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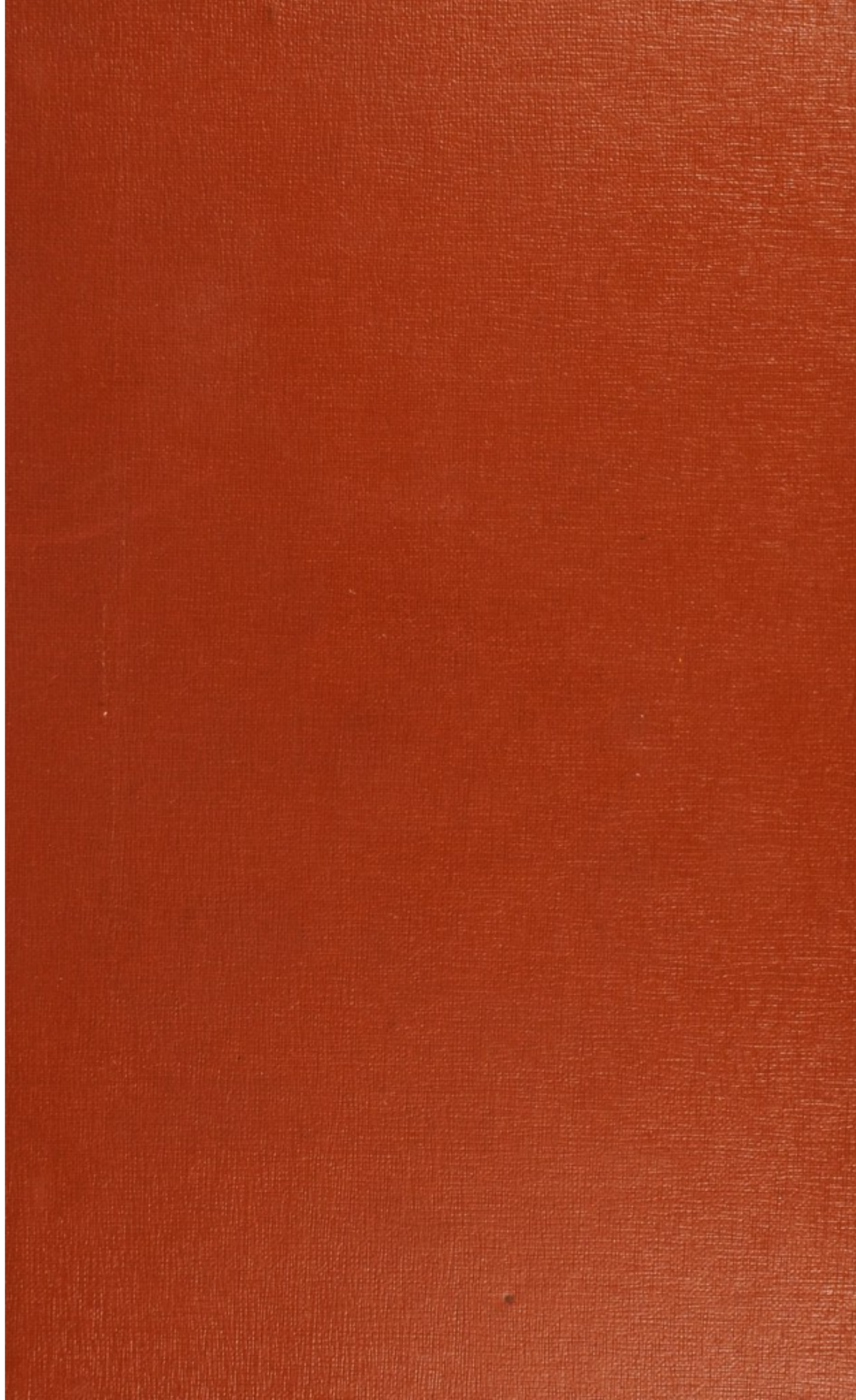
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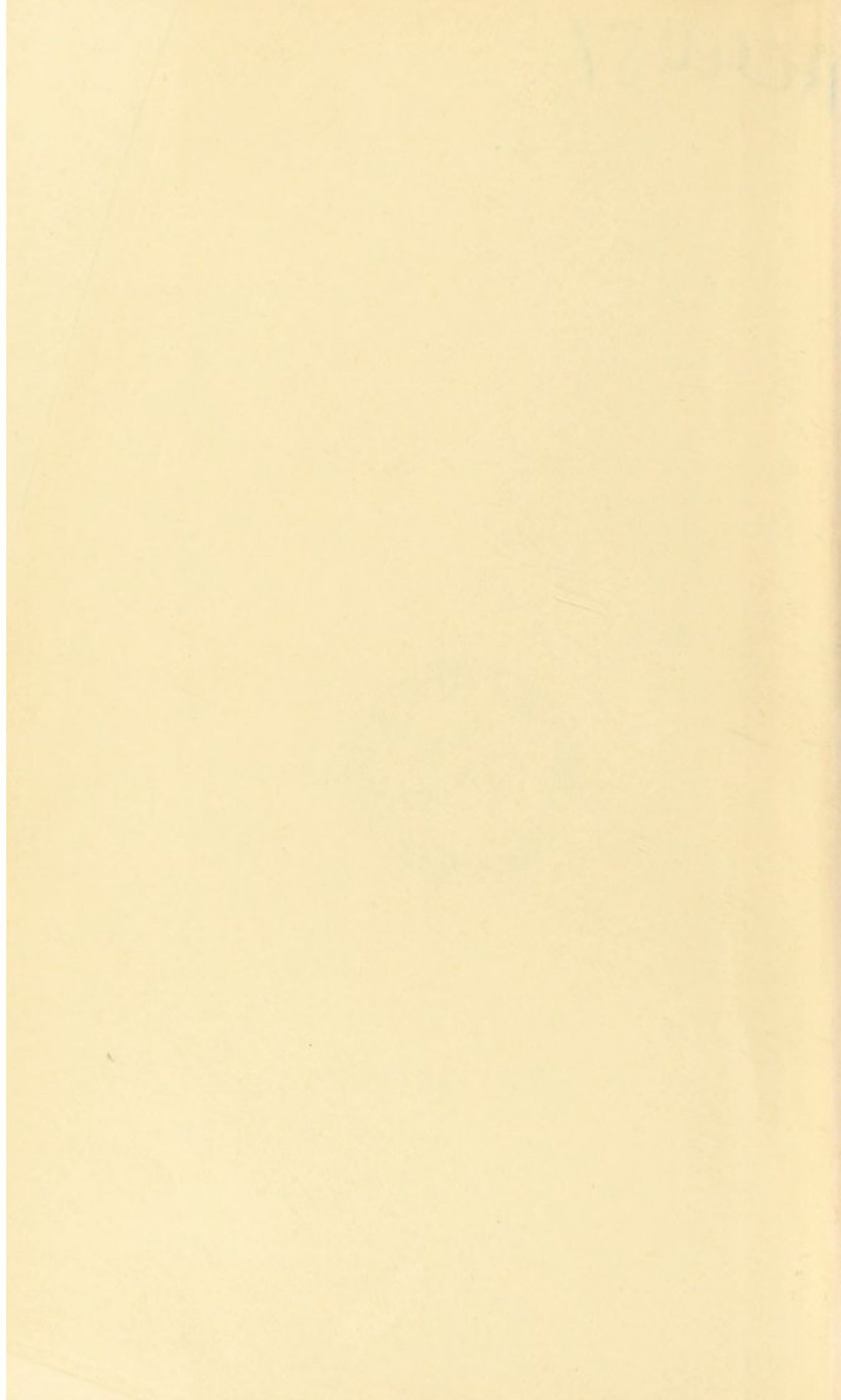




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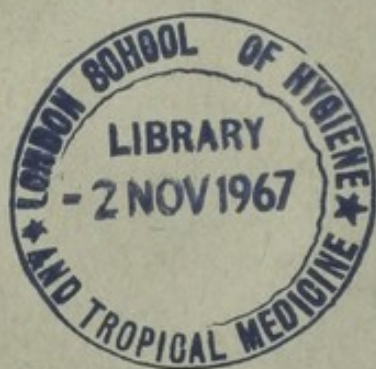
City of Salford.

ANNUAL REPORT
OF THE
Medical Officer of Health
FOR THE YEAR
1928.

BY
H. OSBORNE,

MEDICAL OFFICER OF HEALTH.

66190





THE PUBLIC HEALTH DEPARTMENT OF THE CITY OF SALFORD.

Nos. 131 to 155, Regent Road, Salford.



City of Salford.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1928.

BY

H. OSBORNE,

MEDICAL OFFICER OF HEALTH.

Members of the Health Committee,

1928-1929.

Alderman DESQUESNES, *Chairman*.

Councillor JACKSON, J.P., *Deputy-Chairman*.

Councillor COLLINS, J.P. (*Mayor*).

„ WILLIAMSON, J.P.
(*Deputy-Mayor*).

„ BINNS.

„ BLOOM, J.P.

„ CONNOLLY, J.P.

„ CORBEY.

„ COWIN.

„ CUTTIFORD.

Councillor DALE, J. P.

„ GREATOREX.

„ HIGGINBOTTOM.

„ KAY.

„ RICHARDSON, A.

„ SANDS, J.P.

„ WEIR.

„ WHITFIELD.

Also co-opted for Housing Purposes :—

Mrs. BERRY Representing the Pendleton Co-operative Industrial Society Limited.

Mrs. CUDDEFORD, J.P. A member of the Maternity and Child Welfare Sub-Committee.

Miss E. BOWDEN ... Representing the Manchester and Salford Women Citizens' Association

The following members were co-opted upon the undermentioned Sub-Committees, viz. :—

Tuberculosis Sub-Committee—Messrs. J. JOHNSON and J. SPEAKMAN, representing the Salford Insurance Committee.

Maternity and Child Welfare Sub-Committee—Mrs. J. GOODIER HAWORTH, J.P., and Mrs. KIRKEY, representing the Ladies' Public Health Society ; and Mrs. CUDDEFORD, J.P., representing the Women's Guild of the Pendleton Co-operative Industrial Society Ltd.

STAFF.

Public Health Department.

Medical Officer of Health.....	}	H. OSBORNE, M.D., M.R.C.S., D.P.H., etc.
Administrative Tuberculosis Officer....		
Honorary Consulting Medical Officer ..		C. H. TATTERSALL, M.R.C.S., L.R.C.P., D.P.H.
Clinical Tuberculosis Officers	{	E. N. RAMSBOTTOM, M.A., B.Sc., M.D. (Lond.), D.P.H., etc.
		J. G. MCKINLAY, M.B., Ch.B., D.P.H.
Medical Superintendent, Ladywell Sanatorium	}	W. EDGE, M.R.C.S., L.R.C.P., D.P.H.
Assistant Resident Medical Officer, Ladywell Sanatorium	}	J. L. BRADLEY, M.B., B.Ch.
Resident Medical Officer, Nab Top Tuberculosis Sanatorium, Marple ..	}	H. M. FLEMING, B.A., M.D., D.P.H.
Maternity and Child Welfare Medical Officers	{	H. K. BRADE-BIRKS, M.Sc., M.B., Ch.B., M.R.C.S., D.P.H. (Senior).
		D. E. P. JOLLY, M.B., B.S., M.R.C.S., D.P.H. (to 11th September, 1928).
		M. SPROUL, M.B., Ch.B., D.P.H.
		K. D. ARNSBY, M.B., B.S. (from 14th September, 1928).
Consulting Obstetrician		W. R. ADDIS, M.C., M.B., Ch.B.
City Bacteriologist		G. J. CRAWFORD, B.Sc., M.D., M.R.C.P. (Lond.), D.P.H.
Venereal Diseases Medical Officer		E. TYTLER BURKE, D.S.O., M.B., Ch.B.
Deputy Venereal Diseases Medical Officer	}	F. W. F. PURCELL, M.R.C.S., L.R.C.P.
Veterinary Inspector		A. ALEXANDER, M.R.C.V.S., D.V.S.M.
Public Analyst		H. H. BAGNALL, B.Sc., F.I.C.
Chief Sanitary Inspector		J. P. CARGILL, M.R.S.I.
Chief Clerk		E. WOOD.

For Staff of the School Medical Department, see page 173.

TO THE HEALTH COMMITTEE OF THE CITY OF SALFORD.

GENTLEMEN,

I have the honour to present my report on the Health of the City and the work of the Public Health Department for the year 1928, and at the same time desire to call your attention to the items referred to in the following paragraphs :—

Death Rate.

The total number of deaths which occurred in Salford during 1928 was 3,222, giving a Death Rate per 1,000 of the population of 13·3, the lowest Death Rate but one ever recorded in Salford. The principal causes of death were, as usual, Tuberculosis, Cancer, Heart Disease, Bronchitis and Pneumonia. Whilst the Mortality Rate from Cancer is maintained, the rates from Tuberculosis, Bronchitis and Pneumonia show a steady, if slight, decline.

Birth Rate.

The fall in the Birth Rate, to which attention was directed in my Annual Report for 1927, was maintained in 1928. The total number of births which occurred during 1928 was 4,073, giving a rate per thousand of the population of 16·9 as compared with 17·3 in 1927, which was the lowest recorded up to that year.

Infantile Mortality Rate.

The Infantile Mortality Rate for 1928 was 106 per thousand births, as compared with 81 in 1927.

The damp and cold conditions which prevailed so largely during 1928 may have been a cause of this increase.

Maternity and Child Welfare.

(a) ORDSALL CENTRE.

Important decisions were arrived at during the year 1928 in connection with the Maternity and Child Welfare Scheme. It had long been realised that several of the existing Centres were unsatisfactory, and as far back as 1925 the Health Committee accepted the offer of the Ordsall Committee of The Ladies' Public Health Society to contribute half the cost of the erection and equipment of a new Centre in the Ordsall District, together with an annual contribution towards the cost of maintenance.

In July, 1928, the erection of the Centre was commenced, and it was virtually completed by the end of the year. The completed Centre will represent a valuable addition to the Health Committee's Maternity and Child Welfare Scheme, and the cordial thanks of all concerned are due to the Ordsall Branch of The Ladies' Public Health Society, and to Mrs. J. Goodier Haworth, its enthusiastic Hon. Secretary, for their generous and devoted assistance in this connection.

(b) ENCOMBE PLACE CENTRE.

A further opportunity for the development of this scheme was afforded during 1928, when the authorities of the Salford Nursery School decided to vacate their premises at Nos. 10 and 12, Encombe Place, Salford, in consequence of new accommodation having been provided for them at Hulme Street, Salford. The vacated premises were found to be suitable for adaptation as a Maternity and Child Welfare Centre, and the purchase of the

premises was decided upon. The work of adaptation was commenced in 1928, but was not completed by the end of the year.

(c) ARTIFICIAL SUNLIGHT CLINIC.

In 1928 also it was decided to establish an Artificial Sunlight Treatment Centre in premises adjacent to the Maternity and Child Welfare Clinic in Regent Road. This decision was based principally upon the excellent results already obtained at the Municipal Babies' Hospital.

Health Propaganda.

(a) WINDOW DISPLAYS.

The series of Window Displays on the ground floor of the Health Department's premises facing Regent Road was continued during 1928. The subjects covered by the various Exhibitions up to the present include :—

The Fly Evil.

Food and Food Adulteration.

Pure Milk.

The Value of Fresh Air.

Care of the Teeth.

Maternity and Child Welfare (several exhibits)

Activities of the Health Department.

Although these displays have ceased to be an innovation, they still continue to attract attention from large numbers of the public. It is regretted that it has not yet been found possible to obtain the permanent use of suitable premises for a similar purpose in other populous thoroughfares of the City.

(b) HEALTH WEEKS—2ND TO 15TH DECEMBER, 1928.

A memorable propaganda campaign was undertaken in Salford during 1928. In extension of their previous policy, the Health Committee early in 1928 decided to devote a fortnight, viz., from the 2nd to the 15th December, to public health propaganda and publicity upon a large scale, and engaged the services as Organiser and Lecturer of Mr. T. Bowen Partington, the well-known Lecturer upon health subjects. One of the principal features of the campaign was a Health Exhibition arranged in the Drill Hall, Cross Lane, Salford, which was organised on similar lines to industrial and trade exhibitions. This undertaking was the largest of its kind ever carried out by the Salford Health Department.

It was realised in the first place that the cost of such an Exhibition would be considerable, and in order to avoid the necessity of making a heavy call upon the rates it was decided to request the Gas and Electricity Departments, and a number of private firms, to co-operate with the Health Department. In addition, accommodation was provided, free of charge, for the National Association of Tuberculosis, the Health and Cleanliness Council and the Fruiterers' Federation, all of whom provided excellent exhibits and arranged for their representatives to be present throughout the period of the Exhibition.

The following is a complete list of the exhibitors :—

STAND No.	EXHIBITOR.	NATURE OF EXHIBIT.
1.	Salford Health Department	Food and Food Adulteration.
2.	Frigidaire Ltd., Manchester	Refrigerators.
3.	Salford Health Department	Pure Milk.
4.	National Association for the Pre- vention of Tuberculosis	Exhibits on Tuberculosis.
5.	David Thom & Co. Ltd., Salford . .	Soaps, Glycerine, etc.
6.	Salford Health Department	Dental Exhibit.
7.	Fruiterers' Federation	Fruit.
8.	John Morris & Co. Ltd., Salford . .	Fire-fighting Appliances.
9.	Salford Health Department	Atmospheric Pollution.
10.	Salford Health Department	Maternity and Child Welfare.
11.	Kolynos Incorporated	Toothpaste, etc.
12.	Hovis Ltd.	" Hovis " Bread.
13.	Yeascuit Manufacturing Company, Uttoxeter	" Yeascuit " Products.
14.	Burgess Dairy Ltd., Manchester . .	Dairy Products.
15.	Health and Cleanliness Council, London	Health Literature.
16.	Newton, Chambers & Co., Sheffield.	" Izal."
17.	Virol Ltd., London	" Virol."
18.	Tellus Super Vacuum Cleaner Co. Ltd., Manchester	Vacuum Cleaners.
19.	West Surrey Central Dairy Co. Ltd., London	" Cow and Gate " Milk Food.
20.	Marmite Food Extract Co. Ltd., London	" Marmite."
21.	Pendleton Co-operative Industrial Society Ltd., Salford	Various Exhibits.
22.	Salford Gas Department	Gas Appliances.
23.	A. Wander & Co. Ltd., London . .	" Ovaltine."
24.	Salford Electricity Department . .	Electrical Appliances.

Photographs of several of the Exhibits prepared by the Health Department will be found on pp. 335 to 337, and facing page 362.

The Exhibition was formally opened on Wednesday, the 5th December, 1928, by Sir Wm. Arbuthnot Lane, Bart., C.B., and was afterwards thrown open to the public, free of charge, from 2-30 to 9-30 p.m. each day.

Nearly 30,000 visitors were attracted, most of whom displayed a keen interest in the exhibits.

Lieut. Muller lectured and gave physical culture demonstrations at intervals during the Exhibition.

I desire to express my thanks particularly to the East Lancashire Territorial Association for allowing the use of the Drill Hall at a reduced rental, and to the Officer Commanding the 7th Battalion of the Lancashire Fusiliers for the facilities placed at the disposal of the Department throughout the Exhibition, to the Dental Board of the United Kingdom for the loan of their excellent dental exhibits, and to Messrs. Lewis's, Manchester, for the loan of furniture used in the Maternity and Child Welfare Exhibit.

A great deal of additional work fell upon the staff of the Health Department, both prior to and during the Exhibition, and I desire here to express my appreciation of the willing and efficient manner in which these additional and unusual services were rendered by the Chief Clerk, Mr. Wood, and other members of the Department.

In addition to the Exhibition, two important meetings were arranged for the general public during the second week, namely, a lecture entitled "Secrets of Good Health," accompanied by lantern slides, delivered by Sir Wm. Arbuthnot Lane at the Pendleton Town Hall, and a lecture entitled "Cancer" given by Sir Frank Fox at the Salford Town Hall.

Not less important were the series of film lectures and addresses given to school children and to various local organisations by Mr. T. Bowen Partington, which were attended by approximately 13,000 persons.

As usual during Health Week in Salford, a special attempt to stimulate public thought upon the subject of Social Hygiene was made by the showing of portions of the film "The Dangers of Ignorance" (kindly loaned by the British Social Hygiene Council) to audiences of men and women at the Scala Picture Theatre, Pendleton, a very helpful and interesting address being given to the men by Dr. V. Newton, of Salford.

No account of the Salford Health Weeks would be complete without an expression of thanks to Mr. Councillor J. Emery, not only for granting the use of the Scala Picture Theatre, Pendleton, on Sunday, the 9th December, 1928, but for his instrumentality in obtaining the use of four other large Cinemas in the City of Salford for the film lectures to school children.

It may be of interest to note that owing to the fortunate outcome of the Health Exhibition, this fortnight of propaganda on a large scale was carried out without cost to the Health Committee.

Smallpox.

Five cases of Smallpox occurred in Salford during March, 1928, all of which were of a fairly mild type. All the cases were treated in the Drinkwater Park Hospital and made good recoveries. Four of the cases belonged to

the same family and were removed to hospital on the same day; the fifth case was removed to Hospital twelve days later. Following the occurrence of these cases, a large number of people were vaccinated, particularly as a result of the fifth case, the patient being employed as a teacher at a school in Higher Broughton. Owing to the precautions taken, the infection did not appear to spread beyond the two original foci. It may be of interest to note that three of the cases had never been vaccinated; one case (that of a woman 42 years of age) had not been vaccinated since infancy, and in the remaining case evidence of vaccination was so inconclusive that it could only be classed as "doubtful."

Treatment of Venereal Diseases.

A very important step in connection with the treatment of Venereal Diseases in Salford was taken when, on 1st April last, the Treatment Centre was transferred from the Salford Royal Hospital to the Municipal Clinic at Nos. 153 and 155, Regent Road, Salford. The circumstances leading up to and the results of the transfer are fully dealt with in the special report which appears on pages 133 to 172 of this volume. Much of the success which has attended the working of the new Clinic is due to the enthusiastic manner in which Dr. Burke, from its inception, and, later, Dr. Purcell, the Deputy Venereal Diseases Medical Officer, have carried out their duties.

I would take this opportunity of referring to the invaluable assistance rendered by Councillors Corbey and

Jackson, who devoted much time and thought to the complicated problems involved in connection with the adaptation of the premises now in use as the Municipal Clinic.

Contributions of Tuberculous Patients Receiving Institutional Treatment.

A noteworthy feature in connection with the administration of the Tuberculosis Scheme was the abolition, after protracted negotiations with the Ministry of Health, of the system whereby payments were required in respect of the treatment in institutions of persons suffering from tuberculosis. By this decision all Salford patients suffering from an infectious disease and receiving institutional treatment were placed upon an equal footing.

Accommodation.

The development of the public health services is one of the most notable features of post-war social activities in this country. So diverse have these developments been and so rapidly have they taken place that difficulty has been experienced at times in creating the necessary machinery and providing the requisite accommodation for the satisfactory performance of the work involved by the constant expansion of existing schemes or the initiation of entirely new services.

It is for this reason that in many Health Departments the actual performance of certain functions is not carried out by the Department's own staff, but is delegated to some individual or organisation not in the service of the local authority. In many cases, too, even where such

services have been directly undertaken by the Health Department, it has been necessary to make use of premises separated in some instances by a considerable distance from the principal offices of the Department. The inconvenience, lack of co-ordination and loss of personal contact involved in a Health Department split up into a number of self-contained and separated units must be very considerable.

In this respect we have been particularly fortunate in Salford. In the year 1911, with the inauguration of the Tuberculosis scheme, it was impossible to find accommodation for the Dispensary and staff at or in the neighbourhood of the Town Hall, and the realisation of the possibility of future growth caused the Health Committee to seek for accommodation capable of expansion should the need arise. In this connection they were distinctly fortunate in being able to utilise premises in Regent Road (a populous thoroughfare in a reasonably central position, and situated upon a tram route) originally intended for use as shops with living-rooms upon the upper floors. Except in specially-designed buildings, it would have been difficult to find premises better adapted for their present purpose. The rooms formerly used as shops on the ground floor make excellent waiting rooms for the clinics established in smaller rooms at the rear of the premises, while it has been possible to adapt the upper floors as offices, laboratories, etc., at a relatively low cost.

As the premises are the property of the Corporation, it has been possible as the occasion arose to extend the Department by taking over adjacent shops, until now,

from the modest beginning made in 1911, the Department has attained the proportions appearing in the plan included at the end of this volume. Housed in this block numbered 131 to 155, Regent Road, are now the whole of the public health services of the City, with the exception of the Institutions and the external Maternity and Child Welfare Clinics and Centres, which must of necessity be established in different parts of the City.

As previously stated, the Tuberculosis Dispensary and Offices were first installed in the new premises in 1911. In the same year, and shortly afterwards, the School Medical Department was provided with accommodation.

Three years later, after the appointment for the first time of a whole time Public Analyst, the Public Analyst's Laboratory was established in this block, to be followed by the Maternity and Child Welfare Department in 1915.

The General Office and Sanitary Inspector's Department were transferred from the Town Hall to their new quarters in 1917. The Department was enlarged by the addition of the Bacteriological Laboratory in 1924, while the latest additions comprise the Venereal Diseases Treatment Centre, for which purpose the whole of Nos. 153 and 155, Regent Road, were acquired in 1928, and the recently-established Artificial Light Clinic.

Room for future extensions, which from past experience there are reasonable grounds for believing will be required ultimately, is still available in the remaining shops in the block.

Special Reports.

Attention is called to the following Special Reports :—

- (i) Report upon Atmospheric Pollution, appearing on pages 355 to 366.
- (ii) Report as to the work of the Municipal Clinic, appearing on pages 133 to 172.

I have the honour to be, Gentlemen,

Your obedient Servant,

H. OSBORNE,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

143, Regent Road,

SALFORD,

1928.

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SECTION I.

Mortality Statistics.

STATISTICAL SUMMARY, 1928.

Area.—The City of Salford has a total area of 5,202 acres.

Population.—Estimated to the middle of the year 241,500

„ (Census, 1921) *234,045

Density.—The Mean Density of the City is equal to 46·42 persons per acre.

Deaths	{ Males 1,716 Females 1,506 }	Total	3,222
--------	----------------------------------	-------	-------

Annual Rate of Mortality per 1,000—of the Population 13·3

Births	{ Males 2,060 Females 2,013 }	Total	4,073
--------	----------------------------------	-------	-------

Annual Rate of Births per 1,000 of the Population 16·9

Deaths under one year of age per 1,000 Births 106

Number of women dying in consequence of childbirth 17

* Owing to the census having taken place during the holiday season, this figure is low. The Registrar-General estimated the normal resident population at mid-year 1921 to be 239,100.

MORTALITY STATISTICS.

25

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Diabetes	34	3	1	5	3	3	1	3	..	1	1	3	1	1	4	1	3
Rheumatic Fever	24	1	3	..	3	3	..	1	1	..	3	2	3	2	..	1	1
Meningitis	7	2	2	..	..	..	..	..	1	..	..	1	1	..	..	..	1
Cerebro-Spinal Meningitis	6	..	1	..	..	..	..	..	1	..	..	1	1	..	..	1	..
Cerebral Hemorrhage, etc.	150	17	10	5	6	11	7	9	12	8	11	10	9	8	2	15	10
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arterio Sclerosis	146	9	10	7	11	11	2	9	15	14	12	9	10	4	4	9	10
Heart Disease	323	26	14	18	23	17	15	18	27	19	29	17	25	20	7	28	20
Bronchitis	351	27	25	6	33	13	11	16	32	28	28	25	26	24	9	38	10
Pneumonia (all forms)	292	14	18	14	31	10	15	12	8	21	30	28	23	19	5	34	10
Other Respiratory Diseases	79	6	4	3	5	3	4	5	2	7	6	7	7	4	1	11	4
Diarrhœa and Enteritis	107	4	5	..	17	2	4	2	6	5	13	12	5	8	1	16	7
Ulcer of Stomach and Duodenum	17	2	..	2	..	..	1	1	..	3	3	1	1	..	1	2	..
Appendicitis and Typhlitis	9	1	1	..	..	2	1	..	..	1	1	..	..	..	1	1	..
Cirrhosis of Liver	12	..	..	..	3	2	1	1	..	1	..	2	1	1	..	..	..
Alcoholism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nephritis, Acute and Chronic	78	6	3	4	12	5	5	4	1	5	8	7	7	5	1	3	2
Puerperal Sepsis	5	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	2
Other Accidents and Diseases of Pregnancy and Parturition	12	3	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..
Congenital Debility and Malformation	58	6	2	1	6	3	2	3	4	9	3	3	3	5	..	1	2
Premature Birth	90	8	8	3	6	2	6	4	6	10	6	8	2	3	3	5	3
Violent Deaths (excluding Suicide)	112	4	8	7	9	9	4	5	8	4	8	8	7	6	2	11	4
Suicide	28	2	4	2	1	2	2	3	2	..	3	2	2	2	..	1	..
Other Defined Diseases	444	40	38	14	37	22	21	17	36	27	31	39	26	31	12	31	22
Ill-defined or Unknown	11	..	1	2	2	..	1	..	..	..	..	4	..	..	..	1	..
Totals	3222	233	216	115	296	160	137	150	210	213	261	261	230	210	72	293	165

TABLE M. 4.

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1928.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.								
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.
ALL CAUSES—Certified	3215	430	105	90	77	155	386	918	1054
Uncertified	7	1	..	..	..	..	..	1	5
Malaria	..	..	..	..	..	..	..	..	..
Enteric Fever	6	..	..	..	..	1	3	2	..
Small Pox	..	..	..	..	..	..	..	..	..
Measles	41	12	15	13	1	..	..	..	..
Scarlet Fever.....	1	..	..	1	..	..	..	..	..
Whooping Cough	39	16	11	12	..	..	..	..	..
Diphtheria and Croup.....	10	..	2	5	2	..	..	..	1
Chicken Pox	..	..	..	..	..	..	..	..	..
Influenza	54	3	..	2	2	1	13	16	17
Erysipelas.....	6	2	..	..	..	..	..	2	2
Encephalitis Lethargica	10	..	..	..	..	..	4	4	2
Anthrax	..	..	..	..	..	..	..	..	..
Tuberculosis of Respiratory System	293	2	3	1	9	62	109	97	10
Tuberculous Meningitis	17	3	2	3	3	5	1	..	..
Other Tuberculous Diseases.....	32	..	..	1	7	9	7	8	..
Cancer, malignant disease	318	..	1	..	..	3	22	165	127
Diabetes	34	..	..	..	..	5	1	12	16
Rheumatic Fever	24	..	..	..	4	4	5	8	3
Meningitis.....	7	1	1	1	1	1	1	1	..
Cerebro-Spinal Meningitis	6	3	1	..	1	..	1	..	..
Cerebral Hæmorrhage, etc.	150	2	..	..	..	..	5	29	114
Poliomyelitis	..	..	..	..	..	..	..	..	..
Arterio Sclerosis	146	..	..	..	..	..	..	36	110
Heart Disease	323	..	..	..	7	7	42	123	144
Bronchitis.....	351	15	5	3	1	4	15	98	210
Pneumonia (all forms)	292	81	37	18	6	12	34	66	38
Other Respiratory Diseases	79	2	1	6	1	..	11	33	25
Diarrhœa and Enteritis	107	78	15	..	..	2	3	4	5
Ulcer of Stomach and Duodenum	17	..	..	..	..	..	6	10	1
Appendicitis and Typhlitis.....	9	..	..	..	1	2	1	5	..
Cirrhosis of Liver	12	..	..	..	..	..	1	7	4
Alcoholism	..	..	..	..	..	..	..	..	..
Nephritis Acute and Chronic	78	..	..	1	1	4	6	40	26
Puerperal Sepsis	5	..	..	..	..	1	4	..	..
Other accidents and diseases of Pregnancy and Parturition ...	12	..	..	..	..	2	9	1	..
Congenital Debility and Malforma- tion	58	57	1	..	..	..	..	..	..
Premature Birth	90	90	..	..	..	..	..	..	..
Violent Deaths, excluding Suicide.	112	5	6	11	11	8	20	29	22
Suicide	28	..	..	..	..	3	8	12	5
ther Defined Diseases	444	58	3	11	19	19	53	108	173
Diseases ill-defined or unknown .	11	1	1	1	..	..	1	3	4
Totals.....	3222	431	105	90	77	155	386	919	1059

TABLE M. 7.

BIRTHS IN THE CITY OF SALFORD AND IN ITS WARDS, DISTINGUISHING
DEATHS OF LEGITIMATE AND ILLEGITIMATE
INFANTS UNDER ONE YEAR OLD.
FOR THE YEAR 1928.

Ward.	Births.		Percentage of Illegit. Births to total Births.	Deaths under One Year.		Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Illegit.		Total.	Illegit.	Total.	Legit.	Illegit.
Albert Park	284	9	3.2	21	..	74	76	..
Charlestown	320	12	3.8	38	4	119	110	333
Claremont	80	1	1.3	7	..	87	89	..
Crescent	411	24	5.8	47	3	114	114	125
Docks	222	8	3.6	13	1	59	56	125
Kersal	198	11	5.6	17	1	86	86	91
Langworthy	167	5	3.0	20	1	120	117	200
Mandley Park	212	7	3.3	27	..	127	132	..
Ordsall Park	330	12	3.6	38	2	115	113	167
Regent	333	6	1.8	31	1	93	92	167
St. Matthias'	303	15	5.0	41	4	135	128	267
St. Paul's	236	11	4.7	24	..	120	107	..
St. Thomas'	288	8	2.8	34	3	118	111	375
Seedley	100	2	2.0	3	1	30	20	500
Trinity	376	19	5.1	49	1	130	134	52
Weaste	202	8	4.0	21	1	104	103	125
Totals	4,073	158	3.9	431	23	106	104	146
CORRESPONDING DATA FOR THE CITY FOR THE TEN YEARS 1918-1927.								
City	49,768	2,218	4.5	5,215	375	105	102	169

TABLE M. 8.

SHOWING THE BIRTHS IN THE CITY OF SALFORD, DEATHS OF LEGITIMATE AND ILLEGITIMATE INFANTS UNDER ONE YEAR OLD AND THE PROPORTION OF DEATHS UNDER ONE YEAR OF AGE PER 1,000 BIRTHS DURING THE YEARS 1915 TO 1928.

Year.	Births.			Percentage of Il- legitimate Births to Total Births.	Deaths under One Year.			Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Legit.	Illegit.		Total.	Legit.	Illegit.	Total.	Legit.	Illegit.
1915....	5455	5257	198	3.6	733	692	41	134	132	207
1916....	5091	4894	197	3.9	587	544	43	115	112	218
1917....	4452	4234	218	4.9	551	498	53	124	118	243
1918....	4282	4043	239	5.5	478	436	42	111	107	175
1919....	4435	4179	256	5.8	501	466	35	113	111	137
1920....	6441	6170	271	4.2	630	584	46	97	94	169
1921....	5993	5702	291	4.8	641	585	56	107	102	192
1922....	5416	5169	247	4.5	599	564	35	110	109	141
1923....	5047	4841	206	4.1	493	458	35	98	95	170
1924....	4745	4569	176	3.7	579	533	46	122	117	261
1925....	4597	4398	199	4.3	482	452	30	105	103	151
1926....	4511	4349	162	3.6	464	434	30	103	100	185
1927....	4301	4130	171	4.0	348	328	20	81	79	117
1928....	4073	3915	158	3.9	431	408	23	106	104	146

TABLE M. 14.

SHOWING THE BIRTH-RATES, ALSO RATES OF MORTALITY FROM ALL CAUSES, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND FROM PHTHISIS, CANCER, NERVOUS DISEASES, HEART DISEASES, BRONCHITIS, PNEUMONIA, AND THE INFANT MORTALITY RATE, DURING THE YEARS 1878 TO 1928.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate.
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1878..	160,277	44.7	27.1	5.4	2.7	0.5	3.5	1.1	3.6	1.8	185	17.9
1879*	165,899	43.0	26.7	4.2	2.9	0.4	3.7	1.2	4.3	1.8	170	15.2
1880..	171,727	41.4	27.9	7.4	2.7	0.4	3.2	0.9	3.4	1.9	197	16.6
1881..	177,760	38.8	22.5	3.0	2.5	0.5	3.1	1.1	3.6	1.6	163	16.4
1882..	179,855	39.7	23.7	4.0	2.4	0.4	3.6	1.1	2.8	1.7	177	16.9
Average 5 years.		41.5	25.6	4.8	2.6	0.4	3.4	1.1	3.5	1.8	178	16.6
1883..	181,951	37.3	23.6	3.4	2.7	0.4	3.1	1.2	3.0	1.7	171	16.1
1884*	184,047	38.8	24.4	4.4	2.6	0.5	2.9	1.1	2.8	1.7	184	16.1
1885..	186,142	37.6	23.0	3.6	2.6	0.5	2.9	1.2	3.0	1.9	174	16.1
1886..	188,238	38.5	24.8	4.1	2.6	0.5	2.8	1.3	3.3	1.8	197	15.3
1887..	190,334	36.6	25.5	4.9	2.3	0.5	3.2	1.3	2.9	2.2	195	15.4
Average 5 years.		37.8	24.3	4.1	2.6	0.5	3.0	1.2	3.0	1.9	184	15.8
1888..	192,429	37.1	24.8	3.9	2.3	0.5	3.0	1.1	3.0	2.1	184	15.2
1889..	194,525	35.9	25.1	5.3	1.9	0.6	2.5	1.3	2.6	1.9	181	16.7
1890*	196,621	36.1	27.7	4.4	2.2	0.5	2.0	1.3	3.4	3.8	198	17.5
1891..	198,775	36.3	26.0	3.4	2.2	0.5	2.2	1.1	3.7	3.0	194	18.1
1892..	200,833	35.8	24.6	4.6	1.9	0.6	2.0	1.2	2.6	2.9	186	16.7
Average 5 years.		36.2	25.6	4.3	2.1	0.5	2.3	1.2	3.1	2.7	189	16.8
1893..	203,015	34.7	24.1	4.2	1.9	0.6	2.0	1.4	2.6	2.3	211	16.2
1894..	205,220	34.3	21.1	3.3	1.8	0.6	2.0	1.1	1.9	2.3	174	17.1
1895..	207,449	35.9	25.6	5.0	1.9	0.6	2.0	1.3	2.6	2.7	229	17.4
1896*	209,703	35.6	23.1	4.2	1.5	0.6	2.3	1.4	2.2	2.7	200	18.1
1897..	211,981	35.2	23.9	5.6	1.8	0.6	2.1	1.3	2.4	2.1	219	18.6
Average 5 years.		35.1	23.6	4.5	1.8	0.6	2.1	1.3	2.3	2.4	207	17.5
1898..	214,284	34.9	22.8	4.2	1.8	0.8	2.2	1.2	2.2	2.2	213	18.6
1899..	216,612	34.1	23.9	4.4	1.8	0.6	2.3	1.4	2.5	2.7	211	18.7
1900..	218,965	33.3	25.3	4.1	1.8	0.6	2.4	1.7	3.2	2.8	208	17.3
1901..	221,212	29.2	21.7	4.2	1.8	0.7	1.9	1.5	2.3	1.9	205	17.9
1902*	222,233	34.0	19.3	2.7	1.7	0.7	2.0	1.5	2.2	2.1	157	18.4
Average 5 years.		33.1	22.6	3.9	1.8	0.7	2.2	1.5	2.5	2.3	199	18.2
1903..	223,260	32.6	19.4	2.9	1.8	0.7	1.9	1.4	2.1	1.9	168	18.1
1904..	224,299	32.4	21.4	4.4	2.0	0.6	1.8	1.7	2.2	1.9	193	21.5
1905..	225,327	31.8	17.7	2.6	1.5	0.6	1.7	1.6	1.8	1.8	148	17.8
1906..	226,367	31.2	19.1	3.3	1.7	0.8	1.7	1.5	2.0	1.8	162	18.6
1907..	227,413	30.6	18.5	2.2	1.7	0.7	1.7	1.6	2.1	2.3	140	17.9
Average 5 years.		31.7	19.2	3.1	1.7	0.7	1.8	1.6	2.0	1.9	162	18.8

TABLE M. 14—Continued.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate.
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1908*	228,463	31.2	18.7	3.2	1.6	0.7	1.6	1.4	1.9	1.7	153	15.5
1909..	229,519	29.5	19.0	2.5	1.5	0.8	1.7	1.4	2.3	2.3	141	15.6
1910..	230,579	28.6	16.2	1.8	1.4	0.9	1.6	1.4	1.8	1.7	131	16.0
1911..	231,641	27.4	17.4	2.5	1.6	0.9	1.3	1.3	1.8	1.8	154	..
1912..	232,726	26.8	17.2	2.2	1.5	1.0	1.4	1.5	2.1	2.0	130	..
Average 5 years.		28.7	17.7	2.4	1.5	0.9	1.5	1.4	2.0	1.9	142	..
1913*	233,849	27.0	16.3	1.9	1.4	1.0	1.4	1.8	1.8	1.7	139	..
1914..	234,975	26.9	17.1	1.9	1.6	1.1	1.4	1.8	1.8	1.8	126	..
1915..	219,979†	24.8	19.1	2.8	1.7	1.1	1.4	1.6	2.3	1.9	134	..
1916..	214,229†	21.8	15.8	1.2	1.6	1.0	1.3	1.3	1.9	1.5	115	..
1917..	211,373†	18.9	16.0	1.6	1.5	1.2	1.4	1.3	2.0	1.4	124	..
Average 5 years.		24.3	16.8	1.9	1.6	1.0	1.4	1.6	2.0	1.7	128	..
1918..	209,274†	18.3	18.0	1.0	1.6	1.1	1.2	1.1	2.3	1.9	111	..
1919..	226,225†	18.8	15.8	0.8	1.2	1.1	1.1	1.1	2.4	1.5	113	..
1920..	235,239	27.3	13.7	0.9	1.2	1.0	1.0	1.0	1.8	1.1	98	..
1921*	239,100	25.2	13.9	1.1	1.3	1.0	1.0	1.2	1.7	1.5	106	..
1922..	240,700	22.1	14.6	1.3	1.3	1.1	0.9	1.1	1.9	1.7	110	..
Average 5 years.		22.3	15.2	1.0	1.3	1.0	1.0	1.1	2.0	1.5	108	..
1923..	241,600	20.9	13.5	0.8	1.3	1.2	0.9	1.1	1.6	1.5	98	..
1924..	243,700	19.5	14.5	1.3	1.2	1.3	0.7	1.0	1.8	1.6	122	..
1925..	244,700	18.8	13.9	1.0	1.3	1.2	0.8	1.0	1.8	1.3	105	..
1926..	247,400	18.2	12.4	0.7	1.3	1.3	0.9	1.0	1.6	1.1	103	..
1927*	247,600	17.3	13.9	0.7	1.4	1.3	1.1	1.5	1.5	1.3	81	..
Average 5 years.		18.9	13.6	0.9	1.3	1.3	0.9	1.1	1.7	1.4	102	..
1928..	241,500	16.9	13.3	0.8	1.2	1.3	0.8	1.3	1.4	1.2	106	..

* In the years 1879, 1884, 1890, 1896, 1902, 1908, 1913, 1921 and 1927, the facts are those registered in 53 instead of 52 weeks; corrections have therefore been made in calculating the rates.

† Civil population.

SECTION II.

General Work of the Health Department.

Sanitary Circumstances and Sanitary Administration of the District.

NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT.

Salford is situated in the south-east of Lancashire and is partially divided from Manchester by the River Irwell. The older portion of the City lies along the right bank of the river and the ground rises gradually from an elevation of 85 feet above sea level to about 250 feet, the mean elevation being 140 feet.

The area of the City of Salford is 5,202 acres. The subsoil consists principally of clay interspersed with sand and gravel, with occasional patches of red sandstone.

The population is largely industrial; a considerable portion of the City is occupied by cotton factories and engineering works, with collieries on the outskirts.

The principal Docks and a portion of the Manchester Ship Canal are situated in Salford.

There is no special influence of any particular occupation on the public health of the area.

Owing to the industrial character of the City, and the close proximity of a number of other industrial towns, the atmosphere of Salford is heavily smoke polluted. This pollution contains an excessive proportion of tarry substances given off from the burning of raw coal in domestic grates. Generally speaking, the rainfall is excessive and the atmosphere humid. Owing to the pollution of the atmosphere and the excess of cloud, there is a deficiency of sunshine.

The population of Salford avail themselves of the hospital accommodation of both Salford and Manchester.

The voluntary Hospitals are :—

The Salford Royal Hospital.

The Manchester Royal Infirmary.

The Manchester Eye Hospital.

The Manchester and Salford Hospital for Skin Diseases.

The Royal Manchester Children's Hospital, Pendlebury.

The Manchester Northern Hospital.

The Manchester Jewish Hospital.

The Manchester St. Mary's Hospital.

The Manchester Ear Hospital.

The Hospitals provided by the Salford Corporation are as follows :—

Name and Situation of Hospital.	Nature of Accommodation.	Beds Provided.
Nab Top Sanatorium, Marple, Cheshire.	Early Tuberculosis...	120
Maternity Home and Babies' Hospital, Seedley Terrace, Pendleton, Salford.	Maternity Cases	10
	Sick Babies	18
Ladywell Sanatorium, Eccles New Road, Salford.	Infectious Diseases...	224
	Tuberculosis	66
Drinkwater Park Hospital, Prestwich, Lancashire.	Smallpox	40
Municipal Clinic, Salford	Venereal Disease	6

The Corporation have also made arrangements with the Hospitals named below for the treatment of the under-mentioned diseases :—

Hospital.	Disease.
Salford Royal Hospital	Tonsils and Adenoids in School Children. *Venereal Diseases. Surgical Tuberculosis.
The Manchester and Salford Hospital for Skin Diseases.	Tubercular Diseases of the Skin.

Hope Hospital, Pendleton, Salford (900 beds), is provided and maintained by the Salford Board of Guardians.

The amount distributed by way of Poor Law Relief in 1928 in the Salford Union (which includes Pendlebury) was £109,747.

* Arrangements terminated 31st March, 1928.

SALFORD LOCAL ACTS AND ORDERS.

The Salford Borough Act, 1857.

The Salford Improvement Act, 1862.

The Salford Improvement Act, 1867.

The Salford Improvement Act, 1870.

The Salford Improvement Act, 1871.

The Salford Tramways and Improvement Act, 1875.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 8) Act, 1882.

An Order, dated 20th December, 1882, and made by the Local Government Board under the provisions of the Divided Parishes and Poor Law Amendment Act, 1876, as amended and extended by the Poor Law Act, 1879, amalgamating a detached part of the Township of Pendlebury with the Township of Pendleton.

The Salford Corporation Tramways Order, 1885, confirmed by the Tramways Orders Confirmation (No. 2) Act, 1885.

The Salford Corporation Act, 1886.

The Salford Corporation Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (No. 14) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (Housing of Working Classes) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 12) Act, 1892.

The Salford Improvement Act, 1893.

The Salford Corporation Act, 1897.

The Salford Order, 1898.

An Order, dated 2nd March, 1899, and made by the Local Government Board under the provisions of the Housing of the Working Classes Act, 1890, modifying an improvement scheme relating to the Borough of Salford.

The Salford Corporation Act, 1899.

The Salford Corporation Act, 1900.

The Salford Corporation Act, 1901.

The Salford Corporation Act, 1902.

The Salford Corporation Act, 1903.

Order in Council, dated 27th March, 1905, directing that none but persons duly licensed shall let Lodgings to Seamen in the Borough of Salford.

The Salford Order, 1906.

The Salford Order, 1908.

The Salford Order, 1912.

The Salford (Union of Townships) Order, 1918.

The Salford Corporation Act, 1920.

Confirming Order of Minister of Health, dated 7th April, 1921, under Section 112 of the Public Health Act, 1875, as amended by Section 51 of the Public Health Acts Amendment Act, 1907, declaring that certain trades be Offensive Trades.

Order in Council, dated 10th August, 1921, approving scheme determining the Wards of the Borough and apportioning the Councillors.

The Salford Order, 1922.

The Salford Order, 1925.

The Salford Corporation Act, 1927.

ACTS OF PARLIAMENT ADOPTED BY THE COUNCIL.

The Baths and Wash-house Acts. Adopted October 4th, 1876.

Infectious Diseases (Notification) Act, 1889. Adopted 5th February, 1920.

The Infectious Disease (Prevention) Act, 1890 (except Sections 14 and 19) and Parts 2, 3, 4 and 5 of the Public Health Acts Amendment Act, 1890. Adopted January 7th, 1891.

The Private Street Works Act, 1892. Adopted April 4th, 1894.

Notification of Births Act, 1907. Adopted January 7th, 1914.

Section 95 of the Public Health Acts Amendment Act, 1907. Order issued by Local Government Board, dated 27th October, 1908, declaring the above section to be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907, Section 51.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 28th August, 1909, that on and after 16th October, 1909, Section 47 and Part V. of the Act should be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 22nd April, 1914, that on and after 3rd June, 1914, Sections 23, 27, 33 and 76 of the Act should be in force in the County Borough of Salford.

SANITARY CIRCUMSTANCES.

Water.—The water supply is obtained from the Manchester Corporation's reservoirs at Longdendale Valley. It is ample in quantity and excellent in quality.

Rivers and Streams.—The question of river pollution is in the hands of the River Irwell Conservancy Committee.

DRAINAGE AND SEWERAGE.

The drains of the District are satisfactory. Salford sewage is conveyed to the Sewage Works at Weaste by a combined system of Sewers. The sewage is treated with Lime and Copperas, after which it is passed through settling tanks and thence through aerating filter-beds and humus tanks. The effluent from the humus tanks is discharged into the Manchester Ship Canal and the residual sludge carried out to sea by steamer.

Scavenging.—The removal and disposal of house refuse is under the authority of the Lighting and Cleansing Committee of the Corporation.

SANITARY INSPECTION OF DISTRICT.

Staff.—The staff employed in this connection consists of the Chief Inspector, a Deputy Chief Inspector, nine Assistant Inspectors, and one Lady Inspector.

The systematic inspection of the City was conducted during the year 1928 on the same lines as in previous years. The result of the inspections may be gathered from a perusal of the "Register of Work Done," which is to be found at the end of this section of the report. It shows that the number of complaints received at the office of the Department was 4,049, as compared with 4,038 received in 1927, also that 8,469 dwelling houses were inspected during the year. The details of each section of the work will be found under the special heading.

During the year eight pail closets which were insanitary were converted to water closets. This work of conversion to water closets throughout the City has now been almost completed, and has resulted in 21,907 privy middens and 7,332 pail closets being converted. It is estimated that 26 pail closets and privy middens still remain in the City.

TABLE G. 1.

COMMON LODGING HOUSES, 1928.

	Wards.				Total.
	Crescent.	St. Paul's.	St. Thomas's.	Trinity.	
Number on Register	7	1	1	6	15
Number added to Register in 1928....	..	..	..	..	..
Number removed from Register in 1928	..	..	..	..	..
Number of Rooms.....	60	6	8	52	126
" " Beds	294	25	23	582	924
Average Number occupied each					
night—Males	162	16	13	484	675
Females	..	..	..	..	..
Notices served on Landlords	5	1	1	1	8
" " Keepers.....	2	..	..	..	2
Number of Day Inspections	236	29	26	217	508
Night " 	29	4	4	23	60

Common Lodging Houses.

There were 15 Common Lodging Houses on the register at the end of the year, including Salford House in Bloom Street; seven are in the Crescent Ward, six in Trinity, one in St. Paul's, and one in St. Thomas's wards. These houses contain 126 rooms, with 924 beds. The average number of beds occupied per night was 675 for males and none for females. Five hundred and eight inspections were made during the day time and 60 at night.

The addresses of and particulars relating to these lodging houses are as follows :—

Address.	Accommodation. Sleeping Rooms.	Lodgers.	Total number of lodgers who could be accom- modated during the year.	Total number of lodgers accom- modated during the year.
17, Bolton Street	5	49	17,885	16,114
61, Bury Street	7	33	12,045	10,651
32/34, Chapel Street	14	88	32,120	14,327
55, Chapel Street	15	85	31,025	25,880
41A, Gravel Lane	5	42	15,330	12,273
" Salford House," Bloom Street...	6	285	104,025	96,922
21, East Ordsall Lane	2	16	5,840	3,573
113, Oldfield Road.....	7	27	9,855	5,091
1 and 1A, Park Place	24	125	45,625	18,444
2, Park Place	13	26	9,490	7,432
3, Park Place	4	43	15,695	9,090
13, Windsor	4	15	5,475	3,363
2, Comus Street.....	6	42	15,330	12,070
1/5, Travis Court	8	23	8,395	4,835
2, West High Street.....	6	25	9,125	5,814

The total number of lodgers who could be accommodated during the year, in all the houses, was 337,260, and the total number actually accommodated was 245,879, a difference of 91,381.

Of the 924 beds, an average of 675 was occupied each night, leaving an average of 249 beds empty.

The above figures show that although the lodging houses as a whole (excluding the Corporation's own institution—"Salford House") were occupied to only 63·9 per cent of their full capacity, "Salford House" itself was occupied to the extent of 93·1 per cent of its total accommodation, and this in spite of the fact that its

charges are about 25 per cent higher than those obtaining in ordinary lodging houses. These figures would appear to bear out the statement made in the special report upon "Salford House" contained in my Report for the year 1926 "that the Institution is appreciated and does meet a very real need."

These Lodging Houses have been kept in good and clean condition during the year, and the Byelaws have been observed.

Houses Sub-let in Lodgings.

There are 280 houses let in apartments in the City ; these contain 1,435 rooms. Seven houses were registered during the year and 9 discontinued.

The registration of these houses gives us power to inspect them at any time. They have been inspected from time to time, and they have received 2,378 inspections in the day time and 64 at night.

Throughout the year the District Inspectors have given much attention to the question of overcrowding as regards many of these houses.

The extreme difficulty of obtaining housing accommodation in Salford has deterred the Committee from taking action for overcrowding.

Seamen's Lodging Houses.

There are 9 Seamen's Lodging Houses in the City, containing 39 rooms and 112 beds. There have been

9 applications for renewals and new licences. One house was given up during the year, and one keeper did not apply for renewal of the licence.

The Byelaws in force regulating these houses have been carried out, and the houses generally kept in good and clean condition. Two hundred and twenty-four visits have been made during the day time and 19 visits during the night time.

The addresses of and particulars relating to these houses are as follows :—

Address.	Accommodation. Sleeping Rooms.	Lodgers.
1, Smith Street.....	4	14
129/131, Trafford Road	4	17
1, Railway Terrace	5	13
69, Monmouth Street	6	12
107/109, Garfield Street	8	16
66/68, Monmouth Street	5	10
53, Trafford Road	5	26
31, Gledhill Street.....	1	1
20, Gledhill Street.....	1	3

The keepers of these houses are not required to submit a Return of the number of Seamen sleeping on the premises, but it is the general impression from the visits made by the Inspectors that these houses are not used to the fullest extent. This is no doubt due to the slackness of trade in the shipping business, also to the increased proportion of American shipping manned by American Crews who, whilst in Port, live and sleep on board.

Workshops.

At the end of the year there were 877 workshops on the register. These have been regularly inspected by the Lady Inspector of Workshops and by the District Inspectors, the Lady Inspector visiting those workshops where females are employed and the District Inspectors visiting those premises where males only are employed.

One hundred and ninety-six defects were found in the workshops, the particulars being given in Table B. The chief defect was want of cleanliness both in the workshops and bake-houses, which was found in 79 cases and 92 cases respectively. In each case the tenant was cautioned and the defect remedied.

In one instance it was found that the occupier had transferred the baking from the ground floor to the cellar. This is a contravention of Section 101 of the Factory and Workshop Act, 1901. In another instance, the baking was being done in a shed which enclosed a w.c., which is contrary to Section 97 of the same Act.

In both cases certain alterations were made which obviated the necessity of taking any legal action.

Re OUTWORKERS.—The women outworkers' premises are visited by the Lady Inspector of Workshops, and those of the men by the District Inspectors.

During the year 256 visits have been paid.

During this year the Lady Inspector of Workshops has inspected 248 Fish and Chip Restaurants, where women are employed, to ascertain the conditions as to cleanliness and sanitation. As a result of these visits, a number of premises have been found where the yard space has been covered over by roofing or sheds, thereby enclosing the sanitary accommodation and ashbins, and in some cases washboilers and scullery sinks. This is a contravention of the Byelaws of 1923 with respect to "Places where Cooked or Prepared Food, intended for the Food of Man, is Prepared or Manufactured." A number of these have already been altered so as to provide free ventilation. This work was carried out without the necessity of taking any action under the Byelaws.

Factories, Workshops, Workplaces, and Homework.

A.—Inspection.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES DURING THE YEAR 1928.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecu- tions. (4)
Factories..... (Including Factory Laundries.)	80	3	..
Workshops (Including Workshop Laundries.)	3699	19	..
Workplaces (Other than Outworkers' prem- ises included in Part 3 of this Report.)	402	..	..
Total	4181	22	..

B.—Defects Found.

Premises. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
<i>Nuisances under the Public Health Act—*</i>				
Want of cleanliness	92	92	..	..
Want of ventilation	..	..	..	..
Overcrowding	..	..	..	..
Want of drainage of floors	2	1	..	..
Other nuisances	7	7	..	..
Sanitary accommodation { insufficient	5	4	6	..
{ unsuitable or defective	7	7	12†	..
{ not separate for sexes	3	3	2	..
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bake-house (s. 101)	1	1	..	..
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	79	79	..	..
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	..	..	..	..
Total	196	194	20	..

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

† This includes some defects reported in previous years.

C.—Home Work.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107												OUTWORK IN UN- WHOLESOME PREMISES, SECTION 108.				OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.						
	Lists received from Employers.						Prosecutions.						Number of Inspections of Outworkers' premises.	(14)	(15)	(16)	(17)	(18)	Prosecutions, S.S. 109, 110.				
	Sending twice in the year.		Sending once in the year.		Outworkers.		Number of Addresses received from Outworkers other Authorities.		Number of Addresses forwarded to Outworkers other Authorities.		Notices served on Occupiers as to keeping or sending lists.									Failing to keep or permit inspection of lists.		Failing to send lists.	
	Lists.	Con- tractors.	Work- people.	Lists.	Con- tractors.	Work- people.	(3)	(4)	(5)	(6)	(7)	(8)								(9)	(10)	(11)	(12)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)					
Wearing Apparel—																							
1. Making, &c.	42	28	122	3	..	7	247	162	..	..	..	239	..	..	..	..	..	..					
2. Cleaning and washing ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Lace, lace curtains and nets ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Artificial flowers ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Nets, other than wire nets ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Tents ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Sacks ..	..	..	..	..	..	..	4	..	..	..	..	4	..	..	..	..	..	..					
Furniture and upholstery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Fur pulling ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Feather sorting ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Umbrellas, &c.	..	..	..	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..					
Carding, &c., of buttons, &c. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Paper bags and boxes ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Pasket making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Brush making ..	2	..	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..					
Racquet and tennis balls ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Stuffed toys ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
File making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Electro plate ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Cables and chains ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Cart gear ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Locks, latches and keys ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Anchors and grapnels ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Pea picking ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..					
Total	44	28	124	3	..	7	253	102	..	..	..	247	..	..	..	..	..	..					

* List of Industries as prescribed by Home Office.

D.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Tenement Workshops	8
Domestic Workshops	208
Laundries	14
Workshop Bakehouses.....	238
Other Workshops	409
Total number of Workshops on Register.. .	877

E.—Other Matters.

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories—	
Failure to affix abstract of the Factory and Workshop Act. (s. 133)	18
Action taken in matters referred by { H.M. Inspector as remediable { under the Public Health Acts, { but not under the Factory and { Workshop Act (s. 5). {	Notified by H.M. In- spectator 13 Reports (of action taken) sent to H.M. Inspector 16*
Other.....	..
Underground Bakehouses (s. 101)—	
Certificates granted during the year	..
In use at the end of the year.....	..

* Including reports of action taken in cases notified in previous year.

**F.—Additional Sanitation for Retail Bakehouses,
Sections 97—102.**

Number of such premises in the district, 238.

Note as to their sanitary condition. Ground floor bakehouses—Good.

Action taken as to retail bakehouses in 1928, 1 Notice served.

Action taken.	No. of Defects found.	Notices served.	Legal Pro- ceedings.	Defects remedied.	Remarks.
As to Closets, &c., Sec. 97	1	..	..	1	
As to Water Cisterns, Sec. 97	..	..	..	..	
As to Drain Openings, Sec. 97	..	..	..	..	
As to Limewashing, &c., Sec. 97 ..	79	..	..	79	
As to Sleeping Places, Sec. 100 . . .	..	..	..	..	

Any proceedings under Section 98 as to retail bakehouses sanitarily unfit, Nil.

UNDERGROUND BAKEHOUSES.

Number of such premises in district, one not in use at present.

Number certified by District Council under Section 101 (2) in 1928, Nil.

BAKEHOUSES, 1928.

Registered	238
Added to Register	27
Discontinued	14
Changed Hands	16
Number of Underground Bakehouses Certified by Authority	1 but not at present in use.
Total Number of Ovens	331
Employees—Males	244
Females	445
Notices Served	1

Smoke Nuisance.

Particulars as to smoke nuisance caused by firms during the year 1928, and dealt with by the Health Committee :

Eighteen Notices were issued under the Public Health Act.

The general improvement in the emission of black smoke continues, the periods of emission being of shorter duration than formerly, although one firm was summoned by the Health Committee and was fined 20s. and an Order to Abate made.

During the year, 3,129 smoke observations have been made as against 3,133 in the year 1927, and 2,735 in the year 1926.

One hundred and forty-nine stokers and others were cautioned by the Inspectors for negligence in firing the furnaces under their charge, at the same time 23 firms were reported to and dealt with by the Health Committee, also 24 cautionary Notices were issued to firms with a table of smoke observations taken from their chimneys.

Several chimneys have been raised during the year in connection with small workshops.

Classes for stokers were again formed at the Royal Technical College during the summer months, consisting of a course of about 12 lectures in connection with Smoke

Abatement and Fuel Economy. These lectures had an average attendance of 14 men from various firms in the City, and I am of opinion that the classes are yielding good results.

TABLE SHOWING THE NUMBER OF HALF-HOURLY OBSERVATIONS
TAKEN DURING THE YEAR 1928.

Minutes of Black Smoke emitted in half-an-hour.	No. of Observations taken.	Percentage to Total.
No Black Smoke	2,258	72·1
One Minute	848	27·1
Two Minutes	5	00·2
Three Minutes.....	5	00·2
Over Three Minutes.....	13	00·4
Total Observations.....	3,129	100·0

Manure Receptacles, and Removal of Manure and other Offensive Matter.

The Byelaws with respect to receptacles for manure and the weekly removal of manure, filth, or other offensive or noxious matter, which came into operation towards the end of 1909, have been enforced during the past year, and special attention has been paid to stable yards where manure quickly accumulates and where no receptacle is provided.

The Byelaws as regards the regular removal of manure have been well observed.

Canal Boats Acts.

Number of canal boats inspected	181
Number of canal boats conforming to Acts	175
Number of canal boats with one or more infringements ..	6
Total number of infringements	7
Registration	..
Absence of certificates	3
Dilapidation of certificate.....	..
Marking	2
Overcrowding	..
Separation of sexes	..
Cleanliness	..
Ventilation	..
Ventilators obstructed	..
Painting	..
Provision of water vessel	..
Water vessels broken.....	1
Removal of bilge water	..
Boats defective and leaking	1
Dilapidation	..
Stoves defective	..
Stove pipes defective	..
Pumps defective	..
Admittance of Inspector	..
Notification of infectious disease	..
Certificates not identifying owners	..
Loading manure without tight bulkheads	..
Number of notices served	4

Other steps to secure compliance : One letter written to Owner.

Detention of boats for cleansing and disinfection : None.

Legal proceedings taken : None.

Number of boats on register: Not a Registration Authority.

Canal boats registered to carry (number of persons)	901
Men found on the boats	335
Women found on the boats	27
Children under 12 years found on the boats	34

Drainage Inspection.

The testing and examination of all existing drainage is carried out by this Department. Two Inspectors and four labourers are kept continually at work examining drainage, and the following table gives the detailed results of their labours:—

Number of tests made	724
„ applications from householders	7
„ houses affected by the tests	877
„ notices and reports issued	340
„ notices and reports complied with	338
„ drain inlets opened and cleared	2,522

INSANITARY CONDITIONS FOUND.

Defects.

Number of drains wholly and partly choked	756
„ drains defectively constructed	261
„ gully traps badly laid	28
„ drains defectively trapped	64
„ waste pipes defectively trapped or connected to drains	7
„ downspouts connected to drains	20
„ soil pipes with leaking joints or defectively ventilated	45
„ defective water closets	97
Total defects	1,278

RECONSTRUCTION OF DRAINS AND THE CONSTRUCTION
OF NEW DRAINS.

Number of tests applied	623
„ houses affected	521
„ passage main drains affected	15

MODE WHEEL AMBULANCE AND
DISINFECTING STATION.

The Ambulance and Disinfecting Station situated in Mode Wheel Road is under the control of the Medical Officer of Health. The Station is used for the following purposes :—

(a) The disinfecting of bedding, clothing, etc., from the homes of persons suffering from infectious disease, by means of high-pressure steam disinfection.

(b) As a Dépôt for the disinfectors employed in disinfecting houses, schools, and public institutions, in which a case of infectious disease has occurred.

(c) As a station for the bathing of verminous persons and the disinfection of their clothing.

(d) The bathing of persons suffering from scabies (particularly school children), and the disinfection of their clothing.

(e) The bathing of midwives who have been in contact with cases of puerperal fever, and the disinfection of their clothing and instruments.

(f) As a Garage for the three motor ambulances required to take persons to and from Hospital and

the three motor vans used to collect and deliver bedding, etc., before and after disinfection and in connection with the cleansing of conveniences. The Station is also used as a repair depôt for the whole of the motor vehicles used in the Department.

The Staff employed at the Station is as follows:—

Foreman.

Caretaker.

Motor Mechanic.

Four Disinfectors.

Four Drivers.

The following is a summary of the work done at the Mode Wheel Disinfecting Station during 1928:—

AMBULANCES.

	Salford Cases.	Out-District Cases.	Total Cases.
Number of journeys removing patients to Hospital.....	1,443	357	1,800
Number of journeys removing patients from Hospital to their homes.....	161	—	161
Number of houses visited by ambulances removing bedding for disinfection.	801	63	864

VANS.

Number of houses visited by vans returning bedding after disinfection	1,906	236	2,142
---	-------	-----	-------

In addition, 592 journeys to Hospital for purposes other than removal of patients were made by motor vehicles, and 42 journeys were made for the purpose of taking home children after operative treatment for tonsils and adenoids. 165 journeys were made in connection with the treatment of children suffering from scabies. There were also 616 journeys for miscellaneous purposes.

DISINFECTIONS.

Number of houses disinfected	2,098
„ rooms disinfected	5,105
„ bundles of clothing and bedding disinfected..	4,972
„ books disinfected	294
„ schools disinfected	4
„ hospitals disinfected	42
„ ships disinfected	2

BATHING AND DISINFECTION OF CLOTHING.

Midwives	45
Smallpox convalescents	9
„ contacts	—
Verminous children	45
„ adults	—
Children suffering from scabies	865

During the year 1928 a new “Austin” Ambulance and two new “Morris” 12 cwt. vans were purchased and brought into use in place of one of the existing Ambulances and two of the existing vans.

The new Ambulance has proved of decided advantage not only in regard to the comfort of patients but from the point of view of running costs. The vans being of considerably greater capacity than those which they have replaced, have reduced the number of journeys required in connection with the delivery of bedding.

Sanitary Conveniences.

There are 21 conveniences for Males and 3 for Females in the City, under the control of the Health Committee, namely:—

SITUATION.	MALES.				FEMALES.		
	Urinal Stalls	Water Closets	Wash Basins	Atten- dant	Water Closets	Wash Basins	Atten- dant
Trinity Market	6	3	3	1	3	3	1
Trafford Road (Eccles New Road corner)	15	4	4	1	..	..	..
Trafford Road (Ordsall Park) ..	12	4	6	1	..	..	..
Church Street (near the corner of Broad Street)	10	2	3	1	3	3	1
Cross Lane	..	..	..	..	4	4	1
Oldfield Road (Corner of Chapel Street)	6	..	..	..	..	..	..
Liverpool Street	4	..	..	..	..	..	..
Bolton Road (Junction of Clare- mont Road)	4	..	..	..	..	..	..
Broughton Road	16	..	..	..	..	..	..
Windsor Bridge	6	..	..	..	..	..	..
Blucher Street	8	..	..	..	..	..	..
Stevenson Street	3	..	..	..	..	..	..
Park Lane	5	..	..	..	..	..	..
Broad Street	3	..	..	..	..	..	..
Greengate Arch	6	..	..	..	..	..	..
Eccles New Road	6	..	..	..	..	..	..
Broughton Bridge	8	..	..	..	..	..	..
Frederick Road	4	..	..	..	..	..	..
Moor Lane	6	..	..	..	..	..	..
Cross Lane	5	..	..	..	..	..	..
Albert Park	6	..	..	..	..	..	..
Crescent, near Victoria Arch	6	..	..	..	..	..	..

At the request of the Parks Committee the Health Committee have taken over the six-stalled urinal situated just off the Crescent, near Victoria Arch, which will now be cleansed and maintained by them.

TABLE G. 2.

NEW HOUSES ERECTED AND HOUSES DEMOLISHED IN 1928.

Wards.	Houses erected.	Houses demolished.
Kersal	81	.. —
Albert Park	—	.. —
Mandley Park	—	.. —
St. Matthias'	—	.. —
Trinity	—	.. —
Crescent	—	.. —
Regent	—	.. —
Ordsall Park	—	.. —
Docks	—	.. —
Charlestown	—	.. —
St. Thomas'	—	.. —
St. Paul's	1	.. —
Langworthy	—	.. —
Seedley.....	14	.. —
Weaste	53	.. —
Claremont	18	.. —
	—	.. —
	167	.. —

Of these, 48 have been erected under Housing Schemes of the Corporation. The remaining 119 have been built by private enterprise.

Increase of Rent and Mortgage Interest (Restrictions) Act, 1920.

During the year only one application under the above Act was received for a Certificate as to the house being either not reasonably fit for habitation or not in a reasonable state of repair. In this case a Certificate was not granted.

Certificates as to Housing Conditions.

Under the terms of the circular letter issued by the City Treasurer, with reference to the issue by the Medical Officer of Health of certificates to the effect that certain families were not living under sanitary conditions, 224 applications have been made and in 166 cases certificates were issued.

A considerable amount of the time of the Sanitary Inspectors was occupied during 1928 in investigating applications for the issue of these certificates, as it is necessary in each case to measure up the existing accommodation in order to find the cubic capacity of the air space available.

Houses Unfit for Habitation.

During the year one house in the Trinity Ward was closed as unfit for human habitation under the provisions of the Salford Improvement Act, 1870.

TABLE G. 3.

Cases heard before Magistrates, 1928.

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs).
			£ s. d.
For consigning milk to a Salford dairy- man not of the nature, substance and quality of the article demanded.	7	3 fined £2 each. 1 „ £4. Also £5 5s. costs. 3 fined £5 in all.	10 0 0 5 0 0
For selling whisky not of the nature, substance and quality of the article demanded, being so adulterated with water that the spirit was 43·6 degrees under proof.	2	Fined £5 each.	10 0 0
For selling boxes of cod liver oil tablets not of the nature, substance and quality of the article demanded.	1	Fined £30 and £75 costs.	30 0 0
For selling home made lemon cheese not of the nature, substance and quality of the article demanded.	1	Fined £5.	5 0 0
For wilfully giving a label which falsely described the article sold.	1	Fined £15 and 30s. costs.	15 0 0
For wilfully giving a label for an article sold by them which falsely described the article sold "home made."	1	Fined £5 and £15 costs.	5 0 0
Being the manufacturer of ice cream, did fail to take proper precautions against contamination of such ice cream.	1	Fined £1.	1 0 0
For contravening the Midlands and North of England (Foot and Mouth Disease) (Controlled Area) Order of 1927.	2	Fined £2 each.	4 0 0
For contravening Section 73 of the Public Health Act, 1925, by exchang- ing toy rubber balloons or sweets for rags taken from young children.	2	1 fined £3. 1 dismissed.	3 0 0
For failing to comply with Order to abate a nuisance arising from a defective kitchen fire-range and chimney flue.	1	Fined £1 and £5 5s. costs.	1 0 0
Carried forward	19		£89 0 0

CASES HEARD BEFORE MAGISTRATES, 1928—*Continued.*

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs).
Brought forward.....	19		£ s. d. 89 0 0
For failing to comply with a Notice under the Public Health Act, 1875, to abate a nuisance arising from drains being choked.	1	Fined £2 and 15s. witness fees. Order to Abate made.	2 0 0
For failing to comply with a Notice under the Public Health Act to abate a nuisance arising from a defective roof.	1	Fined 20s. and 5s. costs. Work carried out.	1 0 0
For not cleaning and disinfecting a float before loading animals contrary to the Transit of Animals Order, 1927.	1	Fined £5.	5 0 0
For selling pasteurised milk without having a licence to sell same.	1	Fined.	0 5 0
For permitting dense black smoke to be emitted from the chimney of works.	1	Fined and Order to Abate made.	1 0 0
TOTAL	24		£98 5 0

TABLE G. 4.**REGISTER OF WORK DONE—YEAR ENDING DECEMBER 31st, 1928.**

No. of Complaints received		4049
Inspections of	(Dwelling-houses	8469
	" " (under Housing, &c., Act).....	6569
	Schools	570
	Factories.....	80
	Canal Boats	181
	Common Lodging-houses (Day).....	508
	" " " (Night)	60
	Sub-let " " (Day).....	2378
	" " " (Night)	64
	Seamen's Lodging-houses (Day).....	224
	" " " (Night)	19
	Van Dwellings.....	134
	Tips	9
	Bakehouses (Day)	710
	Workshops (Day).....	2135
	" (Night)	264
	Domestic Workshops	546
	Outworkers' Premises	256
	Ice Cream Shops	1265
	" Stalls	5
	Re Smallpox Contacts	4178
	Miscellaneous	5449
	Laundries	44
	Urinals—Public	448
	Stables	1463
	Re Infectious Diseases	1477
	Theatres, Cinemas, &c. (Day)	132
	" " (Night)	97
Re-inspections		16575
Action taken ..	Statutory Notices issued	2440
	" " complied with.....	1981
	" " cancelled	33
	Informal Notices issued.....	1982
	" " complied with	1578
	" " cancelled	115
	Letters written	3784
Summonses issued		24

REGISTER OF WORK DONE—*Continued.*

Disinfection—Houses Disinfected	2098
House Drains .. {	
Repaired	168
Reconstructed	664
Trapped	238
Downspouts disconnected from	3
Blockages removed	1917
Eaves, Gutters, & Downspouts, Passages and Yards	
Blockages removed	117
Inlets opened	1540
Water Closets .. {	
New, provided	14
Ventilated	—
Ash Receptacles {	
New, provided	1463
Bricked up or demolished	144
Limewashed ... {	
Dwelling-houses	3
Lodging-houses	12
" Sub-let	126
" Seamen's	4
Bakehouses	238
Workshops	46
Workshops (Domestic)	3
Outworkers' premises	7
Laundries	3
Newly Licensed Common Lodging-houses	15
" " Seamen's "	9
Newly Registered .. {	
Lodging-houses Sub-let	7
Workshops	8
" (Domestic)	16
Bakehouses	27
Second-hand Goods Stores	13
Ice Cream Shops	56
Accumulations Removed {	
Manure and Refuse	66
Stagnant Water	—
Smoke Nuisance {	
Observations taken	3129
Notices served.....	18
Cautionary Notices served	24
Passages and Yards..... {	
Flagged.....	—
Repaired	268
Drained.....	—
Bundles of Infected Bedding and Clothing {	
Stoved	4366
Destroyed	66
Animals removed from improper situations.....	4
Overcrowding of dwellings abated.....	8
Houses repaired by owners, after notice.....	6729
Canal Boats painted.....	4
" defective.....	1
" repaired	4

Housing Conditions.

YEAR ENDED 31ST DECEMBER, 1928.

GENERAL STATISTICS.

Area (acres)	5202
Population (1928)	241500
Number of Inhabited Houses (1928-1929, April).....	50817
Number of families or separate occupiers (1928)	—
Rateable Value (1928-1929, April).....	£1379653
Sum represented by a penny rate (Estimate).....	£5300

HOUSING.

Number of new houses erected during the year :—

(a) Total	167
(b) As part of a municipal housing scheme	48

1. Unfit dwelling-houses.

Inspection—

(1) Total number of dwelling-houses inspected for housing defects (under Public Health Acts)	8469
(2) Number of dwelling-houses which were inspected and recorded under the Housing Consolidated Regulations, 1925.....	6569
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation.	Nil.
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation.....	4921

2. Remedy of defects without service of formal Notices.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers.....	1791
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3. Action under Statutory Powers.

(A) Proceedings under Section 3 of the Housing Act, 1925	Nil
--	-----

(1) Number of dwelling-houses in respect of which Notices were served requiring repairs	Nil.
---	------

(2) Number of dwelling-houses which were rendered fit :—

(a) By owners	Nil.
---------------------	------

(b) By Local Authority in default of owners	Nil.
---	------

(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	Nil.
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HOUSING CONDITIONS—*Continued.*

(B) Proceedings under Public Health Acts.

(1) Number of dwelling-houses in respect of which Notices were served requiring defects to be remedied	2918
(2) Number of dwelling-houses in which defects were remedied :—	
(a) By owners.....	3138*
(b) By Local Authority in default of owners	Nil.

(C) Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925.

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

* Including houses repaired in 1928 in respect of which Notices were issued in 1927.

Housing, Town Planning, &c., Act.

HOUSE-TO-HOUSE INSPECTIONS UNDER THE HOUSING CONSOLIDATED REGULATIONS, 1925.

Two wards, namely: Crescent and Trinity, were examined during 1928 in accordance with the above-named Regulations, the total number of houses examined being 6,569.

It is interesting to note that of these only 452 had less than four rooms and all but 235 were provided with a separate water closet.

The only important defect found was that of insufficiency of light and ventilation in 248 houses, but, as some of the property examined includes a portion of the older parts of the City, this is to be expected.

Full details will be found in the following table :—

HOUSING, TOWN PLANNING, &c., ACT.

House-to-House Inspections, 1928.

	WARDS.		
	Crescent.	Trinity.	Total.
Number of houses inspected	3841	2728	6569
Number of dwellings with 1 room	..	1	1
" " 2 rooms	102	121	223
" " 3 rooms	77	151	228
" " 4 rooms	1156	1123	2279
" " 5 rooms	1634	426	2060
" " 6 rooms	729	617	1346
" " over 6 rooms	243	289	532
Closet Accommodation :—			
Water Closet	3329	2716	6555
Pail Closet	..	11	11
Privy Midden	2	1	3
Number of houses with closet accommodation in common with other dwelling	128	107	235
Ash Accommodation :—			
Metallic Receptacle	3828	2716	6544
Tub	..	..	..
Ashpit	4	..	4
Unsatisfactory	9	12	21
In common	..	..	..
No accommodation	..	..	..
Defects :—			
Insufficient light and ventilation	165	83	248
Defective drainage	..	..	..
No drainage	..	..	..
Serious dilapidation	1	9	10
Back-to-back houses	25	23	48
Houses unfit for habitation	..	..	..
Number of representations made to Local Authority with a view to making Closing Orders	..	..	..
Number of Closing Orders made	..	..	..
Number of dwelling-houses put into fit state for human habitation after making Closing Orders	..	..	..
Defects remedied without Closing Orders	..	..	..

I am indebted to the Superintendent of the Lighting and Cleansing Department, Salford, for the following information, namely :—

DESTRUCTION OF RATS AND MICE.

A Professional Ratcatcher is employed by the Corporation, on receipt of complaints from occupiers, in laying poisoned baits, setting traps and advising as to the best means of rat-proofing of premises.

In the course of the year, 657 visits were made to dwelling-houses, schools, shops, offices, works, stores, &c., and it is known that 1,592 poisoned baits were taken, whilst 1,455 live rats were caught, either in cages and traps or by dogs, cats and ferrets.

Where sanitary defects in premises are revealed in the course of the work of rat destruction, the co-operation of the Medical Officer of Health and the City Engineer is sought to ensure that the defects are remedied.

The Cleansing Depôts and Tips of the Corporation are at all times kept under strict observation, and the staff are keenly alive to the necessity of keeping down the number of rats in these establishments, with the result that the number has now considerably diminished.

The usual National "Rat Week" was arranged for Salford, and the necessary publicity was given to this object by posting large placards on hoardings and various

public buildings, inviting the co-operation of owners and occupiers of houses and other property and offering assistance, free of charge, on application to the Rat Executive Officer.

At the same time, articles on the subject were given prominence in the local Press, and attention called to the immense loss suffered by the country as the result of the depredations of rats and mice, and also to the serious danger of the spread of disease by their agency.

Not as many complaints were received as previously, and this is attributed to the fact that the activities of the Department concerned with the destruction of rats and mice have become very generally known throughout the City, and its services more systematically utilised.

SECTION III.

Infectious Diseases.

PREVALENCE OF AND CONTROL OVER
INFECTIOUS DISEASE.

The number of notifications of notifiable infectious diseases shows a decrease for 1928, the total number of cases notified being 2,709, this being a decrease of 31 as compared with 1927.

There were comparatively large increases in the following diseases :—

Disease.	Increase over 1927.
Scarlet Fever	191
Erysipelas	19

The principal decreases were as follows :—

Disease.	Decrease from 1927.
Diphtheria	82
Pulmonary Tuberculosis	119
Acute Primary Pneumonia	78

As regards Scarlet Fever, there is no doubt that the present-day type is much milder than that of former years.

Details of the number of cases of infectious disease notified are given in Tables 1 and 2 (pages 72, 73 and 74).

The usual methods, described in previous reports, for the prevention of the spread of these diseases were continued. School teachers are encouraged to report, in addition, cases of non-notifiable disease, which are at once investigated by the School Medical Officers.

Supplies of Diphtheria Antitoxin are kept by the department and are available, free of charge, immediately to any Medical Practitioner who applies for the same.

There were 80 cases of Influenzal-Pneumonia notified ; 54 deaths occurred from Influenza during the year.

One case of Malaria was notified.

The Salford Corporation have an Infectious Diseases Hospital (Ladywell Sanatorium) to which cases which cannot be isolated at home are removed for treatment (including advanced cases of Tuberculosis). The Sanitary Staff of the Department carry out disinfection of the premises where cases of infectious disease have occurred.

The Corporation have a Special Disinfecting Station at Mode Wheel, where a considerable number of verminous persons, principally children, are dealt with every year.

TABLE I. 2.—Continued.

Year.	†Chicken-pox.	Smallpox.	Scarlet Fever.	Diphtheria.	Fever.			Puerperal Pyrexia.	Pemphigus Neonatorum.	Erysipelas.	Anthrax.	Cerebro-Spinal Meningitis.	Acute Poliomyelitis.	Ophthalmia Neonatorum.	* Measles.	Tuber- culosis.		Trench Fever.	Malaria.	Acute Polio Encephalitis.	Dysentery.	Acute Primary Pneumonia.	Influenzal- Pneumonia.	Encephalitis Lethargica.	Total.
					Enteric.	Typhus.	Con- tinued.									Pul- monary.	Non-Pul- monary.								
1903.....	..	175	737	335	178	..	1	13	..	161	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1600
1904.....	..	57	1043	422	202	10	7	21	..	168	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1930
1905.....	..	3	960	363	142	..	7	26	..	176	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1677
1906.....	..	..	904	432	225	..	1	21	..	142	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1725
1907.....	..	8	1044	384	92	..	5	23	..	136	..	..	..	..	..	356	..	..	..	..	..	..	..	..	2048
Average 5 years	..	49	938	387	163	2	4	21	..	157	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1796
1908.....	..	..	1341	629	181	..	7	27	..	127	..	..	..	..	..	563	..	..	..	..	..	..	..	..	2875
1909.....	..	..	1577	562	138	..	2	26	..	182	..	..	..	..	..	581	..	..	..	..	..	..	..	..	3068
1910.....	..	..	909	333	113	..	..	24	..	129	..	..	..	..	..	651	..	..	..	..	..	..	..	..	2159
1911.....	..	..	911	375	108	..	1	24	..	217	..	..	..	..	..	714	..	..	..	..	..	..	..	..	2350
1912.....	..	..	541	242	76	..	7	26	..	181	..	1	29	..	..	1073	..	..	..	..	..	..	..	..	2206
Average 5 years	..	..	1056	428	123	..	3	25	..	167	..	..	..	..	..	716	..	..	..	..	..	..	..	..	2532
1913.....	..	4	1224	336	113	..	1	17	..	203	3	4	2	..	..	1206	503	..	..	..	..	..	..	..	3616
1914.....	..	1	2336	352	63	..	..	20	..	248	1	3	5	80	..	1126	236	..	..	..	..	..	..	..	4471
1915.....	..	1	997	236	84	..	..	23	..	172	..	9	7	97	..	816	195	..	..	..	..	..	..	..	2637
1916.....	..	8	442	204	47	..	..	13	..	124	..	9	1	60	2065	745	241	..	..	..	..	..	..	..	3959
1917.....	..	..	200	183	40	..	..	2	..	91	..	2	2	43	3100	575	213	..	..	..	..	..	..	..	4401
Average 5 years	..	3	1040	252	69	..	1	15	..	167	1	5	3	70	2582	893	278	..	..	..	..	..	..	..	3817
1918.....	..	..	289	148	42	..	..	17	..	92	..	2	2	53	766	556	143	..	..	..	..	..	..	..	2110
1919.....	..	4	663	211	20	..	..	32	..	131	..	6	3	85	2689	583	107	2	117	..	56	..	365	4	5078
1920.....	..	1	1124	334	49	..	1	40	..	135	..	10	1	116	..	574	120	..	42	..	8	..	230	6	2791
1921.....	..	..	1746	313	41	..	2	19	..	146	..	9	..	81	..	553	102	..	11	..	1	..	394	7	3425
1922.....	..	..	1275	359	37	..	..	25	..	141	..	4	..	72	..	510	101	..	6	..	..	..	426	1	2957
Average 5 years	..	1	1019	273	37	..	1	26	..	129	..	6	1	81	1727	555	115	1	35	..	13	..	283	4	3272
1923.....	..	..	868	304	27	..	..	22	..	98	1	5	1	57	..	547	125	..	4	..	1	..	114	8	2268
1924.....	..	..	403	286	26	..	..	18	..	89	..	4	1	56	..	557	87	..	1	2	1	..	461	59	2189
1925.....	1145	..	510	376	30	..	..	17	..	134	..	2	1	60	..	507	132	..	1	1	..	..	409	27	3484
1926.....	..	..	720	533	10	..	..	20	12	140	..	3	4	50	..	532	123	..	1	4	..	..	363	13	2651
1927.....	..	1	631	507	9	..	..	7	27	120	..	5	4	48	..	573	148	..	2	..	2	..	465	17	2740
Average 5 years (excluding Chicken-pox),	..	1	626	401	20	..	..	17	20	116	1	4	2	54	..	543	123	..	2	1	1	..	362	25	2437
1928.....	..	5	822	425	20	..	1	19	11	139	..	13	..	55	..	454	166	..	1	..	..	..	458	12	2709

*Measles notifiable in Salford 1916 to 1919.

†Chicken-pox notifiable in Salford, January 22nd to December 31st, 1925.

TUBERCULOSIS.

Dispensary.

The Tuberculosis Dispensary is situate at Nos. 135 and 137, Regent Road, Salford. There are no branch dispensaries or visiting stations. The staff consists of two Medical Officers, four Health Visitors and three Clerks.

(a) Patients referred for Examination.

Six hundred and seventy patients (including non-pulmonary cases) were referred to the Tuberculosis Officers for examination by general practitioners during 1928. It is to be regretted that, in many cases, primary notifications of tuberculosis are received when the disease is in such an advanced state that no treatment can be of lasting value. It is only by the co-operation of the general practitioners in this connection that your Tuberculosis Officers can deal with cases in their earliest and, therefore, most curable stages. All sputum examinations desired by Medical Practitioners are made at the Municipal Bacteriological Laboratory. One thousand one hundred and sixty-four specimens of sputum were examined last year.

(b) Routine Procedure.

When a patient is notified to this Department by a general practitioner as suffering from tuberculosis in any form whatever, the home of such patient is immediately visited by one of the Health Visitors. Precautions as to the likelihood of the spread of infection, the advisability of separate sleeping accommodation, etc., are advised, and efforts are made to secure the attendance at the dispensary of all contacts residing in the same house.

Five hundred and thirty contacts were examined last year.

It happens not infrequently that a diagnosis cannot be made on first examination of a patient at the dispensary, and in all such cases the patients are re-invited to attend the dispensary periodically until a definite diagnosis is made, when they are either placed under treatment or observation or discharged.

In some cases of advanced disease where removal to an Institution for treatment is impracticable, and adequate nursing is impossible under the patient's home conditions, arrangements are made with the District Nursing Association, and the patients are visited daily (in some cases twice daily) in their homes by a trained nurse. In the case of patients in extreme poverty and recommended by the Tuberculosis Officers as being suitable for the granting of extra nourishments, arrangements are made with milk dealers in the City for milk and eggs to be supplied each day.

The usual type of cases receiving these nourishments are (a) patients who have received an adequate course of sanatorium treatment and whose medical condition is such that, with the grant of extra nourishment, they may be expected to maintain or recover full working capacity ; and (b) patients in whose cases ultimate arrest of the disease may reasonably be anticipated, and who are waiting for admission to a sanatorium.

(c) X-ray Examinations.

X-ray examinations are now made at the dispensary in large numbers, and this method of examination is found

to be an invaluable aid, not only for purposes of diagnosis but in obtaining information as to the real extent of the disease in the lungs of the patient. It is also of great value in determining the results of treatment. Five hundred and fifty-seven cases were examined by X-rays last year.

(d) Insured Persons.

Insured patients not in need of Institutional treatment are usually placed on domiciliary treatment, that is to say, they are treated by their own doctors whilst residing at home, and records of progress are furnished every three months by the attending medical practitioners. These patients are examined from time to time by one of the Tuberculosis Officers.

(e) Effects of Dispensary Treatment.

The effects of dispensary treatment depends chiefly upon the degree of acuteness of disease in each individual case, the home conditions, the facilities for obtaining suitable food, and the general habits of the patient. Acute cases do not do well as a rule, but the bulk of the patients attending are cases of chronic disease, whose condition appears to keep stationary for long periods.

INSTITUTIONAL TREATMENT.

(a) Nab Top and Ladywell Sanatoria.

The residential institutions in connection with the Tuberculosis scheme are :—

(a) Nab Top Sanatorium, Marple.

(b) Ladywell Sanatorium, Salford.

There are 120 beds available at the Nab Top Sanatorium, Marple, for the treatment of Salford patients. These beds are occupied principally by observation, early, and intermediate cases of pulmonary tuberculosis. Occasionally, however, cases of surgical tuberculosis are admitted for treatment.

At the Ladywell Sanatorium there are 66 beds set apart for the treatment of tuberculosis. Many cases are being admitted to the Ladywell Sanatorium for purposes of observation as to temperature; subsequently, on becoming afebrile, they are transferred to the Nab Top Sanatorium, Marple, for open-air sanatorium treatment.

Advanced cases are isolated in the Ladywell Sanatorium; such isolation is undoubtedly of great value in lessening the danger of massive infections in the homes, but is detracted from, by the difficulty of keeping the patients in hospital indefinitely.

(b) Treatment of School Children.

Cases of definite, or suspected, pulmonary or other forms of tuberculosis in children are always referred by the School Medical Officers to the Tuberculosis Officers for examination. Many of these cases are sent to Nab Top Sanatorium for treatment or observation. A school under the control of an efficient teacher has been established at the Nab Top Sanatorium in order that the child patients may not suffer educationally during their period of treatment. Delicate or pre-tubercular children definitely without signs of lung disease are referred to the School Medical Department for open-air school treatment.

(c) Treatment of Tuberculous Skin Diseases.

Special arrangements have been made with the Manchester and Salford Hospital for Skin Diseases for the treatment of lupus and other tuberculous skin diseases, and a large number of cases were approved for artificial sunlight treatment. There is no doubt that this form of treatment has very considerable beneficial effect in the treatment of tuberculous skin disease, recovery being much more rapid than in cases treated by local applications only. The number of visits paid by patients for artificial sunlight treatment during the year was two thousand four hundred and eighty-two. The total number of tuberculous skin cases treated was sixty-eight, and the total number of attendances at the Skin Hospital, three thousand and ten.

(d) Treatment of Surgical Tuberculosis.

Cases of surgical tuberculosis after approval by the Tuberculosis Officer, are treated when necessary at the Salford Royal Hospital. At the request of the Surgeons at the Salford Royal Hospital a number of cases of surgical tuberculosis have been sent to the Open-Air Sanatorium at Marple for varying periods after immobilisation, where necessary, of the affected part. These cases have derived very considerable benefit from their stay at the Sanatorium.

GENERAL REMARKS.

The powers contained in the Salford Corporation Act, 1920, and the Public Health Act, 1925, for the compulsory removal to hospital of persons suffering from pulmonary

tuberculosis, have not been utilised up to the present time.

It has been found that in obstinate cases of advanced disease, it is sufficient to warn the patient that compulsory powers can be put in force on application to a magistrate.

No action has been taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, in connection with tuberculous employees in the milk trade.

An X-ray apparatus of the most recent type is to be installed very shortly.

The new Artificial Sunlight Clinic is in process of establishment, and the Tuberculosis Department will then be able to treat cases of surgical tuberculosis by this therapeutic method.

I regret to state that the notification of cases of pulmonary tuberculosis still shows little or no improvement, except in the percentage of cases not notified before death. This has been reduced from 20 per cent to 12 per cent. Reference to Table (2) shows that 25 per cent of fatal cases were notified within three months of death, a slight increase over the previous year's figures.

TABLE 1.

SUMMARY OF WORK DONE AT THE TUBERCULOSIS
DISPENSARY IN 1928.

Diagnosis.	Pulmonary.				Non-Pulmonary.				Total.			
	Adults.		Children		Adults.		Children		Adults.		Children	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A. New cases examined during the year—												
(a) Definitely tuberculous	149	112	5	6	11	19	16	13	160	131	21	19
(b) Doubtfully tuberculous	—	—	—	—	—	—	—	—	37	42	11	10
(c) Non-tuberculous..	—	—	—	—	—	—	—	—	130	123	65	64
B. Contacts examined during the year—												
(a) Definitely tuberculous	—	3	1	—	—	—	1	—	—	3	2	—
(b) Doubtfully tuberculous	—	—	—	—	—	—	—	—	1	3	8	8
(c) Non-tuberculous..	—	—	—	—	—	—	—	—	74	151	142	138
C. Cases written off Dispensary Register as—												
(a) Cured	38	72	3	6	12	21	1	4	50	93	4	10
(b) Diagnosis not confirmed or non-tuberculous	—	—	—	—	—	—	—	—	536	734	296	296
D. Number of persons on Dispensary Register on December 31st—												
(a) Diagnosis completed	598	406	48	40	48	47	44	38	646	453	92	78
(b) Diagnosis not completed	—	—	—	—	—	—	—	—	10	9	4	4
1. No. of persons on Dispensary Register on January 1st....	2577				4. Died during the year (Dispensary cases)				204			
2. No. of patients transferred from other areas and "lost sight of" cases returned....	19				5. No. of observation cases under A (b) and B (b) in which period of observation exceeded 2 months				43			
3. No. of patients transferred to other areas and cases "lost sight of"	420*											

* Including 2 observation cases "lost sight of" during period of observation, and 193 cases "not desiring public medical treatment."

TABLE 1—*Continued.*

6. No. of attendances at Dispensary (including contacts)	4656	11. No. of other visits by Tuberculosis Officers to homes ...	4
7. No. of attendances of non-pulmonary cases at Orthopædic Out-Stations for treatment or supervision ...	Nil.	12. No. of visits by Nurses or Health Visitors to homes for Dispensary purposes....	5836
8. No. of attendances at General Hospitals, or other Institutions approved for the purpose, of patients for—		13. No. of—	
(a) "Light" treatment	2482	(a) Specimens of sputum, &c., examined	1164
(b) Other special forms of treatment	528	(b) X-ray examinations made in connection with Dispensary work.....	557
9. No. of patients to whom Dental Treatment was given at or in connection with the Dispensary	Nil.	14. No. of insured persons on Dispensary Register on December 31st	811
10. No. of consultations with medical practitioners—		15. No. of insured persons under Domiciliary treatment on December 31st	403
(a) At homes of applicants ...	90	16. No. of reports received during the year in respect of insured persons—	
(b) Otherwise	580	(a) Form G.P. 17	72
		(b) Form G.P. 36	51

TABLE 2.

SHOWING PERIOD ELAPSING BETWEEN NOTIFICATION AND DEATH
IN FATAL CASES OF PHTHISIS.

	Number.	Per-centage.
Not notified before death	35 ..	11·94
Notified within three months of death	72 ..	24·58
„ from three months to one year before death..	67 ..	22·87
„ from one year to two years before death....	40 ..	13·65
Over two years	79 ..	26·96

Total number of deaths, 293.

Ratio of non-notified cases to total fatal cases, 35—293.

TABLE 3.

NEW CASES AND MORTALITY DURING 1928.

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0	1	1	..	3	1	1	..	3
1	5	4	12	9	2	2	2	4
5	10	6	15	16	..	2	3	3
10	8	8	7	16	2	5	3	1
15	26	22	15	11	14	7	2	4
20	27	38	7	9	19	22	5	3
25	44	41	6	12	30	22	2	4
35	49	43	6	4	35	22	2	..
45	65	16	6	4	60	12	3	1
55	21	10	1	4	19	6	2	2
65 and upwards.....	4	5	1	2	6	4	..	..
Totals	260	194	76	90	188	105	24	25

TABLE 4.

OCCUPATIONS OF THE 454 CASES OF PULMONARY
TUBERCULOSIS NOTIFIED.

MALES.

1. Joiners, House Decorators and Building Trades ..	13	14. Children under 5	4
2. Carters, Hawkers and Car Drivers	10	15. Scholars	16
3. Labourers and Navvies	56	16. Commercial Travellers ..	2
4. Railway Workers	3	17. Seamen	3
5. Postmen	3	18. Printers and Bookbinders	5
6. Barmen	3	19. Shop Assistants	4
7. Clerks & Warehousemen	28	20. Employees in Cotton Mills	4
8. Packers	5	21. Metal Workers.....	4
9. Shopkeepers	2	22. No Occupation	6
10. Makers of Wearing Apparel	4	23. Electricians.....	3
11. Colliers	3	24. Plumbers.....	5
12. Rubber Workers	4	25. Motor Drivers	4
13. Mechanics and Engineers	14	26. Porters	4
		27. Other Various Occupa- tions	39
		Total	251

FEMALES.

1. Mill Workers	28	10. Shop Assistants	7
2. Envelope Cutters	2	11. Teachers	1
3. Housewives.....	76	12. Children under 5	2
4. Charwomen and Laun- dresses	5	13. Scholars	16
5. Makers of Wearing Apparel	13	14. No Occupation	10
6. Clerks and Typists	9	15. Other Various Occupa- tions	9
7. Domestic Servants	10		
8. Packers	4		
9. Toffee Workers	2	Total	194

In 9 cases where the occupation was not stated, the notifications were marked "Not to be visited."

TABLE 5.

INSPECTORS' REPORT ON THE DURATION OF THE DISEASE IN CASES
VISITED AT THE TIME OF NOTIFICATION.

When Notified.	
Under six months	130
Over 6 months to 1 year.....	124
„ 1 year to 18 months.....	52
„ 18 months to 2 years	9
„ 2 years to 3 years	23
„ 3 years	44
No Time Stated	57
	439*

* 13 notifications were marked "Not to be visited."; one stayed in Salford one week only, and one was notified from the County Mental Hospital, Prestwich.

The School Medical Officers notified 7 new cases of non-pulmonary tuberculosis on Form "B."

During the year 1928, 166 new notifications of non-pulmonary tuberculosis have been received.

The new cases of non-pulmonary tuberculosis notified are classified in the following table :—

	Glands.	Bones.	Abdo- men.	Skin.	Men- inges.	Other forms.	Totals.
Under 10 years ...	15	11	10	1	14	4	55
10 to 20 years	14	16	10	3	4	2	49
20 „ 30 „	2	11	5	4	2	4	28
30 „ 40 „	3	4	1	4	..	4	16
Over 40 „	3	7	2	5	..	1	18
Totals	37	49	28	17	20	15	166

Nab Top Sanatorium—Annual Report.

RESIDENT STAFF.—Resident Medical Officer, Matron, Home Sister, two Ward Sisters, eleven Nurses, Cook, Laundress, seventeen Maids and Lodge Porter.

NON-RESIDENT STAFF. — Engineer, Porter, two Gardeners, and Labourer.

ACCOMMODATION.—There is accommodation for 120 patients (62 adult males, 42 adult females, 8 male children, and 8 female children).

TYPE OF CASE TREATED.—The Sanatorium is used for the treatment of early and intermediate cases of Phthisis.

A few advanced cases who show good resistance to the disease are also treated. A number of "observation" cases are admitted.

LINES OF TREATMENT.—The treatment adopted is chiefly Hygienic—open air, rest and graduated exercise.

On admission, patients, after a period of rest in bed, are put on walking exercise, the distance being gradually increased. Afterwards this is supplemented by light ward work. Those who show a satisfactory resistance are then placed on graduated work, beginning with light gardening work and rising to heavier work such as grass cutting and lawn rolling, wheelbarrow work

and digging. Walking exercise is taken round two fields, the circumference of that reserved for women being one-quarter mile, and that for men one-third of a mile. The Hygienic treatment is supplemented, when necessary, by drug treatment. Suitable cases are treated by tuberculin.

FARM.—A poultry farm maintained on the premises supplies many of the eggs required for consumption. Most of the vegetables used in this Institution are also grown in the grounds of the Sanatorium.

RECREATION.—The dining hall is set apart for the use of patients every Saturday evening after supper, where whist and other card games are indulged in. A wireless set is in daily use, each bed being provided with a pair of ear phones. There is also a loud speaker in the dining hall. Concerts are arranged about once a month from October to April, given by outside talent, and on many occasions during the winter plays have been staged.

There is also a large bowling green and clock golf green for the men, and a bowling and croquet green for the women.

CANTEEN.—A canteen has been established in the grounds wherein are sold those articles likely to be used in everyday life.

EDUCATION.—The Resident Medical Officer at frequent intervals delivers lectures to the patients on such subjects as "Pulmonary Tuberculosis," "Rules of Health" and "The Care of the Mouth and Teeth." It is hoped that,

on leaving, patients may carry out the instructions given in these lectures and thus minimise the spread of infection in their own homes.

A school, under the guidance of a competent teacher, has been established for patients under 16 years of age. This has been a boon to those children whose state of health has not permitted them to attend the ordinary school at home. No child is allowed to attend school unless certified physically fit by the Resident Medical Officer.

A new school building, capable of accommodating 50 children, was opened in April. The building will also, it is hoped, house an X-ray apparatus.

Appended is a table showing the number of admissions, etc., and the number of patient days during the year 1928.

TABLE A—(Nab Top Sanatorium.)

SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER OF "PATIENT-DAYS"
DURING THE YEAR 1928.

	Total Adults.		Children under 16.			Totals.		
	Males.	Females	Males.	Females	Both.	Males.	Females	Both.
Number of Patients admitted in 1927 who remained in Sanatorium for some part of 1928	22	6	18	5	23	40	11	51
Number of "Patient-days" in 1928 for patients admitted in 1927 and who remained in Sanatorium for some part of 1928....	2657	714	1020	184	1204	3677	898	4575
Total admissions 1928..	172	93	59	33	92	231	126	357
Total discharges 1928...	157	72	63	32	95	220	104	324
Number of "Patient-days" for persons admitted during 1928.	15396	8493	6019	2497	8516	21415	10990	32405
Total number of "Patient-days" for 1928.....	18053	9207	7039	2681	9720	25092	11888	36980
Average number of Patients in Sanatorium each day during 1928.	49.3	25.1	19.2	7.3	26.5	68.5	32.4	100.9

NOTE.—The term "Patient-days" represents the product of the number of patients and the number of days spent by these patients in the Sanatorium.

TABLE B.—PATIENTS DISCHARGED FROM NAB TOP SANATORIUM DURING 1928.

Condition at Time of Discharge.	Duration of Residential Treatment in Institution.									
	Under 3 Months.		3 to 6 Months.		6 to 12 Months.		Over 12 Months.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Pulmonary Tuberculosis.....										
Quiescent	5	6	1	5	2	2	3	1	5	..
Improved	42	13	13	27	15	9	10	2	10	..
No Material Improvement	36	14	4	16	4	3	2	3	2	..
Died	2	2	..	1	..	..	..	..	..	..
Totals	85	35	18	49	21	14	15	6	17	..
Non-Pulmonary Tuberculosis.										
Quiescent	..	1	..	..	..	..	..	..	..	..
Improved	..	1	3	2	..	2	1	..	2	..
No Material Improvement	1	1	4	..	..	..	1	..	..	..
Died	..	..	..	..	..	..	..	..	..	..
Totals	1	3	7	2	..	2	2	..	2	..
Observation for Purposes of Diagnosis										
Tuberculous	..	2	..	..	1	1	..	1	1	7
Non-Tuberculous.....	..	..	1	..	..	..	..	..	1	2
Doubtful	..	..	..	..	..	3	..	..	3	1

LADYWELL SANATORIUM.

TABLE SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER
OF "PATIENT-DAYS" FOR 1928.

TUBERCULOSIS CASES.

	Males.	Females.	Totals.
Total Number of Admissions during 1928.....	187	134	321
Number of Persons Admitted prior to 1928 who remained in Hospital for some part of 1928	32	17	49
Total Number of Discharges and Deaths during 1928	189	132	321
Patients in Hospital on the 31st December, 1928.....	30	19	49
Number of "Patient-days" for Persons Admitted during 1928...	10618	7943	18561
Number of "Patient-days" (in 1928) for Persons Admitted prior to 1928 who remained in Hospital for some part of 1928.....	1009	831	1840
Total Number of "Patient-days" for 1928	11627	8774	20401
Average Number of Patients in Hospital each day during 1928...	31.76	23.98	55.74

Ladywell Sanatorium.

(b) REPORT FOR THE YEAR 1928.

At the beginning of the year there were 265 cases remaining in hospital; these with the 1,995 admitted during the year make a total of 2,260 cases under treatment. Of these 1,895 were discharged, 137 died, and 228 were in hospital at the end of the year. The number of cases treated, viz., 2,260, compares with 1,986 in 1927 and with 1,769·8, the average of the cases treated for the five years ended December 31st, 1927.

The cases treated were as follows:—

Scarlet Fever	987
Diphtheria.....	454
Enteric Fever.....	17
Measles	23
Erysipelas	71
Puerperal Fever.....	30
Tuberculosis	371
Other Diseases	253
Mixed Infections	54

The number of cases from Out-Districts was 446, as compared with 323 in 1927.

The daily average number of patients in 1928 was 230·4; the highest number being 273 on November 1st, and the lowest 191 on August 7th. 1,995 patients were admitted during the year, as compared with 1,717 in 1927 and with 1,581·6, the average for the five years ended December 31st, 1927. The following summary

shows the diagnosis of the cases before admission and after observation in hospital:—

	Diagnosis before Observation.	Diagnosis after Observation.	
Scarlet Fever	1,015	.. 893	
Diphtheria.....	488	.. 367	
Enteric Fever.....	20	.. 14	
Measles	19	.. 19	
Erysipelas	76	.. 66	
Puerperal Fever.....	26	.. 28	
Cerebro-Spinal Fever ...	3	.. 3	} Other Diseases.
Encephalitis Lethargica.	5	.. 2	
Chicken Pox	—	.. 1	
Miscellaneous Diseases .	29	.. 232	
Mixed Infections	1	.. 48	

Details of the alterations in diagnosis will be found in table 5, page 128. A tabulation of the cases classified as “other diseases” will be found on page 122.

In addition, 322 cases of advanced tuberculosis were admitted.

MIXED INFECTIONS.—Forty-four of the patients admitted were found to be suffering from two distinct diseases, as follows:—

Scarlet Fever and Diphtheria	19
Scarlet Fever and Whooping Cough	9
Scarlet Fever and Measles	2
Scarlet Fever and Lobar-Pneumonia	2
Scarlet Fever and Bronchitis	4
Scarlet Fever and Tubercular Spine	1

Scarlet Fever and Otitis Media (Chronic) ..	1
Scarlet Fever and Ringworm	1
Diphtheria and Measles	1
Diphtheria and Whooping Cough	1
Diphtheria and Aneurysm	1
Whooping Cough and Sore Throat	1
Erysipelas and Burns.....	1
	—
	44

In addition to these, there were two patients who were incubating another disease, as follows :—

Diphtheria incubating Whooping Cough ... 2

DEATHS FROM MIXED INFECTIONS.—In this group the concurrent affections directly or partially caused a fatal termination in two cases, as follows :—

Erysipelas and Burns.

Whooping Cough and Sore Throat.

The average stay in hospital for all mixed infection cases discharged well in 1928 was 51·55 days, and for those that died 7·5 days. Two cases developed measles and are dealt with under the cross infections.

CROSS INFECTION.—The above cases of Mixed Infection, including those incubating another disease, and cases admitted under a wrong diagnosis in which the actual disease could only be ascertained after a time, gave rise to secondary infections in the wards. Every effort was made to prevent cross infection by careful examination of new patients before admission to the

wards, and by employing the usual methods of bed-isolation, the Dick and Schick tests and immunisation of susceptibles. The number of patients discharged in 1928 who contracted another infection was 23. They were as follows:—

Sent in as:—

Scarlet Fever and developed Scarlet Fever....	2
" " " Whooping Cough	1
" " " Measles	6
" " " Diphtheritic	
Vaginitis	1
Diphtheria	" Scarlet Fever.... 9
"	" Measles
Other Disease	" Erysipelas and
	Streptococcal
	Meningitis..... 1
	—
	23

In addition nine scarlet fever cases and one child with erythema were found to be harbouring diphtheria bacilli in their noses.

The average stay in hospital of the 31 cross infected cases discharged well during 1928 was 71·9 days. There were five cases remaining from the year before. There was one death in this group; one child of one month developed an abscess in one of the thighs, erysipelas ensued and death resulted from streptococcal meningitis.

DEATHS.—137 cases had a fatal termination, as follows :—

Disease.	Number of Deaths.	Fatality Rate.
Scarlet Fever	2	0·23%
Diphtheria.....	10	2·4%
Erysipelas	1	
Measles	2	
Enteric Fever.....	4	
Puerperal Fever.....	4	
Advanced Tuberculosis	90	
Broncho-Pneumonia	2	
Lobar-Pneumonia	1	
Septic Throat	1	
Abscess thigh, Erysipelas and Streptococcal Meningitis	1	
Retropharyngeal Abscess	1	
Cellulitis thigh, Septicæmia ..	1	
Encephalitis Lethargica	2	
Carbuncle neck, Septicæmia ...	1	
„ face, Septicæmia ...	2	
Tuberculous Meningitis	4	
Nephritis	1	
Cerebro-Spinal Fever	2	
Pneumococcal Meningitis	1	
Acute Ulcerative Endocarditis .	1	
Valvular Disease of Heart	1	
Mixed Infections	2	

The fatality rates are worked out on the number of patients discharged. The average stay in hospital for all fatal cases, excepting advanced tuberculosis, was 8.2 days.

The number of cases discharged well was 1,895, as follows:—

Disease.	Number.
Scarlet Fever	880
Diphtheria.....	404
Enteric Fever.....	13
Measles	21
Erysipelas	64
Puerperal Fever.....	22
Mixed Infections	42
Tuberculosis	232
Other Diseases	217

The average stay in hospital for all cases discharged well during 1928 was: for scarlet fever 36.62 days; for diphtheria 47.51 days; for enteric fever 71.9 days; for measles 29.5 days; for erysipelas 26.3 days; for puerperal fever 40.2 days; for tuberculosis 66.53 days; for "other diseases" 31.24 days; for mixed infections 51.25 days.

The daily average number of patients in hospital in 1928 was 230.4, as compared with 204.5 in 1927, and with 176.8, the daily average of the numbers in the five years ending December 31st, 1927.

There were remaining in hospital on December 31st, 1928, 228 cases, as compared with 265 last year.

The cases remaining were : scarlet fever 105, diphtheria 40, erysipelas 6, puerperal fever 4, tuberculosis 49, "other diseases" 14, and mixed infections 10.

Forty-six of the cases remaining were from out-districts, as compared with 52 last year.

DETAILED INFORMATION ABOUT CERTAIN DISEASES.

Scarlet Fever.

The number of cases of this disease admitted in 1928 was 893, as against 679 in 1927. 1,015 cases were certified as having scarlet fever, but in 138 cases the diagnosis had to be revised ; in addition, 16 cases certified as diphtheria proved to be scarlet fever. 880 cases were discharged well during the year. There were two deaths from this disease, giving a 0·23 per cent fatality rate. The details of the two fatal cases were as follows :—

One child aged 3 died from septic scarlet fever within 24 hours of admission ; and a boy aged 17 died from septic scarlet fever within 48 hours of admission.

The type of the disease continued mild. Scarlatinal Antitoxin (B.W. & Co.) was given intramuscularly in 5–10 c.c. doses in all but the very mild cases.

Three cases were puerperal scarlet fever, particulars of which will be found under puerperal fever. One case was a surgical scarlet fever following an operation on

the uterus, the patient developing peritonitis. The more important complications were as follows:—

	Number.		Percentage of Discharged Cases.
Rhinitis	110	..	12·4
Otorrhoea.....	41	..	4·6
Albuminuria	45	..	5·1
Nephritis	8	..	·91
Adenitis and Abscess .	154	..	17·4
Arthritis	7	..	·79
Endocarditis	4	..	·45
Paronychia	13	..	1·47
Relapse	6	..	·68

Other complications were as follows:—Abscess: arm 1, thigh 2, cheek 1, buttock 1; boils 1, broncho-pneumonia 1, balanitis 1, bronchitis 19, blepharitis 2, catarrhal jaundice 3, conjunctivitis 4, cellulitis 1, eczema 2, gastro enteritis 1, herpes labialis 2, impetigo 5, mastoiditis (acute) 3, peri-tonsillar abscess 5, peridental abscess 3, ringworm 2, septic wound thumb 1, septic throat 1, sinus buttock 1, sinovitis 1, tonsillitis 10.

Fifteen cases developed another infection:—Whooping cough 1, measles 4, diphtheritic vaginitis 1, and positive nasal swab 9.

The average stay in hospital for all cases of scarlet fever discharged well during 1928 was 36·62 days, and for the two fatal cases 1·5 days.

The following table indicates the period of residence of the 861 cases of scarlet fever, uncomplicated with

another disease, who were discharged well in 1928. (The three puerperal scarlet fever cases and the surgical scarlet fever case are not included.)

Week of discharge.	Number of days in residence when discharged.							Number of cases in each day.							No. of cases in each week.
Under fourth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Fourth	22	23	24	25	26	27	28	—	—	2	—	3	12	35	52
Fifth	29	30	31	32	33	34	35	78	90	112	49	92	60	48	529
Sixth	36	37	38	39	40	41	42	47	23	33	12	13	10	9	147
Seventh.....	43	44	45	46	47	48	49	12	9	11	7	6	4	3	52
Eighth.....	50	51	52	53	54	55	56	5	2	2	4	6	8	2	29
Ninth	57	58	59	60	61	62	63	2	1	3	3	5	2	4	20
Tenth	64	65	66	67	68	69	70	2	2	—	—	—	—	1	5
Over Tenth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26
Total Number of Cases.....															861

RETURN CASES.—Six cases were reported to have been infected by cases returned from hospital.

NOTE ON OTORRHOEA (EAR-DISCHARGE) IN SCARLET FEVER.—Inflammation of the middle ear (otitis media) is a fairly common complication of scarlet fever in children. This is shown by the following figures for Ladywell :—

1925.—54 cases, or 9·4 per cent, of discharged scarlet fever patients.						
1926.—58	“	8·7	“	“	“	“
1927.—45	“	6·8	“	“	“	“
1928.—41	“	4·6	“	“	“	“

These figures are, if anything, slightly lower than those from other infectious hospitals.

The incidence of Otorrhoea shows a definite decline in these years, and it is a question whether the more constant use of scarlatinal antitoxin has had a share in

this. I am inclined to think that it has, and this for the following reasons: Scarlatinal antitoxin was used in slightly less than a half of the cases in 1926, more frequently in 1927, and still more so in 1928, the decline in the incidence thus corresponding with the increased use of antitoxin. However this may be, otitis media is a very troublesome complication in scarlet fever, and, being a septic complication, is hardly likely to disappear altogether under treatment with scarlatinal antitoxin.

During this year the appointment of a visiting ear-surgeon has put the treatment of these cases on a rational basis. The aim has been to send these children out with healed ears and a healthy condition of the throat and naso-pharynx, so as to prevent, as far as possible, the recurrence of otorrhoea.

Particulars of these cases were as follows:—

There were 41 cases of otitis media. Four of these cases had otorrhoea on admission, and, in addition, one had an open radical mastoid wound. The incidence of otorrhoea in hospital was 4·1 per cent, there being 36 cases.

There were three cases of mastoid involvement requiring operation. Of these, two required a double mastoid operation.

Tonsillectomy and adenoidectomy, or only the latter operation, were performed in 17 cases. The average duration of otorrhoea after operation was 20·6 days.

In the remaining 18 cases where no operation was performed, the average duration of otorrhoea was 18·4 days, but it may be said in explanation that though the average duration of otorrhoea was less than in the cases who had an operation, these cases were not advised operative treatment, because they were expected to heal up without.

One of the cases which had a bilateral mastoid operation also had tonsillectomy and adenoidectomy performed. This was the only case that on discharge had otorrhoea.

Of these 41 cases, 8 were double otitis media; 24 were female and 17 were male.

The average age of the patients was 6·2 years, and the average duration of disease at onset of otorrhoea 14·7 days.

The following Tables give particulars regarding cases of otitis media :—

Week of illness.	Number of cases of otitis media occurring in hospital.		
	Total.	One ear.	Both ears.
First week ..	10	8	2
Second week .	8	7	1
Third week ..	6	5	1
Fourth week .	8	6	2
Fifth week ..	2	1	1
Sixth week ..	2	1	1
	—	—	—
	36	28	8

TOTAL NUMBER OF CASES OF OTITIS MEDIA.

Age.	One ear.	Both ears.
First year	3	—
Second year	2	1
Third year	3	1
Fourth year	5	—
Fifth year	5	5
Sixth year.....	5	—
Seventh year	4	—
Eighth year	—	—
Ninth year	2	—
Tenth year	—	—
Over tenth year	4	1
	—	—
	33	8

Diphtheria.

367 cases were admitted during the year and 87 remained from last year; of these 404 were discharged well, 19 died and 40 remained in hospital at the end of the year. 488 cases were admitted certified as diphtheria: in 123 cases the diagnosis had to be revised and, in addition, 2 cases sent in as scarlet fever proved to be diphtheria.

TYPE OF DISEASE.—Of the admitted cases 276 were faucial, 41 laryngeal, 22 laryngeal and faucial, 26 nasal, and 4 nasal and faucial. There were also two cases of bacteriological diphtheria.

Some further particulars are appended of the cases of clinical diphtheria discharged in 1928. The average

stay in hospital for all cases discharged well in 1928 was 47·51 days, for those that died 6·7 days.

TYPE OF DISEASE.

Faucial Diphtheria.

In 309 cases, including 6 fatal cases, the faucial region of the throat was affected.

MILD.—177 cases were mild, the deposit on the throat being localised to the tonsils, with little or no toxæmia. The average amount of serum given was 8,508 units. All these mild cases made a complete recovery. 14 cases had antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Adenitis 5, albuminuria 1, carrier 5, carrier and otorrhoea 1, impetigo 1, otorrhoea 3, palatal paralysis and albuminuria 1.

1 case developed measles.

2 cases developed scarlet fever.

1 case developed scarlet fever complicated with abscess thigh.

1 case developed scarlet fever complicated with adenitis.

1 case developed scarlet fever complicated with otorrhoea, rhinitis and nasal diphtheria (carrier).

MODERATE.—In 98 cases the membranous deposit was more extensive, and was accompanied by some toxæmia. The average amount of serum given was 15,775 units. 5 cases had antitoxin before admission.

There were no deaths amongst this group, all cases recovering completely.

COMPLICATIONS AND SEQUELAE.—Albuminuria 2, adenitis 1, albuminuria and cardiac arrhythmia 2, suppurative adenitis, otorrhoea and palatal and ocular paralysis 1, cardiac arrhythmia 3, colitis 1, carrier 1, impetigo 1, impetiginous dermatitis 1, otorrhoea 1, palatal paralysis 3, rhinitis and adenitis 1, paronychia and strabismus 1, palatal paralysis and strabismus 1, palatal and pharyngeal paresis 1.

1 case developed scarlet fever.

1 case developed measles complicated with otorrhoea.

SEVERE.—34 cases, including 6 fatal ones, were of the severe type. The average amount of serum given was 55,085 units. 10 cases received antitoxin before admission, including two of the fatal ones.

COMPLICATIONS AND SEQUELAE.—Adenitis 1, adenitis and albuminuria 1, cardiac arrhythmia 1, circulatory paralysis 2, early cardiac paralysis 1, myocarditis 1, otorrhoea 1, palatal paralysis 3, palatal paresis and cardiac arrhythmia 1, palatal paralysis and bradycardia 1, palatal and pharyngeal paralysis 3, palatal, pharyngeal and ocular paralysis 1, palatal paralysis, heart failure and anuria 1, palatal paralysis, albuminuria and abscess 1, palatal, pharyngeal and circulatory paralysis 1, palatal, pharyngeal and ocular paralysis, otorrhoea, adenitis and abscess 1, tonsillitis, strabismus and bradycardia 1.

1 case developed measles.

Laryngeal Diphtheria.

In 46 cases, including 2 fatal ones, the larynx was involved.

MILD.—In 23 cases the laryngeal obstruction was slight. 2 cases had antitoxin before admission. The average amount of serum given in hospital was 11,652 units.

COMPLICATION AND SEQUELAE.—Adenitis 1, adenitis and nasal carrier 1, rhinitis 1.

MODERATE.—In 13 cases the laryngeal obstruction was moderately severe. The average amount of serum given was 17,693 units.

COMPLICATIONS AND SEQUELAE.—Abscess groin and impetigo 1, otorrhoea 1.

SEVERE.—In 10 cases, including 2 fatal ones, the obstruction to the breathing was severe. 7 cases required tracheotomy. 1 case had tracheotomy performed before admission. Of the 2 fatal cases, 1 was moribund on admission and stopped breathing before the trachea could be opened; in the other case tracheotomy afforded no relief, the membrane extending too far down. The average amount of antitoxin was 21,500 units. 1 case had antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Catarrhal jaundice 1.

Faucial and Laryngeal Diphtheria.

The fauces and larynx were involved in 22 cases, including 2 deaths, and 3 of these received antitoxin before admission to the hospital.

1 case was mild, 19 moderate, and 2 severe in type. The average amount of serum given was: For the mild case, 16,000 units; for the moderate cases, 26,526 units; and for the severe cases, 16,000 units. 8 cases required tracheotomy. Of the fatal cases, both severe, one died from broncho-pneumonia, following tracheotomy; in the other case the membrane was extending too far down and tracheotomy afforded no relief.

COMPLICATIONS AND SEQUELAE.—Abscess leg, 1; abscess buttock, 1; bradycardia, 1; palatal paresis, 1; broncho-pneumonia, 1.

Nasal Diphtheria.

There were 33 cases of nasal diphtheria, and the average amount of serum given was: For the 32 mild cases, 6,375 units; and for the one moderate case, 16,000 units. 2 cases received antitoxin before admission.

COMPLICATIONS AND SEQUELAE.—Carrier, 2; carrier and otorrhoea, 1; otorrhoea, 3; peridental abscess, paronychia and carrier, 1; septic toe, 1.

Faucial and Nasal Diphtheria.

For the 1 moderate case of this type of diphtheria the amount of serum given was 24,000 units, and for the 1 severe case, 56,000 units. Both of these cases received antitoxin before admission, and both recovered.

COMPLICATIONS AND SEQUELAE.—Otorrhoea, 1.

The following table summarises the sites of membrane in the total clinical cases discharged:—

SITE OF MEMBRANE.	MILD.		MODERATE.		SEVERE.		TOTAL.	
	Recovered	Died	Recovered	Died	Recovered	Died	Recovered	Died
Faucial	177	..	98	..	28	6	303	6
Laryngeal	23	..	13	..	8	2	44	2
Faucial and Laryngeal .	1	..	19	..	..	2	20	2
Nasal	32	..	1	..	..	..	33	..
Faucial and Nasal	..	..	1	..	1	..	2	..
							402	10

DIPHThERITIC PARALYSIS.—33 cases, or 8·2 per cent, of the clinical cases discharged had paralysis in one form or another whilst in hospital.

COMPLICATIONS.—81 patients, or 20·1 per cent, of the recovered cases developed one or more complications. This figure does not include serum rashes.

FATALITY RATE.—10 cases, or 2·4 per cent, of the true cases discharged were fatal.

ANTITOXIN.—39, or 9·4 per cent, of the cases discharged had antitoxin before admission to the hospital, and two of the fatal cases. The average amount of

antitoxin given in hospital in the recovered cases was 14·597 units, and 36·800 units in the fatal cases. The antitoxin was injected in all cases intramuscularly into the lateral aspect of a thigh. In addition, 34 cases, most of whom were severely ill, had part of the antitoxin injected intravenously, and this has undoubtedly contributed to the low fatality figure.

Dick Test and Scarlet Fever in Diphtheria.

The Dick test was performed in 326 cases of diphtheria; 176 of these were positive and 150 cases negative. 170 cases received 3 doses (500, 2,000 and 8,000 skin test doses) of B.W. & Co.'s scarlet prophylactic. There is reason to believe that this course is not sufficient to produce complete immunity in all cases. Retests were not performed, but three cases developed mild attacks of scarlet fever after the process of immunisation had been completed. In addition, 4 cases contracted scarlet fever after the first dose of the prophylactic and 1 Dick positive case contracted the same disease before any was given. 8 cases of scarlet fever in all in about 400 patients, mostly children, nursed in four wards [two large (18-24 beds) and two smaller ones (6-8 beds),] is not an unduly high proportion of cross infection, and this in spite of the frequent introduction of scarlet fever into the wards under a wrong diagnosis, which in a few cases were not discovered until desquamation began. The wards also were never quarantined, and were in full use all through the year. In 41 other than diphtheria patients who were found to be Dick positive, the same

course of prophylactic injections was given. The following table summarises the results obtained :—

Age Periods of Diphtheria Cases.													
	Under.										Over.		
Years.....	1	1	2	3	4	5	6	7	8	9	10	10	Total.
Positive.....	2	10	20	17	20	20	23	20	13	6	6	19	176
Negative	0	2	4	7	9	15	15	15	19	9	13	42	150
Total	2	12	24	24	29	35	38	35	32	15	19	61	326

Enteric Fever.

20 cases were sent in under this diagnosis, but in 6 instances the diagnosis had to be revised. 3 cases remained from last year, and 13 cases were discharged well. Of the 14 cases admitted, 8 were typhoid fever and 6 para-typhoid B.

There were 4 fatal cases. Of these, 2 typhoid fever cases died from toxæmia and cardiac failure, 1 typhoid fever case died from broncho-pneumonia, and 1 para-typhoid B died from ulcerative endocarditis and embolism.

COMPLICATIONS.—Relapse, 2; femoral thrombosis, 1; double otorrhoea, abscess, 1.

Puerperal Fever.

26 cases were admitted under this diagnosis and 2 as scarlet fever. There were 2 cases remaining from 1927 and 4 remained in hospital at the end of the year. Of the 30 under treatment, 26 were discharged and 4 died. They were classified as follows: Puerperal

fever 20, puerperal sepsis 9, and septic incomplete abortion 1. The 4 fatal cases were due to septicaemia in one case following septic abortion.

COMPLICATIONS OF CASES DISCHARGED IN 1928.—Albuminuria 2, empyema 1, pelvic cellulitis 1, phlegmasia alba dolens 2, puerperal mania 1.

There were 12 babies admitted with their mothers.

In addition to these cases 3 cases of puerperal scarlet fever were admitted, which are included in the figures for scarlet fever. 2 of these made uneventful recoveries; one of them had scarlatinal antitoxin before admission, the other had it in hospital. The third case developed puerperal mania and had to be transferred to a mental ward in another hospital; she also had scarlatinal antitoxin in hospital. In three other cases which are classified as puerperal fever (two of which were fatal and one of which had an empyema), there is strong evidence to show that the causative organism was the *streptococcus haemolyticus scarlatinae*. Two of the three cases of puerperal scarlet fever, one of the two fatal cases and the one which was complicated with empyema, were admitted within a short time of each other from the same hospital.

Treatment was carried out on ordinary conservative lines, operative interference or even manual clearing out of the uterus being considered harmful, unless very strongly indicated. Scarlatinal antitoxin was found useful in some of the severe cases.

Erysipelas.

Five cases were remaining from 1927, and 76 cases were admitted during the year, but in 11 cases the diagnosis had to be revised. In addition, 1 case admitted as diphtheria was suffering from erysipelas. 64 cases were discharged well and 1 case died following the development of a streptococcal septicaemia. 20 cases, including the fatal case, received scarlatinal antitoxin in 10–20 c.c. (B.W. & Co.) doses, with apparently beneficial results.

COMPLICATIONS.—Relapse 3, relapse and sloughing of scalp 1, relapse and abscess scalp 1, tonsillitis 1, bronchitis and impetigo 1.

Appointment of Visiting Ear-Surgeon.

This was considered necessary for the following reasons :—

Otorrhoea (ear-discharge) is a frequent complication in a fever hospital, occurring not only in scarlet fever, but also in other infectious diseases affecting children.

Unless it is properly treated from the onset, it often becomes chronic and leads to loss of hearing and other more serious complications.

The children who develop otorrhoea are found often to have enlarged unhealthy tonsils and adenoids, the infection spreading from these to the ears. The obviously proper course is to provide specialised treatment for these cases at the onset of otorrhoea before their ears have become damaged, with a view to

their quick healing, and also, still better, if possible to prevent the occurrence of otorrhoea at all. It would hardly be a success if the ears were only treated and the unhealthy tonsils and adenoids left as they were.

It was felt that a visiting aural surgeon was essential to put all this into operation, and the Committee agreed to appoint Dr. McKelvie, M.D., F.R.C.S.(Edin.), one of the Assistant School Medical Officers for Salford, to visit the hospital twice a week and do the necessary work, and also to be available in an emergency ; this appointment has the advantage that the cases after discharge from hospital are kept under his observation at the school clinics.

He commenced work in April. His work has been very useful, and I have found him very helpful and at all times very obliging. His report will be found appended to this report.

Operating Theatre.

The operating theatre was completed early this year, and the first operation was performed on March 5th.

The number of operations was 44, all requiring general anæsthesia ; minor operations are not included.

Particulars are as follows :—

Disease.	Operation.	Recov.	Died.	Total.
Scarlet Fever—				
Otorrhœa	Tonsillectomy and Adenoidectomy	16	—	16
Otorrhœa	Adenoidectomy	4	—	4
Acute Mastoiditis	Schwartz's Operation	4	—	4
Acute Mastoiditis	Schwartz's Operation, Tonsillectomy and Adenoidectomy	1	—	1
Adenitis	Tonsillectomy and Adenoidectomy	7	—	7
Rhinitis	Tonsillectomy and Adenoidectomy	1	—	1
Enlarged Tonsils	Tonsillectomy and Adenoidectomy	5	—	5

Disease.	Operation.	Recov.	Died.	Total.
Tonsillitis—				
Otorrhoea	Tonsillectomy and Adenoidectomy	1	—	1
Whooping Cough compli- cated with Scarlet Fever—				
Otorrhoea	Schwartz's Operation, Tonsillec- tomy and Adenoidectomy	1	—	1
Scarlet Fever and Diphtheria—				
Otorrhoea	Tonsillectomy and Adenoidectomy	1	—	1
Scarlet Fever and Diphtheria—				
Acute Mastoiditis	Schwartz's Operation	—	1	1
Puerperal Fever—				
Pelvic Cellulitis	Pelvic Drainage and Laparotomy	1	—	1
Scarlet Fever—				
Crushed Toe	Plastic Operation	1	—	1
		43	1	44

STAFF.—On December 31st, 1928, the resident staff of the sanatorium consisted of the following:—

Medical Superintendent	1
Assistant Resident M.O.	1
City Bacteriologist	1
Matron	1
Assistant Matron	1
Stores Sister	1
Sister Tutor	1
Night Sister	1
Sisters	7
Staff Nurses	19
Assistant Nurse	1
Probationers	42
Cook	1
Maids	37
Laundress	1
Lodge Porters	2
Total Resident Staff	118

The non-resident staff consisted of :—

Visiting Aural Surgeon	1
Clerk	1
Engineer	1
Plumber.....	1
Firemen	3
Gardener	1
Assistant Gardeners	2
Porters	5
Seamstresses	2
Head Laundress	1
Assistant Laundress	1
Laundresses	10
Cleaners	3
	—
Total Non-Resident Staff	32
	—

HEALTH OF STAFF.—It is with regret that I have to report that one of the staff, a maid, contracted erysipelas, and died as a result of streptococcal septicæmia. Otherwise, the health of the staff has been good. The following were the illnesses: Colitis, 1; erysipelas, 1; erythema nodosum, 1; influenza, 2; pyelitis, 1; rheumatism, 1; scarlet fever, 1.

The staff, both nurses and maids, have been tested and, when necessary, immunised against diphtheria and scarlet fever.

The hospital is a recognised training school for fevers, and lectures are given in preparation for the State Examinations in Anatomy, Physiology, Hygiene and the Theory and Practice of Fevers and Fever

Nursing. During the year 7 nurses passed the Preliminary and 5 the Final State Examination.

I wish here to express my appreciation of the fine work done by the whole staff during the past year, and to thank the Ladywell Sanatorium Sub-Committee for their constant support in all proposals to improve the efficiency of the hospital. Some of the proposals adopted were :—

(a) The appointment of a visiting ear-surgeon; the reasons for this appointment being outlined above.

(b) The erection of the operating theatre, in which 44 operations were performed, particulars of which will be found above.

Work was commenced and very nearly finished on the conversion of a 16-bed ward into a bed-isolation ward. This will materially increase the very inadequate isolation accommodation now available, and will increase the capacity of the hospital of dealing with various infections; it will also increase, relatively, the hospital accommodation, firstly, by speeding up the discharge of patients with doubtful or atypical diseases, who will not be subject to the same serious risk of infection as in a common ward; and, secondly, by the fact that any foreign infection in the ordinary scarlet fever and diphtheria wards will be more easy to deal with by prompt removal and isolation, thus helping to prevent cross infection—a notable waster of available hospital accommodation.

Various alterations and repairs were carried out during the year, comprising the laying of two composition floors in one block, the removal of stoves and ventilators in two blocks, alteration in the serving-room of the Nurses' Home, and the usual painting and decorating.

Report as to the Work of the Visiting Aural Surgeon to the Hospital.

The following report deals only with the work done subsequent to July 10th, 1928. In performing the work there appear to be four main objects, viz. :—

(1) TO PREVENT INFECTION OF THE EAR.—Thus patients with apparently unhealthy conditions of the throat and naso-pharynx likely to predispose to otitis media were referred by the Medical Superintendent and treatment was carried out.

Tonsil and adenoid operations were performed on this account, and none of these patients developed ear trouble afterwards. It is of interest to note that a number of these cases and also of those suffering from otitis media had previously been recommended before taking the exanthem to have treatment for the throat.

(2) TO CURE THE EAR TROUBLE MORE RAPIDLY WHEN IT HAD OCCURRED.—An effort was, therefore, made to prevent ear cases dragging on for weeks and weeks, in order to prevent serious damage to the hearing apparatus and for reasons of economy.

A modified "dry method" of treatment was adopted. The wards were equipped with angular forceps and the

nurses were trained to clean out the meatus when this could not be performed by the medical officers. A tour of the wards was made by the writer twice a week. After cleaning, drops were instilled by means of fountain pen filler pipettes. In the early stages after pain had subsided, guttae spirit vini rect. cum acid. boric were used, and in the later stages, when the perforation was healing, guttae eusol (full strength and freshly made).

If the tonsils appeared to be at all unhealthy or adenoids were present, early operation was undertaken.

Each case of scarlet fever received anti-diphtheritic serum before operation. In a few cases discharge persisted for a time and this was very prone to happen when a well-marked chronic rhinitis continued to occur for some time after operation, the discharge from the ear generally subsiding when the nasal condition was cured. In the diphtheria cases tonsil and adenoid operations had often to be postponed till the cardiac condition was satisfactory.

In one long-standing case Pfannenstill's treatment, combined with an autogenous vaccine, proved successful. Outdoor sunshine was taken advantage of during the better months. One case was admitted with a severe double mastoiditis which entailed successive mastoid operations with free removal of extensive diseased bone and tonsillectomy. Several other cases proceeded to a mastoiditis and early drainage was undertaken.

Patients with pre-existing ear trouble or history of ear trouble proved to be the most resistant to treatment

and those with concurrent whooping cough had delayed recovery.

(3) TO PREVENT PATIENTS LEAVING HOSPITAL WITH INFECTIOUS DISCHARGES FROM THE EAR OR NOSE.—Some cases of persistent nasal discharge were treated; some by the instillation of 20 per cent argyrol, and others by removal of adenoids.

A number of children who had suffered from otitis media were seen, when it was thought necessary, at the school ear clinic, after discharge from hospital, thus ensuring continuity of treatment, and it is hoped to do this on a more ambitious scale as time goes on.

(4) TO GIVE TREATMENT FOR ANY CONCURRENT DISEASE OF THE EAR, NOSE OR THROAT.—Under this head a number of cases of tonsillitis, cervical adenitis, and a transient frontal sinusitis were seen and treated. A number of cases with pyrexia, the source of which was in doubt, were referred for examination by the Medical Superintendent, and where ear infection was present and the case was suitable, paracentesis under local anaesthesia was performed. The frequency of the ward visits rendered this possible in quite a number of cases.

Several cases of middle ear trouble among the hospital staff were seen, and when necessary were treated.

Two patients with tuberculosis, who had suppurative otitis media, also received treatment.

JULY 10TH—DECEMBER 31ST, 1928.

Total number of	examinations made		284
„ „ „	tonsil and adenoid operations*		32
„ „ „	mastoid operations (Schwartze type)		5
„ „ „	cases of suppurative otitis media	...	46
„ „ „	cases of non-suppurative otitis media		6

Cases of suppurative otitis media due to	scarlet fever	.	36
„ „ „ „	diphtheria	...	9
„ „ „ „	erysipelas	...	1
„ non-suppurative	„ „	scarlet fever	. 5
„ „ „ „	diphtheria	...	1

Number of cases leaving hospital with aural discharge. 0

* In none of the throat operations were the adenoids alone removed, the writer believing that lack of attention to the tonsils accounts for poor results and for recurrences of aural discharge in cases left with infection in the throat.

Appended are the usual Statistical Tables.

TABULATION OF CASES WHICH HAVE BEEN CLASSIFIED
AS "OTHER DISEASES."

Adenitis	1	Nephritis	1
Broncho-Pneumonia.....	4	Otitis Media	1
Bronchitis	11	Peridental abscess	2
Carbuncle face	3	Peri-tonsillar abscess	2
Cerebral hæmorrhage	1	Pneumonia.....	2
Cerebro-spinal Fever	3	Pneumococcal Meningitis ..	1
Colitis	1	Retro-pharyngeal abscess ..	1
Coryza	1	Rheumatism	2
Chicken-pox.....	1	Rubella.....	13
Cellulitis thigh	1	Salpingitis (chronic).....	1
Dermatitis	3	Septicæmia (staphylococcal)	1
Eczema.....	2	Septic throat.....	2
Encephalitis Lethargica	2	Serous Meningitis	1
Enema rash	1	Tonsillitis	110
Erythema.....	23	T.B. Adenitis	1
Gastritis	1	T.B. Meningitis	4
Inflammation face	1	Ulcerative Endocarditis	1
Influenza	5	Valvular Disease of Heart..	1
Inflammation Nasal Sinus .	1	Whooping Cough	7
Laryngismus Stridulus	2	Whooping Cough and	
Lobar Pneumonia	1	Broncho-Pneumonia.....	1
Lymphangitis	1		—
Meningitis	1		238
Nil (Babies with mothers) .	12		—

TABLE I.

STATEMENT OF THE NUMBER OF PATIENTS UNDER TREATMENT IN
LADYWELL SANATORIUM IN 1928.

	Males.		Females.		Totals
	Under 5 years	Over 5 years	Under 5 years	Over 5 years	
I.—PATIENTS REMAINING IN HOSPITAL ON DECEMBER 31st, 1927, AFFECTED WITH—					
Scarlet Fever.....	8	28	10	48	94
Mixed Infection	3	..	..	3	6
Measles	3	..	1	..	4
Enteric Fever	..	1	..	2	3
Diphtheria	15	32	5	35	87
Erysipelas	..	2	..	3	5
Puerperal Fever	..	..	..	2	2
Tuberculosis (Advanced)	..	31	..	18	49
Other Diseases	4	2	4	5	15
Total	33	96	20	116	265
II.—ADMITTED DURING THE YEAR ENDED DECEMBER 31st, 1928, AFFECTED WITH—					
Scarlet Fever.....	90	294	93	417	894
Mixed Infection	9	11	13	14	47
Measles	7	2	7	3	19
Enteric Fever	..	7	..	7	14
Diphtheria	53	111	52	151	367
Erysipelas.....	4	23	1	38	66
Puerperal Fever	..	..	..	28	28
Tuberculosis (Advanced)	..	188	..	134	322
Other Diseases	41	66	27	104	238
Total	204	702	193	896	1995
Total under treatment, 1928	237	798	213	1012	2260
III.—OF THE ABOVE THERE WERE DISCHARGED, RECOVERED FROM—					
Scarlet Fever.....	85	288	86	422	881
Mixed Infection	8	8	11	14	41
Measles	10	2	6	3	21
Enteric Fever	..	5	..	8	13
Diphtheria	59	129	48	168	404
Erysipelas.....	4	22	1	37	64
Puerperal Fever	..	..	..	22	22
Tuberculosis (Advanced)	..	127	..	105	232
Other Diseases	34	60	23	100	217
Total	200	641	175	879	1895

TABLE I—Continued.

STATEMENT OF NUMBER OF PATIENTS—Continued.

	Males.		Females.		Totals
	Under 5 years	Over 5 years	Under 5 years	Over 5 years	
IV.—DIED FROM—					
Scarlet Fever.....	1	1	..	..	2
Mixed Infection	..	1	1	..	2
Measles	..	..	2	..	2
Enteric Fever	..	3	..	1	4
Diphtheria	3	1	4	2	10
Erysipelas	..	..	..	1	1
Puerperal Fever	..	..	..	4	4
Tuberculosis (Advanced)	..	62	..	28	90
Other Diseases	6	6	4	6	22
Total	10	74	11	42	137
V.—REMAINING IN HOSPITAL ON DECEMBER 31st, 1928, AFFECTED WITH—					
Scarlet Fever.....	12	33	17	43	105
Mixed Infection	4	2	1	3	10
Measles	..	..	..	..	..
Enteric Fever	..	..	..	..	..
Diphtheria	6	13	5	16	40
Erysipelas	..	3	..	3	6
Puerperal Fever	..	..	..	4	4
Tuberculosis (Advanced)	..	30	..	19	49
Other Diseases	5	2	4	3	14
Total	27	83	27	91	228
Total under treatment, 1928.....	237	798	213	1012	2260

TABLE II.

MONTHLY STATEMENT OF PATIENTS FOR THE YEAR ENDED DECEMBER 31ST, 1928; TOGETHER WITH A COMPARISON WITH THE YEAR 1927, AND WITH THE MEAN OF THE FIVE (5) AND FORTY-FIVE (45) YEARS ENDED DECEMBER 31ST, 1927.

Month.	Admissions, 1928.	Admissions, 1927.	Mean of Admissions, 5 years, 1923-1927.	Mean of Admissions, 45 years, 1883-1927.	Daily Average No. of Patients in Hospital, 1925.	Daily Average No. of Patients in Hospital, 1927.	Mean of Daily Average No. of Patients in Hospital, 5 yrs., 1923-1927.	Mean of Daily Average No. of Patients in Hospital, 45 yrs., 1883-1927.
January	185	106	129.6	113.6	246.7	177.1	175.8	137.5
February	154	128	121.2	93.5	252.6	182.1	177.7	128.5
March	169	118	122.8	98.8	240.2	178.5	181.6	120.2
April	175	127	104.8	93.9	238.9	179.9	175.2	113.7
May	165	125	107.4	97.7	231.4	178.6	154.1	112.0
June	144	138	105.2	98.0	204.0	184.6	147.5	108.7
July	157	133	120.4	106.6	203.9	191.9	150.7	118.1
August	153	120	109.9	105.2	201.9	184.2	152.6	120.8
September	174	163	139.8	127.6	218.6	210.0	173.0	135.9
October	217	214	179.6	150.0	242.4	252.3	211.1	156.0
November	150	159	144.0	138.2	251.5	268.6	220.8	166.2
December	152	186	118.2	120.8	228.7	266.1	202.2	153.1
Totals	1995	1717	..	..	..	..	..	..
M'thly Av'ges.	166.2	143.0	125.2	112.0	230.4	204.5	176.8	130.9

TABLE III.

SHOWING THE NUMBER OF ADMISSIONS OF THE PRINCIPAL INFECTIOUS DISEASES FOR THE YEAR ENDED DECEMBER, 1928; ALSO A COMPARISON WITH THE YEAR 1927, AND WITH THE MEAN OF THE FIVE YEARS AND FORTY-FIVE YEARS ENDED DECEMBER 31ST, 1927.

Month.	Scarlet Fever.	Mixed Infection.	Measles.	Enteric Fever.	Typhus Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	Small-pox.	Advanced Tuberculosis.	Other Diseases.	Totals.
January	67	4	6	..	..	43	4	5	..	44	12	185
February	69	2	1	3	..	38	4	2	..	18	17	154
March	72	2	4	1	..	35	4	2	..	32	17	169
April	77	3	2	..	..	33	3	4	..	34	19	175
May	71	1	2	2	..	30	5	3	..	27	24	165
June	71	3	2	..	..	22	3	..	..	27	16	144
July	79	3	1	1	..	16	8	1	..	23	25	157
August	63	4	..	3	..	29	8	4	..	26	16	153
September ...	85	6	..	1	..	29	2	3	..	18	30	174
October	94	4	1	3	..	46	11	..	..	30	28	217
November ...	67	8	..	..	..	22	8	..	..	22	23	150
December	79	7	..	..	..	24	6	4	..	21	11	152
Totals	894	47	19	14	..	367	66	28	..	322	238	1995
Totals, 1927 ..	679	35	22	6	..	448	47	19	..	270	191	1717
Increase, 1928	215	12	..	8	..	..	19	9	..	52	47	278
Decrease, 1928	..	..	3	..	..	81	..	..	..	..	..	..
Mean of 5 years 1923-1927	679.0	..	9.0	15.6	..	332.0	43.4	16.4	..	214.2	192.4	1502.0
Mean of 45 years— 1883-1927	827.8	..	3.5	121.0	4.7	194.7	30.6	10.2	13.4	39.3	121.2	1365.3

TABLE IV.
ANNUAL STATEMENT.

Disease.	No. of Cases Remaining on Dec. 31st, 1927.	No. of Cases Treated.	No. of Cases Admitted.	No. of Cases Discharged.	No. of Deaths.	No. of Cases Remaining on Dec. 31st, 1928.
Scarlet Fever..	94	987	893	880	2	105
Measles	4	23	19	21	2	..
Enteric Fever..	3	17	14	13	4	..
Mixed	6	54	48	42	2	10
Diphtheria	87	454	367	404	10	40
Erysipelas.....	5	71	66	64	1	6
Puerperal Fever	2	30	28	22	4	4
Advanced T.B.	49	371	322	232	90	49
Other Diseases.	15	253	238	217	22	14
Total	265	*2260	†1995	1895	137	‡228
Corresponding year 1927..		1896	1717	1503	128	265
Average five years		1769.8	1581.6	1443.0	120.8	206.0

	From " Out-Districts."	From " Out-Districts."	From " Out-Districts."
1928.....	*446	†394	‡46
1927.....	323	302	52

SECTION III. (a).

Venereal Diseases Scheme

OF THE

City of Salford.

ANNUAL REPORT, 1928.

(a) SALFORD ROYAL HOSPITAL.

The arrangements for the provision of a Venereal Diseases Clinic made with the Salford Royal Hospital terminated on the 31st March, 1928.

Particulars of the Staff, times of Clinics and the facilities available for irrigation of cases of Gonorrhœa during the intervals between the Clinics during the three months from 1st January to 31st March, 1928, are as follows:—

Staff of Salford Royal Hospital (Venereal Disease Section).

Dr. R. Gibson.

Mr. J. D. Macalpine.

Clinical Assistants—

Dr. J. Ghosh.

Dr. W. Elwood.

Pathologist—

Dr. C. E. Jenkins.

The Clinics held were as follows:—

Skin Department—

Monday, 12 noon .. Men, Women and Children

Wednesday, 6 p.m. .. Women and Children.

Wednesday, 7 p.m. .. Men.

Genito-Urinary Clinic—

Tuesday, 12 noon.

Friday, 6 p.m.

The days and hours for irrigation of cases of Gonorrhœa during the intervals between the Clinics were as follows:—

Males: Monday and Tuesday, 4-30 to 6-30 p.m.;

Saturday, 10-30 a.m. to 12-30 p.m.

Females: Daily (except Sunday), 8 to 9 a.m.

The following table shows the number of cases treated, and the total attendances at the Clinic from 1st January to 31st March, 1928:—

		Soft			
	Syphilis.	Chancre.	Gonorrhœa.		
Salford Cases treated	212	..	..	..	270
Out-District Cases treated	85	..	..	..	135
Total Cases treated	297	..	..	..	405
Total Attendances	1184	..	..	..	2635

The following statement gives particulars as to the number of persons treated at the Venereal Diseases Treatment Centre at the Salford Royal Hospital from 1st January to 31st March, 1928:—

VENEREAL DISEASES—Continued.

	Syphilis.		Soft Chancre.		Gonorrhoea.		Conditions other than Venereal.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
4. Number of cases transferred* to other Treatment Centres after treatment for	181	103	..	..	377	26	..	..	558	129
5. Number of cases discharged after completion of treatment and observation for	7	2	..	..	..	..	39	15	46	17
6. Number of cases which, at the end of the period under report were under treatment or observation for	..	..	..	..	..	..	..	..	..	..
Total—Items 3, 4, 5 and 6	191	106	..	..	379	26	39	15	609	147
7. Out-patient attendances— (a) For individual attention by the Medical Officer	765	419	..	..	1334	54	53	17	2152	490
(b) For intermediate treatment, <i>e.g.</i> , irrigation, dressings, etc.	..	..	..	..	1010	237	..	..	1010	237
Total Attendances	765	419	..	..	2344	291	53	17	3162	727
8. Aggregate number of "In-patient days" of treatment given to persons who were suffering from	21	43	..	..	10	..	..	..	31	43
9. Examinations of Pathological material :—										
(a) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre....										
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory....										
Spirochetes.			For detection of			Other Organisms.		For Wassermann Reaction.		
..			Gonococci.			..		..		
744			..			..		..		
73										

(b) MUNICIPAL CLINIC.

This report deals only with the last nine months of the year, since it was not until the 1st April that the Municipal Clinic came into existence and a Venereal Diseases Medical Officer took up his official duties.

The arrangements which came into force on the 1st April were of such a character, and differed so materially from those hitherto existing, that what was created on that date was virtually a *new* scheme so far as the City of Salford is concerned. On that account, this has been thought a fitting opportunity to review the whole position—survey the past, describe the present, and look forward towards the future.

I.—THE PROBLEM.

The existence of a Venereal Diseases Scheme implies the existence of a Venereal Diseases Problem, and before the necessity for the former can be realised, its value appraised, or its shortcomings weighed—before it can be either appreciated or criticised—it is evident that the problem it set out to solve must be correctly focussed. In most endeavours, and certainly in every Public Health activity, it is expedient that the situation should be re-examined periodically. In this way alone can defects be detected, re-adjustments made, and loose parts of the machinery tightened up.

In pre-war times the question of venereal disease was something of a national *taboo*, and it was not until

1916 that the problem was first unveiled to the public gaze by a Royal Commission. The great—almost inevitable—increase in the amount of venereal disease occasioned by the Great War was driven into the public consciousness. It was realised that, covered by a carefully fostered conspiracy of silence, the ulcer of venereal disease was gnawing at the very vitals of the national health. It was foreseen that unless something drastic was done, unless thorough sanitary measures were adopted, there would be a very bitter harvest to reap among the civil population when peace again came.

The War was a very potent factor in causing the recommendations of the Royal Commission to be adopted almost *en bloc*, and to be enforced by immediate legislative action. During the twelve years that have elapsed since the Commissioners' Report was issued many changes have taken place. While much has undoubtedly been done, at the same time sight has also been lost of much. A new generation has sprung up, and the memories of the older generation are short. There has been a tendency to rest upon the oars; and the ancient *taboo*—the pernicious policy of "hush-hush"—has been gradually reasserting its anæsthetic effect. The real extent of the sanitary menace from syphilis and gonorrhœa has begun to fade into the background, and even the Venereal Diseases Scheme itself has been used to screen the danger. Campaigns against cancer and consumption are very necessary. They are popular; they are respectable; and they have a wide appeal both among the medical profession and the laity. An anti-venereal campaign starts with the dice heavily

loaded against it. The thought that the venereal problem is but one of a very minor importance is fathered by the wish that it might be so. The ostrich burying his head in the sand to hide from his pursuers has an extremely rude awakening to reality when he finds himself a captive.

We are now in a position in 1928 to obtain a much clearer view of the venereal problem than was possible to the Royal Commission in 1916. One of the things which has brought this about is the experience gained as the result of the working of the Venereal Diseases Scheme. During the last twelve years many new and valuable discoveries have been made, the effect of which has been to render the diagnosis of these diseases more accurate and their treatment more efficient. Many new facts have come to light, and much more trustworthy data is now available as to the prevalence of venereal disease in, and its deleterious effect upon, the community. It follows then, that public attention should be directed afresh to the problem.

The economic havoc wrought by syphilis and gonorrhœa is tremendous. The Venereal Diseases Scheme for England and Wales cost, for the financial year ended 31st March, 1928, £291,997 in grants from the Ministry of Health, while the expenditure incurred by Local Authorities in carrying out their approved schemes during the year ended 31st March, 1927 (including the grant from the Ministry of Health), was £367,335. It is, therefore, but right that they who have to foot the annual bill of costs—the taxpayers—should not only realise that such a scheme is necessary, but also assure themselves that the money expended upon it is being used to the best advantage.

The Royal Commission on Venereal Diseases issued its final Report in February, 1916, and clearly indicated the danger from syphilis and gonorrhœa. After an examination of all the then available material the Commissioners reported:—

“The evidence we have received leads us to the
“conclusion that the number of persons who
“have been infected with syphilis, acquired or
“congenital, cannot fall below 10 per cent of the
“whole population in large cities, and the percentage
“infected with gonorrhœa must greatly exceed
“this proportion.”

This view—which was accepted by all who had studied the matter as certainly not erring upon the side of exaggeration—was based upon certain syphilis surveys which had been made, and upon the evidence of certain widely experienced clinicians, such as the late Sir William Osler, whose opinion the Commissioners quoted that “of the killing diseases, syphilis comes third or fourth.” It was upon this estimate of the Royal Commission that the Venereal Diseases Scheme was brought into existence.

Since syphilis is not a notifiable disease, accurate figures as to its prevalence are not available. It must be *estimated*; and the only basis upon which that can be done is by syphilis surveys of the living, pathological investigations on the dead, and by considering the mortality it causes.

Syphilis surveys done since the date of the Royal Commission, carried out with fuller knowledge and more

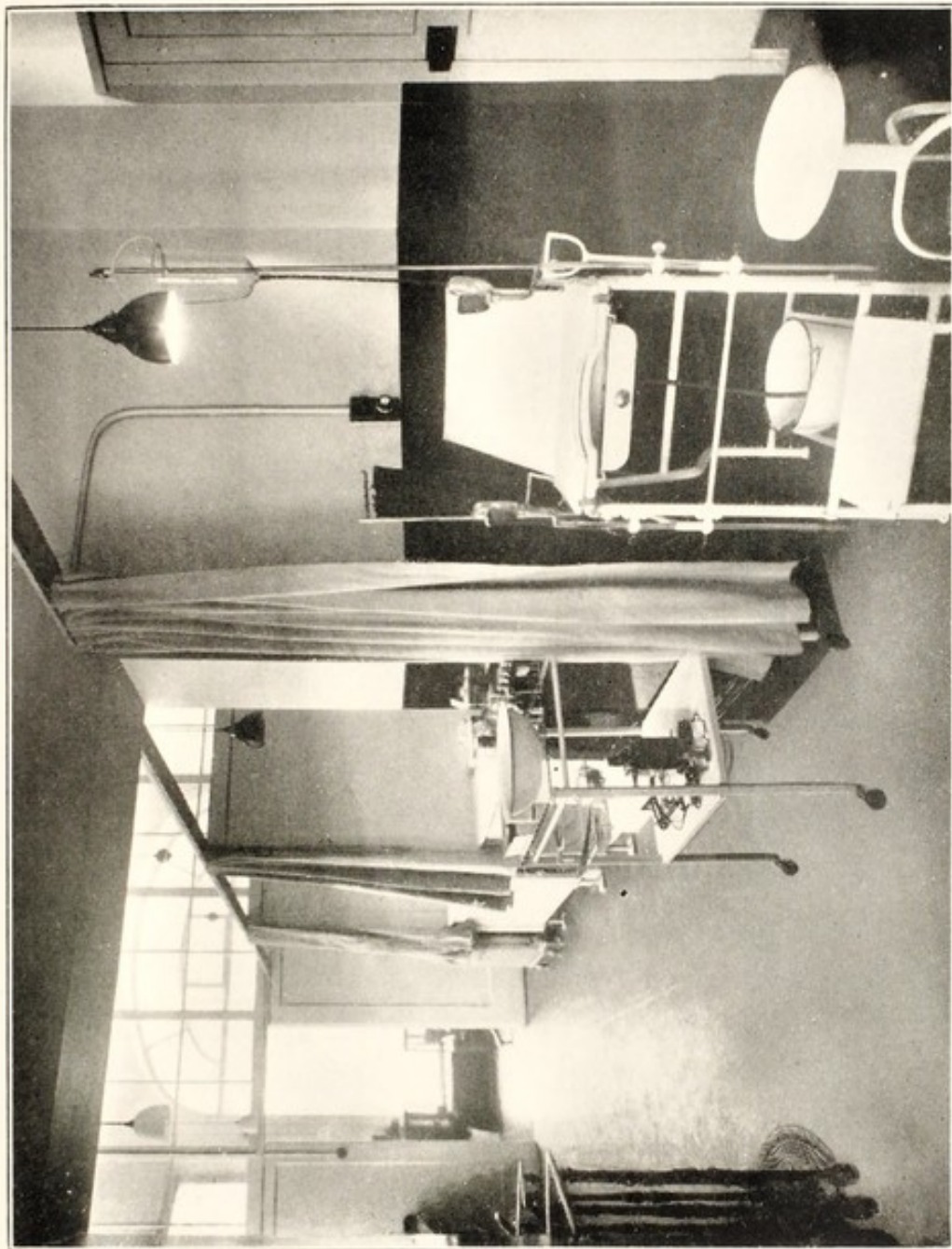
delicate technique, show that this disease is more common than was then realised. This is borne out by experience gained in Treatment Centre work. Dr. Assinder performed a blood-test upon patients admitted to the Dudley Road Infirmary in Birmingham, and it was found that 24 per cent were syphilitic. Professor Carl Browning examined over 3,000 persons from different groups in the community, and syphilis was found to be present in 14 per cent. Of people suffering from heart disease, 64 per cent were syphilitic; and of cases of nervous diseases from a General Hospital, syphilis was present in 41 per cent. Doctors McIlroy and Watson undertook a syphilis survey of women of the working class attending a gynaecological clinic and they discovered that 43 per cent were positive. Investigating the prevalence of syphilis among patients suffering from diseases of the eye, Doctors Manson and Smith found that when conditions such as injuries, conjunctivitis, and errors of refraction were excluded, over 50 per cent had syphilis. Mr. Bishop Harman—who gave evidence before the Royal Commission—found that among the blind school population 24·35 per cent were blind on account of gonorrhœa, and 34 per cent on account of syphilis—a total of 58·35 per cent.

Pathological examination of the dead shows a similar state of affairs. Professor Warthin's experience, dealing with a population more rural than urban, was that of all bodies coming under post-mortem examination—dying from causes other than syphilis and in whom syphilis was unsuspected—over 30 per cent showed that disease to be present.

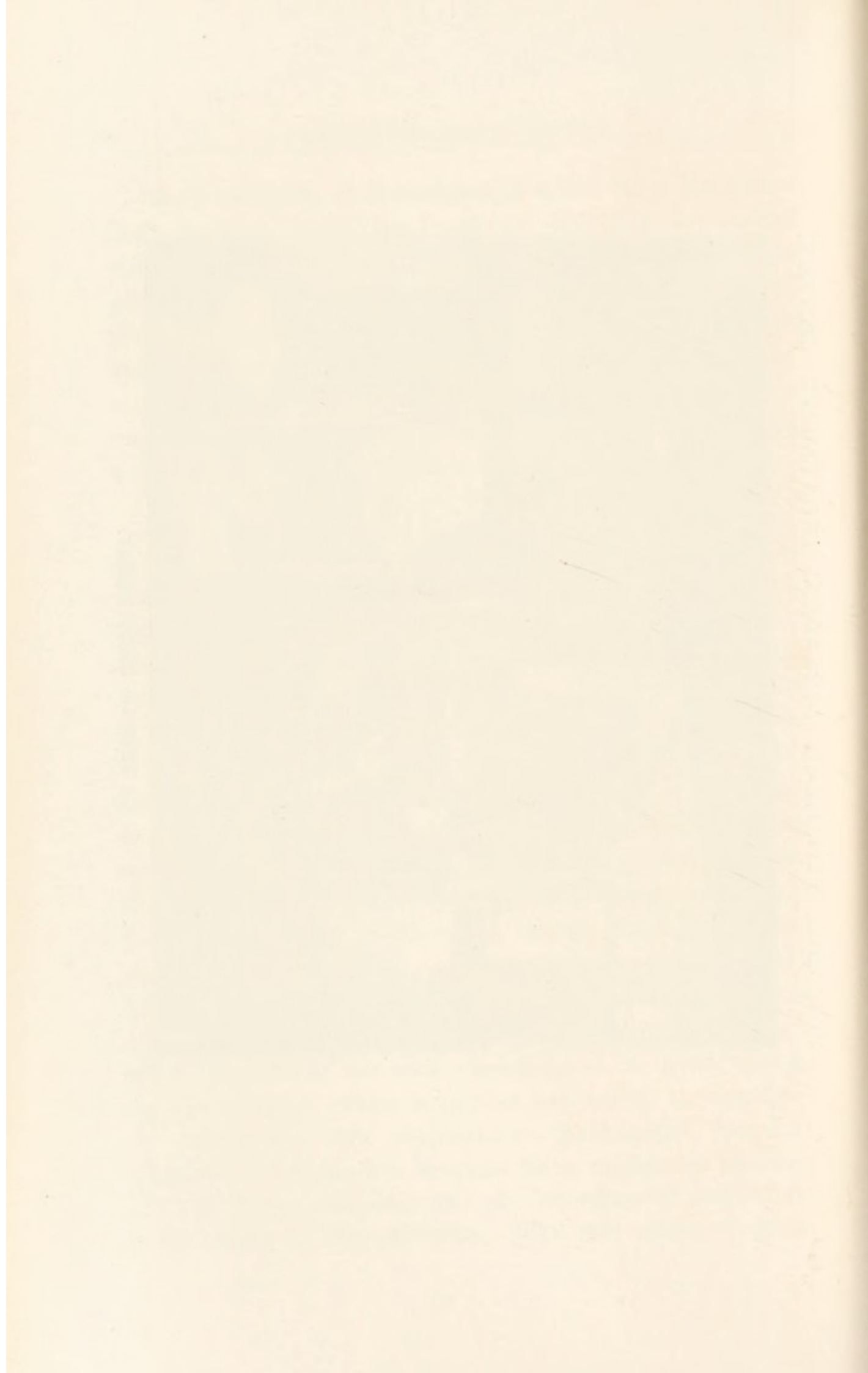
Both methods of investigation suffer from the same fault, namely, that they err on the side of understatement. A person suffering from syphilis in the early period—and also in the later stages when the disease may be located in the central nervous system—may show no evidence of it in the blood. To examine microscopically the whole of the dead human body is impracticable. Thus, both in the living and in the dead a certain proportion of positive cases must be missed.

The evidence from the published Mortality Tables in the Annual Reports of the Registrar-General is vitiated by the fact that these Tables, as they stand, are utterly inaccurate so far as syphilis is concerned. This was pointed out by the Royal Commission and was emphasised by Dr. Stevenson, the Superintendent of Statistics to the Registrar-General, in his evidence. When a person dies from a condition caused by syphilis, the medical attendant who certifies death is reluctant to insert syphilis as the cause, for fear of wounding the susceptibilities of the relatives. Thus, if a man, aged 30, dies from a ruptured aortic aneurism, the word "Aneurism" only is inscribed on the death certificate as the cause of death. The truth, however, is that syphilis is the cause of the aneurism. The aneurism is merely what might be termed the "instrument" through which syphilis in this case administered its death thrust. In like manner, when a person has taken an overdose of strychnine his respiratory mechanism becomes paralysed, and he dies because he is unable to breathe. He dies from asphyxia, but the overdose of strychnine is the cause of the asphyxia. The real cause of death

SALFORD VENEREAL DISEASES TREATMENT CENTRE.



FEMALE DEPARTMENT.



is strychnine poisoning. The vast proportion of deaths from syphilis are hidden under various other labels in the mortality lists of the Registrar-General—which lists are compiled from death certificates. Confidential death certification will go a long way towards turning an annual mass of figures, which is in many respects both useless and misleading, into something of practical value.

In most cases the proximate causes—"instruments"—of death, as used by the Registrar-General, have no specific pathological meaning. In 1927 there died from cerebral hæmorrhage 25,238 persons. But cerebral hæmorrhage may be caused by many things, one of which is syphilis. It is common pathological knowledge that when cerebral hæmorrhage occurs between the ages of 25 and 50, it is due in at least 80 per cent of cases to syphilis. Since in 1927 there were 1,310 deaths between these ages from cerebral hæmorrhage, at least 1,048 were syphilitic. Syphilis attacks every organ and tissue of the human body, and its deadly work is to be found concealed beneath perhaps the greater part of the 205 causes of death as listed by the Registrar General. It is only when mortality tables are scrutinised in the light of the most modern pathological knowledge and clinical experience that the real position unfolds itself. The truth as to the killing power of syphilis lies at the bottom of the Registrar-General's statistical well.

It was first dragged to the surface by Sir William Osler in 1917. So conscious was he of the murderous rôle played by this disease that, after the Royal

Commission had issued its Report, he re-investigated the question thoroughly, the result being that he was compelled to revise his former opinion that syphilis came third or fourth among the killing diseases. He analysed the returns of the Registrar-General for 1915, and his carefully considered conclusion—and it is unchallengeable—was that syphilis kills more than 60,000 people annually in England and Wales. He says:—

“ We have enough evidence to move syphilis
“ from the tenth place in the Registrar-General’s
“ Report to where it belongs—*at the top, an easy*
“ *first among the infections.* Many years ago . . .
“ I came across Bunyan’s phrase, ‘ The Captain of
“ the Men of Death ’ . . . In his day it may have
“ been true of consumption ; it is so no longer ;
“ the headship in temperate climates belongs
“ undoubtedly to syphilis.”

This thoroughly worked out conclusion completely replaces his original surmise which was quoted by the Royal Commission. If the annual mortality figures are analysed upon the scientific lines laid down by Osler, it will be found that for every year since 1915 the yearly death figure from syphilis remains approximately in the region of 60,000.

Now, the total number of deaths occurring annually in England and Wales is roughly 400,000, and if we exclude from the syphilitic total the 20,000 still-births and miscarriages, we find that about 10 per cent of the total deaths are due to syphilis. In other words, one-tenth of the population, or approximately four million people

now living, are doomed to die of syphilis, provided that the mortality from the disease remains the same. Making all due allowances for factors such as average age of infection, expectation of life thereafter, cures, syphilitics dying from other causes, etc., the number of people at present actually infected cannot be less than two millions.

Gonorrhœa is about twice as common as syphilis, so that at a very conservative estimate the number of people in England and Wales suffering from that disease is three millions. This brings the grand total of venereally infected persons to 5,800,000, or 14 per cent of the population of the whole country. The annual number of fresh infections would thus appear to be in the region of 200,000.

In the City of Salford then, with a population of 250,000, if we assume that the community is infected at a rate no higher than that of the country generally, *i.e.*, 14 per cent, there must be at least some 30,000 persons suffering from syphilis and gonorrhœa within our gates. This means that there are about 1,000 annual fresh infections, and that syphilis kills at least 200 of the local community every twelve months. If the position were only half as bad as the above estimate it would be sufficiently serious to constitute a Public Health problem of the greatest gravity and urgency.

The overwhelming majority of the cases are undiagnosed and untreated. When diagnosed early and treated efficiently, syphilis is certainly curable, and

neither kills nor disables. There is no need whatever for syphilis to take toll of a single human life. The only factors which make it the "Captain of the Men of Death" are ignorance and inertia. To secure early diagnosis and efficient treatment and all the benefits that follow in their train are the objects for which the Municipal Clinic was established.

During the first year of its working, the estimated gross cost of the Clinic is £5,600, and it is necessary to consider whether or not such an expenditure is justifiable. The devastating economic effect of venereal disease can be gauged by examining the results of an investigation undertaken by Approved Societies with a membership of over 3,000,000. The average duration of disablement per member per year was found to be :

	Men.	Women.	Average.
All diseases	6.3 weeks.	8.1 weeks	7.2 weeks.
Venereal disease	15.8 ,,	24.1 ,,	19.9 ,,

The effect of this in causing a decrease in industrial production and an increase in the cost of living must be self-evident. Too few industrial concerns have realised the grave economic loss entailed by the prevalence of venereal disease, and have adopted a definite scientific policy with respect to it. The wide Public Health vision in industry is much more frequently found on the other side of the Atlantic than upon this. Two very instructive examples are cited by Dr. Brunet, of the American Social Hygiene Association.

A large manufacturing firm in Western Virginia woke up to the prevalence of venereal disease among

its employees, and decided to instal a Clinic. The cost was just over £1,000 for the first year. The wages bill for the firm during this period amounted to £25,000. The President of the firm reports that as a result of the Clinic's work, labour efficiency and production has increased $33\frac{1}{3}$ per cent, which gave the firm a return of £8,000 from the investment.

Another concern built a town in an isolated area for the housing of thousands of its male and female employees. When a serious drop in efficiency was noted, the firm was wise enough to call in the services, not of statisticians and accountants, but of *health experts*, to make an inquiry into the cause. The investigation showed: (1) That one employee in every ten had venereal disease; (2) that of the non-effectives 68 per cent were so on account of venereal disease; and (3) that every person who had venereal disease lost three times as many hours from work as did others. Clinics were promptly established, with the inevitable result that the problem was completely solved.

The attitude of the British employer with regard to venereal disease has been either to ignore or to penalise it. Both are suicidal policies, from the employer's, the employee's, and the public's point of view. There is much food for thought in knowing that at a conference of American Railway Surgeons it was shown that four train wrecks involving a heavy loss of life were directly due to railway employees suffering from syphilis of the brain—early general paralysis of the insane. The plain fact is that the establishment of efficient Venereal Diseases Clinics is a paying proposition.

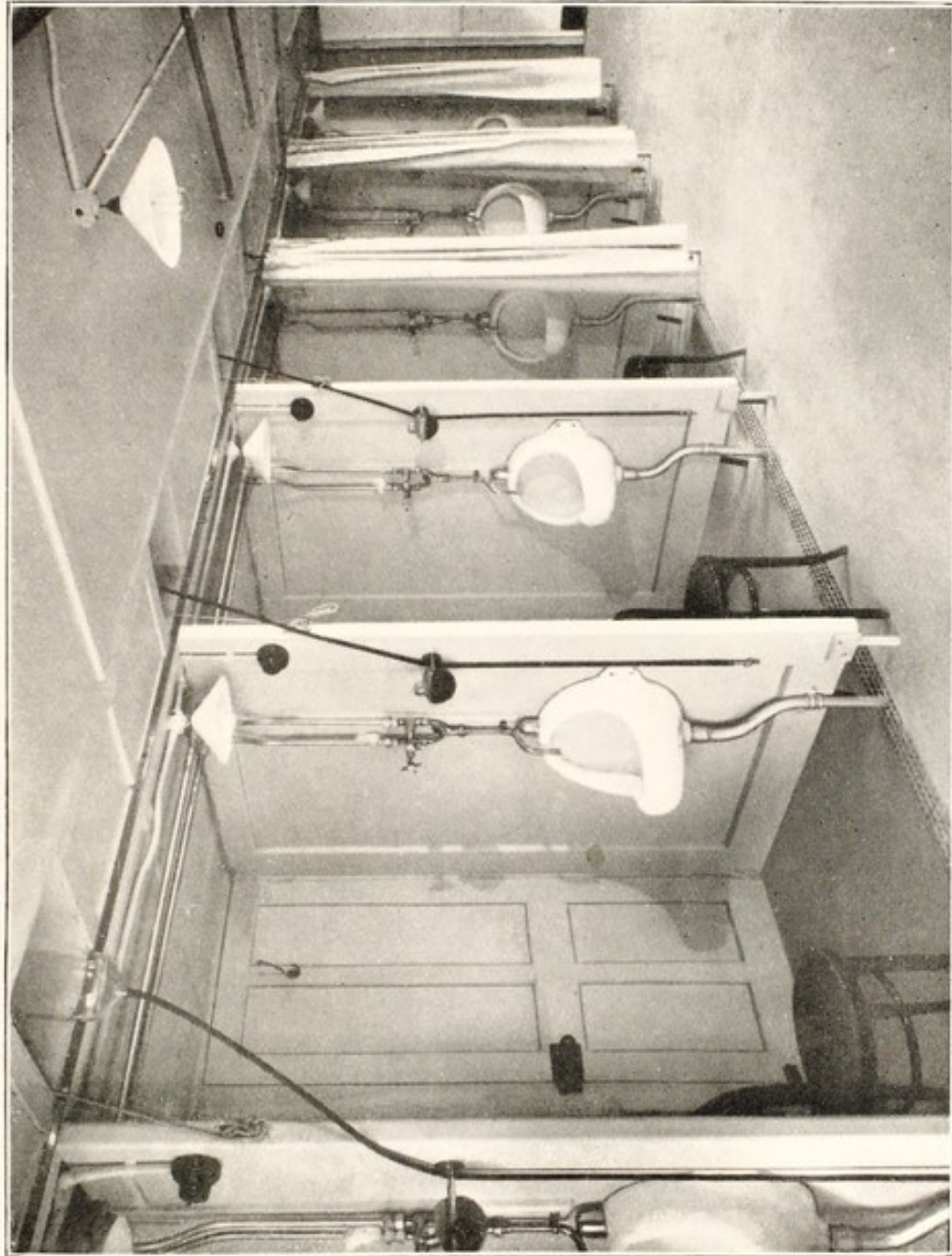
It has been deemed advisable in this first Annual Report to make these references to the present-day prevalence of venereal disease and some of its effects, in order to awaken the public to the most urgent problem confronting the community, and so emphasise the vital necessity for employing proved and tempered weapons in attacking it. The money spent is wisely invested.

II.—THE SCHEME.

GENERAL.—To deal with the problem, there was inaugurated in 1916 the Venereal Diseases Scheme. Certain Public Health Regulations were issued by what was then the Local Government Board—now the Ministry of Health—requiring County and County Borough Councils to formulate schemes for the treatment of persons suffering from these maladies. A memorandum of suggestions was circulated for the guidance of such bodies, and the main objects aimed at were :

- (1) The establishment of Treatment Centres at which any person might obtain treatment free of cost under conditions of secrecy, and where expert examination of suspected cases should be available under similar conditions.
- (2) Facilities for the diagnosis of venereal diseases by laboratory methods, available free of cost not only for the medical officers of Treatment

SALFORD VENEREAL DISEASES TREATMENT CENTRE.



MALE IRRIGATION DEPARTMENT.



Centres but also for medical practitioners in general.

- (3) A free supply of arsenobenzol compounds to medical practitioners who possess the necessary qualifications to administer them.
- (4) Education and propaganda as to the dangers of venereal diseases and the necessity for treatment.
- (5) The suppression of treatment by quacks. This was secured by the Venereal Diseases Act, 1917, which prohibited treatment of venereal diseases by persons other than duly qualified medical practitioners.

In accordance with these principles, the Corporation of the then County Borough—now the City—of Salford established in 1917 a Venereal Diseases Treatment Centre in the Out-Patient Department of Salford Royal Hospital. This arrangement continued till 31st March, 1928. On 1st April, 1928, a new Centre, under the designation of *The Municipal Clinic*, was established at 155, Regent Road. The essential differences between the two Centres are :

SALFORD ROYAL.

- (1) Held in premises not specially built or equipped for V.D. work.

MUNICIPAL CLINIC.

- (1) Held in premises specially arranged and equipped for V.D. work alone, *i.e.*, *ad hoc* premises.

SALFORD ROYAL.

- (2) Open only on—
Monday, 12 noon.
Tuesday, 12 noon.
Wednesday, 6 p.m.
Friday, 6 p.m.
- (3) Intermediate treatment—
Men : Monday and Tuesday,
4-30 to 6-30 p.m. Saturday,
10-30 a.m. to 12-30 p.m.
Women : Daily (except Sunday)
8 to 9 a.m., (*i.e.*, for six hours
weekly) for each sex.
- (4) Medical Officers, four in
number, attended for 12
hours weekly.
- (5) Part-time staff.
- (6) No Clinic Director.

MUNICIPAL CLINIC.

- (2) Open on—
Monday to Friday, 8-30 a.m.
till 8-30 p.m.
Saturday, 8-30 a.m. to 12-30
p.m., and 7 p.m. to 8-30
p.m.
Sunday, 9-30 a.m. to 12-30
p.m. and 3-30 to 6-30 p.m.
- (3) Intermediate treatment for
both sexes available as
above, *i.e.*, for 71½ hours
weekly for each sex.
- (4) Medical Officers, two in
number, attend for at least
60 hours weekly.
- (5) Whole-time staff.
- (6) A Venereal Diseases Medical
Officer to direct, supervise,
and co-ordinate the work
and policy of the Department,
and directly responsible to the
Medical Officer of Health.

While the appointment of Venereal Diseases Medical Officer did not officially take place till 1st April, in reality the duties began on the 10th February. On that date inspection showed that the structural alterations at

155, Regent Road had scarcely begun, and that those required were of a very extensive character. The ordering of furnishings, surgical instruments, drugs, equipment, had been deferred till the appointment was made. It was clear that the Clinic could only be got ready by the 1st April by immediate and constant personal supervision until that date. In spite of overtime being worked—which raised the cost of the conversion of the building—it became evident that it would be impossible to have the whole establishment completed by 1st April. It was therefore decided to concentrate upon the basement and ground floor, with the result that on the date referred to, these floors were ready—men and women patients being dealt with at separate hours. At that time the Staff consisted of :

Medical Officer	1
Clerk-Dispenser	1
Orderlies	2
Sister	1
	—
Total.....	5
	—

During April the attendances were :

Total patients.....	144
(120 men and 24 women).	
Intermediate attendances	985
Individual attention by M.O.	363
Total attendances	1,348

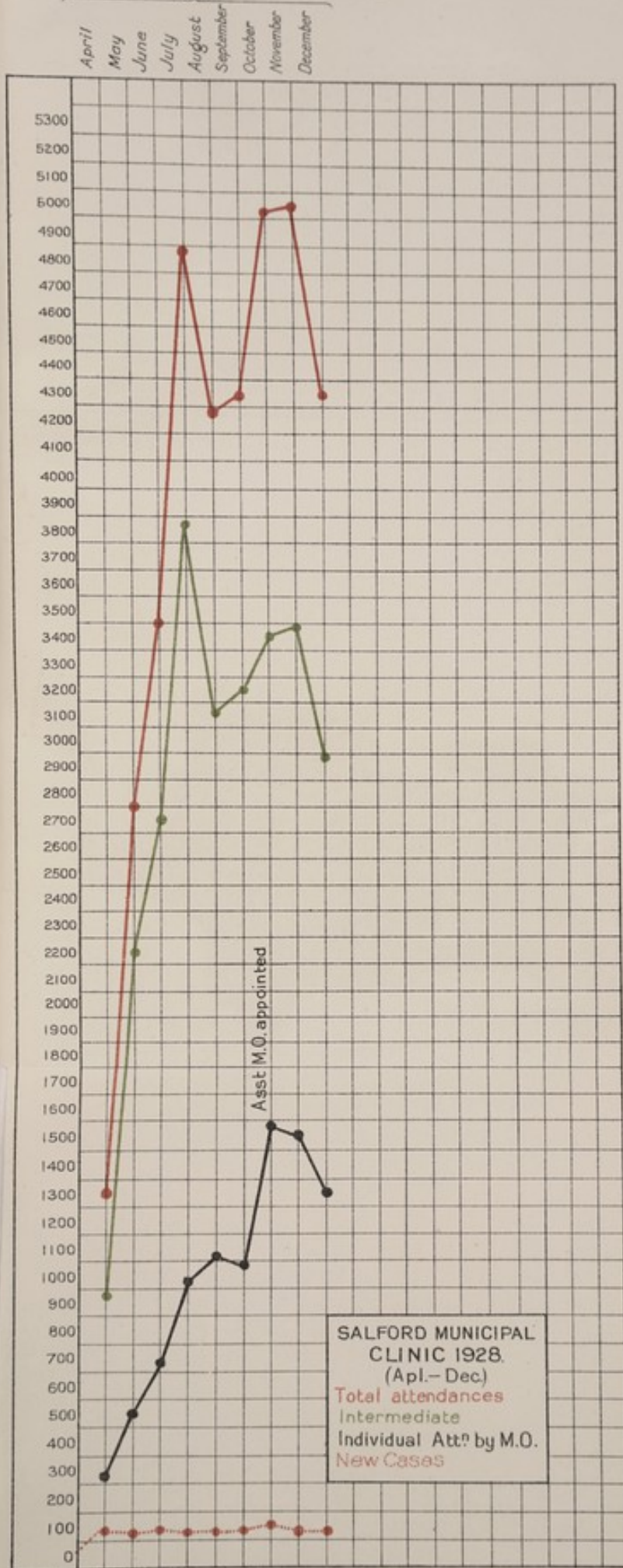
On 28th April the Female Department on the first floor was completed and an additional Nurse appointed. During May the attendances were :

Total patients.....	249
(209 men and 40 women).	
Intermediate attendances	2,250
Individual attention by M.O.	578
Total attendances	2,808

Chart No. 1 shows graphically the attendances under various heads from the opening of the Clinic to the end of the year.

IN-PATIENTS.—The original intention was to house In-Patients in some other institution, such as a Hospital belonging to the Guardians. It was pointed out how very unsatisfactory this would be, and it was recommended that accommodation be provided for bed-cases on the second and third floors. This was approved, and on 26th June, 1928, the Hospital was opened. This consists of a Male and a Female Ward—each of 3 beds—an Operating Theatre, and a Staffroom-Kitchen, all on the second floor. There are four rooms on the third floor which are—or will be—used as Store Rooms and an Orderlies' Room. The placing of In-Patients on the third floor has been tried and has been found quite unworkable. There are no sanitary arrangements on that floor, and patients so situated are too far removed from the Nursing Staff for the latter to exercise the necessary control.

1928. CHART N^o I.



PATIENTS ADMITTED TO HOSPITAL, 1928.

Men.				Women.			
Syph.	Gon.	Chan.	Not V.D.	Syph.	Gon.	Chan.	Not V.D.
10	16	2	6	2	4	—	1
34				7			
41							

IN-PATIENT DAYS.

Men.				Women.			
Syph.	Gon.	Chan.	Not V.D.	Syph.	Gon.	Chan.	Not V.D.
111	262	38	40	16	61	—	—
451				77			
528							

IN-PATIENT DAYS ACCORDING TO RESIDENTIAL AREA.

Area.	Days in Hospital.
Salford	269
Manchester	72
Lancashire	119
Cheshire	19
Stockport	9
British Seamen	40
Total	528

OPERATIONS PERFORMED :—

Male, 12. Female, 2.

The whole of the present accommodation—6 beds—is really required for male patients. There are frequently from four to six patients on the waiting list who urgently need operative treatment. The average stay of a patient in Hospital is 12·88 days.

Although the female beds have never been fully occupied, nevertheless the accommodation for women is inadequate. It requires to be of a different character from that which is at present available.

A considerable proportion of female patients—60 per cent—are married, and on account of their domestic duties they are reluctant to come into Hospital until they become so ill that there is no alternative. The same also applies to women who are in employment and who fear—probably with much reason—that if they become Hospital patients their positions will be filled by others. With respect to the former it is difficult to see any solution. As for the latter, the difficulty could be solved by the provision of a Hostel to which these patients could be admitted *before* bed treatment became necessary. Early admission and thorough treatment, such as can never be given in the hurry of the Out-Patient Department, would prevent most, if not all, becoming bed cases. These women could reside in the Hostel, paying a small sum weekly for maintenance, and during their residence they could continue at their employment. With all that can be done by means of the present accommodation,

staff, and machinery, it is idle to pretend that the women are being thoroughly treated. Much better arrangements must be made for pregnant women suffering from venereal disease. They should receive residential treatment two weeks before, and for at least three weeks after, their confinement. This would mean the provision of a special maternity ward at the Hostel.

Many women suffering from venereal disease are compelled by economic necessity to discontinue treatment while still in an infectious state. Experience shows that a certain proportion of these have recourse to prostitution in order to maintain themselves, and often a child as well. The influence of this in spreading the disease is manifest. The present measures should be linked up with some organisation to secure employment for women patients and so prevent them taking "to the streets." Any such scheme should be under the control of the Medical Officer of Health and should be worked through the Venereal Diseases Medical Officer and a Lady Almoner, and it should also receive the active support of the various social and religious organisations.

MALE ATTENDANCES.—After six months' working, it became evident that the accommodation for the intermediate treatment of men suffering from gonorrhœa was insufficient. Patients had to wait, often for more than an hour, before their treatment could be carried out. The result was severe congestion in the Department and a loss in efficiency. Various temporary expedients were resorted to, such as improvising additional irrigation cubicles, but this was found to be very inconvenient and it actually had the effect of aggravating the problem. It was therefore recommended that additional cubicles be erected in the Basement of No. 153. This suggestion

has been approved by the Ministry of Health, and the work is now in hand.

The main principle upon which the Clinic is organised is that the unit to be treated is not the individual, but the *family*. Thus, if a child is suffering from venereal disease, every effort is made to get the parents and the other members of the family to attend for examination, and, if necessary, for treatment. Similarly with a married man or woman. In the case of extra-marital infection, an endeavour is made to get the patient to persuade the party alleged to have conveyed the infection to come for examination. A fair proportion of these efforts meet with success.

COMPARISON WITH OTHER CLINICS.—In considering the work done in the period under review, it is necessary to measure it against that accomplished by other Clinics dealing with a similar size of population. The figures necessary to make the statistical comparisons which follow are in every instance taken from the Annual Reports for 1927, issued by the Medical Officers of Health concerned :

Name of Clinic.	Population.	Type of Clinic.	New Cases.	Total Attendances.	Inter-mediate Attendances.
Salford (9 months)	247,600	<i>ad hoc.</i>	1,220	35,503	26,155
(12 months.)					
Bradford	293,200	Hospital	579	25,685	?
Kingston-on-Hull	296,600	<i>ad hoc.</i>	1,751	28,558	11,110
Leicester	245,000	Hospital	937	23,086	—
Newcastle	288,500	Hospital	1,045	30,320	?
Nottingham	265,700	<i>ad hoc.</i>	1,370	53,100	17,405
Portsmouth	247,343	Hospital	656	16,215	10,242
Manchester (7 Centres).	764,420	Various	4,419	72,208	20,235
Average of six similar Clinics (exclusive of Manchester)	272,723	—	1,056	29,494	12,919

It will be seen that the Salford Municipal Clinic has dealt with more new patients and has registered more attendances than any other Treatment Centre concerned with a similar size of population.

Of the patients dealt with by the Salford Municipal Clinic 21·5 per cent are Manchester residents.

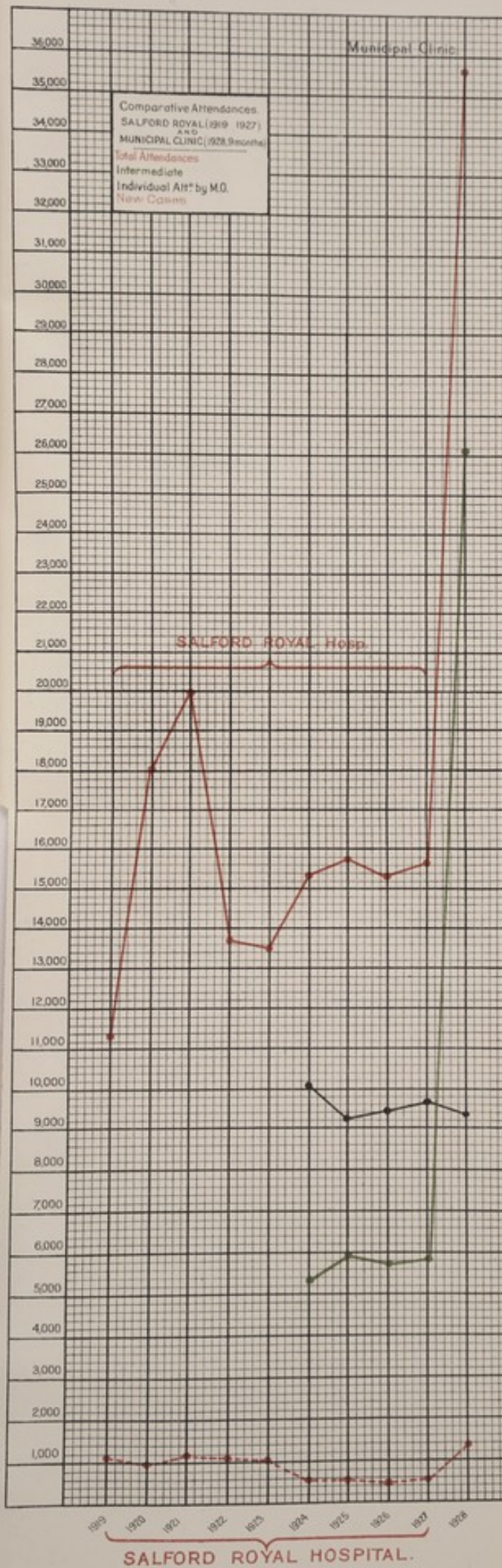
The main reasons why the Municipal Clinic has been able to attract so many patients and to handle so many attendances is undoubtedly because it is *ad hoc* instead of Hospital in character, and because its Staff—Medical and Lay—is whole-time. When it was proposed to move the Treatment Centre from the Out-Patient Department of Salford Royal Hospital—where it had been for 10 years—considerable opposition was aroused and the usual theoretical objections were brought forward. The principal argument—and it is always used when such a change is mooted—was that unless a Clinic is attached to Hospital premises, patients will refuse to come to it. It was asserted that patients attending an *ad hoc* Clinic would be stigmatised, and that there would be a grave falling off, not only in the number of patients, but also in the number of attendances. In every case where such a change has been made the objections have proved groundless. In point of fact the results have invariably been better. That the Municipal Clinic is no exception

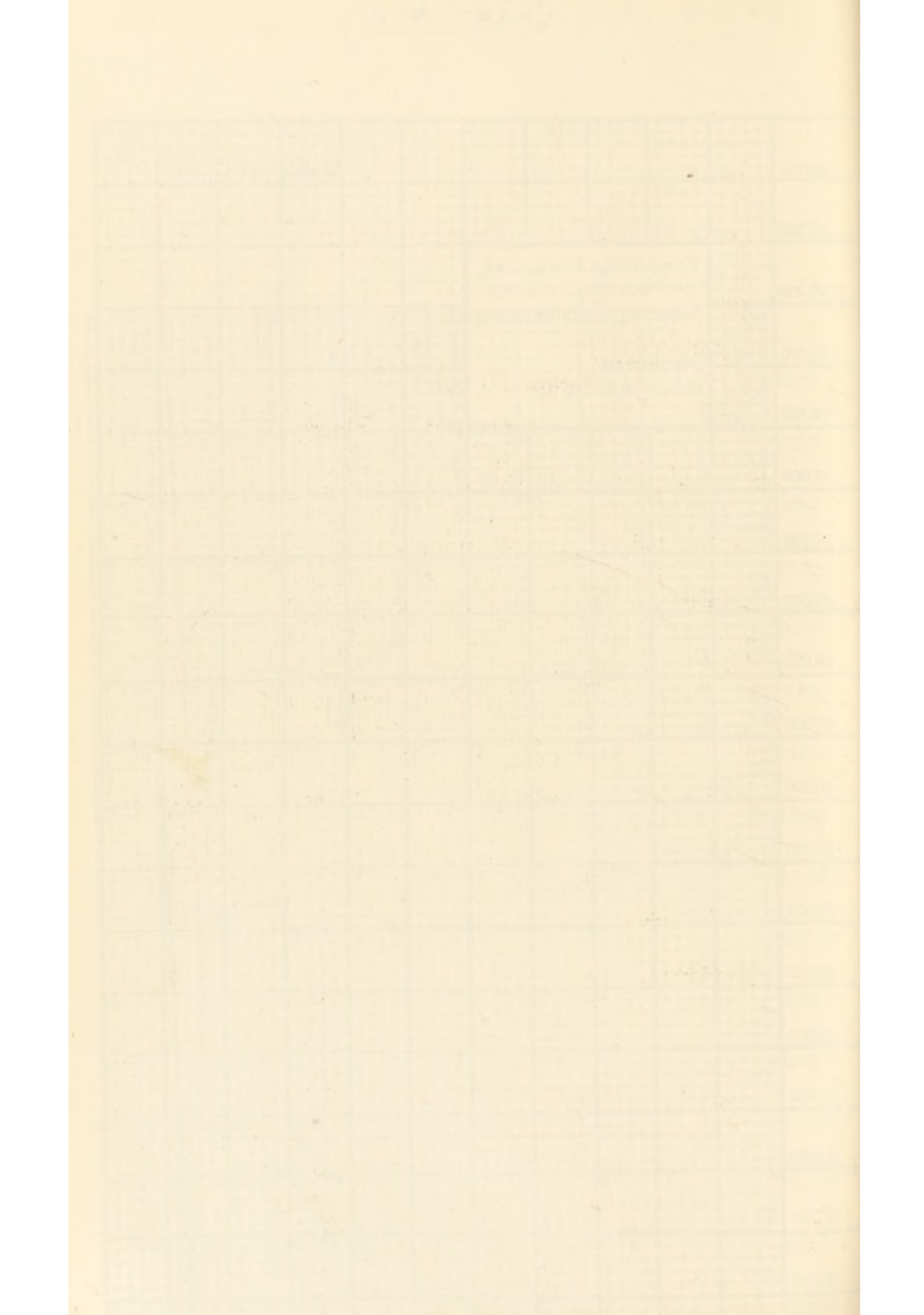
is proved by an examination of Chart No. II and the following Table :—

Year.	Site of Clinic.	New Cases.	Intermediate Attendances.	M.O.'s Attention.	Total Attendances.
1928 (9 months)	Municipal Clinic	1,220	26,155	9,348	35,503
(12 months)					
1927.....	Salford Royal	478	5,881	9,688	15,569
1926.....	Do.	469	5,769	9,406	15,157
1925.....	Do.	493	5,991	9,273	15,714
1924.....	Do.	547	5,238	10,062	15,300
1923.....	Do.	1,037	?	?	13,461
1922.....	Do.	1,053	?	?	13,644
1921.....	Do.	1,144	?	?	19,967
1920.....	Do.	932	?	?	18,089
1919.....	Do.	1,005	?	?	11,263
Average Salford Royal 1919-27 (9 years)		795	5,719	9,857	15,351

It is clear that the change which took place on 1st April, 1928, was a beneficial one. Patients obviously prefer the new arrangements and for the simple reason that by virtue of its character the *ad hoc* Clinic is the more able to render efficient service. The patient is quick to realise the fact. All the benefits of an *ad hoc* Clinic could be secured within the precincts of a General Hospital provided that the premises were specially built and equipped for V.D. work alone, and that the members of the staff were specially trained in such work and confined themselves entirely to it on a whole-time basis. So long as V.D. Clinic work is only a side-line to other professional interests, for as long will the Clinic be unable to pull its full weight. Where there is a Medical School it is essential that the Clinic should be within the teaching Hospital, but it should be a distinct department and not a mere annexe to the general Out-Patient Department. It should be linked up with the other teaching activities of the School and the Medical Officer in Charge should be

CHART - N° 2





invested with the full status of an honorary member of the staff and should be the lecturer upon the subject of venereal diseases, which is now a compulsory one in the Final Examination.

The following comparative table shows the average number of attendances per patient, calculated as total attendances divided by number of new patients :—

	V.D. Patients only.	Including Non-V.D. Cases.
MUNICIPAL CLINIC	39·3	29·1
Manchester Clinics	18·2	14·4
*Bradford	56·8	44·0
Kingston-on-Hull	20·6	11·1
Leicester	?	24·5
Newcastle	?	17·4
Nottingham	20·5	17·37
Portsmouth	17·2	14·1
Average for seven other Clinics	24·8	20·4

*It is to be noted with respect to the high figure for attendances in Bradford that since the passing in 1925 of the local powers of compulsory notification, both numbers and attendances have increased.

The following Table shows the areas in which the Patients who have attended the Clinics reside :—

Area.	Number.	Percentage.
SALFORD	604	49·5
Manchester	263	21·5
Lancashire	115	9·5
Cheshire	42	3·5
Other areas	58	4·7
Sailors { British	85	6·9
{ Foreign	53	4·4
Total	1,220	100

The following Table shows a detailed analysis of the new patients attending according to disease and sex :—

Year.	Total.	Syphilis.			Gonorrhœa.			Chancroid.			Not V.D.		
		M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1928 (9 months)	1,220	220	46	266	526	73	599	15	—	15	279	61	340
1927.....	478	87	45	132	193	20	213	—	—	—	86	47	133
1926.....	469	90	38	118	166	25	191	—	—	—	107	43	150
1925.....	493	106	35	141	203	31	234	—	—	—	78	40	118
1924.....	547	102	55	157	250	25	275	—	—	—	73	28	101
1923.....	1,037	100	39	139	266	17	283	—	—	—	325	290	615
Average 1923-7 (five years)...	604.8	97	40.8	137.4	215.6	23.6	237.2	—	—	—	133.8	89.6	223.4

DEFAULTERS.—The question of the defaulter—the patient who ceases treatment while still in an infectious state—is one of great moment: and linked up with it is the problem of getting under control the person who is suffering from a venereal disease but absolutely refuses to be treated. There are in England and Wales some 15,000 annual defaulters from Clinics. These spread infection far and wide to quite innocent members of the community. Since the opening of the Municipal Clinic there have been 433 defaulters, i.e., 30 per cent of new patients. An examination of the case cards of these patients shows that at least 71 individuals ceased attendance while still in a highly infectious state. There were 61 men and 10 women, in other words 83 per cent of the immediately dangerous defaulters are men and 17 per cent are women. Of these men 44 per cent are married, as also are 40 per cent of the women. None of these is vowed to celibacy, and upon the inevitable resumption of sexual relationships these individuals will

most certainly infect their partners and will blast the health of their future offspring. One aspect of the rôle played by the defaulter may be appreciated from the fact that over 50 per cent of the population of blind children are in that condition on account of parental venereal disease.

Every effort is made to persuade patients to remain under treatment till they are well; and indeed the majority do so. There are, however, in spite of all the means at present available, a residue who cease treatment prematurely as soon as their superficial and obvious symptoms disappear. To these "follow-up" letters are sent, and the accompanying Table shows the results obtained during 1928 :—

	Number.	Percentage.
Number of letters sent	433	100
Results :—		
1. No reply	137	36·57
2. Wrong addresses	118	31·51
3. Replied "under own doctor"	6	0·17
4. Replied "other causes for absence"...	13	0·34
5. Returned and still attending	116	30·30
6. Returned for a period only	10	0·26
7. Returned and transferred	6	0·17
8. Returned and discharged	28	0·68
Total	433	100

The defaulter may be a fool, a knave, or both. He defaults because he is foolish enough to set up his own standard of cure and because he is so unscrupulous as to have no compunction in conveying the disease to others.

A great deal of defaulting can be attributed to the failure to emphasise to the public the importance and the danger of venereal disease. It is by no means merely sufficient to provide facilities for treatment. That must be reinforced by an intensive and continuous propaganda by means of films and lectures. There is growing up in the community too easy an acceptance of the treatment facilities available. The services which the Clinics render, and their purely voluntary and completely confidential character, undoubtedly cause many people to regard syphilis and gonorrhœa in a very casual manner.

There are a large number of parents and guardians who cannot be persuaded to bring for treatment the children over whom they have been set in charge. Such children are not getting a "square deal," and in the future they will, if untreated, be a distinct burden to the community on account of blindness and ill-health. Certain powers of compulsion are available under the Children's Act, and in future it is proposed to utilise these as a means of bringing infected children under treatment.

The position has become so serious that many Local Authorities have come to realise that the treatment facilities for which they are financially responsible are being very imperfectly used by those for whom they are provided. Directors of Venereal Diseases Clinics find that, to a great degree, their time and skill are being wasted. Social workers and others whose duties bring them into contact with families have come to appreciate how much child-maiming and ill-health are due to syphilis and

gonorrhœa in the parents. It is little wonder then, that among these there is a demand, daily growing stronger, that some powers of compulsion are necessary to ensure that all persons suffering from venereal disease shall submit to treatment and shall continue with it till non-infectious. The question of compulsory *treatment*—not compulsory *notification*—is one which must soon claim the serious attention of all Local Authorities, for, at present, a great deal of the money spent is being wasted by the defaulter.

CHILDREN.—Very few children are being treated at the Clinic and this is not a satisfactory state of affairs. Most of those seen have been sent by the School Ophthalmic Officer from the Eye Clinic—cases of interstitial keratitis as a rule.

It is felt that school children suffering from general debility, backwardness, heart disease, epilepsy, etc., should be thoroughly examined for evidence of syphilis. Were this done many congenital cases would be discovered. This was pointed out in the Annual Report of the Chief Medical Officer of the Ministry of Health for 1926, as a result of the investigation carried out at the Treatment Centre at Plymouth. It is important to bear in mind that the congenital syphilitic but rarely parades the classical signs of Hutchinson's teeth, saddle-nose, and oral fissures. The unit for investigation is the *family*, and not merely the child. The negative blood-Wassermann test does not in any individual—and especially in a child—rule out the presence of syphilis. An examination of the brothers and sisters, and the history of maternal

pregnancies, does in many cases suffice for a positive diagnosis—and the results of treatment prove it.

PATHOLOGICAL EXAMINATION.—The following Table shows the pathological examinations carried out during the period under review :—

Year.	Total.	Syphilis.			Gonorrhœa.		
		Wassermann.	Treponemata.	Total.	Gonococci.	Pus Indices.	Total.
1928 (9 months)	4,507	453	30	483	1,241	2,783	4,024
1927.....	3,020	466	—	466	2,554	—	2,554
1926.....	2,698	320	—	320	2,378	—	2,378
1925.....	2,823	449	—	449	2,374	—	2,374
1924.....	2,507	397	—	397	2,110	—	2,110
1923.....	3,251	381	25	406	2,845	—	2,845
Average 1923-7 (five years)...	2859.8	400.6	5.0	407.6	2452.2	Nil.	2452.2

The Wassermann tests are carried out in the Salford Public Health Laboratory by Dr. Crawford, the City Bacteriologist. I wish to record that the Laboratory reports have always run parallel with the clinical findings and expectations, and have been of inestimable value in diagnosis and in controlling treatment.

It is the routine in the Clinic to have a Wassermann test done on every patient upon the first visit, whether he is suspected to be suffering from syphilis or not. After the treatment for syphilis is commenced, another blood-test is not carried out until the end of the Course. These Courses are regarded as minimal ones and the securing of a negative result before their termination is not regarded as being of any value as an indication for ceasing treatment. Treatment in order to obtain a

negative blood-test, and being content with that, is merely sowing the seeds of future trouble. Furthermore, if a patient knows that his blood is negative after six or eight injections, he may decide for himself that he is cured and thus become a defaulter. Within a few months such a one may again be in a highly infectious condition.

Dark-ground examination for the *treponema pallidum* is a routine in every case of genital sore. The occurrence of a solitary cervical erosion, not involving the lips of the external os, is also an indication for a dark-ground examination. Failure to carry out this latter results in many cases of female primary syphilis being missed. These microscopical examinations are carried out by the Clinic Staff, as are also those for gonococci. It is hoped, in the near future, that arrangements will be made with the Laboratory for the diagnosis of female gonorrhœa by the cultural method. This would be of great value in deciding as to cure.

Soon after the opening of the Clinic the pus-count for urines was evolved. This is a modification of the procedure described by Dr. Cuthbert Dukes in the *British Medical Journal* for March 10th, 1928. The almost universal method of deciding as to the occurrence and as to the weight of infection in the posterior urethra in a case of gonorrhœa, is to centrifuge the last portion of urine passed and to count the number of pus-cells in a microscopic field. This is a very slipshod procedure and has no claim whatever to accuracy. The number of cells depends upon the speed of the centrifuge, the

time it has been spinning, the amount of urine, and many other factors so variable as to deprive the method of any value. The procedure adopted in the Municipal Clinic is that after the anterior urethra is flushed out with the first urine—or after an anterior irrigation—the remainder of the urine is collected. A drop of this freshly-voided urine is placed on a Fuchs-Rosenthal counting-slide and the number of pus-cells per cubic millimetre is reckoned up. It has been found that the upper limit of normality is 100 cells. Anything over 100 is regarded as abnormal and as indicating involvement of the posterior urethra. This method was first brought into use so far as venereal diseases is concerned in the Municipal Clinic, and it has been found very valuable and accurate. It gives an indication of commencing posterior urethritis before the appearance of the usual clinical signs. The method is extremely useful in testing for cure.

Thanks are due to the City Bacteriologist for much valued assistance in pathological examinations which have not come strictly within the province of the Venereal Diseases Scheme. There have been several interesting and some obscure cases, such as keratoderma blenorrhagica, epithelioma, tuberculosis, etc., in which the help of the Laboratory was sought. This involved making blood-cultures, sections of tissues, and guinea-pig inoculations before a diagnosis could be made. These investigations were all most expeditiously carried out by the City Bacteriologist.

MERCANTILE MARINE.—Patients belonging to the Mercantile Marine numbered 138, or 11 per cent of the

total. This is a relatively small proportion and can represent only a fraction of the total number of venereally infected mariners who enter this Port in a year. Only the most intelligent sailors—chiefly British, American, and Scandinavian—arrive at the Clinic. The number of Lascars who have attended—and they, as a class, are very heavily infected—is infinitesimal.

What is primarily required is a Treatment Station within the Dock boundaries, for sailors only, open for one hour on three nights weekly for treatment by a Medical Officer and for one hour every night for irrigations and dressings. When a ship arrives in the Docks, a placard should be placed in the seamen's and firemen's quarters, stating where, and the hours at which, treatment is available. These would require to be printed in various languages. In the case of Lascar sailors, who are unable to read, the *Serang* should be made acquainted with the treatment facilities and be required to intimate these to the men.

GENERAL PRACTITIONERS.—When the Clinic was opened, intimation was sent to every practitioner in the City and an invitation was extended to inspect the premises. It was also pointed out that by attending at the Clinic for tutorial purposes, a practitioner could qualify for the free issue of arsenobenzol compounds with which to treat cases of syphilis. So far, only one practitioner has availed himself of the latter facilities.

The amount of valuable clinical material at the Clinic for teaching purposes is very great, and it is felt to be a pity that more advantage is not taken of it by those who are in general practice. It is only very recently that

the subject of venereal diseases has been made a compulsory one in the medical curriculum, and experience has shown that in general practice the diagnosis and treatment of syphilis and gonorrhœa is very often not quite up to modern standards. A great many patients come to the Clinic after having had some weeks of private treatment and one feels that it would be to the interest of both patient and practitioner if the latter would occasionally take a "refresher" course at the Clinic, so as to keep himself abreast of recent methods.

Certain practitioners make very full use of the facilities provided for diagnosis and treatment, sending their patients to the Clinic, and often with very full and helpful case-notes. Patients also sent have invariably expressed their appreciation of their medical attendant's action.

COURSES OF TREATMENT AND CRITERIA OF CURE.—The routine Courses of treatment for the various stages of syphilis are as follows :—

STANDARD COURSES FOR THE TREATMENT OF SYPHILIS IN THE VENEREAL DISEASES TREATMENT CENTRE.

CITY OF SALFORD.

Course No. I.

EARLY PRIMARY SYPHILIS.

Treponema pallidum present.

Blood-Wassermann negative.

Stabilarsan once weekly for 6 weeks.

Bismuth	twice	„	4	„
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Stabilarsan	once	„	6	„
-------------	------	---	---	---

Bismuth	twice	„	4	„
---------	-------	---	---	---

Stabilarsan	once	„	4	„
-------------	------	---	---	---

			—	
Total	24	„		
			—	

Blood-Wassermann test 7 days after last injection.

If *positive*, treat as Endosyphilis and give Course No. V.

If *negative*, discontinue treatment and apply test for Cure.

CRITERIA OF CURE.—Give iodides for two weeks preceding each Wassermann test. A negative blood-Wassermann should be obtained every three months for one year after the cessation of treatment. Two years after the cessation of treatment, the blood and cerebro-spinal fluid (C.S.F.) must be negative after provocation.

If at any time during the observation period for cure, the blood becomes positive, treat as Endosyphilis and give Course No. V.

Course No. II.

LATE PRIMARY SYPHILIS.

Treponema pallidum present.

Blood-Wassermann positive.

Stabilarsan once weekly for 8 weeks.

Bismuth	twice	„	8	„
---------	-------	---	---	---

Stabilarsan	once	„	8	„
-------------	------	---	---	---

Bismuth	twice	„	8	„
---------	-------	---	---	---

				—
Total	32	„		
				—

Blood and C.S.F. Wassermann tests seven days after last injection.

If blood-Wassermann is *positive*, treat as Endosyphilis and give Course No. V.

If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII.

If both blood and C.S.F. are *negative*, discontinue treatment and apply tests for cure.

CRITERIA OF CURE.—As in Course No. I.

Course No. III.

EARLY SECONDARY SYPHILIS.

*Blood-Wassermann positive.**General cutaneous eruption.*

Stabilarsan once weekly for 8 weeks.

Bismuth	twice	„	6	„
Stabilarsan	once	„	8	„
Bismuth	twice	„	6	„
Stabilarsan	once	„	6	„
Bismuth	twice	„	4	„

 Total 38 „

A blood and C.S.F. Wassermann is done one week after the last injection. If the blood is *positive*, treat as Endosyphilis, and give Course No. V. If it is *negative*, discontinue treatment.

If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII. If *negative*, discontinue treatment.

CRITERIA OF CURE.—As before.

Course No. IV.

LATE SECONDARY SYPHILIS.

*Blood-Wassermann positive ;**Fading general cutaneous eruption.**C.S.F. negative.*

Stabilarsan once weekly for 8 weeks.

Bismuth twice „ 8 „

Iodidesfor 1 week.

Stabilarsan once weekly for 8 weeks.

Bismuth twice „ 8 „

Iodidesfor 1 „

Stabilarsan once weekly for 6 „

 Total 40 „

A blood and C.S.F. Wassermann is done one week after the last injection. If the blood is *positive*, and the C.S.F. *negative*, repeat the above course. If, however, the C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII.

If the blood and C.S.F. are both *negative*, discontinue treatment.

CRITERIA OF CURE.—As before.

Course No. V.

ENDOSYPHILIS.

Uncured cases without symptoms except a positive blood-Wassermann. C.S.F. negative. (If C.S.F. is positive, treat as Neurosyphilis and give Course No. VIII.)

Stabilarsan once weekly for 8 weeks (Iodides concurrently).	
Bismuth twice „ 8 „	
Iodidesfor 4 „	
Stabilarsan once weekly for 8 „	
Bismuth twice „ 8 „	
Iodidesfor 4 „	
Stabilarsan once weekly for 8 „	
Bismuth twice „ 6 „	
—	
Total 54 „	
—	

A blood and C.S.F. Wassermann is done one week after the last injection. If both are *negative*, cease the treatment. If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII. If blood is *positive*, repeat Course No. V.

CRITERIA OF CURE.—As before.

Course No. VI.

TERTIARY AND QUATERNARY SYPHILIS.

Skin, bone and mucous membrane asymmetrical lesions; vascular and visceral involvement. Blood-Wassermann positive. C.S.F. negative. (If C.S.F. is positive treat as Neurosyphilis and give Course No. VII.)

Stabilarsan once weekly for 8 weeks (Iodides concurrently).	
Bismuth twice „ 8 „	
Iodidesfor 4 „	
Stabilarsan once weekly for 8 „	
Bismuth twice „ 8 „	
Iodidesfor 4 „	
Stabilarsan once weekly for 8 „	
Bismuth twice „ 8 „	
—	
Total 56 „	
—	

A blood and C.S.F. Wassermann is done one week after the last injection. If both are *negative* cease treatment. If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII. If blood is *positive*, give Course No. V.

CRITERIA OF CURE.—As before.

Course No. VII.

NEUROSYPHILIS.

Tabes dorsalis; General Paralysis;

Cerebro-spinal Syphilis;

C.S.F. positive;

Colloidal gold test positive;

Cell count increased.

Bismuth twice weekly for 8 weeks.

Tryparsamide once ,, 6 ,,

Iodidesfor 4 weeks.

Repeat the above Course till the cerebro-spinal fluid becomes serologically and cytologically normal.

A patient with Neurosyphilis must continue with treatment at frequent intervals for the remainder of life, no matter how long the cerebro-spinal fluid has been *negative*.

In early stages of general paralysis of the insane, the patient should be treated with Malaria inoculations.

Course No. VIII.

CONGENITAL SYPHILIS.

Under five years of age.

Bismuth inunctions daily for 1 month.

Sulfarsenol intramuscularly for 2 months.

Bismuth ,, 3 ,,

Sulfarsenol ,, 3 ,,

Bismuth ,, 2 ,,

Iodides ,, 1 ,,

—
Total 12 ,,
—

For each of the succeeding four years, give two courses of treatment, each extending over a period of four months.

Bismuth intramuscularly for 1 month.			
Sulfarsenol	„	1	„
Bismuth	„	1	„
Sulfarsenol	„	1	„
		—	
Total		4	„
		—	

If at the end of five years Wassermann is *negative* treatment is discontinued. If *positive*, give Course No. V.

Over five years of age.—Give Course No. V.

For acute cases of male gonorrhœa, the following routine is adopted :—

First Week.—Twice or thrice daily posterior irrigations with potassium permanganate 1 grain to 1 pint. Iodargol, mxx, clamped into urethra for 15 minutes at each visit. Detoxicated vaccine 1,000 millions.

Second Week.—Irrigations as above but strength increased to 2 grains to 1 pint. Iodargol as above. Vaccine 2,500 millions.

Third Week.—Irrigations as above but strength increased to 3 grains to 1 pint. Iodargol and vaccine as above.

Fourth Week.—Twice daily irrigations with Hydrarg. Oxycyanide 1 grain to 1 pint. Prostatic massage once weekly. Vaccine 5,000 millions.

Fifth Week.—Irrigations as above but strength increased to 2 grains to 1 pint. Anterior urethra massaged over straight sounds. Vaccine as above.

Sixth Week.—Irrigations as above but strength increased to 3 grains to 1 pint. Prostatic massage and massage over sounds. Vaccine 7,500 millions.

Seventh Week.—Irrigation with silver nitrate 1 grain to 1 pint daily. Vaccine 7,500 millions.

Eighth Week.—No treatment. Prostatic massage. Pus index and prostatic smear. Vaccine 10,000 millions.

Ninth and Tenth Weeks.—No treatment. Provocative vaccines. Pus indices and prostatic smear.

Eleventh Week.—Urethroscopic examination.

Weekly observation thereafter for six months before being discharged as cured.

This routine is at present undergoing revision.

In female gonorrhœa patients the routine varies with the condition found. Every case, however, receives vaccines. The local treatment consists of daily douching, bladder irrigation, and local applications to the cervix. Again it must be emphasised that the treatment of women suffering from gonorrhœa in the Out-Patient Department is tedious and difficult. The best results are to be obtained when they are In-Patients, but the present accommodation is not suitable for this.

STAFF.—At the end of 1928 the Staff consisted of :—

V.D. Medical Officer	1
Deputy V.D. Medical Officer (male)	1
Clerk-Dispenser	1
Senior Orderly	1
Orderlies	2
Sister	1
Nurses	3
	—
Total	10
	—

In addition there has been employed a temporary whole-time Orderly. Considering the pressure of work in the Male Department, and especially in view of the proposed extensions, in addition to the three whole-time permanent Orderlies, there is required one other and also one part-time Orderly for duty in the Irrigation Basement between 5 and 9 p.m. This has been approved by the Ministry of Health.

After five months' working of the Clinic it became evident that a Deputy and Assistant Male whole-time Medical Officer was required, and Dr. F. W. F. Purcell was appointed on 20th September, 1928. The excellent effect of that appointment is seen in the increase of work done and especially in the number of cases receiving individual attention by Medical Officers.

Since the opening of the Clinic there has been available in the Female Department the very highly appreciated voluntary services of Dr. M. Sproul, one of the Maternity and Child Welfare Officers on the Public Health Staff. Dr. Sproul has attended in her own spare time in the evenings chiefly, and without her help the female patients would have been tremendously neglected. The work in that Department is steadily increasing and at present it cannot be thoroughly carried out by the present medical staff. Voluntary aid cannot be expected to continue indefinitely, and the permanent services of a Woman Medical Officer are required for female patients on five nights a week from 6 to 8-30 p.m.

SECTION IV.

Medical Inspection of Schools.

Staff.

Medical Officer to the Education

Committee H. OSBORNE, M.D., M.R.C.S., D.P.H.,
(Also Medical Officer of Health) etc.

Assistant Medical Officers { H. HEATHCOTE, M.D., D.P.H. (Senior).
G. HEATHCOTE, M.B., Ch.B.
E. R. W. GILMORE, M.B., D.P.H., etc.
(Resigned December).
W. B. MCKELVIE, M.D., F.R.C.S.E., etc.

School Ophthalmic Officer (part-time) .. H. G. PARKER, F.R.C.S., etc.
(Resigned July).

School " " (whole-time). D. SIMMONS (Miss), M.B., Ch.B.

School Dentists { H. MALLINSON, L.D.S., F.P.S.
A. E. SHERRATT, L.D.S., R.C.S.
A. V. LITTLEWOOD, L.D.S.

SCHOOL NURSES

Miss L. HOPSON (Superintendent).

Miss G. WILLIAMS.

" R. LEE.

" C. WEIR.

Mrs. A. G. WILLMOTT.

Miss M. MOORE.

" A. HAIRS.

" A. ROWLAND.

" H. ELLIOTT.

Miss W. M. MELLOR.

" L. TAGGART (Resigned October).

" E. CLEMENTS.

" E. F. LITTLEWOOD (Resigned
September).

" E. HARLEY.

" G. BOOTH (Appointed November).

" M. SALVIDGE " "

" G. E. HINDLEY " "

CLERICAL STAFF

Mr. J. A. DARBYSHIRE (Senior).

Miss D. M. BARNES.

" D. ARNOLD (Resigned January).

" E. FRIESER.

" E. BARLOW.

" DUTTON (Resigned July).

" D. LEECH.

Miss V. D. HEPBURN (Resigned Sept).

" M. GRUNDY.

" P. HODGE.

" F. C. GLEESON (Appointed May).

" A. OWEN (Appointed September).

" E. HALL " "

Co-ordination.

(a) INFANT AND CHILD WELFARE.—Medical records are transferred from the Child Welfare Department to the School Medical Department when children attain school age. As the two Child Welfare Centres at Regent Road and Teneriffe Street are housed in the same buildings as the two School Clinics co-operation of the two departments is further assured.

(b) NURSERY SCHOOLS.—The Child Welfare Medical Officer pays weekly visits to the Nursery School for the purpose of examining the children. The school is also visited by the School Nurses.

(c) DEBILITATED CHILDREN under school age are dealt with in the Child Welfare Department.

School Hygiene.

Much of the work of medical treatment of school children would be unnecessary if it were possible to concentrate more upon the preventive side of the problem. For instance, a good deal of visual defect and eye strain might be avoided if the lighting in all the schools was what it ought to be. In the same way, there is being manufactured in crowded and insufficiently ventilated classrooms much of the material with which open air schools are filled. Similarly, defective hygiene is responsible to a large extent for the spread of epidemic infectious disease among school children. If all the schools were more on open air lines there would, surely, be a great falling-off in the incidence of infectious disease. It is true, procedure can only be slow in this direction because of the great cost involved, but

it is well that the preventive aspect of the problem should not be lost sight of.

With regard to the new schools at present under contemplation, it will be the Committee's policy to provide classrooms on the lines of the Open Air Schools, where the character of site and other conditions permit.

As regards sanitation the schools were regularly visited by the Sanitary Inspectors, who have paid altogether 566 visits. Improvement in the sanitary condition of outside offices, yards, etc., has been maintained.

Sanitary Inspectors' Visits to Schools	566
Defects Found	21
Water tap defective	1
Downspouts defective	1
W.C.'s defective	4
Yard gullies choked	4
Yard surfaces out of repair	1
Flushing cisterns defective	2
Wall bulging	1
Drain capping loose	3
Ash accommodation defective	1
Eaves gutters defective	1
Water pipe burst	1
Sanitary, washing, and playground accom- modation insufficient	1
	—
	21

Routine Medical Inspection.

School Doctors visit the whole of the Elementary Schools of the City for the purpose of medical inspection.

The Routine Inspection comprises three age groups of children, namely, children of five years, eight years and twelve years of age ; these are the " Code Groups " examined every year, so that each child should be medically examined at least three times during its school career.

(A) ROUTINE MEDICAL INSPECTION IN THE SCHOOLS BY
THE MEDICAL INSPECTORS.

The arrangements for routine medical inspection are as follows :—

Each school is notified some weeks in advance of medical inspection, the Head Teacher receiving a form requesting a return of the numbers of children of the three Code Groups on the Register. A further notification of the actual date of inspection is later forwarded to the teacher, the notification being accompanied by printed forms for the invitation of parents to be present at the inspection. These invitation forms give the hour as well as the date of inspection, and so obviate unnecessary waiting of parents on the school premises.

At each inspection the Medical Officer has the assistance of a School Nurse.

The School Nurse weighs and measures the children, tests vision with the ordinary types, and loosens the child's clothing for the doctor.

The School Medical Inspectors enter all details of medical inspection on the cards in the schools.

Parents present at the inspection are, of course, notified directly of any defect discovered, and they are advised as to the necessary treatment.

The work of following up by Attendance Officers has now been replaced by re-examination of such cases by the Medical Inspector at the Inspection Clinic, and also by home visits carried out by the School Nurses.

(B) INSPECTION IN THE SCHOOLS BY NURSES.

One of the most important duties of the School Nurse is to visit the schools for the purpose of "cleanliness inspection."

On such occasions the whole of the children in attendance at a given school are submitted to inspection by the School Nurse, all heads being rapidly examined for Pediculosis, and in suspected cases the bodies also. A classification of the children's heads is made:—

A.—Signifying freedom from vermin or nits.

B.—The presence of a few nits only.

C.—The presence of a large number of nits or live vermin.

Class B children are given marked cards with warning and instructions, but are not excluded from school.

Class C children are given marked cards and are also excluded from school for 24 hours, when they are re-examined by the Nurse. In the latter case if it is found that the warning has been neglected, verminous notices are issued and the case dealt with according to Section 87 of the Education Act, 1921.

At the present time the aim is to submit every school in the City to "cleanliness inspection" three times during the year. This means, in practice, the inspection of every school for this purpose during the period—

- (a) From the beginning of the year to Easter ;
- (b) from Easter to the Midsummer Holidays ;
- (c) from the Midsummer Holidays to the end of the year.

This aim has been accomplished during the past year, when 90,664 "cleanliness inspections" were carried out by the School Nurses.

Subsequent to the visits of the Nurses to the schools for "cleanliness inspection," the schools are notified of the results of such inspection, and a notice is posted up showing the number of children classified A, B and C. This procedure is believed to have a stimulating effect.

In addition to periodical visits for "cleanliness inspection," special visits are paid by the Nurses at the request of the teacher for the specific purpose of examining children suspected of harbouring vermin or of suffering from contagious skin disease, etc.

Again, the Nurses visit schools during epidemic outbreak, and in this connection the Nurse with special fever training and experienced in throat examinations is useful.

(C) THE INSPECTION CLINIC.

Three Medical Officers now attend each afternoon, and one each morning, for the purpose of examining "special cases." These include—

- (1) Cases referred by the Medical Officers themselves in the course of routine medical inspection in the schools.

- (2) Cases referred by School Nurses from the schools.
- (3) Cases referred by School Teachers.
- (4) Cases referred by the Attendance Officers.
- (5) Cases in which medical examination is requested by the parents.

With reference to these examinations it is necessary to issue a fixed number of invitations for each session, the number varying according to the type of case, otherwise the Medical Officers would be overwhelmed on some occasions.

The Inspection Clinic serves a number of purposes.

First of all, it serves as a clearing house for children referred from different sources. For instance, cases with defects are advised as to the necessity for treatment, and are sent to the family doctor, where such exists. Otherwise, cases are sent to one of the Voluntary Hospitals, or are dealt with under the Local Authority's scheme: needy cases requiring operation are referred to hospital, minor ailments are sent to the Minor Ailments Clinic, oral sepsis to the Dental Clinic, visual defects to the Eye Clinic, scalp ringworm to the X-ray Clinic, and Alopecia to the High Frequency Clinic.

Secondly, the Inspection Clinic serves as a Court of Appeal for children booked by the Attendance Officer for absence from school on the grounds of alleged ill-health.

Thirdly, it plays a great part in the "following up" of cases referred for treatment, especially where such is not obtained under the Local Authority's scheme, invita-

tion to attend the Inspection Clinic for re-examination being issued a certain period after the recommendation for treatment. Here the "following up" is done by the Medical Officer himself.

Fourthly, the Inspection Clinic serves for the examination and grading of exceptional children, such as mentally defective, etc.

Fifthly, it serves as a discharging centre for cases previously excluded on medical grounds. For instance, no case of scalp ringworm once excluded from school may be re-admitted until officially discharged and certified "fit for school" by the School Medical Officer.

During the year 1928 the total number of examinations of children at the Inspection Clinics was 19,994.

Findings of Medical Inspection.

Uncleanliness.

Children's heads and bodies were examined for Pediculosis on the occasion of the Nurses' visits to schools, when children of all ages were submitted to examination.

The number of children examined by the Nurses in the elementary schools totalled 90,664.

The Nurses have been able to visit all the schools in the City on three separate occasions during the year for the purpose of "cleanliness inspection," and the standard of cleanliness now adopted is very strict.

Tables showing prevalence of Pediculosis are hereby appended :—

TABLES SHOWING PREVALENCE OF PEDICULOSIS IN DEPARTMENTS WHERE ALL THE SCHOLARS PRESENT WERE EXAMINED BY THE SCHOOL NURSES.

INFANTS' DEPARTMENTS.

	BOYS.					GIRLS.				
	No. examin'd	Heads.			Ver- minous bodies.	No. examin'd	Heads.			Ver- minous bodies.
		*A.	B.	C.			*A.	B.	C.	
(A) Aggregate Numbers ..	15731	14823	765	143	42	15279	10878	3724	677	32
(B) Percentages ..	—	94.22	4.87	.91	—	—	71.10	24.37	4.43	—

UPPER DEPARTMENTS.

	BOYS.					GIRLS.				
	No. examin'd	Heads.			Ver- minous bodies.	No. examin'd	Heads.			Ver- minous bodies.
		*A.	B.	C.			*A.	B.	C.	
(A) Aggregate Numbers ..	30240	28804	1134	302	235	29414	22660	5701	1053	71
(B) Percentages ..	—	95.25	3.75	1.00	—	—	77.04	19.38	3.58	—

* Heads A—Where neither vermin nor nits are present.
B—Containing a small number of nits only.
C—Containing live vermin or numerous nits.

The accompanying Table shows the work done under Section 87 of the Education Act, 1921:—

BOYS.					GIRLS.				
Number of Cleansing Notices Served.	Hair Cut.		Cleansed at Mole Wheel Disinfecting Station.	Cleansed at Home.	Number of Cleansing Notices Served.	Hair Cut.		Cleansed at Mole Wheel Disinfecting Station.	Cleansed at Home.
	By Nurse.	By Parent.				By Nurse.	By Parent.		
178	31	65	26	83	601	323	285	10	23

Tonsils and Adenoids.

In routine cases 1,202 were found to be suffering from enlarged tonsils or adenoids, or both, whilst in addition 1,653 special cases were found with the same condition. As in previous years, it was found that a number of cases of enlarged tonsils were temporary in character, the condition disappearing in a short period of time, thus emphasising the importance of re-examining all these cases after an interval of a month or so before deciding on surgical measures.

Tuberculosis.

Amongst the inspection cases there were 198 children diagnosed as suffering from tuberculosis, 6 being fairly definite, and 192 suspected cases. At the same time there were very few advanced cases of phthisis, the majority being probably chiefly confined to the bronchial or mediastinal lymphatic glands and giving rise to indefinite physical signs, although the children were obviously suffering from the effects of toxic absorption, such as languor, anorexia, loss of flesh, night sweats, etc. The majority of such children are adversely affected by compulsory attendance at an ordinary school.

The Committee have fully realised the necessity for further Open Air School provision, and there are now in the City two Open Air Schools for the reception of delicate children.

Ringworm.

Cases of ringworm are notified by Teachers and Attendance Officers, as well as by the Medical Inspection

Staff. All cases are invited to attend periodically at the Centre for inspection, and no child who has been known to have ringworm is allowed to return to school without a certificate from the Medical Officer.

During the year 1928, 54 new cases of scalp ringworm and 103 cases of body ringworm have been under supervision at the Inspection Clinic, and the total number of examinations in these cases amounted to 473.

Alopecia.

There have been 75 new cases under supervision at the Inspection Centre, with a total of 203 examinations.

The Treatment of Alopecia by the High Frequency Current.

The use of the high frequency current has been continued during 1928. The children are now instructed to attend three times a week, as owing to other demands on the nurses' time, it has been found impossible to give the treatment daily. The high frequency current ($\frac{1}{4}$ inch spark) is given for five minutes, which is sufficient to produce a slight reddening of the affected area. The treatment is of considerable value in the more obstinate type of case, and the application is painless. All other treatment, *e.g.*, lotion, is stopped while the child is being treated by the high frequency current.

Four boys and six girls were under treatment in 1928.

Eczema, Impetigo and Sores.

The number of new cases of these diseases under observation during the past year was 2,552 and the number of examinations 6,170.

Scabies.

There were 108 cases under supervision and 255 examinations.

External Eye Disease.

The bulk of the cases of external eye disease found on inspection, as usual, proved to be conjunctivitis or blepharitis of a fairly mild type.

There have been no serious outbreaks of ophthalmia in any of the schools. The practice adopted is to exclude every case of conjunctivitis in which there is possibility of infection.

Vision.

Routine medical inspection in the case of the eight-year-old group and twelve-year-old group includes the testing of vision by means of the usual types at a distance of six metres. Children whose distant vision is represented by 6/18 or worse, also any children who appear to be suffering from the effects of eye strain, or children of five years suffering from strabismus, are all referred for examination at the Refraction Clinic by the Eye Specialists.

During the year under consideration, 1,738 cases have been referred for examination at the Refraction Clinic.

Ear Disease and Hearing.

The great majority of cases of ear disease met with in routine inspection are children suffering from suppurating discharge from the middle ear. These are the cases which in the old days were generally allowed to go untreated, and they often became very offensive for want of attention.

One thousand one hundred and sixty-six cases were met with by the Medical Inspectors and most of these were dealt with at the School Clinics.

Dental Defects.

The following Tables show (*a*) the number of sound and decayed teeth (both temporary and permanent) and (*b*) the actual state of teeth and gums, and the grinding capacity; (*c*) the actual number of decayed teeth, *per child*, among the children examined by the School Dentists.

TABLE B.
ROUTINE DENTAL INSPECTION.

Age.	Number exam- ined.	State of Teeth.			Condition of Gums.			Grinding Capacity.			Temporary Teeth.		Permanent Teeth.			Hypo- plastic.	
		Clean.	Fairly clean.	Dirty.	Healthy	In- flamed.	Septic.	Good.	Average	Bad.	Sound	Decayed	Sound.	Decayed.			
														Saveable	Un- saveable		
Boys	6	1612	939	660	13	794	422	396	185	1301	126	17688	10393	5488	184	70	90
	7	1586	986	591	9	731	436	419	91	1411	84	13252	9554	10804	599	166	162
	8	1720	1205	510	5	802	503	415	94	1532	94	10422	8919	16378	856	471	188
	9	965	637	322	6	528	246	191	61	834	70	4326	3934	11503	563	420	182
	10	892	561	326	5	532	213	147	102	730	60	2793	2543	13103	520	643	211
	11	723	473	247	3	477	161	85	95	603	25	1229	1402	12893	456	578	190
	12	522	359	155	8	376	113	33	95	416	11	493	535	10994	341	498	173
	13	698	438	248	12	503	162	33	142	545	11	268	402	15772	461	938	248
	14	59	42	16	1	45	13	1	16	42	1	12	14	1393	52	66	19
	Total	8777	5640	3075	62	4788	2269	1720	881	7414	482	50483	37696	98328	4032	3850	1463
Girls	6	1432	919	507	6	721	357	354	188	1135	109	15649	8795	5793	232	57	65
	7	1611	1081	528	2	756	450	405	121	1419	71	12413	9123	12667	621	217	150
	8	1734	1228	504	2	828	506	400	103	1551	80	9730	8294	17924	971	533	246
	9	1008	681	327	—	548	263	197	75	870	63	3906	3670	13304	607	530	135
	10	892	637	254	1	578	212	102	126	713	53	1926	2090	14817	466	681	197
	11	707	478	227	2	509	142	56	140	545	22	807	922	14026	388	675	142
	12	516	356	160	—	393	97	26	129	373	14	379	368	11504	333	505	124
	13	666	437	225	4	474	160	32	148	510	8	124	193	15802	556	874	131
	14	46	32	14	—	37	9	—	12	33	1	11	11	1088	44	59	11
	Total	8612	5849	2746	17	4844	2196	1572	1042	7149	421	44945	33466	106925	4218	4131	1201
Boys & Girls	17389	11489	5821	79	9632	4465	3292	1923	14563	903	95428	71162	205253	8250	7981	2664	

TABLE C.—ROUTINE DENTAL INSPECTION.
 TABLE SHOWING NUMBER OF DECAYED TEETH AMONG SCHOOL CHILDREN EXAMINED IN THE SCHOOLS BY
 SCHOOL DENTISTS DURING THE YEAR 1928.

Number of Decayed Teeth.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 and up- wards.	Total No. of Decayed Teeth.	Total No. of Chil- dren.
Boys aged 6— Aggregate No. of Children Percentages	77 4.78	49 3.04	128 7.94	139 8.63	166 10.30	151 9.37	138 8.56	139 8.63	154 9.56	103 6.39	85 5.27	80 4.96	71 4.40	44 2.73	28 1.74	16 .99	21 1.30	7 .43	1 .06	8 .49		10647	1612 100.00
Girls aged 6— Aggregate No. of Children Percentages	92 6.42	41 2.86	129 9.00	115 8.03	143 9.99	129 9.01	132 9.22	136 9.50	132 9.22	104 7.26	70 4.89	47 3.28	46 3.21	33 2.30	30 2.10	20 1.40	9 .63	12 .84	8 .56	3 .24	1 .07	9084	1432 100.00
Boys aged 7— Aggregate No. of Children Percentages	40 2.52	53 3.34	112 7.06	128 8.07	167 10.53	181 11.41	191 12.04	153 9.65	146 9.21	86 5.42	97 6.12	72 4.54	60 3.78	35 2.21	25 1.58	19 1.20	7 .44	10 .63	4 .25	..	..	10319	1586 100.00
Girls aged 7— Aggregate No. of Children Percentages	65 4.03	36 2.24	129 8.01	149 9.25	181 11.23	191 11.86	168 10.43	163 10.12	144 8.94	109 6.76	86 5.34	64 3.97	51 3.17	29 1.80	20 1.24	10 .62	6 .37	4 .25	3 .19	2 .12	1 .06	9961	1611 100.00
Boys aged 8— Aggregate No. of Children Percentages	37 2.15	59 3.43	178 10.34	158 9.19	216 12.56	182 10.58	195 11.34	188 10.93	138 8.02	117 6.80	93 5.41	51 2.96	39 2.27	23 1.34	19 1.10	18 1.05	7 .41	2 .12	..	..	..	10246	1720 100.00
Girls aged 8— Aggregate No. of Children Percentages	51 2.94	67 3.86	155 8.93	195 11.25	228 13.15	218 12.57	223 12.86	156 9.00	128 7.38	89 5.13	87 5.02	52 3.00	34 1.96	22 1.27	13 .75	8 .46	2 .12	3 .17	1 .06	..	2 .12	9798	1734 100.00
Boys aged 9— Aggregate No. of Children Percentages	32 3.32	60 6.22	111 11.51	107 11.09	147 15.23	111 11.50	118 12.23	88 9.12	63 6.53	44 4.55	38 3.94	17 1.76	10 1.04	9 .93	9 .93	..	..	1 .10	..	..	..	4917	965 100.00
Girls aged 9— Aggregate No. of Children Percentages	31 3.08	58 5.76	137 13.60	149 14.78	163 16.17	129 12.80	106 10.52	65 6.45	55 5.45	43 4.26	34 3.37	16 1.59	7 .69	3 .29	2 .20	2 .20	..	..	1 .10	..	..	4807	1008 100.00
Boys aged 10— Aggregate No. of Children Percentages	55 6.17	64 7.18	143 16.03	154 17.27	140 15.69	92 10.31	87 9.75	58 6.50	36 4.04	20 2.24	19 2.13	12 1.35	7 .78	1 .11	3 .34	..	..	1 .11	..	..	..	3706	892 100.00
Girls aged 10— Aggregate No. of Children Percentages	24 2.4	95 9.5	160 16.0	138 13.8	133 13.3	101 10.1	65 6.5	40 4.0	30 3.0	22 2.2	16 1.6	8 .8	1 .1	1 .1	1 .1	..	..	..	..	..	..	3237	2042 100.00

TABLE C.—Continued.

Number of Decayed Teeth.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 and up-wards.	Total No. of Decayed Teeth.	Total No. of Children.
Boys aged 11— Aggregate No. of Children Percentages	76 10.51	98 13.55	132 18.26	122 16.87	97 13.42	65 8.99	40 5.53	44 6.09	25 3.46	12 1.66	4 .55	1 .14	4 .55	2 .28	1 .14	..	..	..	..	..	..	2436	723 100.00
Girls aged 11— Aggregate No. of Children Percentages	98 13.86	117 16.55	146 20.65	118 16.69	92 13.01	56 7.92	36 5.09	18 2.55	13 1.84	5 .71	5 .71	3 .42	..	..	..	..	..	..	..	..	..	1985	707 100.00
Boys aged 12— Aggregate No. of Children Percentages	85 16.29	90 17.25	118 22.60	94 18.01	50 9.58	19 3.64	33 6.32	14 2.68	9 1.72	5 .96	2 .38	1 .19	1 .19	..	..	1 .19	..	..	..	..	..	1374	522 100.00
Girls aged 12— Aggregate No. of Children Percentages	93 18.02	100 19.38	120 23.26	80 15.50	57 11.05	32 6.20	15 2.90	10 1.94	5 .97	2 .39	2 .39	..	..	..	..	..	..	..	..	..	..	1206	516 100.00
Boys aged 13— Aggregate No. of Children Percentages	121 17.34	105 15.04	164 23.50	107 15.33	98 14.04	45 6.45	28 4.01	11 1.58	5 .72	7 1.00	4 .57	..	1 .14	1 .14	..	..	..	1 .14	..	..	..	1801	698 100.00
Girls aged 13— Aggregate No. of Children Percentages	127 19.07	117 17.57	136 20.43	120 18.02	76 11.41	34 5.10	31 4.65	11 1.65	4 .60	2 .30	4 .60	1 .15	3 .45	..	..	..	..	..	..	..	..	1623	666 100.00
Boys aged 14— Aggregate No. of Children Percentages	9 15.25	15 25.42	11 18.65	11 18.65	7 11.86	2 3.39	4 6.78	..	..	..	..	..	..	..	..	..	..	..	..	..	..	132	59 100.00
Girls aged 14— Aggregate No. of Children Percentages	8 17.40	14 30.44	10 21.74	4 8.70	4 8.70	1 2.17	1 2.17	1 2.17	1 2.17	..	..	..	1 2.17	..	..	..	..	..	..	..	..	114	46 100.00
TOTAL Boys and Girls— Aggregate No. of Children Percentages	1181 6.79	1238 7.12	2219 12.76	2088 12.01	2165 12.45	1739 10.00	1611 9.26	1295 7.45	1087 6.25	770 4.43	646 3.71	420 2.41	336 1.94	210 1.21	153 .88	94 .54	54 .31	41 .24	24 .14	6 .03	12 .07	87393	17389 100.00
Average No. of Decayed Teeth per Child—5.03.																							

Crippling Defects.

Amongst the Code Group cases 40 children were referred for treatment on account of rickets.

Infectious Disease.

A system of notification is in force whereby the Head Teachers forward to the Medical Officer of Health particulars of the cause of absence from sickness of the children attending their schools. These returns are sent in weekly, and are classified in the following table :—

RETURN OF SICKNESS IN SCHOOLS DURING THE YEAR 1928.

Notifiable Diseases.	Measles.	Whooping Cough.	Chicken-pox.	Mumps.	Ringworm.	Ophthalmia.	Sore Throat.	Bronchitis and Pneumonia.	Colds.	Other Diseases.
828	1721	1138	1042	342	116	797	4751	1864	20241	11575

Following Up.

The work of following up has been carried out by (a) the School Medical Officers, and (b) School Nurses.

A large number of cases seen in the schools during the course of routine inspection are referred to the Inspection Clinic for further examination at a later date.

Formerly "Home Visits" for the purpose of following up were carried out almost entirely by the Attendance Officers. The School Nurses, however, are now undertaking this work. During the last year they paid over 1,379 home visits.

Medical Treatment.

A number of defects requiring treatment are dealt with under the Local Authorities' Scheme. This

includes :—(1) The treatment of minor ailments at the School Clinic ; (2) the treatment of scalp ringworm at the X-ray Clinic ; (3) the treatment of alopecia by the High Frequency Current ; (4) the treatment of dental defects at the Dental Clinic ; (5) the treatment of visual defects at the Eye Clinic ; and (6) the surgical treatment of tonsils and adenoids at the Salford Royal Hospital.

The Minor Ailments Clinic.

During the past year 3,511 new cases were treated at the Minor Ailments Clinics, Regent Road, Teneriffe Street and Police Street, and the attendances of patients totalled 69,267. The cases which received treatment were those who would otherwise have received little or no attention, such as chronic ear discharge, chronic nasal discharge, often accompanied by impaired hearing ; skin diseases such as tinea, alopecia, eczema, impetigo, sores and septic conditions, and such common external eye diseases as conjunctivitis and blepharitis.

It is found that the great majority of these cases rapidly improve under thorough treatment, and, as a rule, even the bad cases are soon able to resume school.

The treatment is carried out by the School Nurses under the direction of the Medical Officers.

Two School Nurses attend the Regent Road Clinic each morning, one attends the Teneriffe Street Clinic each afternoon and one attends the Police Street Clinic each morning.

All cases attending the Clinic are first examined either at the Inspection Clinic or at school by the Medical Officers, who issue cards authorising the child's attendance at the Treatment Clinic.

The cards show the doctors' diagnosis and instructions for treatment, and the date of attendance is stamped thereon for the information of the teacher. No child is treated at the Minor Ailments Clinic unless first authorised and given a card by the Medical Officer, otherwise the Nurses would be quickly overwhelmed.

The following Table shows the number of new cases and attendances up to December 31st, 1928 :—

	Boys.	Girls.	Total.
New Cases	1960	1551	3511
Attendances	38578	30689	69267

Tonsils and Adenoids.

The Education Committee have an arrangement for the surgical treatment of these cases at the Salford Royal Hospital.

A list of cases considered suitable for operation is submitted to the hospital. After operation, children are re-examined at the Inspection Clinic by a School Medical Officer.

A charge of 25s. is made by the hospital for each case operated upon, and a portion of this charge is recovered from parents who can afford to contribute towards the cost; 214 cases have been successfully operated on during the year.

Tuberculosis.

Children found to be suffering from definite tuberculosis are generally referred for treatment to the Tuberculosis Department. A certain number of children suffering from suspected tuberculosis are dealt with at the Open Air Schools.

Skin Disease.

RINGWORM.—THE X-RAY CLINIC.

The very efficient X-ray apparatus for the treatment of ringworm was installed early in the year 1913.

From the beginning this Clinic has been so successful in coping with the large amount of scalp ringworm of an obstinate type formerly prevalent in the City that there are nowadays insufficient cases to keep the Clinic working regularly.

It was generally found necessary to epilate the whole scalp in each case according to the five-exposure method of Kienböck. By this method the whole of the scalp is exposed at one sitting of approximately two hours, epilation being complete by about the end of the third week.

After X-ray application the children are allowed to return to school, wearing a cap, as soon as epilation is complete and no ringworm stumps remain in the scalp.

A nominal charge of 5s. per child treated is made to the parent.

X-rays have been administered to 16 cases of scalp ringworm during the year. Sixteen cases were certified fit at the end of December.

Of the above 16 cases, it was necessary to epilate the whole scalp in each case.

Number of re-examinations after X-rays, 68.

The children were fit to return to school again, on the average, five weeks after the application of the rays.

On the other hand the 14 cases cured without the application of X-rays were only fit to return to school on the average 16 weeks after the commencement of treatment, one case taking as long as eight months and the majority several months.

It may be too much to hope that the disease will ever be entirely eradicated, but compared with the prevalence of the disease before the provision of X-ray treatment, the number of cases of scalp ringworm met with at the present time is small indeed.

ECZEMA, IMPETIGO AND SORES.

A large number of such cases are now being dealt with very successfully at the School Clinics, and many obstinate cases of impetigo are returned to school after a few days' treatment.

SCABIES.

Cases are now treated daily by the School Nurses at the Mode Wheel Disinfecting Station, and the children are first given a warm bath, after which the appropriate remedies are applied. In most of these cases the bedding is also disinfected. It is found that this treatment very considerably shortens the duration of the disease.

Ear Disease and Hearing.

Cases of ear disease and defective hearing are generally kept under observation by the School Doctor at the Inspection Clinic, and many of these receive treatment at the School Clinic. This treatment includes the daily syringing, etc., of cases of otorrhœa and also the giving of nasal douches where the impaired hearing is due to catarrh and obstruction of the nasal passages.

Dental Clinic.

The School Dentists, as in previous years, devoted most of their time to conservative dental treatment of the first permanent teeth (six-year old molars). Actual dental inspection in the schools was carried out on six mornings per week (two mornings for each of the three Dentists), the remainder of the week being occupied with the treatment of defects found in the course of this inspection.

The attendance of the children at the Clinics has been extremely good, very few of them failing to keep their appointments.

Altogether 7,030 children were treated at the Dental Clinics, making 10,098 attendances. There were 12,010 extractions of teeth, 3,200 fillings, 231 dressings and 546 scalings.

The tables on pages 186-189 show in detail the work carried out during the year 1928.

Owing to the impossibility of undertaking dental treatment for all school children in the City with the present staff of three, the School Dentists now confine their activities to a limited number of schools, the most needy being selected. This arrangement allows the School Dentists to follow up the cases already treated, and so keep the mouths of the children in order.

Crippling Defects.

A number of children suffering from well-marked ricketty and certain other deformities are very successfully dealt with at the Greengate Dispensary under the supervision of Dr. Mumford. The children so treated are resident in the institution for a period.

The Committee are agreed that the provision of a day school to accommodate 100 crippled children is a necessity. The Committee acquired a piece of land adjoining Buile Hill Park which it was thought might be utilised as a site for a Cripple School.

On further consideration it was realised that a considerable amount of money would have to be expended in preparing this site, which again was not quite as open as it might be.

The Committee are therefore in negotiation with a view to obtaining an alternative site.

Heart and Circulation.

In all well-marked cases of heart disease, the parents were interviewed and warned of the defect, and the children were referred for further examination in three months' time. The teachers were also warned of such defects and advised as to the child's fitness for drill or otherwise.

The Ophthalmic Clinics.

The Ophthalmic Officer's Report is appended herewith :

REPORT OF THE OPHTHALMIC CLINICS, SALFORD EDUCATION COMMITTEE.

During the early months of the year the Ophthalmic Clinics were under the supervision of Dr. Parker and Dr. Simmons, who were able to reduce the long waiting list to quite reasonable proportions. Since the resignation

of Dr. Parker in July, the School Medical Ophthalmic work in the City has been carried out by Dr. Simmons.

The essential duties are performed at :—

- (1) The Refraction Clinic, held at the Education Office, Chapel Street, Salford.
- (2) The External Eye Diseases Clinic, held at Regent Road.
- (3) The South Bank Sight-saving School, Sandy Lane, Pendleton.

The Refraction Clinic.

The Work at the Refraction Clinic is mainly concerned with the examination of children who have been referred by the School Medical Officers or Head Teachers, and with special cases which have been previously under treatment, and concerning whom requests for re-examination have been received from the parents. Although the large majority of these cases are concerned with defects of vision, a certain number reveal more serious internal conditions of the eye, which require more or less prolonged observation, and medical treatment.

Children affected with strabismus (squint) continue to receive special attention, and form a large and very important section of this work. For treatment to be successful these children must be seen at the earliest possible moment, when spectacles accompanied by suitable exercises can be prescribed. This results in very considerable improvement, both in the vision of the affected eyes, and in the appearance of the child.

Although in the past the School Medical Officers have referred children of school age for treatment, it was felt that still better results might be achieved if younger children suffering from this defect were submitted for treatment. With this object, arrangements have been made with the Child Welfare Department to refer all children suffering from strabismus, as soon as this condition is noticed. This is exceedingly important, as the damage done by neglect of this condition in infants and young children under school age makes it much more difficult to effect a cure in later years; as, though an operation may improve the appearance of the child, the vision remains permanently impaired.

Owing to the fact that the External Eye Diseases Clinic at Regent Road is only held once a week, and it is often very important that no delay should take place in the diagnosis and treatment of these cases, a considerable number of urgent external conditions of the eye, in addition to defects of vision, are referred directly to this clinic, either by the School Medical Officers or School Nurses. Such cases now constitute an important development in the general routine work of the clinic.

During the year 1928, 2,361 children have been examined and spectacles supplied in 1,762 cases. Children for whom spectacles have been prescribed are invited to return and have their vision re-tested, and the spectacles examined to see that they are in accordance with the prescription. It is gratifying to note that during the past year, in no single case have parents refused to

obtain spectacles when prescribed for their child, and in a very large number of cases they have expressed their appreciation of the work of the clinic.

The External Eye Diseases Clinic.

The External Eye Diseases Clinic, which was opened in 1927, continues to supply an essential service. It is held once weekly at Regent Road, and to it is referred the majority of the cases of external eye disease, both acute and chronic. During the year 1928, 1,634 cases have been dealt with. A progressively marked improvement has been noted in the cases submitted for examination, as owing to the existence of this clinic, children are coming for treatment much earlier, and before the conditions have become aggravated by neglect or improper treatment.

This has resulted in children being able to return to school much more quickly than before the institution of this clinic.

South Bank Sight-saving School.

The ophthalmic work at this school has been entirely reorganised during the year. More attention is now being paid to the physical condition of the children, as it has been found that their general health has a very considerable effect on their eyesight. Once during each term every child is now subjected to a complete examination, both as to physical and ophthalmic condition; changes in their spectacles are made if necessary and medical treatment advised. At frequent intervals during the

term an examination takes place of children suffering from active inflammatory conditions of the eyes, when treatment is prescribed and subsequently administered daily by the school nurse. Once a month children are re-tested as to their fitness or otherwise to leave school, if an application to this effect has been made by the parents. Cases referred to this school are mostly progressive and high myopes (short-sight) and also include those cases which even with the aid of suitable spectacles are unable to take advantage of the teaching in the ordinary schools. These include those suffering from congenital defects, internal disease of the eyes, and a number of more or less chronic inflammatory conditions rendering the children unfit to attend the ordinary schools for possibly several months. Experience has proved that unless the latter group are treated at South Bank, they run about the streets, get their hands dirty, frequently rub their eyes, (because of the irritation in the latter) and neglect to obtain suitable treatment, thus aggravating and prolonging the affected condition of their eyes.

If during the course of inspection any child is found to be sufficiently improved it is referred back to the ordinary school.

The headmistress at South Bank reports that as a result of this increased attention and treatment, the attendance of the children at school during the winter has been much better than in previous years.

The number of children admitted to South Bank during the year was 17 (9 girls and 8 boys), and the number discharged, 10 (7 girls and 3 boys).

TABLE S IVa.

SUMMARY OF CASES SEEN BY THE OPHTHALMIC OFFICERS AT THE
EDUCATION OFFICE DURING THE YEAR 1928.

A.—REFRACTIONS.

	Boys.	Girls.	Total.
Hypermetropia	114	74	188
Hypermetropic Astigmatism	434	474	908
Compound Hypermetropic Astigmatism ...	57	91	148
Myopia	74	109	183
Myopic Astigmatism	64	105	169
Compound Myopic Astigmatism	14	25	39
Mixed Astigmatism	131	170	301
Anisometropia	14	26	40
Nil	190	195	385
TOTALS	1092	1269	2361

B.—DISEASES OF THE EYE.

	Boys.	Girls.	Total.
Muscle Disorders—			
Nystagmus	—	4	4
Squint	330	293	623
Disease of the Conjunctivæ and Lids—			
Conjunctivitis	23	34	57
Blepharitis	17	13	30
Disease of the Cornea—			
Nebulæ	18	35	53
Disease of the Lens—			
Cataract	10	1	11
Other Defects	13	11	24

Open Air Schools.

The David Lewis Day School, which provides accommodation for 70 delicate children, was opened on the 28th August, 1916, in the open shed and premises in the David Lewis Recreation Ground. The staff consists of a head teacher with two assistants.

The Barr Hill Day School, which provides accommodation for 100 delicate children, was opened on the 30th May, 1924.

The school is built on an elevated site, standing well above the valley, and its open front looks due south. The plan resembles the letter "E" with the middle tongue missing, the central portion being a shed left permanently open to the south, and windowed to the north. One projecting wing comprises two classrooms, and the other wing the administrative portion, including kitchen and cloakroom. The classrooms, by means of folding glass doors, can be opened to the east, south and west, but are permanently closed to the north.

The staff consists of a head teacher and three assistants.

Delicate children, from 6 to 14 years of age, are admitted, and are daily conveyed to and from the open air schools, free of charge, by a service of special tramcars.

Children arrive at school at 9 o'clock a.m. and remain the whole day, leaving at 6 o'clock p.m. during the summer, and 4-30 p.m. in the winter.

The children admitted to the Open Air Schools are selected by examination by the Medical Staff, and the

parents are urged to get any defects, such as enlarged tonsils and adenoids, or decayed teeth, remedied before admission to the schools.

No children are admitted who are considered likely to be a source of infection to others.

The school nurse attends each school daily, the children are weighed each week, and the Medical Inspector also visits the schools once a week.

Three meals are provided—breakfast, dinner and tea—for which a maximum charge of 5s. per week is made. After dinner the children rest in the recumbent position for two hours, either in the open when weather permits, or under cover when wet.

Children who have been discharged from the Open Air Schools to the ordinary schools are invited periodically to the Clinic, for observation of their further progress.

Open Air Schools, Year 1928.

DAVID LEWIS.

	Boys.	Girls.	Total.
Number of Admissions during 1928	29 ..	38 ..	67
Number of Discharges during 1928	35 ..	28 ..	63
Number of Children on Register at end of Year 1928	36 ..	44 ..	80

CHILDREN DISCHARGED DURING 1928.

	Boys.	Girls.	Total.
Average "Stay" in School (weeks).....	44.4 ..	71.6 ..	56.5
AVERAGE GAIN IN WEIGHT.....	8.0 ..	9.0	8.5 lbs.
	yr. mth.	yr. mth.	yr. mth.
Average Age on Admission	9 5 ..	9 3 ..	9 4

OPEN AIR SCHOOLS, YEAR 1928, DAVID LEWIS—*Continued.*

	Boys.	Girls.	Total.
Transferred to Ordinary School	16 ..	9 ..	25
Left, aged 14.....	2 ..	4 ..	6
Admitted to Nab Top, Marple	11 ..	6 ..	17
Transferred to South Bank Sight-saving School	— ..	1 ..	1
Unfit for Open Air School.....	1 ..	— ..	1
Taken off Rolls (poor attendance)	— ..	3 ..	3
„ „ „ (removed from district) ...	4 ..	— ..	4
„ „ „ (parents' wish)	1 ..	5 ..	6
	35 ..	28 ..	63.

CLASSIFICATION OF DISEASES FROM WHICH THE ABOVE DISCHARGED
CHILDREN WERE SUFFERING.

	Boys.	Girls.	Total.
Tuberculosis, Lungs (Suspected)	2 ..	1 ..	3
„ Bones	2 ..	— ..	2
„ „ (Suspected).....	— ..	1 ..	1
„ Glands	3 ..	— ..	3
„ „ (Suspected)	— ..	4 ..	4
„ Abdomen	2 ..	— ..	2
„ „ (Suspected)	— ..	3 ..	3
Bronchitis	8 ..	8 ..	16
Post-pneumonic fibrosis	2 ..	— ..	2
Rheumatic tonsillitis	1 ..	— ..	1
Chorea (Suspected)	1 ..	1 ..	2
Mitral disease	1 ..	— ..	1
Rickets.....	1 ..	— ..	1
Delicate	7 ..	9 ..	16
Anaemia	4 ..	1 ..	5
Epilepsy	1 ..	— ..	1
	35 ..	28 ..	63

OPEN AIR SCHOOLS, YEAR 1928—*Continued.*

BARR HILL.

	Boys.	Girls.	Total.
Number of Admissions during 1928	43	60	103
Number of Discharges during 1928	50	52	102
Number of Children on Register at end of Year 1928	52	60	112

CHILDREN DISCHARGED DURING 1928.

	Boys.	Girls.	Total.
Average " Stay " in School (weeks)	48·9	48·5	48·7
AVERAGE GAIN IN WEIGHT.....	9·2	8·7	8·9 lbs.
	yr. mth.	yr. mth.	yr. mth.
Average Age on Admission.....	10 4	10 1	10 2

	Boys.	Girls.	Total.
Transferred to Ordinary School	20	40	60
Left, aged 14	12	2	14
Admitted to Nab Top, Marple	7	—	7
„ „ Hospital	2	—	2
„ „ South Bank Sight-saving School	—	2	2
Taken off Rolls (left the district)	2	1	3
„ „ (parents' request)	3	4	7
„ „ (unsatisfactory attendance) ..	2	3	5
„ „ (mentally defective).....	1	—	1
„ „ (unfit for any School)	1	—	1

50 .. 52 .. 102

OPEN AIR SCHOOLS, YEAR 1928, BARR HILL—*Continued.*CLASSIFICATION OF DISEASES FROM WHICH THE ABOVE DISCHARGED
CHILDREN WERE SUFFERING.

	Boys.	Girls.	Total
Tuberculosis, Lungs (Early)	1 ..	— ..	1
„ „ Suspected)	2 ..	1 ..	3
„ Glands.....	2 ..	2 ..	4
„ „ (Suspected).....	2 ..	3 ..	5
„ Abdomen	2 ..	— ..	2
„ „ (Suspected).....	2 ..	1 ..	3
„ Bones and Joints	— ..	— ..	—
„ „ „ „ (Suspected)..	1 ..	— ..	1
Delicate	10 ..	15 ..	25
Anaemia	4 ..	11 ..	15
Bronchitis	17 ..	12 ..	29
Asthma and Bronchitis	1 ..	— ..	1
Adenitis	2 ..	1 ..	3
Rickets.....	2 ..	1 ..	3
Heart Disease	2 ..	2 ..	4
Gastric Catarrh.....	— ..	1 ..	1
Epilepsy, Minor (Suspected)	— ..	1 ..	1
Rheumatism	— ..	1 ..	1
	50 ..	52 ..	102

Physical Training.

The School Medical Officers advise as to the kind of exercises to be adopted in some cases of temporary deformity, such as slight scoliosis.

Provision of Meals.

The usual arrangements with regard to cooking of dinners and the conveyance to the feeding centres were followed.

The number of children requiring free meals shows an increase during the year, the average monthly number being 147, as compared with 139 for the previous year.

Children examined in the schools by the Medical Officers and found to be suffering from malnutrition are referred for investigation into the parents' means and, where necessary, free meals are given.

Swimming Instruction.

During the season just closed, 20 Swimming Instructors were appointed for boys and five for girls, and the number of attendances of children during school hours at the several baths was 28,893 in the case of boys, and 24,855 in the case of girls, making a total of 53,748, as compared with 52,143 in the previous year. Reports were received from the Instructors that, of the children attending the baths, 1,095 boys and 966 girls proved themselves able to swim.

In order to encourage the children to learn swimming, the Baths Committee have continued the arrangement under which a free season ticket for the ensuing year is given to each scholar who, at the commencement of the

season, is unable to swim more than ten yards, and who at the end of the season has proved able to swim one length of the bath. Certificates of proficiency are also awarded by the Education Committee, after an examination conducted by a committee of Head Teachers. The number of such certificates gained during the past season was 1,738, compared with 1,726 for the previous year.

Co-operation of Parents.

Parents present at the inspection are, of course, notified directly of any defect discovered, and they are advised as to the necessary treatment. When parents are absent at the time of the inspection, and it is desirable that they should be interviewed with respect to defects discovered, invitations for these parents to attend the inspection clinic, together with the children, are issued, and so the cases are followed up.

Co-operation of Teachers.

Previous to the visit of the School Doctor, teachers notify parents of the date and time at which their children will be examined.

Each Head Teacher supplies weekly to the Medical Officer a return of sickness in the schools. In this way early information is obtained as to the outbreak of any infectious sickness amongst school children.

Again, a large number of the special cases examined at the Inspection Clinic are children who have been referred by school teachers for medical examination.

In the case of mentally defective children the work of the Medical Officer is greatly facilitated by the special reports which are furnished by Head Teachers.

Co-operation of School Attendance Officers.

The assistance of the School Attendance Officers is obtained in the case of children who have been invited to the Inspection Clinic and do not attend.

Cleansing notices issued in accordance with Section 87 of the Education Act, 1921, are delivered by the Attendance Officers, who insure the attendance of the verminous children at the cleansing centre.

The Superintendent of Attendance Officers is daily supplied with all information with respect to periods of school exclusion, or fitness for school in the case of children examined at the Inspection and Treatment Clinics.

Co-operation of Voluntary Bodies.

The co-operation of the Invalid Children's Aid Association and the Crippled Children's Help Association has been obtained in a number of cases. Through these agencies a considerable number of children have been sent to Holiday and Convalescent Homes at the seaside, or in the country, and in the case of some of the cripples suitable apparatus has been supplied by these voluntary bodies.

During the year 1928, the number of children of school age who have been dealt with by the Invalid

Children's Aid Association is 97, and the manner in which they have been dealt with is as follows :—

	Boys.	Girls.	Total.
Convalescent treatment, for periods varying from 2 to 13 weeks, total number of weeks 197, an average of 5 weeks per child	15	23	38
Kept under supervision	13	16	29
Sent to Camp for 2 weeks.....	—	30	30
	28	69	97

In addition, grants to the amount of £1 17s. 6d. have been made.

Blind, Deaf, Defective and Epileptic Children.

A list of the above children maintained in special institutions will be found in Tables S IIIA. and S IIIB. in the Statistical Tables.

A school for the accommodation of partially blind children was opened in the City on March 7th, 1921. This school serves as a Day School for children who are not totally blind, but whose vision is too defective for them to be taught in the ordinary schools. Seventeen children were admitted during the year.

Cases of total blindness are sent to a residential institution.

One of the School Medical Officers, Dr. H. Heathcote, is engaged in the examination and classification of mentally defective children with respect to their suitability for treatment in :—

- (a) Resident Institutions for Imbeciles and Idiots.
- (b) Special Residential Schools for Mentally Defective Children.
- (c) Special Day Schools for Mentally Defective Children.
- (d) Special Classes in Ordinary Schools.

A similar list is prepared in the case of physically defective children in respect of their suitability for treatment in :—

- (a) Residential Open Air Schools.
- (b) Day Open Air Schools.
- (c) Sanatorium Schools.
- (d) Special Residential Schools for Cripples.
- (e) Special Day Schools for Cripples.
- (f) Special Residential Schools for Epileptics.
- (g) Special Residential Hospital Schools for Non-Pulmonary Tuberculosis.

Mentally defective children who are not in Special Schools are referred to the South-East Lancashire Association for Mental Welfare for supervision, and some of them attend an Occupation Centre.

The South Bank Sight-saving School.

There are 71 children on the rolls, and the teachers at the School constitute the After-Care Committee.

Ten children left the School in 1928, and the following is a summary of the records of their after-careers :—

	Boys.	Girls.	Total.
Returned to Ordinary School	—	2	2
Working	3	4	7
Home Duties	—	1	1
	3	7	10

Nursery Schools.

As yet there is but one in the City, namely, at Encombe Place, where about 59 children are in daily

attendance. This school is visited each week by the Child Welfare Medical Officer.

The school is also visited by the School Nurse for the purpose of "cleanliness inspection."

Secondary Schools.

The work of medical inspection in respect of the Secondary Schools has been undertaken by one of the Medical Inspection Staff, Dr. H. Heathcote.

On the occasion of the visit of the doctor to each of these schools the whole of the pupils in attendance have been submitted to medical examination. This examination is the same in character as in the case of Elementary Schools, and in the same way parents have an opportunity of being present.

Children who may be suffering from tonsils and adenoids or defective vision may now participate in the Education Committee's scheme for treatment.

Following up is undertaken by Dr. H. Heathcote, who re-visits the schools in order to ascertain whether the treatment recommended has been carried out.

Tables showing the number of pupils examined and the findings of the Medical Inspector will be found in the Statistical Tables.

Anti-Scarlatinal Inoculation in a School.

Fifteen cases of scarlet fever having occurred in three months in one of the secondary schools, it was suggested that the effect of the preventive inoculation should be tried.

The consent of the parents having been obtained for 135 children, these were tested for susceptibility by means of a skin test.

Eighty-six were found to be susceptible, and 78 of these were given 3 protective inoculations at weekly intervals. Three weeks after the third protective inoculation 73 of these children were present at school and were again tested for susceptibility. Twenty-six were found to be still susceptible, and 18 of these 26 were given a fourth preventive inoculation. The remaining 47 were found to be completely or almost completely protected.

As regards reactions occurring in the children during the protective inoculations, several suffered from headaches and slight feverishness coming on within 24 hours of the inoculation and lasting in some cases one or two days. One child was ill for over a week after the second inoculation, but this was apparently due to a coincident attack of tonsillitis. Most of the children said the arm felt slightly stiff during the 48 hours after the inoculations.

No further cases of scarlet fever have occurred in the school during the nine months since the inoculations were commenced. The inoculations were carried out by Dr. Edge, the Resident Medical Officer of Ladywell Hospital. The preparations used in the inoculations were Burroughs Wellcome.

Miscellaneous.

A number of Teachers, Exhibitioners, Bursars, and special cases have been medically examined by the Medical Officers during the year. (*See Table S Ib. in the Statistical Tables.*)

The total number of children medically examined in the Elementary Schools during the year amounted to 10,677.

During the year 28,334 invitations were sent out to children referred for medical treatment, and there were 20,248 attendances ; 7,781 cases were discharged from the Clinic, 92·30 per cent of which were remedied. (*See* pages 228-229 of Statistical Tables.)

Summary of Examinations.

During the year 1928, 56,066 examinations were conducted by the Medical Officers of the Education Committee.

These examinations were made up as follows :—

(a) Children belonging to Code Groups examined in the Schools	10,677
(b) Cases of visual defects examined by retinoscopy at Chapel Street	2,474
(c) Absentees and cases of disease or defect examined by the Medical Officers at Regent Road Centre, Teneriffe Street Centre and Police Street Centre	19,994
(d) Verminous cases in which cleansing notices have been served under Section 87 of the Education Act, 1921, examined at Regent Road..	779
(e) Teachers, pupil teachers, bursars, and various special cases examined	892
(f) Children examined in the schools by the School Dentists	19,227
(g) Children examined in Secondary Schools	1,840
(h) Employment Certificates issued....	183

STATISTICAL TABLES.

Elementary Schools.

TABLE I.

RETURN OF MEDICAL INSPECTIONS DURING THE YEAR ENDED
31ST DECEMBER, 1928.

A.—ROUTINE MEDICAL INSPECTIONS

	Boys.	Girls.	Total.
Number of Code Group Inspections—			
Entrants	1725	1682	3407
Intermediates	2261	2115	4376
Leavers	1483	1411	2894
Total	5469	5208	10677

Number of other Routine Inspections

B.—OTHER INSPECTIONS.

	Boys.	Girls.	Total.
Number of Special Inspections	4648	4330	8978
Number of Re-inspections	7910	7387	15297
Total	12558	11717	24275

TABLE I—Continued.

AVERAGE HEIGHTS AND WEIGHTS OF CHILDREN EXAMINED AT THE ROUTINE MEDICAL INSPECTION.

BOYS. AVERAGE HEIGHT IN INCHES.				GIRLS. AVERAGE HEIGHT IN INCHES.			
Average age in years	5 $\frac{6}{12}$	8 $\frac{5}{12}$	12 $\frac{5}{12}$	Average age in years	5 $\frac{6}{12}$	8 $\frac{5}{12}$	12 $\frac{6}{12}$
Number examined	1725	2261	1483	Number examined	1682	2115	1411
Anthropometric standard at 5, 8 and 12 years respectively	40.4	46.9	54.7	Anthropometric standard at 5, 8 and 12 years respectively	40.2	46.3	54.9
Salford average	41.7	47.9	54.8	Salford average	41.3	47.4	55.7
Difference	+ 1.3	+ 1.0	+ .1	Difference	+ 1.1	+ 1.1	+ .8
BOYS. AVERAGE WEIGHT IN LBS.				GIRLS. AVERAGE WEIGHT IN LBS.			
Average age in years	5 $\frac{6}{12}$	8 $\frac{5}{12}$	12 $\frac{5}{12}$	Average age in years	5 $\frac{6}{12}$	8 $\frac{5}{12}$	12 $\frac{6}{12}$
Number examined	1725	2261	1483	Number examined	1682	2115	1411
Anthropometric standard at 5, 8 and 12 years respectively	38.2	50.2	71.5	Anthropometric standard at 5, 8, and 12 years respectively	37.3	48.9	72.3
Salford average	39.6	51.4	71.2	Salford average	37.9	49.8	73.7
Difference	+ 1.4	+ 1.2	— .3	Difference	+ .6	+ .9	+ 1.4

TABLE II.

A.—RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION IN 1928.

DEFECTS OR DISEASES.	ROUTINE INSPECTION.		SPECIALS.	
	No. referred for treatment.	No. requiring to be kept under observation.	No. referred for treatment.	No. requiring to be kept under observation, but not referred for treatment.
Malnutrition.....	6	20	45	10
Uncleanliness, head	..	..	..	..
„ body	..	..	..	..
(See Table IV., Group V).				
Skin—				
Ringworm, head	6	..	53	1
„ body	4	..	103	..
Scabies	41	1	107	..
Impetigo	88	2	1185	..
Other Diseases (Non-Tubercular)	79	3	1434	1
Eye—				
Blepharitis	42	3	197	..
Conjunctivitis	62	1	1054	..
Keratitis	10	..	38	..
Corneal Ulcer	..	1	21	..
Corneal Opacities	1	1	3	..
Defective Vision	893	102	140	1
Squint	213	12	52	1
Other Conditions	20	2	116	4
Ear—				
Defective Hearing	61	58	130	15
Otitis Media	123	50	570	12
Other Ear Diseases	24	47	68	8
Nose and Throat—				
Enlarged Tonsils.....	78	189	310	82
Adenoids.....	44	59	136	41
Enlarged Tonsils and Adenoids.	659	173	1019	65
Other Conditions	88	35	293	22
Enlarged Cervical Glands (Non-Tubercular)	17	20	194	19
Defective Speech	11	3	25	8
Teeth—Dental Disease	1050	1	171	1
Heart and Circulation—				
Heart Disease, Organic	21	89	75	150
„ „ Functional	21	91	68	128
Anæmia	27	28	84	92

TABLE II—Continued.

A.—RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL
INSPECTION IN 1928.

DEFECTS OR DISEASES.	ROUTINE INSPECTION.		SPECIALS.	
	No. referred for treatment.	No. requiring to be kept under observation.	No. referred for treatment.	No. requiring to be kept under observation, but not referred for treatment.
Lungs—				
Bronchitis.....	110	108	317	282
Other Non-Tubercular Diseases.	38	11	46	27
Tuberculosis—				
Pulmonary, Definite	..	..	2	4
„ Suspected	10	5	46	146
Non-Pulmonary, Glands.....	8	6	27	12
„ Spine	1	1	5	2
Hip	3	..	5	1
Other Bones and Joints.....	4	..	6	..
Skin	..	..	2	1
Other Forms	2	1	6	6
Nervous System—				
Epilepsy	7	1	28	15
Chorea.....	9	12	83	74
Other Conditions	35	6	58	41
Deformities—				
Rickets	40	29	57	19
Spinal Curvature	5	13	7	2
Other Forms	16	12	26	4
Other Defects or Diseases	185	91	763	168
Delicate	66	34	207	141
Mentally Defective	3	15	10	10
Dull and Backward	4	9	7	10

TABLE II—Continued.

B.—NUMBER OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group.	Number of Children.		Percentage of Children Found to Require Treatment.
	Inspected.	Found to Require Treatment.	
Code Groups—			
Entrants	3407	848	24.89
Intermediates	4376	1460	33.36
Leavers	2894	863	29.82
Total (Code Groups)	10677	3171	29.70
Other Routine Inspections	..	..	..

TABLE II—Continued.

C.—DETAILS OF RE-EXAMINATION OF CHILDREN IN CODE GROUPS.

Defects or Diseases.	Had Treatment.	Not had Treatment.
Malnutrition.....	8	2
Uncleanliness, head	45	..
" body	3	..
Skin—		
Ringworm, head	5	..
" body	8	..
Scabies	37	..
Impetigo	71	..
Other Diseases (Non-Tubercular)	65	3
Eye—		
Blepharitis	34	3
Conjunctivitis	51	2
Keratitis	10	..
Corneal Ulcer	1	..
Corneal Opacities	..	..
Defective Vision	570	372
Squint	30	18
Other Conditions	10	5
Ear—		
Defective Hearing	49	18
Otitis Media	144	22
Other Ear Diseases	39	6
Nose and Throat—		
Enlarged Tonsils.....	32	76
Adenoids.....	17	33
Enlarged Tonsils and Adenoids	143	692
Other Conditions	67	7
Enlarged Cervical Glands (Non-Tubercular)	24	6
Defective Speech	6	2
Teeth—Dental Disease	484	439
Heart and Circulation—		
Heart Disease, Organic	22	23
" " Functional	86	19
Anæmia	16	2
Lungs—		
Bronchitis.....	173	21
Other Non-Tubercular Diseases	5	..
Tuberculosis—		
Pulmonary, Definite.....	4	..
" Suspected.....	3	..
Non-Pulmonary, Glands.....	1	..
" Spine	..	..
" Hip	2	..
" Other Bones and Joints	..	1
" Skin	..	..
" Other Forms	3	..
Nervous System—		
Epilepsy	12	..
Chorea.....	13	..
Other Conditions	21	3
Deformities—		
Rickets	18	17
Spinal Curvature	3	5
Other Forms	8	4
Other Defects or Diseases	285	60
Delicate	82	19
Mentally Defective	8	5
Dull and Backward	3	1
Number of Children Re-Examined	4,281	
Had Treatment.....	2,456 = 57.37 per cent.	
Not had Treatment	1,825	

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Boys.	Girls.	Total.
Blind (including partially blind).	(i.) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind....	4	4	8
		Attending Public Elementary Schools	..	..	..
		At other Institutions.....	..	..	..
		At no School or Institution..	..	2	2
	(ii.) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind....	34	37	71
		Attending Public Elementary Schools	..	..	..
		At other Institutions.....	..	..	..
		At no School or Institution..	..	..	..
Deaf (including deaf and dumb and partially deaf).	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf....	19	12	31
		Attending Public Elementary Schools	..	..	..
		At other Institutions.....	..	..	..
		At no School or Institution..	4	5	9
	(ii.) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf....	..	..	..
		Attending Public Elementary Schools	1	..	1
		At other Institutions	..	..	..
		At no School or Institution..	1	1	2
Mentally defective.	Feeble-minded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children	1	1	2
		Attending Public Elementary Schools	32	22	54
		At other Institutions.....	1	..	1
		At no School or Institution..	52	33	85
	Notified to the Local Control Authority during the year	Feeble-minded	2	0	2
		Imbeciles	8	8	16
		Moral Imbeciles	..	..	..
		Idiots	..	1	1
Epileptics.	Suffering from severe Epilepsy.	Attending Certified Special Schools for Epileptics.....	7	4	11
		In Institutions other than Certified Special Schools....	..	..	..
		Attending Public Elementary Schools	4	8	12
		At no School or Institution..	23	12	35
	Suffering from Epilepsy which is not severe.	Attending Public Elementary Schools	17	13	30
		At no School or Institution..	6	3	9

TABLE III—Continued.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Boys.	Girls.	Total.
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	14	6	20
		At other Institutions.....	..	1	1
		At no School or Institution..	2	1	3
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	..	..	..
		At Certified Residential Open Air Schools	..	..	..
		At Certified Day Open Air Schools	..	..	..
		At Public Elementary Schools.	5	4	9
		At other Institutions.....	..	..	..
		At no School or Institution..	4	3	7
	Delicate children (<i>e.g.</i> , pre or latent tuberculosis, malnutrition, debility, anæmia, etc.).	At Certified Residential Open Air Schools	..	..	..
		At Certified Day Open Air Schools	88	104	192
		At Public Elementary Schools.	68	54	122
		At other Institutions.....	..	..	..
		At no School or Institution..	4	9	13
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board	1	..	1
		At Public Elementary Schools.	1	..	1
		At other Institutions.....	..	..	..
		At no School or Institution..	13	2	15
	Crippled Children (other than those with active tuberculous Disease), <i>e.g.</i> , children suffering from paralysis, etc., and including those with severe heart disease.	At Certified Hospital Schools.	..	..	..
		At Certified Residential Cripple Schools	14	17	31
		At Certified Day Cripple Schools	..	..	..
		At Public Elementary Schools.	62	53	115
		At other Institutions.....	..	..	..
		At no School or Institution..	26	47	73

TABLE IIIa.

MENTALLY DEFECTIVE CHILDREN EXAMINED DURING 1928 BY THE
MEDICAL OFFICER.

	Boys.	Girls.	Total.
Idiots	..	1	1
Imbeciles	14	10	24
Mental Defectives	19	15	34
Dull and Backward	16	18	34
Neurotic	2	..	2
Found Normal	6	3	9
Total	57	47	104

Recommended for	Boys.	Girls.	Total.
Special Residential School for M.D.'s	2	2	4
„ Day School for M.D.'s	13	11	24
„ Resident Institution for M.D.'s	..	1	1
„ „ „ Idiots and Imbeciles	14	11	25
Resident Institution for Low-grade Feeble-minded	3	..	3
Residential School for Blind M.D.'s	..	1	1
„ „ „ Cripple M.D.'s	1	..	1
Special Class for Dull and Backward	16	18	34
Industrial School	1	..	1
Ordinary School	7	3	10
Total	57	47	104

PHYSICALLY DEFECTIVE CHILDREN

(CRIPPLES, EPILEPTICS, ETC.).

	Boys.	Girls.	Total.
Epileptics (Definite or Suspected)	11	6	17
Tuberculosis (Pulmonary)	..	..	..
„ (Non-Pulmonary)	5	3	8
Rickets	1	1	2
Spinal Curvature	..	2	2
Infantile Paralysis	3	2	5
Paralysis other than Infantile	1	..	1
Heart Disease	3	1	4
Deaf and Dumb	..	1	1
Deaf	..	3	3
Blind	..	2	2
Total	24	21	45

TABLE IIIa—Continued.

Recommended for	Boys.	Girls.	Total.
Special Residential School for Epileptics	6	4	10
" " " " Cripples.....	2	—	2
" Day Cripple School	9	5	14
Special Residential School for Deaf.....	—	4	4
Special Residential School for Blind	—	2	2
Hospital School for Non-Pulmonary Tuberculosis	1	1	2
Day Open Air School	—	1	1
Unsuitable for any School	1	—	1
Ordinary School	5	4	9
Total	24	21	45

TABLE IV.

RETURN OF DEFECTS TREATED DURING THE YEAR ENDED
31ST DECEMBER, 1928.

TREATMENT TABLE.

GROUP I.—MINOR AILMENTS (EXCLUDING UNCLEANLINESS, FOR WHICH SEE
GROUP V.).

Disease or Defect.	Number of Defects Treated or under Treatment during the Year.		
	Under the Authority's Scheme.	Otherwise.	Total.
Skin—			
Ringworm, Scalp	47	5	52
" Body	101	4	105
Scabies	103	4	107
Impetigo	1141	39	1180
Other Skin Diseases	1365	77	1442
Minor Eye Defects	1532	85	1617
(External and other, but excluding cases falling in Group II.).			
Minor Ear Defects	707	56	763
Miscellaneous	357	34	391
(Minor Injuries, Bruises, Sores, etc.)			
Total.....	5353	304	5657

GROUP II.—DEFECTIVE VISION AND SQUINT, EXCLUDING MINOR EYE DEFECTS
TREATED AS MINOR AILMENTS (GROUP I.).

Defect or Disease.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by Private Practitioner or at Hospital, apart from the Authority's Scheme.	Otherwise.	Total
Errors of Refraction (including Squint)	2361	..	..	2361
Other Defects or Diseases of the Eyes (excluding those recorded in Group I.)	113	..	..	113
Total	2474	..	..	2474

Total number of children for whom spectacles were prescribed :—

- (a) Under the Authority's Scheme 1766
(b) Otherwise..... —

Total number of children who obtained or received spectacles :—

- (a) Under the Authority's Scheme..... 1769
(b) Otherwise..... —

GROUP III.—TREATMENT OF DEFECTS OF NOSE AND THROAT.

Received Operative Treatment.			Received other Forms of Treatment.	Total Number Treated.
Under the Authority's Scheme in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
214	189	403	252	655

GROUP IV.—DENTAL DEFECTS.

(1) Number of children who were :—		Number	
(a) Inspected by the Dentist :		of	
Aged :		Children. Total.	
Routine Age Groups, 5 years.....		—	
6	„	3,044	
7	„	3,197	
8	„	3,454	
9	„	1,973	
10	„	1,784	
11	„	1,430	
12	„	1,038	
13	„	1,364	
14	„	105	
Specials		—	17,389
Grand Total			1,838
			<u>19,227</u>
(b) Found to require treatment			9,292
(c) Actually treated			7,030
(d) Re-treated during the year as the result of periodical examination (included under (c) above).....			2,324
(2) Half-days devoted to (a) Inspection		225	
(b) Treatment		904	
		—	1,129
(3) Attendances made by children for treatment			10,098
(4) Fillings (a) Permanent Teeth		3,200	
(b) Temporary Teeth		—	
		—	3,200
(5) Extractions (a) Permanent Teeth		752	
(b) Temporary Teeth		11,258	
		—	12,010
(6) Administrations of local anæsthetics for extractions.....			10,651
(7) Other operations (a) Permanent Teeth		760	
(b) Temporary Teeth		17	
		—	777

GROUP V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(i.) Average number of visits per School made during the year by the School Nurses	3
(ii.) Total number of examinations of children in the Schools by the School Nurses	90,664
(iii.) Number of individual children found unclean.....	2,175
(iv.) Number of children cleansed under arrangements made by the Local Education Authority	346
(v.) Number of cases in which legal proceedings were taken :—	
(a) Under the Education Act, 1921	—
(b) Under School Attendance Byelaws	—

**RESULTS OF TREATMENT OF DEFECTS OF CHILDREN DISCHARGED
FROM CLINICS DURING 1928.**

Defects or Diseases.	Remedied.	Improved.	No change or no report.	Total.	Percentage remedied.
Malnutrition	20	10	2	32	62.50
Uncleanliness, head	4	..	..	4	100.00
„ body	..	..	..	..	..
Skin—					
Ringworm, head	55	..	..	55	100.00
„ body	92	..	..	92	100.00
Scabies	110	..	..	110	100.00
Impetigo	1132	..	..	1132	100.00
Other Diseases— (Non-Tubercular)	1375	..	2	1377	99.85
Eye—					
Blepharitis	155	2	..	157	98.73
Conjunctivitis	876	3	2	881	99.43
Keratitis	27	1	1	29	93.10
Corneal Ulcer	14	1	1	16	87.50
Corneal Opacities	..	1	..	1	..
*Defective Vision	50	..	44	94	53.19
*Squint	28	3	8	39	71.79
Other Conditions	142	..	3	145	97.93
Ear—					
Defective Hearing	111	8	2	121	91.74
Otitis Media	365	5	6	376	97.07
Other Ear Diseases	52	..	1	53	98.11
Nose and Throat —					
Enlarged Tonsils	201	1	13	215	93.49
Adenoids	99	2	4	105	94.29
Enlarged Tonsils and Adenoids	552	1	52	605	91.24
Other Conditions	230	8	..	238	96.64
Enlarged Cervical Glands— (Non-Tubercular)	155	6	1	162	95.68
Defective Speech	22	13	3	38	57.89
*Teeth—Dental Disease	30	..	40	70	42.86
Heart and Circulation—					
Heart Disease, Organic	..	102	19	121	..
„ Functional	83	30	2	115	72.17
Anæmia	90	13	2	105	85.71

* These figures include cases coming under the notice of the School Doctor at the Inspection Clinic, and do not include the great bulk of cases treated at the Ophthalmic and Dental Clinics.

RESULTS OF TREATMENT OF DEFECTS OF CHILDREN DISCHARGED
FROM CLINICS DURING 1928—*Continued.*

Defects or Diseases.	Remedied.	Improved.	No change or no report.	Total.	Percentage remedied.
Lungs—					
Bronchitis.....	390	27	7	424	91.98
Other Non-Tubercular Diseases	51	2	1	54	94.44
Tuberculosis—					
Pulmonary, Definite	2	3	3	8	25.00
„ Suspected	78	26	11	115	67.83
Non-Pulmonary, Glands	19	6	3	28	67.86
„ Spine	..	1	2	3	..
„ Hip	3	1	3	7	42.86
„ Other Bones and Joints ..	..	1	..	1	..
„ Skin	..	..	4	4	..
„ Other Forms ..	5	2	2	9	55.55
Nervous System—					
Epilepsy	12	6	1	19	63.16
Chorea.....	83	9	5	97	85.57
Other Conditions	55	7	6	68	80.88
Deformities—					
Rickets	24	10	2	36	66.66
Spinal Curvature	3	3	1	7	42.86
Other Forms	9	3	5	17	52.94
Other Defects or Diseases	785	21	21	827	94.92
Delicate	191	15	1	207	92.27
Mentally Defective	1	1	..	2	50.00
Dull and Backward	..	8	1	9	..
Total	7781	362	287	8430	92.30

TABLE V.

SUMMARY OF TREATMENT OF DEFECTS SHOWN IN TABLE IV.

(GROUPS I., II., III. AND IV.)

Disease or Defect.	Number of Children.			
	Referred for Treatment.	Treated.		
		Under Local Education Authority's Scheme.	Otherwise.	Total.
Minor Ailments	6799	5353	304	5657
Visual Defects	2474	2361	..	2361
Defects of Nose and Throat.	2627	214	441	655
Dental Defects	9292	7030	..	7030
Other Defects	3864	502	..	502
Total	25056	15460	745	16205

TABLE VI.

SUMMARY RELATING TO CHILDREN MEDICALLY INSPECTED AT THE
ROUTINE INSPECTIONS DURING THE YEAR 1928.

(1) The total number of children medically inspected at the routine inspections	10677
(2) The number of children in (1) suffering from—	
Malnutrition	26
Skin Disease	224
Defective Vision (including Squint)	1220
Eye Disease	143
Defective Hearing	119
Ear Disease	244
Nose and Throat Disease	1325
Enlarged Cervical Glands (Non-Tubercular)	37
Defective Speech	14
Dental Disease	1051
Heart Disease—	
Organic	110
Functional	112
Anæmia	55
Lung Disease (Non-Tubercular)	267
Tuberculosis—	
Pulmonary, Definite	—
„ Suspected	15
Non-pulmonary	26
Disease of the Nervous System	70
Deformities	115
Other Defects and Diseases	417
(3) The number of children in (1) suffering from defects (other than uncleanliness or defective clothing or footgear) who require to be kept under observation (but not referred for treatment)	947
(4) The number of children in (1) who were referred for treatment (excluding uncleanliness, defective clothing, etc.)	3526
(5) The number of children in (4) who received treatment for one or more defects (excluding uncleanliness, defective clothing, etc.)	2408

TABLE Ia.

NUMBER OF CHILDREN IN SECONDARY SCHOOLS INSPECTED
DURING 1928.

A.—ROUTINE MEDICAL INSPECTION.

	Prepara- tory.	Entrants.		Intermediates.		Leavers.		Totals.
		12	13	14	15	16	17	
Boys	33	76	102	157	118	34	7	527
Girls	343	223	211	193	195	84	64	1313
Total ...	376	299	313	350	313	118	71	1840

B.—SPECIAL INSPECTIONS.

	Special Cases.	Re-examinations (i.e., No. of Children re-examined).
Boys	..	171
Girls	..	479
Totals	..	650

C.—TOTAL NUMBER OF INDIVIDUAL CHILDREN INSPECTED BY THE MEDICAL
OFFICER WHETHER AS ROUTINE OR SPECIAL CASES.

(No child to be counted more than once in a year.)

Number of Individual Children Inspected 1840

TABLE IIa.

A.—ROUTINE INSPECTION OF SECONDARY SCHOOLS.

Defects or Diseases.	No. referred for Treatment.	No. requiring to be kept under observation.
Malnutrition.....	..	..
Uncleanliness, head	55	..
„ body	2	..
Skin—		
Ringworm, head	..	..
„ body	..	..
Scabies	..	..
Impetigo	..	..
Other Diseases (Non-Tubercular).....	22	2
Eye—		
Blepharitis	11	..
Conjunctivitis	3	..
Keratitis	..	..
Corneal Ulcer	..	..
Corneal Opacities	1	..
Defective Vision	166	168
Squint ..	4	6
Other Conditions	1	..
Ear—		
Defective Hearing	11	6
Otitis Media	15	..
Other Ear Diseases	1	2
Nose and Throat—		
Enlarged Tonsils.....	48	20
Adenoids.....	8	2
Enlarged Tonsils and Adenoids	13	3
Other Conditions	7	6
Enlarged Cervical Glands (Non-Tubercular)..	2	3
Defective Speech	1	1
Teeth—Dental Disease	198	..
Heart and Circulation—		
Heart Disease, Organic	12	5
„ „ Functional	16	58
Anæmia	4	5
Lungs—		
Bronchitis.....	19	6
Other Non-Tubercular Diseases	1	3

TABLE IIa—Continued.

Defects or Diseases.	No. referred for Treatment.	No. requiring to be kept under observation.
Tuberculosis—		
Pulmonary, Definite	..	..
" Suspected	1	8
Non-Pulmonary, Glands.....	1	..
" Spine	..	1
" Hip	..	..
" Other Bones and Joints.	..	..
" Skin	..	..
" Other Forms	..	1
Nervous System—		
Epilepsy	2	1
Chorea.....	..	3
Other Conditions	5	9
Deformities—		
Rickets	..	..
Spinal Curvature	7	5
Other Forms	39	21
Other Defects or Diseases	89	67
Delicate	1	1
Mentally Defective	..	..
Dull and Backward	..	..
No. of Children Examined.....	1840	..
No. of Individual Children having Defects which required treatment or to be kept under observation	691	360

TABLE IIa—Continued.

B.—DETAILS OF RE-EXAMINATION OF CHILDREN IN
SECONDARY SCHOOLS.

Defects or Diseases.	Had Treatment.	Not had Treatment.
Malnutrition.....	..	..
Uncleanliness, head	26	..
" body	..	1
Skin—		
Ringworm, head	..	..
" body	..	..
Scabies	..	..
Impetigo	..	..
Other Diseases (Non-Tubercular)	12	4
Eye—		
Blepharitis	5	1
Conjunctivitis	..	..
Keratitis	..	..
Corneal Ulcer	..	..
Corneal Opacities	..	..
Defective Vision	192	44
Squint	..	..
Other Conditions	..	..
Ear—		
Defective Hearing	3	1
Otitis Media	9	1
Other Ear Disease	..	..
Nose and Throat—		
Enlarged Tonsils.....	12	19
Adenoids.....	2	4
Enlarged Tonsils and Adenoids	7	5
Other Conditions	6	..
Enlarged Cervical Glands (Non-Tubercular) ..	2	..
Defective Speech	..	..
Teeth—		
Dental Disease	128	40
Heart and Circulation—		
Heart Disease, Organic	10	1
" Functional	24	2
Anæmia	2	..
Lungs—		
Tuberculosis, Suspected.....	1	..
Bronchitis.....	9	1
Other Non-Tubercular Diseases	2	..
Tuberculosis (Non-Pulmonary)—		
Glands	..	..
Nervous System—		
Epilepsy	1	..
Chorea.....	..	..
Other Conditions	2	..
Deformities—		
Rickets	..	..
Spinal Curvature ..	7	..
Other Forms	18	1
Other Defects or Diseases	59	58
Number of Children Re-examined		650
" Defects had Treatment		493
" " not had Treatment		157

TABLE IIIa.

TABLE SHOWING PREVALENCE OF PEDICULOSIS IN SECONDARY SCHOOLS
WHERE ALL THE PUPILS PRESENT WERE EXAMINED.

	BOYS.					GIRLS.				
	No. Examined.	Heads.			Vermi- nous bodies.	No. Examined.	Heads.			Vermi- nous bodies.
		A.	B.	C.			A.	B.	C.	
(A) Aggregate Numbers..	527	510	17	..	..	1,313	1,275	34	4	2
(B) Percentages..	..	96·77	3·23	..	..	..	97·11	2·59	·30	..

TABLE S I.

CHILDREN EXAMINED AT THE INSPECTION CENTRES BY THE MEDICAL
INSPECTORS.

	Boys.		Girls.		Total.
New Cases.....	4648	..	4330	..	8978
Re-examinations	5741	..	5275	..	11016
Total Examinations	10389	..	9605	..	19994

CHILDREN EXAMINED BY THE EYE SPECIALIST.

	Boys.		Girls.		Total.
Number examined	1133	..	1341	..	2474
Spectacles prescribed for	829	..	937	..	1766
„ supplied	827	..	935	..	1762

TABLE S Ib.

MEDICAL EXAMINATION OF TEACHERS, ETC.

Teachers	12
Intending Teachers	36
Entrants to Secondary Schools	474
Other Special Examinations	370

TABLE 3 IIa.

CLASSIFICATION OF SPECIAL CASES.

EXAMINED BY THE MEDICAL INSPECTORS, AT THE INSPECTION CENTRES,
DURING THE YEAR 1928.

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re- examined.	1st Exam.	Re- examined.	
Number of cases examined.....	4648	5741	4330	5275	19994
Malnutrition	18	11	38	42	109
Cleanliness, head	4	1	8	3	16
„ body	..	..	..	2	2
Skin—					
Ringworm, head	39	95	15	48	197
„ body	65	107	39	65	276
Impetigo	687	1078	487	804	3056
Scabies	58	92	50	55	255
Alopecia	26	64	49	64	203
Other Diseases	799	1050	579	686	3114
Eye—					
Defective Vision and Squint ..	98	43	94	43	278
External Eye Disease	756	1019	677	1024	3476
Ear—					
Defective Hearing	77	49	69	71	266
Ear Disease	341	705	317	632	1995
Teeth—					
Dental Disease	87	7	87	19	200
Nose and Throat—					
Enlarged Tonsils	187	166	207	218	778
Adenoids	105	109	73	72	359
Enlarged Tonsils and Adenoids	548	414	540	469	1971
Tonsillitis	19	26	29	60	134
Rhinitis	39	63	41	37	180
Other Diseases	69	88	118	174	449
Defective Speech	23	14	9	3	49

TABLE S IIa—Continued.

CLASSIFICATION OF SPECIAL CASES—Continued.

	Boys.		Girls.		Total Examina- tions.
	1st Exam.	Re- examined.	1st Exam.	Re- examined.	
Heart and Circulation—					
Organic Disease	107	167	114	161	549
Functional Disease	103	124	96	138	461
Anæmia	68	104	103	140	415
Lungs—					
Pulmonary { Definite	4	2	2	14	22
Tuberculosis { Suspected	98	89	96	99	382
Chronic Bronchitis	332	437	276	307	1352
Other Disease	38	47	35	52	172
Nervous System—					
Epilepsy	26	45	16	28	115
Chorea	75	168	83	140	466
Mentally Defective	8	10	12	10	40
Other Disease	45	41	49	49	184
Non-Pulmonary Tuberculosis—					
Glands	18	36	19	35	108
Bones and Joints	6	5	8	12	31
Other Forms	11	12	10	11	44
Enlarged Cervical Glands (Non- Tubercular)	102	146	112	219	579
Delicate	170	183	180	207	740
Rickets	46	54	32	28	160
Deformities	16	18	20	10	64
Other Defects or Diseases	421	471	484	674	2050
Dull and Backward	13	8	5	1	27
Abscess	22	51	11	18	102
Fit for School	7904	..	6956	..	14860

TABLE S IIIa.

BLIND, DEAF AND DEFECTIVE CHILDREN.

NEW CASES SENT TO SPECIAL SCHOOLS DURING 1928.

	Boys.	Girls.	Total.
To Royal Residential School for the Deaf	0	4	4
„ South Bank Sight-saving School..	8	9	17
„ Other Special Schools	3	0	3
TOTALS	11	13	24

TABLE S III b.

TOTAL NUMBER OF CHILDREN MAINTAINED IN INSTITUTIONS, AT THE
PART COST OF THE COUNCIL, AS AT SEPTEMBER 30TH, 1928.

Name of Institution.	Boys.	Girls.	Total.
Henshaw's Institution for the Blind, Manchester..	3	4	7
Catholic Blind Asylum, Liverpool	1	..	1
Royal Residential Schools for the Deaf, Manchester.	16	12	28
Jews' Deaf and Dumb Home	1	..	1
St. John's Institution for the Deaf and Dumb, Boston Spa	2	..	2
Soss Moss Epileptic Colony School	1	..	1
Starnthwaite Epileptic Home	6	..	6
Home for Epileptics, Maghull	..	3	3
„ „ Chalfont St. Peter	..	1	1
Sandlebridge School for Feeble-minded	1	..	1
Allerton Priory School for Mental Defectives, Liverpool	..	1	1
Greengate Hospital and Open Air School	13	17	30
Heatherwood Hospital, Ascot	1	..	1
Boys' and Girls' Refuges ..	1	..	1
Bethesda Homes for Cripples)			
TOTALS	46	38	84

TABLE S V.

INSPECTION, TREATMENT, ETC., OF CHILDREN DURING 1928.

(1) The total number of children medically inspected (whether Code Group, special or ailing child)	19,655
(2) The number of children in (1) suffering from defects (other than uncleanliness or defective clothing or footgear) who require to be kept under observation (but not referred for treatment)	2,121
(3) The number of children in (1) who were referred for treatment (excluding uncleanliness, defective clothing, etc.)	10,275
(4) The number of children in (3) who received treatment for one or more defects (excluding uncleanliness, defective clothing, etc.)	8,426

SECTION V.

Report Relating to the
Veterinary Inspector's Department.

DISEASES OF ANIMALS ACTS, 1894—1927.

Cattle Market.

The first normal market was held on the 31st January. From the beginning of the year until then the Market was closed, owing to the City being included in an Infected Area under the Foot and Mouth Disease (Infected Areas) Order, 1925. There was another period of four weeks in April when the Market was again closed, owing to an outbreak of Foot and Mouth Disease in Manchester.

The section of the Market which is authorised for Imported Animals was closed for a further period of four weeks, owing to a suspected case of Foot and Mouth Disease in Ireland.

The cattle exposed for sale in the section of the Market authorised for Imported Animals are subject to certain conditions, *i.e.*, the cattle come to the Market on licence from the port of landing, while in the Market they must be kept separate from all other animals, and

they can only be moved from the Market on a further licence on which the place of destination is stated.

The cattle exposed for sale have been inspected regularly, and no animal was found affected with any of the scheduled diseases, except those animals dealt with under Article 12 of the Tuberculosis Order, 1925.

The Market was thoroughly cleansed and disinfected after each market.

The following table shows the number of animals exposed for sale during the year:—

Irish, Fat and Store Cattle	16,597
Irish, Dairy Cattle	3,006
Other Fat and Store Cattle	27,763
Other Dairy Cattle.....	137
	47,503
Irish Sheep	13,738
Other Sheep	306,657
	320,395

This shows a decrease of 16,229 cattle and 77,994 sheep from the previous year. The average number of animals exposed for sale each day on which the market was held shows a decrease of 150 cattle and 655 sheep per market day compared with the previous year.

This falling-off is partly accounted for by the fact that after each occasion on which the Market is closed normal trade is not resumed for a few weeks.

Authorised Lairs.

The authorised lairs are in six premises and comprise twenty separate lairs (not including those lairs which are adjacent to the Market).

These lairs are licensed by the Corporation under the Markets, Sales and Lairs Order, 1925, and they are used for the temporary detention of animals prior to exposure for sale in the Market.

They have been regularly inspected and have been found to be kept in a satisfactory manner. They are required to be cleansed and disinfected as soon as practicable after being used for the temporary detention of animals and before being again so used.

The practice of moving animals to and from the Market by motor float is becoming more popular, and an increasing number of these vehicles attend the Market each week. To ensure the working of Section 27 of the Transit of Animals Order, 1927, which requires the cleansing and disinfection of these vehicles on each occasion after use, an employee of the Corporation cleans and disinfects the vehicle for the owner at a charge of sixpence per vehicle. This arrangement has been found to be satisfactory, as it ensures that the vehicles are cleansed and disinfected in the desired manner. In one instance proceedings were taken against the owner of a motor float for failing to comply with this Order. The owner was convicted of the offence charged against him and was fined £5.

Railway Pens and Cattle Trucks.

The railway pens and cattle trucks have been regularly inspected, and the cleansing and disinfection has been carried out in a satisfactory manner. There were 42,647 cattle trucks cleansed and disinfected during the year.

The number of cattle received into and forwarded out of the City was as follows :—

CATTLE RECEIVED INTO THE CITY.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
80,934	666,829	10,175	1,574	228

FORWARDED OUT OF THE CITY.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
28,417	173,559	439	87	51

Foot and Mouth Disease.

No case of Foot and Mouth Disease occurred in the City, but at varying periods restrictions were placed on the animals in the City owing to outbreaks in other parts of the country. The nearest outbreak occurred in Manchester.

Legal proceedings were taken in two instances for a contravention of the Midlands and North of England (Foot and Mouth Disease) (Controlled Area) Order, 1927. Ten cattle were moved by rail without a licence from Wiltshire to Salford during the time the City was in a Controlled Area. The railway company moving the animals and the owner of the animals were charged with an offence against Section 2 of the Order, and each was found guilty and fined £2.

Parasitic Mange Order, 1911.

Two cases of suspected Mange were reported, but on investigation were found not to be cases of Mange.

Swine Fever Order, 1908.

Two outbreaks of Swine Fever occurred during the year. Both outbreaks were found in the dressed carcasses of pigs in a slaughterhouse. The carcasses were destroyed and the premises disinfected in accordance with the provisions of the Order.

Anthrax Order, 1910 and 1928.

There were thirteen suspected cases of Anthrax reported during the year, but on investigation none was found to be affected with Anthrax. The majority of these were animals found dead in cattle trucks on arrival in Salford and were mainly cases of suffocation.

Tuberculosis Order, 1925.

Three cases were dealt with under the above Order. These were found on inspection of the herds under the Milk and Dairies (Consolidation) Act, 1915. Two of the cases occurred on the same farm, and were classified as having a chronic cough and showing definite clinical signs of tuberculosis. The post-mortem examination showed that both animals were affected with "advanced" tuberculosis as defined by the Order. The other case was a cow which had tuberculosis of the udder and was giving tuberculous milk. The post-mortem examination showed that the cow was affected with tuberculosis, but not "advanced" tuberculosis. The owner of this

animal contravened Section 2 (1) of the Order, in that he failed to report that he had in his possession a cow which was affected with tuberculosis of the udder. Proceedings were not taken, but it was decided to withhold compensation. The compensation due was £11 5s., but the salvage realised £6 14s. 5d. after deducting expenses, and this was paid to the owner, so that withholding compensation was equal to imposing a fine of £4 10s. 7d.

Importation of Dogs Order, 1914.

On the receipt by the Department of a Police Report that a ship at the Docks has a dog on board, the ship is visited to ensure that the dog is controlled in accordance with requirements of the Order. In all cases the Order was complied with.

Sheep Scab Order, 1928.

No case of Sheep Scab occurred during the year. Under the above Order all sheep which are exposed for sale at the Market on licence from a "Movement Area" are to be kept separate from all other sheep, and are required to be re-licensed from the Market to the place of destination, there to be kept separate until slaughtered or double dipped.

New Orders Issued by the Ministry of Agriculture and Fisheries during 1928.

Animals (Landing from Ireland and Isle of Man)
Order of 1928.

Animals (Landing from Ireland and Isle of Man)
Order of 1928, No. 2.

Animals (Landing from Ireland and Isle of Man)
Order of 1928, No. 3.

Animals (Landing from Ireland and Isle of Man)
Order of 1928, No. 4.

Animals (Landing from Ireland) Order of 1928.

Foot and Mouth Disease Order of 1928.

Foot and Mouth Disease (Infected Areas) Order, 1928.

Foot and Mouth Disease (Boiling of Animal Foodstuffs)
Order of 1928.

Quarantine Stations (Regulation) Order of 1928.

Importation of Dogs and Cats Order of 1928.

Anthrax Order of 1928.

Cattle Plague Order of 1928.

Pleuro-pneumonia Order of 1928.

Sheep Scab Order of 1928.

Sheep Scab (Amendment) Order of 1928.

Foreign Hay and Straw (Amendment) Order of 1928.

The Milk Supply.

There are only half-a-dozen farms within the City, so that Salford is almost entirely dependent on the surrounding districts for its milk supply. The counties from which Salford draws the bulk of its milk are Lancashire and Cheshire.

A large number of milk samples have been examined this year, both for bacterial content and for tuberculosis. These examinations have been done at comparatively small cost, owing to the fact that the Corporation have their own laboratory and breed the guinea pigs which are used.

One hundred and sixty-one samples of milk were examined for bacterial content and four hundred and sixty-six for tuberculosis.

A number of the samples examined for bacterial content were taken from ordinary farm supplies on arrival at the dairies in the City, and the following table shows the result of the examination of these samples:—

Organisms present per c.c.	B. coli present in	
40,000 ..	0	Taken from farms in the City.
40,000 ..	1/1000	
60,000 ..	0	
24,000 ..	0	
51,000 ..	1/10	
31,000 ..	1/10	
300,000 ..	1/100	
110,000 ..	0	
1,400 ..	0	
1,600 ..	0	
90,000 ..	1/100	Taken from farms outside the City.
60,000 ..	1/10	
33,000 ..	0	
50,000 ..	1/10	
82,000 ..	0	
Uncountable ..	0	
95,000 ..	1/100	
35,000 ..	0	
500,000 ..	0	
53,000 ..	1/100	
400,000 ..	1/1000	
600,000 ..	1/1000	
40,000 ..	1/10	
30,000 ..	0	
Uncountable ..	1/1000	
Uncountable ..	1/100	
130,000 ..	0	

That is, 11·1 per cent of the samples examined equal the standard laid down for Certified Milk and 59·2 per

cent equal the standard laid down for Grade "A" Milk, so that 40·8 per cent of the samples examined were not equal to the standard of Grade "A" Milk.

There is room for improvement in these figures, and increased effort on the part of the farmers would result in more samples being equal to Grade "A" Milk. It is only in a minority of the farms visited during the year that any evidence of a genuine effort to produce clean milk has been seen.

The farms supplying very dirty samples were reported to the Medical Officer of Health of the district of origin, who caused them to be visited by the County Sanitary Inspector.

Several counties run Clean Milk Competitions, and, although the educational value of this work is undoubted, it is felt that so long as such competitions are voluntary, they only reach the farms which are well equipped and are already producing clean milk and do not reach the rank and file, who are the producers of the great bulk of the milk. It is considered that Clean Milk Competitions run by Corporations are more beneficial, because the effect is more concentrated, and also it is likely that more of the smaller farmers could be persuaded to compete, and the co-operation of the milk dealers might be obtained to give the successful competitor some pecuniary benefit.

Milk (Special Designations) Order, 1923.

The following licences were issued during the year:—

12 Dealer's Licences to sell milk as "Certified."

1 Supplementary Licence to sell milk as "Certified."

1 Supplementary Licence to sell milk as "Pasteurised."

7 Dealer's Licences to sell milk as "Pasteurised."

The number of licences issued has increased from previous years, but the amount of milk sold is still negligible. The reason that graded milk has not taken on in the City is that the people cannot afford to pay the price asked for it. That is the primary reason with the majority, but another reason is that very few people understand the significance of the various terms used.

The following table shows the results of the bacteriological examination of a number of samples of milk sold under the Milk (Special Designations) Order, 1923:—

Grade of Milk.	No. of Organisms present per c.c.	B. coli present per c.c.
Pasteurised	2,000	0
Grade "A" (T.T.)	8,000	0
Grade "A" (T.T.)	9,000	0
*Grade "A" (T.T.)	9,000	1/100
Pasteurised	6,000	0
Grade "A" (T.T.)	3,000	0
Grade "A" (T.T.)	3,000	0
Pasteurised	23,000	1/1000
Pasteurised	15,000	0
*Grade "A" (T.T.)	100,000	1/1000
Pasteurised	80,000	0
Grade "A" (T.T.)	5,000	0
Pasteurised	1,200	1/10
Pasteurised	24,000	1/1000
*Grade "A" (T.T.)	300,000	1/1000
Pasteurised	500	0
Pasteurised	200	0
*Pasteurised	150,000	0
*Pasteurised	300,000	0
Pasteurised	6,000	0
Pasteurised	14,000	0
*Pasteurised	600,000	1/1000

Samples marked (*), that is, 37·5 per cent of the Grade "A" (T.T.) and 21·4 per cent of the Pasteurised samples, do not comply with the standard. Although there is no bacillus colus standard for Pasteurised Milk, 28·5 per cent of the Pasteurised samples contained *B. coli* organisms in dilution of 1/10 c.c. or more.

Before leaving this subject, it should be emphasised that approximately 90 per cent of the milk sold in the City is either "Pasteurised" or "Sterilised," but the milk which is "Pasteurised" is not sold as such, and therefore no supervision is maintained over the methods employed. It is desirable that any person "Pasteurising" milk should be compelled to do so in the manner laid down in the Order.

Inspection of Farms within the City.

There are six cowkeepers in the City, which is the same number as last year. The total stock is approximately 100 cattle. The buildings and cattle have been inspected regularly throughout the year, special attention being directed to the detection of diseases of the udder. The buildings are far from ideal, but the farmers willingly co-operate in an endeavour to produce clean milk.

Two cows were found on inspection of the herds to be showing definite clinical signs of tuberculosis, and one cow was affected with tuberculosis of the udder. These were slaughtered in the Corporation Slaughterhouse in accordance with the Tuberculosis Order, 1925.

One cow was found affected with Mastitis in one quarter of the udder. This cow was isolated and the milk from the affected quarter discarded.

No other cows were found affected with any of the diseases specified under the Milk and Dairies (Consolidation) Act, 1915, and their health and general condition were good.

Inspection of Dairies.

The number of mixed businesses from which loose milk is sold in conjunction with other articles is approximately 760, which is the same as last year. A large number of these shops are undesirable as dairies, and it is hoped that this number will be greatly reduced by removing the most undesirable ones from the Register of Retail Purveyors of Milk. The difficulty which is encountered in dealing with these shops is that each must be dealt with on its merits, and no fixed conditions can be laid down to govern the whole. Apart from the difficulty that this gives in dealing with these shops, it means that there is a different standard in each City. It is a pity that shops of this description and dairies proper, or buildings used solely for the sale or storage of milk, come under the same category in the Milk and Dairies Order, 1926. It would have been much better had these two been kept apart and the conditions governing each definitely laid down.

The larger dairies have been inspected regularly and have generally been found to be conducted in a satisfactory manner.

One retailer was charged with selling Pasteurised Milk without a licence. A conviction was obtained and a fine of ten shillings imposed.

Tuberculous Milk.

During the year 466 samples of milk were examined for tubercle bacilli. This number is more than in previous years, and has been made possible by the Corporation having their own laboratory and breeding station for guinea pigs.

The number of samples is made up as follows:—

445 samples from farm supplies.

9 samples of "Pasteurised Milk."

12 special samples from single cows and groups of cows.

PARTICULARS OF MILK SAMPLES EXAMINED FOR TUBERCULOSIS,

	No. taken.	Posi- tive.	Per- centage.	No. of cows found affected at the time of the exam- ination of the herds.	No. of premises on which affected cows were found.	No. of premises on which no affected animal was found.	No. of premises where two or more cows were affected.
Samples from farm supplies	445	37	8.3	36	28	9	8
"Pasteurised "	9	—	—	—	—	—	—
Special samples	12	2	16.6	2	—	—	—

The percentage of samples from farm supplies is 8.3 per cent, which is exactly the same as last year. This figure remains fairly constant, and may be taken as giving a fair idea of the incidence of tuberculosis in the milk in this part of the country. Tuberculosis is much more prevalent in certain districts, and if the majority of the samples were taken from these districts—which are known to be badly affected—the percentage

might be a good deal higher. In considering the percentage for the year I would like to point out that the samples were taken from any of the farms supplying the City with milk, irrespective of the district of origin, so that it represents an all-round average.

The average percentage of samples found to be tubercular during the last five years is 8.14 per cent. The number of samples examined each year has been gradually increased from 265 in 1924 to 445 in 1928. By taking a large number of samples, most of the farms are sampled twice during the twelve months as against once in previous years, and, that being so, one would expect that the percentage found tubercular would be less, but so far this has not been the case.

In the table on page 256, it will be seen on comparing Cheshire with Lancashire that Cheshire has a higher percentage of affected samples. This has been constantly so for a number of years.

Of the 37 farms giving a positive result, 19 were found to have one cow affected with tuberculosis of the udder, seven had two cows affected, one had three cows affected, and in nine cases no cows were found affected. In all, 36 cattle were found affected with tuberculosis of the udder, and these were dealt with under the Tuberculosis Order, 1925.

On each of the farms where no cows were found affected, a history was obtained of one or more cows having been moved off the premises during the period between taking the sample and making the examination

of the herd. In several of these cases the owner volunteered the information that one of the cows which had been moved was wrong in the udder, so that we must assume that the affected cow was disposed of in this way. In each case a sample of milk was taken from the remaining cows in the herd. These samples all proved negative. In some cases a veterinary inspection failed to detect any cow showing clinical symptoms of tuberculosis of the udder, but on examination of group samples and by a process of elimination the affected cows were ultimately found. This is the type of case one had in mind last year, when it was stated in the Annual Report that, although routine inspection of the herds was considered to be beneficial in many ways, it was not thought that it would do away with tuberculosis in the milk. It is submitted that routine inspection, together with biological examination of group samples of milk (one sample representing a number of farms), acting as controls for the inspections, would reduce the risk of milk containing tubercle bacilli to a minimum, and advantage could be taken of the personal contact thus afforded to induce a more co-operative spirit between the farmers and those administering the Order.

TABLE SHOWING NUMBER OF SAMPLES OF MILK OBTAINED FROM VARIOUS COUNTIES, AND THE NUMBER AND PERCENTAGE FOUND TO BE TUBERCULOUS, FOR THE YEARS 1921-1928.

	Year 1921.			Year 1922.			Year 1923.			Year 1924.			Year 1925.			Year 1926.			Year 1927.			Year 1928.		
	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.
Cheshire	104	13	12.5	89	8	9.0	123	17	13.8	126	14	11.1	203	22	10.8	157	14	8.9	178	20	11.2	220	23	10.4
Lancashire	105	3	2.8	76	1	1.3	94	5	5.3	76	6	8.0	90	4	4.4	152	7	4.6	124	6	4.8	135	7	5.1
Yorkshire	34	1	3.0	12	..	..	21	1	4.7	14	..	..	16	1	6.2	17	1	6.0	41	4	9.7	58	4	6.9
Staffordshire	13	1	7.7	2	..	..	7	..	..	7	1	14.3	2	..	..	1	..	..	8	1	12.5	15	2	13.3
Derbyshire	22	..	..	18	1	5.5	31	..	..	39	2	5.0	14	2	14.3	..	..	..	9	..	..	15	1	6.6
Shropshire	4	1	25.0	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2	..	..
Westmorland	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Cumberland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Somerset	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wales	1	..	..	..	..	..	1	1	100.0	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scotland	..	..	..	..	..	..	1	..	..	2	..	..	1	..	..	1	..	..	..	..	..	12	2	16.6
Mixed	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	9	..	..
Pasteurised	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	..	..	..	..	..
Total for year	284	19	6.7	197	10	5.08	278	24	8.63	265	23	8.7	331	29	8.75	329	22	6.68	371	31	8.3	466	39	8.3

Inspection of Meat.

TABLE OF MONTHLY SEIZURES OF DISEASED AND UNSOUND FOOD
DISCOVERED DURING ROUTINE INSPECTION, AND OF UNSOUND
FOOD SURRENDERED BY THE OWNER THEREOF.

Month.	No. of seizures.	Beef lbs.	Mutton lbs.	Pork lbs.	Tins of Food.	Total lbs. tins.
January ...	114	69	102	2899	—	3070 —
February ..	118	2805	795	2482	—	6082 —
March	132	538	505	2838	—	3881 —
April	114	100	—	3746	—	3846 —
May	69	780	—	1614	—	2394 —
June	34	375	140	1733	223	2248 223
July	69	422	—	3160	—	3582 —
August	77	2591	210	2910	—	5711 —
September .	130	2546	175	2618	—	5339 —
October	129	815	280	2264	—	3359 —
November ..	150	2478	266	2541	—	5285 —
December ..	168	3114	350	4135	—	7599 —
	1304	16633	2823	32940	223	52396 223

Unsound Food.

All unsound meat is destroyed under the supervision of an Inspector. A small quantity is destroyed on the premises, but, if the quantity is large, it is taken to the Corporation Destructor.

	tons.	cwts.	qrs.	lbs.	tins.
Pork	14	14	0	12	—
Beef	7	8	2	1	—
Mutton	1	5	0	23	—
Tinned Food	—	—	—	—	223
	23	7	3	8	223

Of this total weight of meat seized, 12 tons 19 cwt. 0 qrs. 12 lbs., or 55·3 per cent, was seized on account of tuberculosis. This percentage of meat seized on account of tuberculosis is not so high as in other large Cities. The reason is that it is chiefly heifers and bullocks which are slaughtered in Salford. The number of cows killed is comparatively small compared with other Cities.

TABLE SHOWING THE AMOUNT OF FOOD CONDEMNED FROM
VARIOUS CAUSES.

No. of seizures.	Cause of seizure.	Weight in lbs.	No. of tins.
842	Tuberculosis	29,020	—
220	Parasitic	1,733	—
83	Injury	8,947	—
33	Cirrhosis	280	—
19	Jaundice	2,780	—
18	Asphyxia	695	—
15	Abscess	492	—
13	Decomposition	2,925	—
12	Congestion	1,150	—
11	Rickets and Emaciation	1,204	—
11	Pneumonia	280	—
7	Septicæmia	240	—
5	Swine Fever	900	—
5	Pleurisy	180	—
2	Dropsy	55	—
2	Unsound	28	223
2	Peritonitis	290	—
1	Nephritis	140	—
1	Anæmia	35	—
1	Antinomycosis	16	—
1	Pericarditis	6	—
1,304		51,396	223

TABLE SHOWING THE NUMBER OF PIGS INSPECTED, THE NUMBER FOUND TO BE AFFECTED WITH TUBERCULOSIS, AND THE PERCENTAGE SO AFFECTED DURING THE YEARS 1920-1928.

Year.	Number Inspected.	Diseased.	Percentage.
1920.....	6,925	260	3.75
1921.....	11,111	512	4.6
1922.....	14,809	824	5.5
1923.....	13,015	606	4.6
1924.....	18,742	931	4.9
1925.....	15,684	697	4.4
1926.....	13,672	424	3.1
1927.....	12,702	512	4.03
1928.....	16,992	757	4.4

Retail Meat Shops.

Constant supervision has been maintained over all retail meat shops. They have generally been found to be clean and conducted in a satisfactory manner. There is, however, considerable slackness in the manner in which "Imported" meat is labelled. Several occupiers of shops have been warned, but it has not been considered necessary to take legal proceedings against anyone.

There are no stalls in the City selling meat.

Food Preparing Premises.

These premises have been inspected regularly, special attention being paid to premises where meat products are made.

Humane Slaughtering of Food Animals.

On October 13th, 1928, a Byelaw came into operation, making the use of a mechanical stunning instrument compulsory for all animals. Previous to this the use of this instrument was compulsory for all animals *except* swine, but the new Byelaw made the conditions for swine the same as applied to other animals.

The method has been found to be satisfactory, and no complaints have been received from butchers or slaughtermen. For a number of years the mechanical stunning instrument has been used voluntarily by most of the butchers killing in Salford.

Slaughterhouses.

The number of licensed slaughterhouses in the City is the same as last year. There are six private slaughterhouses and one public slaughterhouse. Three of the private slaughterhouses are used solely for the purpose of killing pigs, and one of the booths at the Corporation Slaughterhouse is occupied by a horse slaughterer. They have all been constantly in use during the year and 2,687 visits of inspection were made.

NUMBER OF CARCASSES INSPECTED AND DISEASED.

		No.	No.
		Inspected.	Diseased.
Private Slaughterhouses	Cattle	1,830	89
	Sheep	8,029	8
	Calves	9	—
	Pigs	16,979	757

		No.	No.
		In spected.	Diseased.
Public Slaughterhouses	Cattle	622	36
	Sheep	1,496	79
	Calves	9	—
	Pigs	13	—
	Horses	299	—
		29,286	969

Offensive Trades.

One Gut Scraper has been registered during the year.

The following is a list of the offensive trades in the City :—

Nature of Trades.	City.
Tripe Dressing	4
Soap Works	3
Tanneries.....	1
Skin Dressers	1
Gut Scrapers	3
Total	12

SECTION VI.

Bacteriological Laboratory Report.

I have pleasure in submitting the following report on the work carried out in the City Laboratory during the year 1928:—

As in 1927 there were no outbreaks of food poisoning or infectious disease requiring bacteriological investigation.

Early in the year an arrangement was made with the Board of Guardians whereby all the clinical pathology of Hope Hospital was carried out by Dr. Crawford, this work being paid for by the Board of Guardians in accordance with an agreed scale. This arrangement came into force on the 1st April, and has naturally resulted in a very marked increase in the number of specimens examined from Hope Hospital, *i.e.*, 1,286 in 1928, as compared with 153 in 1927. The majority of these examinations are carried out in the Hope Hospital Laboratory, where an assistant is provided. This method of procedure is much more satisfactory than the conveyance of the specimens to the Public Health Department for examination; moreover, it enables the Pathologist to make a personal visit to the patient in order to obtain specimens he wishes to collect himself, and also to obtain first-hand information concerning the nature of the case under investigation. This procedure is often advisable, as in clinical pathology it is very important to correlate the clinical with the pathological findings. It is necessary, therefore, for Dr. Crawford to

attend Hope Hospital each afternoon—Thursday excepted—and also on Saturday morning, in order to deal with the work there. The preparation of histological sections, vaccines, media, biological work, stains, chemical reagents, etc., for Hope Hospital is done at the City Laboratory, as the staff, facilities, and equipment provided at the Laboratory are better adapted for that work.

The appended table gives an outline of the examinations carried out for each department during 1928, and shows an increase of over 2,000 as compared with the number of specimens examined during 1927, this increase being mainly due to the number of Wassermann tests performed (which have increased markedly since the new Venereal Diseases Department was opened on the 1st April, 1928) and also to the extra work carried out for Hope Hospital. Although the actual number of investigations made for Hope Hospital is comparatively small, many of these, such as chemical examination of fractional test meals, complete examination of blood with differential cell count, preparation and examination of histological sections, preparation of autogenous vaccines, blood sugar estimations, etc., require long and detailed work, which takes up a considerable part of the time of the staff employed. As a result of this increase in work it was found necessary to employ two extra assistants.

In conclusion, I wish to thank the staff for their whole-hearted assistance in carrying on the work, as without their full co-operation it would be impossible to complete such a large number of investigations.

SECTION VII.

Report relating to the City Analyst's Department.

During the year, 3,237 samples have been submitted for analysis. Of these, 1,484 were taken in connection with the Sale of Food and Drugs Acts, whilst 1,753 were submitted by various Corporation Departments, or were analysed in connection with investigations carried out during the year.

Of the 1,484 samples taken under the Sale of Food and Drugs Acts, 65, or 4.72 per cent, were found to be adulterated.

TABLE 1.

SAMPLES.	Number Examined.	Number Adulterated.		Percentage of Adulteration.
		Preservatives Only.	Other ways.	
Milk	1103	—	43	3.9
Cream	19	—	—	—
Swiss Cream	1	—	—	—
Butter	55	—	—	—
Cheese	14	—	—	—
Cheshire Cheese	18	—	—	—
Bondon Cheese.....	2	—	—	—
Cream Cheese	1	—	1	100.0
Lard	18	—	—	—
Sausage	26	3	—	11.5
Preserved Sausage	6	—	—	—
Flour	3	—	—	—
Self-raising Flour	8	—	—	—
Baking Powder	5	—	—	—
Custard Powder	7	—	—	—
Blancmange Powder	1	—	—	—
Jam	15	2	8	66.6
Jelly	7	—	—	—
Lemon Cheese	3	—	2	66.6
Tea	8	—	—	—
Coffee	19	—	—	—
Cocoa	6	—	—	—
Ground Rice	9	—	—	—
Pepper	14	—	—	—
Beef Suet	4	—	—	—
Ground Almonds	8	—	—	—
Olive Oil.....	8	—	—	—
Castor Oil	9	—	—	—
Borax	8	—	—	—
Epsom Salts	17	—	—	—
Glauber's Salt	5	—	—	—
Rochelle Salts	4	—	—	—
Castor Oil Tablets	2	—	—	—
Cod Liver Oil Tablets...	7	—	7	100.0
Tincture of Iodine	9	—	—	—
Paregoric.....	6	—	—	—
Tartaric Acid	5	—	—	—
Cream of Tartar.....	5	—	—	—
Seidlitz Powder	4	—	1	25.0
Whisky	13	—	1	7.7
Gin	1	—	1	100.0
Tonic Wine	1	—	1	100.0
	1484	5	65	4.72

The total number of samples is greater than that for any previous year, with the exception of 1924, and represents a purchase of 593 samples per 100,000 of the population, which is a greater number than that taken by most other local authorities. Of the total samples, 70, or 4.72 per cent, were returned as adulterated. Comparative figures for adulteration in previous years are given in Table 2.

TABLE 2.

COMPARATIVE PERCENTAGE OF ADULTERATION.

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Percentage of Adulteration	8.8	6.3	8.7	5.6	6.9	4.3	7.7	4.5	4.3	4.7
Total Samples .	1,234	1,410	1,364	1,452	1,383	1,544	1,396	1,387	1,482	1,484
Formal Samples	647	807	623	653	644	775	752	765	744	733
Informal „	577	603	741	799	744	769	644	622	738	751
No. of Samples per 100,000 persons	546	599	570	607	577	641	572	563	593	593

It will be noticed that in the above table the total samples are divided into two parts, named respectively “Formal” and “Informal” samples. “Formal” samples are those taken in accordance with Section 14 of the Sale of Food and Drugs Acts, 1875. It may be mentioned here that this Act has, since January 1st, 1929, been superseded by the new Food and Drugs (Consolidation) Act, 1928, and the relevant Section is now No. 18. These Sections read as follows: “The person purchasing any article with the intention of submitting the same for analysis shall . . . forthwith

notify the seller . . . his intention to have the same analysed by the Public Analyst, and shall divide the sample into three parts . . . and shall deliver one of the parts to the seller. He shall retain one of the said parts for future comparison and submit the third part to the analyst."

In the case of "Informal" samples, the formalities of the Act are not complied with, and usually the vendor is not aware that the sample has been bought for the purpose of analysis. Informal samples serve a very useful purpose, since they enable the Inspector to find out at what shops adulteration is being practised, without causing annoyance to honest shopkeepers, whose chief objections to the taking of samples are that the Inspector takes up their time and counter space for the division of samples, and that his (the Inspector's) action excites the curiosity of his customers and may arouse their suspicions. The buying of an informal sample is a very simple matter, requiring much less time and trouble than the purchase of a formal sample. No legal action under the Food and Drugs Acts can take place with respect to the informal sample, but if the latter, upon examination, proves to be adulterated, a formal sample may, if necessary, be taken, and proceedings may then be instituted, which are generally taken under Section 6 of the Act (Section 2 of the 1928 Act). This makes it an offence to "sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance and quality demanded."

So far as chemical examination goes, informal samples are treated in precisely the same way as formal ones. The same care is necessarily bestowed on the analysis, since adulteration is generally detected by this means (except in the case of milk), and in cases where some particularly ingenious adulteration has been practised, practically all the work is done on the informal sample, thus rendering the analysis of the subsequent formal sample a comparatively simple matter. Prosecutions for adulteration in Salford are the exception rather than the rule. This does not mean to say that an offence is allowed to pass without notice. On the contrary, it is claimed that a very large measure of success has been the result of the measures adopted. It has been found that cases which involve, say, an incorrect description of the article sold, can be very much better dealt with by inviting the makers to an informal conference on the matter, and putting each other's case clearly forward. The majority of manufacturers are willing to make the alterations in their labels, which, in the interests of the public, are thought to be necessary by the Department. Of course, if no agreement can be arrived at in this way, the assistance of the Courts can always be invoked.

It is equally obvious that there are cases of gross adulteration or misdescription which admit of no excuse, and these are dealt with by prosecution under the Acts.

On the 1st of January, 1929, the new Food and Drugs (Consolidation) Act came into force, and this will regulate all future proceedings. It repeals the four previous Food and Drugs Acts of 1875, 1879, 1899 and 1927, and

re-enacts their provisions with a few minor alterations. The Margarine Act of 1887 and the Butter and Margarine Act of 1907 are also included in its scope. The consolidation of these various Acts is, of course, a convenience, but, unfortunately, there are other Acts dealing with food which are not included, and an excellent opportunity has also been lost of bringing up to date the whole of the legislation dealing with foods and drugs. As I pointed out in my last Annual Report (page 10), the conditions are very different now from what they were 20 years ago, to say nothing of 54 years ago, when the first Food and Drugs Acts were passed, the provisions of which still mainly govern the procedure to be taken. The opportunities for profitable adulteration and misdescription are nowadays largely in the hands of wholesale manufacturers, and not to anything like the same extent in those of the small private trader. The original Acts were intended to deal with the latter class, and there is scarcely any provision made for dealing with the big manufacturing firms, who are generally the cause of any trouble which may occur.

The 1928 Act simply re-enacts, without any material change, the features of the older Acts, and no attempt has been made to introduce fresh matter to make it more possible to get at the actual offenders.

In most cases the makers of an adulterated article which has been bought at a retail shop in a local authority's district have no premises in that district, and a sample cannot be bought directly from them. The only procedure in this case is to take a sample of the article on

delivery at the retail shop, either at the request of or with the consent of the retailer. There are obvious difficulties which may be encountered here. It may be necessary to wait a considerable time before the retailer wishes to order another consignment, and meanwhile the makers may get wind of the trouble. In any case, it usually means that a large amount of time is wasted waiting for delivery.

By a curious oversight, the word "drug" has been omitted in the Section dealing with the taking of samples on delivery both in the original Act and in the new Act, and this means, of course, that if a retailer sells an adulterated drug, for which he has no warranty from the wholesaler, there is no means whatever of getting at the latter. The retailer may be perfectly innocent in the matter and may have bought the article in all good faith and sold it in the belief that it was perfectly genuine, yet, under the Act, he is the only person who can be proceeded against. The insertion of the word "drug" in the Section would have made it possible, even if perhaps very difficult, to fix the responsibility on the makers.

There are a number of these oversights perpetuated in the new Act which, if corrected, would have materially increased its value. For example, the definition of butter in Section 34 reads: "The expression butter means the substance usually known as butter, made exclusively from milk or cream, or both, with or without *salt or other preservative.*" This is in direct contradiction to the Preservative Regulations, which forbid the addition

of preservative of any kind to butter, and may raise an awkward legal discussion. By this Section also, salt is included as a preservative, but according to the Preservative Regulations it is not to be regarded as a preservative.

One of the most important directions in which the provisions of the Act is lacking is that relating to the improper labelling of foodstuffs. This has assumed considerable importance in the last few years, and is likely to become more important as advertising methods become more "artfully scientific."

The only Section of the Act dealing with this offence is Section 30, which states: "Every person who wilfully gives a label with any article of food or drug sold by him which falsely describes the article sold shall be guilty of an offence." This Section is practically inoperative, since it is generally almost impossible to prove that the label was given wilfully. It would be useful if the word were dropped altogether and the mere giving of a false label made an offence. Manufacturers would be careful in this event to limit the matter on a label to statements capable of substantiation. Some amendment of the law is required to cover the cases of misdescription which are characterised by the judicious use of small type. Statements may be made on a label which may certainly reveal the admixture or the character of the article itself, but the size of the type used for the declaration, or the colour of the label itself, or the part of the label chosen in which to print it, may be illegible at a distance of two or three feet. For instance, in a case

coming under the writer's notice, a declaration of admixture was made in letters 2 millimetres long, printed in a purple-red colour on a blue ground. This was practically invisible at a distance of three feet, but a closer examination revealed the fact of its presence, and, legally speaking, it was legible.

The purchaser's attention however would undoubtedly be attracted principally, if not solely, by the main declaration on the label, which was in blue letters on a white ground, nearly a centimetre in length. This kind of thing is indefensible, and it should be insisted on by the law that a declaration of admixture be made in as bold a type as that used for the rest of the description.

Legal definitions and standards for certain foods and compounded articles are also very necessary. So-called "trade custom" has in more than one case allowed the original meaning of the name of an article to become degraded, until, by the trade (but not by the public), the term is construed to mean something very different from what it at first implied. The position has become, in more than one case, as difficult for the manufacturer as for the consumer. The better-class makers still endeavour to turn out an article with a composition corresponding to the original meaning of its name, while less scrupulous firms in larger and larger numbers use cheaper ingredients and ingredients foreign to the genuine article. Competition becomes keener and keener, and in many cases the better-class goods are forced out of the market simply because the same name is applied both to the high-class and to the inferior articles, and

the public, often with no means of discrimination, naturally select the cheaper one.

This complaint has been made to the writer by numbers of manufacturers who had had to descend to making an article which, a few years ago, they would have scorned to have put on the market. There is no reason why these cheaper goods should not be sold—they are in most cases quite wholesome—but it is distinctly unfair both to the manufacturer and to the public that the composition of them is not declared, and the use of the time-honoured names of the original article not forbidden, without qualification of some sort.

Provisions of this sort should be accompanied by a widening of the powers of the so-called “sampling officer” so as to enable him to take samples direct from the wholesale dealer or from the makers of an article which is being sold by retail in his district, contrary to any of the provisions of the Act, whether the wholesale dealer or the maker be in his district or not. This would make it impossible, as so often happens at present, for the real offender to escape, simply because he is outside the local authority's jurisdiction. A provision similar to that mentioned has been made under the Preservative Regulations, where the Authority instead of, or in addition to, taking proceedings against the seller may take proceedings against any previous seller, notwithstanding that such sale took place outside the district of the Authority.

The Public Analyst is very often put in a very anomalous position, when he cannot recommend prosecutions in cases where it is well deserved, simply because he knows that from the legal point of view there is no case to go on. His aim is to ensure that both the consumer and the honest manufacturer have a square deal, and under the present Food and Drugs Acts this is often literally impossible.

Milk.

One thousand one hundred and three samples of milk have been examined during the year, of which 43, or 3.9 per cent, have been returned as adulterated. This figure, although not so good as that for 1927, is a fair average one. The fat content of the milk has been well maintained, but the percentage of solids-not-fat, particularly of the samples taken during the first two quarters of the year, shows a distinct drop compared with the previous year. During the first quarter of the year a number of samples gave a percentage of solids-not-fat below the legal standard, and these samples came from so large a number of different farms that it was evident that it was not so much a question of adulteration as of natural variation. No action was, of course, taken in respect of these samples since it was obvious that they were as they came from the cow. No reason can be assigned for this unusual state of affairs, but there is a possibility that it may be connected in some way with the extraordinary rise in the percentage of fat during the last four months of 1927, which continued into the first three months of 1928. The average fat figures for

all milk samples during these seven months are given below.

September	4.21
October	4.25
November	4.14
December	4.05
January	3.92
February	3.68
March.....	3.81

These figures are very seldom equalled either in Salford or anywhere else, and our knowledge of the cow's physiology is not so complete as to be able to assign a reason for this phenomenon. There is at least a possibility that there may be some sort of relation between it and the quite as unusual drop in solids-not-fat. At least two other Public Analysts in this district experienced the same sort of thing and no reason could be assigned in these cases.

There is no question, of course, of a farmer being proceeded against in cases such as these. In every instance of suspected adulteration the farm is visited and samples taken of the corresponding milking before any proceedings are taken, and if a low figure is given by the farm samples, the whole case is investigated and, if possible, suggestions made for the improvement of the quality of the milk.

Table 3 gives the percentages of adulteration of milk in Salford for the past twelve years, and the average compositions of the milk samples taken in Salford during 1928 will be found in Tables 4, 5 and 6. Table 4 gives the composition of the whole of the samples taken. Table 5 gives the composition of the milk delivered by farmers, whether by road or by rail. The amount sent in by road has largely increased during the past year, and its advantages both from the point of view of the farmer and the wholesaler are obvious, as the churns are taken direct from the farm to the latter's premises. The sampling of such milk is, however, rather more difficult than the sampling of milk sent in by rail, since the driver of the lorry is generally in constant touch with the farmer and is likely to tell him when samples have been taken, with the result that further adulterated samples may be unobtainable. Table 6 gives the composition of the milk retailed in the City, whether in shops or carts.

The samples include 36 taken at Ladywell Sanatorium, 11 at the Maternity Home, and 42 at Hope Hospital. The milk supplied to the two first mentioned of these Institutions is delivered in bulk in sealed cans, and under the existing contract must be of Grade A quality and contain at least 3.25 per cent of fat. The latter standard has been well maintained throughout the year, the average fat content of the samples taken at Ladywell Sanatorium being 3.91 per cent, and for those taken at the Maternity Home, 3.97 per cent.

The quality of the milk samples bought in Salford during the year, apart from those affected during the first three or four months in the way described above, has been good. During the last two quarters of the year only eight samples were reported as adulterated, an unusually small number.

TABLE 3.

ADULTERATION OF MILK.

	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Number of Samples.	539	865	829	981	899	923	779	833	921	994	1028	1103
Percentage of Adulteration.	2.4	3.1	7.1	7.2	8.9	5.3	5.4	2.6	4.7	2.5	2.1	3.9

TABLE 4.

AVERAGE COMPOSITION OF ALL MILK SAMPLES, 1928.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January	130	12.27	3.81	8.46
February	95			
March	104			
April	85	12.09	3.54	8.55
May	73			
June	114			
July	54	12.36	3.70	8.66
August	121			
September	78			
October	109	12.43	3.76	8.67
November	87			
December	53			
TOTAL	1103	12.27	3.70	8.57

TABLE 5.
AVERAGE COMPOSITION OF STATION MILK SAMPLES, 1928.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January	62	12.35 { 12.53 12.14 12.23	3.88 { 3.97 3.78 3.81	8.47 { 8.56 8.36 8.42
February	42			
March	18			
April	22	11.98 { 12.00 12.24 11.80	3.50 { 3.50 3.68 3.38	8.48 { 8.50 8.56 8.42
May	29			
June	43			
July	—	12.52 { — 12.49 12.60	3.83 { — 3.83 3.84	8.69 { — 8.66 8.76
August	57			
September	18			
October	18	12.52 { 12.96 12.51 12.20	3.86 { 4.26 3.80 3.70	8.66 { 8.70 8.71 8.50
November	57			
December	21			
TOTAL	387	12.34	3.78	8.56

TABLE 6.
AVERAGE COMPOSITION OF MILK SAMPLES OTHER THAN
STATION MILKS, 1928.

Month.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
January	68	12.23 { 12.48 11.96 12.19	3.78 { 3.88 3.60 3.81	8.45 { 8.60 8.36 8.38
February	53			
March	86			
April	63	12.08 { 12.06 12.03 12.12	3.53 { 3.56 3.50 3.52	8.55 { 8.50 8.53 8.60
May	44			
June	71			
July	54	12.29 { 12.04 12.43 12.37	3.64 { 3.48 3.77 3.65	8.65 { 8.56 8.66 8.72
August	64			
September	60			
October	91	12.38 { 12.44 12.25 12.34	3.76 { 3.75 3.61 3.66	8.68 { 8.69 8.64 8.68
November	30			
December	32			
TOTAL	716	12.23	3.66	8.57

Table 7 gives the average composition of the whole of the samples of milk taken in Salford for the past twelve years. For the purpose of comparison, the average results given in the reports of other Public Analysts are also tabulated, together with the averages for the whole of the milk samples taken in Salford during the years 1915 to 1928.

TABLE 7.

Place.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids- not-fat per cent.
Salford1928	1103	12.28	3.70	8.58
Birmingham1927	2568	12.45	3.63	8.82
Lancashire1928	2838	12.64	3.74	8.90
Kent1926	1666	12.57	3.74	8.83
Kingston-upon-Hull 1927	671	12.43	3.61	8.82
Average, Salford, 1915-1928	11549	12.46	3.64	8.82

All samples, whether genuine or adulterated, are included, and this fact of course tends to make the figures lower than they otherwise would be. In some cases, several adulterated samples may be taken from a vendor whose supply lies under suspicion, and the inclusion of these in the averages will still further reduce the average figures by a disproportionate amount. Actually, therefore, the quality of the milk sold in Salford and other districts is appreciably better than appears in the Tables.

Table 8 contains a list of the samples of milk found to be adulterated, together with the action taken in regard to each sample.

TABLE 8.

No. of Sample.	Nature of Adulteration.	Action taken.	Remarks.
8972	Deficient 3.5% solids-not-fat	Caution.	Farmer.
8976	Deficient 15.3% solids-not-fat.	None.	Further samples genuine.
8979	Deficient 4.7% solids-not-fat.	} Caution. None.	Further samples genuine.
8980	Deficient 4.7% solids-not-fat.		Further samples genuine.
8981	Deficient 3.5% solids-not-fat.		Further samples genuine.
8987	Deficient 8.2% solids-not-fat.	} Caution. None.	Taken at farm.
8988	Deficient 10.6% solids-not-fat.		
9033	Deficient 3.5% solids-not-fat.		Further samples genuine.
9065	Deficient 8.2% solids-not-fat.	None.	Further samples genuine.
9098	Deficient 8.2% solids-not-fat.	Caution.	Shop.
9109	Deficient 23.5% (& 8.3% fat).	} See 9121-3.	
9110	Deficient 11.8% solids-not-fat.		
9111	Deficient 10.0% solids-not-fat.		
9112	Deficient 5.9% solids-not-fat.		Further samples genuine.
9121	Deficient 12.9% solids-not-fat.	} Fined £5.	Farmer.
9122	Deficient 15.3% solids-not-fat.		
9123	Deficient 12.9% solids-not-fat.		
9335	Deficient 3.5% solids-not-fat.	None.	} Further samples genuine.
9338	Deficient 6.7% fat.	None.	
9344	Deficient 4.7% solids-not-fat.	None.	Farmer. Further samples genuine.
9404	Deficient 4.7% solids-not-fat.	None.	} Shop. Further samples genuine.
9419	Deficient 3.5% solids-not-fat.	None.	
9424	Deficient 3.5% solids-not-fat.	None.	} Farmer. Further samples genuine.
9428	Deficient 10.0% fat.	None.	
9487	Deficient 3.5% solids-not-fat.	None.	Cart. Further samples genuine.
9511	Deficient 6.7% fat.	Caution.	Shop.
9536	Deficient 3.5% solids-not-fat.	None.	Shop. Further samples genuine.
9548	Deficient 4.7% solids-not-fat.	Fined £2.	} Farmer.
9552	Deficient 8.2% solids-not-fat.	Fined £2 & £5 costs.	
9553	Deficient 8.2% solids-not-fat.	Fined £2.	
9554	Deficient 18.2% (& 5% fat).	Fined £4.	
9565	Deficient 5.9% solids-not-fat.		
9566	Deficient 1.2% solids-not-fat.		
9628	Deficient 13.3% fat.	} None.	Further samples genuine.
9638	Deficient 8.3% fat.		
9793	Deficient 20.0% fat.		Shop.
		Vendor and Wholesale dealer cautioned.	
9871	Deficient 20.0% fat.	Caution.	Shop.
216	Deficient 6.7% fat.	Caution.	Shop.
235	Deficient 4.7% solids-not-fat.	} None.	Farmer. Further samples genuine.
236	Deficient 3.5% solids-not-fat.		
287	Deficient 6.7% fat.	} Farm visited.	
328	Deficient 6.7% fat.		
329	Deficient 10.0% fat.		

Samples Nos. 8972, 8979-80, 8987-88.

Sample No. 8972 was an informal sample taken from a farmer's churn arriving at Pendleton Station. The following day, formal samples Nos. 8979 and 8980 were taken from the two churns consigned by the farmer. These were both deficient in solids-not-fat to the extent of 4·7 per cent. The following day, a visit was paid to the farm. There were 27 cows in milk and they all appeared to be in good condition. Two samples, Nos. 8987 and 8988, were taken of the mixed milk, and on analysis these gave the extraordinary figures of 7·8 per cent and 7·6 per cent for solids-not-fat. It may be mentioned that there were several shippens with from two to eight cows in each, so that it was impossible to keep an eye on the whole of the milking. There seemed to be a strong probability that water had been added unknown to your Inspector at some time during the process of milking, in order to make it appear that the milk as given by the cows was naturally low in solids-not-fat. The fact that the solids were lower than was the case with previous samples taken at the station was, under the circumstances, highly suspicious. It was, therefore, decided to pay another visit to the farm and take samples from every cow to ensure that the milk was not tampered with.

The result showed that, although there were one or two cows giving low solids, the average figure was 8·3 per cent solids-not-fat. The average fat content was extremely good, viz., 4·5 per cent, as compared with

3.1 per cent for sample No. 8972, and 4.1 per cent for the previous farm samples.

It was evident that the cows were actually giving a milk below the Board of Agriculture limit for solids-not-fat, of 8.5 per cent, so that in the circumstances, it was decided to take no legal action. In view, however, of the suspicion that water had been added to the first two farm samples, a strong cautionary letter was sent to the farmer by the Medical Officer of Health.

Samples Nos. 8976 and 8981.

Sample No. 8976 was taken from a farmer's churn at Pendleton Station, and was deficient in solids-not-fat to the extent of 15.3 per cent. The milk in a second churn from the same farm was genuine. The following day, two formal samples were taken and of these, No. 8981 was deficient of 3.5 per cent of solids-not-fat, while the other was genuine. Both fats were very good, viz., 4.3 per cent and 4.2 per cent. Five days later two more samples were taken, and these proved to be genuine milks with very high fats, 4.4 per cent and 4.2 per cent. In view of this, no further action was taken. Further samples taken later in the year were genuine.

Sample No. 9033.

This was a sample taken from one of the churns delivered to Ladywell Sanatorium. The dealer supplying was immediately communicated with, and he at once got into touch with the farmer concerned, who could give no reason for the low solids. The wholesale dealer, however, assured your Inspector that the farmer was

one of his best suppliers and that he would vouch for his honesty. Up to this time all the samples from the Sanatorium and from the Maternity Home, of milk supplied by this farmer, had been exceptionally good. Subsequent samples taken at the Sanatorium proved to be of good quality and no further action was taken.

Sample No. 9065 was from a farmer's churn. Other samples taken later were found to be genuine and no further action was taken.

Sample No. 9098 was taken at a shop but another sample taken the following day was genuine. The vendor was cautioned.

Samples Nos. 9109 to 9111 were informal and were taken from a farmer's churns as the latter were delivered by motor lorry to a dairy in the City. Samples Nos. 9121 to 9123 were formal samples of the same supply taken the following day. A visit was paid to the farm and the farmer admitted the addition of water, saying that the milk pails had been washed out with water and added to the churns. Three samples of the cows' milk were taken and all were of good quality. Proceedings were instituted against the farmer in respect of all three samples, and at the hearing, the farmer, through his solicitor, pleaded guilty to one offence only, maintaining that the three churns constituted only one consignment. This plea was upheld by the Stipendiary and a fine of £5 was imposed in respect of the first sample.

Sample No. 9112 was a sample from a farmer's churn. Further samples taken on two successive days were, however, genuine and no further action was taken.

Samples Nos. 9335 and 9338 were taken from shops supplied by the same wholesale dealer. Samples taken at the same time from several other shops supplied by him were genuine. Further samples taken after a short interval were, however, genuine and no further action was taken.

Samples Nos. 9404, 9419 and 9536 were all shop samples deficient to a small extent in solids-not-fat. In each case further samples were found to be genuine.

Samples Nos. 9344, 9424 and 9428 were from a farmer's churns and follow-up samples were all genuine. The same remark applies to No. 9487, which was taken from a cart.

Sample No. 9511 was a shop sample. The wholesale dealer's milk sampled at the same time was genuine and the shopkeeper was warned by a letter from the Medical Officer of Health.

Samples Nos. 9548 and 9552 were formal samples of a farmer's milk taken at Victoria Station in the morning and evening respectively. Nos. 9553 and 9554 were samples of the same supply taken the day after. On the following day your Inspector visited the farm, but when he arrived milking had already commenced, and the milk obtained was in a churn in the dairy. A sample was taken from this and another one taken of the whole of the mixed milk. (Samples Nos. 9565 and 9566.)

On analysis, both of these were found to contain added water, the first one 5.9 per cent, and the second

one 1·2 per cent. In consequence of this, another visit was paid to the farm the following day and a sample was taken from each cow, and also one of the mixed milk. All these samples were genuine, and most of them of extremely good quality.

Summonses were issued in respect of the four samples taken at the station, and at the hearing, fines of £2 were inflicted in respect of the first three samples and one of £4 in respect of the fourth—£10 in all—together with £5 costs.

Samples Nos. 9628 and 9638 were taken on two successive days from a farmer's cans at Pendleton Station. On each day three or four other cans from the same farmer contained genuine milk, and one or two of them were of very high fat content. It was not considered advisable to prosecute at the time, and samples taken a few weeks later were found to be of good quality.

Sample No. 9793 was a shop sample. Further samples taken from the wholesale dealer and from a large number of the latter's farmers all proved to be genuine. The wholesale dealer admitted it was possible that one of his men had supplied someone with half a churn of milk, the other half of which had been supplied to someone else, after the churn had been left standing for some time. This would, of course, account for the deficiency in fat. As it was impossible to tell who was to blame, a verbal caution was given to both parties concerned.

Sample No. 9871 was also a shop sample. Further samples taken from the wholesale dealer and from the

farmers supplying him were all genuine. In this case the retailer was cautioned by a letter from the Medical Officer of Health.

Sample No. 216 was bought at a shop and proved to be part of the previous day's milk, only a small quantity being left. There was no suspicion of deliberate adulteration, and a verbal caution was given.

Samples Nos. 235 and 236 were two out of four farmer's churns, the other two samples being genuine. Four other samples taken a day or two later were genuine, but others taken a fortnight later were slightly below the Board of Agriculture limits. The farmer was interviewed but could give no explanation of the deficiency. The conditions at the farm were apparently satisfactory, and it was agreed to take further samples later on. These were all of good quality.

Samples Nos. 287, 328 and 329 were all farmer's samples. No. 287 was taken from one of the farmer's churns, two other samples taken from churns belonging to the same farmer being just under the limit for solids-not-fat. Nos. 328 and 329 were formal samples of the same farmer's milk; two other samples taken on the same day were genuine. In view of the succession of samples low in fat, a visit was paid to the farm in the afternoon of the same day that the above samples were taken. It was found that the farm was an excellent one, and the animals were in very good condition and giving a large yield of milk. The feeding appeared to be adequate, and the only thing with which fault could be

found was that the intervals between the milkings were unequal. The two samples low in fat were both morning samples, and the probability is that the low figures were due to a combination of circumstances:—

1. The fact that morning milk is naturally lower in fat than evening milk.

2. Unequal intervals of milking.

3. The breed of cattle (Shorthorns) has a tendency to give a large quantity of rather poorer milk than the average.

The farmer was advised to make the intervals more nearly equal. The wholesale dealers who bought this milk, on hearing of the deficiency, refused to take the supply any longer, and the milk is no longer coming into Salford.

Table 9 contains a list of samples, other than milk, found to be adulterated, together with the action taken in regard to each sample:—

TABLE 9.

No. of Sample.	Description.	Nature of Adulteration.	Remarks.
8895	Whisky.	Contained 13·8% added water.	Fined £5. Supplier fined £15 and 30s. costs for false label.
8946	Extra Strong Seidlitz Powder.	Blue paper deficient 14·8% in weight.	Makers agreed to alter label.
8947	Gin.	Contained 10·8% added water.	No action.
9088	Cod Liver Oil Tablets.	Deficient in vitamins.	See 9094.
9094	Cod Liver Oil Tablets.	Deficient in vitamins.	Fined £30 and £75 costs.

TABLE 9—(Continued).

No. of Sample.	Description.	Nature of Adulteration.	Remarks.
9320	Cod Liver Oil Tablets.	Deficient in vitamins.	See 9094.
9321	Cod Liver Oil Tablets.	Deficient in vitamins.	See 9094.
9520	Codlivex.	Deficient in vitamins.	Makers agreed to withdraw from sale.
9534	Cod Liver Oil Tablets.	Misleading label.	Makers agreed to alter label.
9539	Cod Liver Oil Tablets.	Deficient in vitamins.	Makers agreed to withdraw from sale.
9664	Cream Cheese.	Consisted of whole milk cheese.	Firm agreed to revise label.
9738	Blackcurrant Jam.	Fruity matter contained about 50% other fruit juice and 58 parts per million sulphur di-oxide.	Makers interviewed and satisfactory agreement arrived at.
9741	Blackcurrant Jam.	Misleading label.	Makers agreed to alter label.
9743	Raspberry Jam.	Contained 53 parts per million sulphur di-oxide and was labelled "Home made."	Makers agreed not to use term "Home made."
9785	Blackcurrant Jam.	See 9738.	See 9738.
21	Sausage.	Contained 270 parts per million sulphur di-oxide.	Informal. Presence of SO ₂ declared in formal sample.
22	Sausage.	Contained 216 parts per million sulphur di-oxide.	See 44.
44	Sausage.	Contained 128 parts per million sulphur di-oxide.	Vendor and maker cautioned.
51	Home Made Lemon Cheese.	Not home made.	See 124.
107	Strawberry Jam.	} Contained fruit juice and had no declaratory label.	Firms promised to declare presence of juice.
108	Strawberry Jam.		
109	Strawberry Jam.	} Contained large excess of fruit juice.	Makers promised to use more care in making.
119	Strawberry Jam.		
124	Home Made Lemon Cheese.	Not home made.	Fined £5. Makers fined £5 and £15 costs.
214	Blackcurrant Jam.	} Presence of fruit juice not declared.	Makers agreed to supply genuine jam.
234	Blackcurrant Jam.		
323	Tonic Wine.		Vendor prosecuted by police for selling without a wine licence.

Butter and Margarine.

Fifty-four samples of butter have been examined during the year, all of which were found to be genuine. The percentage of contained water varied from 5.8 per cent to 12.4 per cent, and the Reichert-Wollny number of the fat from 25.3 to 32.4. All the samples were examined for boron preservative, and this was not detected in any of them.

Butter should be made entirely from the milk of the cow, and should not contain more than 16 per cent water. Under the Preservative Regulations, 1925, no preservative is allowed.

Five shopkeepers were cautioned for having margarine exposed for sale without the necessary label.

Lard and Cheese.

Eighteen samples of lard, including one of compound lard, have all been returned as genuine. Eighteen samples of Cheshire cheese were also genuine, the fat percentage on the dry matter contained in the cheese varying from 49 per cent to 60.3. Cheshire cheese should contain at least 45 per cent of fat on the dry matter, so that these samples were all of very good quality.

One sample of "Bondon" cheese contained only 0.8 per cent of fat and 72.1 per cent water. There is, however, no standard for this type of cheese, although it seems originally to have been a whole milk cheese. A large section of the dairy industry are now making it

from skimmed milk, and consider the practice perfectly legitimate. This particular sample is of the latter variety, and is a very inferior representative of it.

Sample No. 9664 was bought at a branch of a large multiple shop firm. It had been noticed that there was exhibited in the shop window packets of a crustless Gruyere cheese labelled "full cream," and your Inspector therefore bought the sample as cream cheese.

Both the manager and the girl who served your Inspector were under the impression that it actually was a genuine cream cheese. The result of the analysis, however, showed it to be an ordinary whole milk cheese. The local District Inspector of the firm was therefore interviewed and asked to explain the matter. He, too, admitted that he thought it was a cream cheese. It was pointed out to him that, although the term "full cream" might, in the trade, signify whole milk cheese, yet by the ordinary purchaser it would be taken to signify a better article, particularly as the price was higher than that of other cheeses of the same kind sold at the shop, which were of practically identical composition. He was asked to inform his firm of the objection to the label and to ask them to cease using the term "full cream" altogether in relation to this type of cheese. At a second interview with the same gentleman, the firm's reply was seen, and this complied entirely with our wishes. The term "full cream" was deleted from the label and the words "pure rich" substituted. This decision was confirmed in a letter to the Medical Officer of Health and a period of three weeks

was asked for to get the new labels printed. This reasonable request was granted.

The continued absence of any standards for cheese is very disappointing. Power is given under the Food and Drugs Acts to make Regulations as to the composition of cheese, and this power has, up to date, not been exercised. A cheese may contain any percentage of fat from none upwards, and the purchaser has no means of judging what that amount is, or of estimating the probable food value of the article. A fairly definite standard has now been adopted for Cheshire cheese, but this is only one variety out of many, and it is high time that people in this country should have the same facilities for knowing what they are buying as is enjoyed by people of other countries.

Jam.

Fifteen samples of jam have been taken during the year, and of these 10, or 75 per cent, have been returned as adulterated or misdescribed. As was the case last year, the commonest offence was the use of pectin preparations to increase the bulk of the article without giving on the label adequate notice of the fact. It is, however, satisfactory to note that the phrase "improved by fruit juice" is apparently not being used to the same extent as last year. It would also seem that the equally objectionable phrase "fruit juice added to give consistency" is not so common as it was. Both these phrases are definitely misleading. Jam is not improved by the addition of a foreign fruit juice, and the latter is

not necessary, except in the cases of strawberry and raspberry jams, to give consistency. Fruits other than these two will make perfectly good jam, if the manufacture is carried out properly, without any addition except sugar. The whole point of adding other fruit juice to a jam like blackcurrant is to lower the cost of manufacture, and this motive is at least an understandable one, if not a strictly honest one.

The competition among jam manufacturers at the moment is particularly keen. Price-cutting operations have resulted in the quality of the jam going from bad to worse. More and more pectin has been used in an effort to turn out a jam at a competitive figure, and the public, of course, is not to be too much blamed for buying the cheaper products when both these and the dearer article are labelled in the same way. Some of the cheaper jams are, at the moment, being sold at only a little more than half the price of the genuine well-known brands, and the makers of some of the higher-class jams have found it increasingly difficult to keep a market for their goods, and have been forced to lower their quality as well as their price. There is no reason at all why the cheaper jams should not be sold, as they are generally palatable and wholesome, but they should be sold on the understanding that their composition must be stated on the label in plain terms and no attempt should be allowed in any way to deceive a purchaser into the belief that he is getting, say, blackcurrant jam, when what actually is sold is blackcurrant jam plus pectin.

So long as there is no proper system of description for jam, both manufacturers and the purchasing public are in an unsatisfactory position. The manufacturers want to be able to sell a good jam without danger of the competition of an inferior article, and the purchaser wants to know what he is getting for his money. Both parties would only be too glad for some sort of standard to be set up for the various kinds of jam.

Sample No. 9738 was labelled "blackcurrant," followed in very small type by the words "with the addition of fruit juice." Analysis showed that the fruit juice present was actually about 50 per cent of the total fruity matter. It was considered that such an amount could not be covered by such a declaration, but that the names of the two fruits used should be printed on the label in the same size type. The sample also contained 58 parts per million sulphur di-oxide, which is in excess of the 40 parts allowed by the Preservative Regulations. A formal sample, No. 9875, was taken, and was found to have practically the same composition as the informal one. An interview was arranged with one of the partners of the firm making the jam and the matter was discussed in general terms. Later, a visit was paid to the works, and an agreement was finally come to that where the fruit juice added did not exceed 10 per cent of the weight of the jam, the fact of the addition should be declared on the label in type of a reasonable size. If more than this was used, the names of the two fruits used were to be in the same size type, and a promise

was also given that more care should be used with respect to the amount of preservative present.

Sample No. 9741 included in the fruity part of the jam about 15 per cent other fruit juice, and was described on the label as being "improved by the addition of fruit juice." This phrase was objected to as indicating that the fruit juice was added to improve the quality, whereas the only reason for the addition is to lower the cost of manufacture. Fruit juice is entirely unnecessary in the manufacture of blackcurrant jam, since the latter sets perfectly without any such addition. A representative of the firm was interviewed and a promise was made that the wording of the declaration should be altered to "with added fruit juice," in a reasonably-sized type.

Sample No. 9743 contained 53 parts per million sulphur di-oxide, which is in excess of the 40 parts allowed by the Preservative Regulations. It was labelled "Home made," but had obviously been made from pulp. The term "Home made" could not in any sense be applied to a jam that had been made in a factory, and the head of the firm, in an interview, agreed to drop the description altogether. It was also promised that more care would be exercised with respect to the amount of preservative present.

Samples Nos. 108 and 109, made by two different firms, both contained small amounts of fruit juice and its presence was not declared on the label. Representations were made to the two firms concerned, and both immediately agreed to alter their labels, so as to include

a statement to the effect that the jam contained added fruit juice.

Sample No. 107 contained about 20 per cent added fruit juice and the label bore no indication of the fact. A sample of the same firm's blackcurrant jam was bought later formally, and a similar informal sample was also bought at another shop belonging to the same firm. These are dealt with below.

Samples Nos. 214 and 234 were the formal and informal samples, respectively, referred to above. In sample No. 214 the fruit contained about 20 per cent other fruit juice and was artificially dyed. There was no declaration on the label to this effect. Sample No. 234, the informal sample, contained about 25 per cent added fruit juice calculated on the fruity part.

An interview was arranged with a representative of the firm concerned and all the facts of the case presented to him, with regard both to the blackcurrant and the strawberry jams. It appeared that the jams were bought from a large manufacturer and the firm had no knowledge of any addition to the jam. The makers were approached by the firm and the addition of the juice both to the blackcurrant and the strawberry jams was admitted, the excuse being given that it was necessary to give the consistency. While it is certainly true that a certain amount is necessary in strawberry jam, it is quite unnecessary in the case of blackcurrant, and apart from this the amount found in the strawberry jam was excessive. After some negotiations between the firms

concerned, the makers finally agreed to supply genuine blackcurrant jam, so that any alteration of the labels would not be necessary.

In the case of the strawberry jam, it was agreed that the presence of the fruit juice should be declared on the label, and a limit of about two months was allowed for the necessary alterations to be completed.

Sample No. 119 contained a very large amount of fruit juice, and although the words "with fruit juice added" appeared on the label, yet it was considered that the size of the type used was too small to cover this large addition. The firm stated that the percentage of juice used was only 10, and could only account for the large amount present by irregular filling of the jars. A promise was made that the matter would be attended to.

Lemon Cheese.

Samples Nos. 51 and 124 were formal and informal samples, respectively, of a product on the container of which was a small slip of paper on which the words "Home made" appeared in imitation script. This, and the general get-up of the jar, was obviously intended to convey the impression that the article was of a superior quality.

It was contended that home made lemon cheese should be made from butter, sugar, eggs and lemon juice and rind, whereas these samples contained a mere trace, if any, of eggs, no butter, and only 26 per cent of cane and

invert sugars, the rest being substituted by 39 per cent glucose syrup. Starch was also present and the sample was artificially coloured, and about 8 per cent of water in excess of the normal amount was found.

The article, although labelled "Home made," was bought from a large local wholesale firm, which also supplied the labels. The impression that an ordinary purchaser would get would obviously be that it was made on the retail vendor's premises, and was of the high quality usually denoted by the term "Home made." The price of the article also was above that usually charged for an article of the quality of the one concerned.

Summonses were taken out against the vendors under Section 6 of the Sale of Food and Drugs Act, 1875, and against the makers under Section 27 for giving a label "which falsely described the article sold." The vendor pleaded guilty and was fined £5. The makers suggested that no offence had been committed because the article was perfectly wholesome. The words "Home made" could not deceive a customer and were not to be construed as meaning that the article was made on the premises. If that was meant to be implied, the words "Our own make" would have been used. They were giving people value for their money and were only making a reasonable profit. A fine was, however, imposed of £5 with £15 special costs, the stipendiary remarking that, in his opinion, a home made article should be made of the articles that the ordinary housewife would use.

After the hearing of the above case a number of enquiries were received with respect to the use of the

"Home made" label, and in reply enquirers were informed that the use of the term should be restricted to those articles actually made on the vendor's premises and made as they would be made in a private household. Within a few days, the large number of descriptive labels using the term "Home made" for various commodities, which was exhibited in the City, was reduced to very small proportions, showing that this term was being used merely for its advertising value and not from any idea of telling the customer the exact truth on the matter. Actually, of course, the great majority of these so-called home made articles were made in bulk by big firms and distributed wholesale throughout the country, and many were probably of definitely inferior quality to the real home made articles. The question "What is lemon cheese?" is, of course, not settled by this prosecution, but a distinct step in advance has been made and a standard set up for a certain grade. It is still maintained, as it has so frequently been insisted upon at Salford, that lemon cheese, whether home made or not, should consist of butter, sugar, eggs and lemons only, and that all the various substitutes for the product have no right to the use of the term. Lemon cheese means something definite and cannot possibly refer to all sorts of different concoctions of margarine, gum, glucose, starch, dextrin, tartaric acid, aniline dye, flavouring and so on. These latter may be perfectly wholesome, but they are not lemon cheese. There is surely enough inventive genius latent in our manufacturers to coin alluring names for all these different articles. Some have done so, but many still sell their goods on the reputation that lemon cheese

has acquired. Here is an example of the kind of article for which legal standards are absolutely necessary. In the event of this reform being carried out by an enterprising Health Ministry, all makers would be on the same footing, and there would be no point in the excuse that "I have to do as the other man does or he will capture my trade."

Sausage.

According to the Preservative Regulations, 1925, now in force, sausages should contain no preservative of any description, unless a notice to the effect that the article contains preservative is exhibited in the shop in a conspicuous place so as to be easily readable by a customer, or unless the package when sold is accompanied by a label bearing the words, "These sausages contain preservative."

In the case of the informal sample No. 21, these provisions were ignored, although the sample contained 270 parts per million of sulphur di-oxide. A formal sample was bought a day or two later, but a notice was exhibited in the shop, and the vendor was cautioned.

Sample No. 22 contained 216 parts per million of sulphur di-oxide, although no notice was exhibited. Formal sample No 44, bought at the same shop, contained 128 parts per million. The sausage in question had been supplied by a wholesale firm, and the vendor was under the impression that no preservative was present. Two attempts were made to secure a sample from the wholesale dealer on delivery, but without success.

A visit was therefore paid to the premises of the latter, and a sample bought, but this proved to be free from preservative. The addition of preservative seemed to be conducted in rather a casual manner and the premises were not remarkable for their cleanliness. Strong cautionary letters were sent both to the wholesaler and the shopkeeper.

Whisky.

Sample No. 8895 was a sample of bottled whisky, and on analysis proved to be 43·6 degrees under proof. By Section 10 of the Licensing Act, 1921, and since January 1st, 1929, by Section 2, sub-section (*d*) of the Food and Drugs Adulteration Act, 1928, whisky must not be reduced in strength more than 35 degrees below proof by the addition of water.

The sample therefore contained 13·8 per cent added water. Legal proceedings instituted against the vendor resulted in him being fined £5.

It was discovered that this particular whisky had been bought from a wholesale spirit merchant and invoiced to the retailer as 40 degrees under proof. The label on the bottle gave no indication whatever of the strength of the whisky and your Inspector therefore visited the premises of the wholesale dealer, and asked to see the proprietress. He was informed by her son that she could not be seen and that he attended to the business. In conversation he admitted that he was responsible for the labelling of the bottles, and also that the spirit was nominally 45 degrees under proof. On hearing,

however, that legal proceedings would probably be taken against him he said that he would deny that he had made these statements.

A summons was taken out against him under Section 27 of the 1875 Food and Drugs Act, the relevant part of which states that "Every person who shall wilfully give a label with any article sold by him which shall falsely describe the article sold shall be guilty of an offence, etc." In this case it was possible to prove both that the actual composition of the article was known to the person giving the label and that the label was wilfully given by him. It is not often that this can be done in such cases.

The case was adjourned by the stipendiary for the attendance of either the actual proprietress or her legal representative, and at the adjourned hearing it was submitted that the label was false inasmuch as it described as whisky, without any qualification, spirit which had been diluted below the strength of 35 degrees under proof. This rather novel submission was upheld by the stipendiary and the defendant was fined £15 and 30s. costs.

Gin.

Sample No. 8947 was bought at the same licensed house as the sample of whisky mentioned above. It had been invoiced to the licensee as 30 degrees under proof, and was bought from the same dealer as the whisky. On analysis it proved to be 37·2 degrees under proof, that is, it contained 10·8 per cent added water.

No action was taken in this case as the vendor himself was deceived by the wholesale dealer. The retailer shortly afterwards submitted to the writer a sample of gin invoiced to him as 30 degrees under proof. This sample turned out to be 35·8 degrees under proof and therefore contained 8·7 per cent added water. At the request of the retailer a certificate was issued to him on payment of the statutory fee of 10s. 6d., and he proposed to institute proceedings himself against the wholesale dealer.

Cod Liver Oil Tablets.

In my report for 1927 reference was made to the examination of a sample of "Cod Liver Extract" tablets which had been extensively advertised and for which very high claims were made. They were said to have all the virtues of cod liver oil, with the additional advantage that the unpleasant taste and smell of the latter were eliminated. The two vitamins A and D, which in the light of recent research are two of the most important constituents of cod liver oil, and to which the observed therapeutic effects of the oil are largely due, were said to be fully retained, and the very high-sounding claim was made that the tablets would entirely take the place of the fresh oil in the diet of "weak, listless and delicate" children, aged people and invalids, and those suffering from malnutrition, and that they were specially useful where there was any sign of rickets or any debilitating weakness.

Upon examination of the informal sample taken in 1927, the tablets were found to contain about 3 per cent

of oily matter, which would contain any vitamins present. By the only chemical tests available at the moment it was shown that vitamin A was entirely absent from this oily matter. This fact, of course, was sufficient to condemn the tablets from the point of view of their efficacy as a substitute for cod liver oil. There is as yet, however, no chemical test available for vitamin D, and the only conclusive method of comparing a preparation such as this with genuine cod liver oil is a biological one, which consists in feeding test animals (rats), previously deprived of the vitamin to be tested for until they show definite signs of ill-health, and then giving them doses of the preparation at the same time as other similarly treated animals are given genuine cod liver oil. Comparison is made between the two sets of animals after a lapse of several weeks.

It was felt that in view of the fact that the tablets were completely deficient in vitamin A and therefore in no way equivalent to cod liver oil, and also on account of the steadily increasing sales, that an attempt should be made to bring the matter to the notice of the public, and for this reason your Committee was asked for permission to have a biological examination made of the tablets. This was granted, although the cost was considerable. Arrangements were therefore made with the Director of the Pharmacological Laboratory, recently established by the Pharmaceutical Society of Great Britain, for the examination of a sample of the tablets.

A formal sample, No. 9094, was bought immediately information was received from the Director that the

test animals were ready for the examination to commence. The sample was bought as cod liver oil tablets, although the label on the box read "———'s Cod Liver Extract Tablets." This procedure was justified since they were advertised as "cod liver oil in tasteless tablets."

Part of the third portion submitted to the writer was sent to the Director of the Pharmacological Laboratories, the remainder being chemically analysed as usual. A certificate was issued to the following effect:—

I am of the opinion that the said sample contained the parts as under:—

Water	3.2
Oil and oleo resin	3.2
Total sugars	47.7
Gum and other water soluble matter	14.3
Iron.....	4.1
Zinc phosphide	0.5
Other acid soluble matter.	3.7
Charcoal and other insoluble organic matter	16.8
Insoluble ash	6.5
	———
	100.0
	———

The 3.2 per cent of oil had the characteristics of an alcoholic extract of cod liver oil. Vitamin A was entirely absent.

These are not cod liver oil tablets since the oily matter contained in them lacks the essential vitamin A, which is one of the most valuable constituents of genuine cod liver oil and gives it a large part of its therapeutic value. The value of the contained oil, apart from its lack of vitamins, is negligible inasmuch as about 160 tablets would be necessary to obtain the minimum dose of cod liver oil.

The report of the biological examination was to the effect that both vitamins A and D, that is, the growth-promoting and anti-rachitic factors respectively, were completely absent, and that the tablets as a substitute for cod liver oil were practically worthless. In fact it was only possible to complete the examination in so short

a time (three weeks) because the essential constituents of cod liver oil were so entirely lacking.

The legal difficulties involved in the taking of a case such as this are very great indeed, but the Health Committee, in view of the important issues at stake, decided to take the risk of losing and incurring heavy costs. A summons was issued against the vendors of the tablets (who, the writer was informed, were also the makers) under Section 6 of the Food and Drugs Acts, for selling to the prejudice of the purchaser, cod liver oil tablets which were not of the nature, substance and quality demanded.

Evidence was given by the writer in support of his certificate and also by the Analyst for the County of Lancashire, who had examined the tablets at the request of the Health Committee and had come to the same conclusion as the writer.

The Director of the Pharmacological Laboratory, and his assistant who had actually carried out the tests, gave evidence with respect to their findings, and Dr. Ramsbottom, of the Salford Public Health Department, also testified as to their worthlessness as a substitute for cod liver oil. Objection was made by the defending barrister to the biological evidence, but this objection was overruled by the magistrate. The only witness called for the defence was the Chief Chemist of the defending firm, and he admitted that he had not examined the third portion of the sample sent to him by the Inspector. The defendants were convicted of the offence and were fined £30 and 75 guineas costs.

The sale of these tablets is an important example of the length to which certain traders will go in exploiting a new scientific discovery to the prejudice of the purchaser. It is only recently that it has been found possible to manufacture vitamin concentrates of very high therapeutic value, and certain preparations are now on the market which are really valuable for certain purposes, but for the sale of such worthless imitations there is really no excuse. The number of articles purporting to contain all the valuable constituents of cod liver oil up to the time of the prosecution had been rapidly increasing, and it is hoped that the exposure of this one will do something to check the manufacture of similar worthless products. It cannot be too strongly emphasised that such articles as these, exceptions being made, of course, in the case of well-known preparations made by reputable firms, are practically entirely valueless from every point of view.

Sample No. 9088 was a sample of the same brand of tablets bought informally before the taking of the formal sample, in order to make sure that the vitamin A was still absent, as was the case with the informal samples bought last October. Samples Nos. 9320 and 9321 were informal samples bought a day or two before the case was heard in order to ascertain if there was any change in the composition, but vitamin A was still absent.

Sample No. 9520 consisted of another brand of tablets which were advertised as containing the "active principle of the liver in a palatable form." It was also stated that each tablet was equivalent to a tablespoonful of cod

liver oil. On examining them by the usual colour test, five tablets were found to contain less vitamin A than one drop of ordinary commercial cod liver oil. This, of course, made it quite evident that the preparation was in no way equivalent to the oil, and a letter was written to the firm concerned asking for an interview with some responsible person in order to discuss the matter. It was discovered that the firm was in liquidation and the assets had been taken over by a well-known firm of manufacturing chemists. The managing director of this firm was interviewed and the whole history of the manufacture of the tablets was disclosed. They were apparently made for another firm and a third firm was responsible for the distribution. The gentleman mentioned above agreed that the preparation as sold was valueless and, at our request, made a promise that it would not be manufactured again in its present form, and further, if at a later date it was put on the market, any claims as to vitamin content should be capable of substantiation. He also intimated that the firm responsible for the distribution would cease selling immediately. The guarantee regarding the cessation of manufacture was, at our request, confirmed in a letter to the Medical Officer of Health.

Sample No. 9534 was another brand of tablets which, although containing the necessary vitamins in, so far as could be judged, a good proportion, had on the label the statement "Each tablet is equal to a spoonful of the finest cod liver oil." In the writer's opinion this cannot be upheld, as the vitamins of the oil only

constitute a part of the valuable element contained in it. For all that is yet known to the contrary, there may be any number of constituents of the oil, apart from vitamins A and D, which may have beneficial effects as great as these, and to state that a tablet which contains merely a concentration of the vitamin containing portion of the oil is equal in value to the oil itself is obviously untrue. The actual oil has a food value, apart from the unsaponifiable matter, which contains the vitamins.

The firm was communicated with and agreed to substitute the phrase "These tablets contain vitamins A and D extracted from the finest cod liver oil." This statement is perfectly satisfactory and gives the whole truth of the matter.

Sample No. 9539 was advertised as containing "The essential medicinal properties of cod liver oil." Other advertising matter made the surprising statement that they actually were more effective than the oil itself! Another interesting paragraph gave the information that "The form in which cod liver oil is present is 250 times as rich in vitamins as the best butter." Again vitamin A was shown to be practically absent, five tablets containing less of this constituent than one drop of cod liver oil. The firm concerned was asked for an explanation and in an interview with their representative a promise was given that the article would be no longer manufactured.

It is hoped that there will now be no further trouble resulting from the sale of these useless articles purporting to be equivalent to cod liver oil. So far as is known, the

vitamin containing preparations sold as substitutes for cod liver oil which still remain on the market are all accurately described on the packages. There is no doubt that, but for the action which has been taken in Salford, there would have been, by now, a large number of imitations of the tablets which were the subject of the successful prosecution indicated above.

A few remarks may be made here with regard to the general question of the manufacture and sale of proprietary medicines. It may not be generally known that in this country there is practically no check at all on the sale of such articles. It is open to anyone with enough capital to make up a mixture of drugs (except scheduled poisons) and advertise it as "A's Powders" or "B's Pills," and so on, with accompanying statements to the effect that it will cure or relieve certain diseases, whether the drugs employed are actually useful for the purpose or not. If the name of an ailment is mentioned with the medicine, Government stamp duty has to be paid, but if only the organ of the body which is the seat of the ailment is mentioned, no duty is payable. For example, "Cough mixture" is dutiable, "Chest mixture" is not, "Headache powder" is dutiable, "Head powder" is not. Subject to this one restriction, proprietary medicines of any description, whether harmful or harmless, whether suitable or not suitable for the diseases they are advertised as being able to cure, may be made and sold with impunity. Nitric acid and water may be sold and has been sold as a cure for corpulency, starch as a remedy for dropsy, insanity, smallpox, etc., alcohol for easy confinement and sugar as a cure for drunkenness. A

remedy may be recommended by bogus testimonials and by the invented opinions and facsimile signatures of fictitious medical men. It can be sold under any name the "inventor" may choose, and at any price the public can be persuaded to buy. The credulity of the latter seems to be boundless. Any advertisement of a new patent medicine, however absurd its claims, seems to be accepted as truth by large numbers of people.

Proprietary medicines, for practical purposes, may be divided into four classes, always excluding a certain number such as aspirin, acetanilide, which are genuine drugs synthetically produced and sold (under many names) by pharmacological laboratories. 1. This group consists of a number of household remedies, often originally manufactured from a family doctor's prescription, and often beneficial for simple ailments. The retail price is generally out of all proportion to their cost and large fortunes have often been made by the proprietors. 2. Dangerous remedies and drugs for improper purposes, which should not be sold at all except under a doctor's prescription. 3. Fraudulent remedies—a large class with an extensive sale, often at exorbitant prices, consisting of alleged cures for diseases such as cancer, consumption, diabetes, epilepsy, etc. These are sheer and cruel frauds, and their makers deserve the severest penalties. 4. Remedies making grossly exaggerated claims upon which they depend for their sale. Huge profits are made by the makers of the articles in this class.

It will be seen that very little good can be said for the articles in any of these classes, and the suppression

of the whole would probably immensely benefit the health of the community.

The point that needs stressing is that the sale of such articles cannot be prevented under existing law and the prosecution for the sale of the cod liver oil tablets mentioned above is probably the first of its kind, taken under the Sale of Food and Drugs Acts, which has succeeded. Certain special circumstances were, however, operative in this case. Under Section 6, sub-section 2, of the Sale of Food and Drugs Acts, 1875, and Section 2 of the Food and Drugs (Adulteration) Act, 1928, proprietary medicines are specifically exempted from the provisions of the Act. The wording of this Section is as follows: "No person shall sell to the prejudice of the purchaser any article of food, or any drug which is not of the nature, or not of the substance, or not of the quality of the article demanded by such purchaser, provided that an offence shall not be deemed to be committed where the drug . . . is a proprietary medicine or subject of a patent in force." The reason for this exemption is unknown but may be guessed at. In the case of the cod liver oil tablets, the proprietary name was "——'s Cod Liver Extract Tablets," and had the article been asked for under that name there would have been no case since the purchaser would have got precisely what he demanded. But actually cod liver oil tablets, which is not a proprietary article, were asked for and the proprietary article was supplied. These tablets proved not to be of the nature, substance and quality of cod liver oil tablets, and, in the writer's opinion, the vendors were rightly convicted,

although the question of whether the sub-section was still operative in this case was not raised by the defendants.

The special circumstances of this case, however, render it unlikely that in the ordinary way the makers or vendors of a worthless proprietary medicine can be brought to book by the operation of the Food and Drugs Acts. Even if the new Section relating to proprietary medicines were abolished, the Act would still be practically useless, since a purchaser asking for A's pills and getting A's pills would be getting an article of the nature, substance and quality demanded and no offence would be committed.

The Merchandise Marks Act and the Larceny Act are also of practically no value with respect to these articles and no State Department concerns itself with either their sale or advertisement.

This country is practically the only civilised country in the world which has no means of controlling these articles, and in view of the immense amount of harm that may be caused by them, this lack of control is a national disgrace. As an example of the state of British law compared with foreign law on the subject, it may be of interest to mention that one person is said to have made a profit of £60,000 in this country by advertising and selling an alleged vibratory cure for many diseases, whereas for the same procedure in France, he was fined £120 and sentenced to three years' imprisonment.

What is wanted is entirely fresh legislation to deal with the matter. The Ministry of Health should exercise

control over the advertisement and sale of all proprietary and patent medicines. The exact formula of them should be furnished to the Ministry, together with a full statement of the claims made, and these should be examined by a competent body of assessors, with power to prohibit or permit in the public interest the sale and advertisement of any proprietary and patent medicines.

The whole of the facts relating to these articles were gone into by the Select Committee on Patent Medicines, in 1912, and a report was adopted which condemned utterly the present lack of supervision, and suggested stringent alterations in the existing law and new legislation of a thoroughgoing kind. Unfortunately, these recommendations have never been carried into effect, but the report is still available and a public service will be done by the first Government acting on its findings.

Seidlitz Powders.

Sample No. 8946 was supplied as "Extra Strong Seidlitz Powder." This article should contain in the blue paper half as much again of Rochelle salt as the B. P. article, making the total weight of the contents of the blue paper 13.75 grams. In this sample the weight was only 11.7 grams, a deficiency of 14.8 per cent. The wholesale firm which packed this article was asked to explain the deficiency, and in an interview the manager said that they were the originators of the "Extra Strong" powder and regarded the term "——'s Extra Strong Seidlitz Powder" as a trade mark and did not accept the standard, although it is now laid down in the *B. P. Codex*. After some discussion, however, it was agreed to dis-

continue the use of the term "Extra Strong" and to use the word "Special" in its place. This, of course, does not carry any guarantee of any particular strength except that it is rather stronger than the B. P. article.

Tonic Wine.

This informal sample was bought on account of a complaint by the police that it was being sold at a beer shop without a wine licence. The article was described on the bottle by a trade name with no mention of wine, and underneath, in bold print, were the words "Herbs with hypophosphites." On the opposite side of the bottle was another label describing the contents as a valuable herbal tonic, a nerve restorative, and as containing nutrients and stomachics. It was said to be useful in weakness, debility, etc., and for increasing the red corpuscles.

Analysis showed it to contain 24.2 per cent proof spirit, and 9.6 per cent total solids, of which 9.0 per cent was sugar. The percentage of hypophosphites was 0.03 calculated as calcium hypophosphite, an infinitesimal amount. The total ash was 0.27, consisting mainly of sulphates and phosphates in about the same quantity as an ordinary "straight" wine. There was obviously very little, if any, extract of herbs, and, in short, there is practically nothing to differentiate it from an ordinary cheap wine. The price was 5 shillings per pint bottle.

In view of the fact that the police are probably proceeding against the vendor for selling wine without a licence, no further action was taken in the matter, but if there is any chance of action under the Sale of Food and Drugs Acts, in the future, a case might very easily be made out.

Fertilisers and Feeding Stuffs Act, 1906.

No samples were submitted under this Act, or under the new 1926 Act which came into operation on July 1st, 1928.

Miscellaneous Samples.

Sunlight tests	1566
Rainwater	42
Water.....	1
Breast milk	61
Cod liver oil emulsion	7
Dried milk.....	2
Oatmeal	1
Milk	10
Vitamin concentrates	3
Cheese	2
Lemon cheese	1
Jam	2
Damsons	1
Baking powder	1
Bread	1
Rye grain	4
Rye malt	2

Soap	16
Towel	1
Sweets	1
Gin	1
Paint	6
Dust	1
Effluent	1
Vinegar	3
Pickles	1
Decarboniser	1
Coke	3
Coroner's samples	7
Hospital samples	4

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The breast milks and the dried milks were examined for the Child Welfare Department. The samples of cod liver oil emulsion were submitted by the Medical Officer of Health as were also the samples of air filter dust, of baking powder and of damsons. The soaps were examined in connection with the half-yearly tenders submitted to the Health Department. The coke samples were taken in connection with an investigation into the relative amounts of water contained in vertical and horizontal coke.

The hospital samples (from Salford Royal Hospital) consisted of hair, nails and urine sent to be examined for arsenic, but no appreciable amount was discovered. The coroner's samples were the viscera of a person found dead

in peculiar circumstances. The only foreign substance detected was magnesium sulphate (Epsom salts) in fair quantity, the ingestion of which might have been a contributory cause of death.

The remaining samples call for no special mention and were mostly examined in connection with various investigations which have been carried out during the year. Some of them were submitted by private persons who were suspicious of the purity of a certain article of food.

Strength of Sunlight.

The miscellaneous samples described as "Sunlight tests" were taken in connection with an investigation begun in 1926, and continued during 1927 and 1928, with regard to the comparative strength of the sunlight received at four different stations, viz., Regent Road, Ladywell Sanatorium, Drinkwater Park, and Nab Top Sanatorium, Marple.

In the case of the first-named station the tests were carried out on the roof of the Health Department, and in the other three cases in the grounds of the Institutions named. The test consisted in the exposure of a solution of potassium iodide acidified by sulphuric acid in a two-ounce bottle in the presence of air. Free iodine is liberated by the action of the sunlight, and the amount found is proportioned to the light received. The figures

given in the following tables represent milligrams of iodine. The monthly totals for 1928 are given below :—

Month, 1928.	Regent Road.	Nab Top Sanatorium, Marple.	Ladywell Sanatorium.	Drinkwater Park.
January	68.3	85.3	74.0	83.5
February	84.6	116.3	132.7	115.8
March	76.9	113.0	94.0	106.3
April	93.0	114.6	141.5	139.8
May	130.8	157.0	177.5	169.6
June	98.9	111.9	118.7	108.1
July	140.8	170.6	210.0	209.1
August	174.7	207.4	215.5	206.2
September	151.7	179.5	180.0	178.5
October	119.6	153.4	150.0	136.7
November	39.9	59.9	47.3	45.6
December	25.6	38.3	32.3	28.0

It will be seen that the figures for Regent Road are, without exception, lower than those for the other three stations. This gives some idea of the effect of the smoke blanket which hangs over the centre of the City. Other factors such as ground mist cannot, of course, be taken into consideration, but in general the figures show that the active amount of sunlight received in the centre of the City is considerably less than the amounts received at the outlying stations.

If the Regent Road and Ladywell Stations are compared, it will be seen that the former station received an amount of active sunlight less, by amounts varying from 15 per cent to 36 per cent, than the latter.

The totals for the year are on the whole very similar to last year's figures, the difference between the lowest and highest totals being 24·4 per cent for 1928 and 20·5 per cent for 1927. This is part of the price paid for the continued use of raw coal in the domestic grate.

Atmospheric Pollution.

The work of examining the deposit obtained in special gauges placed at various points in the City, which has been described in the reports for the last five years, has been continued. At the present time the standard gauge is situate in Peel Park, and similar types of gauges are situated in the centre of the recreation ground in Regent Square, and in the grounds of the Corporation Sanatorium at Marple, Cheshire, and Ladywell Sanatorium, Pendleton.

In uniformity with the results expressed by other stations, of which there are a number scattered throughout Great Britain, the results are expressed in metric tons per square kilometre. The metric ton is equivalent to slightly more than the British ton, whilst there are 2·59 square kilometres in a square mile, so that to convert metric tons per square kilometre to tons per square mile, it is necessary to multiply by 2·55, or roughly $2\frac{1}{2}$.

The following are the average results that have been obtained during the year. The contamination of the Ladywell area is rather less than that of the other two

City areas, whilst, as was to be expected, the atmosphere at Marple is, comparatively speaking, "pure."

In order that comparison may be made with other districts, the average figure has been included in the table for the gauge giving the least deposit, the one at Hesketh Park, Southport, and the one giving the greatest deposit, the one at Burnley. These figures are, however, not yet available for the year 1928, and the average figures of the results obtained from April, 1926, to March, 1927, are given in place.

	Salford : Peel Park.	Salford : Ladywell Sanatorium.	Salford : Regent Square.	Marple : Salford Sanatorium.	Burnley :	Southport : Hesketh Park.
Rainfall in Millimetres	78.66	78.40	82.90	67.78	105	78
Tar, Carbonaceous other than tar. Ash.	0.60 3.76 4.87	0.63 1.07 3.77	1.02 3.66 3.48	0.28 2.82 1.96	0.78 4.84 9.28	0.03 0.77 0.79
Loss on ignition. } Insoluble Ash. } Matter.	2.55 3.48	1.39 4.72	2.65 3.38	1.42 1.27	6.26 7.87	1.00 1.52
Total Solids	15.26	11.58	14.19	7.75	29.03	4.11
Sulphates. } Included in Chlorine. } Soluble Ammonia. } Matter.	3.07 1.78 0.06	1.55 1.40 0.09	3.00 2.03 0.10	1.28 0.71 0.05	4.28 1.18 0.24	0.59 0.66 0.03

SECTION VIII.

Maternity and Child Welfare and Supervision of Midwives.

The Staff consists of three Lady Medical Officers, an Assistant Inspector of Midwives, 16 Health Visitors, two Masseuses, and seven Clerks. It is the duty of the Medical Officers to conduct all examinations of mothers and children attending at the Clinics and at the Centres. The Senior Medical Officer supervises the visiting and assists in the administrative work of the Department. Each Health Visitor is allotted a district, to the visiting of which most of her time is devoted, and a record is kept of all details connected with the sanitary state of the house and the health of its occupants. In addition, the Health Visitors carry on the work at the various Mothers' Centres in the City.

The Work of the Health Visitors.

During the year 1928, the whole of the Wards in the City were visited by the Health Visitors.

The following table gives the number of visits paid by the Health Visitors in the various Wards, and the number of babies and expectant mothers visited during the year 1928 :—

TABLE C.W. 1.

Wards.	Total No. of Visits to Homes in 1928.	First Visits to Homes of Babies.	No. of Visits to Expectant Mothers.
Kersal	1435	157	52
Mandley Park	2095	229	66
Albert Park	3819	321	174
Trinity	2834	297	97
St. Matthias'	2563	327	127
Crescent	2192	354	75
St. Thomas'	3136	276	105
Charlestown	2195	271	36
Claremont and Weaste	2593	238	52
Seedley	636	72	5
Langworthy	1454	134	30
Regent	1795	304	30
Docks	2361	159	35
St. Paul's	1862	190	125
Ordsall Park	2482	283	41
	33452	3612	1050

The following is a summary of the work done in Salford by the Visitor employed by the Manchester Jewish Ladies' Visiting Association :—

January to December, 1928.

House to House 856
Special 41

Municipal Maternity Home and Babies' Hospital.**MATERNITY DEPARTMENT.****1. ADMISSIONS.**

The number of new cases admitted during the year 1928 was as follows :—

For special ante-natal treatment	32
For confinement	254
Treated and not returned for confinement	7
Referred to Hope Hospital.....	1

2. BIRTHS.

Males (including twins)	127
Females	128

3. STILLBIRTHS.

Males	4
Females	7

4. DEATHS OF INFANTS.

Males	1
Females	3

5. MEDICAL ASSISTANCE.

Maternity	72
Infants	6

This Institution, with accommodation for 10 maternity cases, has now been in existence for nearly four years, during which time 905 births have taken place therein. The accommodation at our disposal is

still in great demand, and it has been necessary for the Committee, whose duty it has been to select suitable cases from the large number of applicants, to meet regularly during the year. Preference is given, in the first place, to applicants who have not the necessary accommodation in their homes; and, secondly, to those applicants who cannot, with safety, be confined in their homes. When refusals are made to applicants, these patients are always advised either to enter another Institution, or to engage competent midwives for their confinements.

All cases booked for the Maternity Home are invited to attend a special ante-natal clinic which is held at Regent Road Clinic every Friday afternoon, in order to reduce any possible complication at the confinement to a minimum.

Ante-natal Work.

The work of the ante-natal department still shows a marked increase. The mothers very much appreciate the complete examinations which are made at the ante-natal clinics, and it has been possible, through this work, to prevent the onset of serious complications, and to advise special treatment where some abnormality has been present.

The midwives in the City also continue to send their patients to our Clinic doctors for ante-natal examinations, and fully appreciate the reports they receive after the examinations.

Ante-natal advice is given at the following sessions :

Regent Road	{	Thursday 9 to 11 a.m.
		Thursday 2 to 3 p.m.
		Friday 2 to 3 p.m.
Teneriffe Street		Thursday 2 to 4 p.m.

Work of the Babies' Department of the Municipal Maternity Home and Babies' Hospital.

1. ADMISSIONS.

The number of new cases admitted during the year 1928 was 47, disposed as follows :—

- 19 Rickets.
- 25 Marasmus and Malnutrition.
- 1 Mentally Deficient and Malnutrition.
- 1 Congenital Heart.
- 1 Von Jaksch's Anæmia.

2. DISCHARGES.

The number of cases discharged during the year 1928 was 33. These were as follows :—

Cured.

- 10 Rickets.
- 7 Marasmus.
- 4 Malnutrition.
- 2 Post Pneumonia.

Improved.

4 Rickets (including one Congenital Heart).

No Improvement.

3 Rickets.	}	Taken out by parents after very short stay.
2 Malnutrition.		

Transferred to another Hospital.

1 Whooping Cough—recovered.

3. DEATHS.

The number of deaths during 1928 was 5, as follows :—

- 1 Marasmus and Malnutrition.
- 1 Convulsions and Gastro-Enteritis.
- 1 Tuberculous Meningitis.
- 2 Chronic Dyspepsia and Marasmus.

The work of the Babies' Hospital has now been in progress nearly four years, and this is a good opportunity to speak in some little detail of the work that has been done, and the progress made since the opening of the Hospital in March, 1925.

Since the inception of the scheme, eighteen beds have been available, ten for cases of Rickets and eight for other sick infants, and there have been great demands upon the space at our disposal.

One of the outstanding advantages which has accrued from the presence of the Hospital has been the

fact that the Medical Officers at the Clinics in the City have been able to send urgent cases to the Hospital without the slightest delay. In many cases there is no doubt that prompt treatment has saved lives in this way.

In many cases of Marasmus and Malnutrition, ordinary advice and home treatment sometimes fail to produce the desired results, and a selection of these cases—selection has been necessary owing to our lack of space—has shown remarkable response to hospital treatment, and the Mortality Rate has been surprisingly low.

Refractory cases of Rickets have been sent to the Hospital, and failure to respond to treatment has been very exceptional. The Sunlight Lamp which was installed in June, 1926, was originally intended mainly for the treatment of Rickets, but it has been possible to take much advantage of its presence for the treatment of other and younger sick infants, whose recovery has been very considerably stimulated by its judicious use. The value of artificial sunlight carefully employed is of especial importance in the smokier atmospheres of our great cities, but it has been our practice to supplement clinical treatment by natural sunlight and fresh air. In the summer months it has often been possible to keep the babies out of doors throughout the day.

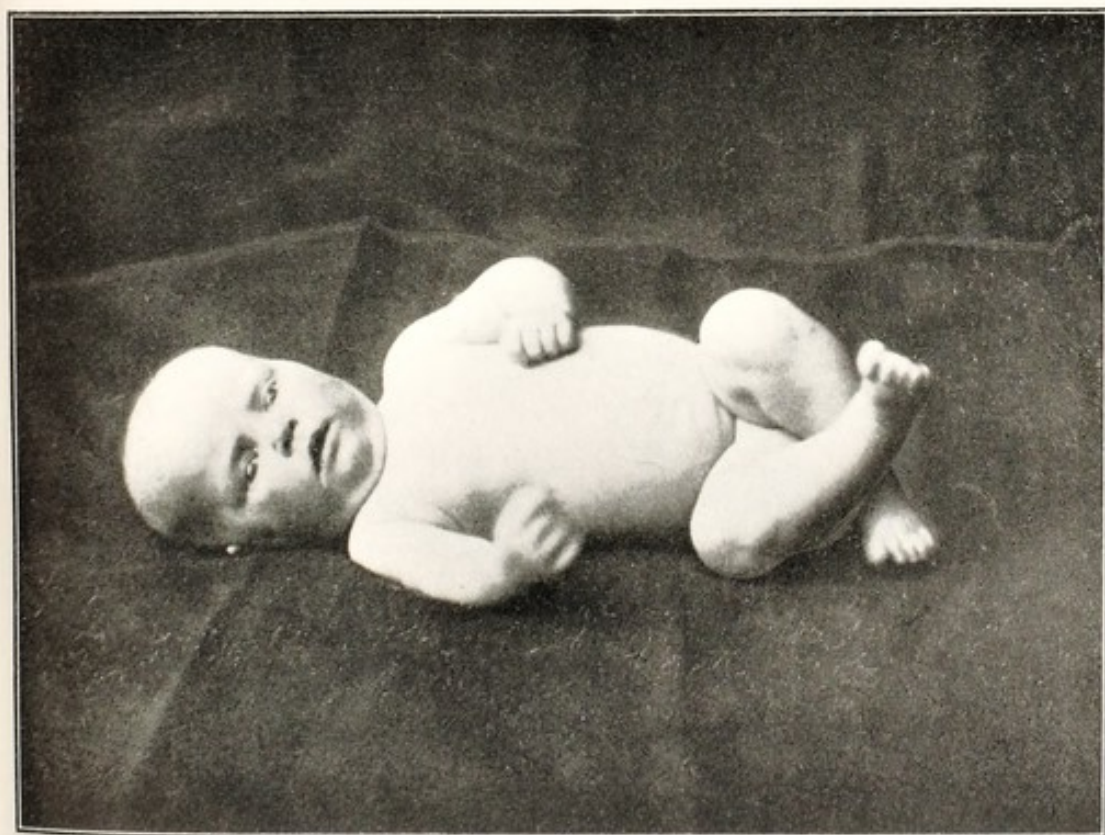
It is of especial interest to note that the simplest methods of feeding have proved the best for Marasmic infants, and in most cases excellent results have been obtained on milk and water, the milk being cow's milk

from supervised sources, of high quality and guaranteed purity. A great advantage of this simple method is seen when the infant has sufficiently recovered to go home. It is then possible for the mother to continue the methods that have been so successful in hospital, an important factor in the gradual improvement of the infant's strength and general condition.

The accompanying photographs (see pages 331—334) give some idea of the results obtained with the sick infants at the Babies' Hospital, and these are by no means exceptional cases.



No. 1.



No. 2.

Photographs 1 and 2.—This baby was a premature 7 months, and was admitted on the 15th November, 1928, at the age of 7 weeks. She then weighed 4 lbs. 4 ozs., and was suffering from Marasmus. *Photograph 2* was taken on April 30th, 1929, when the baby weighed 12 lbs. The mother of the baby died after confinement.



No. 3.



No. 4.

Photographs 3 and 4.—This baby was admitted on the 27th July, 1928, at the age of three months, when she weighed 6 lbs. 12 ozs.; she was suffering from Marasmus. *Photograph 3* was taken on admission. She was discharged on the 17th January, 1929, and then weighed 13 lbs. 10 ozs. (*Photograph 4*).

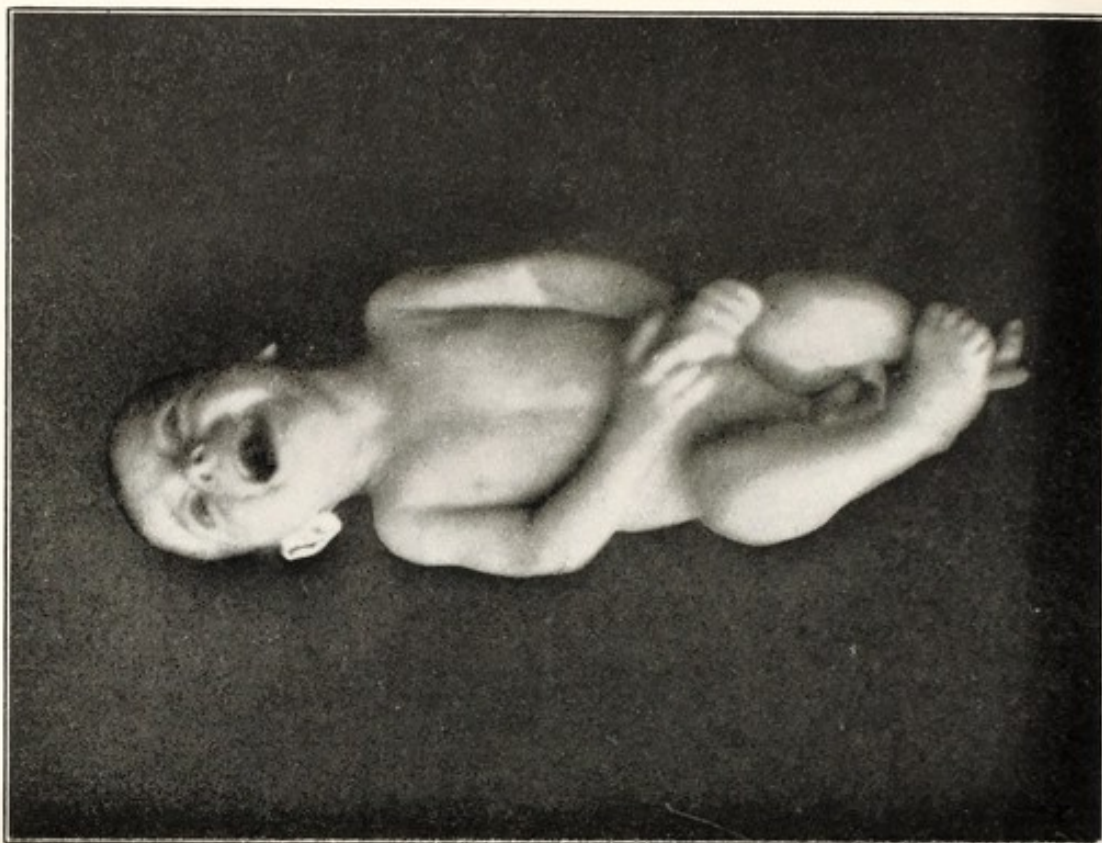


No. 5.

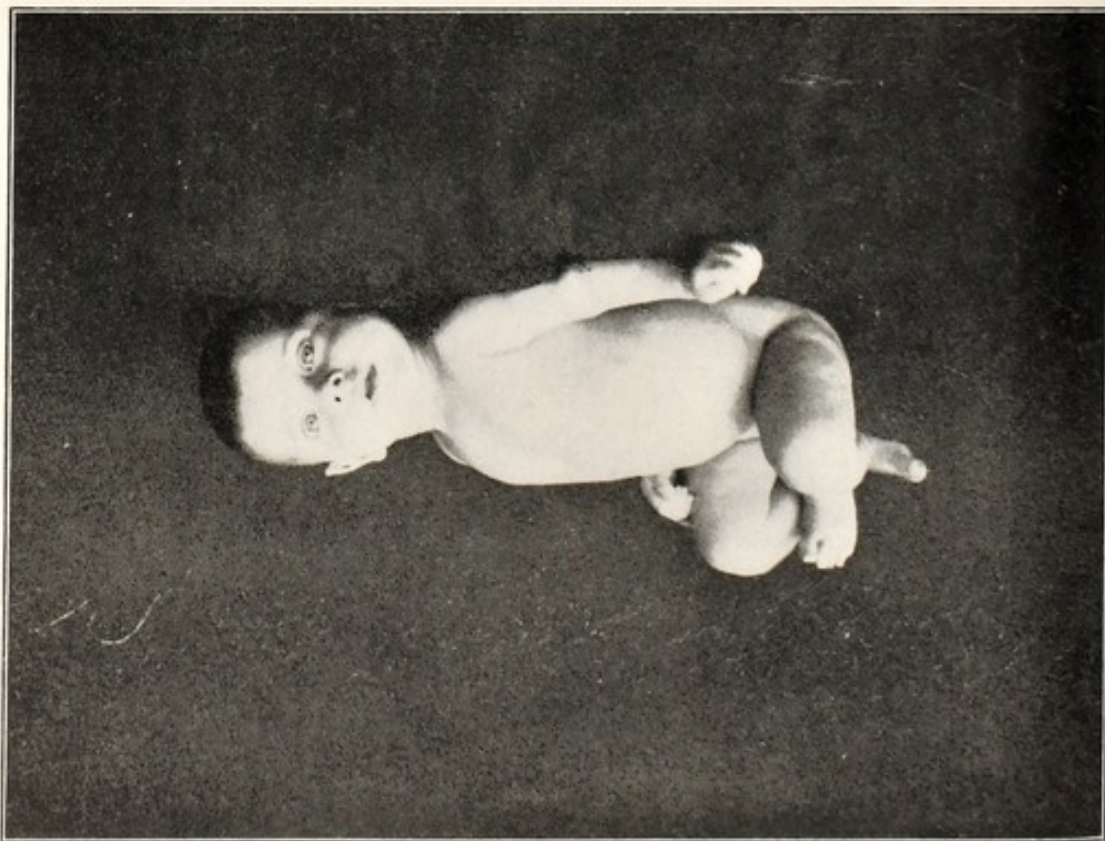


No. 6.

Photographs 5 and 6.—This baby was admitted on the 7th February, 1929, at the age of four months, suffering from Marasmus, and weighed 8 lbs. 9 ozs. *Photograph 5* was taken on admission. *Photograph 6* was taken on 30th April, 1929, when she weighed 12 lbs.



No. 7.



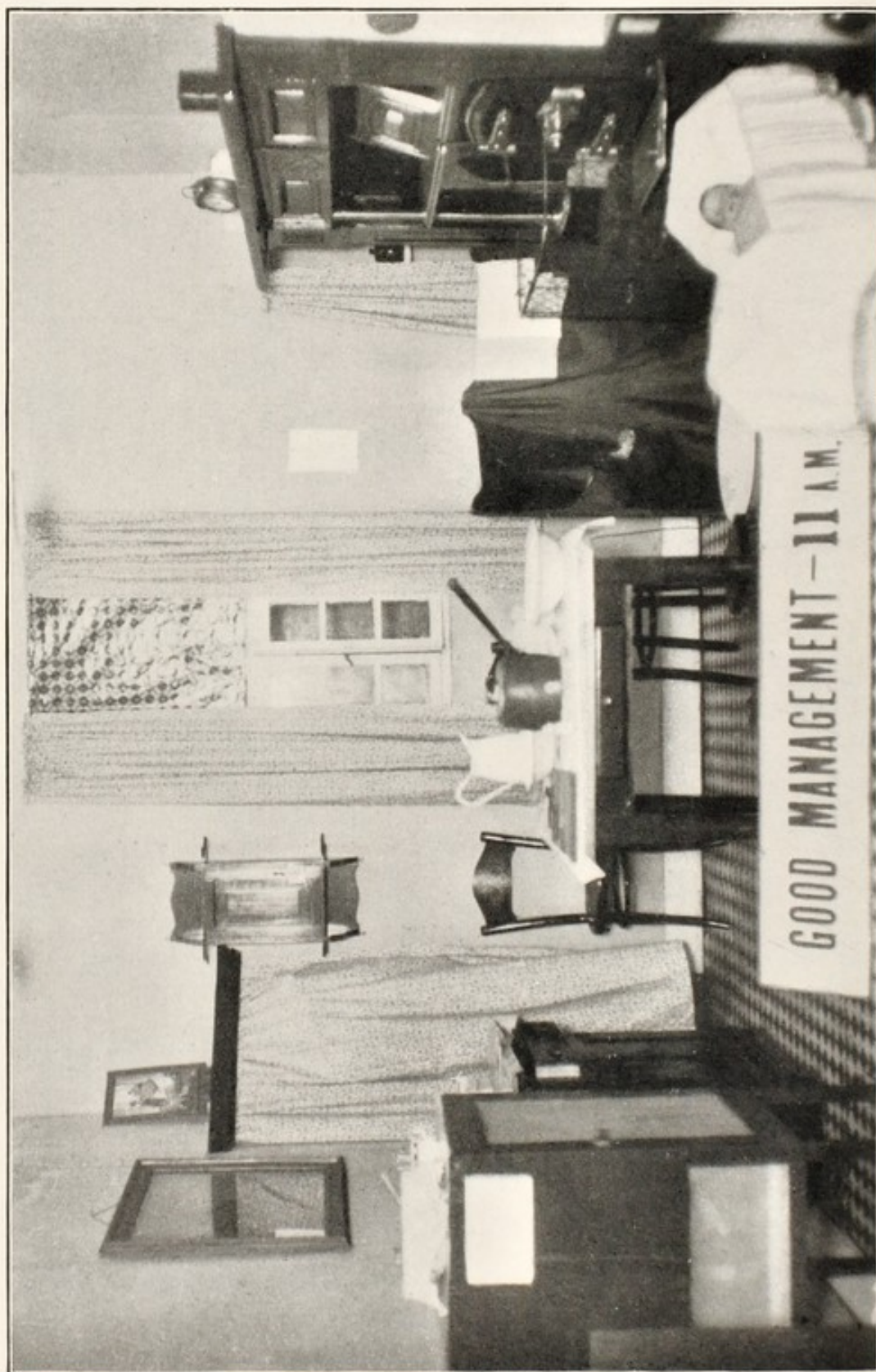
No. 8.

Photographs 7 and 8.—This baby boy was admitted on the 6th November, 1928, at the age of four and a half months, suffering from Malnutrition, and weighed 10 lbs. 7 ozs. *Photograph 7* was taken on admission. He was discharged on the 20th January, 1929, and then weighed 13 lbs. 7 ozs. (*Photograph 8*).

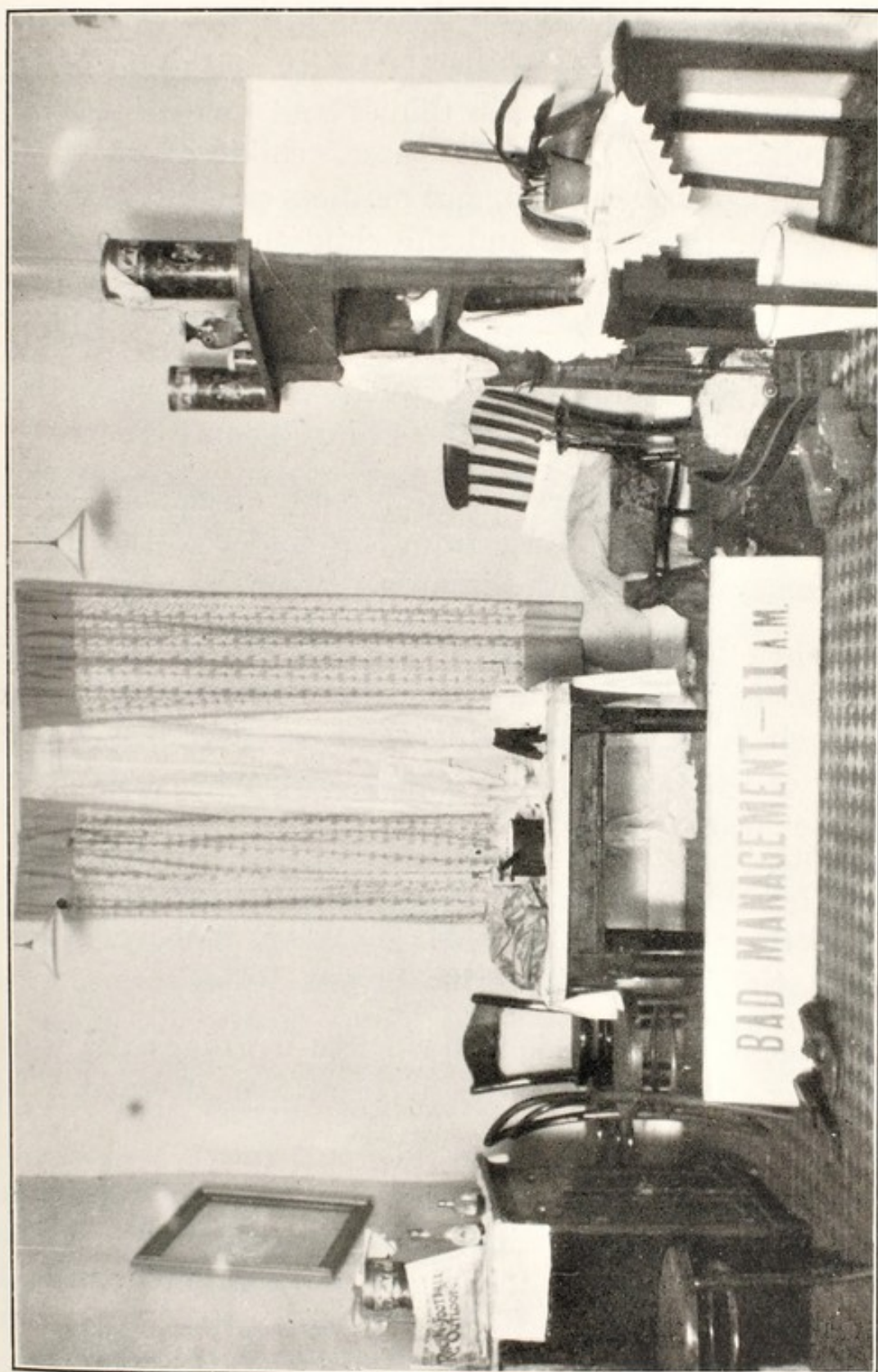


MATERNITY AND CHILD WELFARE EXHIBIT.

SALFORD HEALTH EXHIBITION.



MATERNITY AND CHILD WELFARE EXHIBIT (Illustrating a well-managed household).



MATERNITY AND CHILD WELFARE EXHIBIT (Illustrating a badly-managed household).

Maternity and Child Welfare Clinics and Centres.

The practical side of the Maternity and Child Welfare work is carried on at the Clinics and Centres scattered throughout the City. At these, children up to five years of age are weighed, and mothers can obtain medical advice for themselves and the children.

The two Clinics, which are open daily, provide special facilities for the examination and treatment of ailing children requiring more frequent medical supervision than can be obtained at the Child Welfare Centres.

At the eight Centres the children are weighed, and the mothers can seek advice from the doctor *re* the feeding and general care of the infants.

When the children attending the Clinics improve in health, many of them are passed on to the Centre nearest to their homes. Also, any children attending one or other of the Centres, who require treatment, are referred to the nearest Clinic.

MATERNITY AND CHILD WELFARE CLINICS.

There are two Clinics in the City, namely, Regent Road, Salford, and Teneriffe Street, Broughton.

Regent Road Clinic is open five mornings per week, and Teneriffe Street Clinic is open five afternoons per week.

Thursday in each week is set apart at both Clinics for expectant and nursing mothers who require medical advice for themselves. Thus, skilled attention is available for the child from the time of its conception to the time at which it is passed on to the care of the School Medical Officer.

MATERNITY AND CHILD WELFARE CENTRES.

There are eight Child Welfare Centres in the City, namely :—

Ordsall Centre, Ordsall Hall, Salford.

62, Rosamond Street, Salford.

John Street Centre, John Street Hall, Pendleton.

Seedley Centre, St. John's Wesleyan School, Langworthy Road, Pendleton.

Enys Street Centre, Enys Street School, Whit Lane, Pendleton.

Woodbine Street, Woodbine Street School, Cross Lane, Salford.

Regent Road Centre, 139, Regent Road, Salford.

Irlams-o'-th'-Height Centre, Congregational Church, Irlams-o'-th'-Height.

At each Centre an afternoon is set apart for the weighing of the children, and at Rosamond Street, Langworthy Road, Enys Street and Ordsall, an additional morning session has been found necessary. All children are medically examined at their first attendance, and periodically afterwards, and, in addition, any children who are not gaining satisfactorily, or are ailing, are examined at more frequent intervals. Expectant and nursing mothers who are in need of advice are also seen, but are referred for detailed examination to one of the Ante-natal Clinics.

At Ordsall, Rosamond Street and John Street Centres, expectant and nursing mothers are able to obtain dinners

on every full working day at a nominal price, of which every advantage is taken. It is due to the generous help of private persons that this work is able to be conducted satisfactorily without undue call being made upon the time of the professional staff.

On other days at Ordsall, Rosamond Street, John Street, Enys Street, Regent Road and Teneriffe Street practical classes and demonstrations are held in sewing, and at John Street and Rosamond Street classes are also held in cookery and the general hygiene of pregnancy and of the infant.

The Health Visitor for the district in which the Centre is situated helps with certain of these classes, and other workers assist in caring for the babies, so that the mothers may enjoy the benefit of the lessons undisturbed. Much interest has been taken in these classes during the past year.

All cases attending at the Clinics and Centres are "followed up" in the homes by the Health Visitors, who help the patients to carry out the instructions given.

The following figures show the number of attendances at the Clinics and various Centres during the year 1928:—

TABLE C.W. 2.

CLINICS AND CENTRES.	No. of New Cases.		No. of New Cases.		Total Attendances.				Grand Total Attendances.	Consultations.			
	Children.		Mothers.		Mothers.		Children.			Children.		Mothers.	
	Under 1.	Over 1.	Expec- tant.	Nursing.	Expec- tant.	Nursing.	Under 1.	Over 1.		Under 1.	Over 1.	Expec- tant.	Nursing.
C.W. Clinic	550	466	501	45	2221	187	3480	3927	9815	1892	2087	2221	187
Ordsall Hall.....	127	45	3	104	16	802	1346	723	2887	454	211	16	32
Rosamond Street	191	60	35	91	94	786	2685	1741	5306	557	332	94	76
John Street, Pendleton..	194	69	7	152	24	1990	3222	2053	7289	637	410	24	82
Seedley	285	68	3	236	7	2153	4140	1055	7355	644	315	7	45
Enys Street	147	45	24	93	63	730	2377	1096	4266	599	406	63	83
Regent Road	256	125	1	122	1	794	2273	1816	4884	814	621	1	17
Woodbine Street	89	23	1	73	4	724	1238	534	2500	328	171	4	17
Teneriffe Street Clinic....	607	382	132	130	290	369	6003	3895	10557	2735	1757	290	369
Irlams-o'-th'-Height	121	37	13	54	32	512	1514	628	2686	461	307	32	43
	2567	1320	720	1100	2752	9047	28278	17468	57545	9121	6617	2752	951

Milk Scheme.

A number of very deserving cases have been assisted under the above scheme, and the admirable results are increasingly evident, the individual improvement of the babies being observed as they are brought to the various centres to be weighed each week.

Up to the end of December, 1928, assistance has been given to 1,210 applicants, free milk being granted to 1,160 and milk at part-pay to 50.

Massage.

During the current year massage treatment has been given at the Clinics and at John Street, Rosamond Street, Ordsall and Enys Street. The results of the treatment in all cases where mothers will continue to bring the children regularly and for a sufficient length of time are very satisfactory, and complete cures have been effected in a number of cases, as will be seen by the figures in the statement below. Quite a number still retained on our books are practically ready for discharge. No case is officially discharged without being first thoroughly examined by the doctor; some cases, however, which are really fit for discharge, cease attending and thus miss the official discharge.

Most of the mothers take a keen interest in this work, and are very willing to carry out the advice given to them with regard to the children who are receiving treatment.

During the year 1928 the following cases have been dealt with :—

Clinics and Centres.	No. of Regular Cases.	No. of Casual Cases.	Cases Discharged Cured.
Regent Road	145	142	16
John Street	39	49	3
Rosamond Street	10	40	1
Teneriffe Street	41	123	18
Enys Street	20	49	8
Ordsall	14	37	1
Nursery School	12	15	7
Municipal Babies Hospital ..	12	3	10
TOTAL	293	458	64

Nursing Homes Registration Act, 1927.

Under the above Act, which came into force on the 1st July, 1928, six applications for registration of Nursing Homes in this area were received. Certificates of registration were issued to all the applicants after the necessary inspection had taken place.

Midwives' Act.

There are 84 midwives on the register in Salford ; 11 are connected with a public institution and 5 are not

practising, leaving 68 practising midwives, of whom 56 reside within the City.

PARTICULARS OF QUALIFICATIONS.

	Bona-fides.	St. Mary's Hospital.	London Obstetrical Society.	Central Midwives' Board	Total.
Practising Midwives	3	7	5	53	68
Non-practising Midwives.....	—	—	1	4	5
Maternity Nursing	—	—	—	—	—
Institution Nurses	—	—	—	11	11
Totals	3	7	6	68	84

The midwives are regularly visited, and their books, instruments, &c., inspected by the Assistant Inspector, under the supervision of the Medical Officer, and the midwives are encouraged to consult with the Medical Officer when cases of difficulty arise. During the year 7 midwives removed from the district, 4 of these from the Royal District Nurses' Home, The Crescent; 2 changed their address; 9 midwives were newly registered; 2 ceased to practise, and 2 died. During the year 1928, 2,848 births were attended by midwives alone, and 343 cases were attended by doctors and midwives acting as Maternity Nurses.

Puerperal Fever.

Nineteen cases of puerperal fever were notified during the year; 4 occurred in St. Mary's Hospital and 2 were doctor's cases; 4 were confined in Hope Hospital and 2 in the Municipal Maternity Home. Of the remaining 7 cases, 7 midwives had 1 case each. They were thoroughly enquired into, and every care taken to prevent the spread of the disease.

On notification, each case is inspected. The house is visited by the Assistant Inspector of Midwives and the patient is removed by Doctor's orders (except in one or two special cases), to Ladywell Sanatorium or Hope Hospital. Full details concerning the onset of the illness are taken from someone in the house in authority, and questions are asked as to the Midwife's regular visiting, cleanliness, etc. The patient's bedding is taken away for disinfection, and the room is disinfected. The house is visited later to see that disinfection is satisfactory. The Midwife is interviewed and particulars taken of the case, also a resumé of any work done since last seeing the infected person. She is temporarily suspended in order that she may go to the Disinfecting Station to have a disinfecting bath, and have her clothes, instruments and bag disinfected. Should she have visited other patients, not being aware of infection at the time, these are seen by the Assistant Supervisor, temperature and pulse taken, and their condition generally noted. The Midwife is warned to take special precautions regarding them, to watch carefully, and send for the Doctor without delay if at all anxious about them. In a case of suspected Sepsis, the Midwife sends for the Doctor, reports to the Health Office, and is temporarily suspended until she hears the Doctor's decision, or as an alternative she may devote herself to the one patient, and pass on her other duties to another Midwife.

Puerperal Pyrexia.

During the year 1928, 36 cases were notified in Salford :—

33 recovered, and

3 proved fatal. One of these patients was suffering from Tuberculosis ; one contracted Scarlet Fever during the Puerperium ; one developed Pneumonia following a miscarriage.

15 cases were removed to Hospital.

14 cases were nursed at home.

8 cases occurred in the Municipal Maternity Home, 6 of which were isolated there ; 1 case occurred in Hope Hospital and was isolated there.

Special accommodation has been provided at Ladywell Sanatorium for this class of case, and all the patients removed there have done extremely well.

As the regulations require prompt notification of rise of temperature, special attention for these cases is quickly available, and, if necessary, a consultant may be called in, arrangements for which have been made.

Bacteriological examinations of lochia and blood are made, on request, at the Municipal Laboratories, and in cases where the doctor does not think it necessary to send the patient to hospital, she can be nursed at home, a special nurse (trained and a midwife) being sent from the Maternity and Child Welfare Department to nurse the case under the supervision of the patient's own doctor.

The same precautions are taken with Puerperal Pyrexia as with Puerperal Fever, the disinfection and suspension of midwives being carried out in a similar manner.

Disinfection.

Five Midwives were disinfected at Mode Wheel on account of having been in contact with a notifiable infectious disease other than puerperal fever; and 6 Midwives were instructed to take disinfecting baths at home. Two Midwives were disinfected at Mode Wheel on account of having been in contact with Pemphigus Neonatorum. In 4 cases in which it was found that the rash had developed after the Midwives had ceased to attend the patients, the Midwives had disinfecting baths at home.

Notifications.

1,227 notifications of calling in medical practitioners have been received, the causes being the following:—

Abnormal Presentations.....	61
Deformed Pelvis	3
Antepartum Hæmorrhage	36
Placenta Prævia	7
Postpartum Hæmorrhage.....	23
Uterine Inertia.....	27
Obstructed labour, or requiring instrumental assistance	246
Retained Placenta or Membranes	42
Ruptured Perineum	281
Rise of Temperature	44
Eclampsia	1
Premature Birth	35
Miscarriage and Abortion	10
Inflammation of Eyes	165
Other causes relating to Mother	152
" " " Child.....	94
Total	1,227

Seventeen notifications of contact with infectious disease were received.

Fifty notifications of artificial feeding, 95 stillbirths and 53 deaths of infants were notified by Midwives during the year.

Investigation of Stillbirths and Infant Deaths.

Each case occurring in Midwives' practices is thoroughly investigated by the Assistant Inspector of Midwives.

As practically every mother now receives Ante-natal care where there is a history of previous stillbirth, the mother is advised to seek medical advice from her own Doctor, the Welfare Clinics, St. Mary's Hospital, or other kindred institutions, and in most cases this advice is followed out.

Out of the 95 stillbirths occurring in Midwives' practices there were :—

- 12 Abnormal presentation.
- 17 Premature.
- 3 Hydrocephalus.
- 1 Spina Bifida.
- 3 With history of previous Stillbirth.
- 8 Born before arrival of help (4 of these were macerated).
- 23 Macerated.
- 4 cases of Antepartum hæmorrhage.
- 9 cases of illness of mother.
- 1 case when mother had had a bad shock.
- 2 Anencephalus.
- 2 Difficult labour, owing to very large child.
- 6 Cases occurred in Municipal Maternity Home.
- 4 Cases had a doctor engaged for the case.

Death of Newly-born Infants (no Registered Practitioner being in Attendance at the Birth).

Inquests were held in connection with 4 Infant Deaths occurring in the practice of Midwives. Of these :—

2 were found dead in bed (natural causes—convulsions).

1 only lived 5 minutes. (Doctor sent for immediately after birth).

1 due to convulsions just after birth. Doctor not available.

When necessary, the Assistant Inspector attends the inquests.

In addition, 49 notifications of infants' deaths were received, medical practitioners being called in each case.

The causes of deaths were as follows, viz. :—

Prematurity and Debility	15
Prematurity and Cardiac Failure	5
Asphyxia Neonatorum and Congenital Debility..	4
Congenital Malformation	6
Congenital Debility	10
Atelectasis	2
Convulsions	7

Ophthalmia Neonatorum.

During the year 1928, 52 cases of Ophthalmia Neonatorum were notified, 6 of these being notified or re-notified by the Medical Staff of the Royal Eye Hospital.

Of the 52 cases notified—

41 occurred in the practice of Midwives.

3 were attended by Doctors.

1 was attended by St. Mary's Hospital Nurses.

1 was notified from St. Mary's Hospital.

3 were notified from Hope Union.

1 was notified from Ladywell Sanatorium.

2 were notified from Municipal Maternity Home.

These cases are visited, on notification, by the Assistant Inspector of Midwives, and where necessary a District Nurse is sent to give treatment under Doctor's orders.

In 31 cases both eyes were affected, and in 21 cases 1 was affected. There were 2 very bad cases, 6 bad cases, 11 fairly bad, 19 slight cases, 14 very slight cases, and 7 cases were referred to the District Nurses, who paid 286 visits. 170 visits were paid by the Assistant Inspector of Midwives, who also visited all cases of inflammation of the eyes notified under the Midwives' Act, to which she paid 435 visits.

Of the 52 cases—

51 recovered without injury to sight.

1 developed an ulcer, causing injury to sight of right eye.

As the Midwives are all very anxious to avoid any trouble with regard to eyes, they are prompt in sending

for medical help at the least sign of discharge or inflammation, so that the majority of cases are quite slight.

Ophthalmia Neonatorum.

Cases Notified.	Cases Treated.			Vision Unim- paired.	Vision Im- paired.	Total Blind- ness.	Deaths.
	At Home	At Ho Out-P.	spital. In-P.				
52	42	9	1	51	1	Nil.	Nil.

Pemphigus Neonatorum.

There has been a slight decrease in the number of cases of this disease during the year 1928.

The number of cases which occurred during 1928 was 13, and all recovered.

Of the 13 cases—

3 were affected on the body.

3 were affected on the legs.

2 were affected on the neck and face.

1 was affected on the groin and thigh.

2 were affected on the head and limbs.

2 were affected on the abdomen and thighs.

The age at which the disease started varied from the sixth day to 3 weeks.

Most of the cases occurred in the Midwives' practices.

1 was born in Hope Hospital.

1 was born in Bury.

2 were St. Mary's Hospital cases.

9 were Midwives' cases.

All the Nurses involved were disinfected at the Corporation Disinfecting Station, and every care was taken to prevent the spread of infection.

When the disease started during the first 10 days, the cases were taken over from the Midwives and nursed by a trained Midwife and Nurse belonging to the Health Department.

WARD.	Still Births Notified.	Total Live Births Notified.	Births Notified by Midwives.	Births Notified by Medical Prac- titioners.	Births Notified by Parents and other persons.	Births in St. Mary's Hospital and Salford Union.	Births in Municipal Maternity Home.	Live Births not Notified.
Kersal	4	185	126	32	2	17	8	12
Mandley Park	13	205	140	31	..	29	5	8
Albert Park	16	281	144	62	..	47	28	6
Charlestown	21	309	247	19	..	32	11	5
St. Matthias'	18	298	211	44	..	38	5	4
Trinity	19	376	252	63	..	53	8	4
St. Thomas'	8	288	207	15	..	38	28	3
Claremont	5	63	15	29	4	9	6	13
St. Paul's	12	240	183	8	..	33	16	5
Seedley	7	90	39	17	1	10	23	4
Langworthy	7	164	95	20	..	26	23	1
Weaste	8	195	109	19	1	47	19	5
Regent	17	359	226	29	..	85	19	2
Docks	8	242	137	33	..	54	18	2
Crescent	27	374	258	54	..	51	11	3
Ordsall Park	15	324	239	16	2	51	16	4
	205	3993	2628	491	10	620	244	81

TABLE C.W. 4.

SUMMARY.

BIRTHS.

Registered: Legitimate, 3,915; Illegitimate, 158; Total, 4,073.
 Notified: Live births, 3,993; Still births, 205; Total, 4,198.
 By Midwives, 2,620: by Parents, Doctors and Institutions, 1,365.
 Un-notified Births = 81.

INFANT DEATHS (UNDER 1 YEAR).

Number: Legitimate, 408; Illegitimate, 23; Total, 431.
 Rate per 1,000 births: Legitimate, 104; Illegitimate, 146; Total, 106.

MIDWIVES.

Number practising in district: Trained, 65; Untrained, 3.
 Number of visits paid: Routine and special, 364.

HEALTH VISITORS.

Visits paid by Health Visitors during year:—

To Expectant Mothers: First visits, 804; Total visits, 1,050.

To Children: First visits, 3,612; Total visits, 32,402.

To Mothers and Children: Total visits, 33,452.

	No. of cases notified.	No. of visits.	No. of cases nursed.	No. of cases removed to hospital.
Ophthalmia Neonatorum	52	170	7	—
Puerperal Fever	19	31	—	14
Measles (all ages)	—	—	—	—

SECTION IX.

Atmospheric Pollution.

During the past year observations have been continued on the lines carried out in previous years, and include :—

- (1) A comparison of the efficiency of solid fuels when burned in the all-firebrick open domestic grate.
- (2) The measurement of atmospheric impurity at four different stations by means of the “deposit gauge.”
- (3) The measurement of the strength of sunlight at four different stations by means of the Potassium Iodide test.

In addition, observations have been carried out in the Health Department with an experimental oven installed in connection with an all-firebrick grate burning vertical coke only.

1. Comparison of the Efficiency of Solid Fuels used in the All-Firebrick Open Domestic Grate.

Further experiments with solid fuels performed during the winter 1928–29, confirm the conclusions arrived at from previous experiments as to the relative efficiency of vertical dry coke locally produced, low temperature

carbonised fuel, and Welsh steam coal, as the following figures show :—

VERTICAL RETORT COKE *versus* A LOW TEMPERATURE CARBONISED FUEL.

Average of 31 experiments carried out during October and November, 1928, and January, 1929.

VERTICAL COKE.		LOW TEMPERATURE CARBONISED FUEL.	
Average Temperature of Room (Fahrenheit).	Average daily weight of fuel consumed.	Average Temperature of Room (Fahrenheit).	Average daily weight of fuel consumed.
62·54 degrees.	14·45 lbs.	62·62 degrees.	16·42 lbs.

VERTICAL RETORT COKE *versus* WELSH STEAM COAL.

Average of 10 experiments carried out during November, 1928.

VERTICAL COKE.		WELSH STEAM COAL.	
Average Temperature of Room (Fahrenheit).	Average daily weight of fuel consumed.	Average Temperature of Room (Fahrenheit).	Average daily weight of fuel consumed.
63·0 degrees.	14·55 lbs.	63·25 degrees.	18·65 lbs.

The above comparative experiments were carried out with all-firebrick domestic grates in the manner described in last year's Annual Report, and the results may be alternatively summarised as follows :—

100 lbs. of Salford Vertical Coke gave approximately the same room heating as 113 lbs. of Low Temperature Carbonised Fuel.

100 lbs. of Salford Vertical Coke gave approximately the same room heating as 128 lbs. of Welsh Steam Coal.

Thus the locally-produced vertical retort coke has a higher room-heating efficiency than any other fuel tried. This efficiency appears to be over 25 per cent greater than Welsh Steam Coal, and, as pointed out in previous reports, 50 per cent greater than ordinary house coal.

Comparing this vertical retort coke with low temperature coke, it is confirmed that, weight for weight, the room-heating efficiency of the former is higher than that of the latter; against this, however, there is the undoubted advantage of easier ignition of the latter. One constant feature worthy of mention which is common to both vertical retort coke and low temperature coke is the rapidity with which these carbonised fuels reach their maximum room heating efficiency, as compared with coal. Coal takes a considerably longer time to yield a hot fire.

2. The Measurement of Atmospheric Impurity.

The monthly measurement and chemical analysis of Atmospheric Impurity collected by means of a deposit gauge placed in Peel Park have been carried out regularly during the past six years. Further deposit gauges have been set up in other parts of Salford, but the Peel Park

figures given below are probably representative of a large area of the city :—

PEEL PARK ATMOSPHERIC DEPOSIT GAUGE FIGURES,
REPRESENTING METRIC TONS PER 100 SQUARE KILOMETRES.

Year. April to March.	Rainfall in Milli- metres.	Insoluble Matter.			Soluble Matter.		Total Solids	Included in Soluble Matter.		
		Tar.	Other carbon- aceous Matter.	Ash.	Loss on Ignition	Ash.		Sul- phates. (SO ₃)	Chlor- ine. (Cl.)	Ammo- nia. (NH ₃)
1923-4.....	77	25	321	477	215	299	1337	196	115	5
1924-5.....	86	30	346	495	162	264	1297	200	112	5
1925-6.....	83	49	358	393	197	303	1300	217	130	8
1926-7.....	78	70	379	466	168	293	1376	212	147	6
1927-8.....	88	83	448	593	306	366	1796	270	158	12
1928-9.....	51	40	273	540	149	293	1295	189	108	5
Monthly average for the six years.	77	50	354	494	200	303	1401	214	128	7

From an examination of the above figures it is evident that there has been comparatively little variation in the quantity and quality of the atmospheric deposit during the last six years.

A comparison of Salford's atmospheric deposit with that obtained in the more densely populated and dirtier parts of certain other large towns is interesting. The figures in the following tabulation are obtained from data given in the Report of the Meteorological Office, Air Ministry, and of the Department of Scientific and Industrial Research, and represent the monthly averages for the four years 1923-4 to 1926-7 (the latest available).

AVERAGE MONTHLY DEPOSIT—METRIC TONS PER 100 SQUARE KILOMETRES.

Area.	Rainfall in Millimetres.	Insoluble Matter.			Soluble Matter.		Total Solids.	Included in Soluble Matter.		
		Tar.	Other carbonaceous Matter.	Ash.	Loss on Ignition	Ash.		Sulphates. (SO ₃)	Chlorine. (Cl)	Ammonia. (NH ₃)
Birmingham (Central)	62	13	232	589	135	348	1317	156	45	11
Glasgow (Blythswood Square)	72	16	199	364	217	321	1117	160	70	17
Leeds (Hunslet)	57	11	251	558	186	340	1346	159	77	19
Salford (Peel Park)	81	43	351	458	185	290	1327	206	126	6

From the above comparison several interesting facts emerge. In three out of the four areas the figures for total solids deposited are almost identical; but, at the same time, the *character* of the deposit is very different. Salford deposit contains a much greater proportion of *tar*, there being from three to four times as much as in the other areas. Again, Salford has the greatest amount of other insoluble carbonaceous matter (sooty matter), whilst the other areas have relatively more ash. Salford also has the highest amount of Sulphur and Chlorine, and the lowest amount of Ammonia.

Now these characteristics are just what one would expect from a consideration of the sources of the atmospheric pollution. Salford is largely a working class dormitory city packed with small dwellings having open ranges burning bituminous coal. A large amount of tar, and also sulphur, is given off when raw bituminous coal is burned under such conditions.

On the other hand, the relatively greater amount of ash in the other towns may have its origin in pollution from factory chimneys. This unduly large proportion of tar and soot in our atmosphere is a matter of grave concern from the public health as well as the cleanliness standpoint. It is feared that an appreciable improvement in our atmosphere will only come about when a large section of the public, not only of Salford but of contiguous townships, abandons the practice of burning raw coal. It is true that the number of individuals who have definitely abandoned the use of coal and adopted some form of smokeless fuel is ever increasing, but, even so, they are a drop in the ocean compared with the multitude of smoke producers.

3. The Measurement of the Strength of Sunlight* at four different stations by means of the Potassium Iodide Test.

Measurement of the strength of sunlight has been continued at the same four Corporation stations as in the previous two years, namely: (1) Regent Road, Salford; (2) Nab Top Sanatorium, Marple, Cheshire; (3) Ladywell Sanatorium, Salford; and (4) Drinkwater Park Hospital, Prestwich. Regent Road represents the densely-populated area, and Ladywell the westerly outskirts of the city; Drinkwater Park is about four miles north north-west of the densely-populated Regent Road area, and Nab Top, Marple, about ten miles to the south-east.

* The term "Sunlight" includes all the light received from the sky, even on a cloudy day, and should not be confused with "sunshine"—the direct rays of the sun.

At each of these four stations test bottles containing an acidulated solution of Potassium Iodide have been daily exposed in open situations. This solution gradually turns brown on exposure, owing to the liberation of free iodine by the active light rays, and the amount of iodine thus liberated may be taken as a measure of the amount of sunlight received. Fresh bottles of the solution are daily exposed in each of the four stations, and the amount of iodine liberated in each is easily estimated.

In the following tabulation the figures given represent the total amount (milligrammes) of iodine liberated at each of the four stations for each of the three years 1926, 1927, and 1928.

STRENGTH OF SUNLIGHT AT FOUR STATIONS.

Year.	Regent Road Salford.	Nab Top Sanatorium, Marple.	Ladywell Sanatorium, Salford.	Drinkwater Park Hospital, Prestwich.
1926.....	1613·7	1746·6	1654·9	1747·2
1927.....	1467·2	1678·5	1745·1	1846·1
1928.....	1204·7	1507·2	1573·5	1521·2
3 Years' Total.	4285·6	4932·3	4973·5	5114·5

A comparison of the total sunlight received during three years at the four different stations is interesting, and may be stated as follows:—

Nab Top, Marple, received 15 per cent more sunlight than Regent Road.

Ladywell Sanatorium received 16 per cent more sunlight than Regent Road.

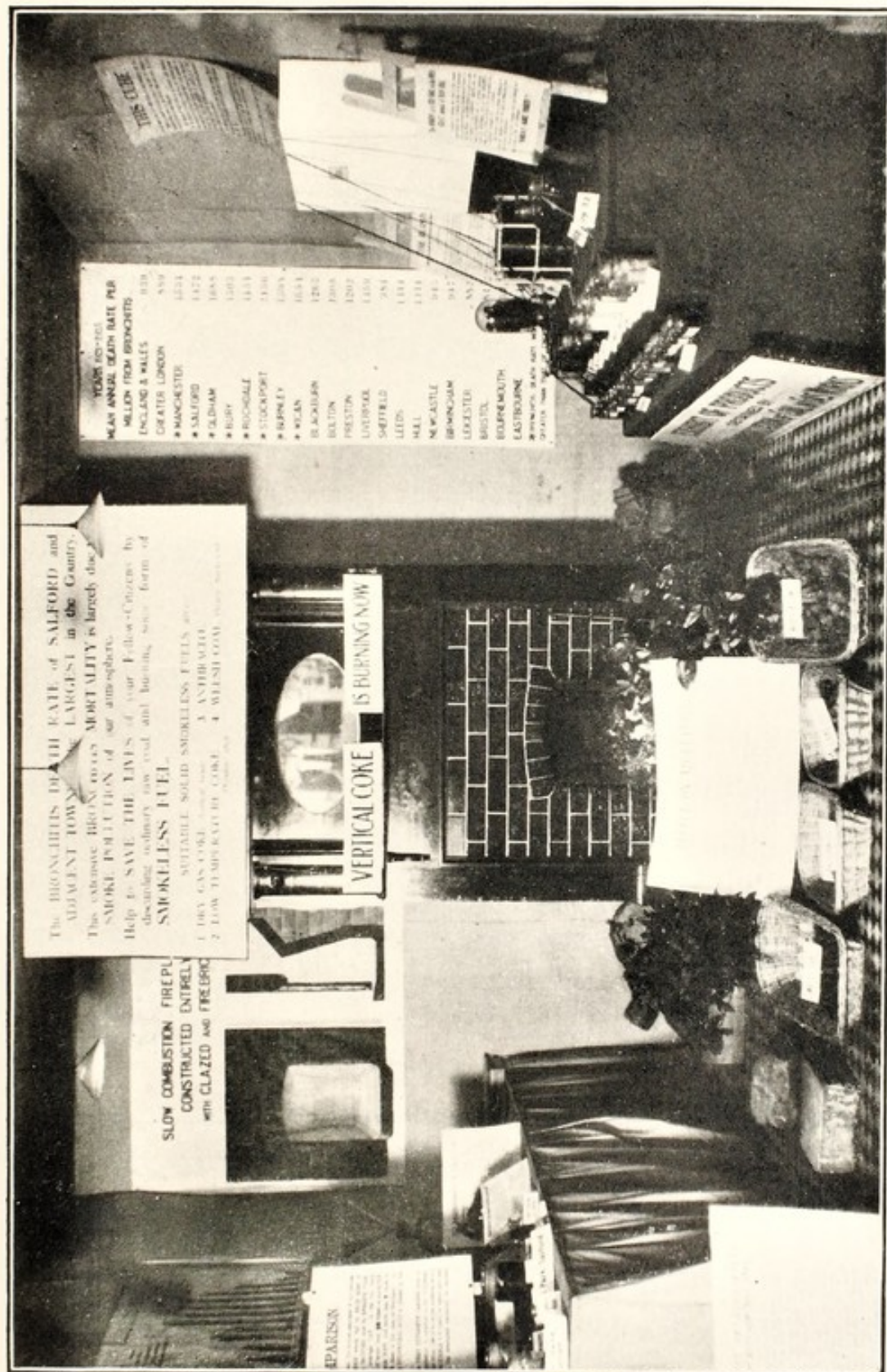
Drinkwater Park, Prestwich, received 19 per cent more sunlight than Regent Road.

During the past year, 1928, the sunlight figures for Regent Road were lower than those of any of the other three stations in every separate month of the year. Contrast this with 1926—the year of the coal dispute—when Regent Road sunlight figures were higher than those of any of the other three stations in two separate months of that year, namely, July and September: this reversal, it is argued, might reasonably be attributed to the unusual purity of the atmosphere at that time, owing to the absence of domestic smoke.

4. Observations on Experimental Oven Installed in connection with All-Firebrick Grate Burning Vertical Coke.

One of the obstacles to the acceptance by the public of carbonised fuel in place of raw coal is the doubt in the public mind as to whether an oven could be satisfactorily heated by the former. If neither low-temperature nor high-temperature coke should prove satisfactory for this purpose, then the case for the abolition of raw coal as a domestic fuel would be weakened, inasmuch as in the industrial north, where open fires are regarded as essential, the expense of an additional source of heat for cooking (electricity or gas) would have to be faced.

SALFORD HEALTH EXHIBITION.



ATMOSPHERIC POLLUTION EXHIBIT.



That an ordinary oven can be efficiently heated from a Salford (firebrick) grate burning vertical coke only has been amply proved by our experiments. For the purpose of these tests, our oven was installed in what is now known as back-to-back fashion, such as has been adopted in many modern municipal houses, that is, the oven being placed *behind* the firegrate, its door opening into the room on the other side of the wall. In the houses above referred to, such an oven would open in the scullery and would be heated from the living room (on the other side of the wall dividing living room from scullery).

In these experiments our coke fire was made to heat not only a room and an oven, but also furnished a good supply of hot water by means of a back boiler, and although the oven was not in immediate contact with the coke fire, but connected with it by means of a firebrick flue, yet it was found quite an easy matter to obtain an oven temperature of 300° Centigrade, and even to boil water on the oven top, under which the hot flue gases were circulating.

Our experimental coke-fired oven was inspected by representatives of certain firms concerned in the manufacture and supply of firegrates, and these gentlemen were sufficiently impressed by the demonstration to adopt the principle and adapt their own ranges for coke and smokeless fuel. This idea is being followed up at the present time and will be reported upon later.

The Campaign against Smoke Pollution.

Every year the forces arrayed against smoke pollution of our atmosphere are substantially increasing in numbers. Smoke abatement societies, regional smoke abatement committees, and individual health departments throughout the country are working hard to rouse the public conscience to the evils attendant upon the burning of raw coal: and there is no doubt that such conscience is at last awakening; the old apathy is disappearing; the stone which was set rolling some years ago is gaining in momentum. Soon it is hoped the demand for clean air will be sufficiently audible and insistent as to compel action. The carbonisation of raw coal is not merely a question of economics, and private interests should not be allowed to stand in the way of a public health reform of vital importance.

The fact that up to the present official records of air pollution often yield little indication of any approach towards atmospheric purity should not discourage us. Before we can hope for any noteworthy improvement there will have to be a great increase in the use of coke and smokeless fuel. At present the supply of these fuels is still very limited, but it is certain that as the public demand grows so will the supply increase.

Gas coke is still largely neglected as a domestic fuel. Yet a good *dry* gas coke gives an ideal fire where the householder is sufficiently interested to learn how to use it. The expression *dry* gas coke is used advisedly, as, unfortunately, much coke is still supplied to the public

in a very wet condition. Vertical coke, i.e., gas coke prepared in modern vertical retorts, should be quite dry, and yields magnificent fires in the all-firebrick grate—also it is inexpensive, the cost being only about half that of coal fires. It is most desirable that gas undertakings should consider this aspect when new retorts are being installed. Coke should not be regarded as merely a by-product of secondary importance. The time may not be far distant when this substance will be the primary consideration. Some gas undertakings have already installed plant for the production of low-temperature coke.

There is no doubt that, locally, coke is coming more and more into favour. In the recent Health Exhibition held in Salford last December, demonstrations of vertical coke and other smokeless fuels burning in a "Salford" firebrick grate were given daily: these aroused much interest, and, it is hoped, pointed out the way of salvation to many smoke producers.

As a personal testimony, the writer has used nothing but coke in both home and office fires for years, and would be very sorry to return to the dirty and inefficient coal fire.

It is very gratifying to know that the domestic smoke problem is now receiving so much attention. To arouse public interest in this matter is a task of the highest importance; once this is substantially achieved, the abolition of smoke pollution will assuredly follow. Meanwhile, we should not lose sight of other factors concerned

in the production of atmospheric pollution. The question of factory smoke has received much attention. In many areas the regulations have been tightened up and the permissible time limit of smoke emission materially reduced. We have still the problem of the locomotive coal-fired engine—both the Railway and the Road variety. A long railway journey with the carriage window open is a terribly grimy experience. The obvious solution is electrification of our railways. One wonders why coal-fired road engines are still permitted to exist. When they are not belching forth volumes of dense black choking smoke they are as often as not giving vent to clouds of steam, so obscuring and making dangerous the road for other traffic; yet these offenders are most difficult to bring to book on account of the present state of the law. Probably the reason they are tolerated is their relative smallness in number. Imagine the appalling conditions in our public highways if the bulk of the present-day vehicles were driven by coal-fired instead of petrol engines.

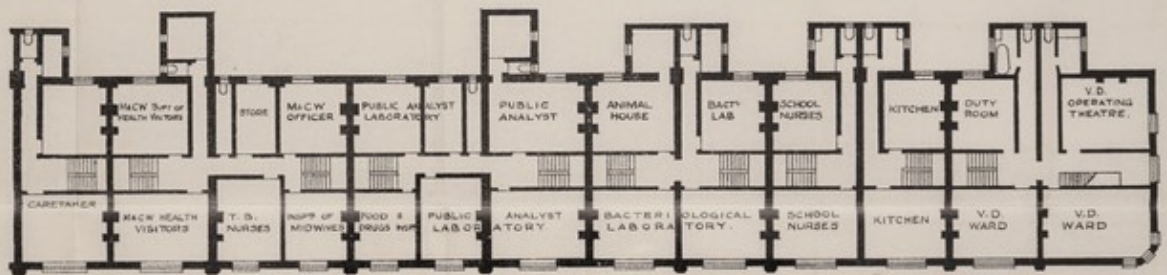
In view of much lingering and almost impervious indifference, the cause of smoke abatement has need of reinforcements of earnest apostles who will go forth and preach the gospel of clean air—beginning, like charity, in their own homes.

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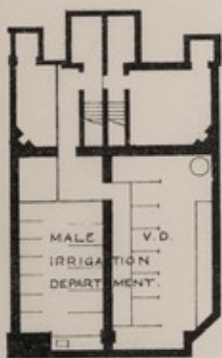
CITY OF SALFORD
PLAN OF PUBLIC HEALTH AND SCHOOL MEDICAL DEPARTMENTS
REGENT ROAD SALFORD



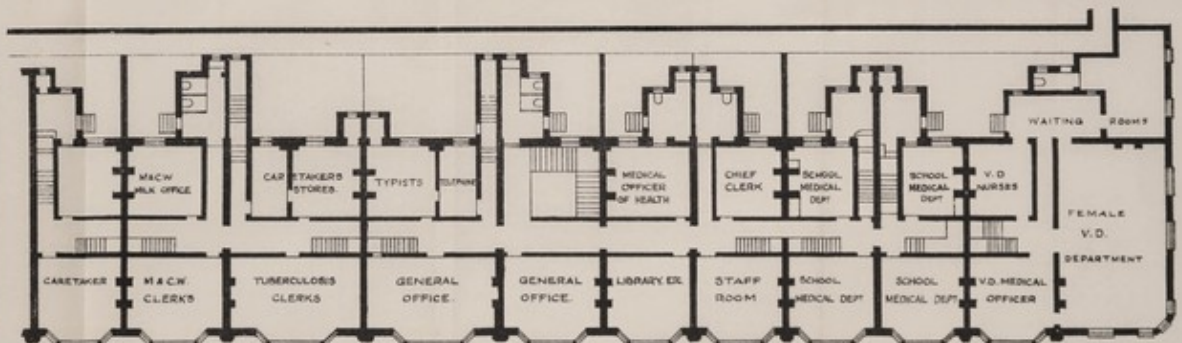
THIRD FLOOR PLAN



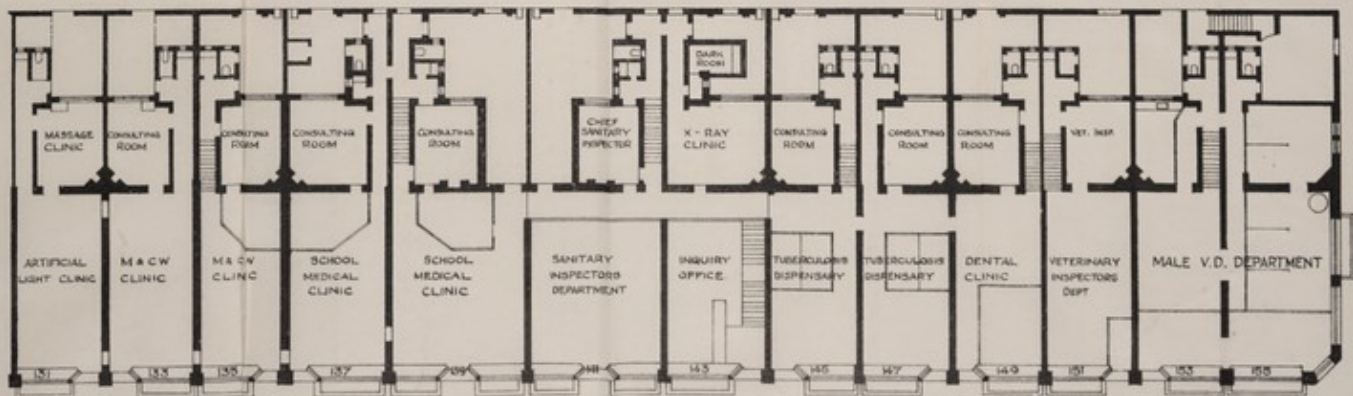
SECOND FLOOR PLAN



BASEMENT PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

SCALE - 1/8" = 1' 6"

1" = 12' 0"

ERNEST B. MARTIN DSO
 CITY ENGINEER, SALFORD

CITY
PLAN OF PUBLIC HEALTH

BASEMENT PLAN

