various services, *e.g.*, Home nursing of Tubercular disease, Puerperal Fever, Pneumonia, Ophthalmia Neonatorum, Expectant and Nursing Mothers and Infants under five years of age if required. These cases are referred to the Nursing Association by Departmental Medical Officers of the Local Authority.

**For Infectious Disease.**—One whole time Nurse is employed by the Local Authority to visit and, when necessary, nurse cases of Measles. Temporary Nurses are engaged if required.

**Midwives.**—There are 40 Midwives practising in the Borough, 36 of whom are trained and 4 are untrained.

### CLINICS AND TREATMENT CENTRES.—(Provided by the Council).

**Maternity and Child Welfare Centres.**—There are Five Centres, viz. :—

NAME OF CENTRE.	HELD AT	ORDINARY CHILD WELFARE MEETINGS.
The East Centre	5, The Newlands	Mondays, 2 p.m.
The Cannon Centre	Settlement Hall, Church Street	Mondays, 10 a.m. Tuesdays, 2 p.m.
The American Red Cross Centre	Market Place	Wednesdays, 2 p.m.
The Settlement Centre	Settlement Hall, Church Street	Thursdays, 2 p.m.
The North Ormesby Centre	Mount St. Mary's, North Ormesby	Fridays, 2 p.m.

Each of the above Centres has a Special Ante Natal Clinic once each month.

At all the Centres "Toddlers" from 1-5 years of age are received at each Session and are examined and supervised.



These centres have voluntary helpers working under the Medical Officer for Maternity and Child Welfare and the Health Visitors.

(*See Report on Maternity and Child Welfare.*)

**Day Nurseries.**—Nil.

**School Clinic.**—This is held at 52 Grange Road, W., daily from 9 a.m. to 12 noon for consultations and treatment of minor ailments and every Saturday morning for refractions.

**Dental Clinic**—is held on the same premises daily and attended by a whole time Dentist.

**Tubercular Dispensary.**—79, Grange Road W., is open daily from 9 a.m. to 5 p.m., and attended by the Tuberculosis Medical Officer, who has a staff of three Nurses and two Clerks. (*See the Tuberculosis Officer's Report.*)

**Venereal Diseases Clinic.**—105, Grange Road, W., is open on Mondays and Fridays at 8-30 a.m. and 5-30 p.m. for Males, and on Wednesdays at 5-30 p.m. for Females; and every morning at 8-30, and every night, except Wednesdays and Saturdays, at 5-30 p.m. for Irrigations.

Treatment is carried out by a part-time Medical Officer, two male and two female attendants, who also act as Clerks. (*See the Venereal Officer's Report.*)

## HOSPITALS PROVIDED BY THE LOCAL AUTHORITY.

### TUBERCULOSIS.

**West Lane Tubercular Hospital.**—28 beds and 3 beds in Huts. Six beds are retained at the Broomlands Children's Hospital for Surgical Tubercular Cases.

### MATERNITY.

**Municipal Maternity Hospital, Park Road North.**—There are 21 beds for Maternity Cases.

### CHILDREN'S HOSPITAL.

**Municipal Maternity Hospital.**—There are 15 beds for infants under five years of age.

**INFECTIOUS DISEASES HOSPITAL.**

**West Lane.**—There are 200 beds for the usual Notifiable Diseases.

**SMALLPOX HOSPITAL.**

**Hemlington.**—There are 85 beds.

**INSTITUTION PROVISION FOR UNMARRIED MOTHERS, ETC.**

There is provision for these at the Holgate (Guardians) Hospital, and at the Holy Cross Refuge. The latter is a Church of England Institution, and receives a Grant from the Local Authority. It provides for the Unmarried Mothers.

**HOMELESS CHILDREN.**

In addition to the Guardians Children's Homes, the following Institutions provide for Homeless Children.

Nazareth House (R.C.), 206 ; Holy Rood Orphanage (C.E.), 16 ; and a branch of Dr. Barnardo's Homes (Undenominational) 24.

**CRIPPLES HOME.**

There is the R. C. Davison Holiday Home at Danby, supported by Voluntary Contributions to which Cripple Children are sent. About One Hundred Children are received for three weeks each in the Summer months.

**AMBULANCE FACILITIES.**

1. For infectious cases there are three Motor Ambulances.
2. For non-infectious cases and accidents, there are two Motor Ambulances provided by the Town Council.

**CLEANSING STATION—52, Bridge Street, W.**

This is a small cleansing station fitted with a steam disinfecter and baths for dealing with verminous children and persons.

**LABORATORY WORK.**

The Bacteriological and Pathological Laboratory Work is sent to the Clinical Research Association. The Chemical Analysis is done by Messrs. Jackson and Scholes of Middlesbrough.



## BACTERIOLOGICAL EXAMINATIONS.

1925.			
Specimen.	Positive	Negative	Total
Diphtheria .. ..	51	155	206
Encephalitis Lethargica ..	1	..	1
Typhoid Fever .. ..	..	3	3
Cerebrospinal Fever ..	..	1	1
Empyema .. ..	2	..	2
Milk (for B. Coli) .. ..	35	116	151
Milk (for T. B.) .. ..	2	87	89
Mussels (for B. Typh.) ..	..	1	1
Periwinkles (for B. Typh.) ..	..	1	1
Cockles (for B. Typh.) ..	..	1	1
Mussels (for B. Coli.) ..	3	..	3
Total ..	94	365	459

## SERUMS, VACCINES, ETC., ISSUED.

Salvarsan substitutes supplied to General Practitioners ; 149 Ampoules Anti-Diphtheritic Serum supplied to General Practitioners ; 126 Ampoules.

## Outfits Supplied for diagnosis.

Widal (Enteric) .. ..	6
Diphtheria .. ..	98

## ADOPTIVE ACTS.

Baths and Wash-Houses Act, 1882.  
 Infectious Disease (Prevention) Act, 1890.  
 The Public Health Acts (Amendment) Act, 1890, parts II, III, IV, and V.  
 The Housing of the Working Classes Act, 1890, Part III.  
 The Public Health Acts Amendment Act, 1907, nearly the whole.  
 The Public Health Act, 1925 (*All Adoptive Sections*).  
 The City of Leeds, etc., (Measles and German Measles), Regs. 1920.  
 The Venereal Diseases (Cardiganshire, etc.) Order, 1919.  
 Infectious Diseases (Notification of Chickenpox) Order, 1924.

## LOCAL ACTS.

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### 4 and 5 Victoria Cap. 68. 1841.

- Sec. 141-3. Scavenging.
- „ 144. Footways to be swept.
- „ 156. Conveyance of Offensive Matter.
- „ 160. Unlawful slaughter of cattle. Conveyance of carcases through streets.
- „ 161. Depositing refuse in drain, sewer, etc. Offensive matter.
- „ 187-193. Slaughterhouses.
- „ 214. Exposing Unsound Meat.

### Middlesbrough Improvement Act, 1856.

- Sec. 121-122. Smoke prevention.

### Middlesbrough Improvement Act, 1877.

- Sec. 17. Provision of Manure Depot.

### Middlesbrough Corporation Act, 1892.

- Sec. 31. Flooded Cellars.
- „ 42. Smoke Prevention.

### Middlesbrough Corporation Act, 1903.

- Sec. 11. Filthy and dangerous articles to be purified.
- „ 12. Persons engaged in washing clothes to furnish list of owners.
- „ 13. Disinfection of infected clothes.
- „ 14. Penalty on guardian permitting infected child to attend school.
- „ 15. Principal of school to furnish list of pupils.
- „ 16. Infected person not to carry on business.
- „ 17. Protection against infection of books in Public Libraries.
- „ 18. Compensation to person ceasing employment.
- „ 19. Charge for emptying privies of trade refuse.
- „ 20. Dairyman to notify infectious disease among servants.
- „ 21. Dairyman to furnish list of customers.
- „ 22. Dairyman to furnish list of sources of supply.
- „ 23. Penalty for supplying milk of diseased cows.
- „ 24. Penalty on failing to isolate diseased cows.
- „ 25. Obligation to notify case of tuberculosis.
- „ 26. Power to take samples of milk.
- „ 27. Power to inspect cows and take samples of milk.
- „ 28. Appeal.
- „ 29. Compensation to dairyman.



**Middlesbrough Corporation Act, 1910.**

- Sec. 38. For regulating the manufacture and sale of Ice Cream.  
 „ 39. Inspection of premises of dealers in Ice-Cream.  
 „ 44. House infected with vermin to be cleansed  
 „ 45. Corporation may make communication between private drains and their  
     sewers.  
 „ 46. Wilful damage to drains, waterclosets, etc.  
 „ 47. Regulation dustbins.  
 „ 52. Service of notice.

**Middlesbrough Corporation Act, 1914.**

- Sec. 54. House without proper water supply after passing of Act.  
 „ 58. Notice of intention to repair drains.  
 „ 64. To prevent the spread of measles, etc.  
 „ 65. Restriction of children attending Sunday School.  
 „ 66. Power to close Sunday School.  
 „ 67. Information to be furnished in case of infectious disease.  
 „ 68. Cleansing of verminous persons.  
 „ 69. Overcrowding in small houses.  
 „ 70. Prohibition of blowing or inflating carcasses.  
 „ 71. Removal of patient suffering from pulmonary tuberculosis to hospital.  
 „ 72. Disinfection in case of pulmonary tuberculosis.  
 „ 73. For preventing contact with infectious body.  
 „ 74. Power of entry.  
 „ 76. Registration of Common Lodging Houses.  
 „ 78. Notice to be given to keepers.

**BYELAWS.**

Albert Park, 1868.

Caravans, Tents, etc., 1869.

Closing Orders (Hairdressers), 1905.

- do. (Boot and Shoe Dealers), 1914.  
 do. (Chemists, etc.), 1914.  
 do. (Jewellers), 1919.  
 do. (Hardware Merchants), 1919.  
 do. (Butchers), 1921.  
 do. (Men's Outfitters), 1923.

Dustbins, 1913.

Dairies, Cowsheds and Milkshops, 1900.

Housing, 1860, 1876.

Houses-let-in-Lodgings, 1904.

New Byelaws for the governing of Houses let in Lodgings are in draft, preparatory to reporting to the Minister of Health.

Keeping of Animals, 1860.

Lodging Houses, Seamens, 1887.

Lodging Houses, Common, 1888.

Lights on Vehicles, 1903.

Markets, 1842, 1869, 1870.

Midwives, 1902.

Means of Escape in case of Fire, 1909.

Nuisances, 1842, 1860, 1869.

Offensive Trades, 1869, 1922.

Public Baths, 1885.

Removal of Refuse, 1860.

Streets and Buildings, 1842, 1860, 1876, 1901.

Sewers and Drainage, 1860, 1869.

Slaughterhouses, 1860, 1869, 1895.

Urinals, 1869.

Unsound Meat, 1869.

Waterclosets, 1860, 1876.

### SANITARY CIRCUMSTANCES OF THE AREA.

#### Water :—

Report by the Engineer (G. R. Collinson, B.Sc.) to the Tees Valley Water Board.

The supply of water to the area is obtained from the Tees Valley Water Board, which is composed of members of the Borough Councils of Middlesbrough, Stockton and Thornaby.

The supply is abundant, and the water is derived from the River Tees and its tributaries.

Large reservoirs formed by means of embankments across the valleys of the Balder and Lune in the North Riding of the County of Yorkshire, about 35 miles West of Middlesbrough, impound water, which flows from 29,000 acres of sparsely populated moorland.

The whole of this water is filtered through slow sand beds at Lartington, situated about 4 miles below the Balder reservoirs.



Additional supplies may be drawn by pumping directly from the River Tees at a point about two miles west of Darlington.

Filter Beds are provided near the pumping plant for the purification of this water and chlorination is resorted to as an additional safeguard.

The quality of the water supplied is excellent and the result of a typical bacteriological examination is as follows :—

**BACTERIOLOGICAL EXAMINATION OF SAMPLES OF WATER TAKEN FROM  
THE LARTINGTON FILTER BEDS OF THE TEES VALLEY WATER BOARD ON  
JUNE 15th, 1925.**

	Clear Water Tank.
Organisms visible on A/gelatine after 4 days incubation at 21°C. ..	65
Organisms visible on Agar after 2 days incubation at 37 C. .. .. .	18
Smallest amount of water giving acid and gas in Lactose Bile Salt Broth ..	..

Numbers of samples of water are examined regularly both bacteriologically and chemically by independent water examiners.

Practically the whole of the population is supplied directly to the houses by piped services.

**Rivers and Streams :—**

The River Tees receives the crude sewage of all the towns and villages on its banks ; in addition, various trade effluents enter the river. These latter are at present under the consideration of a special Committee who are negotiating with the owners of works to prevent the contamination now taking place. The above contamination of the River is affecting the shell fish on the banks of the river, and also the fish in the river. The river is tidal for some miles above this town, where there is a rise and fall of 11 feet at ordinary spring tides. There are two small streams which flow into the river through the Borough. One of these has recently been piped in for the greater part of its length ; these streams only take storm water.

## Sewers and Drainage :—

Report by the Borough Engineer (S. E. Burgess, M.I.C.E.).

There are now seven Main Drainage Outfalls discharging into the River Tees which are shewn in the following table with the area each Sewer drains, the requirements to be provided for and the discharging capacity provided :—

	Diam. of Sewer	Area	Requirement per hr. at $\frac{1}{2}$ inch Rainfall, etc.	Discharging capacity provided.
1. Snowdon Road ..	7' 0"	300 acres fully built	2,100,000	3,318,000
2. Cargo Fleet ..	6' 0"	1,000 acres. $\frac{3}{4}$ fully built. $\frac{1}{4}$ open land	3,000,000 (at $\frac{1}{4}$ rainfall and $\frac{1}{40}$ inch)	2,000,000
3. Bolckow Outfall	4' 6" x 3' 0"	117 acres, fully built	902,000	1,100,000
4. Acklam Street .. Outfall ..	4' 0"	67 acres, fully built	517,000	600,000
5. Samuelson's .. Outfall ..	4' 0" x 2' 8"	127 acres. $\frac{3}{4}$ fully built. $\frac{1}{4}$ open land	768,000	1,500,000
6. Tees Valley .. Outfall ..	5' 0"	890 acres. $\frac{1}{3}$ fully built. $\frac{2}{3}$ open land	1,600,000	2,187,000
7. North Ormesby .. Outfall ..	5' 0" diam.	287 acres	1,550,000	2,000,000

The Cargo Fleet Outfall Sewer was approved in 1871 and carried out at a cost of £35,000.

Since that date the Borough Engineer's Department have designed and carried out many extensions and improvements to the Main Sewers as the expansion of the town made necessary, as follows :—

1902.	Pumping Station on the Cargo Fleet Main Outfall Sewer ..	£11,000
1904.	Marton Beck Valley Main Intercepting Sewer ..	£17,000.
1908.	Tees Valley Main Intercepting Sewer ..	£22,000.



In 1911, the Borough Engineer designed a scheme, at an estimated cost of £62,000 for the prevention of Flooding of the Marsh district, 260 acres in extent ; the scheme comprised Sewers of 7' 0", 6' 0", 2' 9" and 2' 6" diameters, together with a Pumping Station in Snowdon Road to lift the flood water and sewage above High Water level in the River Tees. The Pumping Station contains an elongated Pump Well the full length of the station with 3 Electric Motors and Centrifugal Pumps above. In the Well are Automatic Valves or Flaps which shut with the rising tide (when pumping takes place), and open on a receding tide (when discharge is by gravitation).

This scheme was approved by the Town Council and submitted to the Ministry of Health, who held an inquiry and sanctioned the expenditure.

The scheme was proceeded with and the Outfall portion and Pumping Station together with a length of 6' 0" diameter Sewer were completed at a cost of £32,000. The remaining portion of the scheme was suspended owing to the War, but is now in progress and will be completed by July or August at a cost of £90,000.

1922. The dilapidated Sewer in Acklam Street was reconstructed according to the Borough Engineer's scheme by direct labour in 4' 0" and 3' 0" diameter Cast Iron Pipes at a cost of £33,000 after inquiry by the Ministry of Health who sanctioned the expenditure.

1924. Extensions to the North Ormesby Main Sewers carried out by direct labour in 5' 0" and 4' 0" diameter Cast Iron Pipes at a cost of £40,000, after inquiry by the Ministry of Health into the Borough Engineer's Scheme which was sanctioned.

Previously to the enlargement of the Main Sewers and the installation of the Pumping Stations, the low-lying parts of the town were subject to frequent flooding at times of excessive rainfall but are now free therefrom.

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#### **Main Drains :—**

During 1925, the Sanitary Staff cleared 8,276 yards of Main Drains in back passages, 212 yards have been relaid, and 56 yards of new drains have been laid and connected.

#### **Sanitary Accommodation :—**

The Middlesbrough Sanitary System was originally the conservancy system. In 1869, only 400 of the existing houses were provided with water closets. The first change to be made was to the pan system, the receptacles being constructed of galvanized iron. Since the year 1910, the whole of the pan closets except in scheduled insanitary areas, have been converted to the water carriage system. (See page 29.)

### DESCRIPTION OF THE WORK CARRIED OUT.

Cleansed or Limewashed .. .. .	243
Roofs, etc., repaired .. .. .	252
Waterspouts fixed or repaired .. .. .	642
New sinks fixed .. .. .	15
Accumulation of manure or refuse removed .. .. .	8
Nuisances arising from the keeping of Animals, Poultry, etc. ..	9
Pavement of yards repaired .. .. .	76
New floors laid or repaired .. .. .	123
Provided with a sufficient supply of water .. .. .	20
Foul Water Closet Drains .. .. .	78
Dilapidated Ash Pans .. .. .	30
Dilapidated Dustbins .. .. .	2,250



Dilapidated Pan-hole Doors	..	..	..	..	..	..	2
Defective Closet Doors	..	..	..	..	..	..	160
Dilapidated Closet Seats	..	..	..	..	..	..	23
Defective Closets Roofs	..	..	..	..	..	..	124
Defective Ceilings	..	..	..	..	..	..	79
Defective Chimneys	..	..	..	..	..	..	45
Defective Sashcords and Windows	..	..	..	..	..	..	154
Defective Fireplaces	..	..	..	..	..	..	47
Defective Fireranges	..	..	..	..	..	..	124
Defective Walls	..	..	..	..	..	..	226
Defective Ovens	..	..	..	..	..	..	42
Dilapidated Setpots	..	..	..	..	..	..	78
Dilapidated Setpot Firebars	..	..	..	..	..	..	21
Defective Handrails	..	..	..	..	..	..	36
Defective joint between Flushpipe and Water Closet Basin	..	..	..	..	..	..	6
Dirty Premises	..	..	..	..	..	..	10
Defective Flues	..	..	..	..	..	..	24
Defective Gulley Covers	..	..	..	..	..	..	30
Defective Yard Gullies	..	..	..	..	..	..	25
Defective Yard Doors	..	..	..	..	..	..	143
Dilapidated Back Passages	..	..	..	..	..	..	31
Grates required for Gullies	..	..	..	..	..	..	21
Miscellaneous Works not classified	..	..	..	..	..	..	323
Number of Housing Cards compiled since January, 1925	..	..	..	..	..	..	218
Drains cleared with Cooper's Vacuum Pump (free of cost to Owners)	..	..	..	..	..	..	2825

All the above Sanitary Defects were satisfactorily remedied during the year.

The attention of the Borough Engineer has been called to the following defects :—

Apparently dangerous structures	..	..	..	115
Miscellaneous	..	..	..	32

The outbreak of Smallpox has materially affected the number of inspections made and the subsequent service of Notices under the Public Health Acts.

### SANITARY CONVENIENCES.

With the exception of the Nile Street and Dacre Street areas, which are in scheduled insanitary areas awaiting demolition, all the privy pan closets within the Borough have now been converted to water closets.

Below is a summary of privy middens and privy pan closets converted since 1910 :—

Year	Privy Middens	Privy Pan Closets	Total
1910 .. ..	33	40	73
1911 .. ..	557	252	809
1912 .. ..	763	281	1044
1913 .. ..	814	428	1242
1914 .. ..	805	3173	3978
1915 .. ..	..	980	980
1916 .. ..	..	138	138
1917 .. ..	..	54	54
1918 .. ..	..	52	52
1919 .. ..	..	83	83
1920 .. ..	..	920	920
1921 .. ..	..	1074	1074
1922 .. ..	..	2428	2428
1923 .. ..	..	8890	8890
1924 .. ..	..	1127	1127
1925 .. ..	..	12	12
	2972	19,932	22,904

#### REFUSE COLLECTION AND DISPOSAL.

##### Scavenging :—

With the abolition of the privy pan closets, the whole of the collection of house refuse is done during the day. Six Motors and sixteen Horse Vans are used for collection. The refuse is barged to Sea ; two Hopper barges are used for this purpose.

Standard galvanised iron cylindrical receptacles with covers, 2 cubic feet capacity, are used throughout the town with the exception of houses built since 1912 where Quine's Tipping Bins must be provided if possible.

Every effort is made, by means of publicity notices, to encourage householders to burn house refuse.

In 1924 an Organic Waste Plant was installed for treating all Fish Offal, etc. Hermetically sealed receptacles are provided which the Occupiers of Fried or Wet



Fish Shops hire at £1 per annum. These are collected by special motor. Slaughter-houses are provided with a like receptacle for which a charge of 10/- per annum is made. These are also collected during the day by motor.

The undermentioned is a comparative statement of the number of loads of house refuse collected and disposed, together with cost of same for five years—1921 to 1925.

Year	No. of Loads				Cost	
1921	..	..	49,886	..	..	£36,727 3 11
1922	..	..	48,670	..	..	£37,091 10 11
1923	..	..	41,130	..	..	£33,912 13 6
1924	..	..	34,610	..	..	£28,511 13 5
1925	..	..	32,667	..	..	£28,818 0 0

With the abolition of the pan closets within the Borough (with the exception of 122 which are situate in two areas awaiting demolition), together with an earnest propaganda by slides at two cinemas in the town, a considerable improvement in the diminution of House Refuse is shewn. In 1922 the average per head of population was 8.5 cwts. ; the average for 1925 has fallen to 6.6 cwts. Considerable improvement is still necessary.

#### Collection and Disposal of Nightsoil and other Refuse.

MONTH 1925	Total Loads Collec'd	Barged to sea	Sent to Tips	Sold to Farmers	Amount realised	Trips to sea	Bags of Paper and other light Refuse	Barged to sea for private Persons	Amount realised
					£ s. d.				£ s. d.
January ..	3400	2352	1090	126	23 14 2	9	6369	116	8 9 0
February ..	2597	1743	879	94	21 16 6	7	5119	49	6 5 0
March ..	2573	1699	867	89	17 11 2	6	5209	63	4 19 0
April ..	2600	1659	926	88	17 3 6	6	5228	65	5 8 0
May ..	3131	1998	1143	96	22 0 8	7	6723	115	12 9 0
June ..	2427	1440	943	66	14 4 3	4	5344	47	5 6 0
July ..	2941	1913	1071	179	43 7 1	9	6485	1203	64 8 0
August ..	3197	2326	31			9	5356	646	45 3 0
September ..	2409	2112	155	165	36 18 1	8	5397	408	24 15 0
October ..	2896	2008	955			10	6047	617	39 8 0
November ..	2276	1530	850	69	15 7 3	7	5475	170	12 10 0
December ..	2820	1545	1338	119	25 11 8	9	6901	67	7 3 0
TOTALS ..	32,267	22325	10248	1091	238 4 4	91	69653	3569	236 3 0

### SMOKE ABATEMENT.

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Only 8 observations have been taken during the year, owing chiefly to the acute industrial depression, and secondly to the fact that large numbers of steam plants have been abolished and electricity substituted.

Considerable trouble has been experienced during the past 6 post-war years with the pungent green smoke that is omitted from the Coke-Ovens.

Pre-war ovens of German manufacture and design were in general use, but now, since the installation of Priest's Ovens, which have meant a reduction of at least 50% in their numbers, the Owners have concentrated with the result that they are restricted in a confined area and the smoke has not the same ready means of being diffused into the atmosphere.

Experiments have been made to conserve these gases, but explosions have occurred and the men refuse to work where this method is in operation.

### SHOPS ACT.

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During the Year the Shops within the Borough have been kept under close observation. Several letters of warning for contravention of the Closing Hours have been sent out.

### RAT AND MICE (DESTRUCTION) ACT, 1919.

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During the Year the four Rat Clubs in the Borough have carried on their campaign with great success, having killed 2,359 rats.

One of the Rat Clubs dis-continued their operations in August.

### SANITARY CONDITIONS OF THEATRES AND MUSIC HALLS.

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In accordance with the requirements of the Ministry of Health (Circular No. 120), an inspection of the Sanitary conditions of the Theatres, Music Halls and places of public entertainment, has been made, and found satisfactory.

### SANITARY CONDITIONS OF ELEMENTARY SCHOOLS.

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The whole of the Sanitary accommodation of the Elementary Schools in this Area has been inspected and recommendations for improvement made to the Education Committee (*for particulars see the School Medical Inspection Report, 1925*).

There is close co-ordination between the Sanitary Department and the School Medical Inspection Departments in respect to infectious diseases.



**Houses-Let-in-Lodgings: —**

Number of Keepers .. .. .	81
Number of Houses .. .. .	91
Number of Rooms for Sleeping .. .. .	402
Number of Separate Families .. .. .	151
Number of Inspections .. .. .	290
Number of Notices to Limewash .. .. .	118
Number of Applications to register .. .. .	23

**Common Lodging Houses:—**

Number of Keepers .. .. .	11
Number of Houses .. .. .	16
Number of Inspections .. .. .	324
Number of Lodgers accommodated Nightly .. .. .	812
Number of Notices to Limewash .. .. .	32
Number Closed or Discontinued .. .. .	1

**Slaughterhouses:—**

December, 1920		January, 1925		December, 1925	
Registered	Licensed	Registered	Licensed	Registered	Licensed
39	3	37	2	37	2

Number of Notifications of Change of Occupier ..	Nil.
Number of Inspections .. .. .	6,107
Number of Notices to Limewash .. .. .	60
Number of Notices to provide a Refuse Receptacle ..	10
Public Slaughterhouse .. .. .	1

Owing to a tendency to flooding at high water, considerable improvements have been made at the Public Slaughterhouse. The whole of the site has been raised three feet. The old buildings that were used for tripe boiling and gut scraping were taken down and more satisfactory buildings provided.

It is very satisfactory to have the whole of the tripe boiling and gut scraping businesses except one, carried on at the Public Slaughterhouses.

**Offensive Trades:—**

Number on Register .. .. .	153
Number of Fish Shops .. .. .	130
Number of Tripe Boilers .. .. .	10
Number of Tallow Melters .. .. .	2
Number of Tallow Chandlers .. .. .	1
Number of Gut Scrapers .. .. .	3
Number of Fat Renderers .. .. .	2
Number of Bone Steamers .. .. .	1
Number of Glue Makers .. .. .	1
Number of Fellmongers .. .. .	1
Number of Lubricant Makers .. .. .	2
Number of Inspections .. .. .	220
Number of Notices to Limewash .. .. .	21
Number Closed or Dis-continued .. .. .	Nil

**Fried Fish Shops:—**

These businesses came within the provision of Section 112 of the Public Health Act, 1875, as amended by Section 51 of the Amendment Act of 1907, as an Offensive Trade in July, 1922. Upwards of 90 per cent of the 130 businesses which are now in operation have been re-modelled, new ranges have been provided, which are more satisfactory from an effluvia nuisance standpoint, and generally the whole are now carried on in a satisfactory manner.

**Ice Cream Dealers:—**

The Middlesbrough Corporation Act of 1910, Sections 38 and 39, give the Corporation power to govern the manufacture of Ice-Cream.

Formerly back yard manufacture predominated, but this insanitary method of preparing food has been done away with altogether. Separate and special buildings are now provided for the manufacture of ice-cream.

There are 52 persons on the Register manufacturing Ice-Cream and 62 persons are selling Ice-Cream.

The premises generally were found to be in a clean and satisfactory condition.



**Cow Sheds :—**

Number of Cowsheds within the Borough	..	..	4
Number Dis-continued since January, 1925	..	..	Nil
Number of Registered Cowkeepers	..	..	4
Number of Cows kept in Town	..	..	49
Number of Inspections	..	..	12
Number of Notices to Limewash	..	..	2

**Dairies and Milkshops:—**

Number of Inspections	..	..	..	207
Number on Register	..	..	..	140
Number dis-continued since January, 1925	..	..	..	10
Number Registered during the Year	..	..	..	7
Number of Notices requesting Purveyors to Register				3

There are altogether 140 persons Registered as Purveyors of Milk within the Borough.

### **MILK AND DAIRIES (AMENDMENT) ACT, 1922.**

Representation was made to the Sanitary Committee in June, 1923, under the above Regulations, prohibiting the sale of Milk in bulk from general shops which sold any of the following 10 articles :—Paraffin, Coal, Patent Firelighters, Fish (including shell fish, kippers, etc.), Yeast, Vinegar, Vegetables (root crops), Rabbits, Uncooked Meats, Clothing. In consequence, 31 small general shopkeepers, who were combining the (general) sale of the prohibited articles with Milk in bulk, ceased to sell Milk and were struck off the Register. Erection of Dairies specifications were prepared as to the materials to be used, lighting, ventilation, etc.

One Registered Milk Seller was struck off the Register owing to the dirty condition of his premises and utensils. Considerable alterations were carried out by him—a new dairy was built; pan closet abolished and water closet substituted, and the premises re-drained on modern lines. When the work was completed, application was granted and the business has been carried on in a most satisfactory manner since.

### **MILK AND DAIRIES (AMENDMENT) ACT, 1922. SPECIAL DESIGNATION.**

Only one Certificate has been granted for the sale of Grade "A" Milk within the Borough.

The Farm where the Milk is produced is situated within two miles of the Borough boundary and periodical samples are taken to ascertain if the Regulations are being strictly adhered to.

One Dealer was registered until 1925 for the sale of Grade "A" Tuberculin tested, but with the advent of Grade "A" Milk on to the market, his supplies became so small that he dis-continued his sales altogether in October, 1925.

### ADMINISTRATION OF THE FACTORY AND WORKSHOPS ACT, 1901.

There are 347 Workshops on the Register, including :—

Workshop Bakehouses	..	..	53	Tinsmiths	..	..	..	4
Factory Bakehouses	..	..	23	Watch Repairing	..	..	..	7
Boot and Shoe Repairing	..	..	37	Cabinet Making	..	..	..	14
Dressmaking	..	..	31	Laundries	..	..	..	4
Millinery	..	..	20	Cycle Making and Repairing	..	..	..	8
Tailoring	..	..	34	Workplaces	..	..	..	18
Joinery	..	..	38	Blacksmiths	..	..	..	6
Plumbing	..	..	12	Miscellaneous	..	..	..	35
Saddlery	..	..	3					

On the whole, the Workshops, Retail Bakehouses, etc., were found to be in a satisfactory condition, and no Legal Proceedings were instituted.

Full details of the Workshops and Inspections have been placed on record in accordance with the Act.

The following is the summary of the work carried out during the Year :—

#### Notices received from His Majesty's Inspector of Factories:—

Re-occupation of Workshops	..	..	..	..	21
Unsuitable Sanitary Accommodation	..	..	..	..	4
Dirty Workshops	..	..	..	..	4

#### Factories:—

Number Inspected	..	..	..	..	144
Number of Inspections	..	..	..	..	565

#### Workshops and Domestic Workshops:—

Number Inspected	..	..	..	..	347
Number of Inspections	..	..	..	..	1338



**Notices Served under the Public Health Acts:—**

To cleanse and Limewash .. .. .	9
To provide means of Ventilation, Sec. VII .. .. .	1
Re Wet Floors, Sec. VIII .. .. .	Nil
Sanitary Defects .. .. .	14
To provide Refuse Receptacle .. .. .	1
Overcrowding .. .. .	Nil

**Bakehouses, 76 in Number, including 23 Factory Bakehouses:—**

Number Inspected .. .. .	76
Number of Inspections .. .. .	234
Notices served to Limewash .. .. .	1

**Factory Bakehouses:—**

Number of Inspections .. .. .	117
Unsuitable Premises .. .. .	Nil

**Sanitary Conveniences in Workshops:—**

Closets Insufficient, Unsuitable or Defective ..	13
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**Home Work (Section 107 to 115):—**

27 Lists of Out-workers (or home workers) were received in the first half of the year and 27 for the second half.

Number of Lists of Outworkers received .. .. .	54
Number of Employers .. .. .	27
Number of Employed in Furniture and Upholstery Work	Nil
Number of Outworkers premises Inspected .. .. .	56

**Workplaces (Restaurant Kitchens, etc.):—**

Number on Register .. .. .	41
Number Inspected .. .. .	41
Number of Inspections .. .. .	63

## INSPECTION AND SUPERVISION OF FOOD.

### MILK:—BACTERIOLOGICAL EXAMINATION OF MILK.

During the Year 156, samples were procured and submitted for Bacteriological Examination, as compared with 140 samples in 1924 and 48 samples in 1923.

In 1923, 23 or 47% of the samples submitted were clean on first examination. Further samples were taken, after letters of warning had been sent to the Farmers concerned, with gratifying results. Twenty-eight samples were examined for Tubercular Bacilli, all being returned "Negative."

In 1924, 63 samples or 45% were free from B. Coli ; 32 or 23% contained B. Coli in 1/100th c.c. only ; 45 or 32% were dirty samples.

Letters of warning, together with suggestions on "How to Produce Clean Milk," are sent to all Farmers whose Milk is dirty. Letters notifying Farmers who are producing clean Milk are also sent.

Where the Milk is dirty on second test, the Medical Officer of Health is notified. This was done in 4 cases. Five Farmers who were notified that their Milk was dirty withdrew their supplies altogether.

73 samples were examined for Tubercle Bacilli, all were returned "Negative."

In 1925, 125 or 80% were clean on first test ; 28 were clean on second test ; 2 Farmers withdrew their supplies.

90 samples were examined for Tubercle Bacilli which were found to be present in two. One was from the Milk of the whole herd and the other from the suspected cow. This Cow was found to have a T. B. Udder and was slaughtered.

Year	Number of Taken Samples	Number of Samples containing Tubercular and Coliform Bacilli		Number of Cases reported to Medical Officer of Health of District	Number of Supplies withdrawn	Outstanding
		First Test	Second Test			
1923	48	25	Nil	..	..	..
1924	140	77	9	4	5	..
1925	156	28	Nil	..	2	1



## ADMINISTRATIVE ACTION REGARDING SAMPLES NOT REPORTED "GENUINE."

No.	Nature of Sample and Result of Analysis	Remarks.
Unofficial Samples.		
45. Milk.	5% Deficient in Fats.	Sample No. 52 is the Analysis of 2 Pints of first drawn Milk. The Farmer withdrew 2 pints of first drawn Milk from each cow. Further samples were procured, and were "Genuine."
51. Milk.	6.6% Deficient in Fats.	
52. Milk.	55.0% Deficient in Fats.	
Farm visited and "Appeal to Cow" sample procured, which were "Genuine," but of poor quality, owing to poor condition of cows. The N.S.P.C.A. were notified. The Milk supply was withdrawn until the cows were in better condition. Bacteriological samples for T. Bacilli were also taken. The result was "Negative."		
58. Milk.	13.3% Deficient in Fats.	
70. Milk.	2.2% Added Water.	
71. Milk.	6.1% Added Water.	
95. Milk.	6.6% Deficient in Fats.	Further samples were taken which were "Genuine." Warning was given to the Vendor.
96. Milk.	20.0% Deficient in Fats.	"Appeal to Cow" samples 104, and 105.
104. Milk.	5.0% Deficient in Fats.	
105. Milk.	8.3% Deficient in Fats.	
108. Milk.	40% Deficient in Fats.	Unofficial.
123. Milk.	16.6% Deficient in Fats. (Sample 123 "Official" taken 5 days later).	Official Sample taken 3 days later, returned "Genuine." Summary Proceedings were instituted, but the case was dismissed—"York versus Richardson" defence.

No.	Nature of Sample and Result of Analysis.		Remarks.
116.	Milk.	15.0% Deficient in Fats.	See No. 124.
120.	Milk.	5.0% Deficient in Fats. 2.4% Added Water.	The Vendor was warned.
124.	Milk.	15.6% Deficient in Fats.	Summary Proceedings taken. Case dismissed. (See No. 108, 123).
193.	Milk.	46.6% Deficient in Fats. 38.3% Added Water.	Unofficial.
195.	Milk.	24.3% Deficient in Fats. 26.2% Added Water.	
			Official. "Appeal to Cow" sample was procured. Summary Proceedings were taken. Fined £10 0 0 and Costs.

**REPORT OF ADMINISTRATION IN CONNECTION WITH THE PUBLIC HEALTH  
(MILK AND CREAM) REGULATIONS OF 1912, DURING THE YEAR ENDED,  
DECEMBER, 31st, 1925.**

**1. Milk and Cream Not Sold as Preserved Cream :—**

				Number of Samples examined for the presence of Preservative	Number in which a Preservative was reported to be present and percentage of preservative found in each Sample.
				—	—
Milk	..	..	..	92	Nil
Cream	..	..	..	5	Nil

**Cream Sold as Preserved Cream :—**

(a) Instances in which samples have been submitted for analysis to ascertain if the statement on the label as to preservative were correct :—

(1) Correct Statements made	..	..	14
(2) Statements Incorrect	..	..	Nil



(b) Determinations made of Milk Fat in Cream sold as Preserved Cream :—

(1) Above 35 %	..	..	..	..	14
(2) Below 35 %	..	..	..	..	Nil
					<hr/>
					14

**Preservatives :—**

All Samples of Milk and Butter and any Article likely to contain Preservatives are examined for the same.

**Informal or Test Samples :—**

It will be seen from the tabular Statement that 59 Informal and 169 Formal Samples were taken during the Year, all of which were submitted to the Public Analysts for Analysis.

Informal Samples are in all cases purchased by an agent, and if they are found to be adulterated, formal samples are obtained, with a view to summary proceedings being taken. It has been found that the obtaining of informal samples, is, on the whole, a very convenient method of estimating whether vendors are supplying genuine articles and causes no inconvenience to the shopkeepers, as when the samples are obtained formally, the latter involves explanation as to why the sample has been purchased, the subsequent division of the sample into three parts and the sealing up of the same, which all take up a considerable time.

**MEAT :— INSPECTION OF MEAT AND OTHER FOOD.**

The Public Health (Meat) Regulations 1924, which came into operation on the 1st April, 1925, makes it compulsory for all Butchers to give 3 hours notice of intended slaughter of all animals intended for human consumption.

6,107 visits of inspection have been made to the slaughterhouses.

Postcards suitably printed, were supplied to the Butchers and a receipt given when oral notification is made. It has not been necessary to give any warning during the year so ably have the Butchers co-operated in working the Regulations.

Below is a list of the foodstuffs that were found to be unsound and unfit for human consumption. All were surrendered and destroyed.

				Weight Stones					Weight Stones
Beasts	..	..	49 Whole	1,982	Offal	..	..	..	85½
Sheep	..	..	3 Carcases	14½	Potatoes	..	..	..	824
Calves	..	..	3 „	8½	Coco-Nuts	..	..	2,940	
Pigs	..	..	30 „	326	Bananas	..	..	12 crates	
Beef	..	..	..	403	Chestnuts	..	..	8 bags	60
Pork	..	..	..	22½	Milk (Tinned)..	..	..	1 tin	
Veal	..	..	..	31	Poultry	..	..	..	2
Bacon	..	..	..	1	Brussell Sprouts	..	..	..	45
Fish	..	..	..	17	Corned Beef	..	..	13 tins	
Rabbits and Hares	..	..	..	21					

The total weight of Butchers' Meat and other Foodstuffs surrendered and seized during the Year amounted to 3,843 stones, as compared with 6,338½ stones (including 5,080 stones of potatoes) in 1924, and 1,549 stones in 1923.

Of the 2,788 stones of Butchers' Meat condemned, 2,358 stones was affected with Tuberculosis.

#### PARTICULARS OF SURRENDERS AND SEIZURES OF UNSOUND ANIMALS AND MEAT.

Number of Voluntary Surrenders of diseased carcasses, or part carcasses, or internal organs, by butchers, to the Chief Sanitary Inspector			Number of Seizures (with subsequent destruction) of diseased carcasses or part carcasses or internal organs by the Chief Sanitary Inspector		
Year	Tuberculosis	All other diseases and conditions	Tuberculosis	All other diseases and conditions	Total
1925	124	109	1	1	235



**Number and Classes of Animals affected with Tuberculosis :—**

	Bullocks	Cows	Heifers	Calves	Pigs
Whole Carcases and Organs ..	3	36	9	1	27
Part Carcases and Organs ..	8	14	2	..	13
Organs only .. .. .	5	2	1	..	4

**Number and Classes of Animals affected with disease or conditions other than Tuberculosis :—**

	Number of Animals	Whole Carcases & Organs Affected	Part Carcases & Organs Affected	Organs only Affected
Bullocks .. .. .	11	..	3	8
Heifers .. .. .	5	..	1	4
Cows .. .. .	8	..	2	6
Pigs .. .. .	5	3	..	2
Sheep .. .. .	70	3	39	28
Calves .. .. .	11	9	1	1
Totals .. .. .	110	15	46	49

**THE PUBLIC HEALTH (MEAT) REGULATIONS, 1924.****TUBERCULOSIS ORDER OF 1925.**

The above mentioned legislation came into operation during year ; the Public' Health (Meat) Regulations on April 1st., and the Tuberculosis Order on September 1st.

The first named deals with the slaughtering, handling, storing, etc., of all the " Meat" which means flesh of cattle, swine, sheep, goats, bacon, ham, and all edible fats : and the Tuberculosis Order relates to Tubercular affected cattle on farms.

In the case of Meat condemned within the Borough affected with Tuberculosis, the Clerk of the Authority from which the animal came is notified.

Seventeen such notifications were sent out during the Year.

**THE MARGARINE ACT, 1887, AND THE SALE OF FOOD AND DRUGS ACT, 1899.**

Number of Manufacturers .. .. .	Nil
Number of Wholesale Dealers .. .. .	28
Number of Premises Registered .. .. .	28

### BUTTER AND MARGARINE ACT, 1907.

There are 3 Butter making Factories in the Town. Regular Butter making is not carried on, and only when Milk is surplus at these Dairies is Butter manufactured.

### FOOD AND DRUGS ACT.

Sample	Number Taken	Number Genuine	Number Adulter'd	Result of Analysis	Official	Un-official
Milk .. ..	92	75	17	....	45	47
Condensed Milk ..	4	4	..	....	..	4
Fresh Cream ..	5	5	..	....	..	5
Preserved Cream ..	14	14	..	....	2	12
Butter .. ..	4	4	..	....	1	3
Margarine ..	4	4	..	3.—Boric Acid : 19.26 grains per lb. 17.20 do. 8.15 do.	..	4
Brawn .. ..	3	3	..	2.—Boric Acid, 12.2 grs. per lb. Glass Splinters, 1/50th to 1/100th inch.	..	3
Salmon & Anchovy Paste .. ..	1	1	..	....	..	1
Shrimp Paste ..	1	1	..	1.—Glass Splinters, 1/100th to 1/20th inch.	..	1
Turkey and Tongue ..	1	1	..	1.—Glass Splinters, 1/100th to 1/50th inch	..	1
Ham and Tongue ..	1	1	..	....	..	1
Potted Tongue ..	1	1	..	....	..	1
Prawns .. ..	5	5	..	3.—Boric Acid : 102.00 grains per lb. 102.00 do. 64.90 do.	4	1
Sausage .. ..	1	1	..	....	..	1
Jam .. ..	26	26	..	4.—Glass Splinters, particles ranging in size from 1/100th to 3/16th inch. 7.—Enamel, Particles ranging in size from 1/80th to 1/14th inch 2 —Glass and Enamel, Particles ranging in size from 1/100th to 1/50th inch. 1.—Sand, 0.81 grains per lb. 3.—Glass Splinters, Particles ranging in size from 1/60th to 1/33rd inch.	..	26
Lemon Curd .. ..	8	8	..	..	..	8



Sample	No. Taken	No. Genuine	No. Adulterated	Result of Analysis	Official	Unofficial
Marmalade .. ..	5	5	..	2.—Glass Splinters, Particles ranging in size from 1/200th to 1/50th inch. 2.—Enamel, Particles ranging in size from 1/150th to 1/50th	..	5
Golden Syrup .. ..	1	1	..	.....	..	1
Baking Powder .. ..	2	2	..	.....	..	2
Pepper .. ..	1	1	..	.....	..	1
Mustard .. ..	1	1	..	.....	..	1
Gregory Powder .. ..	1	1	..	.....	..	1
Coffee .. ..	1	1	..	.....	..	1
Tea .. ..	5	5	..	2.—Contains minute flakes of Iron	..	5
Sugar .. ..	4	4	..	1.—Contains 0.1% Sawdust	..	4
Lard .. ..	1	1	..	.....	..	1
Cream Cheese .. ..	3	3	..	.....	..	3
Cheese .. ..	1	1	..	.....	..	1
Lemon Cheese .. ..	1	1	..	Consists of a mixture of Sugar, Glucose, Margarine, Starch, Citric Acid, Water, Flavouring, etc., and a small quantity of egg substance, with a possible addition of a gum	..	1
Beef Suet .. ..	1	1	..	.....	.. ..	1
Milk Food .. ..	2	2	..	.....	..	2
Ground Ginger .. ..	1	1	..	.....	..	1
Sponge Cake .. ..	6	6	..	.....	..	6
Mineral Waters .. ..	2	2	..	2.—Contains from 0.10 to 0.16 grains per gallon (Glass Splinters)	..	2
Raspberry Wine .. ..	1	1	..	.....	..	1
Whisky .. ..	6	5	1	.....	5	1
Rum .. ..	1	1	..	.....	1	..
Gin .. ..	1	1	..	.....	1	..
Bottled Gooseberries .. ..	1	1	..	1.—Glass Splinters, Particles from 1/200th to 1/100th inch	..	1
Apples .. ..	8	8	..	8.—Arsenic, from 1/100th to 1/25th of a grain per lb.	..	8
TOTAL .. ..	228	210	18	46	59	169

## MAGISTERIAL PROCEEDINGS, 1925.

No. of Case	Complaint	Result
1	Selling Prawns containing 102 grains Boric Acid per pound	Fined £5 and costs
2	Selling Prawns containing 102 grains Boric Acid per pound	Fined £5 and costs
3	Failing to notify cases of Smallpox in their homes	Fined 20/-
4		Fined 40/-
5		Fined 40/-
6		Fined 20/-
7		Dismissed
8		Fined 20/-
9	Smallpox contact : failing to submit to isolation	Fined £5
10	Exposure whilst suffering from Smallpox	Case Dismissed
11	Selling Milk below the standard	Case dismissed
12		Case withdrawn
13	Failing to comply with Notice for the provision of a cylindrical dustbin	Work completed when case was heard. Summons withdrawn on payment of Costs
14	Failing to execute various necessary repairs	Court Order granted for this work to be done
15	Failing to clean premises as required by the Bye-Laws, and allowing verminous couch to remain on premises	Costs allowed and order for the work to be done within 14 days



16	Opening drains without first giving Notice to responsible Official	Costs granted and ordered to comply with the Bye-Law in future
17	Exposing unsound meat for sale	Case dismissed upon payment of costs
18	Selling adulterated Milk (allowing rainwater to gain access)	Fined £10 and costs

T. P. DIXON,  
Chief Sanitary Inspector.

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### APPLES.

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Eight samples were submitted for analysis to ascertain the presence of Arsenic (Arsenious Oxide). All were found to be so contaminated from one hundredth of a grain to one-twenty-fifth of a grain per pound.

“Jonathans” were the brand chiefly affected. The Wholesale Fruiterers in the Town were visited and the stocks withdrawn from sale.

### GLASS IN JAMS, MARMALADE AND OTHER FOODS PACKED IN GLASS CONTAINERS.

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Fifty-eight samples were submitted for analysis. Sixteen contained splinters of glass varying in size from one-twenty fifth of an inch to one-two hundredth of an inch.

Two samples contained glass and enamel splinters varying from one fiftieth of an inch to one hundredth of an inch.

Seven contained enamel splinters varying from one fourteenth of an inch to one eightieth of an inch (these samples were packed in stoneware jars).

Two samples of Mineral waters were submitted and found to contain particles of glass equal to 0.16 grains per gallon.

### SHELL FISH.

During the years 1924 and 1925, several suspicious cases of Typhoid and Paratyphoid Fever were reported in the district. These were attributed to the eating of Shell Fish gathered from the banks of the River Tees. Samples of Mussels, Cockles and Periwinkles were collected from the river banks, and also obtained from shops and submitted to Bacteriological examination. The reports showed contamination with B. Coli to a dangerous extent, and an order for the prohibition of selling shell fish, gathered from the River Banks, for human consumption, has been applied for.

### FOOD POISONING.

Several cases of Gastro-Enteritis following the eating of either tinned or fresh cooked meats have been dealt with during the past two or three years. Samples of the suspected meats have been sent to the Government Laboratory for examination, and the reports have shewn that no specific living organism was found and that the source of poisoning was due to toxins. All the persons affected recovered.

### PREVALENCE AND CONTROL OVER INFECTIOUS DISEASES.

During the year 1925, there were 5,798 cases of Infectious Diseases notified.

The mean death rates from the chief Zymotic Diseases during the past five quinquennial periods being :—

1901-1905	..	3.2	per 1,000 population
1906-1910	..	3.0	„
1911-1915	..	2.8	„
1916-1920	..	1.7	„
1921-1925	..	0.9	„

For the year 1925, the rate was 0.7.

The death rates per 1,000 population in the County Boroughs and great Towns from certain diseases for 1925 were as follows :—

	Enteric Fever	Smallpox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza
105 County Boroughs and Great Towns ..	0.01	0.00	0.13	0.03	0.15	0.07	0.32
MIDDLESBROUGH ..	0.00	0.00	0.39	0.03	0.14	0.09	0.28



## ZYMOTIC DISEASES

DISEASE	1921				1922			
	No. of Cases	Deaths	Rate per 1,000 pop.		No. of Cases	Deaths	Rate per 1,000 pop.	
			Mort.	Attack			Mort.	Attack
Smallpox .. .. .	42	..	..	0.30	253	..	..	1.89
Enteric and Continued Fevers ..	3	1	0.01	0.02	4	..	..	0.08
Measles .. .. .	1,326	48	0.36	9.94	253	9	0.07	1.89
Scarlet Fever .. .. .	135	..	..	1.01	305	4	0.03	2.28
Diphtheria and Croup .. ..	134	10	0.07	1.00	82	12	0.09	0.61
Diarrhoea and Enteritis .. ..	..	121	0.91	..	..	53	0.39	..
Whooping Cough .. ..	..	13	0.09	..	..	35	0.26	..
Chickenpox .. .. .	46	..	..	0.34	621	..	..	4.65

## Attack and Mortality Rates per 1,000 population in the Wards

INFECTIOUS DISEASE	Ayresome		Acklam		Cannon		Cleveland		Exchanges	
	Attack	Mort.	Attack	Mort.	Attack	Mort.	Attack	Mort.	Attack	Mort.
Scarlet Fever ..	4.30	..	3.8	..	2.1	0.16	3.2	0.08	1.9	..
Diphtheria .. ..	0.67	0.06	0.55	0.09	0.24	0.16	0.58	0.08	0.56	..
Measles .. .. .	11.4	0.13	14.7	0.09	19.2	0.64	22.9	0.08	15.1	0.1
Chickenpox .. ..	6.0	..	6.6	..	6.4	..	6.7	..	3.0	..
Smallpox .. .. .	4.5	..	5.1	..	4.6	..	7.0	..	3.2	..

1921 to 1925.

No. of Cases	1923			1924				1925			
	Deaths	Rate per 1,000 pop.		No. of Cases	Deaths	Rate per 1,000 pop.		No. of Cases	Deaths	Rate per 1,000 pop.	
		Mort.	Attack			Mort.	Attack			Mort.	Attack
06	..	..	0.78	471	2	0.01	3.46	901	..	..	6.64
4	..	..	0.03	5	..	..	0.04	2	..	..	0.01
93	78	0.57	27.27	2,005	25	0.19	14.74	2,636	53	0.39	19.35
57	18	0.13	8.55	710	15	0.11	5.22	432	5	0.03	3.17
80	10	0.07	0.59	94	9	0.07	0.69	80	13	0.09	0.58
.	53	0.39	..	..	57	0.42	..	..	39	0.28	..
.	..	..	..	..	76	0.55	..	..	19	0.14	..
01	..	..	5.17	955	..	..	7.03	744	1	0.01	5.46

from certain Infectious Diseases during the year 1925.

Grove Hill		Linthorpe		Newport		Ormesby		St. Hilda's		Vulcan	
Attack	Mort.	Attack	Mort.	Attack	Mort.	Attack	Mort.	Attack	Mort.	Attack	Mort.
1.9	..	3.5	0.08	3.6	..	3.7	..	2.2	..	3.7	0.08
1.88	..	0.57	0.16	0.60	0.15	0.76	..	0.45	0.15	0.48	0.16
1.6	0.07	13.7	..	40.0	1.8	32.8	0.30	15.5	0.68	14.2	0.16
6.6	..	6.5	..	10.1	..	2.1	0.07	2.7	..	2.1	..
5.1	..	3.2	..	11.4	..	16.0	..	4.6	..	6.7	..



## NOTIFIABLE DISEASES (other than Tuberculosis) during the Year, 1925.

DISEASE	Total Cases Notified	Cases Admitted to Hospital	TOTAL DEATHS													
			At Ages													
			Under 1 Year	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	Over 65 Years	Total Deaths	
Smallpox .. ..	901	891	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Scarlet Fever .. ..	432	404	..	1	1	..	1	2	..	..	..	..	..	..	..	13
Diphtheria .. ..	80	68	..	3	2	5	..	3	..	..	..	..	..	..	..	..
Enteric Fever (including Paratyphoid) .. ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever .. ..	9	..	..	..	..	..	..	..	..	..	2	1	..	..	..	3
Pneumonia .. ..	294	1	66	59	25	15	5	13	5	4	28	25	50	38	..	333
Other diseases generally notifiable :																
Erysipelas .. ..	75	..	..	1	..	..	..	..	..	..	1	1	2	..	..	5
Ophthalmia Neonatorum .. ..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis .. ..	2	..	..	..	1	..	1	..	..	..	..	..	..	..	..	2
Cerebro Spinal Fever .. ..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Encephalitis Lethargica .. ..	4	..	..	..	..	..	..	1	..	2	..	..	..	..	..	3
Dysentery .. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other diseases notifiable locally :																
Measles .. ..	2,636	3	11	22	11	4	3	2	..	..	..	..	..	..	..	53
Chickenpox .. ..	744	2	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Total .. ..	5,193	1,369	78	87	39	25	10	21	5	6	31	27	52	38	..	419

**Notifications of Infectious Disease, 1921 to 1925.**

INFECTIOUS DISEASE	1921	1922	1923	1924	1925
Diphtheria .. .. .	134	82	80	94	80
Erysipelas .. .. .	36	40	94	77	75
Scarlet Fever .. .. .	135	305	1,157	710	432
Enteric Fever .. .. .					
Continued Fever .. .. .	3	4	4	5	2
Puerperal Fever .. .. .	6	6	2	6	9
Smallpox .. .. .	41	249	106	472	901
Ophthalmia Neonatorum .. .. .	47	20	13	12	12
Malaria .. .. .	2	4	1	1	....
Pneumonia, Primary .. .. .	185	223	256	318	
Pneumonia, Influenzal .. .. .	7	34	....	....	294
Measles .. .. .	1,326	253	3,693	2,005	2,636
Chickenpox .. .. .	46	621	701	955	744
Tuberculosis, Pulmonary .. .. .	322	266	348	420	413
Tuberculosis, Other forms .. .. .	92	120	151	154	192
Eucephalitis Lethargica .. .. .	1	....	1	7	4
Cerebrospinal Fever .. .. .	....	....	1	1	1
Dysentery .. .. .	....	....	....	2	1
Poliomyelitis .. .. .	....	....	....	....	2
Total .. .. .	2,373	2,231	6,607	5,239	5,798

It will be noted that there were epidemics of Diphtheria in 1921 ; Scarlet Fever in 1923 and 1924 ; Measles was very prevalent all the period ; Chickenpox in 1922, 1924 and 1925 ; Smallpox was very prevalent in 1924 and 1925.

Of the ordinary infectious diseases which attack children, such as Scarlet Fever, Diphtheria, Whooping Cough, Chickenpox and Measles, it was found that in no particular district were they more prevalent than in another.

The usual sources of spreading infection are the Schools, Cinemas and entertainments where children congregate. There is still a lack of responsibility and exposure of infected children in public, respecting such diseases as Measles, Whooping Cough and Chickenpox is frequent.

Ninety-three per cent. of all cases of Scarlet Fever notified are removed to the Isolation Hospital and eighty-five per cent. of all cases of Diphtheria.

During the past few years cases of mixed infectious disease have been much more frequent.



Diphtheria anti-toxin is supplied free of charge to all Medical Practitioners ; during the year 1925, 126 tubes of serum were issued.

During the past year there were no return cases of Scarlet Fever.

All houses where cases of Infectious Diseases have been notified are visited and inquiries made in order to trace the infection and ascertain the contacts. During the year 1925, 2,514 houses were visited and 13,593 re-visits made. In the case of children the rules of the Board of Education respecting contacts and exclusion from school are carried out and there is close co-operation in such matters between the Health Department, the School Attendance Officers, and the School Nurses. The school teachers also give very valuable help and assistance.

All infected bedding and clothing is removed from infected houses and disinfected by steam. The houses are disinfected with Formalin sprays and sulphur dioxide gas.

The Schick and Dick tests in Diphtheria and Scarlet Fever have not been made use of.

Other Diseases, including :—

Encephalitis Lethargica  
Cerebro Spinal Fever  
Dysentery  
Poliomyelitis  
Malaria

These diseases have not been prevalent, only 29 cases having been reported during the past five years and of these, thirteen were cases of Encephalitis. Of these 13 cases, ten were fatal, one case has developed nerve degeneration.

### Smallpox.

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A mild type of this disease has been present in Middlesbrough during the past five years, the number of cases increased year by year and during 1925 it was prevalent throughout the whole of the town.

Owing to the fact that many of the cases were of a very mild type, those attacked not being sufficiently ill to necessitate their being laid up, great difficulty has been experienced in dealing with the outbreak. During the five years there have been 1,769 cases and two deaths. These were deaths of children under two years of age who were suffering from other illnesses at the time they contracted Smallpox.

The age and vaccinated state of those attacked was as follows :—

YEAR	VACCINAL CONDITION	SEX	AGES OF ATTACKED										TOTAL CASES
			Under 1 year	1-5	2-3	3-4	4-5	5-10	10-15	15-25	25-45	45-55	55-65
1921	Vaccinated	Male	..	..	..	..	..	..	..	..	1	2	3
	Unvaccinated	Female	..	..	..	..	..	..	..	..	2	..	2
		Male	..	..	1	1	..	4	5	5	..	..	16
		Female	..	..	1	..	1	5	7	4	1	..	19
1922	Vaccinated	Male	..	..	..	..	..	..	..	..	3	2	5
	Unvaccinated	Female	..	..	2	1	1	9	12	9	1	..	35
		Male	..	..	2	1	1	9	12	9	4	2	40
	Total	Female	..	..	2	1	1	9	12	9	4	2	40
1923	Vaccinated	Male	..	..	..	..	..	..	..	..	4	16	36
	Unvaccinated	Female	..	..	..	..	..	..	..	..	4	13	36
		Male	2	..	1	6	2	22	21	15	2	3	74
		Female	2	3	3	4	2	33	23	17	7	3	98
1924	Vaccinated	Male	..	..	..	..	..	1	1	6	35	29	72
	Unvaccinated	Female	4	3	4	10	4	55	44	35	9	6	172
		Male	4	3	4	10	4	56	45	38	44	35	244
	Total	Female	4	3	4	10	4	56	45	38	44	35	244
1925	Vaccinated	Male	..	..	..	..	..	..	1	1	5	6	13
	Unvaccinated	Female	..	..	..	..	..	..	..	..	6	5	12
		Male	..	1	1	2	5	16	8	8	2	..	40
		Female	3	1	..	1	2	8	17	2	6	1	41
1926	Vaccinated	Male	..	..	..	..	..	..	1	2	11	11	25
	Unvaccinated	Female	3	2	1	3	4	24	25	10	8	1	81
		Male	3	2	1	3	4	24	25	10	8	1	81
	Total	Female	3	3	1	3	4	24	26	12	19	12	106
1927	Vaccinated	Male	..	..	..	..	..	..	..	3	17	13	41
	Unvaccinated	Female	..	..	..	..	..	..	2	3	12	11	33
		Male	6	1	4	3	15	62	85	27	4	1	208
		Female	1	4	4	4	9	86	61	23	5	..	197
1928	Vaccinated	Male	..	..	..	..	..	..	2	6	29	24	74
	Unvaccinated	Female	7	5	8	7	24	148	146	50	9	1	405
		Male	7	5	8	7	24	148	148	56	38	25	479
	Total	Female	7	5	8	7	24	148	148	56	38	25	479
1929	Vaccinated	Male	..	..	..	..	..	1	6	9	39	21	97
	Unvaccinated	Female	..	..	..	..	..	..	2	5	21	13	46
		Male	6	4	8	8	15	106	134	58	12	5	364
		Female	7	5	8	5	18	102	151	69	26	2	394
1930	Vaccinated	Male	..	..	..	..	..	1	8	14	60	34	143
	Unvaccinated	Female	13	9	16	13	33	208	285	127	38	7	758
		Male	13	9	16	13	33	208	285	127	38	7	758
	Total	Female	13	9	16	13	33	209	293	141	98	41	901



### Vaccination Returns for the County Borough of Middlesbrough from 1905 to 1924.

Year	Births	Successfully Vaccinated	Died Un-Vaccinated	Insusceptible to Vaccination	Declarations of Conscientious Objection	Postponed and whereabouts unknown or removed to other Districts	Percentage successfully Vaccinated
1905	3,448	2,369	412	10	8	649	68.71
1906	3,615	2,398	483	4	12	718	66.33
1907	3,504	2,027	378	2	92	905	57.85
1908	3,757	1,940	449	14	469	885	51.64
1909	3,387	1,539	370	7	715	756	45.44
1910	3,463	1,414	366	8	906	769	40.83
1911	3,265	1,245	338	7	940	735	38.10
1912	3,414	1,259	317	3	1,026	709	36.88
1913	3,360	1,113	321	1	1,209	716	33.12
1914	3,547	1,160	456	9	1,209	713	32.70
1915	3,139	1,122	264	4	1,050	699	35.74
1916	3,060	1,068	241	8	1,154	589	34.90
1917	2,599	817	195	3	992	592	31.41
1918	2,870	805	244	..	1,114	707	28.05
1919	3,012	837	285	3	1,160	727	27.78
1920	3,872	1,175	405	14	1,489	789	30.34
1921	3,674	1,265	303	2	1,532	572	34.43
1922	3,405	1,188	221	4	1,507	658	34.89
1923	3,736	1,334	271	2	1,247	637	35.71
1924	3,611	1,637	303	11	1,228	432	45.33

Vaccinations performed under the Public Health (Smallpox Prevention) Regulations, 1917 :—

1925	Primary Vaccinations	3,601	Re-vaccinations	893
Total 1921-25	„	1,701	„	2,099

### OTHER DISEASES OF SPECIAL IMPORTANCE.

**Respiratory Diseases.**—These diseases are unusually prevalent and fatal in this area as compared with the rest of the country. Various reasons can be given for this undue prevalence and it is probable that it is due to a combination of one or more causes such as

1. The geographical situation and the geological formation of the site.
2. The character of the general employment on shore and afloat.

3. The presence of constant epidemics of Measles and Whooping Cough.
4. The air pollution by gases and grit given off by blast furnaces.

The old type of Pneumonia (Middlesbrough Pneumonia which was septic in type), was very prevalent and deadly twenty to thirty years ago and is now rarely or never seen ; the disease now follows the usual type of Broncho and Lobar Pneumonia.

**Cancer.**—This disease which has shown signs of increase throughout the country during the past few years, was slightly more fatal in this town during the years 1923-24. The mortality from Cancer and Malignant Disease in Middlesbrough is below that of the whole country.

The deaths per 1,000 inhabitants being :—

	Middlesbrough.	England and Wales.
1921	.92	1.21
1922	.91	1.22
1923	1.20	1.26
1924	1.12	1.29
1925	1.05	



Registered Deaths from Cancer and Malignant Disease.

Year	AT AGES.										WARDS.																														
	Under 1 year		1-5		5-15		15-25		25-45		45-65		Over 65		Total		Ay.		Ac.		C		Cl.		Ex.		GH.		L.		N.		O.		SH.		V.		NR.		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1921	..	..	..	..	..	..	1	2	7	12	33	30	18	20	59	64	5	7	5	5	3	7	9	6	2	5	2	3	3	5	2	6	5	7	10	5	4	4	9	4	123
1922	1	..	..	1	..	..	..	..	4	10	44	35	26	12	76	57	3	5	6	5	9	2	5	6	2	6	3	6	7	4	5	4	5	15	7	9	2	8	4	133	
1923	..	..	..	..	..	..	2	..	3	12	43	39	34	30	82	81	4	6	5	5	6	2	7	5	5	5	9	3	6	13	8	6	10	9	10	12	8	6	4	9	163
1924	..	..	..	..	..	..	2	1	11	7	48	43	19	22	80	73	5	6	4	3	4	8	10	11	10	4	3	8	4	3	7	7	4	9	14	2	5	3	10	9	153
1925	..	1	..	..	..	..	..	..	3	12	35	45	23	25	62	82	6	6	2	4	4	8	5	6	6	7	5	7	2	9	9	7	6	5	8	5	3	10	6	8	144

## CANCER—Localisation of Disease.

Localisation				1921		1922		1923		1924		1925		Totals		
				M	F	M	F	M	F	M	F	M	F	M	F	Total
Stomach	..	..	..	13	10	16	8	19	11	16	18	21	11	85	58	143
Liver	..	..	..	3	5	5	4	5	3	4	4	6	6	23	22	45
Uterus	..	..	..	..	15	..	15	..	26	..	17	..	19	..	92	92
Breast	..	..	..	..	9	..	10	..	9	..	11	..	12	..	51	51
Intestines, &c.	..	..	..	5	5	7	6	13	12	9	10	8	6	42	39	81
Throat	..	..	..	5	2	5	2	7	3	8	..	1	4	26	11	37
Neck	..	..	..	2	2	6	..	1	1	1	..	..	..	10	3	13
Pancreas	..	..	..	1	1	3	1	5	3	7	1	1	2	17	8	25
Rectum	..	..	..	7	3	6	4	8	2	9	1	2	5	32	15	47
Mouth	..	..	..	3	..	3	..	2	..	4	..	1	..	13	..	13
Face, Jaws, &c.	..	..	..	1	1	4	..	3	..	4	1	5	1	17	3	20
Tongue	..	..	..	4	1	5	..	5	..	4	..	7	1	25	2	27
Lung	..	..	..	2	..	3	..	1	..	2	1	2	2	10	3	13
Bladder	..	..	..	5	2	4	4	2	3	3	..	1	1	15	10	25
Prostate, &c.	..	..	..	2	..	7	..	..	..	2	..	1	..	12	..	12
Vulva	..	..	..	..	1	..	1	..	2	..	..	..	..	..	4	4
Kidney	..	..	..	1	1	1	..	..	..	2	..	..	1	4	2	6
Ovary	..	..	..	..	4	..	..	..	1	..	..	..	..	..	5	5
Peritoneum	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	2
Abdomen	..	..	..	..	..	..	..	1	1	..	..	..	1	1	2	3
Pylorus	..	..	..	..	..	..	..	4	..	..	1	1	1	5	2	7
Scrotum	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
Leg	..	..	..	..	..	..	..	..	..	1	1	1	1	2	2	4
Arm	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Head	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Eye	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	2
Fauces	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Ileum	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Pelvis	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Other forms	..	..	..	5	2	1	2	5	3	3	6	1	5	15	18	33
Total	..	..	..	59	64	76	57	82	81	80	73	62	82	355	356	711



## Report of the Tuberculosis Officer for the Year 1925.

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The number of persons in the County Borough of Middlesbrough who died from Tuberculosis during the year 1925 was 222. During the previous year, 239 died from the same cause in the Borough.

Of these 173 died from Tuberculosis of the lungs and 49 died from Tuberculosis of other parts of the body. This shows an increase of 10 over the non-pulmonary form and a decrease of 27 under the number of deaths from the pulmonary form, being a total decrease of 17 as compared with the year 1924. The death rate from all causes in the Borough also showed a corresponding decrease as compared with the death rate in 1924.

Although a decrease in Tuberculosis mortality has to be recorded, the figure does not indicate a satisfactory state of the health of the town considered from a stand-point of Tuberculosis, as the death rate from this cause, apart from the previous year, is the highest since 1918. During the years 1919 to 1923 inclusive, the death-rate from Tuberculosis has been lower than the death-rate of the present year.

Of all deaths occurring on the Borough more than 1 in 10 occurs from Tuberculosis-

### Incidence of Tuberculosis.

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During the year 1925 a total of 605 fresh cases of Tuberculosis were notified as occurring in the Borough. This shows a decrease of 7 in the category of pulmonary cases and an increase of 38 in the class of non-pulmonary cases.

### General Inferences as to Deaths and Incidences.

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There is thus comparatively, as far as can be roughly judged by figures, a stationary condition in the situation of the Tuberculosis problem of the Borough during the past year.

The greatest figure of decrease in deaths is in the group of males who died from Pulmonary Tuberculosis over 15 years of age, the figure for the females of this period and the period below being more or less approximately the same.

There has been an increase in the number of Female deaths from the non-pulmonary form of Tuberculosis at all ages.

### Residential Treatment.

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In West Lane Sanatorium 134 patients were treated during the year.

Of this number 86 were discharged as much improved, 20 as showing no material improvement. There were 10 deaths in West Lane Sanatorium during the year.

A certain proportion of those discharged as "much improved" might be considered cured, but the tendency to recurrence of this insidious disease compels a guarded use of the word cured in dealing with this type of disease. Only after 5 years of freedom from all active symptoms of Pulmonary Tuberculosis will the individual be recorded as a "cure" according to the recent limitation of the meaning of the word as wisely construed in the latest order of the Ministry of Health.

Although this institution is intended for the treatment of Pulmonary cases, of the 134 cases 11 were suffering from Non-pulmonary disease.

On account of the inadequate accommodation provided by the West Lane Sanatorium for an area with the population of the County Borough of Middlesbrough, a certain number of cases had to be sent to sanatoria in outside areas. The number so dealt with during the year in question was 8. The result of treatment outside the Borough confines was not superior, as far as can be judged, to the results obtained in West Lane.

Six beds were still retained in Broomlands for the treatment of Surgical Tuberculosis in children. There were thus treated 10 cases during the year. The total cost of treatment of children in Broomlands under the Public Authority is borne by the Corporation, without a grant to the extent of half the cost, as in the case of West Lane or other institutions approved by the Ministry of Health. The reason for such an anomaly is that the Broomlands Hospital is an institution under the control of the Guardians, and in spite of the efforts of the Corporation in the past to have it recognised for purposes of Exchequer Grant, the authority of the Ministry of Health has so far prevented it ranking as such.

From a recent precedent such as Bradford affords and from the proposed inclusion of the Boards of Guardians in the Local Authority fore-shadowed by coming legislation it is anticipated that this anomaly will shortly be removed.

### Voluntary Care Committee.

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The excellent work of this Committee has been carried on as during previous years. The Annual Report dealing with its efforts is published after May of each year. A perusal of this Report shows the manifold directions of its aims and achievements.



In accordance with the "Circular as to the Contents and Arrangements of the Annual Reports of Medical Officers of Health for 1925" the following report is made in order of numbered sequence:—

(1).—The Dispensary for the County Borough of Middlesbrough is at 79, Grange Road West, Middlesbrough. The staff consists of 1 Tuberculosis Medical Officer, 2 Dispensing Nurses, 2 Clerks.

The Secretary of the After Care Committee is Mr. Jas. Wandless, Clerk to the Middlesbrough Insurance Committee.

West Lane Sanatorium of 30 beds is an annexe of the Fever Hospital, and is in charge of a Resident Physician, with Matron, Staff Nurses, and 4 Probationer Nurses. The present resident Medical Officer is Dr. W. L. Tullis. The visiting physician is Dr. F. J. Henry, Tubercular Officer for the County Borough of Middlesbrough. Dr. C. V. Dingle is the Medical Superintendent of the Fever Hospital and Sanatorium. There is no special hospital for advanced cases; the Sanatorium is utilised for such cases when such isolation is considered necessary, and if it is considered that a period of observation is required for cases where the diagnosis is doubtful, a bed is set aside for the time being for such a case.

(2).—Not applicable to a County Borough.

(3).—The Dispensary works in close co-operation with the School Clinic. All cases of Tuberculosis or suspected Tuberculosis are sent to the Dispensary, and reports are made of all these cases by the Dispensary Medical Officer to the School Medical Officer. All intimations of exclusion from school by the Dispensary Medical Officer are sent to the School Medical Officer. Arrangements exist whereby Tuberculous cases requiring operation are referred to the North Riding Infirmary, the North Ormesby Hospital, or Holgate (Poor Law) Hospital. Where admission tickets to the General Hospitals cannot be obtained by the householder for himself, his wife or family, such admission has been obtained where necessary by the After-Care Committee.

(4).—The general practitioner who notifies a case of Tuberculosis is communicated with at once by the Dispensary Medical Officer. If he agrees to the case attending the Dispensary, or being visited by the Dispensary Nurses, arrangements are made to deal with the case by the Public Authority and the form of treatment advised indicated to the patient and his doctor.

In insured cases where domiciliary treatment is advised, Form G.P. 36 is sent to the practitioner and when such treatment is considered necessary, a similar Form is sent to the practitioner every 3 months for completion and return to the Dispensary Medical Officer. Any case referred to the Dispensary Medical Officer for diagnosis



or advice by the general practitioner is seen at the Dispensary or at his home when necessary by the Tuberculosis Medical Officer.

(5).—In cases where the diagnosis is doubtful, the patient is asked, with the concurrence of the general practitioner, to attend the Dispensary. When this cannot be done on account of the illness of the patient, the Tuberculosis Medical Officer visits the patient at his home as often as is considered necessary to arrive at a diagnosis. When a patient is asked to attend the Dispensary for observation and does not do so, the Dispensary Nurse calls upon him after a fortnight's interval to advise attendance at the Dispensary.

(6).—All contacts of notified Tuberculous persons are asked to attend the Dispensary by the visiting Nurse and arrangements are made for the day and hour of their attendance. All contacts found to be suffering from Tuberculosis are placed upon the Dispensary Register and communication made to their own doctor. All suspected Tuberculous contacts are kept under observation at the Dispensary until a definite diagnosis is made. Periodic visits are made by the Dispensary Nurses to the homes of the patients and reports made as to the health of the "contacts."

(7).—The ordinary methods of diagnosis by physical signs, etc., are supplemented by the use of diagnostic Tubercular injections (25 cases), Tubercular skin re-action tests (70 cases), X ray plates (12 cases). Tubercular injections for treatment of Tuberculous glands, lupus, bone and joint Tuberculosis, to prevent recurrences, were employed to the extent of at least 2,000 applications. Local applications of Pyrogallic acid combined with Picric Acid, powdered Permanganate of Potash, etc., were employed in 45 cases.

(8).—The results of the above methods of treatment were considered satisfactory, especially the results of Tuberculin injections, in preventing the development of chronic glandular enlargements or their recurrence after quiescence of the disease.

(9).—All children of school age requiring dental treatment were referred to the School Clinic for dental treatment, Ex-servicemen to the Ministry of Pensions, and in some cases to the United Services Fund; several patients to the After-Care Committee, and some to their Approved Societies for contributions to their dental treatment. There is no special dental service for the Dispensary patient as such.

(10).—In addition to the visit of the Dispensary Nurses to the patients in their own homes a contribution of £60 per annum is paid to the Middlesbrough District Nurses' Association to secure attendance to patients confined to their homes or to bed.



The provision of extra nourishment for the patients is undertaken by the After-Care Committee. During the year the sum of £209 17s. 3d. was expended for this purpose.

(11).—The treatment of Non-Pulmonary Tuberculosis in adults and children is conducted as described under heading 7. Surgical apparatus is not, unless in exceptional cases, supplied by the Dispensary, such provision has been undertaken from time to time with the assistance of the After-Care Committee.

(12).—An After-Care Committee, called "The Middlesbrough Voluntary Care Committee" has been in existence since 1913. An Annual Report indicating the work and varied activities is published and sent to the Ministry of Health, at the end of each year; March 31st to April 1st.

(13).—The finding of employment for patients is the the hands of the Voluntary Care Committee. In a few cases only has such effort been successful.

(14).—Middlesbrough is a place generally unsuited to the use of Shelters on account of the general arrangements of the houses. It has not been found practicable to provide these.

(15).—Middlesbrough is essentially a town in which the chief industries are steel, iron and shipbuilding. There is no evidence of any special occupational incidence of Tuberculosis out of the ordinary. On account of the extraordinary amount of unemployment in the Borough during the past 4 years and the resultant under feeding of the poorer part of the community, the incidence and mortality show a decided increase during the past four years.

(16).—A Census of the housing conditions of the Tuberculous families of the town will be undertaken during the year 1926 by the staff of the Dispensary; and if possible, some solution proposed, especially in connection with the Corporation's new Housing Schemes. A copy of the report will be forwarded to the Ministry of Health in due course.

(17).—The work of the Dispensary is considerably hampered by inadequate accommodation. No increase in facilities for diagnosis, such as X-Rays, or for treatment such as X-Rays and Artificial light treatment are possible in the part of the premises at present occupied by the Dispensary. A recommendation was made in 1920 by the Ministry of Health that the Insurance Committee be asked to vacate the rooms at present used by them. This has not so far been done. The increasing work of the

Dispensary demands greater accommodation, and it is to be hoped that the recommendation of the Ministry may be acted upon in the forthcoming year.

Statistical Tables as to Tuberculosis in the County Borough of Middlesbrough for the year 1925 are appended.

F. J. HENRY, M.B., D.P.H., F.R.C.S.,  
Tuberculosis Medical Officer.

#### TUBERCULOSIS—New Cases and Mortality during 1925.

Age Periods	New Cases Notified in 1925				Deaths Registered in 1925			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	Male	Female	Male	Female	Male	Female	Male	Female
0	2	1	5	4	1	..	4	2
1	19	13	31	23	8	4	6	12
5	51	52	20	20	4	2	2	..
10	29	28	22	27	4	7	4	4
15	15	18	7	7	3	12	2	1
20	13	15	2	4	11	12	..	1
25	38	21	6	7	17	20	4	3
35	29	19	2	2	17	13	2	..
45	20	6	..	1	15	8	1	1
55	13	8	1	1	12	2	..	..
65 and upward	1	2	..	..	1	..	..	..
Totals	230	183	96	96	93	80	25	24

The ratio of non-notified Tubercular Deaths to total Tubercular Deaths is 15.06 per cent.

#### Public Health (Prevention of Tuberculosis) Regulations, 1925, and Public Health Act, 1925, Sec. 62.

There has been no action under the above in 1925.

#### Tuberculosis Statistical Returns.

Year	Death Rate from all Causes per 1,000	Tuberculosis Death Rate per 10,000	Pulmonary		Non-Pulmonary	
			Notified	Deaths	Notified	Deaths
1921	14.41	12.1	321	133	91	29
1922	14.50	12.6	266	141	120	29
1923	13.03	14.0	348	156	151	34
1924	16.75	17.53	420	200	154	39
1925	15.56	16.29	413	173	192	49



## Deaths from Tuberculosis.

		1921		1922		1923		1924		1925	
		Male	Fem.	Male	Fem.	Male	Fem.	Male	Fem.	Male	Fem.
Pulmonary	Under 15 years	8	8	2	15	12	6	9	14	18	13
	15 to 25 years	10	20	14	19	17	19	19	22	14	24
	25 to 35 years	8	10	14	14	9	13	21	25	16	20
	35 to 45 years	15	13	13	12	29	12	24	14	17	13
	Over 45 years	30	11	32	6	31	8	41	11	29	9
	Total over 15 yrs	63	54	73	51	86	52	105	72	76	66
Non-Pulmonary	Insured ..	29	14	42	10	43	11	53	13	37	8
	Non-Insured ..	34	40	31	41	43	41	52	59	39	58
	Under 15 years	8	4	6	3	7	5	9	4	8	8
	Over 15 years	10	7	10	10	11	11	16	10	15	18
	Total deaths—										
	Pulmonary ..	71	62	75	66	98	58	114	86	92	81
		Non-Pulmonary ..	18	11	16	13	16	25	14	23	26
		Total .. ..	89	73	91	79	116	74	139	100	107

## INSTITUTIONAL TREATMENT.

					1921	1922	1923	1924	1925
<b>Tuberculosis Patients Treated in West Lane.</b>									
Pulmonary Males .. ..	..	..	..	..	53	54	69	67	71
Pulmonary Females .. ..	..	..	..	..	54	52	54	68	52
Non-Pulmonary Males .. ..	..	..	..	..	4	4	6	7	7
Non-Pulmonary Females ..	..	..	..	..	7	4	7	2	4
					118	114	136	144	134
<b>Conditions of Patients Discharged.</b>									
Quiescent .. .. .	..	..	..	..	3	4	1	..	..
Much Improved .. ..	..	..	..	..	56	48	97	79	86
No Material Improvement	..	..	..	..	25	26	19	30	20
Died in Institution .. ..	..	..	..	..	8	12	9	7	10
					92	90	126	116	116

Dispensary Treatment.					1921	1922	1923	1924	1925
Total New Cases examined, excluding contacts					439	423	448	566	543
Diagnosis	..	..	..	..	344	373	390	482	454
Notified	..	..	..	..	42	31	45	69	79
Pensioners	..	..	..	..	15	9	1	11	5
Transfers	..	..	..	..	4	2	6	2	2
Voluntary	..	..	..	..	34	8	6	2	3
					439	423	448	566	543
Attendances, including contacts					12,279	9,357	10,448	10,691	12,806
Home Visits	..	..	..	..	6,840	4,289	3,636	3,283	5,192
Sputum Examinations	..	..	..	..	281	341	306	334	344
X-Ray Examinations	..	..	..	..	..	..	..	9	12

## Live Cases on the Register for each Year.

Year	No. of Cases Notified	PULMONARY (Still Alive)			NON-PULMONARY (Still Alive)			Grand Total
		Male	Female	Total	Male	Female	Total	
1912	304	43	64	107	..	..	..	107
1913	469	61	45	106	60	47	107	213
1914	527	78	56	134	59	50	109	243
1915	770	161	149	310	69	64	133	443
1916	614	128	100	228	52	58	110	338
1917	604	119	59	178	72	63	135	313
1918	434	69	44	113	42	44	86	199
1919	443	89	58	147	38	45	83	230
1920	451	81	67	148	53	29	82	230
1921	414	94	70	164	41	26	67	231
1922	386	80	61	141	36	46	82	223
1923	499	105	85	190	58	51	109	299
1924	574	136	119	255	74	53	127	382
1925	605	182	137	319	76	75	151	470
	7,094	1,426	1,114	2,540	730	651	1,381	3,921



# Report of the Venereal Diseases Medical Officer for the year 1925.

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## VENEREAL DISEASES.

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(a)—The scheme of the Middlesbrough County Borough consists of a Clinic situated at 105, Grange Road West, having the following accommodation :—3 Waiting Rooms, 1 Consulting Room, 1 Laboratory, Dispensary and Office, and 2 Irrigation Rooms—one for males and one for females.

The Clinic is administered by a Part-Time Medical Officer, assisted by two male attendants and two nurses.

It is open for the following sessions :—

MALES	..	Mondays, 8-30 a.m. and 5-30 p.m. Fridays, 8-30 a.m. and 5-30 p.m.
FEMALES	..	Wednesdays, 5-30 p.m.

FOR IRRIGATION ONLY :—

MALES	..	Every morning at 8-30 a.m. and on Monday, Tuesday, Thursday and Friday Evenings at 5-30 p.m.
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(b)—The only recent extension at the Clinic has been an additional irrigation room for males.

(c)—The present accommodation is adequate for the number of patients who attend.

(d)—The number of females attending the Clinic does not seem to be satisfactory and the Medical Officer to the Maternity and Child Welfare is giving attention to this side of the work, in co-operation with the Medical Officer of the Clinic. Cases requiring hospital treatment have so far all been dealt with at one or the other of the local institutions.

(e)—The medical profession are all kept informed of the facilities of the Clinic and co-operate with the Medical Officer.

(f) —Publicity work is done by means of frequent lectures given by the various Medical Officers of the Health Department. These lectures are well attended and are given to both male and female audiences. There is a local branch of the British Social Hygiene Council.

There are 23 Medical Practitioners in the area who are qualified to receive free supplies of Arsenobenzol compounds and 72 Pathological examinations were provided for them by the Council during 1925.

No action has been taken under the Venereal Diseases Act of 1917.

**Number of Cases under Observation and Treatment on January 1st, 1926.**

Syphilis		Soft Chancre		Gonorrhoea		Other Cases		Total		Total all Cases
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
46	30	2	..	91	4	11	5	150	39	189

**Number of Cases and the Diseases they were suffering from,  
dealt with for the first time during the Year 1925.**

Middlesbrough .. .. .	329
Other Areas .. .. .	85
Seamen .. .. .	93
	<hr/>
	507
	<hr/>

Disease	Syphilis		Soft Chancre		Gonorrhoea		Other Cases		Total		Total all cases
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Syphilis .. ..	79	30	..	..	..	..	..	..	79	30	109
Soft Chancre .. ..	..	..	11	..	..	..	..	..	11	..	11
Gonorrhoea .. ..	..	..	..	..	235	9	..	..	235	9	244
Other Cases .. ..	..	..	..	..	..	..	129	14	129	14	143
Total .. ..	79	30	11	..	235	9	129	14	454	53	507



## Average Attendance for the Year 1925.

				Sessions	Attendance	Average
Morning Sessions (Males)	..	..	..	105	1,055	10.0
Evening Sessions (Males)	..	..	..	105	3,054	29.0
Evening Sessions (Females)	..	..	..	51	614	12.0
Irrigation Only (Males) ..	..	..	..	163	1,169	7.1

## Occupation and State of Cases for the Year 1925.

				MALES						FEMALES	
				Single	Married					Single	Married
Labourers	..	..	..	72	67	Housewives	..	..	..	33	
Seamen	..	..	..	60	33	Domestic Servants	..	10	..		
Railwaymen	..	..	..	13	20	Shop Assistants	..	3	..		
Clerks	..	..	..	11	6	Clerks	..	2	..		
Commercial Travellers	..	..	..	6	3	Children	..	5	..		
Iron and Steel Workers	..	..	..	30	52						
Tradesmen	..	..	..	18	16						
Shop Assistants	..	..	..	4	..						
Motor Mechanics	..	..	..	14	7						
Actors	..	..	..	6	2						
Miscellaneous	..	..	..	9	5						
				243	211					20	33

## Cases dealt with for the first time from 1919 to 1925.

Year	Syphilis		Soft Chancre		Gonorrhoea		Syphilis and Soft Chancre		Syphilis and Gonorrhoea		Gonorrhoea and Soft Chancre		Syphilis, Soft Chancre, and Gonorrhoea		Other Cases		Total Cases		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1919	125	52	7	..	114	2	..	..	13	8	..	..	..	..	42	7	301	69	370
1920	263	50	35	..	282	18	..	..	22	8	..	..	..	..	178	14	780	90	870
1921	131	50	5	..	207	11	1	..	1	..	1	..	1	..	143	..	490	61	551
1922	141	15	21	..	159	9	9	..	5	..	1	..	..	..	146	13	482	37	519
1923	69	29	6	..	206	2	..	..	2	..	..	..	..	..	140	16	423	47	470
1924	75	20	7	..	200	7	..	..	..	..	..	..	..	..	113	26	395	53	448
1925	79	30	11	..	235	9	..	..	..	..	..	..	..	..	129	14	454	53	507
	883	246	92	..	1403	58	10	..	43	16	2	..	1	..	891	90	3325	410	3735

## Total Attendances for the Years 1919 to 1925.

	Syphilis		Soft Chancre		Gonorrhoea		Other Cases		Total		Grand Total
	Male	Female	Male	Fem.	Male	Fem.	Male	Fem.	Male	Female	
1919	1,327	642	15	..	1,068	48	19	13	2,500	703	3,203
1920	3,002	1,291	133	..	3,925	257	812	150	7,882	1,698	9,580
1921	2,790	1,397	12	..	3,528	107	918	91	7,249	1,594	8,843
1922	2,601	1,253	59	..	3,021	74	593	32	6,274	1,359	7,633
1923	1,923	976	10	..	3,148	41	508	39	5,589	1,056	6,645
1924	1,437	676	42	..	2,706	63	351	68	4,536	807	5,343
1925	1,136	409	33	..	3,692	118	417	87	5,278	614	5,892



## Ages and State of Cases from 1919 to 1925.

## Males.

	Under 1 year	1 to 5	6 to 19		20 to 30		31 to 40		41 to 50		51 to 60		61 to 70		Over 70	
	..	..	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married
Syphilis	25	10	28	1	336	123	113	114	41	51	9	23	4	..	2	1
Soft Chancre	..	..	5	..	45	7	11	11	4	5	2	2	2	1	..	..
Gonorrhoea	..	..	72	1	630	235	169	198	45	81	7	27	3	4	1	..
Other Cases	..	3	66	3	394	102	72	107	32	61	3	21	8	3	..	1
	25	13	171	5	1405	467	365	430	122	198	21	73	17	8	3	2

## Females.

	Under 1 year	1 to 5	6 to 19		20 to 30		31 to 40		41 to 50		51 to 60		61 to 70		Over 70	
	..	..	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married	Single	Married
Syphilis	20	12	13	1	32	85	8	44	5	18	..	3	2	..	..	..
Soft Chancre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gonorrhoea	..	..	9	4	20	28	1	13	..	6	..	..	..	..	..	..
Other Cases	..	2	13	4	14	25	1	12	4	9	..	1	..	1	..	..
	20	14	35	9	66	138	10	69	9	33	..	4	2	1	..	..

Youngest patient, 2 weeks.

Oldest patient, 84 years.

## Nationality of Seamen treated for the Years 1919 to 1925.

	1919	1920	1921	1922	1923	1924	1925
British .. ..	3	70	61	53	43	53	74
Norwegian .. ..	1	26	6	3	4	1	5
Swedish .. ..	..	6	9	4	3	3	1
Lascars .. ..	..	2	3	6	18	7	4
Spanish .. ..	..	1	1	2	1	..	3
Japanese .. ..	..	..	5	1	..	1	..
French .. ..	..	4	1	1	..	..	..
Danish .. ..	..	1	2	..	..	1	..
Esthonian .. ..	..	1	1	..	1	..	..
Russian .. ..	3	3	..	..	..	2	1
Dutch .. ..	..	2	..	..	3	..	..
Finnish .. ..	..	1	..	..	..	2	..
Italian .. ..	..	..	1	1	..	..	1
Maltese .. ..	..	..	..	2	..	2	1
American .. ..	..	..	..	..	1	..	..
Canadian .. ..	..	2	..	..	..	..	..
Portuguese .. ..	..	..	1	..	..	..	..
Belgian .. ..	..	..	..	..	1	..	..
Greek .. ..	..	..	..	..	2	..	..
German .. ..	..	..	..	..	..	5	1
Chinese .. ..	..	..	..	..	..	2	2
	7	119	91	73	77	79	93

## Sources of Infection of Cases 1919 to 1925.

Foreign and Colonial .. ..	429	London and South Coast ..	108
Wales .. ..	17	Newcastle & Sunderland District	84
Scotland .. ..	28	Manchester & Liverpool District ..	31
Ireland .. ..	7	York & Hull District .. ..	45
Stockton .. ..	83	Darlington District .. ..	19
South Durham District .. ..	29	Leeds District .. ..	22
North Riding of Yorks. .. ..	129	Midland .. ..	14
		Middlesbrough .. ..	2,609



## Administration 1919 to 1925.

			Injections of Arsenobenzol Preparations	Bismuth and Mercurial Injections	Male Irrigations
1919	..	..	751	904	930
1920	..	..	987	1,988	2,700
1921	..	..	814	2,360	3,116
1922	..	..	523	4,706	2,670
1923	..	..	547	3,031	2,765
1924	..	..	303	1,084	2,115
1925	..	..	323	1,029	3,421
			4,248	15,102	17,717

			Number of Examinations of Pathological Material Examined by the Medical Officer	Total Number of Wassermann Reactions
1919	..	..	832	271
1920	..	..	767	489
1921	..	..	678	377
1922	..	..	738	278
1923	..	..	819	312
1924	..	..	794	265
1925	..	..	724	214
			5,352	2,206

**VENEREAL DISEASES—RESULTS OF TREATMENT TABLE A.**  
1919 to 1925.

	1919		1920		1921		1922		1923		1924		1925		TOTALS	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<b>ITEM 1.</b> No. of Cases which ceased to attend :—																
(a) before completing the first course ..	39	10	244	8	57	3	118	11	54	7	8	4	47	10	567	53
(b) after one or more courses but before completion of treatment ..	..	..	..	..	29	..	36	16	12	2	7	3	1	4	85	25
(c) after completion of treatment but before final tests as to cure ..	17	2	13	..	29	..	17	4	12	1	36	5	..	..	124	12
<b>ITEM 2.</b> No. of Cases transferred to other Treatment Centres ..	19	5	160	18	134	2	140	16	140	10	114	8	137	5	844	64
No. of Cases Discharged cured ..	59	7	216	14	247	4	285	25	254	31	251	54	265	33	1577	168
Totals ..	134	24	633	40	496	9	596	72	472	51	416	74	450	52	3197	322
<b>ITEM 3.</b> No. of Cases under Treatment or Observation at the end of each year ..	167	45	314	95	330	98	216	63	167	59	146	38	150	39	..	..





ITEM 1. (a), (b) and (c). See Tables (A) and (B).—A number of patients do not return for treatment, as, after their symptoms disappear, they draw the erroneous conclusion that they are cured. During late years a system has been adopted of following up these cases and the results are very encouraging, as a large percentage now return to complete their treatment.

ITEM 2.—These cases are provided with a card, indicating the course of treatment they have received. The cards are presented at the next Treatment Centre to facilitate the continuation of that treatment.

Seamen going abroad are provided with special International Cards.

ITEM 3.—A number of these cases continue to attend at stated times for special tests, such as the Blood Test, and are not removed from the list. If there is any indication for further treatment this is administered.

#### **Non-Venereal Conditions.**

A large proportion of patients who have run the risk of exposure, attend the Clinic for safety. These cases are kept under observation until the inoculation period of the various diseases has expired, before they receive their discharge. Others attend with inflamed parts, skin rashes, scabies, and other conditions of a non-venereal character. These, when necessary, are also kept under observation. Many youths seek advice on sexual matters.

A further proportion of non-venereal cases is composed of those, who, having had Venereal Disease in the past, are about to marry, and wish to be assured of their freedom from these diseases. These cases are submitted to various tests before a verdict is given.

A. BRYANS,  
Medical Officer of Treatment Centre.



## Report of the Maternity and Child Welfare Medical Officer for the Year 1925.

(1)

### MIDWIVES.

Forty midwives, including four untrained, sent in their notice of intention to practice.

Of 3,464 births notified,

2,304 were by midwives.

1,156 were by doctors.

4 were by other persons.

Though the notifications were as stated above, nevertheless 85 of the births were conducted by handy women, without a doctor being present. Several warning letters were sent to handy women of whom one or two were interviewed. No prosecution was attempted.

A doctor was called in by a midwife under Section 14 of the Midwives Act, 550 times, *i.e.*, in 16% of cases.

Visits of inspection to midwives numbered 95.

The Maternity and Child Welfare Medical Officer who is also the inspector of midwives met the midwives once a month to deal with difficulties or complaints encountered during the month and to give a post-certificate address.

(2)

### GENERAL ARRANGEMENTS MADE FOR ATTENDING THE HEALTH OF EXPECTANT AND NURSING MOTHERS AND OF CHILDREN UNDER FIVE YEARS.

#### Health Visitors.

Visits paid by Health Visitors during the year were as follows :—

To expectant mothers ..	First Visits	282	Total Visits	586
To infants under 1 ..	„ „	3,498	„ „	8,448
To children from 1 to 5	Total visits	2,295		

#### Nurses.

A nurse on the Public Health staff visits cases of measles and nurses them when necessary.

The District Nursing Association receives a municipal grant in respect of nursing of expectant and nursing mothers and children under 5.

### Centres.

There is a weekly session for children at 4 of the 5 Centres, and a bi-weekly session at the Cannon.

The average attendance per session is given below :

	Infants.	Toddlers.
East Centre .. .. .	69	17.2
Cannon Centre .. .. .	75.3	19.1
American Red Cross Centre .. .. .	56.5	13.5
Settlement Centre .. .. .	46.7	18.6
North Ormesby Centre .. .. .	61.7	15.3

### Municipal Maternity Home and Children's Hospital.

The Maternity Home has 21 beds. Number of cases admitted in the year was 303. Number of maternal deaths was 2, 1 from eclampsia and 1 from ante-partum haemorrhage, making the percentage of maternal deaths .66. Number of pupils who received their Central Midwives Board Certificate after training in the Home was 10.

The Children's Hospital has 15 cots. Number of children admitted was 130 ; average duration of stay, 31 days ; number of deaths, 9 ; number discharged in good health, 97 ; the remainder made little or no improvement.

The variety of cases admitted is shewn below :—

Mal-thriving infants .. .. .	49
Rickets .. .. .	19
Pneumonia convalescents .. .. .	19
Neglected children .. .. .	9
Domestic reasons .. .. .	7
For observation .. .. .	6
Tubercular contacts .. .. .	5
Measles convalescents .. .. .	3
Motherless children .. .. .	3
Congenital Syphilis .. .. .	2
Miscellaneous .. .. .	8

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130

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### Hospitals other than Municipal.

The North Riding Infirmary, the North Ormesby Hospital, and Holgate Hospital (Guardians) each have children's wards. There is also a Children's Hospital—Broomlands (Guardians).

### Maternal Mortality.

The nett births were 3,501, and the number of maternal deaths, 18, making the percentage of maternal deaths .51. The certified causes of death were as follows:—Eclampsia 2, Influenza 1, Confinement 1, Puerperal Sepsis 5, Influenza during puerperium (septic) 1, Childbirth, Myocarditis 1, Subacute Endocarditis 1, Ante-partum Haemorrhage 2, Ante- and Post-partum Haemorrhage 1, Pulmonary Embolism 1, Bronchitis and Heart Failure 1, Cardiac Syncope (craniotomy) 1.

Of the 2 cases of Eclampsia one had urine tested monthly at the Municipal Maternity Home and the other had no test. The case certified Influenza had fits before death: the urine had never been tested.

The case certified Confinement died one month after the birth of the child and was the first of a regrettable series of cases in the hands of the same midwife. Three of the 5 deaths of Puerperal Sepsis occurred in the same month and were delivered by the same midwife. The first of the three cases was notified on April 1, and was sent into Holgate Hospital by the doctor whom the midwife had called in. The midwife was suspended for 24 hours and disinfected. None of the cases she had on hand then suffered. The second and third cases were both delivered on April 18 and died on April 25 and 29 respectively. Certain restrictions were then placed on the midwife (an untrained woman), but she preferred to take down her plate and cease practising.

The fourth and fifth cases occurred in August and November respectively, and were delivered by two different midwives.

The three cases of haemorrhage died in the attendant doctor's presence, two of them before delivery.

### Still-Births.

These numbered 138 out of a total of 3,501 births, viz. 3.9%; of the 138 still-births 8 were illegitimate.

Ante-natal care received by the mothers of the above was as follows:—

- 6 attended an ante-natal clinic.
- 13 had care from a midwife, viz. urine testing.
- 30 had care from their doctor for some intercurrent illness.
- 89 had no ante-natal care.

Subjective movements of the foetus were felt on the day of confinement in 60 cases.  
 Ascertainable probable causes :—

In 19 cases there was ante-partum haemorrhage.

In 18 cases of delivery by forceps the foetus was alive in the first stage of labour. A post-mortem on one of these cases showed wide spread haemorrhage on the cerebral surface.

In 17 cases the mothers gave the date of cessation of movement as coinciding with a definite psychological or mechanical cause, *e.g.*, anxiety, fright, a fall, prolonged coughing, hard work, etc.

In 16 cases there was a prolonged second stage in breech, face and transverse presentations.

In 9 cases an anatomical mal-development was present—anencephaly, etc.

In 7 cases albuminuria was present : 2 of these cases had eclampsia.

In 7 cases the mother had syphilis.

In 5 cases the cause was asphyxia livida ; a handy woman conducted the labour in 3 of these cases.

In 5 cases no attendant was present at the birth.

In 5 cases the foetus was premature.

In 2 cases the mother insisted that her pregnancy had lasted 11 calendar months.

In 2 cases there was prolapsed cord.

In 2 cases of occipital presentation, uncomplicated labour, a post mortem showed marked venous congestion and oedema under right parietal bone.

In 1 case a craniotomy accounted for the death.

#### Neo-Natal Deaths.

74 of the 150 deaths were certified as being due to premature birth. The ascertainable causes of prematurity were as follows :—

Twins	..	..	..	..	..	..	..	18
A mechanical cause (fall, heavy washing, etc.)	..	..						13
An illness of the mother (pneumonia, influenza, etc.)	..							10
Mental anxiety, worry, fright, etc.	..	..	..	..				9
Placenta Praevia	..	..	..	..	..	..		5
Coughing, vomiting, etc.	..	..	..	..	..	..		4
Lead poisoning	..	..	..	..	..	..		1



Of 55 premature babies who died under 1 week :—

9 lived for less than one hour.

19 lived for less than one day.

23 lived for one day.

21 of the 150 deaths were certified as being due to inanition, debility, or marasmus.

The ascertainable causes of the inanition, etc. were as follows :—

Condition of the mother (influenza, phthisis, albuminuria, etc.)	7
Anxiety of the mother .. .. .	5
Twins .. .. .	4

#### Ante-Natal Work.

Each of the 5 Centres has a monthly ante-natal session.

	Average Number Attendances per session.
East .. .. .	9.8
Cannon .. .. .	21.7
Red Cross .. .. .	16.5
Settlement .. .. .	9.8
North Ormesby .. .. .	11.6

The midwives are taking increasing advantage of the ante-natal sessions and either bring or send their patients. If any abnormality is found in a pregnant woman who has attended without her midwife the latter is informed of the nature of the abnormality and of the instructions given to her patient. The midwife herself is also given advice. No midwife has ever objected when advised to allow her patient to go into hospital instead of being attended in her own home. The most successful preventive treatment has been in cases of albuminuria. A regime is laid down for the patient and a health visitor calls two or three times a week to see that the regime is being rigidly adhered to. Women who have engaged a doctor to attend them in their confinement and have nevertheless given their doctor no opportunity to attend them in the ante-natal period sometimes come to an ante-natal session. If any abnormality is found in such women, they are either sent to their doctor with an explanatory letter or they are given instructions as to what treatment to pursue. In the latter case the Medical Officer writes to the doctor telling what has occurred, and hoping that he approves.

### **Unmarried Mothers and Illegitimate Children.**

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These share the same privileges that other mothers and children are given. Advantage is taken of the Holy Cross Refuge, which is given an annual grant from the Municipality. Women with more than one illegitimate child, and women who are neglecting their children, are reported to the visiting Sister of the Refuge. A Sister brings illegitimate children who are living at the Refuge, to a Centre.

### **Children deprived of a home with their own parents.**

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Such children are taken into the Municipal Children's Hospital temporarily. If the mother is dead or has deserted the child, the latter is kept in until some arrangement is made for its care.

### **Supply of Food and Milk.**

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The number of 1lb. packets of dried milk given was 1,657, of which 80% was given to expectant and nursing mothers. If there were doubts about the mother herself drinking the milk, cocoa made up with dried milk was given instead. There was a free soup kitchen at the North Ormesby Centre, the soup being a gift from the President of the Centre. Expectant and nursing mothers attending the Centre had soup twice a week.

### **Orthopaedic Treatment.**

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Each of the three General Hospitals has Children's wards to which cases requiring orthopaedic treatment are sent.

### **Voluntary Workers.**

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Each of the 5 Centres has a Committee of Voluntary Workers, who attend to the work other than the medical part. A representative of each of these five Committees is a member of the Statutory Committee of Maternity and Child Welfare.

### **Co-ordination between the Maternity and Child Welfare Department and the School Medical Service.**

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As the children attending each Centre reach the age of 5 their cards are passed on to the School Medical Officer.



(3)

**INFECTIOUS DISEASES.****Puerperal Fever.**

There were 10 cases of Puerperal Sepsis of whom 5 died. Three cases were removed to Holgate Hospital, and the others were nursed in their own homes by a nurse from the District Nurses Association.

**Ophthalmia Neonatorum.**

Cases Notified	Treated		Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
	At Home	In Hospital				
12	12	Nil	11	1	Nil	Nil

Each newly born baby is visited by a health visitor on the 3rd or 4th day, unless a doctor is attending at the house. When a case is notified a health visitor attends to the eyes except in serious cases, when a district nurse goes in twice daily. In either case the attendant doctor's directions are carried out.

**Measles.**

Number of cases notified under 5 years of age, 1,806.

Number of deaths, 49.

Percentage of deaths, 2.7.

All cases were visited and when necessary nursed by a whole time nurse from the Health Department ; number of cases nursed, 66.

**Whooping Cough.**

Not notifiable. Deaths under 5 years certified as due to Whooping Cough, 17. Convalescents from measles and whooping cough are taken into the Municipal Children's Hospital.

**Epidemic Diarrhoea.**

Not notifiable. There was no epidemic.

### **Poliomyelitis.**

Two cases were notified and two deaths were certified (3 and 4 years of age). Unnotified cases of poliomyelitis frequently turn up at the Centres after the acute stage is over. Parents are encouraged to persist in massage or to attend the out-patient department of the North Ormesby Hospital for electric treatment. One or two cases were advised as to the sole of the boot, and one or two were sent into Hospital for orthopaedic treatment.

### **Pemphigus Neonatorum.**

There were 3 cases, one of which died.

### **Tuberculosis.**

5 tubercular contacts were taken into the Municipal Children's Hospital; 2 died of tubercular meningitis and 3 were discharged thriving.

#### **(4) TABLES SHOWING FIGURES FOR 5 CONSECUTIVE YEARS.**

Average attendance of Children per session at Centres :—

	1921	1922	1923	1924	1925
East .. .. .	113	111	109	105	86.2
Cannon .. .. .	91	88	117	113.7	94.4
Red Cross .. .. .	60	49	70	62.6	70.
Settlement .. .. .	39	42	62	62.4	65.3
North Ormesby .. .. .	67	65	69	63.	77.

Average attendance of Mothers at ante-natal sessions :—

	1921	1922	1923	1924	1925
East .. .. .	2	4	2	6.3	9.8
Cannon .. .. .	3	4	5	16.2	21.7
Red Cross .. .. .	2	3	2	13.5	16.5
Settlement .. .. .	1	3	1	4.8	9.8
North Ormesby .. .. .	2	2	2	6.7	11.6



## Number of Patients in Municipal Maternity Home and Children's Hospital :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Mothers .. ..	330	238	304	304	303
Children .. ..	..	66	108	98	130

The number of children is of little value from the numerical point of view, as the number in the wards at any one time depends on the amount of attention each child requires.

## Number of Registered Maternal Deaths in the Borough with percentage out of total deliveries :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Deaths .. ..	12	12	12	12	18
Percentage .. ..	.28	.31	.34	.33	.54

## Number of Still-births notified in the Borough, with percentage out of total births :

	1921	1922	1923	1924	1925
	—	—	—	—	—
Still-Births .. ..	122	146	146	132	138
Percentage .. ..	2.8	4.2	4.2	3.9	3.9

## Number of illegitimate births, percentage out of total births, percentage of illegitimate deaths out of total deaths under 1 year. :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Number of illegitimate births	193	168	115	119	153
Percentage of total births ..	4.5	4.4	3.0	3.3	4.3
Percentage of illegitimate deaths out of total deaths under 1 year	5.5	6.6	3.7	4.7	5.8

## Puerperal Sepsis :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Number of Cases .. ..	6	6	2	6	10
Number of Deaths .. ..	4	5	1	3	5

## Ophthalmia Neonatorum :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Number of Cases .. ..	47	20	13	12	12

## Measles :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Number of Cases under 5 years	913	155	2,492	1,183	1,806
Percentage of Deaths ..	5.1	5.1	3.0	1.9	2.7

## Infantile Mortality Rate :—

	1921	1922	1923	1924	1925
	—	—	—	—	—
Deaths per 1,000 births ..	118	111	86	135	97

GRACE H. GIFFEN DUNDAS,

Medical Officer.

## HOUSING.

## General Housing Conditions.

It is estimated that there are 27,322 dwelling houses in the Borough of Middlesbrough these houses are mainly brick built and self contained, the majority consisting of a parlour, kitchen, scullery and three bedrooms with a small yard at the back containing the sanitary accommodation. In the older part of the town many of the houses are two roomed, one up and one down. The houses are built in long rows at right angles to the main road. There are residential areas at Linthorpe and Grove Hill. Within recent years, numbers of residential houses have been built in the country areas two or three miles from the borough boundary, and these are inhabited by persons having their businesses in the town.

In certain parts of the town, principally the older part North of the Railway, there are areas on which there is overcrowding of houses varying from 40 to 50 per acre. The number of persons per acre for the whole borough at the census 1921 was 31.5, but 1,034 acres of the total area of 4,323 acres is land unsuitable for building upon. The number of persons per habitable house was 5.1 in 1921 and is 4.9 now, according to the estimated population.



Previous to the year 1914 the average number of houses built annually was 350. Since that year the following houses have been erected :—

Year.	Built by Private Enterprise.		Built Under Housing Schemes.		Total.	
1915	..	180	..	..	..	180
1916	..	84	..	..	..	84
1917	..	44	..	..	..	44
1918	..	3	..	..	..	3
1919	..	—	..	..	..	—
1920	..	24	..	39	..	63
1921	..	35	..	427	..	462
1922	..	77	..	359	..	436
1923	..	95	..	30	..	125
1924	..	143	..	74	..	217
1925	..	196 (147 with State assistance)	..	345 (all with State assistance)	..	541
Total	..	881	..	1,274	..	2,155

From the general Registrars recent estimate there has been a slight decrease in the population. If the industrial conditions of the town continue as at present this is likely to continue.

#### Overcrowding.

It is difficult to estimate the present amount of overcrowding, but a census of persons per house is now being taken in certain areas with a view to obtaining this information. From several inquiries that have been made it would appear fairly reasonable to say that there is still a considerable amount of overcrowding. Overcrowding occurs from several causes. 1. Shortage of houses of a suitable type and rental. 2. The industrial conditions which force small families to seek for cheaper housing accommodation and encourage householders to let one or two rooms in order to augment the income. 3. The disinclination of inhabitants to leave a particular locality which is conveniently situated for their work. This is emphasised by the Dacre Street Housing Scheme, where it has been found impossible to get the inhabitants to remove to the new houses erected for them.

### **Fitness of Houses.**

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The general condition of the houses in the town has been greatly improved during the past two or three years, the number of defects dealt with, out of approximately 9,000 houses inspected, are not large, they consist chiefly of structural defects such as defective roofs, spouts, plaster, dustbins, windows, fireplaces and choked drains, etc. These defects were all remedied but repairs are often delayed owing to the financial position of the landlords.

Since the abolition of pan closets the sanitary condition of the houses has been greatly improved, there is ample water supply (outside the scheduled insanitary areas), and improved refuse collection.

### **Unhealthy Areas.**

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These are situated for the most part, in the older part of the town North of the Railway. In the survey of Housing Needs (Housing and Town Planning Act, 1919), it was estimated that there were 1243 houses which were either insanitary or seriously defective, and of these about 357 would require demolition. The scheme for dealing with these houses was divided into 16 areas which were scheduled as unhealthy.

AREA 2.—The Dacre Street Area was represented as an unhealthy area in June, 1922, the inquiry by the Ministry of Health was held in 1923, and the Assessment of Compensation Arbitration Inquiry in 1926.

The scheme deals with 61 houses containing 69 tenements with a population of 285 persons.

Re-housing consists of the erection of 30 A.3 Type Houses (non-parlour and 3 bedrooms) on the Acklam Road Garden City site and 27 A.3 Type Houses on the Marton Grove Garden City site, having accommodation for 285 persons. These houses have been completed and tenancy offered to the Dacre Street inhabitants. Demolition of the Dacre Street area will now follow and the site cleared and left as an open space.

AREA No. 7—NILE STREET.—Representation was made declaring this an unhealthy area in September, 1924, and plans and specifications have been prepared by the Borough Surveyor. The Official Inquiry is now the next step in this scheme.

This area consists of 169 houses, shops and lodging houses and three stores. accommodating 904 persons.



### Byelaws Relating to Houses, to Houses-let-in-Lodgings, and to Tents, Vans, etc.

New Byelaws respecting Houses-let-in-Lodgings are being prepared.  
Byelaws respecting Vans and Sheds, under the 1925 P.H.A. are in force.

#### 1. Unfit Dwelling Houses.

Inspection :—

(1) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts) .. ..	8,985
(2) Number of dwelling houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing Consolidated Regulations, 1925 .. ..	123
(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation .. .. (Page 87, <i>Unhealthy Areas</i> ).	357
(4) Number of dwelling houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation .. .. .	7,906

#### 2. Remedy of Defects without Service of Formal Notices.

Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their Officers .. .. .	7,906
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#### 3. Action under Statutory Powers.

A—Proceedings under Section 3 of the Housing Act, 1925.

(1) Number of dwelling houses in respect of which Notices were served requiring repairs .. .. .	Nil
(2) Number of dwelling houses which were rendered fit after service of formal Notices :—	
(a) By Owners .. .. .	Nil
(b) By Local Authority in default of Owners .. ..	Nil

(3) Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by Owners of intention to close .. .. .	Nil
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B.—Proceedings under Public Health Acts :—

(1) Number of dwelling houses in respect of which Notices were served requiring defects to be remedied .. .. .	1,079
(2) Number of dwelling houses in which defects were remedied after service of formal Notices :—	
(a) By Owners .. .. .	1,079
(b) By Local Authority in default of Owners .. .. .	Nil

C.—Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—

(1) Number of representations made with a view to the making of Closing Orders. .. .. .	} Nil (See Page 87, Unhealthy Areas).
(2) Number of dwelling houses in respect of which Closing Orders were made .. .. .	
(3) Number of dwelling houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit .. .. .	
(4) Number of dwelling houses in respect of which Demolition Orders were made .. .. .	
(5) Number of dwelling houses demolished in pursuance of of Demolition Orders .. .. .	





**TABLE I.—Vital Statistics of Whole District during 1925  
and previous years.**

YEAR	Population estimated to Middle of each Year.	BIRTHS			TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT			
		Uncorrected Number	Nett		Number	Rate	Of Non-residents registered in the District	Of Residents not registered in the District	Under 1 Year of Age		At all Ages	
			Number	Rate					Number	Rate per 1,000 Nett Births	Number	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1916	.. For Deaths: 115,548 For Births: 125,718	3,536	3,535	28.12	2,154	18.64	90	25	430	121	2,089	18.07
1917	.. For Deaths: 119,251 For Births: 132,931	3,059	3,062	23.03	2,366	19.84	92	34	465	151	2,308	19.35
1918	.. For Deaths: 115,752 For Births: 125,696	3,331	3,327	25.64	2,741	23.67	150	50	485	145	2,641	22.81
1919	.. For Deaths: 127,142 For Births: 132,444	3,534	3,531	26.66	2,437	19.16	132	34	493	139	2,339	18.39
1920	.. 132,208	4,434	4,431	33.51	2,109	15.95	120	37	602	135	2,026	15.32
1921	.. 133,400	4,240	4,218	31.62	1,967	14.74	106	32	501	118	1,893	14.41
1922	.. 134,800	3,823	3,774	27.99	2,057	15.26	121	24	421	111	1,960	14.50
1923	.. 135,400	3,726	3,728	27.53	1,876	13.85	139	28	321	86	1,765	13.03
1924	.. 136,300	3,607	3,589	26.33	2,372	17.42	136	47	484	135	2,283	16.75
1925	.. 136,200	3,503	3,501	25.70	2,123	15.58	167	28	342	97	1,984	15.56



TABLE II.—INFANTILE MORTALITY, 1925. Nett Deaths from stated Causes

CAUSE OF DEATH	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 4 weeks	1-3 months	3-6 months	6-9 months
Chicken-pox .. ..	..	..	..	1	1	..	..	..
Measles .. ..	..	..	..	..	..	..	1	2
Whooping-Cough ..	..	..	..	..	..	2	1	2
Tuberculous Meningitis ..	..	..	..	..	..	..	1	1
Other Tuberculous Diseases .. ..	..	..	..	..	..	..	..	1
Meningitis (not Tuberculous) ..	..	1	..	1	2	..	1	2
Convulsions .. ..	2	..	1	2	5	4	2	1
Bronchitis .. ..	..	..	..	2	2	4	6	5
Pneumonia (all forms) ..	..	1	..	1	2	9	14	22
Diarrhoea .. ..	..	..	..	..	..	3	..	..
Enteritis .. ..	1	1	1	1	4	6	3	4
Syphilis .. ..	1	..	..	..	1	1	1	..
Suffocation, overlying ..	3	..	..	..	3	..	..	..
Injury at Birth .. ..	5	..	..	..	5	..	..	..
Atelectasis .. ..	5	..	..	..	5	..	..	..
Congenital Malformations	6	1	..	1	8	..	1	1
Premature Birth .. ..	55	7	4	8	74	1	1	..
Atrophy, Debility and Marasmus .. ..	8	6	4	3	21	12	5	4
Other Causes .. ..	8	3	2	4	17	2	6	6
Influenza .. ..	..	..	..	..	..	..	..	2
Total .. ..	94	20	12	24	150	44	43	53
NETT BIRTHS IN THE YEAR :—					NETT DEATHS IN THE YEAR OF :—			
Legitimate .. ..	..	3,348			Legitimate Infants .. ..	..	322	
Illegitimate .. ..	..	153			Illegitimate Infants .. ..	..	20	
Total .. ..		3,501			Total .. ..		342	

## at various Ages under One Year.

9-12 months	Total Deaths under 1 year	Ayresome	Acklam	Cannon	Cleveland	Exchange	Grove Hill	Linthorpe	Newport	Ormesby	St. Hildas	Vulcan	TOTAL
..	1	..	..	..	..	..	..	..	..	1	..	..	1
8	11	1	..	3	..	..	..	..	6	..	1	..	11
..	5	..	1	..	1	..	1	..	1	..	1	..	5
1	3	..	..	1	1	..	..	..	..	..	1	..	3
3	4	1	..	..	..	1	..	..	1	..	..	1	4
2	7	1	..	..	1	..	1	..	1	..	1	2	7
2	14	3	..	1	2	..	2	..	1	2	3	..	14
8	25	4	2	1	..	..	..	..	1	4	8	5	25
19	66	5	..	14	7	5	2	2	7	7	12	5	66
3	6	..	..	2	..	..	1	..	1	..	2	..	6
3	20	..	1	2	2	4	1	1	1	..	5	3	20
..	3	..	..	..	..	1	..	..	..	..	1	1	3
..	3	..	1	..	..	..	..	..	1	..	..	1	3
..	5	..	..	..	..	1	1	..	1	1	..	1	5
..	5	1	..	1	..	..	..	..	..	2	1	..	5
..	10	..	3	1	..	..	..	..	2	1	2	1	10
..	76	3	5	9	8	2	7	4	12	12	9	5	76
2	44	3	..	9	6	..	1	..	5	10	5	5	44
1	32	3	2	2	1	1	3	2	3	5	8	2	32
..	2	1	..	..	..	..	..	..	..	..	1	..	2
52	342	26	15	46	29	15	20	9	44	45	61	32	342
Birth Rate ..	15.19	16.97	35.18	25.42	17.89	20.91	13.37	35.07	26.17	33.93	25.28	25.70	
Inf. Mort. Rate	115	82	105	97	95	69	55	95	131	136	102	97	



TABLE III. Nett Deaths registered

CAUSES OF DEATH		Ages at Death.									Deaths in Public
		All ages	Under 1 yr.	1 and under 2 yrs.	2 and under 5 yrs.	5 and under 15 yrs.	15 and under 25 yrs.	25 and under 45 yrs.	45 and under 65 yrs.	65 and upwards	
All Causes	Certified .. Uncertified	1976 8	341 1	136 ..	128 ..	100 ..	97 ..	247 ..	471 3	456 4	
Enteric Fever .. ..	..	..	..	..	..	..	..	..	..	..	..
Smallpox .. ..	..	..	..	..	..	..	..	..	..	..	..
Measles .. ..	..	53	11	22	16	4	..	..	..	..	..
Scarlet Fever .. ..	..	5	..	1	2	2	..	..	..	..	..
Whooping Cough .. ..	..	19	5	3	9	2	..	..	..	..	..
Diphtheria and Croup .. ..	..	13	..	3	7	3	..	..	..	..	11
Influenza .. ..	..	39	2	1	2	1	5	7	15	6	6
Erysipelas .. ..	..	5	..	1	..	..	..	2	2	..	3
Pulmonary Tuberculosis .. ..	..	173	1	7	5	17	38	67	37	1	47
Tuberculous Meningitis .. ..	..	15	3	1	4	4	1	2	..	..	5
Other Tuberculous Diseases .. ..	..	34	3	6	7	6	3	7	2	..	16
Cancer, Malignant Disease .. ..	..	131	..	..	1	..	..	15	72	43	42
Rheumatic Fever .. ..	..	7	..	..	1	1	2	..	1	2	..
Meningitis .. ..	..	14	5	3	3	2	..	..	1	..	4
Organic Heart Disease .. ..	..	164	1	..	1	4	3	15	75	65	51
Bronchitis .. ..	..	167	25	9	1	1	3	8	45	75	21
Pneumonia .. ..	..	135	6	5	7	9	6	40	41	21	31
" Broncho .. ..	..	198	60	54	38	9	2	9	9	17	18
Other Respiratory Diseases .. ..	..	23	4	..	2	1	..	3	9	4	9
Diarrhoea and Enteritis .. ..	..	39	26	7	5	..	..	1	..	..	6
Appendicitis and Typhlitis .. ..	..	11	..	..	..	3	2	2	3	1	16
Cirrhosis of Liver .. ..	..	8	..	..	..	..	..	1	5	2	4
Alcoholism .. ..	..	..	..	..	..	..	..	..	..	..	..
Nephritis and Bright's Disease .. ..	..	35	..	..	..	..	..	6	20	9	10
Puerperal Fever .. ..	..	3	..	..	..	..	..	3	..	..	1
Other Accidents and Diseases of Pregnancy .. ..	..	13	..	..	..	..	2	11	..	..	8
Congenital Debility and Malformation, including Premature Birth .. ..	..	124	124	..	..	..	..	..	..	..	25
Violent Deaths .. ..	..	64	2	1	6	8	12	9	12	14	48
Suicide .. ..	..	12	..	..	..	..	3	4	5	..	1
Encephalitis Lethargica .. ..	..	3	..	..	..	1	2	..	..	..	3
Syphilis .. ..	..	4	3	1	..	..	..	..	..	..	..
Manslaughter .. ..	..	1	..	..	..	..	..	1	..	..	..
Chickenpox .. ..	..	1	1	..	..	..	..	..	..	..	..
Poliomyelitis .. ..	..	2	..	..	2	..	..	..	..	..	..
Cerebrospinal Fever .. ..	..	1	..	1	..	..	..	..	..	..	1
Other defined Diseases .. ..	..	442	54	9	8	22	13	34	113	189	202
Diseases ill-defined or unknown .. ..	..	26	6	1	1	..	..	..	7	11	4
Totals .. ..	..	1984	342	136	128	100	97	247	474	460	603

ring the year 1925.

Number of Deaths and Death Rate in each Ward in the Borough.											
Ayresome	Acklam	Cannon	Cleveland	Exchange	Grove Hill	Linthorpe	Newport	Ormesby	St. Hildas	Vulcan	Totals
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
2	1	8	1	1	1	..	24	4	9	2	53
..	..	2	1	..	..	1	..	..	..	1	5
1	1	1	2	1	2	2	3	1	4	1	19
1	1	2	1	..	..	2	2	..	2	2	13
2	1	8	6	1	2	1	2	2	5	9	39
..	..	..	..	..	1	1	1	1	..	1	5
11	8	22	15	6	12	9	26	18	30	16	173
2	2	1	2	..	4	..	2	..	2	..	15
2	5	3	3	4	1	..	4	3	5	4	34
11	7	11	11	13	13	10	17	11	13	14	131
1	2	..	..	..	..	..	1	2	1	..	7
1	1	..	1	..	2	1	2	1	4	1	14
7	11	19	14	14	12	10	18	12	26	21	164
7	13	9	18	12	11	17	12	16	32	20	167
16	8	17	13	3	5	11	16	10	22	14	135
10	5	39	22	9	10	9	36	12	28	18	198
2	..	2	3	..	3	1	2	5	5	..	23
..	1	6	5	5	2	1	4	3	9	3	39
..	..	1	4	..	1	1	3	..	1	..	11
..	2	..	..	1	3	..	..	..	2	..	8
..	..	..	..	..	..	..	..	..	..	..	..
2	5	4	3	3	3	6	2	1	3	3	35
..	1	..	..	..	..	..	1	..	..	1	3
1	..	2	1	..	..	..	5	..	1	3	13
5	6	18	14	3	9	4	19	20	15	11	124
7	5	4	8	5	6	8	7	6	5	3	64
..	..	..	1	..	2	1	2	2	..	4	12
..	..	..	..	..	..	..	..	1	2	..	3
..	..	..	..	1	..	..	..	..	2	1	4
..	..	..	..	..	..	..	..	..	1	..	1
..	..	..	..	..	..	..	..	1	..	..	1
..	..	..	..	..	..	..	1	..	1	..	2
..	..	..	..	..	..	..	..	..	..	1	1
39	26	48	43	36	38	34	46	44	59	29	442
3	3	3	2	..	1	1	5	3	4	1	26
33	115	230	194	118	144	131	263	179	293	184	1984



TABLE IV.—Notifications of Infectious Diseases received during the Year ending December 31st, 1925.

NOTIFIABLE DISEASE	NUMBER OF CASES NOTIFIED							Total Cases Notified in each Ward of the Borough										Cases Removed		
	At all ages	At Ages						Ayresome	Acklam	Cannon	Cleveland	Exchange	Grove Hill	Linthorpe	Newport	Ormesby	St. Hildas	Vulcan	West Lane Hospital	Hemlington Hospital
		Under 1 year	1 and under 5 years	5 and under 15 years	15 and under 25 years	25 and under 45 years	45 and under 65 years													
Diphtheria ..	80	3	33	30	8	6	..	10	6	3	7	5	12	7	8	10	6	6	68	..
Erysipelas ..	75	1	1	3	9	25	27	15	2	10	12	2	5	3	11	6	4	5	..	..
Scarlet Fever ..	432	4	156	213	42	14	3	64	41	28	38	17	27	43	48	49	30	47	404	..
Continued Fever ..	2	..	..	..	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..
Puerperal Fever ..	9	..	..	..	1	8	..	2	..	1	..	1	..	..	3	1	..	1	..	..
Ophthalmia Neonatorum ..	12	12	..	..	..	..	..	1	1	..	1	1	1	..	4	1	1	1	..	..
Small-pox ..	901	16	111	469	135	92	67	67	55	58	83	29	70	40	151	211	53	84	..	891*
Poliomyelitis ..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
Dysentery ..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia ..	292	19	62	50	34	57	47	56	15	31	28	13	19	29	33	15	21	32	1	..
Influenza ..	2	..	..	..	..	1	1	..	..	..	1	..	..	..	1	..	..	..	..	..
Cerebrospinal Fever..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Encephalitis Lethargica ..	4	..	1	1	2	..	..	1	..	..	1	..	..	..	..	1	1	..	..	..
Chickenpox ..	744	53	267	413	9	2	..	90	71	80	79	27	91	80	134	28	37	27	2	..
Measles ..	2636	184	1622	795	26	8	1	170	158	238	269	134	158	169	527	432	204	177	3	..
Pulmonary Tuberculosis:																				
Males ..	230	2	19	80	28	67	33	18	15	31	21	9	13	7	39	19	39	19	59	..
Females ..	183	1	13	80	33	40	14	14	6	27	14	14	6	12	31	15	26	18	43	..
Other forms of Tuberculosis:																				
Males ..	96	5	31	42	9	8	1	12	4	7	10	3	6	7	16	13	11	7	2	..
Females ..	96	4	23	47	11	9	2	8	4	15	7	9	3	4	12	7	17	10	2	..
Totals ..	5798	304	2342	2223	348	338	197	46	530	530	571	264	411	401	1019	809	451	434	584	891

\* In addition Ten were treated at the Middlesbrough Mental Hospital.





## NOTIFICATION OF BIRTHS ACT, 1907.

TABLE VI.—Summary of Notifications received, 1921 to 1925. (Including Stillbirths).

WARD	1921	1922	1923	1924	1925
Ayresome .. .. .	357	222	266	255	233
Acklam .. .. .	299	204	219	205	187
Cannon .. .. .	493	470	442	466	447
Cleveland .. .. .	453	324	330	292	315
Exchange .. .. .	256	167	166	149	169
Grove Hill .. .. .	233	208	302	269	295
Linthorpe .. .. .	253	484	166	206	170
Newport .. .. .	603	398	529	481	487
Ormesby .. .. .	463	349	414	343	361
St. Hildas .. .. .	526	477	454	475	467
Vulcan .. .. .	419	267	324	324	320
Non Resident .. ..	13	24	10	23	13
Total .. .. .	4,368	3,594	3,622	3,488	3,464
Attended by :—					
Medical Practitioners ..	1,813	1,273	1,288	1,131	1,156
Registered Midwives ..	2,543	2,318	2,333	2,356	2,304
Other Women .. ..	12	3	1	1	4



TABLE VII.—Cases of Infectious Disease treated at the Corporation Hospitals during 1925.

DISEASE	Remaining in Hospital December 31st, 1924.	Cases admitted and Deaths per month																								Totals	
		January		February		March		April		May		June		July		August		September		October		November		December			
		Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
West Lane Fever Hospital—																											
Smallpox																											
Contacts ..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	
Scarlet Fever ..	54	40	..	26	1	37	..	33	1	41	..	28	1	27	..	22	1	39	..	44	2	55	1	30	1	476	
Scarlet and																											
Measles ..	2	..	..	1	..	4	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	
Diphtheria ..	8	5	2	6	1	5	1	4	1	3	..	2	..	8	1	6	..	4	..	14	1	8	1	3	..	76	
Scarlet and																											
Diphtheria ..	..	1	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
Measles ..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	
Chickenpox	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
Scarlet & Chic-																											
kenpox Cont'ct	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	
Meningitis ..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Influenza ..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
Primary																											
Pneumonia ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	
Total ..	64	52	2	35	2	47	1	43	3	45	..	31	1	35	1	29	1	43	..	59	3	63	2	33	1	579	
Tuberculosis Hospital—																											
Male ..	20	2	1	5	1	8	1	5	..	4	1	3	1	6	..	6	..	5	..	4	1	4	..	5	..	77	
Female ..	8	2	1	5	..	5	..	2	..	6	..	5	..	6	1	2	1	4	..	3	..	7	1	2	..	57	
Total ..	28	4	2	10	1	13	1	7	..	10	1	8	1	12	1	8	1	9	..	7	1	11	1	7	..	124	
Hemlington Hospital—																											
Smallpox ..	61	222	..	185	..	144	..	132	..	89	..	60	..	39	..	17	..	2	..	7	..	7	..	1	..	966	
Contacts ..	..	..	..	1	..	1	..	9	..	1	..	2	..	4	..	..	..	..	..	..	..	..	..	..	..	18	
Observation ..	..	1	..	4	..	1	..	..	..	5	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	13	
Chickenpox ..	..	1	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	5	
Total ..	61	224	..	190	..	146	..	142	..	95	..	63	..	44	..	18	..	2	..	9	..	7	..	1	..	1002	

THE UNDERMENTIONED CASES WERE ADMITTED FROM OUTSIDE THE BOROUGH :—

AREA	Scarlet Fever	Diphtheria	Scarlet Fever and Diphtheria	Scarlet Fever and Measles	Meningitis	Smallpox	Total
Thornaby ..	23	5	1	1	1	3	34
Warm ..	3	..	..	..	..	..	3
Wainby ..	1	..	..	..	..	..	1
Vest Hartlepool ..	..	..	..	..	..	10	10
Hartlepool ..	..	..	..	..	..	1	1
TOTAL ..	27	5	1	1	1	14	49

**TABLE VIII.—Cases of Infectious Disease Treated at the Corporation Hospitals during the Years 1921—1925.**

Institution	Infectious Disease	1921		1922		1923		1924		1925	
		Cases	D'ths	Cases	D'ths	Cases	D'ths	Cases	D'ths	Cases	D'ths
West Lane Fever Hospital	Scarlet Fever .. ..	124	..	306	3	1209	18	810	9	476	8
	Scarlet Fever and Measles ..	..	..	..	..	..	..	..	..	6	..
	Scarlet Fever and Diphtheria .. ..	..	..	..	..	..	..	..	..	4	..
	Scarlet Fever and Chickenpox .. ..	..	..	..	..	..	..	..	..	1	..
	Scarlet Fever Contact .. ..	..	..	..	..	..	..	1	..	..	..
	Enteric Fever .. ..	3	3	2	1	3	1	3	..	..	..
	Meningitis .. ..	..	..	..	..	1	1	..	..	1	1
	Diphtheria .. ..	128	5	89	13	77	3	79	7	76	8
	Encephalitis Lethargica ..	..	..	..	..	..	..	1	..	..	..
	Continued Fever .. ..	1	..	2	..	..	..	..	..	..	..
	Mumps .. ..	..	..	3	..	..	..	..	..	..	..
	Cerebrospinal Fever ..	1	1	..	..	..	..	..	..	..	..
	Measles .. ..	1	..	..	..	..	..	..	..	3	..
	Smallpox .. ..	7	..	..	..	..	..	..	..	..	..
	Smallpox Contact .. ..	..	..	..	..	..	..	..	..	5	..
	Chickenpox .. ..	1	..	..	..	..	..	..	..	2	..
	Primary Pneumonia .. ..	..	..	..	..	..	..	..	..	1	..
	Influenza .. ..	..	..	..	..	..	..	..	..	2	..
	Totals .. ..	266	9	402	17	1290	23	894	16	579	17
Tuberculosis Hospital	Male .. ..	44	8	58	12	60	10	61	5	77	6
	Female .. ..	54		56		51	..	61	2	57	4
	Totals .. ..	98	..	114	..	111	10	122	7	124	10
Hemlington Smallpox Hospital	Smallpox .. ..	41	..	247	..	109	..	470	2	966	2
	Chickenpox .. ..	..	..	..	..	1	..	..	..	5	..
	Observation .. ..	..	..	..	..	3	..	1	..	13	..
	Contacts .. ..	..	..	4	..	..	..	2	..	18	..
	Totals .. ..	41	..	251	..	113	..	473	2	1002	2

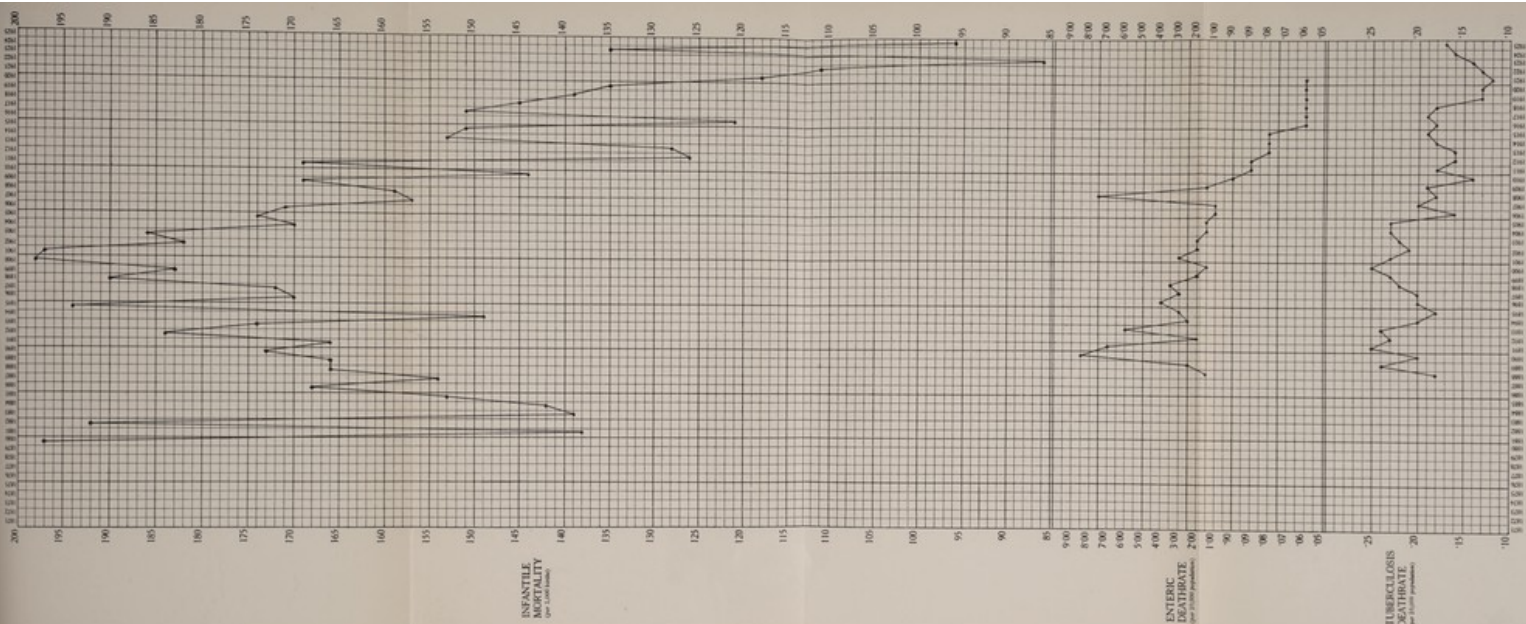


TABLE IX.—Birth Rate, Death Rate and Analysis of Mortality, 1921 to 1925.

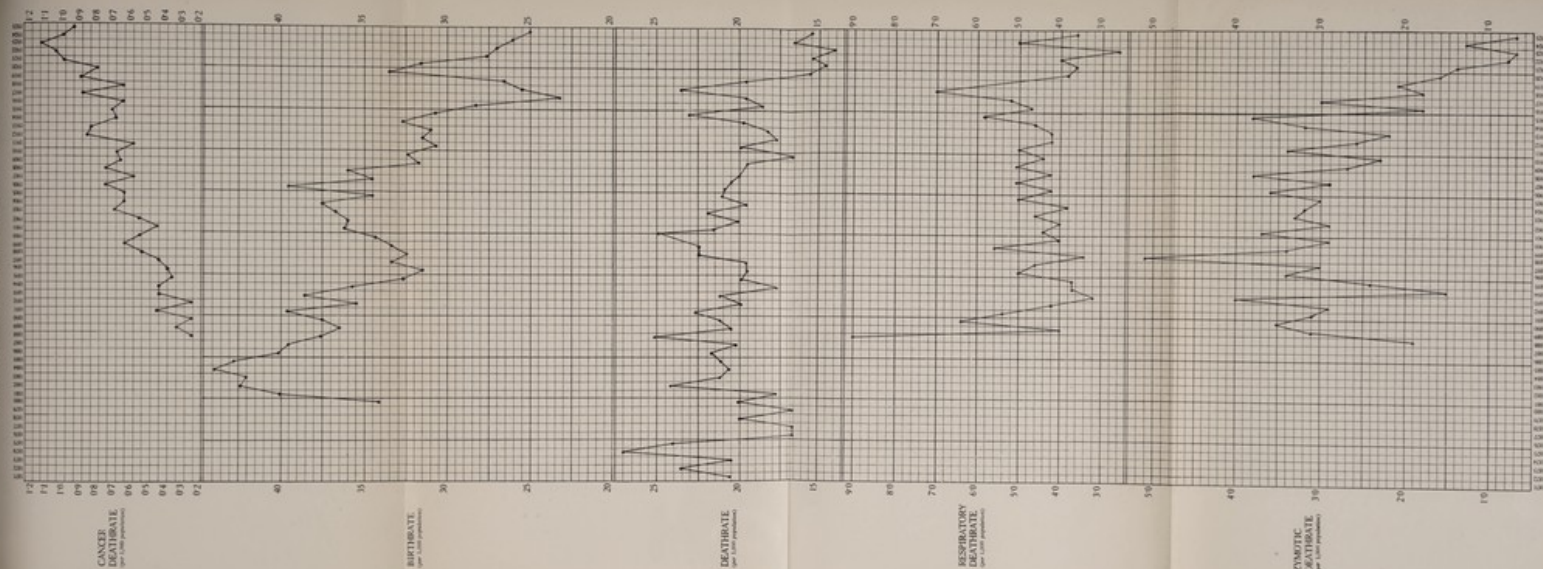
	1921	1922	1923	1924	1925	1925 105 County Boroughs and Great Towns
Birth-rate .. .. .	31.62	27.90	27.53	26.30	25.70	18.8
Death-rate per 1,000 population	14.4	14.5	13.03	16.7	15.56	12.2
do. Enteric .. .. .	0.00	0.00	0.00	0.00	0.00	0.01
do. Smallpox .. .. .	0.00	0.00	0.00	0.01	0.00	0.00
do. Measles .. .. .	0.36	0.07	0.58	0.19	0.39	0.17
do. Scarlet Fever .. .. .	0.00	0.03	0.13	0.11	0.03	0.03
do. Whooping Cough .. .. .	0.09	0.26	0.00	0.14	0.55	0.18
do. Diphtheria .. .. .	0.07	0.09	0.08	0.07	0.09	0.09
do. Influenza .. .. .	0.11	0.60	0.13	1.04	0.28	0.30
do. Violence .. .. .	0.44	0.53	0.46	0.40	0.56	0.43
Death rate per 1,000 births						
Diarrhoea and Enteritis (under 2 years) .. .. .	25.6	10.8	0.3	12.5	0.9	10.8
Death rate under one year .. .. .	118	111	86	135	97	79
Per cent of causes of death						
certified .. .. .	98.7	98.1	91.6	91.3	92.4	92.1
Inquest Cases .. .. .	6.3	6.6	7.2	7.6	7.2	7.3
Uncertified .. .. .	1.2	1.9	1.2	1.1	0.4	0.6















## APPENDIX A.

TABLE I.—County Borough of Middlesbrough—Vital Statistics, 1871 to 1925.

Year	Birth Rate per 1,000 (Population)	Death Rate per 1,000 (Population)	Infant Mortality Rate per 1,000 (Births)	Zymotic Death Rate per 1,000 (Population)	Enteric Fever per 10,000 (Population)	T.B. per 10,000 (Population)	Cancer per 1,000 (Population)	Population
1871	....	20.77	....	....	....	....	....	39,284
1872	....	23.06	....	....	....	....	....	43,885
1873	....	21.04	....	....	....	....	....	....
1874	....	27.95	....	....	....	....	....	45,000
1875	....	23.93	....	....	....	....	....	53,503
1876	....	16.73	....	....	....	....	....	....
1877	....	16.96	....	....	....	....	....	....
1878	....	20.33	....	....	....	....	....	....
1879	....	16.92	....	....	....	....	....	....
1880	34.77	20.77	197	....	....	....	....	....
1881	40.71	17.95	138	....	....	....	....	55,934
1882	42.55	23.87	192	....	....	....	....	....
1883	42.32	21.56	139	....	....	....	....	....
1884	43.92	21.34	142	....	....	....	....	....
1885	42.96	21.62	153	....	....	....	....	....
1886	40.80	21.88	168	....	....	....	....	....
1887	39.70	20.76	154	....	....	....	....	....
1888	37.16	25.00	166	1.9	1.7	18.62	0.27	69,255
1889	36.76	20.21	166	3.2	2.5	24.54	0.33	74,156
1890	37.07	21.52	173	3.5	8.6	21.38	0.23	75,280
1891	39.63	22.70	166	3.1	7.5	25.94	0.43	75,541
1892	35.76	19.87	184	2.9	2.1	23.02	0.23	76,876
1893	38.76	21.03	174	4.0	6.3	24.28	0.42	80,300
1894	35.76	17.65	149	1.5	2.7	20.74	0.42	83,399
1895	32.91	19.31	194	2.4	3.3	18.36	0.38	84,962
1896	31.70	19.64	170	3.4	4.2	20.12	0.40	86,991
1897	33.35	19.16	172	3.0	3.3	20.08	0.37	88,124
1898	32.50	22.06	190	5.5	3.6	22.18	0.48	89,246
1899	33.40	22.00	183	3.4	2.4	22.99	0.54	93,515
1900	34.46	24.81	198	2.9	1.7	25.46	0.69	97,007
1901	36.44	21.84	197	3.7	3.4	24.64	0.58	91,317
1902	36.09	20.48	182	2.9	2.4	21.85	0.45	93,354
1903	36.72	21.80	186	3.3	2.5	23.15	0.57	95,013
1904	37.12	19.94	170	3.2	1.8	22.54	0.71	96,684
1905	34.91	21.00	174	3.0	1.9	22.56	0.69	98,369
1906	35.91	20.73	171	3.6	1.4	16.98	0.69	100,069
1907	34.22	20.66	157	2.9	1.4	20.83	0.83	101,783
1908	36.06	20.06	159	3.8	2.0	18.93	0.65	103,511
1909	31.95	19.64	169	2.7	1.7	19.28	0.83	105,255
1910	32.14	16.88	144	2.3	0.9	14.29	0.71	107,014
1911	30.96	19.85	169	3.4	0.9	17.50	0.72	105,124
1912	31.88	17.57	126	2.2	0.8	16.14	0.67	106,554
1913	31.12	18.04	128	3.8	0.3	16.20	0.87	107,993
1914	32.51	19.80	153	1.8	0.4	17.63	0.72	126,452
1915	30.87	23.01	151	3.0	0.3	19.67	0.85	116,901
1916	28.12	18.64	121	1.8	0.6	17.65	0.68	115,548
1917	23.03	19.84	151	2.2	0.8	10.73	0.86	119,261
1918	25.64	23.67	145	1.6	0.2	18.74	0.83	115,752
1919	26.66	19.16	139	1.4	0.19	13.13	0.87	127,142
1920	33.51	15.95	135	1.6	0.07	13.46	0.79	132,208
1921	31.62	14.74	118	1.4	0.07	12.14	0.84	133,400
1922	27.99	15.26	111	0.8	0.07	13.50	1.09	134,800
1923	27.53	13.85	86	0.7	....	14.03	1.13	135,400
1924	26.33	17.42	135	1.3	....	17.53	1.05	136,300
1925	25.70	15.56	97	0.95	....	16.29	0.95	136,200

Great  
War  
Period



TABLE II.—Registers

YEAR	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
POPULATION						55934							69255	74156	75280	75541	76376	80300	83399	84962	86991
CAUSE OF DEATH :—																					
Enteric Fever .. ..	35	29	45	20	26	16	28	36	30	18	22	15	12	19	65	57	16	51	23	28	37
Smallpox .. ..	..	..	..	..	..	3	..	3	2	1	2	18	5	..	..	..	2	7	4	..	..
Measles .. ..	5	1	36	1	47	..	29	13	50	92	11	36	18	37	8	27	56	9	48	1	70
Scarlet Fever .. ..	8	5	47	62	80	22	18	110	73	2	81	12	15	24	11	20	3	5	3	39	28
Whooping Cough .. ..	..	15	50	5	38	22	54	8	26	92	17	26	45	30	46	17	20	55	23	33	54
Diphtheria and Croup ..	14	17	7	12	15	7	14	9	13	8	16	35	22	21	16	27	21	18	19	19	29
Influenza .. ..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	9	37	25	16	17	45	5
Erysipelas .. ..	..	..	..	2	3	2	6	7	1	2	..	1	4	4	1	1	..	3	5	4	2
Pulmonary Tuberculosis ..	114	75	89	99	82	97	107	121	123	108	126	92	87	122	115	141	123	90	144	123	135
Tuberculous Meningitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Other Tuberculous Diseases ..	30	23	53	12	70	21	38	40	60	28	45	44	42	60	46	55	54	105	29	33	38
Cancer, Malignant Disease ..	..	6	14	17	16	16	28	26	17	29	25	23	19	25	18	33	18	34	35	33	35
Rheumatic Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	7
Meningitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25	26	29
Organic Heart Disease ..	34	47	55	56	60	68	58	63	62	67	75	57	88	92	85	105	99	66	115	105	95
Bronchitis .. ..	110	117	121	101	136	103	163	100	100	155	107	119	221	176	198	202	165	119	126	143	154
Pneumonia .. ..	24	37	61	60	101	87	148	135	92	123	144	148	397	134	297	200	157	154	180	158	275
"  Broncho .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Respiratory Diseases ..	2	..	3	5	3	3	5	5	7	7	11	8	22	3	7	18	8	4	21	32	29
Diarrhoea and Enteritis ..	67	43	97	30	105	63	108	61	98	58	92	100	21	108	124	88	106	181	11	90	82
Appendicitis and Typhilitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cirrhosis of Liver .. ..	2	8	8	10	4	9	12	9	19	18	12	13	12	16	27	12	19	16	13	13	11
Alcoholism .. ..	..	1	..	..	3	1	1	..	..	1	1	1	..	4	1	4	..	1	1	1	5
Nephritis and Brights Disease ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	25	16
Puerperal Fever .. ..	..	..	..	..	..	..	7	..	..	1	..	..	..	..	5	..	..	2	2	2	2
Other Accidents and Diseases of Pregnancy .. ..	..	1	5	8	9	6	17	18	15	8	16	9	10	12	13	8	12	9	5	7	7
Congenital Debility and Malformation, including	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Premature Birth .. ..	98	89	110	96	96	81	148	155	147	142	173	133	144	165	157	168	198	180	185	212	186
Violent Deaths .. ..	49	25	43	27	29	53	52	44	36	25	32	42	50	32	32	49	44	42	39	45	47
Suicide .. ..	..	..	..	2	1	..	1	..	..	..	..	..	..	1	..	..	..	..	1	..	..
Other defined Diseases ..	315	374	244	278	286	309	341	331	314	295	323	323	442	372	332	421	392	428	330	396	276
Diseases ill-defined or unknown ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	9	21
Syphilis .. ..	..	..	2	10	5	10	12	11	13	19	16	9	10	11	7	20	4	4	5	9	8
Typhus Fever .. ..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Beri-Beri .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Murder, &c. .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebro-spinal Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chickenpox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaria .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis Lethargica ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total .. ..	907	913	1090	913	1215	999	1387	1313	1299	1308	1351	1264	1686	1468	1615	1711	1542	1597	1449	1615	1684



## Deaths—1876 to 1925.

1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
88124	89246	93515	97007	91317	93354	95013	96684	98359	100069	101783	103511	105255	107014	108124	109554	107993	128452	116901	115548	119251	115752	127142	132208	133490	134800	135400	136300	136200
29	32	23	17	31	23	24	18	19	15	15	21	18	10	10	9	4	6	4	8	10	2	2	1	1	1	..	..	..
..	198	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..
10	63	68	25	43	10	67	39	71	23	97	99	62	11	76	183	51	64	198	9	159	12	203	43	48	9	78	25	53
11	8	13	14	27	42	7	11	11	15	8	5	4	3	8	23	23	36	11	16	3	4	10	6	..	4	18	15	5
66	14	41	39	32	31	15	25	43	40	49	7	69	32	79	7	23	60	49	27	39	57	9	24	13	35	..	76	19
20	19	14	5	22	63	45	19	43	38	41	38	23	39	28	10	22	55	47	52	28	25	35	12	10	14	10	9	13
23	1	19	28	9	8	15	4	5	6	24	14	18	6	7	8	11	13	20	13	11	353	149	16	25	81	18	141	39
2	3	3	6	3	5	1	1	3	4	4	3	3	2	3	3	3	6	1	3	..	1	3	1	2	3	9	6	5
104	120	131	158	123	123	120	123	134	116	144	125	135	100	119	116	127	169	161	160	172	155	135	142	133	150	156	200	173
23	21	20	16	20	28	29	25	20	14	17	19	27	14	15	21	16	17	25	14	7	19	8	10	4	11	16	7	15
50	57	64	73	82	53	61	70	68	40	51	52	41	39	50	35	32	37	44	30	49	43	24	26	25	21	18	32	34
33	43	51	67	53	42	55	69	68	70	85	68	88	76	76	72	94	92	100	79	103	97	111	105	114	136	153	137	131
..	4	6	4	8	7	5	1	8	10	9	11	7	6	5	3	8	8	4	1	5	3	3	18	11	22	15	11	7
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	37	41	51	44	25	34	13	19	24	15	20	18	14
112	112	136	147	134	125	137	131	143	157	156	136	143	109	134	132	133	152	146	125	109	100	122	114	123	121	120	142	164
153	96	134	158	117	87	110	109	119	109	119	110	140	125	139	141	147	186	173	151	162	162	182	159	165	183	119	210	167
265	225	397	543	285	306	346	265	371	316	435	353	402	351	214	196	172	260	488	365	390	634	207	178	155	178	127	141	135
..	..	..	..	..	..	..	..	..	..	..	..	..	..	195	105	133	135	..	..	..	..	207	161	140	213	126	338	198
18	16	16	31	19	19	22	30	27	24	25	23	20	24	24	29	24	46	29	25	37	33	40	36	34	26	18	28	23
131	158	166	182	188	109	160	197	148	229	92	226	110	155	160	50	119	193	144	114	124	112	108	125	121	55	53	57	39
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6	7	2	2	3	..	8	5	4	11	7	5	11
23	7	15	11	8	11	14	11	11	18	18	10	10	12	6	11	15	9	6	6	4	4	4	5	3	5	2	1	8
2	11	13	11	5	6	6	5	2	2	3	..	..	3	2	3	2	3	2	4	..	1	1	4	1	..	..	..	..
..	14	29	24	28	24	20	29	15	29	29	19	36	27	24	30	56	43	48	45	41	24	25	29	34	35	34	32	35
..	2	2	3	2	1	5	4	1	3	2	..	..	4	1	..	3	2	2	2	2	1	4	7	4	5	1	3	3
5	4	8	11	12	10	22	13	16	16	13	8	10	9	6	11	15	9	12	12	16	10	4	7	8	8	11	9	13
185	219	195	231	219	242	222	194	189	235	200	202	232	187	178	196	182	240	195	177	163	158	165	179	128	119	136	150	124
60	55	59	70	78	72	59	50	59	55	63	52	46	48	47	60	57	66	57	83	59	64	65	55	59	64	63	55	64
1	1	..	2	4	6	4	3	5	4	2	9	4	12	2	5	13	6	9	4	2	3	2	4	13	11	3	6	12
371	439	401	483	412	422	457	447	446	428	382	418	383	370	448	346	392	504	538	477	550	502	469	509	468	482	415	408	442
..	19	27	40	22	27	36	18	9	35	14	26	25	25	26	21	21	28	15	39	32	25	20	6	10	..	5	8	26
8	..	6	7	9	10	8	17	12	21	6	15	10	6	4	9	6	11	..	..	..	..	..	13	9	12	11	4	4
1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
..	1	1	..	..	..	..	..	..	3	..	2	3	1	1	2	2	..	..	..	..	..	..	2	2	1	1	..	1
..	..	..	1	..	..	..	..	..	..	..	5	5	1	..	..	..	..	4	2	3	3	1	..	..	..	1	..	1
..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	2	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	4	3
7106	1967	2058	2407	1995	1912	2072	1928	2066	2075	2103	2077	2068	1807	2087	1873	1949	2504	2691	2154	2366	2741	2437	2026	1893	2057	1876	2283	1894

TABLE III.—Infantile

YEAR—	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Births Registered .. ..	2758	2747	2956	2904	3130	3343	3328	3370	3489	3589	3435	3594	3483
Birthrate .. ..	32.91	31.70	33.35	32.50	33.45	34.46	36.44	36.09	36.72	37.12	34.91	35.91	34.21
Infantile Mortality Rate ..	194	170	172	190	183	198	197	182	186	170	174	171	157
Number Deaths under 1 year :													
Under 4 weeks .. ..	..	..	..	..	..	..	..	..	..	..	172	169	159
4 weeks to 3 months ..	..	..	..	..	..	..	..	..	..	..	98	123	93
3 months to 6 months ..	..	..	..	..	..	..	..	..	..	..	130	126	100
6 months to 9 months ..	..	..	..	..	..	..	..	..	..	..	94	100	97
9 months to 12 months ..	..	..	..	..	..	..	..	..	..	..	104	93	94
Total .. ..	536	467	509	566	575	663	657	616	650	612	598	611	543
Causes of Infant Deaths :—													
Common Infectious Diseases ..	..	..	..	26	36	35	19	10	31	22	37	27	50
Premature Birth .. ..	..	..	..	56	67	79	72	69	77	57	79	74	52
Atrophy, Debility, Marasmus ..	..	..	..	133	100	136	134	151	124	113	96	140	114
Other Diseases of Early Infancy .. ..	..	..	..	13	13	21	4	6	12	17	5	6	16
Diarrhoeal & Digestive Dis. ..	..	..	..	112	116	133	137	80	104	146	118	162	74
Tubercular Diseases .. ..	..	..	..	33	36	34	42	28	33	35	28	16	27
Respiratory Diseases .. ..	..	..	..	58	90	98	92	92	126	98	116	73	117
Convulsions .. ..	..	..	..	93	64	80	84	72	68	45	38	41	40
Other Causes .. ..	..	..	..	42	83	47	73	108	75	79	81	72	53
Total .. ..	536	467	509	566	575	663	657	616	650	612	598	611	543



## Mortality—1895 to 1925.

1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
733	3363	3440	3261	3402	3356	4106	3608	3536	3059	3331	3529	4434	4218	3774	3728	3589	3501
3.06	31.95	32.14	30.96	31.88	31.12	32.51	30.87	28.12	23.03	25.65	26.66	33.51	31.62	27.99	27.53	26.33	25.70
159	161	144	169	126	128	153	152	121	151	145	139	135	118	111	86	135	97
156	173	145	144	168	162	206	152	165	148	159	160	220	173	150	139	157	150
118	99	99	103	69	70	108	83	79	77	79	77	114	85	57	44	66	44
137	92	89	80	59	73	103	100	86	89	79	64	108	89	68	39	64	43
91	90	90	112	61	64	104	105	68	70	85	81	86	82	77	56	112	53
89	83	73	110	74	62	107	108	32	81	83	88	74	72	69	43	85	52
591	537	496	549	431	431	628	548	430	465	485	470	602	501	421	321	484	342
14	33	16	46	37	17	36	40	10	30	35	47	24	20	15	23	31	17
66	72	64	46	74	74	99	71	78	69	77	76	109	72	72	79	80	76
113	125	97	116	84	78	110	99	79	69	68	62	80	87	49	51	53	44
13	22	14	11	20	28	18	25	24	21	18	24	26	13	27	17	23	23
173	89	96	102	31	74	125	91	83	86	80	72	98	94	31	33	38	26
17	15	8	13	14	9	11	9	3	1	3	3	7	4	4	7	4	7
88	101	112	123	79	88	126	137	89	99	123	105	146	102	147	71	197	91
35	29	30	36	37	30	32	39	25	33	39	32	53	37	24	11	13	14
72	51	59	56	55	33	71	37	39	57	42	49	59	72	52	29	45	44
591	537	496	549	431	431	628	548	430	465	485	470	602	501	421	321	484	342



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Table 1. Summary of the results of the experiments.									
Run	Time	Temp.	Pressure	Flow	Conc.	Rate	Eff.	Yield	Notes
1	10	100	1.0	1.0	1.0	1.0	1.0	1.0	
2	15	100	1.0	1.0	1.0	1.0	1.0	1.0	
3	20	100	1.0	1.0	1.0	1.0	1.0	1.0	
4	25	100	1.0	1.0	1.0	1.0	1.0	1.0	
5	30	100	1.0	1.0	1.0	1.0	1.0	1.0	
6	35	100	1.0	1.0	1.0	1.0	1.0	1.0	
7	40	100	1.0	1.0	1.0	1.0	1.0	1.0	
8	45	100	1.0	1.0	1.0	1.0	1.0	1.0	
9	50	100	1.0	1.0	1.0	1.0	1.0	1.0	
10	55	100	1.0	1.0	1.0	1.0	1.0	1.0	
11	60	100	1.0	1.0	1.0	1.0	1.0	1.0	
12	65	100	1.0	1.0	1.0	1.0	1.0	1.0	
13	70	100	1.0	1.0	1.0	1.0	1.0	1.0	
14	75	100	1.0	1.0	1.0	1.0	1.0	1.0	
15	80	100	1.0	1.0	1.0	1.0	1.0	1.0	
16	85	100	1.0	1.0	1.0	1.0	1.0	1.0	
17	90	100	1.0	1.0	1.0	1.0	1.0	1.0	
18	95	100	1.0	1.0	1.0	1.0	1.0	1.0	
19	100	100	1.0	1.0	1.0	1.0	1.0	1.0	
20	105	100	1.0	1.0	1.0	1.0	1.0	1.0	
21	110	100	1.0	1.0	1.0	1.0	1.0	1.0	
22	115	100	1.0	1.0	1.0	1.0	1.0	1.0	
23	120	100	1.0	1.0	1.0	1.0	1.0	1.0	
24	125	100	1.0	1.0	1.0	1.0	1.0	1.0	
25	130	100	1.0	1.0	1.0	1.0	1.0	1.0	
26	135	100	1.0	1.0	1.0	1.0	1.0	1.0	
27	140	100	1.0	1.0	1.0	1.0	1.0	1.0	
28	145	100	1.0	1.0	1.0	1.0	1.0	1.0	
29	150	100	1.0	1.0	1.0	1.0	1.0	1.0	
30	155	100	1.0	1.0	1.0	1.0	1.0	1.0	
31	160	100	1.0	1.0	1.0	1.0	1.0	1.0	
32	165	100	1.0	1.0	1.0	1.0	1.0	1.0	
33	170	100	1.0	1.0	1.0	1.0	1.0	1.0	
34	175	100	1.0	1.0	1.0	1.0	1.0	1.0	
35	180	100	1.0	1.0	1.0	1.0	1.0	1.0	
36	185	100	1.0	1.0	1.0	1.0	1.0	1.0	
37	190	100	1.0	1.0	1.0	1.0	1.0	1.0	
38	195	100	1.0	1.0	1.0	1.0	1.0	1.0	
39	200	100	1.0	1.0	1.0	1.0	1.0	1.0	
40	205	100	1.0	1.0	1.0	1.0	1.0	1.0	
41	210	100	1.0	1.0	1.0	1.0	1.0	1.0	
42	215	100	1.0	1.0	1.0	1.0	1.0	1.0	
43	220	100	1.0	1.0	1.0	1.0	1.0	1.0	
44	225	100	1.0	1.0	1.0	1.0	1.0	1.0	
45	230	100	1.0	1.0	1.0	1.0	1.0	1.0	
46	235	100	1.0	1.0	1.0	1.0	1.0	1.0	
47	240	100	1.0	1.0	1.0	1.0	1.0	1.0	
48	245	100	1.0	1.0	1.0	1.0	1.0	1.0	
49	250	100	1.0	1.0	1.0	1.0	1.0	1.0	
50	255	100	1.0	1.0	1.0	1.0	1.0	1.0	
51	260	100	1.0	1.0	1.0	1.0	1.0	1.0	
52	265	100	1.0	1.0	1.0	1.0	1.0	1.0	
53	270	100	1.0	1.0	1.0	1.0	1.0	1.0	
54	275	100	1.0	1.0	1.0	1.0	1.0	1.0	
55	280	100	1.0	1.0	1.0	1.0	1.0	1.0	
56	285	100	1.0	1.0	1.0	1.0	1.0	1.0	
57	290	100	1.0	1.0	1.0	1.0	1.0	1.0	
58	295	100	1.0	1.0	1.0	1.0	1.0	1.0	
59	300	100	1.0	1.0	1.0	1.0	1.0	1.0	
60	305	100	1.0	1.0	1.0	1.0	1.0	1.0	
61	310	100	1.0	1.0	1.0	1.0	1.0	1.0	
62	315	100	1.0	1.0	1.0	1.0	1.0	1.0	
63	320	100	1.0	1.0	1.0	1.0	1.0	1.0	
64	325	100	1.0	1.0	1.0	1.0	1.0	1.0	
65	330	100	1.0	1.0	1.0	1.0	1.0	1.0	
66	335	100	1.0	1.0	1.0	1.0	1.0	1.0	
67	340	100	1.0	1.0	1.0	1.0	1.0	1.0	
68	345	100	1.0	1.0	1.0	1.0	1.0	1.0	
69	350	100	1.0	1.0	1.0	1.0	1.0	1.0	
70	355	100	1.0	1.0	1.0	1.0	1.0	1.0	
71	360	100	1.0	1.0	1.0	1.0	1.0	1.0	
72	365	100	1.0	1.0	1.0	1.0	1.0	1.0	
73	370	100	1.0	1.0	1.0	1.0	1.0	1.0	
74	375	100	1.0	1.0	1.0	1.0	1.0	1.0	
75	380	100	1.0	1.0	1.0	1.0	1.0	1.0	
76	385	100	1.0	1.0	1.0	1.0	1.0	1.0	
77	390	100	1.0	1.0	1.0	1.0	1.0	1.0	
78	395	100	1.0	1.0	1.0	1.0	1.0	1.0	
79	400	100	1.0	1.0	1.0	1.0	1.0	1.0	
80	405	100	1.0	1.0	1.0	1.0	1.0	1.0	
81	410	100	1.0	1.0	1.0	1.0	1.0	1.0	
82	415	100	1.0	1.0	1.0	1.0	1.0	1.0	
83	420	100	1.0	1.0	1.0	1.0	1.0	1.0	
84	425	100	1.0	1.0	1.0	1.0	1.0	1.0	
85	430	100	1.0	1.0	1.0	1.0	1.0	1.0	
86	435	100	1.0	1.0	1.0	1.0	1.0	1.0	
87	440	100	1.0	1.0	1.0	1.0	1.0	1.0	
88	445	100	1.0	1.0	1.0	1.0	1.0	1.0	
89	450	100	1.0	1.0	1.0	1.0	1.0	1.0	
90	455	100	1.0	1.0	1.0	1.0	1.0	1.0	
91	460	100	1.0	1.0	1.0	1.0	1.0	1.0	
92	465	100	1.0	1.0	1.0	1.0	1.0	1.0	
93	470	100	1.0	1.0	1.0	1.0	1.0	1.0	
94	475	100	1.0	1.0	1.0	1.0	1.0	1.0	
95	480	100	1.0	1.0	1.0	1.0	1.0	1.0	
96	485	100	1.0	1.0	1.0	1.0	1.0	1.0	
97	490	100	1.0	1.0	1.0	1.0	1.0	1.0	
98	495	100	1.0	1.0	1.0	1.0	1.0	1.0	
99	500	100	1.0	1.0	1.0	1.0	1.0	1.0	
100	505	100	1.0	1.0	1.0	1.0	1.0	1.0	