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COUNTY BOROUGH OF HALIFAX  
HEALTH DEPARTMENT.

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# ANNUAL REPORT

ON THE HEALTH  
OF THE BOROUGH

For the Year 1928.

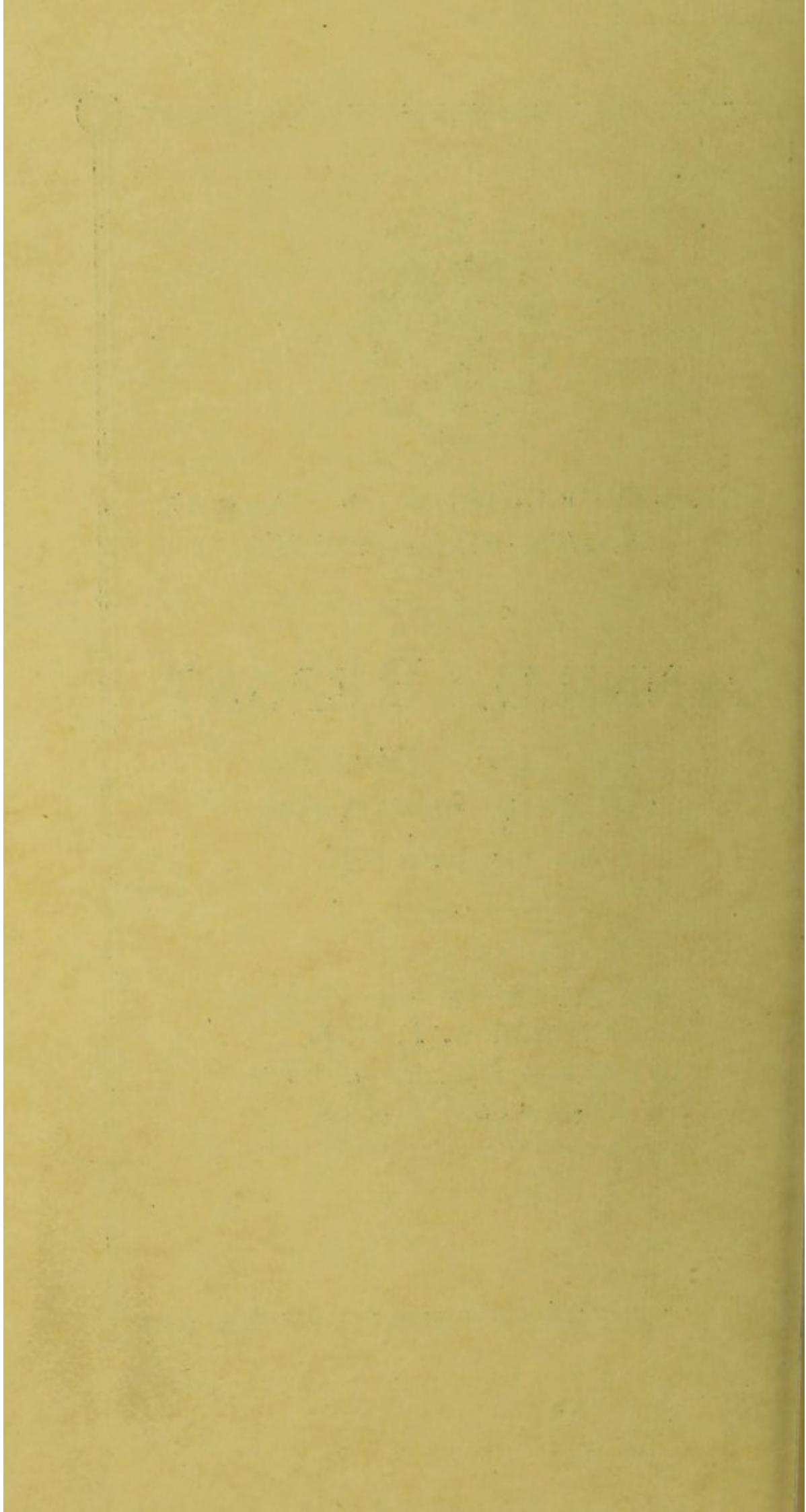
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**GEORGE C. F. ROE,**  
*L.R.C.P. & S., L.M., D.P.H., D.P.M.,*  
*Medical Officer of Health.*

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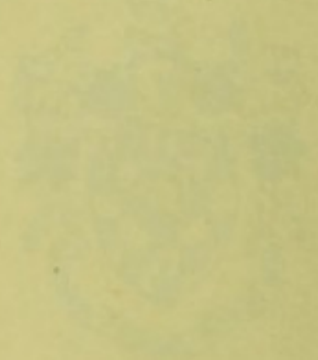
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*GEORGE C. F. ROE,*  
*L.R.C.P. & S., L.M., D.P.H., D.P.M.,*  
*Medical Officer of Health.*

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COUNTY BOARD OF HEALTH  
HEALTH DEPARTMENT

ANNUAL REPORT

ON THE HEALTH  
OF THE BOROUGH

FOR THE YEAR 1922

GEORGE C. KOK  
M.D.  
Medical Officer

# Health Committee

(as on Dec. 31st, 1928).

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## Mayor.

ALDERMAN JOHN LAW, J.P.

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ALDERMAN W. M. BRANSON, J.P., *Chairman.*

COUNCILLOR JOHN FOSTER, *Vice-Chairman.*

Ald. T. HEY, J.P.	Coun. W. GREENWOOD.
„ A. W. LONGBOTTOM, J.P.	„ F. SHARP.
„ A. WALTERS, J.P.	„ H. THORP.
Coun. P. BARRETT.	„ L. SHEPHERD.
„ J. BROADBENT.	„ F. SLATER.
„ M. WILLIAMSON, J.P.	„ M. LIGHTOWLER,
Coun. E. W. LYON.	J.P.

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## Sub-Committees

*Appointed by the Health Committee.*

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### Health Services Sub-Committee.

THE CHAIRMAN.	COUNCILLOR BARRETT.
VICE-CHAIRMAN.	„ BROADBENT.
ALDERMAN LONGBOTTOM.	„ LYON.
COUNCILLOR WILLIAMSON.	„ SHEPHERD.
	COUNCILLOR SLATER.

### Hospital Committee.

THE CHAIRMAN.	COUNCILLOR W. GREENWOOD.
VICE-CHAIRMAN.	„ LIGHTOWLER.
ALDERMAN HEY.	„ SHARP.
„ WALTERS.	„ THORP.

### Accounts Sub-Committee.

THE CHAIRMAN.	COUNCILLOR WILLIAMSON.
VICE-CHAIRMAN.	„ BARRETT.
ALDERMAN WALTERS.	„ LYON.
	COUNCILLOR SHEPHERD.

### Maternity and Child Welfare Committee.

The Health Committee with the following additional Members:—

MISS DOROTHY WRIGHT.	Mrs. LAVINIA LUMB.
Mrs. E. WHITAKER.	MISS FLORENCE WHITLEY.
Mrs. M. A. TAYLOR, J.P.	Mrs. MARY E. WILLIAMSON.
	Mrs. S. GLEDHILL.

### Welfare of the Blind Sub-Committee.

ALDERMAN W. M. BRANSON.	COUNCILLOR WILLIAMSON.
COUNCILLOR SHARP.	„ LYON.
	COUNCILLOR BROADBENT.

# Staff of the Health Department

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\*GEORGE C. F. ROE, L.R.C.P. & S., L.M., D.P.H., D.P.M.  
Medical Officer of Health and Chief Medical Officer of the Corporation.

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\*WILFRID SMITH, M.Sc., M.B., B.Ch., B.A.O.  
Assistant Medical Officer of Health, Clinical Tuberculosis Officer and  
Resident Medical Officer, Sanatorium.

\*A. LATCHMORE, M.D., Ed.  
Assistant Medical Officer of Health and Medical Officer to Maternity and  
Child Welfare Centre.

\*F. W. WATERWORTH, M.B., Ch.B., D.P.H.  
Assistant Medical Officer of Health and Assistant School Medical Officer.

J. POLLARD, M.R.C.V.S., D.V.S.M., (Vict.)  
Veterinary and Meat Inspector.

‡ J. W. BEAUMONT, M.R.S.I.  
Chief Sanitary Inspector.

† F. TEAL. † J. G. WALSHAW. † E. WILSON. † H. LEAPER.  
District Sanitary Inspectors.

† F. ROWORTH, Assistant Meat Inspector.

T. FEARNLEY, Shops Inspector.

‖§ \*ELSIE R. ORAM, Senior Health Visitor.

\*L. WOLSTENHOLME. \*E. MARSHALL. ‖§ \*M. H. SUTCLIFFE.  
†§ \*G. BRIGGS. § \*M. MOORE. \*E. G. TINDLE.  
Health Visitors.

† C. CARLTON, Chief Clerk.

H. WRIGHT. H. CARLTON. H. WARD. N. BRADLEY.  
Assistant Clerks.

F. WILSON, Matron, Fever Hospital.

\*W. DAVIDSON, Matron, Sanatorium.

P. SHARP, Removal Officer.

\*Salary contributed to, under Public Health Acts or by Exchequer Grants.

†Certificate Sanitary Inspector, Royal Sanitary Institute.

‡Royal Sanitary Institute Certificates as Sanitary and Meat and other Foods  
Inspector, and Sanitary Science as applied to Buildings and Public  
Works.

§Certificate Central Midwives Board.

‖Health Visitor's Certificate.

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The Analyst for the Borough is  
Mr. H. T. LEA, B.Sc. (Hons.) M.Sc.; F.I.C.

COUNTY BOROUGH OF HALIFAX.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH,  
**FOR THE YEAR 1928.**

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**INTRODUCTION.**

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

MR. CHAIRMAN, MADAM AND GENTLEMEN,

I have the honour to submit to you, in accordance with the Sanitary Officers' Order, 1922, the 56th Annual Report, for the year ending, December 31st, 1928.

\* \* \* \*

I only took up duty in February of the current year and the Report in its essential outlines follows the scheme of my predecessor, Dr. Banks.

\* \* \* \*

For the second time since the last census the Registrar General has estimated a slight increase in population, which had been falling year by year. The population is now estimated at 97,770, an increase of 1,500 over the previous year, though there were 18 fewer births than deaths. The birth rate was 12.8, the lowest on record.

\* \* \* \*

The death rate was lower than the average of recent years. There were 55 fewer deaths from Influenza than in 1927, and from Respiratory Diseases 87 fewer than in 1927. Deaths from violence—other than suicide—showed an increase. The Psalms declare that "the days of a man are three score and ten." Judged by modern standards, that seems a modest estimate. There is no earthly reason



why a man—or woman—shouldn't live much longer. Only care of the body is required. A disregard of the laws of health is responsible for more premature deaths than is generally supposed. The Annual Report on the Health of the Borough has valuable advice to offer in this direction, and the value of the Report to the enquiring layman is enhanced by the fact that it is unencumbered by medical technicalities.

\* \* \* \*

At whatever age we may now be we have a better expectation of life than had our fathers.

Many who would formerly have died of convulsions in infancy or fever in early adult life, now live to more advanced years.

Hygiene had played no small part in increasing the Expectation of Life in England during the past 50 years.

It had saved thousands of lives and is saving them to-day. That Hygiene and Health Education paid was now realised, and a number of American Insurance Companies had gone in for Health Propaganda for that reason.

\* \* \* \*

I am glad to be able to report a flourishing condition of the Maternity and Child Welfare Centres. The successful work carried on in these Clinics has raised the standard of mothercraft. The Clinics are very largely attended. The object of this work is preventive and educational rather than curative. All babies are undressed and weighed and then examined by the Doctor; advice and assistance are given. One of the most satisfactory features of this work has been the steady reduction in the infant mortality rate. Well directed infant welfare work means a substantial saving in infant life.

\* \* \* \*

The maternal mortality rate unfortunately shows no improvement. The key to the prevention of maternal mortality is efficient ante-natal supervision. Until all pregnant women submit to ante-natal supervision there will always be maternal deaths which might have been prevented. Puerperal sepsis is the most important single cause of maternal mortality. The prevention of puerperal sepsis depends on good midwifery practice and adequate ante-natal supervision. Ante-natal supervision is true preventive midwifery.

\* \* \* \*

As will be noticed in the body of the Report, Diphtheria continues a very deadly disease. In the winter under review the disease burst out with considerable strength in the

Borough, giving rise to very great anxiety. Clinically the cases were severe. Peri-tonsillar abscesses, heart failures and paralyses being common. The great danger in Diphtheria is delay in starting specific treatment. Many parents do not call in a doctor until the case is "in extremis." Some cases were moribund on admission to Hospital. Cases admitted several days old and without previous specific treatment stand a poor chance. If parents would call in their doctors early to these cases a vast amount of sickness, incapacity, invalidity and crippling would be avoided. This point we are impressing upon the Public by means of lectures, leaflets and a "Better Health" Magazine.

\* \* \* \*

The extensive measures we adopt in combating Small-pox are set out in the Report. Fortunately the disease continues of a mild type with a low mortality. I believe the mild unrecognised case is a great factor in the spread of the disease. The disease is sometimes regarded by the patient as so trivial that medical advice is not sought. Such cases are liable to be overlooked. The best method, yet available, of stamping out the disease is vaccination. Some day the disease may assume a virulent form. It will then be no light matter; "he jests at scars who never felt a wound."

\* \* \* \*

This Report is written on the eve of great changes in the structure of Local Government.

\* \* \* \*

I wish to tender my thanks to the Staff of the Health Department for the assistance they have rendered me in the compilation of the statistics, and for the creditable fashion in which they have, each and all, performed their various duties throughout the year.

\* \* \* \*

My thanks are due to you, Mr. Chairman, Madam and Gentlemen, for the encouragement and support you have at all times given me since I commenced my duties in Halifax.

I am,

Your obedient Servant,

G. C. F. ROE,

Medical Officer of Health.

# REPORT.

## Statistics.

AREA (acres) ... .. 13,984

POPULATION.—The following figures show the variations which have occurred in the population over a period :—

1901 Census	...	...	...	...	104,944
1911 Census	...	...	...	...	101,553
1921 Census (adjusted)	...	...	...	...	100,700
1922 Registrar-General's Estimate	...	...	...	...	100,500
1923	"	"	"	...	99,840
1924	"	"	"	...	98,750
1925	"	"	"	for Birthrate...	98,090
1925	"	"	"	for Deathrate...	97,860
1926	"	"	"	for Birthrate...	96,300
1926	"	"	"	for Deathrate...	96,130
1927	"	"	"	for Birthrate...	96,400
1927	"	"	"	for Deathrate...	96,270
1928	"	"	"	for Birthrate...	97,740
1928	"	"	"	for Deathrate...	97,540

The explanation of the difference between the "Deathrate population" and the "Birthrate population" is that non-civilians are not included when calculating the deathrate, but they are included when calculating the birthrate.

Standardising figure for Deathrate... .. .944

This is the figure by which the deathrate of Halifax must be multiplied in order to correct for the peculiar age and sex distribution of the Halifax population. The resulting figure enables a more accurate comparison to be made between the deathrate of Halifax and that of other towns.

Structurally separate dwellings occupied (Census 1921) ... .. 26,506

Number of families or separate occupiers (Census 1921) ... .. 26,830

Rateable Value ... .. £641,769

Sum represented by a penny rate ... .. £2,440

### Births.

Legitimate Males 619 ... Females 573 ... Total 1,192

Illegitimate Males 33 ... Females 43 ... Total 76

Total Births ... .. 1,268.

Birthrate per 1,000 population ... .. 12.9

Average 10 years,	1880-1889.....	29.3
”	” 1890-1899.....	24.2
”	” 1900-1909.....	20.0
”	” 1910-1919.....	15.9
”	5 ” 1921-1925.....	15.6

1925.....	14.5
1926.....	14.5
1927.....	13.8
1928.....	12.9

**Deaths.**

Males 631	...	Females 655	...	Total 1,286
Deathrate per 1,000	...	...	...	13.1
”	”	(Standardised)	...	12.3

Average 10 years,	1880-1889.....	21.0
”	” 1890-1899.....	18.6
”	” 1900-1909.....	15.3
”	” 1910-1919.....	15.6
”	5 ” 1921-1925.....	14.9
1925.....	16.9	Standardised..... 15.9
1926.....	14.3	Standardised..... 13.5
1927.....	16.4	Standardised..... 15.4
1928.....	13.1	Standardised..... 12.3

**Infant Mortality.**

Deaths of infants under 1 year.....	85
Rate per 1,000 births.....	67
(Legitimate 65, Illegitimate 92).	
Average 10 years,	1880-1889..... 159
”	” 1890-1899..... 159
”	” 1900-1909..... 121
”	” 1910-1919..... 101

1920.....	96
1921.....	99
1922.....	110
1923.....	90
1924.....	96
1925.....	93
1926.....	79
1927.....	90
1928.....	67

### Summary of Deaths.

(Based on the Registrar General's "Short List" of causes of death).

Cause of Death	Number
Enteric Fever ... ..	2
Smallpox ... ..	—
Measles ... ..	—
Scarlet Fever ... ..	2
Whooping Cough ... ..	—
Diphtheria ... ..	16
Influenza ... ..	10
Encephalitis Lethargica ... ..	2
Meningococcal Meningitis ... ..	—
Tuberculosis of respiratory system ... ..	52
Other Tuberculous Diseases ... ..	18
Cancer, Malignant Disease ... ..	172
Rheumatic Fever ... ..	3
Diabetes ... ..	22
Cerebral Hæmorrhage, etc. ... ..	92
Heart Disease ... ..	216
Arterio-sclerosis ... ..	93
Bronchitis ... ..	55
Pneumonia (all forms) ... ..	86
Other Respiratory Diseases ... ..	13
Ulcer of Stomach or Duodenum ... ..	8
Diarrhœa, etc. ... ..	10
Appendicitis and Typhlitis ... ..	8
Cirrhosis of Liver ... ..	3
Acute and Chronic Nephritis .. ..	37
Puerperal Sepsis ... ..	5
Other Accidents and Diseases of Pregnancy and Parturition ... ..	8
Congenital Debility and Malformation, Premature Birth	46
Suicide ... ..	19
Other deaths from violence ... ..	38
Other defined Diseases ... ..	249
Causes ill-defined or unknown ... ..	1
Total ... ..	1,286

Year	Birthrate per 1,000 Total Population	Annual Deathrate per 1,000 Population								Rate per 1,000 Births	
		ALL CAUSES	Enteric Fever	Small-Pox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Diarrhoea and Enteritis (under two years)	TOTAL DEATHS under one year
England and Wales ...	16.7	11.7	0.01	0.00	0.11	0.01	0.07	0.06	0.19	7.0	65
107 County Boroughs and Great Towns including London ...	16.9	11.6	0.01	0.00	0.15	0.02	0.09	0.09	0.17	9.6	70
HALIFAX ...	15.9	14.9	0.09	0.00	0.10	0.009	0.19	0.02	0.23	3.7	110
	15.2	13.8	0.01	0.00	0.05	0.01	0.00	0.02	0.30	7.2	90
	14.9	15.3	0.01	0.00	0.08	0.01	0.06	0.05	0.73	6.7	96
	14.5	15.9	0.04	0.00	0.18	0.01	0.10	0.09	0.40	4.2	93
	14.5	14.3	0.01	0.00	0.02	0.01	0.10	0.09	0.14	7.8	79
	13.8	15.4	0.00	0.00	0.20	0.02	0.06	0.08	0.67	6.7	90
1928	12.9	12.3	0.02	0.00	0.00	0.02	0.00	0.16	0.10	3.9	67

(Provisional figures. The rates have been calculated on a population estimated to the middle of 1928. The mortality rates refer to the whole population as regards England and Wales, but only to civilians as regards London and the group of towns).

**Cancer.**

Cancer is the most dreaded of all diseases. The cause of Cancer is still very much in dispute. A great deal of research has been expended on Cancer, but so far neither the cause nor the cure have been discovered. The following points in connection with Cancer are of general interest:—

- (1) Cancer may be excited by long-continued irritation.
- (2) Cancer develops at an earlier age than formerly.
- (3) The stomach is the most frequent site of Cancer.
- (4) Cancer of the Breast is a very fatal disease. Only about 15% of the total cases present themselves for treatment whilst the disease is eradicable.
- (5) Cancer of the Lip is most frequent in workers on the land, seamen and dock labourers; probably because they have many opportunities for excessive smoking. Coal miners under ground—where smoking is forbidden—contrast favourably with colliery workers over ground.
- (6) Cancer is on the increase but this is partly due to increased and better facilities for diagnosis. According to McCarrison—an authority on Cancer—it is a disease of civilisation. McCarrison never saw a case of Cancer during nine years practice in the Himalayas.
- (7) Organs which undergo involution are liable to develop Cancer, *e.g.*, the uterus and female breast.
- (8) Most Cancers are curable if discovered and treated early.
- (9) Cancer is not usually painful in its early stage.
- (10) Cancer is more prevalent in unmarried than in married women.

The following preventative hints on Cancer may not be out of place:—

- (1) If you see or feel a small lump about your body consult your doctor at once.
- (2) If you notice unusual discharges or bleeding from the openings of the body consult your doctor at once.

- (3) Avoid chronic irritation, *e.g.*, excessive smoking, jagged teeth, ill-fitting false teeth and the practice of drinking fluids at very high temperatures.
- (4) Consult your doctor re Chronic Indigestion.
- (5) Remember the importance of the time factor in Cancer.

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## General Provision of Health Services.

(Arranged as required by the Ministry.)

Hospitals provided or subsidised by the Corporation :—

*Tuberculosis*—The Sanatorium at Shelf provides accommodation for 25 early and 25 other cases. It is provided by the Halifax Corporation and receives cases from other districts, including Lancashire County and West Riding County.

The Health Committee has a call on 5 beds at the Bermerside Residential School for children in the pre-tubercular stage, or children suffering from tuberculosis of a non-infectious character.

*Maternity Hospital*—The Maternity Homes in connection with St. Luke's Hospital and the Royal Halifax Infirmary appear amply to meet the needs of the town, but the arrangements by which the Corporation assisted persons to enter these institutions were not greatly used, and were discontinued. The Corporation makes a grant of £300 per annum towards the Infirmary Maternity Home.

*Hospital for Children*—The Education Committee has an arrangement with the Royal Halifax Infirmary with reference to operations on tonsils and adenoids, and the Maternity and Child Welfare Committee an arrangement with the same Institution for the treatment of Ophthalmia Neonatorum.

*Fever Hospital*—The Corporation provides the Stoney Royd Fever Hospital which admits cases of Scarlet Fever, Diphtheria, Enteric and other fevers from Halifax, and from the areas of neighbouring Local Authorities. Accommodation for 52 cases.



*Small Pox*—The Halifax Corporation maintains the Small Pox Hospital at Belle Vue, Mount Tabor, which has accommodation for 36 patients. This hospital is subsidised by the Brighthouse Joint Hospital Board and the Urban District Councils of Luddenden Foot, Midgley and Sowerby.

*Veneréal Diseases*.—The Corporation has an arrangement with the Royal Halifax Infirmary for both out-patient and in-patient treatment. See page 54.

#### AMBULANCE FACILITIES:—

##### (a) *For Infectious Cases*—

The Corporation's Motor Ambulance Service, worked from Stoney Royd Hospital, serves Halifax and the other districts from which cases are admitted to the hospital.

##### (b) *For non-Infectious and Accident Cases*—

(1) The Corporation's Motor Ambulance Service, worked by the Fire Brigade (Tel. 3222).

(2) The Ambulance Service of the St. John Ambulance Brigade and British Red Cross Society. Commandant—Mr. A. E. Rawbon (Tel. 61197). Transport Officer—Mr. L. Chambers (Tel. 3831).

#### CLINICS AND TREATMENT CENTRES—

The following are all provided by the Halifax Corporation: *Maternity and Child Welfare Centres* (2). See page 56.

##### *School Clinic, Horton Street*—

Medical Inspection—Two half-days per week.

Minor Ailments—Six half-days per week.

Dental—Treatment, six half-days per week. Inspection, one half-day per week.

Ophthalmic—Two half-days per week.

Remedial Exercises—5 full days.

An Orthopaedic Clinic is now in operation.

*Tuberculosis Clinic*, 8, Clare Road. See page 51.

*Veneréal Diseases Clinic*, Royal Halifax Infirmary. See page 54.

*Public Health Officers of the Corporation:—*

These are set out in the introductory pages of the Report.

## NURSING IN THE HOME—This is provided by:—

Halifax District Nursing Association.

Siddal Nursing Association.

Illingworth Nursing Association.

Luddenden Nursing Association.

General Nursing is not subsidised by the Local Authority.

MIDWIVES—See Maternity and Child Welfare Section, page 56.

CHEMICAL WORK—All chemical analyses are performed by Mr. H. T. Lea, M.Sc., the Borough Analyst. This work includes not only the analysis of samples taken under the Sale of Food and Drugs Acts (page . . .), but also the examination of water from wells and other sources, which from time to time occupy the attention of the officers of the Health Department.

**Legislation in Force.**

List of Adoptive Acts, etc., Relating to Public Health in force in the District.

Public Health Acts Amendment Act, 1890.

Infectious Diseases (Prevention) Act, 1890.

A Local Act, 4 Geo. IV., cap XC.

Halifax Improvement Act, 1853.

Halifax Water and Gas Extension Act, 1876.

Halifax Corporation Acts, 1882, 1900, 1902, 1905, 1911, 1924, 1926.

Provisional Orders—Halifax Orders, 1851, 1881, 1924 and 1928.

# Sanitary Circumstances

AND

## Sanitary Inspection of the Area.

*(including the Report of the Chief Sanitary Inspector).*

### **Rivers and Streams.**

The Borough Engineer (Mr. Tipple) kindly supplies the following information :—

Apart from the district of Northowram, where the sewerage falls to Brighouse and part of Warley draining to Luddenden, the whole of the sewerage of the Borough gravitates to the Sewage Works at Salterhebble, where the effluent is treated. No known pollution takes place. Surface water in isolated cases is taken direct to water courses.

The few cesspools which exist in outlying districts are by systematic inspection and periodic cleansing maintained in a satisfactory condition. No overflow to watercourses is permitted. As building developments in the outer districts take place and sewers are extended, the few existing cesspools are likely to be done away with and drainage connected direct to sewers.

Storm water overflows to main sewers are regulated to the requirements of the Ministry of Health and periodically inspected and cleansed.

### **Sewerage.**

The Borough Engineer (Mr. Tipple) kindly supplies the following information :—

The sewerage and drainage of the Borough are generally in a satisfactory condition, and adequate to deal with the maximum flow.

Extensions are rendered necessary from time to time in the outer districts where development is taking place on private building estates and Corporation Housing Schemes, and the Conversion scheme also calls for minor extensions or replacements of old and worn sewers.

The Sewage Disposal Works, it is anticipated, will be adequate to deal with the whole of the effluent of the Borough for some time to come. In the light of recent research, modifications of the method of treatment may, however, be considered.

**Closet Accommodation.**

The Sanitary Inspectors have made 3,435 inspections in connection with the Conversions Scheme.

The number of closets converted during the year was as follows :—

Converted voluntarily by owners but assisted by grant	...	...	...	...	...	538
Converted compulsorily						
(a) by owners	...	...	...	...	...	2,065
(b) by the Corporation	...	...	...	...	...	409
						<hr/>
Total conversions completed...						3,012

The total number of conversions completed since the inception of the scheme is now 9,796 at a cost to the Corporation of £55,933.

The number of closets in the Borough as on December 31st, 1928, is as follows :—

Water Closets	...	...	...	...	...	20,459
Privy middens in rural areas	...	...	...	...	...	168
Pail closets where water supply and sewers are available for conversions	...	...	...	...	...	6,846
Pail closets and privy middens in rural areas without a suitable water supply, or without sewers or both, approximately...	...	...	...	...	...	2,000
						<hr/>
Total	...	...	...	...	...	29,473

A total of 53 privy middens were dealt with during the year, 33 being converted to pail closets and 20 to water closets.

**Sanitary Defects.**

The following Tables give details of the various sanitary defects remedied as a result of informal action, matters which were reported to the Health Committee for Statutory Action, and the various prosecutions necessary to enforce compliance with the Law.

A total of 826 visits were made to investigate complaints made to the Health Department, and appropriate action was taken in every case.

Details of sanitary defects remedied by owners or occupiers during the year, as a result of action by the Sanitary Inspectors :—

Choked yard drains cleared...	...	...	...	18
„ gullies cleared	...	...	...	4
„ interceptors cleared	...	...	...	3

Choked sewers cleared	...	...	...	20
„ sink waste pipes cleared	...	...	...	38
„ W.C. drains cleared...	...	...	...	44
„ sink drains cleared	...	...	...	28
„ street gullies cleared...	...	...	...	18
„ area drains cleared	...	...	...	5
„ fallpipe drains cleared	...	...	...	6
Defective W.C. cisterns repaired	...	...	...	17
„ drainage relaid	...	...	...	17
„ fallpipe drains repaired	...	...	...	9
„ sink drains repaired	...	...	...	100
„ W.C. drains repaired	...	...	...	41
„ cellar drains repaired	...	...	...	17
„ yard drains repaired	...	...	...	18
„ sink traps replaced	...	...	...	11
„ soilpipes repaired	...	...	...	4
„ gully drains repaired	...	...	...	3
„ connection of drain to sewer replaced	...	...	...	1
Sinks fitted with proper waste pipes...	...	...	...	6
Houses redrained	...	...	...	7
Insanitary W.C.'s replaced	...	...	...	14
Doors of closets repaired	...	...	...	18
Doors of ash tub places repaired	...	...	...	18
Dilapidated closets repaired or rebuilt	...	...	...	22
„ ash tub places repaired or rebuilt	...	...	...	26
Privies converted to Goux closets	...	...	...	23
„ „ to W.C.'s	...	...	...	20
Dangerous walls rebuilt or repaired...	...	...	...	11
Animals kept so as to be injurious to health:—				
Rabbits	...	...	...	3
Dogs	...	...	...	2
Pigs	...	...	...	3
Accumulation of manure removed	...	...	...	18
„ of rubbish removed	...	...	...	20
Dirty houses cleaned	...	...	...	7
Dirty yards cleared	...	...	...	5
Overcrowded houses dealt with	...	...	...	10
Cellar illegally let as dwellings	...	...	...	5
Flooded cellars remedied	...	...	...	30
Defective water services repaired	...	...	...	8
Damp walls remedied	...	...	...	88
Polluted water supply to houses	...	...	...	18
Insufficient water supply to houses	...	...	...	4
Wash boilers provided	...	...	...	9
House roofs repaired	...	...	...	103
„ troughings repaired	...	...	...	88
„ floors repaired	...	...	...	47
„ windows repaired or replaced...	...	...	...	122
„ wash boilers repaired...	...	...	...	4
„ walls and boarded round sinks	...	...	...	79

House window cords replaced	...	...	37
Hand rails fixed	...	...	3
Sinks provided or old ones replaced...	...	...	80
Defective chimneys made good	...	...	39
„ fallpipes made good	...	...	53
„ cooking ranges made good	...	...	88
„ flagging made good	...	...	22
„ plaster work made good	...	...	106
„ doors repaired	...	...	47
Untrapped street gullies replaced	...	...	24
Ashpits converted to A.T.P.'s	...	...	3
Nuisance from smoke remedied	...	...	2
Miscellaneous	...	...	111

Matters reported to the Health Committee for Statutory action were as follows :—

*Housing Act 1925.*

Defective houses	...	...	53
Closing Orders	...	...	1
Closing Orders determined	...	...	5

*Public Health Act 1875.*

Black Smoke	...	...	3
Dense Smoke	...	...	1
Closing of Wells	...	...	2
Defective drainage	...	...	2
Defective houses	...	...	4
Insanitary closet accommodation (privy middens)	...	...	1
Offensive accumulation	...	...	1

*Public Health Act 1875.*

*Public Health Acts Amendment Act 1890.*

*Halifax Corporation Act 1905.*

Defective combined drains	...	...	3
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*Halifax Corporation Act 1900, Section 122.*

No proper and sufficient water supply	...	...	1
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*Public Health Acts Amendment Act 1890.*

*Halifax Corporation Act, 1900.*

No sufficient and suitable sanitary accommodation	...	...	1
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*Factory and Workshop Act, 1901.*

Dirty Workshop	...	...	1
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**Prosecutions during 1928.**

Date	Act	Offence	Penalty
Jan. 10th	Public Health (Preservatives in Food) Regulations, 1925	Selling Pork Sausage containing 10½ grains per lb. of boric preservative	£2 and £1 8s. costs
Jan 17th	Milk & Dairies Order, 1926	Dirty Milking Conditions	Case dismissed
Feb. 10th	Town's Improvement Clauses Act. 1847, Public Health Act, 1875, Public Health (Meat) Regulations, 1924	Using unlicensed premises as a slaughterhouse Failure to give notice of slaughter Permitting carcasses of animals to be removed before inspection	Costs £1
Feb. 21st	Public Health Act 1875	Defective property	£5 and 6s. costs
May 1st	Shops Act	Selling groceries after closing time	£2 and 5s. costs
July 31st	Public Health (Smoke Abatement) Act, 1926	Smoke nuisance	£2 and 6s. 6d. costs
Aug. 10th	Public Health Act 1875	Dangerous chimney	£1 and 15s. costs
Nov. 23rd	Tuberculosis Order, 1925	Failure to notify possession of cow with indurated udder	£5

### Factories and Workshops.

Factory and Workshops Act 1901.

Public Health Acts (Amendment) Act 1890, Section 22.

Halifax Corporation Act 1900, Section 130.

#### Workshops.

The number of workshops (excluding bakehouses) on the register at the end of 1928 was 471.

189 visits were made to workshops and 48 to factories, and the various conditions necessitating action by the Inspectors are set out in the Table.

Sixteen notices under Section 5 of the Factory and Workshops Act 1901, were received from H.M. Factory Inspector, ten being in respect of factories and six of workshops.

Of these, the following were remedied during the year, including one factory carried over from the end of 1927:

Factories ... ..	8	Workshops ... ..	5
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Notices in respect of which no action by the Department was considered necessary:

Factories ... ..	1	Workshops ... ..	1
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Notices outstanding at the end of the year, 2.

The following Table shows the various defective conditions remedied during the year:—

The administration of the Factory and Workshop Act 1901, in connection with

#### FACTORIES, WORKSHOPS AND WORKPLACES.

##### 1. Inspection of Factories, Workshops and Workplaces.

Premises  (1)	Number of		
	Inspections  (2)	Written Notices. Informal  (3)	Occupiers Prosecuted  (4)
Factories ... .. (including Factory Laundries)	48	3	—
Workshops ... .. (including Factory Laundries)	189	4	—
Workplaces ... .. (Other than Outworkers Premises)	—	—	—
Total ...	237	7	—



## 2. Defects found in Factories, Workshops and Workplaces.

Particulars (1)	Number of Defects			Number of offences in respect to which Prosecutions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
Offences under the Public Health Acts—				
Want of cleanliness ...	7	6	...	...
Want of ventilation ...	1	1	...	...
Overcrowding ...	...	...	...	...
Want of drainage of floors ...	...	...	...	...
Other nuisances ...	12	12	...	...
Sanitary Accommodation:				
Insufficient, unsuitable, or defective ...	13	12	...	...
Not separate for sexes...	1	1	...	...
Offences under the Factory and Workshops Acts—				
Illegal occupation of underground bakehouse.. (S. 101)	...	...	...	...
Other offences ...	1	1	1	...
(Excluding offences relating to out-work and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers Order 1921.)				
<b>Total ...</b>	<b>35</b>	<b>33</b>	<b>1</b>	<b>...</b>

**Bakehouses.**

Factory and Workshops Act, 1901.

Ministry of Health Act, 1919.

S.R.O. 958 of 1926.

The number of bakehouses, including factories, on the Register is 119. In connection with these 299 visits were made, and the following defective conditions were discovered and remedied :—

Lack of ventilation ...	...	...	...	1
Choked drains ...	...	...	...	2
Limewashing overdue (not carried out within the Statutory 6 months) ...	...	...	...	9
Dirty tables, etc. ...	...	...	...	1

**Smoke Nuisance.**

No. of Factory Chimneys ... ..	129
No. of Firms represented ... ..	121
No. of Observations (30 minutes each) ... ..	88
No. of Offences against Black Smoke Byelaw ... ..	3
No. of Offences re other than Black Smoke... ..	1
No. of Informal Notices served ... ..	4
No. of Statutory Notices served ... ..	4
Total minutes of Dense Black Smoke emitted during observations ... ..	41
Average minutes of Dense Black Smoke emitted per hour of observation ... ..	0.93

The period of greatest pollution is mid-day when domestic fires are at their highest. The night air is much cleaner than the day air. Atmospheric pollution clogs the lungs causes bronchitis and catarrh, and shuts off thirty per cent. of the sun's rays from the town by a pall of smoke. It is well-known that a smoke laden atmosphere retards the growth of plants. They shrivel and perish in such an atmosphere. The alveoli or little compartments in the lungs are much more complex and delicate than plants. Yet in our big towns they are continually bombarded by particles of atmospheric pollution. A clean atmosphere is an important part of the Gospel of Public Health.

To obtain exact information of the nature and extent of atmospheric pollution the following investigations and observations are necessary:—

- (1) Investigations of the nature of atmospheric pollution.
- (2) Investigations to determine the best ways of measuring this pollution.
- (3) Observations of atmospheric pollution in a number of localities, and the collation of the results. A soot gauge is a "sine qua non" for such observations.

Halifax is at present without such a soot gauge, but by the time this report is in print I anticipate that we shall have obtained one. I am also of opinion that the town would benefit if we were represented on the Atmospheric Pollution Research Committee of the Department of Scientific and Industrial Research. This Committee gives advice as to the selection of smoke stations, the provision of standard gauges for the estimation of soot deposit and

the compilation and tabulation of the results. Every month they issue a report showing the comparison between the various urban areas in the country where smoke gauges have been placed, as well as a very comprehensive report on the question of atmospheric pollution which is issued annually.

### Shop inspection, etc.

Mr. Fearnley, the Inspector under the Shops Acts 1912 to 1928, also under the Children's Byelaws, the Fabrics (Misdescription) Act, and the Rats and Mice (Destruction) Act 1919, has carried out the following work :—

Half-holiday Closing Visits	...	...	874
Assistants' Half-holiday Visits	...	...	551
Children's Bye-Law	„	...	786
Registration & Administrative Visits	...	...	601
Special	„	...	287
Fabrics (Misdescription) Act	„	...	289
Shops Early Closing	„	...	398
Rats and Mice (Destruction) Act Visits	...	...	551
Shops without Assistants Half-holiday Notice (Sec. 1)			50
Do. Young Persons'	„	(Sec. 2)	26
Do. Mixed Business	„	(Sec. 10)	263
Do. Half-holiday Closing Notice		(Sec. 4)	101
Do. Seats for Female Assistants		(Sec. 3)	2
Contravention of Mealtimes		(Sec. 1, Sub. 5)	16
Do. Assistants Half-holiday		(Sec. 1, Sub. 1)	42
Do. Half-holiday Closing		(Sec. 4)	353
Do. Early Closing Act or Orders		(Sec. 5)	221
Do. Young Persons' Hours		(1920 21 & 1928 Act) (Sec. 2)	1
Do. Children's Bye-Laws	...	...	21
Warning Notices sent	...	...	15

### Prosecutions.

At the Borough Court, on Tuesday, 1st May, 1928, a local Grocer was fined £2 with 5s. costs, for selling groceries at 7-35 p.m. on his Weekly Half-Holiday.

The Shops (Hours of Closing) Act, 1928, came into force on the 3rd August, 1928. This Act repeals the Acts of 1920 and 1921. It also repeals or amends certain provisions of the Act of 1912. The penalty for a first offence under this Act or a Closing Order is increased from £1 to £5, and for a second or subsequent offence to £20.

**Rats and Mice (Destruction) Act, 1919.**

Number of premises that are or have been rat-infested during the year	...	...	...	...	118
Premises temporarily clear after Rat Week...	...	...	...	...	32
Premises where numbers were reduced	...	...	...	...	65
Premises at present rat-infested	...	...	...	...	78
Visits paid to rat-infested premises in Rat Week	...	...	...	...	172
Visits paid to rat-infested premises during the year	...	...	...	...	551
Number of rat tails brought to the Health Department during the year	...	...	...	...	1,214
Number of rat tails brought to the Health Department during Rat Week	...	...	...	...	273
Number of rats killed in addition	...	...	...	...	371

The past year has been notable for the fact that while some parts of the Borough have been almost clear of rats, other districts have been infested more than usual. Farm and other buildings are quickly cleared after the introduction of a few cats. The use of Rat Poison and Virus has increased in some districts, and many premises have been cleared by their regular and systematic use. The number of rats killed by this method cannot be estimated, as often the only sign of their effective use is the absence of the rodents.

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## Housing.

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The present procedure is to concentrate on blocks of property which are obviously in need of repair, and after inspection, the owner is supplied with a complete specification of the works required together with a letter requesting attention. Later on the Inspector meets his architect, surveyor or contractor, and it is decided how to carry out the work. The original inspection is but the beginning, and an enormous amount of work is involved in the supervision of the repairs.

**Housing Statistics for the year 1928.**

Number of new houses erected during the year :—

(a) Total (including numbers given separately under (b) ... ..)	249
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## (b) With State Assistance under the Housing Acts :—

(i) By the Local Authority	...	...	152
(ii) By other bodies or persons	...	...	63

The above figures were kindly supplied by the Borough Engineer.

## UNFIT DWELLING HOUSES.

## 1.—Inspection.

1. Total number of dwellinghouses inspected for housing defects (under the Public Health or Housing Acts)...	1,227
2. Number of dwellinghouses which were inspected and recorded under the Housing Consolidated Regulations 1925	289
3. Number of dwellinghouses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	1
4. Number of dwellinghouses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	1,137

## 2.—Remedy of defects without service of formal notices.

Number of defective dwellinghouses rendered fit in consequence of informal action by the Local Authority or their officers	938
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## 3.—Action under Statutory Powers.

## A. Proceedings under Section 3 of the Housing Act 1925.

1. Number of dwellinghouses in respect of which notices were served requiring repairs	71
2. Number of dwellinghouses which were rendered fit after service of formal notices	54
3. Number of dwellinghouses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	None

B. Proceedings under Public Health Acts.		
1. Number of dwellinghouses in respect of which notices were served requiring defects to be remedied...		37
2. Number of dwellinghouses in which defects were remedied after service of formal notices—		
(a) by owners ... ..		47
(b) by Local Authority in default of owners ... ..		None
C. Proceedings under Section 11, 14 and 15 of the Housing Act 1925.		
1. Number of representations made with a view to the making of Closing Orders ... ..		1
2. Number of dwellinghouses in respect of which Closing Orders were made		1
3. Number of dwellinghouses in respect of which Closing Orders were determined, the dwellinghouses having been rendered fit ... ..		5
4. Number of dwellinghouses in respect of which Demolition Orders were made ... ..		None
5. Number of dwellinghouses demolished in pursuance of Demolition Orders		None

#### Houses Let in Lodgings (Furnished Rooms).

268 visits have been made to 205 "Furnished Rooms," most of which are now beyond the scope of the Byelaws, now practically useless, owing to the fact that the rentals exceed the 6s. per week specified. This being the case, the Public Health Act 1875, has been used so far as overcrowding and dirty conditions are concerned, and Section 3 of the Housing Act 1925, for structural conditions generally.

The following Table shows the conditions dealt with in such premises during the year :—

Defective fallpipes ... ..	1
"    cupboards ... ..	1
Choked waste pipes ... ..	2
Defective plasterwork... ..	8
"    roof ... ..	5
"    windows ... ..	19
"    floors ... ..	8
"    flagging ... ..	1
Sinks provided ... ..	10
Water provided ... ..	10

**Common Lodging Houses.**

There are still 10 Common Lodging Houses registered to accommodate 592 lodgers and these are supervised by the police. 61 visits have been made to them by the Sanitary Inspectors in connection with the efforts of the Department to guard against the dangers of unnotified cases of small-pox.

**Tents, Van-Dwellings, etc.**

A total of 66 visits have been made to moveable dwellings.

The van dwellings visiting the town in connection with the seasonal fairs maintained their excellent record.

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## Inspection and Supervision of Food.

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*(Compiled from reports of the Veterinary Inspector and  
the Chief Sanitary Inspector).*

**Milk Supply.**

At the end of the year there were on the Register :

Cowkeepers ... ..	60
Cowkeepers and Dairymen ... ..	104
Cowkeepers not retailing milk ... ..	12

**Milk and Dairies (Amendment) Act 1922 (Registration).**

Under Section 2 of the Milk and Dairies (Amendment) Act 1922, three retailers were invited to appear before the Health Committee to show cause:

- (a) Two: why registration should not be refused.
- (b) One: why his name should not be removed from the Register.

In the case of objection Registration was refused.

In the case of revocation the name was removed from the Register.

It is difficult to understand the disparity in treatment between Cowkeepers and Dairymen in the matter of providing storage or facilities for the provision of boiling water or steam. Retailers can be invited to appear before the Health Committee, but judiciary powers are not given to that Committee in the case of Cowkeepers.

**Bacteriological Examination of Samples.**

Total number of samples taken for bacteriological examination as an index of general cleanliness ...	69
Number of samples taken within the Borough ...	20
Number of samples taken from sources outside the Borough ... ..	22
Number of Graded Milk samples ... ..	27
Number of samples taken from sources outside the Borough for the detection of tubercle bacilli ...	15
Number of samples from sources outside the Borough containing tubercle bacilli ... ..	1

The bacteriological counts of samples of (ungraded) milks taken during the year have ranged :—

From		To	
No. of Bacteria per c.c.	Coli Organisms per c.c.	No. of Bacteria per c.c.	Coli Organisms per c.c.
210	absent from 1. c.c.	13,500,000	present in 1/1000 c.c.

**Statutory Notices Article 12 (1).**

Three notices were served on occupiers of cowsheds for the provision of more window space.

Of the six Notices served in 1927, three have been complied with ; one not considered adequate ; one granted an extension of period.

**Article 25.**

Seven Notices were served on occupiers of cowsheds to make the floor impervious.

One has complied.

The following alterations were carried out:—

Alterations to cowsheds for light ... 6

Alterations to cowsheds for floors ... 4

Number of dairy cows examined ... .. 3,162

**Dairymen.**

There are 72 persons whose premises are registered as Dairies, and 127 who are registered for the sale of only bottled sterilized milk under seal, in which case registration of premises is not required.

Visits were made to Dairies (in addition to the work of the Veterinary Inspector).



**Dairymen who are not Cowkeepers within the Borough.**

No. of Dairy premises registered	...	72
No. of persons residing outside the Borough who are registered as Retail Purveyors of Milk	... ..	61
No. of persons residing within the Borough who are registered as Retail Purveyors of Milk	... ..	199
No. of persons registered as Retail Purveyors of Milk in sealed bottles only and included in previous heading	... ..	127

During the year 91 visits were paid to the dairies mentioned.

**Clean Milk Competition.**

Advantage was taken of the Great Yorkshire Show being held at Halifax to stimulate interest in the competition, with the result eight entries were obtained out of a total of 14 in Class 3.

Two entered for Class 1, but one withdrew early in the competition.

In order to give encouragement to local competitors, a special trophy was offered in Class 3, to producers or retailers of milk within the County Borough.

In Class 1 a Certificate of Merit was awarded.

In Class 3 Halifax had the distinction of being awarded the 1st, 2nd and 4th places with a total number of six awards out of eight entries. An achievement which reflects the greatest credit on the competitors.

**Milking Competition.**

In the Junior Class a Halifax competitor received the first award.

Although Halifax has shewn such excellent results in the Clean Milk Competition, and produced milk of a very high standard of purity as indicated by the bacterial counts, I regret to have to report that this must not be taken to indicate the general standard of the milk supply of the County Borough. A large percentage of the samples examined bacteriologically during the year having revealed a heavy contamination of Coli Bacillus.

### **Sterilization of Utensils.**

Great difficulty and opposition have been experienced—particularly with the large producers and retailers—in the carrying out of Article 21 (1) which provides that every utensil shall be thoroughly washed and cleansed *with boiling water or steam*.

While some producers have shewn enterprise and made satisfactory provision for the steam sterilization of their utensils, those who are established ask why they should incur the extra expense, and what they have to gain by doing so?

Farmers and retailers have adopted modern amenities of life such as motor transport and wireless, yet they are unwilling to apply the same progressive knowledge in dairying by adopting modern methods and equipment of which steam sterilization is the greatest factor, as well as a real labour saving proposition.

The dirtiest samples of milk bacteriologically have been taken from sources of supply outside the Borough over which our local authority has no control, indicating that the Milk and Dairies Order 1926 is not being enforced, which is unfair competition to producers of clean milk, and to the consumers.

Proceedings were instituted under the Milk and Dairies' Order 1926, during the year as follows:—

- (1) Failing to remove all dirt in or around flanks, udders and teats prior to milking—Dismissed.
- (2) Failing to keep milk stools clean—Dismissed.

### **Milk (Special Designations) Order, 1923.**

There are within the Borough two producer-retailers of graded milks, one producing Certified Milk and the other Grade A. In addition a producer of Certified Milk outside the Borough has several agents within the Borough.

### **Tuberculosis Order—Diseases of Animals Acts.**

Number of Reports	...	...	...	12
Number of Reports confirmed	...	...	...	6
Tuberculosis of the Udder	...	...	...	4
Bacteriological examinations of Milk	...	...	...	19
Number reported positive	...	...	...	2
Cattle examined under the Order	...	...	...	136

**Meat Inspection.**

*Public Abattoir.*—The reconstruction has proceeded favourably. While the new part has not been officially opened, additional sections are actually in use.

*Private Slaughterhouses.*

Registered	...	5
Licensed	...	—
		—
		5

The approximate number of animals slaughtered therein during the year is as follows:—

Cattle.	Calves.	Sheep and Lambs.	Pigs.
300	40	1000	210

*Meat Inspection, etc.*

The following Table shows the number of visits paid to the slaughterhouses, butchers' shops, markets, etc. :—

Description of Premises	Number of Visits
Public Slaughterhouses	987
Private Slaughterhouses	176
Borough Market	461
Wholesale Market	300
Fasting Sheds...	193
Potted Meat Houses	294
Tripe Boiling Houses	139
Butchers' Shops	1185
Cowsheds	920
Dairies	203
Auction Mart	71
Other Visits	461
Total	5,390

The following Table shows the number of animals slaughtered during the year, the number condemned, and the total weight of the same :—

	Cattle.	Calves.	Sheep and Lambs.	Pigs.	Offals.	Total.
Number of Animals slaughtered at the public slaughter- house ... ..	9635	1928	23187	6628	lbs. ...	41378
Do. condemned...	35	11	16	58	2752	120
Number Condemned on account of Tuberculosis ...	32	...	...	18	5039	50
Apx. Weight of those condemned in lbs }	20790	634	1180	5547	7791	35942

The following Table shows the total Approximate weight of meat and offals destroyed on account of tuberculosis, and from other causes :—

Total Amount of Meat Destroyed ... ..	lbs. 36948
Total Amount of Offals Destroyed ... ..	7791
Total Amount of Meat Destroyed on account of Tuberculosis ... ..	26890
Total Amount of Offals Destroyed on account of Tuberculosis ... ..	5039
Total Amount of Meat Destroyed from other causes	10058
Total Amount of Offals Destroyed from other causes	2752
Total Meat and Offals Destroyed ...	44739

Condemned meat is dealt with by the Cleansing Department of the Corporation, being removed to the Charles-town Depot and sterilised by heat.

Kinds of Food Destroyed	Quantity in lbs.
35 Carcases of Beef ... ..	20790
Beef not in Carcase ... ..	8000
11 Carcases of Veal ... ..	634
16 Carcases of Mutton and Lamb ... ..	1180
Mutton in Carcase ... ..	100
Chilled and Frozen Beef ... ..	164
58 Carcases of Pork ... ..	5547
Pork not in Carcase ... ..	633
122 Rabbits ... ..	428
Fish ... ..	701
Fruit and Vegetables ... ..	4103
Canned Provisions ... ..	481
Shell Fish ... ..	3160
Total Weight ...	45921

In 3 cases a Justices' Order had to be obtained, but in all the rest the articles were surrendered.

### Sale of Food and Drugs Acts, 1875 to 1927.

#### **Milk.**

The 104 milk samples taken during the year from 91 retailers have contained, on an average, 3.81 per cent. of fat and 9.03 per cent. of solids other than fat, the minimum for each being 3 per cent. and 8.5 per cent. respectively.

The following Tables give particulars as to the food-stuffs sampled with details relating to samples found to be adulterated :—

The following Table gives particulars of the various samples taken :—

Article	Number of Samples Procured			Number not Genuine		
	Formal	Informal	Total	Formal	Informal	Total
New Milk ... ..	103	1	104	2	0	2
Condensed Milk ... ..	0	6	6	0	0	0
Cream ... ..	0	12	12	0	0	0
Margarine ... ..	1	8	9	0	1	1
Dried Fruits ... ..	2	6	8	1	1	2
Cheshire Cheese ... ..	3	6	9	0	1	1
Scotch Whisky ... ..	0	4	4	0	0	0
Slab Cake ... ..	0	8	8	0	0	0
Sponge Buns ... ..	0	19	19	0	0	0
Butter ... ..	0	10	10	0	0	0
Lard ... ..	0	10	10	0	0	0
Lobster Paste ... ..	0	2	2	0	0	0
Jam ... ..	0	5	5	0	0	0
Epsom Salts ... ..	0	4	4	0	0	0
Borax ... ..	0	4	4	0	0	0
Vinegar ... ..	0	7	7	0	0	0
Cocoa ... ..	0	4	4	0	0	0
Olive Oil ... ..	0	9	9	0	0	0
Sausages ... ..	0	4	4	0	0	0
Mincemeat ... ..	0	5	5	0	0	0
Rice ... ..	0	5	5	0	0	0
Boiled Sweets ... ..	0	2	2	0	0	0
Flour ... ..	0	1	1	0	0	0
Salmon and Shrimp Paste ... ..	0	1	1	0	0	0
Custard Powder ... ..	0	1	1	0	0	0
Egg Powder ... ..	0	1	1	0	0	0
Ginger Beer ... ..	0	1	1	0	0	0
Potted Beef... ..	0	1	1	0	0	0
Total ... ..	109	147	256	3	3	6

## Adulterated Samples.

Serial Number	Article	Whether Formal or Informal	Nature of Adulteration	Observations
54	New Milk	Formal	3.4% deficient in fat	Cautioned by Health Committee
106	"	"	7.0% deficient in fat	Cautioned by Health Committee
1	Cheshire Cheese	Informal	Contained only 32.5% of fat	Two formal samples taken were found to be genuine
70	Margarine	"	Contained 17.6% of moisture	A formal sample was genuine
229	Dried Apricots	"	Excess of Preservative—2100 parts per million	Warning letter from Town Clerk and remainder of stock withdrawn from sale
243	"	Formal	Excess of Preservative—2200 parts per million	

### **Borough Analyst's Commentary.**

Mr. H. T. Lea, M.Sc., F.I.C., the Borough Analyst, supplies the following notes on the samples taken:—

The quality of the 256 samples examined under the Sale of Food and Drugs Acts, during the year ending December 31st 1928, was excellent.

Of the 104 samples of milk examined, only two fell below the limits laid down by the Sale of Milk Regulations. Both these were deficient in fat to the extent of 3.4 and 7 per cent. The average fat and non-fatty solids for all samples was 3.81 per cent. and 9.03 per cent. respectively, showing that the milk supply of the Borough is excellent as regards the composition—I have no evidence to show whether this excellence is maintained in respect of cleanliness of production and supply, but have every reason to believe that it is. Might I suggest that in future a certain number of the samples be examined for cleanliness as well as for actual composition. The only milk in Halifax which is regularly and scientifically tested for cleanliness is that sold under The Milk (Special Designation) Order 1923, and I would respectfully suggest that, as the quality of non-graded milk in Halifax has been proved in the past to be excellent, a systematic check on the cleanliness of the street vended milk be carried out, so that the Halifax housewives may be assured that the milk is as wholesome from the bacteriological as from the chemical point of view. In my opinion it is a matter of regret that the law allows uncontrolled milk to be supplied in sealed bottles—thus leading the housewife and mother to assume that they are getting a milk of higher standard than they would direct from the churn or hand-can.

Exclusive of milks, 87 samples were examined under the Preservative Regulations for presence or excess of preservatives. In two cases only was there any infringement of the regulations—these cases were both dried apricots which contained an excess of sulphite.

Samples of Custard Powder and Egg Powder were found to contain no eggs, but as this fact was declared on the package, in small type only, no action was taken.

The remaining samples call for no special comment.

### **Fertiliser and Feeding Stuffs Act 1926.**

Twelve samples were taken during the year, three of Fertilisers and nine of Feeding Stuffs.

All samples were satisfactory.



### **Fish Friers.**

There are about 173 fish friers in the town, and 61 visits were made to their premises during the year.

Owing to the dirty conditions discovered in a few cases, the inspection of fried fish shops now is being pressed and the occupiers of such premises will, in many cases be asked to improve their methods.

It would be a great benefit to the community if steps were taken to have fish frying scheduled as an offensive trade, and byelaws were adopted for the regulation of same as has been done by a large number of local authorities.

### **Manufacture and Sale of Ice Cream.**

*Public Health Act 1875, and Halifax Corporation Act and Regulations made thereunder.*

111 visits of inspection were made to premises used for the sale or manufacture of ice cream.

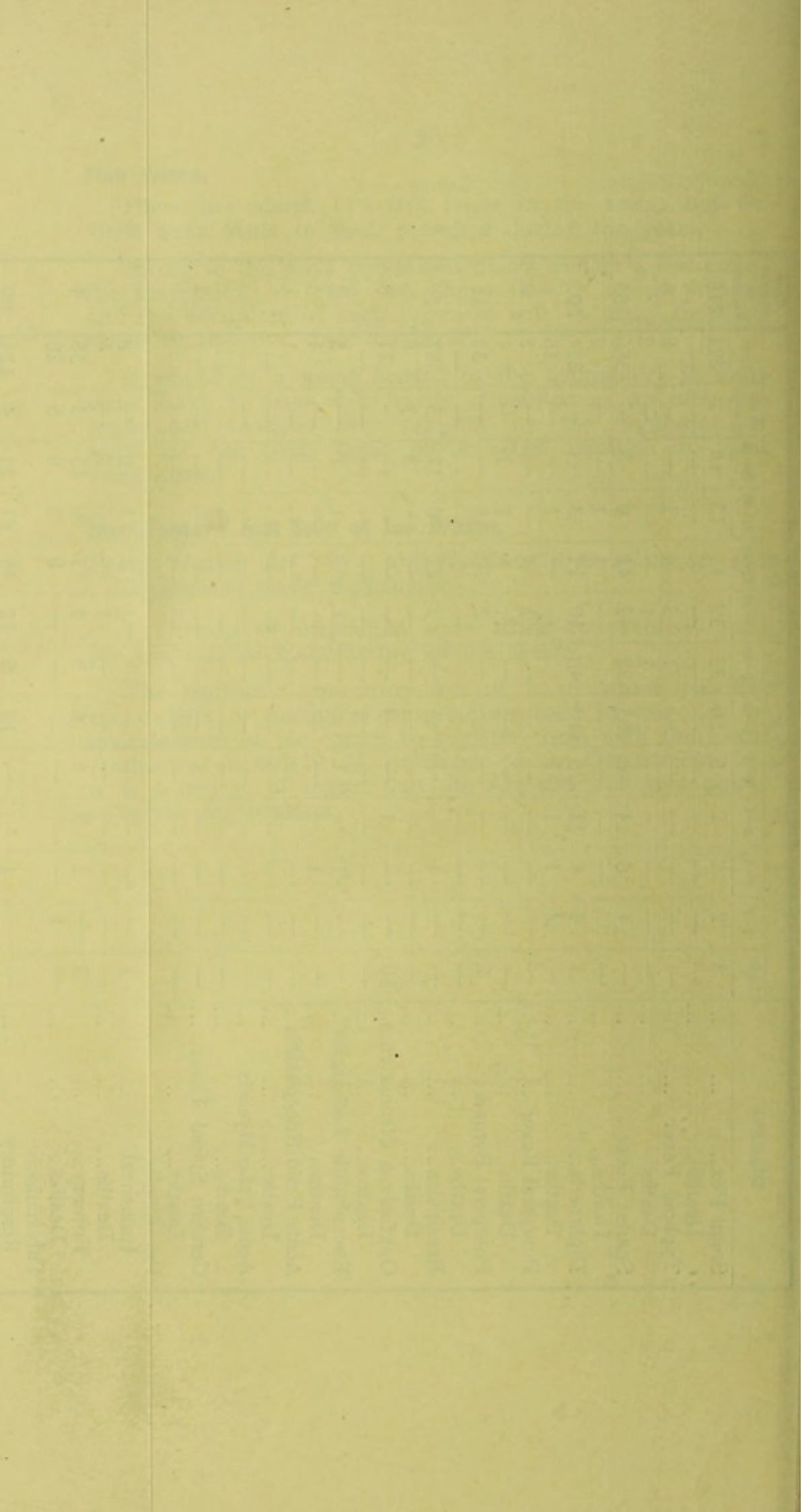
The Halifax Corporation Act of 1926, which requires the owners or occupiers of premises used for the sale or manufacture of ice cream to register them with the Local Authority, should be of assistance to the Department, but it is a matter of regret that the Act did not give power to refuse registration.

# Prevalence of, and Control over, Infectious Diseases.

## Notifiable Diseases during the year.

DISEASE	AGE PERIODS											Total	Cases admitted to Hospitals	
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-25	25-35	35-45			45-65
Small Pox...	3	2	2	2	5	36	33	39	47	15	35	2	221	216
Deaths...	—	—	—	—	—	—	1	2	—	—	—	—	—	—
Typhoid Fever	—	—	—	—	—	—	1	1	4	1	—	—	8	6
Deaths	—	—	—	—	—	—	1	1	—	—	—	—	2	—
Scarlet Fever	—	4	6	14	16	165	88	42	41	9	1	—	386	365
Deaths...	—	—	—	—	—	—	—	—	1	1	—	—	2	—
Diphtheria...	1	4	8	11	25	110	40	10	12	3	—	—	224	202
Deaths...	—	2	1	1	3	7	1	—	—	—	—	—	16	—
Puerperal Fever	—	—	—	—	—	—	—	1	4	—	—	—	5	2
Deaths...	—	—	—	—	—	—	—	—	1	2	—	—	4	—
Puerperal Pyrexia	2	—	—	—	—	—	—	2	20	8	—	—	32	15
Deaths...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas...	—	—	1	—	—	—	—	2	22	10	37	15	87	20
Deaths...	—	—	—	—	—	—	—	—	—	—	3	3	6	—
Ophthalmia Neonatorum...	10	—	—	1	—	—	—	—	—	—	—	—	11	6
Deaths...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica...	—	—	1	—	1	—	—	1	—	1	—	—	5	2
Deaths...	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Acute Polio Encephalitis	—	—	—	1	—	—	—	—	—	—	—	—	1	1
Deaths...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Polio Myelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Deaths...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro Spinal Fever	—	—	—	—	1	—	—	—	—	—	—	—	1	—
Deaths...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Influenzal	1	—	—	—	—	—	—	1	3	1	2	—	8	—
Deaths...	—	—	—	—	—	—	—	1	—	—	3	—	4	—
Primary...	3	—	2	2	1	6	3	3	13	9	13	3	58	4
Deaths...	—	1	—	—	—	—	—	—	8	5	9	5	28	—
Tuberculosis—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Respiratory	—	—	1	—	—	12	6	12	45	21	23	4	124	90
Deaths...	—	—	1	—	—	2	—	2	22	8	13	4	52	—
Other Forms	2	—	—	5	—	11	4	2	1	—	1	—	26	5
Deaths...	3	—	—	2	—	3	—	1	2	1	3	—	15	—
Total Notification	22	10	21	36	49	340	175	117	212	78	113	24	1197	934
Total Deaths	3	3	3	3	3	12	2	5	34	18	32	12	130	—

For notes on these figures see following pages.



**Typhoid Fever.**

Number admitted	Out of Borough Cases	Died	Recovered
7	1	1	6

**Small-pox.**

The subjoined Table shows the incidence of Small-pox in Halifax during the year:—

1928	Inside the Borough	Outside the Borough	Total
	No. of Cases	No. of Cases	
January ...	1	—	1
February ...	—	—	—
March ...	10	2	12
April ...	28	2	30
May ...	27	4	31
June ...	13	—	13
July ...	10	2	12
August ...	23	5	28
September ...	5	—	5
October ...	10	—	10
November ...	37	—	39
December ...	52	—	52
	216	15	231

In view of the fact that Small-pox is rampant in Halifax and that few people are effectually vaccinated, I submit the following notes from the Annual Report for 1924 of the Chief Medical Officer of the Ministry of Health:—

- (1) The mortality from Small-pox is much less now than in pre-vaccination time.
- (2) The greatest diminution in the Small-pox mortality is found in the early years of life in which there is most vaccination.
- (3) In countries where there is adequate vaccination and re-vaccination there is little Small-pox.
- (4) In houses invaded by Small-pox in the course of an outbreak not nearly so many of the vaccinated inmates are attacked as of the unvaccinated in proportion to their numbers.

- (5) The fatality rate among persons attacked by Small-pox is much greater, age for age, among the unvaccinated than among the vaccinated.
- (6) The degree of protection conferred by vaccination corresponds to the quality of the vaccination and to the thoroughness in which the operation has been performed.
- (7) Protection wanes in lapse of years.
- (8) Hospitalisation, disinfection and improved sanitation are no substitutes for vaccination.

The following steps are taken on the outbreak of a case of Small-pox in Halifax:—

- (1) The certifying doctor is communicated with and the patient immediately removed to Hospital.
- (2) The house is disinfected.
- (3) The vaccinating officer is advised.
- (4) Medical Officer of Health and staff proceed to the spot and ascertain extent of the mischief.
- (5) History of source of infection is sought.
- (6) List of contacts is compiled.
- (7) Vaccination or re-vaccination is offered to all contacts.
- (8) Contacts are kept under supervision for 21 days.
- (9) Medical Officer of Health in other districts are advised about contacts proceeding thither.
- (10) Practitioners informed when new outbreak occurs.
- (11) Heads of common lodging-houses, casual wards, workhouses, infirmaries and hospitals informed when a new outbreak occurs.

Other measures are dictated by the circumstances of the case.

### **Scarlet Fever.**

The total number of cases admitted during 1928 as Scarlet Fever was 420. Three hundred and sixty five cases were from within the Borough, and 55 from outside the Borough. There were no "return" cases during the year.

The following complications occurred amongst Scarlet Fever patients:—

<i>Complications.</i>					<i>No. of cases.</i>
Mastoid Disease	...	...	...	...	3
Otorrhoea	...	...	...	...	40
Rhinorrhoea	...	...	...	...	120
Albuminuria	...	...	...	...	4
Rheumatism	...	...	...	...	30
Impetigo	...	...	...	...	8
Tonsillitis	...	...	...	...	20
Toxaemia	...	...	...	...	2
Pneumonia	...	...	...	...	3
Bronchitis	...	...	...	...	4
Septic sores	...	...	...	...	30
Adenitis	...	...	...	...	100
Conjunctivitis	...	...	...	...	3

90% of these cases were admitted in a dirty condition. The diagnosis was changed from Scarlet Fever to Measles in 4 cases and to Tonsillitis in 20 cases. One case died from Pneumonia.

The present type of Scarlet Fever is mild and the death-rate very low. It varies between two and 5 per cent. The mortality rate is higher in children between the ages of 1 and 5 years than in those who are attacked earlier or later in life. The disease is rare among infants, especially when at the breast. Second attacks are uncommon but they are met with. Infection is usually conveyed by nose, ear and mouth discharges. It is unlikely that desquamation is infectious. Scarlet Fever, like the poor, is always with us, but is liable to great seasonal variations. The autumn and winter are the most usual periods for epidemics, especially the autumn.

### **Diphtheria.**

Two hundred and seven cases were admitted to the Fever Hospital as suffering from Diphtheria. Ninety three cases were negative, leaving 114 cases of true Diphtheria.

The negative cases were 83 Tonsillitis and 10 of Quinsy.

There were 5 cases admitted from outside the Borough. Of the 114 cases of true Diphtheria, 12 had the Larynx affected and Tracheotomy was necessary in these cases. Two of the cases died; the others recovered. There were no return cases of Diphtheria.

The following complications occurred among the Diphtheria patients:—

<i>Complications.</i>	<i>Number.</i>
Palatal Paralysis ... ..	50
Ocular Paralysis ... ..	14
Adenitis ... ..	12
Heart Disease ... ..	3
Rheumatism ... ..	6
Otorrhoea ... ..	31
Rhinorrhoea ... ..	46
Albuminuria ... ..	10
Facial Paralysis ... ..	60
Limb Paralysis ... ..	1
Quinsy ... ..	1
Pharyngeal Abscess ... ..	1

In 90 of the cases admitted the disease was over three days old. Five cases were admitted in a moribund state. Fourteen cases received anti-toxin prior to admission.

Diphtheria is a serious disease. The progress of a case of Diphtheria depends very much on how long the disease has lasted before it is seen by a doctor. It is not uncommon to find that the initial sore throat of Diphtheria is disregarded by the parents, and it is only when after some days' illness the child's condition becomes alarming that a doctor is called in. It is in this class of case that heart failure, paralytic manifestations and toxæmia occur. Diphtheria obstructing the larynx is very dangerous and usually necessitates immediate operation. Another danger in connection with this type of Diphtheria is the tendency for Broncho-Pneumonia to occur. Swabs should be examined in all cases, but where there is a reasonable probability that the disease is Diphtheria—and the swab is negative—it is advisable to give anti-toxin.

#### **Schick Test. (Diphtheria Immunisation).**

This test detects those who are susceptible to Diphtheria. It has been extensively employed in America with great success in preventing Diphtheria. By injecting the test substance into the skin of each arm it can be discerned who is susceptible to Diphtheria and who is not. Non-susceptibles are unlikely to develop the disease, susceptibles are if they become infected. Susceptibles may be actively immunised by inoculating them with toxin-antitoxin. Protection lasts for at least seven years. Diphtheria is a dangerous infectious disease and it is probable that the time will come when this method of prevention will be added to the routine of public health administration. Immunisation is bound to fill an important place in the preventive medicine of the future.

### **Puerperal Fever and Puerperal Pyrexia.**

Six cases of puerperal fever were notified and four died.

Thirty - one cases of puerperal pyrexia were notified ; all recovered.

Puerperal fever—the most potent cause of death in child-birth—is caused by streptococci, but obstetricians are divided in their opinion upon the question of the channel of infection in these cases. Prevention depends primarily on good midwifery practice.

### **Ophthalmia Neonatorum.**

Numerous cases of blindness result from this infection. The disease is usually caused by Gonorrhoea and the consequences of neglecting treatment are serious.

The following Table classifies the notified cases :—

Cases.			Vision Unimpaired	Vision Impaired	Total Blindness	Death
Notified	Treated.					
	At Home	In Hospital				
11	5	6	9	—	—	2

Of the two deaths, one was due to Tetany and Alimentary Intoxication, and the other to Marasmus.

### **Encephalitis Lethargica.**

NUMBER OF CASES				
Notified	Died	Recovered	Treated at Home	Treated in Hospital
5	1	4	3	2

No special institutions are required for these cases in the acute stage and they may, in general, be properly admitted to the Fever Hospital. The proper care and management of cases of post-encephalitic moral degeneration is another matter. The after histories of these cases are usually tragic. It would appear that the mental changes induced by Encephalitis Lethargica affects temperament more than intelligence. The fundamental cause of the disease is unknown, but it is possibly due to ultra-microscopic organisms affecting the basal ganglia of the brain. Throat, nose and oral hygiene are preventive measures.



**Cerebro-Spinal Fever.**

This disease ravaged the country during the years of the war. Fatigue and overcrowding seem to be the chief causative factors in the disease. Cases should be isolated in hospital and antiseptic sprays and douches used. Only one case occurred in Halifax and it recovered.

**Acute Polioencephalitis.**

This is a disease of the central nervous system and is possibly connected with the stress and strain of modern life. Fatigue is a causative factor. One case was registered in Halifax. It recovered.

**Acute Poliomyelitis.**

No case occurred.

**Influenza and Pneumonia.**

Halifax was not visited by a severe epidemic during the year under review. The mortality is mainly from influenzal pneumonia, but it should not be forgotten that an influenza epidemic raises the mortality for the time being in sufferers from Pulmonary Tuberculosis. During an outbreak every opportunity is taken of impressing the public of the necessity of going to bed at the first signs. This is done in the interests of the patient and the community. The following Table sums up the cases:—

Influenza Pneumonia		Primary Pneumonia	
Number Notified	Number Died	Number Notified	Number Died
8	4	58	28

**Non-Notifiable Infectious Diseases.****Measles.**

The control of measles is especially difficult owing to the fact that it is infectious for some days before the rash appears. This year in Halifax there were no deaths from measles.

Possibly this diminished virulence was partly due to the excellent infant welfare work in Halifax and the improved physique of the infants resulting therefrom.

**Whooping Cough.**

The control of this disease is very difficult because of the insidious nature of its onset.

The following Table sums up the cases of Measles and Whooping Cough which occurred in Halifax:—

Measles			Whooping Cough		
Number of Cases	Deaths	Number of Cases in which advice was given	Number of Cases	Deaths	Number of Cases in which advice was given
29	—	29	10	—	10

**The Fever Hospital, Stoney Royd.**

During the year no structural improvements were carried out. The stock of linen, etc., for use in the Wards and Home has been replenished. Furniture has been obtained for the Wards and awning.

The Hospital has been recognised as a Training School for Fever Nurses by the General Nursing Council. During the year under review eight Probationers received training.

The Hospital has exerted and is still exerting a very favourable effect upon the mortality from Infectious Diseases. In a town like Halifax the application of a universal system of home nursing of cases of Infectious Diseases, is impracticable.

The following Table shows the number and classification of cases admitted, including those received from adjacent areas at the cost of the respective Local Authorities:—

Disease	Halifax	Brighouse Joint Hospital Board	Elland U.D.C.	Midgley U.D.C.	Luddendenfoot U.D.C.	Sowerby U.D.C.	Total
Enteric Fever ... ..	6	—	1	—	—	—	7
Scarlet Fever ... ..	365	1	—	9	45	—	420
Diphtheria ... ..	202	—	—	—	1	4	207
Encephalitis Lethargica ...	2	—	—	—	—	—	2
Other Diseases (including observation cases) ...	2	—	—	—	—	—	2
Totals ... ..	577	1	1	9	46	4	638

### Smallpox Hospital, Meunt Tabor.

This Hospital, maintained by the Council, is under agreement to admit cases from the Brighthouse Joint Hospital Board's area, from Luddenden Foot, Midgley and Sowerby. Some income could have been derived by admitting cases from other areas which wanted accommodation, but the beds were jealously reserved for the use of the districts named, in view of the anxiety which prevailed as to the spread of small-pox on a large scale.

The Hospital which had been closed on December 21st, 1927, had to be reopened on March 5th of the year under review and remained open throughout the year, with the exception of a period from Sunday, November 25th, when, in consequence of a very violent storm, which caused considerable damage to the Hospital buildings, it was necessary to transfer the whole of the patients to the Small-pox Hospital of the Bradford Corporation at Thornton.

The following cases were admitted during the year:—

Halifax	...	...	...	...	216
Brighthouse Joint Hospital Board	...			...	9
Sowerby Urban District Council (including one contact)		...	...	...	6
Contacts (Halifax)		...	...	...	7

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The Hospital was staffed (in addition to the resident caretaker and his wife) by nurses from Stoney Royd Fever Hospital, and the victualling and nursing was supervised by Miss Wilson, Matron, Stoney Royd. The Medical Officer of Health and the Assistant Medical Officer of Health, provided the medical attendance. The situation of the Hospital, on the open moorland, is such as to expose it to wild weather, and the wood and iron buildings are not the most suitable type for such a situation, the upkeep being costly. Still, the patients seemed very comfortable. Small-pox being now a permanent guest in the country, owing to neglect of vaccination, permanent and more suitable hospital accommodation will be required for it, and must be definitely anticipated. This will involve heavy expenditure; vaccination would be cheaper, but the public, rejecting advice, has chosen. It must pay for its choice.

### Luddenden Joint Hospital Board.

During the current year the Royal Assent was given to the "Luddenden Joint Hospital Orders, 1893 to 1929," and this Board is now dissolved in accordance with the terms of that Order.

### Disinfection.

The steam disinfector is situated at the Borough Fever Hospital, Stoney Royd, and 17,261 articles of bedding, clothing, etc., were disinfected during the year. Also 578 library and other books were disinfected in a special apparatus which is provided for that purpose. 803 rooms in private houses were disinfected.

### Cleansing Station.

This is at the Stoney Royd Hospital. 41 children were treated during the year, these being sent by the Education Committee, suffering from scabies and other conditions, and 4 other verminous persons treated.

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## Tuberculosis.

TUBERCULOSIS DEATH-RATE.		
PERIOD	Respiratory only	All Forms
10 years average 1919-28 ...	'74	'94
1928 ... ..	'53	'71

The following Table shows the ages of the cases at the time of notification and at death :—

AGE PERIOD	TUBERCULOSIS							
	*NEW CASES				DEATHS			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M	F	M	F	M	F	M	F
Under 1 year ...	—	—	1	1	—	—	1	2
1 to 5 years ...	—	1	—	5	—	1	—	2
5 to 10 „ ...	4	3	7	1	—	2	1	2
10 to 15 „ ...	1	1	2	2	—	—	—	—
15 to 20 „ ...	7	5	—	2	1	1	—	1
20 to 25 „ ...	11	13	1	1	5	7	1	1
25 to 35 „ ...	13	16	—	1	5	5	—	—
35 to 45 „ ...	18	4	1	1	5	3	1	—
45 to 55 „ ...	13	2	—	2	7	2	—	2
55 to 65 „ ...	8	1	—	1	1	3	—	1
65 and upwards ...	3	2	—	—	3	1	—	—
TOTALS ...	78	48	12	17	27	25	4	11

\*Includes primary notifications, and cases not notified during life, but first intimated by death returns.

The ratio of non-notified tuberculosis deaths to total deaths from this disease was 17 per cent.

The following Table shows the number of notified cases of Tuberculosis remaining in the Borough on December 31st, 1928:—

Total Cases	Pulmonary			Non-Pulmonary		
	Males	Females	Total	Males	Females	Total
607	254	181	435	86	86	172

*Public Health (Prevention of Tuberculosis) Regulations, 1925.*

No action appeared to be called for.

*Public Health Act, 1925; Section 62.*

No action was taken.

**Tuberculosis Scheme.**

Diagnosis.	Pul- monary.	Non-Pul- monary.	Total.
<b>A—New cases (excluding contacts) :</b>			
(a) Definitely tuberculous ...	95	14	109
(b) Doubtfully tuberculous ...	—	—	11
(c) Non-tuberculous ...	—	—	25
<b>B—Contacts :</b>			
(a) Definitely tuberculous ...	15	—	15
(b) Doubtfully tuberculous ...	—	—	5
(c) Non-tuberculous ...	—	—	10
<b>C—Cases written off Clinic Register as :</b>			
(a) Cured ... ..	16	14	30
(b) Diagnosis not confirmed or Non-tuberculous (including cancellation of cases notified in error) ... ..	—	—	51
<b>D—Number on Register Dec. 31st :</b>			
(a) Diagnosis completed ...	362	89	451
(b) Diagnosis not completed ...	—	—	5
Number of persons on Clinic Register on Jan. 1st			398
Number of persons transferred from other areas, and of "lost sight of" cases returned ... ..			4
Number of patients transferred to other areas and cases "lost sight of" ... ..			8
Died during the year ... ..			32
Number of observation cases under A (b) and B (b) above in which period of observation exceeded two months ... ..			2
Number of attendances at the Clinic (including contacts) ... ..			787
Number of attendances of non-pulmonary cases at Orthopaedic out-stations for treatment or supervision ... ..			18
Number of patients given Dental treatment... ..			2
<b>Number of consultations with medical practitioners :</b>			
(a) At homes of applicants ... ..			20
(b) Otherwise ... ..			178

Number of other visits by Tuberculosis Officer to homes ... ..	7
Number of visits by Nurses or Health Visitors for Clinic purposes ... ..	2640
Number of	
(a) Specimens of sputum, etc., examined ...	414
(b) X Ray examinations made in connection with Clinic work ... ..	6
Number of Insured persons on Clinic Register on Dec. 31st ... ..	301
Number of Insured persons under Domiciliary Treatment on the 31st December ... ..	17

#### Shelf Sanatorium.

Admissions and Discharges during the year :—

	Halifax cases	Other Cases	Total
Remaining in on December 31st, 1927 ...	27	8	35
Admitted during the year... ..	95	35	130
	122	43	165
Discharged during the year ... ..	92	30	122
Remaining in on December 31st, 1928 ...	30	3	43

Grouping of cases admitted during the year :—

A. *Non-Pulmonary* :—

B. *Pulmonary* :—

	Male.	Female.	Total.
Group 1. Early cases ...	22	25	47
Group 2. Intermediate cases	20	22	42
Group 3. Advanced cases ...	21	20	41

We still have to deplore the small percentage of early, *i.e.*, really suitable Sanatorium cases.

The average length of stay was 128 days, as compared with 139, 129 and 124 days in the preceding three years respectively.

The condition of the patients discharged was as follows :

Improved.	No Change.	Worse.	Dead.	Total.
85	15	15	7	122

All the deaths were pulmonary cases and Halifax residents.

#### **Tuberculosis After-care Committee.**

The Tuberculosis After-Care Committee of the Halifax Council of Social Welfare continued its useful work in the manner described in previous Reports.

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## **Bacteriological Examinations.**

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The arrangements are as follows :—

#### **Diphtheria.**

Swabbing outfits may be obtained from the Health Department, and after use may be posted direct to the Pathological Department, Medical School, Thoresby Place, Leeds. Positive results are telephoned or telegraphed direct to the practitioner, but negative results are communicated by post only.

#### **New Arrangements.**

On and after 1st January, 1929, bacteriological examinations will be carried out at the Royal Halifax Infirmary, where swabs, etc., may be sent direct.

A swab is said to be positive when Kleb's Loeffler Bacilli are found, and negative when they are not found. Failure however, to find K.L.B., does not negative the presence of diphtheria.

#### **Enteric Fever.**

Blood outfits for the agglutination test are supplied by the Health Department, and may be sent direct to the above address at Leeds.

#### **Tuberculosis.**

Sputum and other material is examined only at the Tuberculosis Clinic, 8, Clare Road, Halifax, and should not be sent to Leeds. Sputum must be sent in special outfits which will be supplied on the application of the practitioner.



**Examinations 1928.**

The following Table shows the number of examinations carried out either at the University of Leeds or at the Tuberculosis Clinic during the year, either for the medical practitioners of the town, for the fever hospital, the clinics, or the Health Department :—

Lymph Glands for Tubercle	...	...	0
Sputum for Tubercle	...	...	414
Diphtheria Swabs	...	...	899
Virulence Test for Diphtheria	...	...	1
Hair for Ringworm	...	...	1
Agglutination Test (Widal) T.A.B.	...	...	6
Others (Pus, Fluids, etc.)	...	...	2
			Total
			... 1323

In addition to the above, samples of milk from cows suspected to be suffering from tuberculosis of the udder have been taken by the Veterinary Inspector and submitted to bacteriological tests in other laboratories.

**Issue of Sera and Vaccines.****Diphtheria Antitoxin :**

As the Health Department is usually prepared to remove diphtheria cases to hospital on the shortest notice, the issue of diphtheria antitoxin for use in the town should be rarely required ; a supply is kept at the Health Department for issue in certain circumstances.

**Botulism Antitoxin :**

The Ministry of Health has placed botulism antitoxin at certain centres about the country. The nearest to Halifax are Manchester and Leeds. The Medical Officers of Health of these places are in charge of the supplies.

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## Venereal Diseases.

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In conjunction with the County Authority, a joint clinic for the treatment of venereal diseases is held at the Royal Halifax Infirmary.

The clinic is open for women and children every Tuesday afternoon from 3-30 to 4-30, and from 6 to 8. For men, every Thursday between 6 and 8 p.m. Also an

auxiliary treatment centre for men is open daily from 10 a.m. to 12 noon, and 6 to 8 p.m., and on Sundays from 10 a.m. to 12 noon. It appears that these arrangements are sufficient and adequate for the needs of the Borough.

There is a Medical Officer with an Assistant Medical Officer in charge of this clinic.

The following figures refer to local patients attending the Treatment Centre :—

Number of persons dealt with for the first time during the year, and found to be suffering from :—				Local Clinic	Other Clinics
Syphilis	...	...	...	31	—
Soft Chancre	...	...	...	2	—
Gonorrhoea	...	...	...	90	—
Conditions other than Venereal...				103	—
				<hr/>	<hr/>
			Total	226	—

Total attendances at the out-patient clinic	...	...	...	6,312	20
Aggregate number of in-patient days				249	—
Number of doses of Salvarsan Substitutes given	...	...	...	381	—

Specimens sent to an approved Laboratory for :—

Detection of Spirochaetes	...	...	...	3	—
Detection of Gonococci	...	...	...	—	—
Detection of other organisms...				—	—
Wassermann Reaction	...	...	...	193	—
				<hr/>	<hr/>
			Total	196	—

614 examinations for detection of Gonococci were carried out at the Treatment Centre.

There are 7 medical practitioners, not including the two officers of the clinic, in the Borough, qualified to receive free supplies of Salvarsan substitutes.

## Maternity and Child Welfare.

### Midwives.

Number practising in the Borough of Halifax during the year	...	...	...	...	...	30
(This includes Midwives working in Institutions).						
Number holding the Central Midwives Board Certificate (by examination)	...	...	...	...	...	28
Number of <i>bona fide</i> Midwives ( <i>i.e.</i> , holding the Certificate of the Central Midwives Board by virtue of having been in practice before 1902)	...	...	...	...	...	3
Number of cases in which Medical Aid was summoned by Midwives	...	...	...	...	...	86

15 medical aid notices were sent on behalf of the child, 8 for inflammation of eyes, 6 for feebleness, etc., and 1 for a case of skin affection (watery blisters).

Notification by midwives of intention to resort to artificial feeding, 1.

Notification by midwives of liability to be a source of infection, 3.

### Midwifery Services Subsidised by the Corporation.

The Midwifery Service carried on by the Halifax District Nursing Association in the Bradshaw area is subsidised by the Corporation. The total number of cases attended by the Association's midwives, including those in Bradshaw, was 347 (a doctor being engaged in 80 of these cases).

The Luddenden Nursing Association also receives a small subsidy from the Corporation, and the cases attended by the Luddenden nurse within the Borough numbered 5.

The Association was without a Nurse Midwife for a period of two months in the Spring of 1928.

It must be remembered that although the cases are few in number, the roads are extremely steep, and the houses scattered, which makes the midwife's work very arduous. She also does general nursing.

**Notification of Births Act, 1907 :—**

Number of births notified...	} including births transferable to other districts.	{	1,419
Number of births registered			1,550
Ratio of notified to registered ...	...	...	91.54%
Number of stillbirths notified ...	...	...	81
Number of notified births attended by Doctors with and without Midwives ...	...	...	330
Number of notified births attended by Midwives only ...	...	...	520
Number of notified births attended in St. Luke's Maternity Home and Hospital			226
Number of notified births attended in Royal Halifax Infirmary ...	...	...	343

**Health Visiting Summary :--**

Primary Visits ...	...	1,172
Visits 1-5 years ...	...	4,441
Repeat Visits under 1 year ...	...	5,490
Ante-natal Visits ...	...	252

The Health Visitors also spend some part of their time in visiting cases of tuberculosis and mental deficiency, 320 visits being made during the year.

Although the Health Visitors have to spend more time at the Clinics than formerly, owing to the number of Sessions for Artificial Sunlight, there is a slight increase in the total visits as compared with last year.

**Infant Welfare Centres.****Northgate—**

Number of sessions, 229.  
 New cases, 586.  
 Re-visits, 7,693.  
 Average attendance per session, 36.1.

The ordinary Monday morning Clinic was discontinued at the end of February, 1928, when the Monday morning session for Artificial Sunlight was arranged.

**Queen's Road—Number of sessions, 89.**

Tuesday ; Morning and Afternoon sessions.  
 New cases, 196.  
 Re-visits, 3,556.  
 Average attendance per session, 42.15.

The new Welfare Centre at Sowerby Bridge under the West Riding County Council is supplying the needs of some mothers who previously came to Queen's Road.

It must be remembered that children who are attending the Sunlight Clinics rarely attend the ordinary clinics as well, and this tends to reduce the numbers shown as attending ordinary clinics.

Ante and Post-natal Clinics:—

Number of sessions, 38.

New cases, 83.

Total attendances, 272.

Average attendance, 7.15.

Toddlers Clinic—

Number of sessions, 28.

Attendances, 198.

Average attendance per session, 7.

This Clinic was discontinued in November in consequence of an accident, which resulted in extensive damage being done to premises and equipment.

Pressure of work in connection with the new Sunlight Clinic also contributed to this decision.

We are glad to be able to report that the average attendance at almost all the sessions shows a slight increase over last year.

Artificial Sunlight:—

Number of sessions, 90.

Cases treated, 173.

Attendances, 2,516.

Average attendance per session, 27.95.

Attendances of non-tuberculous children under	
School age	... .. 1,846
Attendances of non-tuberculous children of School	
age	... .. 476
Attendances of tuberculous children	... .. 147

The Sunlight Clinic was commenced on March 5th, 1928, when the Monday morning session for Infant Welfare was discontinued. Two sessions per week are held: this means the two Nurses have two extra sessions at the Clinic each week.

### Infant Mortality.

(see statistics, page 9).

Out of 83 deaths under one year, 52 occurred during the first month, and 31 over one month and under twelve months. Of this number 51 were boys and 32 girls.

It is again noteworthy that a very small proportion of the deaths under one year are attributed to digestive disorders.

On a rough classification of the above, we find that the causes of death were as follows:—

Bronchitis and Pneumonia	...	...	16
Prematurity	...	...	20
Debility and Marasmus	...	...	15
Convulsions	...	...	6
Congenital Deformity	...	...	7
Gastro Enteritis	...	...	3
Intestinal Haemorrhage	...	...	2
Cerebral Haemorrhage	...	...	3
Meningitis	...	...	3
Hydrocephalus	...	...	2
Otitis Media	...	...	1
Congenital Tumour of Kidney	...	...	1
Congenital Syphilis	...	...	2
Uraemia	...	...	1
Icterus Neonatorum	...	...	1

---

83

The problem of neo-natal mortality remains as great as ever, and is inextricably linked with the welfare and medical supervision of the Mother during pregnancy, and with the skill and care with which the confinement is conducted.

It will be noted that out of the 52 deaths from birth to one month, many occurred within 24 hours, and only 12 survived into the second week of life.

Of the 40 who died within the first week, cerebral haemorrhage is given as a cause of death in 3 cases, and difficult delivery is mentioned as the cause of death in one case.

### Midwives Inspection.

The Midwives have, as formerly, been periodically inspected and it is gratifying to report that there has not been any case of permanent damage to the eye of a newly

Born child from inflammation. Eleven cases of Ophthalmia Neonatorum have been notified during 1928. The standard of their work is satisfactory.

### Maternal Mortality.

The continued high rate of maternal mortality is alarming. About 700,000 women give birth to children every year. Of them, 3,000 die. Puerperal sepsis is the main cause of maternal mortality. Authorities are divided in their opinion upon the question of the channel of infection in puerperal sepsis. Indeed some state that infection is endogenous, and therefore nobody's fault. The truth appears to be that most cases are infected from without. The maternal mortality in Halifax is excessive despite the provision of good facilities for ante-natal examination and institutional treatment of pregnant women. The co-operation between doctors and midwives in the town is good, and indeed everything possible was being done to reduce the maternal mortality rate to a much lower figure.

The following Table shows the serious increase in this rate during recent years:—

	1921	1922	1923	1924	1925	1926	1927	1928
Sepsis ...	3	3	3	0	1	1	1	5
Other causes	9	7	7	6	7	7	9	8
Per 1,000 births	6·7	6·2	6·5	4·0	5·6	5·7	7·4	10·2

### Orthopaedic Clinic.

The Orthopaedic or Cripple Clinic founded jointly by the Maternity and Child Welfare, Health and Education Committees, has done excellent work. The sessions were originally held in the School Clinic, but as regards the children from the Infant Welfare Centre this was not found successful, as the mothers attended badly. It was therefore arranged that sessions should be held occasionally at the Northgate Centre, and the massage and remedial exercise sessions are also held there. Children requiring operative treatment for rickets were sent to St. Luke's Hospital, Bradford, so as to be treated by the Orthopaedic Surgeon of the Clinic, Mr. F. W. Goyder, F.R.C.S.

Mr. Goyder reports on the work carried out at the Northgate Clinic during the year as follows:—

**Mr. Coyder's Report.**

The Orthopaedic Surgeon has attended at the Northgate Centre on five occasions. During this period he has examined 84 cases, of which 31 were seen for the first time, and 53 were re-examinations. 35 children have been under treatment during the year. The details are as follows:—

Number on treatment on December 31st, 1927	...	11
Number admitted for treatment	...	24
Number discharged from treatment...	...	21
Transferred to other towns	...	2
Remaining on treatment December 31st, 1928	...	12

The treatment given was:—Massage 778 attendances ;  
Ultra Violet Radiations 635 attendances.

In addition, five children were sent to Bradford for operation by the Orthopaedic Surgeon, including nine other cases who had first reached school age, 14 children were operated on under 7 years of age. All but one were deformities due to rickets.

Of the cases treated at the Clinic there were:—

Rickets	...	25
Paralysis	...	5
Tuberculous disease of spine...	...	2
Tuberculous disease of hip	...	1
Miscellaneous	...	2

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35

That is, 25 out of 35 were cases of rickets.

Twelve cases under treatment at one time seems to the Orthopaedic Surgeon too small a number for a Clinic of the size of the Infant Welfare Centre, but many children examined are never seen again, and many never attend for treatment. The result of this is, that the same children re-appear untreated and deformed at their first inspection when they reach school age. Many of the parents of course, having other small children, find it difficult to spare time for the Clinic, and as attendance there is voluntary, it is very difficult to follow up the absentees. Encouraging results are being obtained among those children who do attend, and the establishment of artificial sunlight treatment, especially when given in conjunction with



massage, has been of great value. The success too, of operative treatment in the cases sent at first has brought other parents along, anxious to have their children's limbs straightened.

The Orthopaedic Surgeon feels, that though the establishment of remedial treatment at this centre has been well worth while, sufficient use is not, as yet, being made of the advantages it offers. He would like to see a far larger attendance, and a higher proportion of parents willing to take advantage of the treatment provided.

He feels too, that with the greater prevalence of rickets in this town, and at this period of life, greater efforts should be made to deal with and to prevent this disease, and thus to lessen the number of deformities which now, only too frequently show themselves in the children of school age. The establishment of even a small number of beds in this direction at an open-air hospital, would do good in this direction, and would lessen the need for operative treatment in later life.

It would be ungracious to end this Report without a reference to the work of our late Medical Officer of Health, Dr. Cyril Banks. The able way in which he has organised the efforts of the Welfare Committee in the development of this Clinic, and the active interest and co-operation he has shown in this branch of Health activities, will not be forgotten by any of those with whom he was associated in Halifax.

(Signed) J. W. GOYDER.

#### **Artificial Sunlight Clinic.**

I am glad to be able to report that the artificial sunlight is a very satisfactory feature of the Health Department's activities. During the year under purview, 173 cases were treated and 2,516 exposures were given.

Cases of rickets, debility, anaemia, malnutrition, nervous irritability, tuberculosis of the spine, glands of the neck, and bones are treated, also Mothers suffering from defective lactation.

The following is the routine course of dosage:—

For first dose, two minutes back and two minutes front.

For a very young child less than this.

Two treatments per week arranged, and the dose gradually increased up to eight minutes back and eight minutes front.

If treatment appears doubtfully beneficial the dose is not increased and is even diminished, should unaccounted for loss of weight or other indication be found.

The average duration of treatment per patient extends over a period of three months.

Our experience has been that cases of rickets, debility, malnutrition and glands of neck are indubitably benefitted by the treatment. We found that epileptic and nervous children did not respond very well and the treatment was discontinued. Some cases of chronic eczema did very well. Parents very often reported beneficial results in cases of sleeplessness.

The danger of a new and spectacular form of treatment like Heliotherapy is that there is a tendency for it to be overestimated. While artificial sunlight has not come up to the expectations of everybody, it is undoubtedly a useful weapon in the modern armoury of therapeutic measures. Appropriately applied it is undoubtedly beneficial in many cases.

Dr. Latchmore is in charge of the Clinic and is assisted by Miss Oram, the Superintendent Health Visitor, and the Health Visitors.

The Clinic was opened on March 5th and continued until November 25th, when a regrettable street accident damaged the sunlight clinic room and apparatus to such an extent that treatment had to be discontinued for the remainder of the year.

### **Inspection of Maternity Homes.**

In the Halifax Corporation Act 1926, powers were given for the compulsory registration of Maternity Homes in Halifax. These provisions were later included in the Midwives' and Maternity Homes' Act 1926, which established the powers for the whole country.

Only one Maternity Home has been registered (those at the Halifax Royal Infirmary and St. Luke's Hospital not being subject to registration). This home has been inspected in accordance with the Act.

### **Staff.**

The personnel of the staff engaged upon Maternity and Child Welfare work has not changed, and absence due to illness has been less than usual. The improved bill of health is probably due to the better conditions under which the work is carried on at Northgate in comparison with the previous premises used.

### Voluntary Workers.

Our grateful thanks are again tendered to those ladies who so willingly give up so much time to assist in the work of the Centres. Without their help it would be impossible to carry on the work, and their unselfish efforts on behalf of their fellows is very highly appreciated.

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## Public Health Propaganda.

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The various clinics continued to be centres of health education, and in addition to the teaching received in those places large quantities of useful pamphlets were distributed, touching on a variety of topics, these being of special interest to parents.

Health Week was not celebrated during the year. It was thought that the time, energy and expense required to organise a Health Week would not be commensurate with the results. At the same time, the education of the people in the methods necessary to secure good health were not lost sight of. Much was accomplished by lectures, given by members of the Health Department; by articles in the Press; by Pamphlets, and by the issue of the "Better Health" Magazine, 3,000 free copies of which are now distributed monthly.

### Medical Examination of Tramwaymen and Gasworkers.

The Medical Officer of Health and Dr. Smith carried out the following medical examinations on behalf of the Tramways and Gas Committees, including several consultations with usual medical attendants:—

#### *Tramwaymen—*

Applicants for employment or promotion	...	71
Return to work after sickness (other than cases certified by usual medical attendants)...	...	—

#### *Gasworkers—*

Special examinations	...	...	...	...	—
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## Mental Deficiency Acts, 1913 and 1925.

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The outstanding difficulty in the work of the Halifax Committee for the Care of the Mentally Defective is the inability to secure vacancies in suitable institutions for female defectives. Therefore several women and girls who would be better off if placed in such institutions must remain at home. The Committee fully recognises its responsibility and has taken steps, but so far no new accommodation has become actually available. Another difficulty is to get accommodation for young boys. This may be overcome by an extension of the existing accommodation at Whixley Institution, of which the Halifax Committee are part-owners. In the meantime the Committee has reason to feel satisfied with much of its work of guarding the unfortunate people whose mental development is below normal.

Mental Deficiency is caused by a sub-development of the convolutions of the brain, especially in the frontal lobes. The causes are bad heredity and bad environment. The cure, then, is the elimination of degenerate human stock and the improvement of environment. It is a tremendous problem because we are embarrassed by our lack of knowledge of the basic springs of heredity.

Halifax cases are at present in the following Institutions :

The Home, Everton Terrace, Liverpool.

Mid-Yorkshire Institution, Whixley, near York.

Gibbet Street Institution, Halifax.

Pontville R.C. Special School, Ormskirk, Lancs.

Stoke Park Colony, near Bristol.

Royal Albert Institution, Lancaster.

Wordsley Institution.

Tenterden Union, Tenterden, Kent.

Settle Union Institution, Giggleswick.

The following Table shows the position on December 31st 1928:—

A. *Number of Cases "Subject to be dealt with."* :—

1. Under "Order"	M.	F.	Total
(a) In Institutions ... ..	26	15	41
(b) Under Guardianship ... ..	—	—	—
Out on Licence from Institutions	2	1	3

	M.	F.	Total
2. In "places of safety" ... ..	—	—	—
3. Under Statutory Supervision ...	32	32	64
Numbers of foregoing :—			
(a) Attending Occupation Centres	—	—	—
(b) Awaiting removal to an Institution ... ..	3	3	6
4. "Subject to be dealt with," but action not yet taken :—			
(a) Notified by Local Education Authority, Sec. 2 (1), (b) (v)	—	—	—
(b) Otherwise "ascertained" ...	—	—	—
<b>B. Number of Cases who may become "Subject to be dealt with" :—</b>			
1. In Institutions or under Guardianship dealt with under Sec. 3—			
(a) in regard to whom the Local Authority contributes under its permissive powers ... ..	—	—	—
(b) Maintained wholly by parents, relatives or others ... ..	—	—	—
2. Reported to Local Authority from any reliable source but as to whom it had not been decided whether they are "subject to be dealt with" or not :—	—	—	—
3. Under Voluntary Supervision ...	—	—	—
Numbers of foregoing attending Occupation Centres ... ..	—	—	—

**Cases Notified by Local Education Authorities  
under Sec. 2 (i), (b), (v) during 1928.**

	M.	F.	Total
Sent to Institutions (by Order) ...	—	—	—
Placed under Guardianship (by Order)	—	—	—
Placed under Statutory Supervision ...	2	—	2
Placed in "Places of Safety" ...	—	—	—
Died or removed from area ...	—	—	—
Action not yet taken ... ..	—	—	—
Total ...	2	—	2

The particulars given above relate solely to cases under the care of the Statutory Committee, and have nothing to do with children of school age, who, so long as they are capable of receiving benefit from instruction in a special school remain under the care of the Education Committee. Particulars regarding them are to be found in the reports of the School Medical Service published separately, in which the work of the special school at Quarry House is described.

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General Summary of Meteorological Observations taken at the Public Library, Belle Vue, from January 1st, 1928, to December 31st, 1928.

By E. GREEN, LIBRARIAN.

LATITUDE OF STATION = 53° 43' N.

LONGITUDE = 1° 52' W.

HEIGHT ABOVE SEA LEVEL = 675 FEET.

Year.	Pressure of Atmosphere in Month.		Temperature of Air in Month.							Mean Temperature.		Vapour.			Mean degree of Saturation (%).	Mean Weight of a cubic foot of Air.	Mean Reading of Thermometer.			Wind.									Mean amount of Cloud.	Rain.		REMARKS
	Mean at 3 P.M. and Sea Level.	Range.	Highest.	Lowest.	Range.	Of all Highest.	Of all Lowest.	Daily Range.	(Adopted.)	Dew Point.	Electric Force.	Mean.	Short of saturation.	Maximum.			Minimum.	Estimated Strength.	Relative proportion of									No. of Days in Fall.		Amount Collected.		
Month.	in.	in.	°	°	°	°	°	°	°	in.	in.	in.	in.	in.	in.	in.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.	in.	in.					
January	29.710	0.764	54.5	21.2	33.3	46.5	34.3	12.2	44.9	35.5	.215	2.3	0.7	77	536.8	57.5	26.5	3.0	0	0	0	26	7	13	0	7.3	28	8.38				
February	29.943	1.550	54.4	31.1	23.3	46.7	35.1	11.6	41.0	36.5	.215	2.5	0.5	84	536.8	64.8	28.0	3.5	0	3	0	12	7	13	10	9.0	19	4.91				
March	29.731	1.480	58.4	23.9	34.5	46.8	34.8	12.0	41.1	39.3	.240	2.7	0.4	93	536.5	72.1	28.7	2.0	3	8	4	8	5	4	3	2	13	7.8	24	2.27		
April	29.778	0.708	70.7	27.3	43.4	55.5	35.7	17.8	45.5	35.3	.207	2.4	1.2	67	531.4	90.0	28.1	2.0	8	5	3	5	1	10	3	1	4	7.5	14	1.15		
May	29.932	0.770	69.9	34.7	35.2	56.1	39.3	16.8	48.1	41.7	.263	3.0	0.8	79	529.0	90.5	32.2	2.0	4	23	2	2	0	1	0	4	9	7.4	20	1.96		
June	29.832	1.208	70.7	40.2	30.5	59.2	43.8	15.4	51.5	46.0	.323	3.6	0.6	86	525.6	97.2	37.8	3.0	4	3	5	2	13	1	5	10	4	8.2	20	5.86		
July	29.998	0.816	76.5	43.6	32.9	64.4	49.7	14.7	58.0	51.4	.380	4.3	1.3	76	517.0	108.8	43.3	3.0	0	0	0	0	7	20	16	3	7.0	10	0.94			
August	29.898	0.744	74.1	40.7	33.4	65.2	48.8	16.4	57.8	49.5	.354	4.0	1.6	71	517.2	103.8	40.7	2.0	1	2	0	3	7	11	6	15	8.3	16	3.20			
September	30.093	0.664	74.1	37.1	37.0	55.3	67.0	21.5	55.3	48.0	.334	3.8	0.1	80	522.3	96.6	37.0	2.5	7	4	0	2	4	8	4	7	10	7.0	13	0.41		
October	29.774	1.196	64.5	30.5	34.0	54.4	41.8	12.6	48.9	43.8	.286	3.3	0.8	80	526.7	81.8	32.6	2.5	1	3	4	3	6	15	0	1	16	7.4	22	5.19		
November	29.655	1.844	59.5	29.9	29.6	50.0	39.0	11.0	44.8	41.7	.265	3.1	0.5	86	531.0	65.1	29.3	4.0	1	4	0	0	1	13	6	10	13	7.7	25	5.32		
December	30.006	1.160	53.0	24.0	29.0	43.5	32.0	11.5	37.7	33.3	.190	2.2	0.5	83	540.1	49.6	24.0	2.0	1	4	1	2	0	6	2	13	16	7.8	19	1.84		
Annual Means	29.862	1.075	65.0	32.0	33.0	53.8	41.5	14.4	47.8	41.8	0.275	3.1	0.7	80	529.2	81.4	32.3	2.5	5.0	1.5	2.0	2.5	9.0	6.0	9.0	9.5	7.7					

The Mean Monthly Readings of the Earth Thermometer, four feet below the surface, were as follows:—

January, 41°                      March, 43°                      May, 47°                      July, 53°                      September, 55°                      November, 48°  
 February, 42°                      April, 44°                      June, 50°                      August, 55°                      October, 51°                      December, 45°

Highest Readings = 55° on July 2<sup>nd</sup> to Sept. 18<sup>th</sup>.

Lowest Readings = 41° on January 3<sup>rd</sup> to 18<sup>th</sup>.

Rain fell on 230 days, and measured 41.43 inches.

The observations have been reduced to mean values by Glaisher's Barometrical & Diurnal Range Tables, and the Hygrometrical results have been deduced from the seventh edition of the Hygrometrical Tables, after corrections for Index errors of the Instruments employed.



# General Summary of Meteorological Observations

For the Year 1908

LATITUDE 40° 42' N

Month	Temperature in Mean		Precipitation		Relative Humidity	Wind Velocity	Direction
	Max.	Min.	Total	Days			
Jan.	32.0	12.0	1.50	10	75	10	SW
Feb.	35.0	15.0	1.20	8	70	12	SW
Mar.	40.0	20.0	1.00	6	65	15	SW
Apr.	45.0	25.0	0.80	5	60	18	SW
May	50.0	30.0	0.60	4	55	20	SW
June	55.0	35.0	0.40	3	50	22	SW
July	60.0	40.0	0.30	2	45	25	SW
Aug.	65.0	45.0	0.20	2	40	28	SW
Sept.	60.0	40.0	0.30	3	45	25	SW
Oct.	55.0	35.0	0.40	4	50	22	SW
Nov.	50.0	30.0	0.60	6	55	18	SW
Dec.	45.0	25.0	0.80	8	60	15	SW
<b>Annual</b>	<b>50.0</b>	<b>30.0</b>	<b>5.00</b>	<b>50</b>	<b>50</b>	<b>150</b>	<b>SW</b>

## The Mean Monthly Readings of the Year

1. January 41.7° Max. 55.0° Min. 28.0°

2. February 42.0° Max. 55.0° Min. 28.0°

3. March 44.7° Max. 55.0° Min. 30.0°

