

[Report 1929] / Medical Officer of Health, Birkenhead County Borough.

Contributors

Birkenhead (England). County Borough Council.

Publication/Creation

1929

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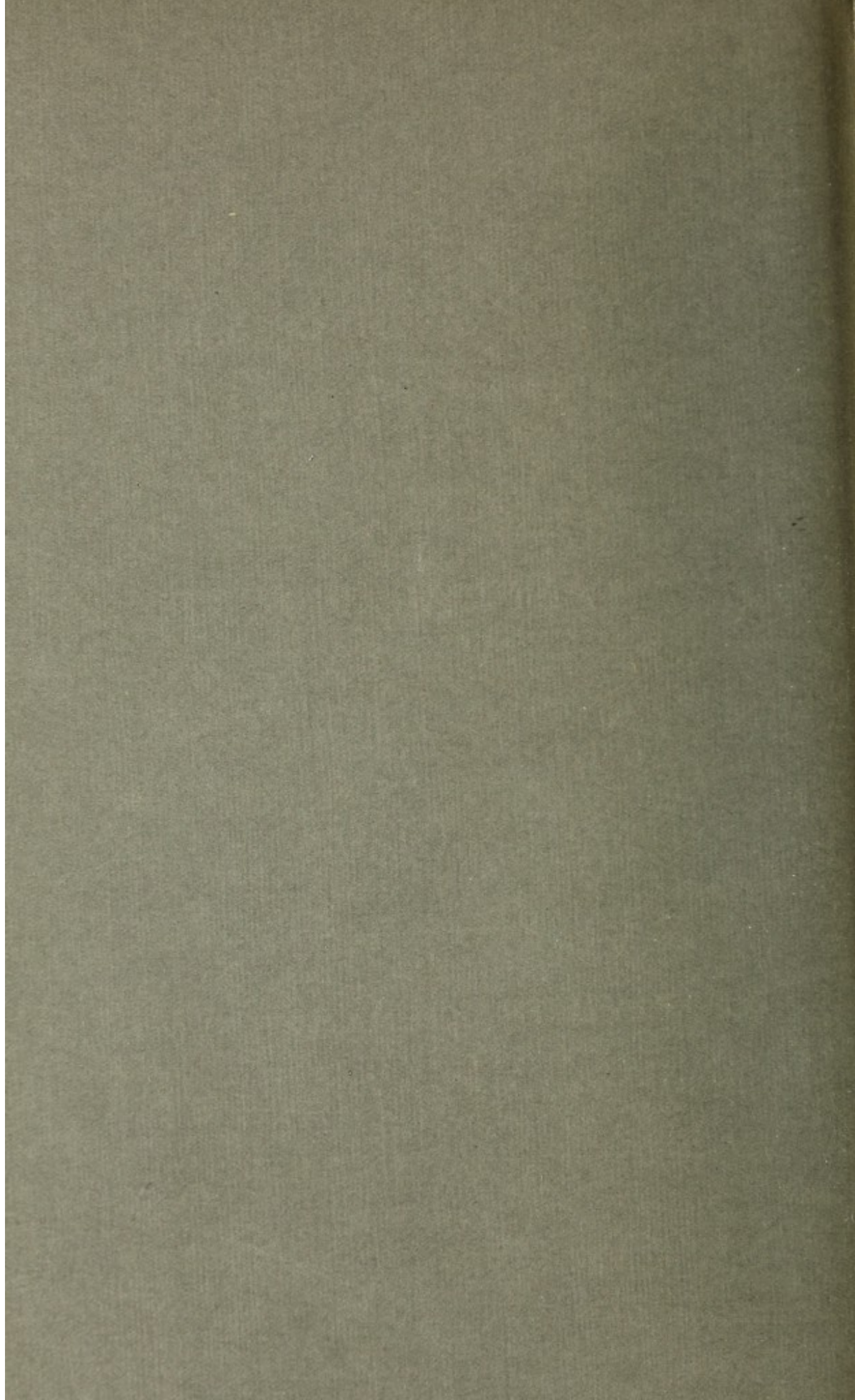


ANNUAL REPORT
OF THE
MEDICAL OFFICER
FOR
1929.



D. MORLEY MATHIESON, M.A., M.D. (Edin.), Ch.B., D.P.H.

Medical Officer of Health, and
Chief Medical Officer for the Municipal Tuberculosis, Mental Deficiency,
Maternity and Child Welfare, &c., Schemes, and for the School Medical Service.




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Finance Committee	Alderman CLARKE, J.P.
Health Committee	Alderman TWEEDLE, J.P.
Education Committee	Alderman NAYLOR, J.P.
Maternity & Child Welfare Committee.....	Ald. Mrs. MERCER, J.P.
Mental Deficiency Committee	Alderman HERRON
Water Committee	Councillor POWER.

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PREFACE.

This report, which deals with the work done and conditions prevailing during the year 1929, has been kept within somewhat circumscribed limits in view of the fact that the annual report for 1930 will (at the request of the Minister of Health) take the form of a Review Report, and will deal in considerable detail with the five year period 1926-1930.

The official estimates of the **population** have recently shown curious fluctuations. In 1928 the Registrar-General estimated the mid-year population of the area as 159,200. It was, therefore, surprising to find when his estimate was received for 1929 that he had estimated the mid-year population at 157,600. From this it would appear that there had been a decrease in the population of 1,600, but the natural increase in the population (excess births over deaths) during the year was 774.

The Registrar General states that his estimate has been arrived at after careful consideration of the data bearing upon the current position and upon the various movements which have affected the area since the date of the last census. He states that the basis of estimation adopted in 1928 had to be modified for 1929 to meet the changes produced in one of the local factors of variation, viz., the Parliamentary electorate, by the recent extension of the franchise. I would again repeat that the need for the taking of a census of the population at less than ten-yearly intervals is very apparent.

A graph showing estimated increases in the population and the natural increase in the population since the last census in 1921 is shown on page 7.

The **birth-rate** for 1929 was 18.9.

The **death-rate** for 1929 was 13.9.

The **infantile-mortality rate** for 1929 was 86 per 1,000 births.

The urgent need for provision of adequate institutional accommodation for cases of **mental deficiency** is again revealed in this year's report. The Cheshire Joint Board has purchased an estate at Cranage Hall, near Holmes Chapel, Cheshire, and the Board has at present under consideration the adaptation of the premises on the estate for the accommodation of mentally defective persons.

The opening of the new branch Municipal Clinic—the "**North Clinic**" as it is called—marks the beginning of a fresh chapter in the history of the public health work of Birkenhead.

As long ago as 1909 it was recognised by the Town Council that centres should be provided where certain defects met with in children of school age could be treated. For two years clinics were held in rooms at the Town Hall. Then two small houses close to the Town Hall were bought—one in Albion Street and one in Gertrude Street—and the work was transferred thither. These premises, although obviously far from ideal, at least afforded accommodation in which the work could be continued and developed.

During the early years of the war, the public conscience having been stirred by the appalling wastage of infant lives revealed by local and national statistics, and by the knowledge that these records of mortality were an indication also of the widespread damage caused to survivors by the ailments and accidents of infancy, the need for the provision of infant clinics and other maternity and child welfare services was urged by the Government of the day.

Birkenhead's response to this appeal was the purchase of a house at No. 9 Hamilton Square, for use in connection with child welfare work. A clinic for mothers and infants was opened here in 1916, and some years later an antenatal clinic for expectant mothers was begun.

The work very rapidly established itself, and, the demand for additional provision becoming imperative, the Council readily decided to extend its scope. In 1919 a clinic to serve the northern portion of the Borough was opened at Brassey Street Mission Hall, and one for the southern portion of the Borough at St. Paul's Road Mission Hall.

Meantime, the sphere of the school medical service had been widening. A clinic for the treatment of defects of vision had been inaugurated at the little house in Albion Street in 1918 (this was later transferred to No. 9, Hamilton Square); and in 1921 a house in Mount Grove was fitted up as a dental clinic, to be used as a treatment centre in connection with the scheme of dental inspection of school children put into operation in that year. In 1923, a branch clinic for mothers and infants was opened at these premises in Mount Grove.

In addition to these centres for mothers and infants and school children, clinics for special diseases had also been provided by the local Authority—a tuberculosis clinic in a house in Duncan Street, in 1913, and a venereal diseases clinic at the Birkenhead Borough Hospital (now the Birkenhead General Hospital) in 1917.

Glancing over this record it will be seen that, with the exception of the last mentioned item, in every instance clinics had been established in premises designed for use in connection with some totally different object. The recognition of this fact does not in any way imply adverse comment on the provision made by the Local Authority. In every case the new development was, of necessity, experimental and tentative, and there was justification for the use, in the first instance, of existing and more or less suitable premises. A review of the work which has been done under difficult conditions by the Corporation's medical and nursing staff is sufficient answer to criticism. To take one example: the examination of tuberculous patients involves the detection of, and discrimination between, faint sounds in the chest, audible under the best conditions only by the ear of the expert. When it is realised that the work of the municipal tuberculosis clinic has been conducted in a room through the windows of which the noise and clatter of heavy traffic come continually, it is indeed a matter for congratulation that this work has been accompanied by such a high measure of success.

Convinced that these modern developments of Public Health work had passed through the experimental stage, that they had amply justified themselves by results, and that they had come to stay, the Council in 1928 decided upon the erection of a clinic, designed and constructed *as* a clinic, to meet the requirements of the thickly-populated neighbourhood at the north end of the Borough.

The details of this building were considered and approved by the Maternity and Child Welfare Committee, and by that Committee were submitted to the Council. It is intended, however, that the clinic will serve not merely as an infant welfare centre, but as a Public Health centre for the north of the Borough, and that residents of this district will be sent here in connection with most of those conditions which require continuous attendance at a clinic, or for which the provision of strictly local facilities is called for. Thus it will be used as a centre to which mothers may bring their infants regularly during the first year of life, and at intervals thereafter; as an antenatal clinic to which expectant mothers, who are not able to travel long distances, will come for examination and advice; and as a minor ailments clinic to which children from schools in the neighbourhood may be sent by head teachers for examination and regular treatment with the minimum loss of school time.

The Clinic contains a *Central Waiting Room and Lecture Room*, 45 feet by 20 feet, which is capable of seating over 100 people, and from which open all the other main rooms in the building. These consist of:—

(a) A *Homecraft Room* where mothers will be given opportunities of attending demonstrations in cutting out and making infant garments, cookery lessons, etc. In this room tea will be made and put on sale at a nominal charge to mothers attending the clinic.

(b) A *Nursery and Artificial Sunlight Room*. Mothers coming to the clinic with their babies may leave "toddlers" in this room in the charge of a nurse or voluntary worker in attendance, while they themselves are taking their babies to be weighed and examined by the doctor. A supply of toys, see-saw, etc., are available here for the young visitors. This room will be used on other occasions for treatment of selected cases of rickets, etc., by means of ultra-violet rays; an artificial sunlight apparatus of the most modern type has been installed. A French window opens from the room on to a lawn; here a sand pit is being provided, and other play facilities, for use on days when the weather is favourable.

(c) A *Clerical Room*. Here records will be kept, and the particulars of new maternity and child welfare cases coming to attend the clinic will be taken. This room has a hatch window, where all enquiries will be received and dealt with.

(d) A *Dispensary*. In this room all infant foods, dried milk, and medicines will be kept. The room is provided with a hatch window opening on the main hall, and with a similar window communicating with the doctor's room adjoining. Patients bringing orders from the doctor for milk, etc., do not enter this room, but have their supplies handed out to them through the serving hatch.

(e) A *Doctor's Room*. This room is provided with a desk, an examination couch, dressing trolley, instrument cabinet, microscope, etc. At one end of the room dressing compartments are shut off by means of curtains.

(f) A *Nurses' Room*. This is equipped with weighing scales for adults and babies, dressing table, etc. Here babies are weighed week by week, and their progress noted; and school children requiring dressings attend for treatment.

In the *Basement* separate systems for central heating and for the provision of hot water for washing are installed; a disinfecting cabinet in which toys, etc., which may have been exposed to infection are sterilized, is provided; and there is a large store room.

The clinic has the distinction of being the first institution of its kind in the country to be equipped with a *cinematograph apparatus*. This is operated from the Homecraft Room. Non-inflammable films are used, and pictures are thrown on the screen at the other end of the Lecture Room.

The *building*, which was designed by the Borough Surveyor, and erected by the Corporation Works Department, has been conceived on harmonious lines, all ostentation and crudeness being avoided. The walls are of rustic bricks, pleasantly varied in colour; Tilberthwaite green slates have been used for the roof; the doorway is copied from a beautiful Georgian design; the floors are of wood blocks. Provision is made in the design for future extensions, should these be required.

The *site* on which the clinic is built is nearly an acre in extent, and is surrounded by trees; the grounds round the building will be laid out partly in grass and partly with trees and flowering shrubs, an effect of seclusion and restfulness being aimed at. The site was chosen with two main considerations in view. Firstly, it is easily accessible to the whole of the district which the clinic will serve. Secondly (and this consideration was regarded by the Council as of great importance), it adjoins one of Birkenhead's public parks. It is felt that any building specially designed and erected for Public Health purposes should suggest health, and contact with the pleasant and wholesome things of life. In the past "Public Health" has only too frequently been associated in the popular mind with shabby buildings, mean streets, and depressing and dirty surroundings. As a result, this section of municipal work has not received its proper share of recognition. Everyone who has studied intelligently the problem of social economics unhesitatingly regard the care of the health of the people as the primary and fundamental duty of the Local Authority. All other social developments and institutions are based upon this foundation.

The provision of **other premises** which are urgently required is now under consideration. The North Clinic is recognised as being an integral part of a complete scheme for the Borough. This scheme may be very briefly outlined here.

Its main features are (a) and (b) branch clinics for the North and South portions of Birkenhead and (c) main public health premises. The southern clinic will be very similar to that provided for the north of the Borough giving local facilities for maternity and child welfare work, for certain sections of school medical work, etc. In the main health premises, which should be placed as near as possible to the geographical centre of the Borough, keeping in mind possible future extensions of boundary, will be gathered together a number of activities which are at present very inconveniently housed in scattered situations. Thus in these premises will be provided office accommodation for medical staff, health visitors, inspectors, and clerks; chemical laboratories for food and drugs inspection investigations; bacteriological and bio-chemical laboratories; and tuberculosis and dental clinics, which can most conveniently be housed together and for which branch accommodation is not required.

SHORT STATISTICAL SUMMARY.

1929.

Area of the extended Borough	6,016 acres, or 9.4 square miles
Estimated population (at midsummer)	157,600
Number of persons per acre (density of population)	26.2
Estimated number of houses in Borough	31,121
Number of inhabited houses at time of census, 1921	26,630
Rateable value	£1,035,265
Estimated product of penny rate	£3,950
Birkenhead rates, 1929-1930	11/9 in the £
Birth-rate per 1,000 of the population	18.9
Death-rate ,, ,,	13.9
Average death-rate for the last ten years	12.3
Tuberculosis death-rate per 1,000 of the population	1.3
Infantile mortality rate (per 1,000 births)	86
Average number of children in elementary schools	22,773
Number of elementary school children medically inspected during year	7,739

ADMINISTRATION.

General administrative arrangements.—The detailed arrangements made by the local authority for dealing with various branches of health work—*e.g.*, maternity and child welfare, tuberculosis, etc.—are set out in the appropriate sections of this report.

Staff.—The staff engaged on the work of the department consisted at the end of 1929 of the following:—

Medical Officer of Health and Chief Administrative Medical Officer:

D. MORLEY MATHIESON, M.A., M.D. (Edin), Ch.B., D.P.H.

Assistant Medical Officers:

MARY A. S. DEACON, M.B.E., M.B., B.S., D.P.H.

H. MASON LEETE, M.D., B.S., B.Hy., D.P.H.

F. G. FOSTER, M.A., M.D., Ch.B., D.P.H.

ANNA MAY WILLIAMS, M.B., Ch.B., D.P.H.

D. A. WOODSON, M.B., Ch.B., D.P.H.

Dental Surgeons:

P. WILSON SMITH, L.D.S., R.F.P.S. (Glas.).

EVELINE M. WARLOW, L.D.S. (L'pool.).

Veterinary Officer:

H. L. TORRANCE, M.R.C.V.S., D.V.S.M. (Vict.).

Bacteriologist and Pathologist:

*Professor J. M. BEATTIE, M.A., M.D., etc.

Analyst:

*HERBERT E. DAVIES, M.A., B.Sc., F.I.C.

Orthopædic Surgeon:

*T. HARTLEY MARTIN, M.B., Ch.B.

Inspectors:

ALFRED LONGSTAFF (Chief Inspector and Inspector under the Food and Drugs Acts).

H. L. BATY (Housing Inspector), W. H. TILSTON, J. CROSHAW, G. WILLS, W. H. BATES, R. E. JONES, T. OVERSBY, A. GREENFIELD, L. PINGUEY (District Sanitary Inspectors), H. AULT (Workshops, Food and Drugs, etc., Inspector), W. S. EDWARDS (Infectious Diseases Inspector), J. JACKMAN (Common Lodging Houses Inspector), ARCHBELL CARNIE (Meat Inspector), A. W. HAYDOCK (Assistant Meat Inspector), and A. C. GLADDISH (Temporary Assistant Meat Inspector).

Matron, Isolation Hospital:

Miss EMILY YEOMANS.

Matron, Thingwall Sanatorium:

Miss I. R. MILLAR.

Health Nurses:

Miss K. NIXON (Chief Health Nurse).

Mrs. L. E. FLETCHER (Health Nurse and Inspector of Midwives).

Miss A. G. ADAMS, Miss J. BEATTIE, Miss A. G. EVANS, Miss M. P. FAULDS, Miss C. E. FOX, Miss M. M. GRAHAM, Miss E. HENDLEY, Miss M. JONES, Miss J. McDONALD, Miss G. F. PARKINSON, Miss L. PEACE, Miss E. RAMAGE, Miss E. A. SMITH, Miss A. I. STEELE, Miss J. A. WARD, Miss L. WILSON, Mrs. C. B. WILLIAMS.

*Not whole-time officers.

J. BENNETT (Chief Clerk). J. OWEN (Senior Clerk).
 R. BAKER, J. CHALLINOR, N. WILSON, E. P. ROGERS, C. MARTIN, F. OWENS
 (Clerks), Miss E. M. PINCHES (Records Clerk); Miss B. CHALLINOR,
 G. DAVIES (Junior Clerks); Miss J. MATHIESON, Miss P. LLOYD
 (Typists); J. LOWSBY, A. BARNETT, S. BURGE (Office Boys).

School Teacher, Thingwall Sanatorium:

Miss A. BURY.

Other Staff:

NURSING STAFF, ISOLATION HOSPITAL—18.

DOMESTIC STAFF, ISOLATION HOSPITAL—16.

MALE STAFF, ISOLATION HOSPITAL—6.

NURSING STAFF, THINGWALL SANATORIUM—7.

DOMESTIC STAFF, THINGWALL SANATORIUM—7.

MALE STAFF, THINGWALL SANATORIUM—3.

ASSISTANTS ON MEAT INSPECTION WORK—2.

LABORATORY ASSISTANT—1.

BLIND HOME TEACHER AND GUIDE—2.

SUPERANNUATION SCHEME.

The Local Government and Other Officers' Superannuation Act, 1922, was adopted by the Birkenhead Corporation in June, 1923, and came into operation on 1st August, 1923.

The number of posts in the Corporation service designated as "established posts" for the purposes of the Act was 1,906, of which 1,711 were actually filled at the date on which the Act came into force, and 195 were additional posts. Since the commencement of the scheme 213 new posts have been created, making a total of 2,119.

Medical examinations carried out during 1929.—(a) During the past year 91 examinations of selected applicants for designated posts were carried out.

Department.	Designated Posts
Baths	1
Education	4
Electricity	3
Ferries	12
Gas	24
Libraries	1
Markets	1
Medical Officer's	5
Parks	8
Police	1
Surveyor's	13
Tramways	2
Treasurer's	5
Water	11
	<hr/>
Total examinations	91
	<hr/>

NOTE.—In addition to the above there were 15 re-examinations during 1929.

(b) During 1928 special arrangements, as set out in my annual report last year, were made for the medical examinations of certain tramways employees engaged in a temporary capacity.

During the year 80 employees were medically examined under these arrangements.

COST OF HEALTH SERVICES.

The *net* estimated cost to the Corporation (after deducting Exchequer grants) of all the Health Services dealt with in this report, for the financial year 1929-1930, was covered by a local rate of 10½d. in the £.

The total rate for the Borough (exclusive of water charges) was as follows:—

Gross estimate	12/9¾ in the £
Deduct credit balances and contribu- tions from Corporation trading undertakings	1/0¾ in the £
Rate levied.....	11/9 in the £

Below is an analysis of the cost to the Corporation of the various Health Services:—

	In the £	Approx. fraction of the total (gross) estimate for rates.
General administration, port sanitary account, housing inspection, municipal laboratory, etc.	2½d.	1/60th
Infectious diseases hospital, disinfecting and ambulances	2¾d.	1/60th
Tuberculosis (including Thingwall Sanatorium, Cheshire Joint Sanatorium and Leasowe Hospital)	1¾d.	1/90th
Prevention and treatment of venereal diseases	¼d.	1/600th
Meat, food and drugs inspection	½d.	1/300th
Maternity and child welfare	¾d.	1/200th
Medical inspection and treatment of children of school age	1d.	1/160th
Mental deficiency	½d.	1/300th
Miscellaneous (care of blind persons*, housing schemes 1904-1909, etc.)	½d.	1/300th
Total	10½d.	1/15th

*This does not include expenditure incurred by the Corporation in making direct payments towards the maintenance of blind persons under the Corporation's scheme for the welfare of the Blind.

WEATHER.

METEOROLOGICAL STATION, THINGWALL SANATORIUM.

The instrumental equipment installed at Thingwall Sanatorium for the purpose of weather observation is as follows:—

- 1.—A Stevenson's screen, containing
 - (a) Dry and wet bulb thermometers
 - (b) Maximum and minimum thermometers.
 These are placed four feet from the ground.
- 2.—A solar radiation thermometer (black bulb in vacuo), placed on a stand at a height of four feet, with the bulb directed south.
- 3.—A terrestrial radiation (grass minimum) thermometer. This is placed horizontally over short grass with its bulb freely exposed to the sky.
- 4.—Earth thermometers, with bulbs suspended at depths of one foot and four feet respectively, beneath the surface of the ground.
- 5.—A rain gauge (Snowdon pattern) with a receiving surface of five inches diameter. The rim of the gauge is one foot above the ground.
- 6.—A sunshine recorder (Campbell-Stokes pattern). This apparatus is mounted on the top of the thermometer screen. It is freely exposed to the sun's rays in all directions, and records the duration of bright sunshine.

Daily readings of these instruments are made, and in addition observations are taken as to wind, cloud and other atmospheric phenomena.

The results obtained at the station are set out in the subjoined tables. Special reference may be made to the following facts:—

Temperature.—The mean shade temperature for the year was 48.2 degrees Fahrenheit. The highest temperature recorded in the shade was 83.4 degrees (on 16th July), and the lowest 13.0 degrees (on 15th February).

Humidity.—The mean relative humidity for the year was 81.17% of saturation. The highest monthly mean was 91.3% (January) and the lowest 70.9% (July).

Sunshine.—The average amount of bright sunshine per day was 4.6 hours. The sunniest day of the year was the 26th of June, when 15.2 hours of bright sunshine were recorded. The sunniest months were June (8.18 hours daily average), May (7.64 hours), and July (6.16 hours).

Rain.—The total rainfall for the year amounted to 30.3 inches. Rain fell on 176 days. The heaviest fall in one day occurred on 11th November (0.99 inches). The month with the heaviest rainfall was October (5.08 inches) but the months with the greatest number of rainy days were November (26), December (26), and October (22).

The month with the least number of rainy days was March (3).

Miscellaneous phenomena.—*Fog* was prevalent on 16 days; at the beginning and at the end of the year. *Gales* occurred on 23 days; *Heavy Rains* on 10 days; *Hail* on 9 days; *Sleet* on 1 day; and *Snow* on 7 days.

Frost on the grass was registered on 112 days, and *Frost on the screen* on 49 days.

One *Thunderstorm* was recorded during the year.

TABLE M 1.
Air temperature.

Month	Mean Temperature (i.e. average of max. and min.)	Mean		Absolute Maximum		Absolute Minimum	
		Max.	Min.	Reading	Date	Reading	Date
January	36.06	40.05	32.06	56.00	30/1/29	26.00	27/1/29
February ...	33.52	38.25	28.80	52.30	1/2/29	13.00	15/2/29
March	43.62	52.80	34.44	64.70	20/3/29	17.80	1/3/29
April	44.62	51.65	37.58	63.20	19/4/29	28.80	6/4/29
May	52.66	61.13	44.18	73.60	27/5/29	34.20	3/5/29
June.....	55.48	62.90	48.05	73.30	11/6/29	41.20	5/6/29
July	59.91	66.80	53.02	83.40	16/7/29	45.80	14/7/29
August	58.92	65.16	52.67	72.30	30/8/29	42.00	16/8/29
September ...	58.18	65.00	51.36	75.30	8/9/29	41.00	14/9/29
October	49.80	55.00	44.60	62.60	14/10/29	33.40	27/10/29
November ...	44.64	50.34	38.93	58.40	11/11/29	24.20	18/11/29
December ...	41.00	46.00	36.00	56.30	13/12/29	28.80	22/12/29
Means ...	48.20	54.59	41.81	65.95	—	31.35	—

TABLE M 2.
Solar and terrestrial radiation.

Month	Daily Maximum			Grass Temperature		
	Mean	Extreme		Mean	Extreme	
		Reading	Date		Reading	Date
January	55.45	76.00	13/1/29	28.60	20.00	27/1/29
February.....	61.80	88.40	27/2/29	26.22	8.00	15/2/29
March	90.80	109.00	26/3/29	29.38	12.80	1/3/29
April	101.98	116.60	8/4/29	33.33	21.80	21/4/29
May	111.90	121.20	23/5/29	39.69	28.20	3/5/29
June	119.40	139.00	18/6/29	43.89	34.70	5/6/29
July	118.90	137.00	11/7/29	49.33	37.80	14/7/29
August	123.54	131.20	6/8/29	48.70	38.20	26/8/29
September ...	106.34	129.70	1/9/29	45.00	33.00	14/9/29
October	96.14	115.70	12/10/29	38.37	26.00	27/10/29
November ...	72.11	92.80	8/11/29	33.53	20.40	18/11/29
December ...	69.83	88.00	13/12/29	32.03	21.20	22/12/29
Means ...	94.01	112.05	—	37.34	25.42	—

TABLE M 3.

Air humidity at 9 a.m.

Month	Monthly Means				Relative Humidity at 9 a.m.	
	Dry Bulb	Wet Bulb	Dew Point	Relative Humidity	Greatest	Least
January	35.37	34.42	33.99	91.28	98.00	69.00
February	32.18	30.89	28.18	83.08	98.00	62.50
March	42.35	39.66	36.16	83.08	98.00	62.00
April	43.17	40.96	38.08	73.82	97.00	48.00
May	53.74	49.47	45.20	72.93	95.00	54.00
June	57.25	52.68	49.02	72.48	97.50	50.60
July	61.17	57.11	53.86	70.89	99.00	60.60
August	59.67	56.90	54.68	83.64	99.00	68.80
September ..	59.38	56.76	54.66	84.44	99.00	67.00
October	50.36	47.99	45.62	83.99	99.00	63.50
November ...	44.35	42.78	40.73	87.49	98.00	72.20
December ...	42.26	40.63	38.51	86.97	98.00	74.50
Means ...	48.44	45.85	43.22	81.17	97.92	62.72

TABLE M 4.

Sunshine.

Month	Average bright sunshine per day (hours)	Maximum sunshine in one day		Number of sunless days
		Amount	Date	
January	1.08	5.60	25/1/29	15
February	2.06	9.20	28/2/29	14
March	5.82	10.20	29/3/29	2
April	5.93	13.00	21/4/29	Nil
May	7.64	15.10	25/5/29	Nil
June	8.18	15.20	26/6/29	Nil
July	6.16	15.10	13/7/29	3
August	5.89	12.20	25/8/29	1
September	5.45	11.40	7/9/29	1
October ...	3.72	8.80	2/10/29	1
November	1.56	5.30	10 11/29	9
December	1.56	4.70	3/12/29	9
Year 1929	4.59	—	—	55

TABLE M 5.

Rainfall.

Month	Total in inches	Maximum fall in one day		Number of rainy days
		Amount	Date	
January.....	1.49	.50	27/1/29	14
February	0.92	.46	8/2/29	12
March	0.14	.07	21/3/29	3
April	0.84	.26	4/4/29	9
May	1.45	.34	4/5/29	11
June	1.86	.61	14/6/29	12
July	3.70	.50	4/7/29	14
August ...	3.30	.54	3/8/29	19
September	2.12	.96	28/9/29	8
October ..	5.08	.74	23/10/29	22
November ...	4.87	.99	11/11/29	26
December	4.53	.40	28/12/29	26
Year 1929	30.30	—	—	176

TABLE M 6.

Miscellaneous phenomena.

Month	Number of Days								Thunderstorms
	Fog	Gales	Heavy rain ($\frac{1}{2}$ -in. or more)	Hail	Sleet	Snow	Frost on the Grass	Frost on the Screen	
January	3	—	1	—	1	4	26	18	—
February	1	—	—	—	—	2	22	15	—
March	4	—	—	—	—	—	18	10	—
April	—	1	—	1	—	—	14	3	—
May	—	—	—	—	—	—	3	—	—
June ...	—	—	1	—	—	—	—	—	—
July	—	1	1	—	—	—	—	—	1
August	—	—	1	—	—	—	—	—	—
September.....	3	2	2	—	—	—	—	—	—
October	—	4	2	2	—	—	5	—	—
November.....	3	5	2	4	—	—	9	—	—
December	2	10	—	2	—	1	15	3	—
Year 1929...	16	23	10	9	1	7	112	49	1

BIDSTON OBSERVATORY.

Information kindly supplied, by arrangement with the Liverpool Observatory and Tidal Institute, from Bidston Observatory is set out in Table M 7. The mean barometer readings for the various months are given below:—

January	30.284
February	30.044
March	30.332
April	30.017
May	29.945
June	29.988
July	30.006
August	29.938
September	30.010
October	29.758
November	29.619
December	29.484

The mean barometer reading for the whole year was 29.952 inches, as compared with a mean of 29.921 for the past 63 years.

TABLE M 7.

Barometer readings, cloud, sunshine, and ultra-violet radiation.

Weeks	Barometer means reduced to sea level and to 32°F	Average percentage of cloud to clear sky.	*Average daily sunshine (hours)	*Average daily ultra-violet radiation (units)
1.....	30.204	77.14	—	—
2.....	30.542	95.71	—	—
3.....	30.207	70.00	—	—
4.....	30.235	65.71	—	—
5.....	29.859	90.00	—	—
6.....	30.127	87.14	—	—
7.....	29.927	54.28	—	—
8.....	30.161	74.28	—	—
9.....	30.259	71.42	—	—
10.....	30.297	47.14	—	—
11.....	30.393	58.57	—	—
12.....	30.123	54.28	—	—
13.....	30.426	47.17	—	—
1st Qr.	30.212	68.67	—	—
14.....	30.057	58.57	—	—
15.....	30.163	71.42	—	—
16.....	30.080	58.57	—	—
17.....	29.968	62.85	—	—
18.....	29.751	74.28	—	—
19.....	29.730	68.57	—	—
20.....	29.967	54.28	—	—
21.....	29.982	out of order	—	—
22.....	30.188	32.85	—	—
23.....	29.670	78.57	—	—
24.....	29.950	57.14	—	—
25.....	30.204	70.00	—	—
26.....	30.110	35.71	—	—
2nd Qr.	29.986	60.23	—	—
27.....	29.804	82.85	4.6	4.6
28.....	30.199	68.57	6.1	7.5
29.....	30.129	38.57	10.5	9.8
30.....	30.056	68.57	6.9	5.8
31.....	29.703	82.85	3.8	4.3
32.....	29.831	78.57	5.9	4.9
33.....	30.010	65.71	7.1	4.7
34.....	30.064	90.00	2.6	3.1
35.....	29.944	68.57	6.0	4.1
36.....	30.098	55.71	6.1	3.8
37.....	30.109	52.85	6.1	3.4
38.....	29.989	58.57	6.4	2.9
39.....	30.243	67.14	4.1	2.5
3rd Qr.	30.013	67.57	5.8	
40.....	29.649	62.85	3.7	2.7
41.....	29.823	74.37	4.4	3.2
42.....	30.024	82.85	2.1	2.2
43.....	29.490	71.42	2.4	0.4
44.....	29.993	61.42	4.4	1.4
45.....	29.881	77.14	2.1	0.7
46.....	29.465	75.71	2.4	0.3
47.....	29.532	82.85	0.8	0.1
48.....	29.404	77.14	1.1	0.0
49.....	29.130	58.57	2.2	} out of order
50.....	29.558	74.28	1.6	
51.....	30.211	57.14	3.1	
52.....	29.287	71.42	2.2	0.1
4th Qr.	29.649	71.32	2.5	1.0
Year	29.965	66.94	4.1	2.3

*These figures are only available for six months.

†Ultra-violet radiation is measured by exposure of a standard solution of acetone and methylene-blue. After 24 hours' exposure in a quartz tube to sunlight and skyshine, the colour of the solution is matched against a series of standard tubes in which the solution has been faded to a known extent by exposure to a constant source of ultra-violet rays. One unit of scale equals 2.4 times the Erythema dose, the sensitivity of skin varying in individuals.

POPULATION, BIRTHS, AND DEATHS.

POPULATION.

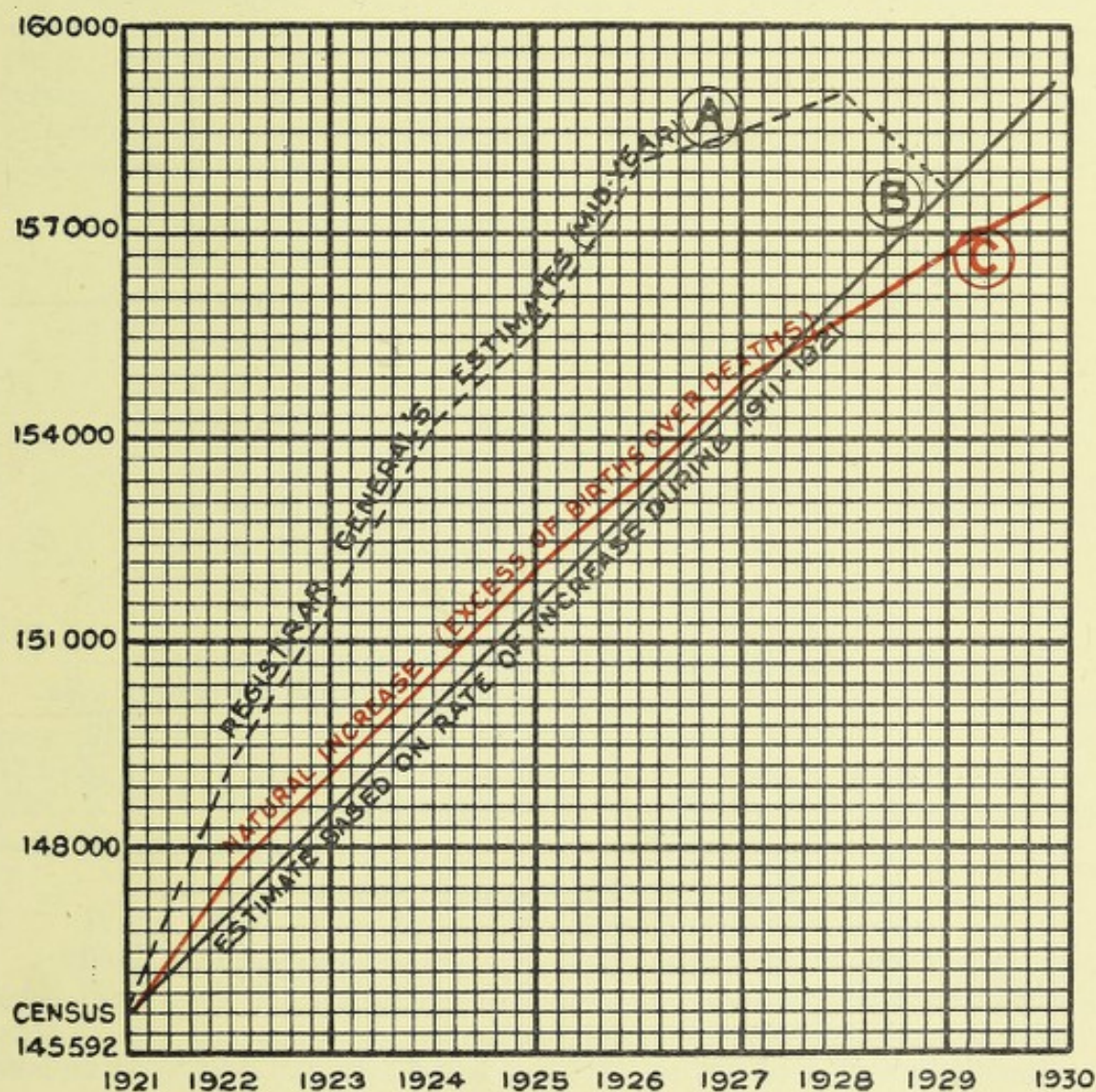
Population.—The population of the Borough as recorded at the time of the 1921 census was 145,592.

The Registrar General's estimate of the population of the Borough as at mid-year, 1929, was 157,600.

A reference to the question of estimates of population will be found in the preface to this report, page viii.

The accompanying diagram shows the variation in the estimates.

GROWTH OF POPULATION SINCE 1921.



In B above the increase in the population of the Borough known to have occurred as a result of the extension of the Borough boundaries in 1928, and estimated at that time at 2,754, is not included.

BIRTHS.

Births registered during 1929, and birth-rate.—During the year 2,958 births belonging to the Borough were *registered*. (This total includes 65 Birkenhead births registered in other areas and transferred to Birkenhead, and excludes 118 births belonging to other areas which occurred in Birkenhead and were transferred to the areas concerned. Among the latter are numerous births which occurred at the Birkenhead Maternity Hospital and the Birkenhead Infirmary.)

This corresponds to a birth-rate of 18.9 per 1,000 of the population.

Birth-rate in recent years.—The birth-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

1911	28.4	per 1,000
1912	28.2	"
1913	28.7	"
1914	27.3	"
1915	27.4	"
1916	26.9	"
1917	22.4	"
1918	21.1	"
1919	22.5	"
1920	27.7	"
1921	25.8	"
1922	23.1	"
1923	21.4	"
1924	21.1	"
1925	20.5	"
1926	20.4	"
1927	18.2	"
1928	18.5	"
1929	18.9	"

Comparison of birth-rate with rates for country generally—

	Per 1,000 of population.	
	Live births	Still births
England and Wales	16.3	0.68
107 County Boroughs and Great Towns (including London)	16.6	0.69
157 Other Towns (1921 adjusted popula- tions, 20,000-50,000)	16.0	0.71
London	15.7	0.53
Birkenhead	18.9	0.83

Sex-distribution of births.—Of the 2,958 births, 1,510 were males and 1,448 females; a proportion of 1,043 : 1,000.

Legitimacy.—Of the 2,958 births registered, 115 were illegitimate, a percentage of 3.9.

Registration of stillbirths.—Under Section 7 of the Births and Deaths Registration Act, 1926, the birth of every stillborn child shall be registered by the Registrar in a register of stillbirths. The Registrar-General has kindly furnished me with the numbers of stillbirths registered during 1929 in Birkenhead. The total number was 133. In addition, there were 3 inward transfers. There were 5 stillbirths registered in Birkenhead belonging to other areas. Thus the nett number of stillbirths belonging to the Borough was 131, classified as follows:—

Legitimate—Males	68
Females	54
Illegitimate—Males	7
Females	2
	<hr/>
	131
	<hr/>

The stillbirth rate was 44 per 1,000 births.

Births notified during 1929.—During the year 3,068 births were notified in the Borough under the Notification of Births Acts, 1907 and 1915. Of these 115 were stillbirths, leaving a total of 2,953 live births. This total includes births which occurred in the Birkenhead Maternity Hospital, the Birkenhead Infirmary, and the Birkenhead General Hospital, many of which were transferable to other areas.

The following is an analysis of the above births:—

Births in Public Institutions:—

Maternity Hospital	386	(26 still-births)
Infirmary	193	(7 „)
General Hospital	9	(2 „)
Other births (including those in nursing homes):—		
Notified by doctors	283	(5 „)
Notified by midwives	2127	(75 „)
Notified by parents	—	(— „)
	<hr/>	
	2953	(115 „)
	<hr/>	

Un-notified births. — The Registrars reported 48 cases of un-notified births. 5 of these were attended by medical practitioners, 37 by both certified midwives and doctors, 1 by the Maternity Hospital staff, 2 by the General Hospital staff, and 3 were of bodies discovered in public places.

DEATHS.

Death-rate.—2,184 deaths occurred during the year; the total figure includes 151 deaths of Birkenhead residents which occurred outside the Borough, but excludes 238 deaths of non-residents which occurred in the area. This gives a death-rate of 13.9 per 1,000.

Deaths in recent years.—The death-rates since 1911 are as follows (the rates for 1912-1920 are given as they were published year by year, and are not calculated on revised estimates of population in the intercensal period):—

1911	16.0 per 1,000
1912	14.7 „
1913	14.9 „
1914	15.6 „
1915	15.6 „
1916	14.2 „
1917	13.3 „
1918	17.6 „
1919	13.7 „
1920	13.3 „
1921	11.6 „
1922	13.6 „
1923	11.0 „
1924	11.9 „
1925	12.1 „
1926	11.1 „
1927	12.6 „
1928	12.3 „
1929	13.9 „

Seasonal deaths.—The following gives the deaths for each quarter of the years 1928 and 1929.

	No. of deaths	
	1928	1929
First quarter.....	599	854
Second quarter	469	457
Third quarter	401	369
Fourth quarter.....	468	504
Totals	1937	2184

Sex-distribution of deaths.—Of the total deaths 1,161 were males and 1023 females, a proportion of 1,135 : 1,000.

Uncertified deaths.—In 1929, there were 3 uncertified deaths belonging to the area.

Coroner's inquests.—Coroner's inquests were held regarding 131 deaths—that is, in 6 per cent. of the total deaths during the year.

The Coroners' (Amendment) Act, 1926.—This Act came into force on 1st May, 1927. During the year 55 deaths (2.5 per cent. of the total deaths during the year) were registered without the Coroner holding an inquest.

Causes of death.—From the beginning of 1927 the classification of causes of death previously employed during the years 1920-1926 was abandoned, and the recognised classification contained in the detailed international list was adopted. An analysis on this basis will be found in Tables P 1, P 2, and P 3.

Table P 1 (pages 14 to 25) shows the causes of death in detail, sub-classified according to age.

Table P 2 (pages 26 to 27) is a short list of deaths, prepared by the Registrar-General, sub-classified according to sex and age.

Table P 3 (pages 28 to 29) is a condensed form of Table P 1, sub-classified according to wards.

Infantile mortality.—There were 253 deaths of infants under 1 year old. This corresponds to an infantile mortality rate of 86 per 1,000 births.

There were 21 deaths in illegitimate infants under 1 year old; giving an illegitimate mortality rate of 182 per 1,000.

The causes of infant deaths, and the ages at which death occurred, are shown in Table P 4 (page 30).

The corresponding rates for each year since 1911 are given below:—

1911	136
1912	98
1913	117
1914	122
1915	122
1916	105
1917	95
1918	110
1919	102
1920	102
1921	75
1922	95
1923	62
1924	91
1925	92
1926	85
1927	95
1928	80
1929	86

The main causes of infant deaths during the past two years are shown below:—

	No. in 1928	No. in 1929
(a) Pneumonia (all forms)	53	68
Bronchitis	17	10
Whooping cough	9	7
Measles	3	10
(b) Diarrhœa and enteritis	27	29
Premature birth	49	51
(c) All other causes	76	78
	<hr/> 234	<hr/> 253

Deaths from tuberculosis.—Tuberculosis was responsible for 9.3 per cent. of all the deaths recorded in the Borough in 1929. The deaths from the disease were as follows:—

Deaths from tuberculosis of the lungs	164
Deaths from other forms of tuberculosis	39
Total	<hr/> 203

This gives a tuberculosis death-rate of 1.29 per 1,000 of the population.

Of the 164 deaths from respiratory tuberculosis during 1929, 149 occurred in individuals between 15 and 65 years old—that is, of a wage-earning age.

This subject is further dealt with in the "Tuberculosis" section of this report.

Deaths from epidemic diseases.—The seven "principal epidemic diseases" caused 104 deaths, as follows:—

Diarrhoea and enteritis (under 2 years)	34
Whooping cough	24
Measles	36
Scarlet fever	4
Diphtheria (including membranous croup)	3
"Fever" (enteric, typhus, and simple continued fever)	3
Smallpox	0

This corresponds to a death-rate from all these diseases of 0.66 per 1,000 of the population.

Deaths from other notifiable infectious diseases.—Pneumonia caused, in its various forms, 303 deaths; puerperal fever caused 2; encephalitis lethargica caused 9; erysipelas caused 6; acute polioencephalitis caused 1.

Deaths from cancer.—The following table shows the cancer death-rate in Birkenhead as compared with the country generally:—

Year	BIRKENHEAD			ENGLAND AND WALES
	Population	Number of deaths from cancer in Birkenhead	Rate per 100,000 population	Rate per 100,000 population
1901	111,377	91	81	}
1902	113,231	66	58	
1903	115,117	78	68	
1904	117,034	83	70	
1905	118,982	94	79	
1906	120,964	101	83	}
1907	122,978	90	73	
1908	125,026	101	80	
1909	127,108	91	71	
1910	129,227	115	89	
1911	131,377	114	86	}
1912	135,521	126	92	
1913	135,740	107	70	
1914	137,906	114	82	
1915	140,291	121	85	
1916	142,622	140	98	}
1917	144,993	144	99	
1918	147,403	154	104	
1919	149,853	181	121	
1920	152,345	186	122	
1921	147,800	186	125	121
1922	149,200	172	115	123
1923	151,400	179	118	127
1924	154,100	179	116	130
1925	155,500	199	129	133
1926	158,000	204	129	136
1927	158,500	206	130	137
1928	159,200	229	145	142
1929	157,600	214	136	143

Comparison of Birkenhead death-rates with those for country generally.—In Table P 5 (page 31) Birkenhead rates are shewn together with those for the country generally. The latter are provisional figures kindly supplied by the Registrar-General. Non-civilians are included in the figures for England and Wales, but not for other areas.

TABLE P 1.—CONTINUED.

Classi- fication No.	Causes of death	Ages at death																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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40	Gonococcal infection— 1. Gonococcal infection (ophthalmia excepted) 2. Gonorrhœal or purulent ophthalmia..... Purulent infection, septicæmia

TABLE P 1.—CONTINUED.

Classi- fication No.	Causes of death	Ages at death																						
		All ages	Under 1 year				Under 5 years & over years				Over subjoined years													
			Under 1 year				Tot'l	Under 5 years & over years				Tot'l	5	10	15	20	25	35	45	55	65	75	85 & up	
			0	3	6	9		1	2	3	4													
75	Paralysis of unstated origin— A. Hemiplegia	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	3	1	...
	B. Other forms of paralysis	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
76	General paralysis of the insane ..	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
77	Other forms of insanity	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
78	Epilepsy	7	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	3	1	...	...	...	...	...
79-80	Convulsions (non-puerperal)	3	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
81	Chorea.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
82	Hysteria and neuritis— 1. Hysteria, neuralgia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Neuritis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
83	Cerebral softening.....	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
84	Other diseases of the nervous system— 1. Idiocy, imbecility .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Cerebral tumour	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...
	3. Disseminated sclerosis.....	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	...	...	...	...
	4. Paralysis agitans	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	5. Other diseases included under 84	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	1	...
85	Diseases of the eye and annexa .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
86	Diseases of the ear and of the mastoid sinus— 1. Diseases of the mastoid sinus.....	2	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
	2. Diseases of the ear	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
IV.—Diseases of the circulatory sys- tem (87-96). Heart diseases (87-90)— Pericarditis.....		2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
87	Acute endocarditis and myocarditis— 1. Malignant endocarditis	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
88	2. Other acute endocarditis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	3. Acute myocarditis .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
89	Angina pectoris.....	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...

TABLE P 1.—CONTINUED.

Classi- fication No.	Causes of death	Ages at death																							
		All ages	Under 1 year					Under 5 years				Over subjoined years													
			& over months					Tot'l	& over years				Tot'l												
			0	3	6	9	1		2	3	4	5		10	15	20	25	35	45	55	65	75	85 & up		
101	Pneumonia (lobar or not otherwise defined) — A. Lobar pneumonia..... B. Pneumonia not otherwise defined	85 48	...	2	1	...	3	3	...	1	...	7	2	2	5	7	9	17	17	7	7	4	1	1	
102	Pleurisy— 1. Empyema	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...
103	2. Other pleurisy	6	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	2	1	...	...	...
104	Congestion and hæmorrhagic infarct of lung . .	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	7	7	...	3
105	Gangrene of the lung	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
106	Asthma	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	7	...	1	...	...
107	Pulmonary emphysema .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other diseases of the respiratory system — A. Chronic interstitial pneumonia, including occupational diseases of the lung..... B. Diseases of the mediastinum	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
	c. Other diseases included under 107	2	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...
108	VI.—Diseases of the digestive system (108-127) Diseases of the buccal cavity and annexa— 1. Diseases of the teeth and gums .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	2. Ludwig's angina .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
109	3. Other diseases included under 108 .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diseases of the pharynx and tonsils— 1. Tonsillitis, adenoid vegetations.....	5	...	1	...	1	1	...	...	...	1	...	1	...	...	...	1	1	1	...	...	...	...	...
110	2. Other diseases included under 109 .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
111	Diseases of the œsophagus	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
	Ulcer of the stomach or duodenum — A. Ulcer of the stomach	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	3	4	...	...	...	...
	B. Ulcer of the duodenum	8	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3	...	3	1	...	...	...
112	Other diseases of the stomach — 1. Inflammation of the stomach	3	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...
	2. Other diseases included under 112	7	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	2	...	...	2	...	...

TABLE P 2.
Deaths: causes, sex, and ages.

Causes of death	Sex	All ages	Ages									
			0—	1—	2—	5—	15—	25—	45—	65—	75—	
All causes.....	Male Female	1162 1023	148 106	46 38	23 33	26 33	53 45	152 110	360 258	204 183	148 217	
1 Enteric fever	Male Female	3 1	...	...	...	...	1	...	1	...	...
2 Smallpox	Male Female	...	...	...	...	...	...	...	...	...	...
3 Measles	Male Female	16 18	4 5	7 5	5 7	1 1	...	...	...	...	...
4 Scarlet fever	Male Female	3 1	...	...	...	1	...	...	2	...	...
5 Whooping Cough	Male Female	8 16	3 5	4 6	1 5	...	...	...	...	...	...
6 Diphtheria.....	Male Female	2 1	...	1	...	1	...	...	...	...	...
7 Influenza	Male Female	58 41	3 ...	2 ...	1	...	3 3	11 9	14 12	12 7	13 9	
8 Encephalitis lethargica	Male Female	4 6	...	...	...	...	...	2 3	2 2	...	...
9 Meningococcal meningitis	Male Female	1 1	...	...	1	...	...	...	...	...	...
10 Tuberculosis of respiratory system.....	Male Female	94 71	...	...	...	5 6	11 18	40 30	33 15	3 ..	2 1
11 Other tuberculous diseases	Male Female	17 21	2 1	3 2	5 6	1 4	4 2	2 4	...	...	...
12 Cancer, malignant disease	Male Female	112 107	...	...	1	...	1	5 10	61 60	34 20	10 16
13 Rheumatic fever	Male Female	3 2	...	...	...	2 1	...	...	1 1	...	...
14 Diabetes	Male Female	9 9	...	...	...	...	2	...	4 3	...	1 1
15 Cerebral hemorrhage, &c	Male Female	57 55	...	...	...	...	...	...	19 21	25 16	11 15
16 Heart disease	Male Female	157 194	...	...	...	2 1	7 3	9 14	45 40	42 63	52 72

TABLE P 3.
Deaths: causes and wards.

Causes of death	Deaths in or belonging to wards at all ages.											Total deaths in Public Institutions in the district	
	Whole Borough	Argyle	Grange	Cleveland	Cloughton	Oxton	Clifton	Egerton	Mersey	Belington	Pren-ton		Bidston
All causes.....	2184	323	450	426	108	49	290	293	118	73	30	24	1094
1 Enteric fever ..	3	...	...	...	..	...	1	2	...	..	...	...	2
2 Smallpox .....	...	...	...	..	...	...	...	..	..	...	...	...	...
3 Measles	36	10	10	8	...	...	1	1	2	2	1	1	15
4 Scarlet fever	4	...	1	...	...	...	...	1	1	1	..	...	3
5 Whooping cough	24	2	10	10	...	...	1	...	1	...	...	...	11
6 Diphtheria..	3	...	2	1	...	...	...	...	...	...	...	...	3
7 Influenza	93	11	17	12	4	2	17	17	4	8	1	...	32
8 Encephalitis lethargica	9	1	1	1	1	...	1	3	1	...	...	...	6
9 Meningococcal meningitis	1	...	...	..	...	...	...	1	...	...	...	...	...
10 Tuberculosis of respiratory system	164	31	37	39	1	1	16	18	8	6	4	3	94
11 Other tuberculous diseases	39	3	10	10	2	..	7	2	2	2	...	1	30
12 Cancer, malignant disease	214	32	32	36	14	9	32	35	9	7	6	2	110
13 Rheumatic fever	18	4	4	2	3	..	2	2	1	...	...	...	7

TABLE P 4.

Infant deaths: causes and ages.

Causes of death	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 4 weeks	Over 4 weeks & under 3 months	3-6 months	6-9 months	9-12 months	Total under 1 year
All causes.....	62	9	9	5	85	41	46	41	40	253
Smallpox ..	..	..	..	..	..	..	..	..	..	..
Chickenpox ..	..	..	..	..	..	..	..	..	..	..
Measles ..	..	..	..	..	..	..	..	2	8	10
Scarlet fever.....	..	..	..	..	..	..	..	..	..	..
Whooping cough.....	..	..	..	..	..	1	1	1	4	7
Diphtheria ..	..	..	..	..	..	..	..	..	..	..
Influenza ..	..	..	..	..	..	1	1	..	..	2
Tuberculosis of central nervous system ..	..	..	..	..	..	..	1	..	1	2
Tuberculosis of intestines and peritoneum ..	..	..	..	..	..	..	..	1	..	1
Meningitis (not tuberculous).....	..	..	..	..	..	..	1	..	1	2
Convulsions ..	1	..	1	..	2	1	2	1	3	10
Bronchitis (all forms).....	2	..	1	..	3	6	3	6	1	17
Pneumonia (all forms) ..	..	..	2	..	2	11	19	20	16	68
Diarrhœa and enteritis ..	..	1	..	..	1	8	8	8	4	29
Gastritis ..	..	..	..	..	..	1	1	..	..	2
Syphilis ..	..	..	1	..	1	..	..	2	..	3
Rickets ..	..	..	..	..	..	..	..	1	..	1
Injury at birth ..	1	..	..	..	1	..	..	..	..	1
Atelectasis ..	7	..	..	..	7	..	..	..	..	7
Congenital malformations... ..	5	1	..	..	6	5	..	1	..	12
Premature birth ..	37	5	3	3	48	1	1	..	..	50
Atrophy, debility and marasmus	6	1	1	2	10	10	6	1	2	29
Other causes.....	3	1	..	..	4	2	5	3	1	15
Totals.. ..	62	9	9	5	85	41	46	41	40	253

Net births in the year—

Legitimate 2843

Illegitimate 115

Net deaths in the year—

Legitimate infants 232

Illegitimate infants ... 21

TABLE P 5.
Death-rates: comparison with rest of country.

	Annual death rate per 1000 civilian population								Rate per 1000 births		Percentage of total deaths				
	All causes	Enteric fever	Smallpox	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza	Violence	Diarrhoea and enteritis (under 2 years)	Total deaths under 1 year	Registered Medical Practitioner	Inquest cases	Certified by Coroner after P.M.	Uncertified causes of death
England and Wales	13.4	0.01	0.00	0.08	0.02	0.15	0.08	0.74	0.55	8.1	74	91.5	6.1	1.5	0.9
107 County Boroughs and Great Towns including London (census population exceeding 50,000)	13.7	0.01	0.00	0.12	0.02	0.19	0.09	0.76	0.50	10.9	79	91.8	5.8	1.9	0.5
157 Smaller Towns (1921 adjusted populations 20,000 to 50,000)	12.3	0.01	0.00	0.06	0.02	0.15	0.07	0.71	0.45	5.9	69	92.6	5.4	1.0	1.0
London	13.8	0.01	0.00	0.04	0.02	0.26	0.08	0.69	0.56	10.7	70	89.5	6.8	3.7	0.0
Birkenhead.....	13.9	0.01	—	0.23	0.02	0.15	0.01	0.59	0.60	11.5	86	91.3	6.0	2.6	0.1

LOCAL INDUSTRIES.

OCCUPATIONS.

The staple industries of the district are shipbuilding, ship-repairing and engineering.

Occupations of males and females aged 12 years and over.—A statement setting out the occupations of males and females aged 12 years and over at the time of the 1921 census was given in my annual report for 1923.

UNEMPLOYMENT.

The Minister of Health requests Medical Officers to give in their annual reports an indication of the extent of unemployment and of the amount of poor law relief in their areas.

The returns of unemployment for each month of the year are shown below:—

TABLE O 1.
Unemployment during 1929.

Month	Live register	Increase or decrease in live register	Applicants placed	
			Locally	In other districts
January	4240	Dec. 102	656	31
February	4655	Inc. 415	483	34
March	4517	Dec. 138	642	38
April	4859	Inc. 342	500	54
May	5064	Inc. 205	595	110
June	5097	Inc. 33	526	65
July	4761	Dec. 336	467	71
August	5343	Inc. 582	940	54
September	5639	Inc. 296	416	40
October	5411	Dec. 223	635	26
November	5933	Inc. 522	775	40
December	5290	Dec. 643	374	10

AMOUNT OF POOR LAW RELIEF.

The following is a statement of the sums expended in the relief of the poor in the Birkenhead Union for the year ended 31st March, 1930:—

Union Institution	£9,903	7	0
Eastham House	1,686	10	3
Union Infirmary	18,803	15	11
Children's Homes	2,275	10	4
Outdoor relief (actual cash payments to recipients of)	52,403	12	6
Outdoor relief (on loan to unemployed)	25,177	17	11
Lunatics in asylums and licensed houses (total cost of maintenance)	28,609	7	5
Persons maintained in other Institutions not under the control of the Guardians	7,300	5	5
	£146,160	6	9

Prior to the recent extension of boundaries of the County Boroughs of Birkenhead and Wallasey, the Birkenhead Union area covered those two Boroughs, and the parishes of Bidston-cum-Ford and Noctorum. The populations of these three component parts were, in 1921:—

Birkenhead	145,592	(61.3 per cent.)
Wallasey	90,721	(38.2 per cent.)
Bidston and Noctorum ...	1,091	(0.5 per cent.)

The Birkenhead added areas come partly within the area of the Birkenhead Union (a portion of Bidston parish) and partly within the area of the Wirral Union (Prenton, Landican and Thingwall parishes).

WATER SUPPLY, FOOD, AND DRUGS.

THE WATER SUPPLY.

Particulars regarding the water supply of the Borough were given in detail in my annual report for 1921.

The consumption of water in Birkenhead for the year ending 31st March, 1929, was 1,669,838,000 gallons.

Bacteriological examinations. — Arrangements were continued during the year for bacteriological examinations of the Alwen water supply to be carried out in the laboratory in the Medical Officer's Department. The procedure followed was indicated in my annual report for 1923.

During the past year, bacteriological examinations have been carried out in connection with—

52 samples of tap water in Birkenhead.

12 samples of water from Alwen Reservoir, before filtration.

24 samples of water at Alwen, after passing through the filtration apparatus.

The latter tests provide a very useful and sensitive check on the efficacy of the filtration process.

THE MILK SUPPLY.

The question of the milk supply was discussed fully in my annual report for 1927. During the past year still further improvement has been noticeable in the cleanliness of the milk sent into the Borough—a result which is due to the vigorous steps taken by the Health Authority. On the whole the milk now arriving in the Borough is of good quality and clean.

Dairy farms.—Milk is supplied to the Borough chiefly from farms in Cheshire, Shropshire, Denbighshire and Flintshire.

There are now 22 cowsheds within the boundaries of the Borough, 18 of these being in the extended area.

Milkshops and the retail sale of milk.—There are 159 registered milk shops in Birkenhead. In addition, the following are registered for retailing milk within the Borough:—81 farmers resident outside

Birkenhead, 2 "purveyors" of milk, and the 22 cowsheds within the Borough referred to in the preceding paragraph.

Applications for registration.—During the year 16 applications for registration—Milk and Dairies (Amendment) Act, 1922—have been received from persons desiring to retail milk within the Borough. All of these have been placed on the register.

Removals from register.—In 1 case a purveyor was persuaded to discontinue selling milk, and his name was removed from the register without the necessity of taking formal action.

Formal action was taken in 1 case where milk was stored in unsuitable premises, and the name of this person was removed from the register.

Sale of "Graded" milk.—Under the Milk (Special Designations) Order, 1923, dealers' licences for the sale of graded milk are granted by the Council to suitable applicants. These licences are valid only for the period ending on the 31st December in the year in respect of which they are granted. During the year 4 licences were granted to persons other than producers to retail *certified milk* within the Borough.

4 licences were granted to bottle and sell *Grade A (Tuberculin Tested) Milk*.

7 licences were granted to sell *Grade A (Tuberculin Tested) Milk*.

9 licences were granted to bottle and sell *Grade A Milk*.

15 licences were granted to sell *Grade A Milk*.

1 licence was granted to sell *Pasteurised Milk*.

1 licence was granted to produce *Grade A Milk*.

The chemical and physical examination of milk.—During the year 274 samples of milk were taken for chemical analysis. Samples taken are submitted to chemical and physical examination with a number of different objects in view. The chief of these are—

The estimation of the amount of fat (cream) present.

The estimation of the amount of solids other than fat present.

The detection of the presence of added water.

The detection of the addition of colouring matter or thickening substances.

The detection of the addition of dried or condensed milk, or skimmed or separated milk.

The detection of the presence of preservatives.

The estimation of the quantity of dust or dirt, if any.

A. Fat and non-fatty solids.—The average composition of the milk samples taken during the year and submitted to chemical analysis was as follows:—

Fat	3.57%
Non-fatty solids	8.75%

The composition of each sample is indicated in Table F 1 (page 38).

The action taken with regard to samples which were found to be below standard is shown in Table F 6 (page 47).

B. *Colouring matter, etc.*—No proceedings were instituted during the year under Section 4 of the Milk and Dairies (Amendment) Act, 1922 which prohibits the addition of any colouring matter, or water, or any dried or condensed milk, or any fluid reconstituted therefrom, or any skimmed milk or separated milk, to milk intended for sale. (Proceedings were instituted in certain cases under the Sale of Food and Drugs Acts for the addition of water to milk. See Table F 6, (page 47).

C. *Sediment.*—In milk as it comes from the udder there is practically no sediment—say not more than one grain per gallon of milk. The presence of a larger quantity of sediment in milk is an indication that dust or dirt has been allowed to gain access to it. Not infrequently this adventitious dirt consists of cow manure.

All samples taken during the year which were found to contain

- (a) 6 parts by volume per 100,000; or
- (b) dung in any quantity whatever

were treated in the same manner as adulterated samples, proceedings being instituted unless special circumstances were present.

Out of 274 milk samples taken, 7 (or 2.5%) were found to contain 6 parts per 100,000 or more of sediment; and 8 (or 2.9%) showed the presence of dung.

For details of action taken, see Table F 6 (page 47).

The bacteriological examination of milk.—The bacteriological examination of milk falls into three main divisions—

(a) An examination to ascertain the degree of general organismal contamination of the milk. This is recorded in various ways—for example, by stating number of bacteria present in one cubic centimetre (roughly a quarter of a teaspoonful) of the milk.

(b) An examination to ascertain whether bacillus coli (an intestinal organism) is present, and if so, in what quantities. This is primarily useful as an indication of contamination with cow manure.

(c) An examination to ascertain whether living tubercle bacilli are present. For this animal inoculation is necessary.

General organismal content and B. coli contamination.—Examinations for the estimation of the general organismal content of milk, and for the presence of bacillus coli, were begun in the municipal laboratory in 1925, when 12 samples were dealt with. In 1926, 42 were examined; in 1927, 54; in 1928, 56; and in 1929, 85 were dealt with.

The examinations have been confined to the “graded” milks for which the following standards have been prescribed by the Ministry of Health:—

Certified milk—Must not contain more than 30,000 organisms per c.c. or any bacillus coli in 1/10 of a c.c.

Grade A (tuberculin tested) and Grade "A" milk—Must not contain more than 200,000 organisms per c.c. or any bacillus coli in 1/100 of a c.c.

Pasteurised milk—Must not contain more than 100,000 organisms per c.c.

The results of the year's investigations are set out in Table F 2, on page 40. The table should be read in conjunction with the above standards.

Contamination with B. Tuberculosis.—At the beginning of 1927 arrangements were made for the bacteriological examination in the municipal laboratory of samples of milk for the presence of living tubercle bacilli. The routine procedure followed is described above.

During the year 81 samples (all of "ordinary" milk) were examined. Of these 4 were found to contain living tubercle bacilli. This is equivalent to 4.9% of the total samples examined, a marked improvement as compared with last year when 10.7% and in 1927 when 21.0% of the milks examined in this way were found to be tuberculous.

In Table F 3 (page 43), a statement of the positive results of bacteriological examination for B. Tuberculosis is set out.

TABLE F 1.

Composition of milk samples taken during 1929.

Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat
Jan. 3	1	3.89	8.64	Feb. 24	81	3.10	8.79	Apl. 25	177	3.18	8.59
	2	2.85	8.81		82	3.02	8.51	28	178	3.38	8.14
	3	3.32	8.88		83	4.13	8.55		179	3.90	8.72
4	4	3.42	8.76		84	3.10	9.01		180	3.45	8.73
	5	3.00	8.83		85	3.42	8.77		181	3.90	9.16
	6	3.75	9.03	28	86	4.05	8.73	May 1	132	3.66	8.95
	7	3.32	8.54		87	4.55	8.85		183	2.85	8.67
	8	3.30	8.56		88	3.41	8.94	6	197	3.92	8.78
	9	4.50	8.92		89	3.40	9.06		198	3.23	8.75
7	21	2.76	8.54	Mar. 5	96	3.83	9.01		199	3.25	8.60
	22	3.95	8.53		97	4.28	9.18	8	200	3.15	8.59
	23	2.94	8.41		98	3.78	8.96		201	3.68	8.17
10	24	3.51	8.74		99	3.76	8.58		202	4.31	8.50
	25	4.13	8.67		100	6.63	7.71		203	3.50	8.96
	26	3.49	8.91		101	3.38	8.60		204	4.02	8.70
	27	3.08	8.66	7	102	3.55	9.00		205	4.08	8.50
	28	3.30	8.68		103	3.15	8.87	14	206	3.38	8.93
	29	3.02	8.94		104	4.30	8.89		207	3.45	8.71
15	30	3.59	9.06		105	5.00	8.76		208	3.30	8.75
	31	3.45	8.76		106	3.00	8.80		209	5.28	8.62
	32	3.45	8.78	12	108	4.20	8.40	17	230	2.79	8.74
	33	3.56	8.85		109	2.91	8.62		231	2.82	8.91
	34	3.50	8.90		110	3.44	8.89		232	2.91	8.91
	35	3.32	9.25		111	3.33	8.60	22	233	4.40	8.52
20	38	3.45	8.91		112	3.67	8.40		234	3.10	8.55
	39	3.20	8.91	21	113	3.06	8.67		235	3.25	8.65
	40	3.00	9.02	26	114	2.96	8.33		236	2.76	8.47
	41	3.75	8.95		115	3.86	8.84		237	2.91	8.74
	42	2.73	8.62		116	3.90	8.42	25	240	3.77	8.73
Feb. 6	58	3.80	8.74		117	2.46	8.70		241	3.06	8.73
	59	3.70	9.02		118	2.91	8.87	June 5	256	2.85	8.93
8	60	3.88	8.66		119	4.85	8.46		257	3.50	8.64
	61	3.70	8.62	27	120	3.35	8.72		258	3.12	8.93
	62	3.58	9.10	28	133	3.12	8.70		259	3.47	8.85
	63	2.85	8.56		134	2.88	8.67		260	3.28	8.97
	64	3.00	9.11		135	3.93	8.57		261	3.82	8.94
	65	3.40	8.88		136	4.00	8.82	8	262	3.00	8.91
	66	2.88	8.59	Apl. 3	137	3.72	8.69		263	3.00	8.78
12	67	3.35	8.95		138	3.08	8.85	11	264	3.79	8.53
	68	3.15	8.60		139	3.18	8.76		265	4.06	8.64
	69	3.52	8.75		140	3.90	9.12		266	2.82	8.69
	70	3.26	8.88		141	3.31	8.57		267	3.15	9.09
	71	3.25	8.85		142	3.19	8.41		268	4.00	8.72
20	72	2.73	8.94		143	3.10	8.24		269	4.10	9.44
	73	3.00	8.43	17	144	3.31	8.67	13	270	2.76	9.31
	75	3.45	8.63		145	3.12	8.61		271	2.88	9.02
	76	2.70	8.76		146	3.60	8.62	14	272	3.28	8.53
	77	4.05	9.00		147	3.52	8.64		273	3.25	8.68
23	78	3.35	8.65		148	2.73	8.74	22	307	2.79	8.69
	79	3.60	8.68		149	3.90	9.11		308	3.02	8.90
24	80	3.81	8.67	22	150	2.94	8.56		309	2.67	8.75

TABLE F 1.—CONTINUED.

Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat	Date of sample	Identification No. given in quarterly report	Percentage of fat	Percentage of solids not fat
June 23	310	2.75	8.75	Oct. 1	395	3.70	8.94	Nov. 14	499	2.55	9.34
	311	2.88	8.92		396	2.79	9.04		500	3.30	9.01
	312	2.94	8.76		397	4.22	8.84	18	501	5.22	8.02
25	313	3.02	9.02	4	399	4.33	9.55		502	4.10	8.94
	314	3.51	8.51	9	403	4.08	9.03	19	503	3.00	8.84
July 24	330	3.80	8.50		404	4.30	8.92	20	504	3.78	8.83
	331	3.26	8.82		405	4.30	9.33	21	505	4.62	9.13
	332	4.18	8.82		406	3.91	8.72		506	3.52	8.72
	333	4.06	8.62		407	3.82	8.81		507	3.90	8.74
	334	3.40	8.86		408	3.81	9.01		508	4.01	8.50
28	335	3.80	8.74	16	409	3.68	8.33		509	3.88	8.69
	336	3.38	9.01		410	3.60	8.95		510	4.00	8.95
	337	2.82	8.77		411	4.50	9.02	28	517	5.80	8.84
	338	3.03	9.23		412	3.40	9.27		518	3.35	8.42
	339	3.69	8.79		413	5.40	8.91		519	3.85	8.67
	340	3.29	8.88		414	3.79	8.95		520	3.90	8.38
31	341	3.31	8.77	23	418	3.92	8.94		521	3.40	8.99
Aug. 7	342	4.05	8.97		419	4.19	9.12		522	3.40	8.85
	343	4.76	8.42		420	3.70	8.91	Dec. 1	537	3.35	8.75
	344	3.00	8.99		421	5.82	8.95		538	3.70	8.93
	345	3.88	8.77		422	4.10	8.87		539	3.30	9.08
	346	3.72	8.71		423	3.78	8.92		540	3.62	8.77
	347	4.36	8.57	25	438	3.93	9.28		541	3.38	9.37
13	348	3.61	8.46		439	3.68	9.13		542	3.00	8.77
	349	5.27	8.73		440	4.45	9.65	4	561	4.20	8.40
	350	3.00	8.81		441	4.50	8.68		562	4.10	8.54
	351	4.02	8.82		442	3.15	8.55		563	4.00	8.37
	352	3.51	9.10		443	3.34	8.50		564	4.30	8.90
	353	3.60	8.60	31	448	3.65	9.15		565	3.40	8.80
	354	4.05	8.80		449	3.60	9.30		566	3.99	9.05
	355	3.27	9.09		450	3.70	9.18	9	567	3.60	8.29
	356	2.98	8.97		451	3.92	9.20		568	3.34	8.37
	357	4.02	8.86		452	3.86	8.82	12	569	3.39	8.33
	358	3.45	8.87		453	3.60	9.17		570	3.10	8.32
	359	3.82	8.88	Nov. 5	465	3.95	9.09	18	571	3.60	8.47
	360	3.30	8.82		466	3.60	9.12		572	4.32	8.66
Sept. 17	376	3.02	8.90	14	495	3.30	8.92		573	3.85	8.83
	377	3.98	9.23		496	2.91	8.54		574	3.81	8.89
Oct. 1	392	3.28	9.01		497	3.85	8.93		575	3.70	8.80
	393	3.28	9.02		498	2.88	8.60		576	3.10	8.48
	394	3.10	8.77								

Average percentage Fat, 3.57 ... Solids (not fat), 8.75

TABLE F 2.
Bacteriological examinations of graded milk.

Con- sec. No.	Lab. No.	Grade	Tempera- ture on arrival at labora- tory	Age of sample —hours	Number of colonies on plate				Number of bacteria per c.c.	Presence of bacillus coli in tubes								
					1/10 c.c. 1/100 c.c.			Control		48 hours			3 days					
					1/10 c.c.	1/100 c.c.	1			2	3	1 c.c.	Control	1	2	3	1 c.c.	Control
1	178	" Pasteurised "	42°	—	*O.G.	273	3	0	27,300	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
2	179	" A " (T.T.)	47°	5	154	19	1	0	1,500	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
3	180	" A "	50°	4	3420	103	8	0	34,200	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
4	181	" A " (T.T.)	49°	27½	128	13	2	0	1,280	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
5	182	" A " (T.T.)	44°	5	164	17	1	0	1,640	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
6	183	" A " (T.T.)	42°	6	68	2	0	1	680	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
7	184	" A "	41°	5	346	45	3	1	3,460	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
8	185	" A "	44°	17	392	26	2	0	3,920	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
9	186	" A "	47°	5	408	49	0	1	4,080	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
10	187	" Certified "	47°	6	588	64	0	1	5,880	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
11	188	" Certified "	46°	6	604	39	0	1	6,040	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
12	189	" A " (T.T.)	—	17	131	21	0	1	1,310	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
13	190	" A "	41°	5	450	48	7	0	4,500	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
14	191	" A "	43°	5	1045	143	11	0	14,300	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
15	192	" A "	42°	16½	540	31	4	2	5,400	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
16	193	" A "	44°	5	540	50	11	0	5,400	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
17	194	" A "	48°	—	265	28	1	0	2,650	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
18	195	" A " (T.T.)	55°	4½	574	65	4	3	5,740	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
19	196	" Certified "	52°	5	305	36	8	16	3,050	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
20	197	" Certified "	64°	29	259	31	6	14	2,590	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
21	198	" A "	57°	6	149	13	1	2	1,490	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
22	199	" A "	53°	6	121	7	2	2	1,210	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
23	200	" A " (T.T.)	56°	6	216	34	4	0	2,160	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
24	201	" A " (T.T.)	55°	29	152	24	2	4	1,520	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.
25	202	" Certified "	52°	29	330	18	4	1	3,300	nil	nil	nil	found	satisfy.	nil	nil	found	satisfy.
26	203	" Certified "	54°	5	3895	228	16	3	22,800	nil	found	found	found	satisfy.	nil	found	found	satisfy.
27	204	" A "	48°	5	105	5	0	0	1,050	nil	nil	nil	nil	satisfy.	nil	nil	nil	satisfy.

TABLE F 2.—CONTINUED.

Con- sec. No.	Lab. No.	Grade	Tempera- ture on arrival at labora- tory	Age of sample —hours	Number of colonies on plate				Number of bacteria per c.c.				Presence of bacillus coli in tubes					
					1/10 c.c.			Control	48 hours			Control	3 days			Control	1 c.c.	Control
					1/10 c.c.	1/100 c.c.	1/1000 c.c.		1	2	3	1 c.c.	1	2	3	1 c.c.	1 c.c.	Control
61	238	"Certified"	63°	5	191	14	14	1	1	1,910	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
62	239	"A"	63°	28	*O.G.	1615	143	6	6	143,000	found	satisfy	found	found	found	found	satisfy	satisfy
63	240	"Certified"	64°	29	238	38	4	1	1	2,380	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
64	241	"Certified"	67°	5	19000	382	25	3	3	38,200	found	satisfy	found	found	found	found	satisfy	satisfy
65	242	"A" (T.T.)	56°	28	1520	136	5	4	4	13,600	nil	satisfy	found	nil	nil	found	satisfy	satisfy
66	243	"A"	61°	5	365	26	1	1	1	3,650	nil	satisfy	found	nil	nil	found	satisfy	satisfy
67	244	"A"	64°	4	331	37	5	1	1	3,310	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
68	245	"A" (T.T.)	63°	4	239	24	15	0	0	2,390	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
69	246	"A"	58°	6	648	81	9	4	4	6,480	found	satisfy	nil	found	nil	found	satisfy	satisfy
70	247	"A"	59°	5	604	53	4	2	2	6,040	nil	satisfy	nil	nil	nil	found	satisfy	satisfy
71	248	"Certified"	59°	5	292	159	—	15	15	2,920	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
72	249	"A"	52°	18	180	13	13	0	0	1,800	nil	satisfy	found	nil	nil	found	satisfy	satisfy
73	250	"A"	55°	5	236	29	11	3	3	2,360	nil	satisfy	found	nil	nil	found	satisfy	satisfy
74	251	"A"	48°	28	1330	106	10	0	0	10,600	nil	satisfy	found	nil	nil	found	satisfy	satisfy
75	252	"A"	55°	4	154	17	3	4	4	1,540	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
76	253	"Certified"	58°	5	306	29	14	1	1	3,060	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
77	254	"Certified"	54°	17	412	29	6	2	2	4,120	nil	satisfy	found	nil	nil	found	satisfy	satisfy
78	255	"Certified"	52°	5	326	32	3	4	4	3,260	nil	satisfy	found	nil	nil	found	satisfy	satisfy
79	256	"A" (T.T.)	44°	29	43	5	0	0	0	430	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
80	257	"A"	47°	5	103	9	4	4	4	1,030	nil	satisfy	found	nil	nil	found	satisfy	satisfy
81	258	"A"	54°	5	261	28	5	0	0	2,610	nil	satisfy	found	found	nil	found	satisfy	satisfy
82	259	"A"	53°	5	432	35	0	2	2	4,320	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
83	260	"A" (T.T.)	52°	5	90	12	5	4	4	900	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
84	261	"A"	53°	29	668	89	9	1	1	6,680	found	satisfy	found	nil	found	found	satisfy	satisfy
85	262	"A" (T.T.)	45°	6	25	3	2	0	0	250	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
86	263	"A"	47°	6	312	27	4	2	2	3,120	nil	satisfy	nil	nil	nil	nil	satisfy	satisfy
87	264	"A"	50°	4	*O.G.	138	18	1	1	13,800	nil	satisfy	found	nil	found	found	satisfy	satisfy
88	265	"A"	57°	5	*O.G.	150	23	2	2	15,000	nil	satisfy	found	nil	nil	found	satisfy	satisfy

*O.G.—overgrown.

TABLE F 3.
Bacteriological examinations of milk for tubercle bacilli.

Consec. No.	Lab. No.	Acid fast bacilli in smears	Cow injected	Result	Pathological findings	Remarks
6	125	Not found	P 241 P 247	Killed Killed	Definite tuberculosis Definite tuberculosis	Not definitely traced. One cow sent to butchers after sample was taken, and its history points to tuberculosis.
41	160	Not found	P 259 P 300	Died Killed	Septic pericarditis Definite tuberculosis	One cow found tubercular and dealt with under the Tuberculosis Order, 1925
45	164	Not found	P 275 P 310	Killed Killed	Definite tuberculosis Definite tuberculosis	One cow found tubercular and dealt with under the Tuberculosis Order, 1925
48	167	Not found	P 265 P 313	Killed Killed	Definite tuberculosis Definite tuberculosis	Two cows sold after sample was taken. Not traced.

OTHER FOODS.

Abattoirs in Birkenhead.—Particulars regarding these—the abattoir within the Woodside Lairages and the Corporation abattoir at Tranmere—were given in my annual report for 1920.

Food inspection.—The Veterinary Officer reports that during the year there were killed 67,623 oxen, 1,532 calves, 4,300 pigs, 10,208 sheep and lambs; as set out in Table F 4.

TABLE F 4.

Animals dealt with during 1929.

	Oxen	Calves	Pigs	Sheep & Lambs	Goats	Total
No. of animals remaining over in lairages from 1928 (slaughtered in 1929).....	255	—	—	—	—	255
No. of animals landed from vessels at Birkenhead during the year 1929—						
(a) From Isle of Man	266	—	416	789	—	1471
(b) From Ireland	237630	—	48882	325041	183	611736
(c) From other places abroad	693	—	—	—	—	693
Total.....	238844	—	49298	325830	183	614155
The above animals were dealt with as follows—						
A—Slaughtered in Birkenhead—						
(1) At Woodside lairages	67263	—	52	42	—	67357
(2) At nos. 4 and 5 sheds	—	—	10	227	—	237
(3) At "Wallasey Stage," B'head ...	108	—	42	143	—	293
B—(1) Removed alive from the district	171010	—	49184	325223	183	545600
(2) Not slaughtered by end of 1929 (still in lairages)	463	—	10	195	—	668
Total	238844	—	49298	325830	183	614155
No. of animals slaughtered in Birkenhead not included in the above statement—						
At Municipal Abattoir... ..	252	1532	4196	9796	—	15776
Total animals slaughtered in Birkenhead.....	67623	1532	4300	10208	—	83663

The total number of carcasses seized was:—

At Woodside	207	weighing	115,283 lbs.
At "Wallasey Stage," B'head	122	„	24,909 lbs.
At nos. 4 & 5 Sheds	10	„	363 lbs.
At Tranmere Abattoir	62	„	8,532 lbs.
At shops	14	„	593 lbs.
At other premises	1	„	100 lbs.
Total	416	„	149,780 lbs.

177 of the above carcasses were seized on account of tuberculosis; their aggregate weight being 89,208 lbs. The remainder was seized on account of transit injuries, dropsy, sepsis, etc.

The number of parts of carcasses seized was:—

At Woodside	263	weighing	18,409 lbs.
At "Wallasey Stage," B'head	11	"	307 lbs.
At Tranmere Abattoir	169	"	2,100 lbs.
At nos. 4 & 5 Sheds	4	"	41 lbs.
At shops	43	"	776 lbs.
At other premises	1	"	15 lbs.
<hr/>			
Total	491	"	21,648 lbs.
			<hr/>

Of the above, 381 were seized on account of tuberculosis; the aggregate weight being 17,669 lbs. 31 heads and 56 tongues weighing 620 lbs., were seized on account of actinomycosis and actinobacillosis.

The total weight of offal seized was 334,576 lbs.

Other articles of food.—The total weight of articles of food seized at various premises in the Borough was 458 lbs.

Examination of dairy cows in Borough.—The Veterinary Officer visited 36 farms in the Borough during the year. The total number of cows examined was 588. The number of tuberculous cattle dealt with under the Tuberculosis Order of 1925 was 10.

Samples taken under Food and Drugs Acts.—During the year 576 samples were taken. Of these 278 were formal and 298 informal. 274 were samples of milk, already referred to on page 35.

The articles sampled are set out in the following table:—

TABLE F 5.
Samples taken during 1929.

Article	No. samples taken formally	No. samples taken informally	Article	No. samples taken formally	No. samples taken informally
Milk	274	—	Eucalyptus oil.....	...	2
Condensed milk.....	...	6	Olive oil	1	8
Cream	2	Camphorated oil.....	...	3
Tinned cream	2	Castor oil .....	...	6
Butter	30	Cream of tartar .....	...	3
Margarine	14	Glauber salts .....	...	4
Cheshire cheese	1	9	Epsom salts.....	...	10
Lard	1	21	Seidlitz powder .....	...	6
Beef dripping	1	5	Boracic powder .....	...	1
Sausage	13	Boracic ointment ..	...	8
Minced beef.....	...	3	Sulphur ointment ..	...	3
Potted shrimps	1	Zinc ointment .....	...	6
Fish paste	1	Glycerine .....	...	12
Canned fish	1	Tincture of iodine ..	...	8
Self-raising flour.....	...	9	Borax .....	...	2
Rice	1	Blood tonic .....	...	2
Tapioca.....	...	1	Cod liver oil & malt ..	...	2
Tea	5	Ice cream .....	...	2
Cocoa	6	Egg powder.....	...	1
Coffee	11	Arrowroot .....	...	3
Sugar	4	Flour .....	...	1
Honey	6	Friars balsam.....	...	1
Golden syrup	2	Ammo. tinc. of quinine	...	4
Sweets	5	Liquorice powder .....	...	1
Jam	7	Saffron .....	...	1
Fruit cordial	1	Cinnamon .....	...	1
Minced meat	2	Mace.....	...	1
Canned fruit & vegetables	...	4	Cornflour .....	...	1
Herb beer.....	...	1	Pickling spice .....	...	1
Pepper	3	Syrup of violets .....	...	1
Mustard	1	Vaseline .....	...	1
Malt vinegar	2	Ground ginger.....	...	1
Sauce	1	Vinegar of squills .....	...	1
Pickles	1	Lemon cheese .....	...	1
Almond oil	7	Baking powder .....	...	1

Samples analysed formally 278
 Samples analysed informally 298

Total samples analysed during the year 576

Of the total number of samples analysed

50 samples of milk
 1 sample of beef dripping
 2 samples of lard
 1 sample of Cheshire cheese
 1 sample of tincture of iodine
 4 samples of olive oil

were reported adulterated, and proceedings were taken in respect of:—

23 samples of milk
 1 sample of lard
 1 sample of tincture of iodine

With reference to the remaining samples reported adulterated it was decided, after consideration of the circumstances, that it was inadvisable to institute proceedings.

Informal samples.—Suitable action was taken regarding each of the 5 informal samples reported adulterated.

Particulars of the defects found in those samples with regard to which proceedings were taken, and the result of the proceedings, are set out in Table F 6.

The composition of each sample of milk analysed during the year will be found in Table F 1.

TABLE F 6.

Samples with reference to which proceedings were taken.

Nature of adulteration and result of proceedings.

Date	Article	No. of sample	Adulteration	Fine inflicted
Jan. 3	Milk	2	5% deficient in fat	Withdrawn
7	Milk	21	8% deficient in fat	Dismissed
20	Milk	42	9% deficient in fat	£4 and 10/6 costs
Feb. 8	Milk	63	5% deficient in fat	10/- and 10/- costs
12	Milk	71	Sediment 14 pts. per 100,000, dung present	£3 & £1/11/6 costs
20	Milk	72	9% deficient in fat, and sediment 5 pts. per 100,000, dung present	£2 & £1/11/6 costs
	Milk	76	10% deficient in fat	£1 and 10/6 costs
Mar. 26	Milk	117	18% deficient in fat	Dismissed
28	Milk	134	4% deficient in fat	Dismissed
Apr. 3	Milk	143	3% added water	Dismissed
17	Milk	148	9% deficient in fat	Dismissed
May 1	Milk	183	5% deficient in fat	Dismissed
4	Lard	196	Mixture of oils and fats	£1 & £1/11/6 costs
8	Milk	201	4% added water	£4 and 10/6 costs
17	Milk	230	7% deficient in fat	Withdrawn
	Milk	231	6% deficient in fat	Withdrawn
26	Milk	236	8% deficient in fat	Dismissed
June 11	Milk	266	6% deficient in fat	Dismissed
13	Milk	270	8% deficient in fat	£1/10/-
July 2	Tinc of iodine	329	48% short of iodine and 40% short of potassium iodide	£1 and 10/6 costs
28	Milk	337	6% deficient in fat	£1 and 10/6 costs
Oct. 1	Milk	396	7% deficient in fat	£2 10/- & 10/6 costs
Nov. 14	Milk	499	15% deficient in fat and sediment 6 pts. per 100,000, dung present	£1 and 10/6 costs
Dec. 12	Milk	569	2% added water and sediment 12 pts. per 100,000, dung present	£1 & £1/4/6 costs
	Milk	570	2% added water and sediment 10 pts. per 100,000, dung present	£1 and 10/6 costs

It will be noticed from the foregoing table that proceedings have been instituted in 5 instances for the presence of dirt in milk.

In 3 cases the vendors of dirty milk were warned that proceedings would be instituted if some improvement was not effected with regard to the dirt content of the milk.

TUBERCULOSIS.

ADMINISTRATIVE ARRANGEMENTS.

The arrangements made by the Birkenhead Corporation for dealing with tuberculosis in the area include

(a) The provision of a dispensary or clinic, opened in 1913. (This clinic is used on one half-day each week in connection with cases from the area of the administrative county of Chester.)

(b) The provision of garden shelters for suitable cases at a small rent.

(c) The retention since August, 1914, of twelve beds at Leasowe Hospital for cases of surgical tuberculosis in children.

(d) A joint arrangement with the Cheshire County Council, and the Councils of the County Boroughs of Wallasey, Chester, Stockport, and Stoke-on-Trent, for the provision of a sanatorium at Burntwood.

(e) The provision of a residential institution at Thingwall, Birkenhead.

Staff.—The medical and health visiting staff for tuberculosis at the end of 1929 was as set out in the annual report for 1921. The clinical work at Thingwall Sanatorium and at the Tuberculosis clinic has been carried out by Dr. Mason Leete and Dr. Foster.

The Corkhill Fund.—Under the will of the late Mr. John Lloyd Corkhill, of Oxtun, a sum of money was provided for the assistance of persons suffering from consumption. By arrangement with the trustees, persons applying for help from the charity are passed through the municipal clinic for classification; and the trustees have been largely guided by the recommendations of the medical staff of the clinic.

PREVALENCE OF, AND MORTALITY FROM, TUBERCULOSIS.

Notifications.—The total number of primary cases of tuberculosis notified during 1929 was 285—219 respiratory and 66 non-respiratory. An analysis of these cases with reference to age and sex will be found in Table T 1 (page 54).

Mortality.—The total number of deaths, certified as due to tuberculosis, of patients who had previously been notified as suffering from the disease was 169—145 respiratory and 24 non-respiratory.

The total number of deaths, certified as due to tuberculosis, of patients who had *not* previously been notified as suffering from tuberculosis was 34—19 respiratory and 15 non-respiratory.

Adding these together, the total number of deaths certified as due to tuberculosis was as follows:—

Respiratory	164
Non-respiratory	39
	<hr/> 203 <hr/>

An analysis of the tuberculosis mortality for the past fourteen years will be found in Table T 2 (page 55).

An analysis of the tuberculosis mortality during 1929 with reference to age and sex will be found in Table T 3 (page 55).

Number of known cases.—After making deductions for patients who had died during the year, or who had permanently left the district, or whose names have been taken off the register as provisionally cured, the total number of known cases of tuberculosis in Birkenhead at the end of 1929 was as follows:—

	Insured persons		Dependents of insured persons	Neither insured persons nor dependents	Total
	Ex-service men	Others			
Respiratory Male ...	32	528	147	32	739
Female ...	—	242	110	390	742
Non-respiratory Male	4	56	311	—	371
Female ...	—	70	285	39	394
Total... Male ...	36	584	458	32	1110
Female ...	—	312	395	429	1136
Total	36	896	853	461	2246

A revision of the cases of tuberculosis on the register is carried out each year, with a view to seeing that, so far as is practicable, only the names of patients still suffering from tuberculosis, and resident in Birkenhead, are kept on the roll. In connection with the revision the following procedure is observed:—

(1) *Non-respiratory tuberculosis.* Cases of non-respiratory or surgical tuberculosis are struck off the register as cured when complete arrest of the disease has been maintained for three years.

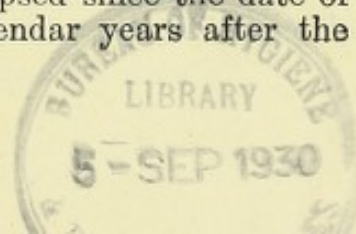
(2) *Respiratory tuberculosis.*

(a) *Patients who have probably been wrongly notified as tuberculous.*

If the conclusion is come to that a notified case is not, and probably never was, one of active tuberculosis, the name is crossed off the register at the time of the annual revision after obtaining, if possible, the assent of the notifying practitioner.

(b) *Patients diagnosed on good evidence as suffering from respiratory tuberculosis, who at a later stage appear to have been cured.*

Such cases are not removed from the register until at least five complete calendar years have elapsed since the date of notification, and three complete calendar years after the disappearance of all symptoms.



Of the 164 patients who died from respiratory tuberculosis during 1929 those who had been notified

over four years numbered ...	11 (6.7% of total)
under " " " ...	6 (3.7% ")
" three years " ...	14 (8.6% ")
" two years " ...	24 (14.6% ")
" one year " ...	22 (13.3% ")
" six months " ...	16 (9.8% ")
" three months " ...	20 (12.2% ")
" one month " ...	12 (7.3% ")
one week " ...	20 (12.2% ")
and those who had not been notified numbered	19 (11.6% ")

Thus only 56.7 of these cases were notified to this department three months or more before death.

Of the 39 patients who died from non-respiratory tuberculosis during 1929 those who had been notified

over three years numbered...	1 (2.6% of total)
under three years " ...	— (—)
" one year " ...	2 (5.1% ")
" six months " ...	2 (5.1% ")
" one month " ...	8 (20.5% ")
" one week " ...	11 (28.2% ")
and those who had not been notified numbered	15 (38.5% ")

14 persons previously notified as suffering from tuberculosis died from other causes. These deaths were certified as being due to:—

Cancer	5
Broncho-pneumonia	4
Bronchitis	3
Gastro-enteritis	1
Accidental death	1

The medical practitioners who failed to notify cases were communicated with, and satisfactory explanations were received in all cases.

CASES DEALT WITH THROUGH THE TUBERCULOSIS CLINIC.

Attendances of patients at the clinic.—During the year 1,961 examinations were made. Of these 755 were *first* examinations (*i.e.*, examinations of patients who had not been seen previously at the clinic).* In addition to attendances made for the purpose of medical examination, 983 other attendances were made by patients for weighing, interview, advice or certification, and by patients' relatives in connection with questions arising as to treatment, removal, home conditions, etc.

Examination of patients who were notified for the first time during 1929.—Of the 285 new patients notified in 1929, 168 were examined at the clinic during the year. The remaining 117 were not referred to, did not attend at, or were previously examined at, the clinic.

Classification of new cases.—The 755 new patients who attended during the year were classified as follows:—

* This number includes contacts,

		*Adults	Children	Total
Classed as suffering from respiratory tuberculosis	{ Males ...	58	2	60
	{ Females ...	59	1	60
Classed as suffering from other forms tuberculosis	{ Males ...	5	26	31
	{ Females ...	8	19	27
Classed as non-tuberculous	{ Males ...	71	173	244
	{ Females ...	69	160	229
Classed as "suspect"	{ Males ...	29	16	45
	{ Females ...	44	15	59
Total... { Males		163	217	380
{ Females		180	195	375
Total		343	412	755

* All patients of fifteen years and upwards are classed as adults.

Pensions cases.—Included in the 755 new cases were 2 patients examined for pensions purposes, with the following results:—

Found to be suffering from tuberculosis 1

Found to be free from active tuberculosis 1

In addition to the above, 18 re-examinations were made for pensions purposes.

During the year the following reports were made in connection with the examination at the tuberculosis clinic (or at their own homes) of ex-servicemen:—

War Pensions Committee.	M.P.M.S. D. 81 A	36 T.O.	M.P.M.S. D. 122	Total
Birkenhead	—	1	—	1
Liverpool	2	—	4	6
Total	2	1	4	7

Examination of contacts.—222 persons who had been in close contact with known cases of tuberculosis were examined either at the clinic or at their homes, and were classified as follows:—

		*Adults	Children	Total
Classed as suffering from respiratory tuberculosis	{ Males ...	—	—	—
	{ Females ...	—	—	—
Classed as suffering from other forms of tuberculosis	{ Males ...	—	3	3
	{ Females ...	—	—	—
Classed as non-tuberculous.....	{ Males ...	9	98	107
	{ Females ...	17	93	110
Classed as "suspect"	{ Males ..	—	—	—
	{ Females ...	1	1	2
Total... { Males ...		9	101	110
{ Females ...		18	94	112
Total.....		27	195	222

* All patients of fifteen years and upwards are classed as adults.

HOME VISITING; DISINFECTION; COMPULSORY TREATMENT; ETC.

During the year the health nurses paid 310 first visits and 3,045 re-visits to the homes of patients.

The number of houses disinfected after death or removal of patients was 152.

Spitting flasks were provided free of charge to 17 patients.

The compulsory removal to hospital for a period not exceeding 3 months of a person suffering from pulmonary tuberculosis in an infectious state and whose condition is a danger to other members of the house is provided for by the Public Health Act, 1925 (Sec. 62).

No action was taken in Birkenhead under this Section during the year.

The power to prevent a person suffering from tuberculosis of the respiratory tract from entering upon any employment or occupation in connection with a dairy which would involve the milking of cows, the treatment of milk, or the handling of vessels used for containing milk, is given to a Local Authority under the Public Health (Prevention of Tuberculosis) Regulations, 1925.

No action was taken under these Regulations in Birkenhead during the year.

THINGWALL SANATORIUM.

Patients dealt with.—At the commencement of the year there were 31 patients in the Sanatorium. There were 35 admissions during the year. These were classified as follows :—

Tuberculosis of bones and joints	10
„ abdominal glands or peritoneum	10
„ cervical and other glands.....	9
„ lungs (all non-infectious cases)	2
For observation and diagnosis	4

33 patients were discharged or transferred to other institutions; no deaths occurred. The condition on discharge may be summarised as follows :—

Disease arrested	1
Disease quiescent	18
Much improved	5
Improved	2
No material improvement.....	3
Found after observation not to be suffering from tuberculosis	4

There were 33 patients under treatment at the end of the year.

Treatment.—There were no modifications in the treatment adopted at the sanatorium; prolonged rest and, where possible, immobilisation on the part of the body affected with the disease; good food, fresh air and, in most cases, judicious exposure to both natural and artificial sunlight, are the main curative agents employed.

The patients benefited greatly by the exceptionally fine weather during the year. During the late spring, summer and autumn, the weather was such that the children were able to dispense during the daytime with all their clothing with the exception of shorts and shoes, and several were tanned to a mahogany colour.

It was again evidenced that natural sunlight is immeasurably superior to any artificial light treatment.

Average duration of stay.—For the patients discharged during the year the average length of stay in the sanatorium was 44 weeks.

Garden.—The garden again yielded a good crop, a special feature being the onions and marrows, and reflects great credit on the gardeners and outside staff.

CHESHIRE JOINT SANATORIUM.

The Cheshire Joint Sanatorium was opened on the 6th November, 1923, for 50% of the approved bed accommodation.

The approved accommodation for Birkenhead cases (32 beds) is now available.

Patients dealt with.—At the beginning of the year 29 Birkenhead patients were under treatment. During the year 50 Birkenhead patients were admitted, 47 were discharged, and 1 died. 31 patients remained under treatment at the end of the year.

	Men	Women	Children (under 15)	Total
In Sanatorium January 1, 1929	15	14	—	29
Admitted during year	27	23	—	50
Discharged or left Sanatorium during year	26	21	—	47
Died in Sanatorium	1	—	—	1
In Sanatorium December 31, 1929 ..	15	16	—	31

LEASOWE HOSPITAL.

The twelve beds reserved by the Corporation at Leasowe Hospital for cases of *surgical tuberculosis* among Birkenhead residents have been in occupation throughout the year.

There were 11 cases in hospital at the beginning of the year; 9 new cases have been admitted during the year, and 8 have been discharged or died; leaving 12 patients in hospital at the end of December.

The localisation of the disease in the 20 patients under treatment during the year was as follows:—

Tuberculosis of spine	9
" hip	4
" knee	4
" bones	1
" ankle	1
" peritoneum	1
	<hr/>
	20

The 8 cases discharged or died were as follows:—

Tuberculosis of spine	2 improved ; 1 died
„ hip	2 arrested
„ knee	2 improved
„ peritoneum	1 quiescent
	<hr/> 8

TABLE T 1.

New cases notified for first time during the year.

PRIMARY NOTIFICATIONS												
Age periods.....	0-1	1-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65 and up	Total
Respiratory—Males	—	2	6	1	9	10	26	26	28	14	4	126
Females	1	—	1	3	19	20	22	11	12	4	—	93
Non-respiratory—Males.....	2	11	9	1	2	2	1	—	—	2	1	31
Females	—	11	11	5	5	1	—	2	—	—	—	35
Totals.....	3	24	27	10	35	33	49	39	40	20	5	285

TABLE T 2.

Deaths from tuberculosis during the past fourteen years.

Year	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Deaths from tuberculosis of the lungs—														
Number	177	172	167	146	116	154	141	109	136	123	122	155	150	164
Rate per 1000	1.24	1.18	1.13	0.97	0.76	1.04	0.94	0.72	0.88	0.79	0.77	0.98	0.95	1.04
A Males—														
Number	104	89	97	73	55	68	77	67	75	61	68	97	82	93
Rate	0.72	0.61	0.65	0.48	0.36	0.46	0.51	0.44	0.48	0.39	0.43	0.61	0.52	0.58
B Females—														
Number	73	83	70	73	61	86	64	42	61	62	54	58	68	71
Rate	0.51	0.57	0.47	0.48	0.40	0.58	0.42	0.28	0.40	0.39	0.34	0.37	0.43	0.46
Deaths from other forms of tuberculosis—														
Number	61	69	66	38	56	40	50	43	51	35	39	45	43	39
Rate per 1000	0.42	0.46	0.44	0.25	0.36	0.27	0.32	0.28	0.33	0.22	0.24	0.28	0.27	0.24
A Males (all ages)														
Number	36	36	40	24	36	21	25	21	25	17	18	28	28	18
Rate	0.25	0.24	0.27	0.16	0.23	0.14	0.16	0.14	0.16	0.10	0.11	0.18	0.18	0.11
B Females (all ages)														
Number	25	33	26	14	20	19	25	22	26	18	21	17	15	21
Rate	0.17	0.22	0.17	0.09	0.13	0.13	0.16	0.14	0.17	0.11	0.13	0.10	0.09	0.13
C Children (un. 5 yrs)														
Number	44	44	36	22	26	17	21	20	26	22	24	22	21	19
Rate	0.30	0.30	0.24	0.14	0.17	0.11	0.15	0.13	0.17	0.13	0.15	0.13	0.13	0.12
Deaths from tuberculosis (all forms) —														
Number	238	241	233	184	172	194	191	152	187	158	161	200	193	203
Rate per 1000	1.66	1.66	1.58	1.23	1.13	1.31	1.28	1.00	1.21	1.15	1.02	1.26	1.22	1.29
Rate per 1000 England & Wales	1.62	1.80	1.92	1.26	1.13	1.12	1.12	1.00	1.06	1.03	0.96	0.97	0.93	0.96

TABLE T 3.

New cases and mortality during 1929.

Ages	*NEW CASES				DEATHS			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0.....	—	1	4	1	—	—	2	1
1	2	—	14	11	—	1	8	8
5.....	6	2	9	13	2	—	—	3
10.....	2	3	2	6	3	5	1	2
15.....	10	20	2	5	4	10	2	1
20.....	12	20	3	1	8	10	2	—
25.....	28	23	1	1	17	18	2	2
35.....	27	11	—	3	22	11	—	2
45.....	31	14	—	—	24	12	—	1
55.....	15	6	3	1	9	3	1	1
65 and upwards.....	5	—	1	—	4	1	—	—
Totals.....	138	100	39	42	93	71	18	21

* Includes all primary notifications and also all other new cases of tuberculosis which came to the knowledge of the Medical Officer of Health during the year.

VENEREAL DISEASES.

ADMINISTRATIVE ARRANGEMENTS.

The diagnosis and treatment of cases of venereal disease have been carried on at the municipal clinic at the Birkenhead General Hospital for the past twelve years. Since 1923 the arrangements have been as set out in the agreement of that year.

At this clinic during the past year Dr. Foster, assisted by Dr. Woodeson, has dealt with male patients, and Dr. Deacon, assisted by Dr. Williams, with female patients.

The total number of attendances at the clinic this year showed a decrease of 2,500—the falling off being most manifest in the late spring and summer during the period of fine weather.

Of the 484 new cases, 296 were residents of Birkenhead, 27 were from Cheshire County, 7 from Wallasey, and 109 from India and Burma.

At the special clinic for children, which was opened at No. 9, Hamilton Square in 1926, Dr. Deacon has been in attendance during the year.

GENERAL NOTES.

Cases dealt with.—(a) General Hospital clinic. During the year 1,398 persons, comprising 942 males and 456 females, were dealt with at the clinic as out-patients. This is an increase of 115 over the figure for 1928.

The total attendances of out-patients was 10,268; the number of in-patient days was 266.

New patients numbered 372 males and 112 females; of these 188 were non-residents of Birkenhead. As is usual in seaports, sailors of many nationalities were treated at the clinic. Natives of Norway, Germany, Greece, China, India and Burma attended during the year.

(b) Hamilton Square clinic.—During the year 135 children (59 males and 76 females) were dealt with at the clinic as out-patients, the total attendances made being 1,155.

The new cases seen numbered 57, and were diagnosed as follows—

Syphilis (congenital in all cases).....	25
Gonorrhœa	4
No venereal disease	28

Methods of treatment.—No new methods of treatment were employed, except that a trial was given to arseno-argentum, a new arseno-benzene compound.

Bacteriological work.—(a) At the clinics 287 smears were examined for the presence of gonococci, 15 specimens were examined for the presence of spirochætes, and 5 were examined for other organisms.

(b) At the University of Liverpool, Professor Beattie examined 1,131 specimens, 566 of these being sent from the municipal clinic at the Birkenhead General Hospital, 95 from the Hamilton Square clinic, and 470 from private medical practitioners and hospitals in the area. Of the specimens sent, 1,127 were for the Wassermann reaction and 4 were for the detection of gonococci.

Treatment of Birkenhead patients carried out at other treatment centres.—So far as has been ascertained from official returns which have been received from other areas, Birkenhead patients attended other treatment centres as shown in Table V 3.

Issue of arsenobenzene compounds.—Arsenobenzene compounds were issued during the year by the Medical Officer of Health

to the Medical Officers of the treatment centres at the General
Hospital and at No. 9, Hamilton Square
to the Medical Officer, Birkenhead Union Infirmary
to four approved local practitioners

TABLE V I.

Statement showing the services rendered at the Venereal Diseases Clinic at the Birkenhead General Hospital during the year, classified according to the diseases dealt with.

	Syphilis		Soft chancre		Gonorrhœa		Conditions other than venereal		Total	
	M.	F.	M.	F.	M.	F.	M	F	M.	F.
1. Number of cases which—										
(a) at the beginning of the year under report were under treatment or observation for.....	296	254	11	—	259	83	—	—	566	337
(b) had been marked off in a previous year as having ceased to attend or as transferred to other centres, and which returned to the treatment centre during the year under report suffering from the same infection ..	3	6	—	—	1	1	—	—	4	7
Total—Items 1 (a) and 1 (b) ...	299	260	11	—	260	84	—	—	570	344
2 (a) Number of cases { 1. less than one year's standing... dealt with at the treatment centre during the year for the first time with infections of..... 2. more than one year's standing...	39	4	16	—	145	12	115	29	200	16
	41	51	—	—	16	16			115	29	57	67
Total—Items 1 (a), 1 (b) and 2 (a)	379	315	27	—	421	112	115	29	942	456
2 (b) Number of cases included in item 2 (a) known to have received previous treatment at other centres for the same infection	12	—	2	—	11	—	—	—	25	—
3. Number of persons who ceased to attend the out-patient clinic										
(a) before completing the first course of treatment for.....	1	19	1	—	13	3	—	—	15	22
(b) after one or more courses, but before completion of treatment for	4	27	—	—	—	—	—	—	4	27
(c) after completion of treatment, but before final tests as to cure, of	—	9	—	—	32	—	—	—	32	9
4. Number of persons transferred to other treatment centres after treatment for	36	—	5	—	34	1	—	—	75	1
5. Number of persons discharged from the out-patient clinic after completion of treatment & observation for	1	—	7	—	23	2	—	—	31	2
6. Number of persons who, on the 1st January, 1930, were under treatment or observation for	337	260	14	—	319	106	—	—	670	366
Total—Items 3, 4, 5 and 6	739	315	27	—	421	112	—	—	827	427
7. Out-patient attendances—										
(a) For individual attention by the Medical Officer	1295	1523	90	—	1657	530	314	62	3356	2115
(b) For intermediate treatment—e.g., irrigations, dressings, &c. ..	15	6	147	—	4241	380	6	2	4409	388
Total attendances ..	1310	1529	237	—	5898	910	320	64	7765	2503
8. Aggregate number of "in-patient days" of treatment given to persons who were suffering from	25	89	33	—	82	30	1	—	147	119
9. Examinations of pathological material—					For detection of				For	
					Spirochaetes		Other organisms		Wassermann reaction	
(a) Specimens which were examined at, and by the medical officer of, the treatment centre.....					15		287		5	
(b) Specimens from persons attending at the treatment centre, which were sent for examination to an approved laboratory					—		—		566	

TABLE V 2.

Statement showing the services rendered at the Venereal Diseases Clinic at the Birkenhead General Hospital during the year, classified according to the areas in which the patients resided.

	Birkenhead	Cheshire	Wallasey	Liverpool	St. Helens	Blackpool	Wrexham	Greenock	Ireland	Sheerness	Glamorgan	Glasgow	Flintshire	Anglesey	Ayrshire	Barrow-in-Fur.	Hull	Isle-of-Man	Newcastle-on-T	Invernesshire	India	Burma	Germany	Norway	Ceylon	China	Greece	Total
A. Number of persons from each area dealt with during the year, at or in connection with the out-patient clinic for the first time, and found to be suffering from—																												
Syphilis	89	1	-	-	-	1	1	-	-	-	1	1	-	-	-	-	-	1	-	-	23	13	1	-	-	-	3	135
Soft chancre	7	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	4	-	-	-	-	-	16
Gonorrhoea	114	15	4	3	1	-	-	1	3	-	2	1	1	1	1	-	2	-	-	-	1	24	12	-	-	1	2	189
Conditions other than venereal...	86	9	3	2	-	-	-	-	1	1	1	1	-	1	-	1	-	-	2	-	28	3	-	1	1	3	144	
Total	296	27	7	5	1	1	1	1	5	1	4	3	1	2	1	1	2	1	2	1	77	32	1	1	1	1	8	484
B. Total number of attendances at the out-patient clinic of all patients residing in each area	8953	472	122	129	4	1	2	8	44	1	51	8	10	6	6	2	9	1	4	4	258	133	1	2	2	10	24	10268
C. Aggregate number of "in-patient days" of all patients residing in each area	161	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	17	24	-	-	-	37	-	266
D. Number of doses of arsenobenzene compounds given in the—																												
1. Out-patient clinic	1651	29	9	-	-	-	1	-	4	-	-	1	-	-	-	-	-	-	1	-	63	30	-	1	-	-	5	1795
2. In-patient department	2	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	8

TABLE V 3.

Statement showing particulars of Birkenhead cases treated at Venereal Diseases Clinics in other areas.

Name of town	No. of patients	Disease	Attendances at out-patient clinic	No. of in-patient days	Doses of arsenobenzene compounds given in	
					Out-patient clinic	In-patient department
Liverpool	7	Syphilis 7	241	—	200	—
(David Lewis Northern Hos.)						
(Stanley Hos.)	1	Conditions other than venereal 1	2	—	—	—
(Royal Infirm.)	19	Syphilis 4 Gonorrhœa 11 Conditions other than venereal 4	496	2	56	—
(Seamen's Dispensary)	47	Syphilis 10 Soft chancre 2 Gonorrhœa 35	1316	—	49	—
(Royal Southern Hospital)	5	Syphilis 1 Gonorrhœa 3 Conditions other than venereal 1	306	24	1	—
Greenwich	1	Gonorrhœa 2	25	—	—	—
Leeds.....	1	Gonorrhœa 1	21	—	—	—
Wallasey	1	Gonorrhœa 1	134	—	—	—

OTHER INFECTIOUS DISEASES.

INFECTIOUS DISEASES WHICH ARE NOTIFIABLE.

The infectious diseases which (in addition to tuberculosis already dealt with) were compulsorily notifiable to the Medical Officer of Health at any time during the past year are set out in Tables I 1 and I 2 below.

TABLE I 1.

Infectious diseases other than tuberculosis notified during 1929;
showing seasonal incidence.

Disease	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlatina	71	51	35	31	27	35	31	17	17	30	26	49	420
Diphtheria and membranous croup	6	2	16	3	3	7	14	9	4	13	17	11	105
Erysipelas	7	7	7	5	11	3	4	2	6	3	5	8	68
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid fever	—	2	—	1	1	1	—	9	—	—	1	—	15
Continued fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica (acute)	1	1	2	1	2	1	2	1	1	—	1	—	13
Polio-encephalitis (acute)	—	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis (acute) ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	3	3	3	5	2	—	2	1	—	1	2	3	25
Puerperal fever	—	—	1	—	—	—	—	—	—	—	1	—	2
Ophthalmia neonatorum	1	1	—	2	2	4	4	3	2	3	—	—	22
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	143	139	53	52	36	22	26	17	17	27	35	43	610
Malaria	—	—	1	—	1	—	—	—	1	—	—	—	3
Dysentery	—	—	—	—	—	—	—	—	—	—	—	1	1
Trench fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	232	206	118	100	85	73	83	59	48	77	88	115	1284

TABLE I 2.

Infectious diseases other than tuberculosis notified during 1929;
showing ages.

Disease	und. 1 yr.	1-2 yrs.	2-3 yrs.	3-4 yrs.	4-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-35 yrs.	35-45 yrs.	45-65 yrs.	65 yrs. up	Total
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlatina	2	7	17	27	27	162	92	32	44	5	4	1	420
Diphtheria and membranous croup	4	7	6	15	6	32	17	3	9	2	3	1	105
Erysipelas	1	—	1	—	—	2	1	4	6	17	27	9	68
Typhus fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Typhoid fever	1	—	—	—	—	—	—	3	3	1	5	2	15
Continued fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal meningitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica (acute)	—	—	—	—	—	—	1	1	6	3	2	—	13
Polio-encephalitis (acute)	—	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis (acute) ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	—	—	—	—	—	—	—	2	20	3	—	—	25
Puerperal fever	—	—	—	—	—	—	—	—	1	1	—	—	2
Ophthalmia neonatorum	22	—	—	—	—	—	—	—	—	—	—	—	22
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—
Pneumonia	64	67	35	25	12	40	28	42	99	59	98	41	610
Malaria	—	—	—	—	—	—	—	—	2	1	—	—	3
Dysentery	—	—	—	—	—	—	—	—	—	—	1	—	1
Trench fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	94	81	59	67	45	236	139	87	190	92	140	54	1284

Case-rates of certain diseases.—The case-rates of certain diseases for Birkenhead, and for England and Wales, per 1,000 living, are set out below:—

	Case-rate per 1,000 living.	
	Birkenhead	England and Wales
Smallpox	—	0.28
Scarlet fever	2.66	3.05
Diphtheria	0.66	1.59
Enteric fever	0.09	0.07
Puerperal pyrexia	0.16	0.06
Puerperal fever	0.01	0.14
Erysipelas	0.43	0.45

Encephalitis lethargica.—13 cases were notified during the year. Of these 9 cases were treated in general hospitals and 4 were treated at home. 7 cases recovered and 6 cases died (M. 45 years died at home, and M. 45 years, M. 28 years, M. 40 years, F. 35 years, and F. 32 years, died in a general hospital).

The annual figures relating to notification of this disease are as follows:—

1919	4
1920	2
1921	3
1922	3
1923	14
1924	12
1925	13
1926	7
1927	7
1928	13
1929	13

Cerebro-spinal fever.—No cases were notified during the year.

Smallpox.—There were no cases of smallpox notified in Birkenhead during the year. This disease was, however, present in epidemic form in many parts of England throughout the whole year, no less than 10,975 cases being notified.

DISINFECTION.

Books.—119 Public Library books were collected from infected houses and disinfected.

Dwellings.—414 house-disinfecting notices were served; 511 houses or parts of houses were disinfected during the year.

Bedding and clothes.—Infected bedding and clothes were collected from 551 dwellings and disinfected. In 29 further cases infected or discarded bedding and clothes were destroyed.

Visits and revisits paid to houses, etc., by the Infectious Diseases Inspector.—3,543 visits and revisits to property were made during the year in connection with disinfection after infectious diseases (including tuberculosis).

VACCINATION.

The following is the latest completed information relative to vaccination in the Borough and relates to children whose births were registered from 1st January, 1928, to 31st December, 1928, viz.:—

No. of births	2957
Successfully vaccinated	1879
Insusceptible	16
Had smallpox	—
Number in respect of whom statutory declarations of conscientious objection have been received	629
Died unvaccinated	197
Postponements, removals, or cases not found, etc.	236

ISSUE OF DIPHTHERIA ANTITOXIN.

During the year, in accordance with the provisions of the Diphtheria Antitoxin (outside London) Order, 1910, diphtheria antitoxin was issued to 9 medical practitioners ; a total of 104,000 units was given out.

IMMUNISATION AT CLINICS AGAINST DIPHTHERIA.

Since 1926 facilities have been offered to the mothers attending the infant welfare clinics to have their children immunised against diphtheria.

During the year ended 31st December, 1929, 85 children were presented at the various clinics for the first of a course of immunising

injections. Of these, 45 completed the course before the end of the year, 16 had 2 injections and 24 had 1 injection. In addition, 8 children whose treatment was commenced in 1928 were given their final injections, making a total of 93 children completing the course in 1929. From the date of the commencement of the treatment in 1926 until the end of 1929, 310 children have received the full course of 3 or more injections.

Children who have received less than 3 injections cannot be said to have full opportunity of complete immunisation. Experience indicates that about 80% of cases who have had a full course will be immune, while the remaining 20% may require a further short course of treatment.

Details of treatment carried out in 1929 are set out below:—

Clinic	1 injection	2 injections	3 or more injections	Total	1928 cases completed	Total
Hamilton Square	18	13	40	71	8	79
Brassey Street	—	—	—	—	—	—
St. Paul's Road	1	—	—	1	—	1
Mount Grove	5	3	5	13	—	13
North	—	—	—	—	—	—
Total	24	16	45	85	8	93

(Note.—For immunisation carried out at the Fever Hospital see page 68.)

HOME NURSING.

The arrangement made between the Corporation and the Birkenhead District Nursing Society, dating from 1st July, 1919, provides for the home nursing of cases of influenza and pneumonia. During the year 1929 the Society's nurses paid 1,371 visits in respect of 83 cases.

INFECTIOUS DISEASES HOSPITAL.

Cases treated during 1929.—At the beginning of the year there were 71 patients in the Infectious Diseases Hospital, Flaybrick Hill.

During the year 429 new cases were admitted; so that the cases under treatment in hospital at any time during 1929 numbered 500.

There were 436 discharges and 13 deaths during the year; leaving 51 patients in hospital on 31st December, 1929.

The diseases treated, together with the sex of the patients and particulars as to recoveries and deaths, are shown below.

TABLE I 3.

Patients sent in as suffering from	In hospital at beginning of year	Admitted during year	Died during year	Discharged cured during year	Remaining in hospital at end of year
Scarlet fever .....M.	25	136	2	142	17
.....F.	34	177	1	199	16
Diphtheria.....M.	5	42	5	39	3
.....F.	6	54	1	47	12
Enteric fever .....M.	0	3	1	2	0
.....F.	1	3	1	3	0
Other diseases .....M.	0	11	2	7	2
.....F.	1	3	0	2	1
Totals	71	429	13	436	51

Final diagnosis (all cases).—The final diagnosis arrived at in connection with the 449 patients who were discharged from, or died in, hospital during the year was as follows:—

Scarlet fever	319
Diphtheria	64
Tonsillitis	12
Para-Typhoid B.	6
Epidemic parotitis	4
Erythema	4
Morbili	4
Quinsy	3
Bronchitis	3
Rubella	3
*Diphtheria and Vincent's angina.....	2
Erysipelas	2
Pertussis	2
*Scarlet fever and diphtheria	1
Encephalitis	1
Varicella	1
Vincent's angina	1
Laryngismus stridulus	1
Abscess of pons	1
Dermatitis herpetiformis	1
Mickulicz's disease	1
Septic adenitis	1
Otitis media	1
Ichthyosis	1
Acute pharyngitis	1
Broncho pneumonia	1
Valvular disease of the heart	1
T.B. meningitis	1
No obvious disease	6

449

*Both present on admission.

Scarlet fever.—Of the cases who were discharged from, or died in, hospital during the year 339 had been sent in as suffering from scarlet fever. Of these 314 were found actually to be suffering from the disease. Of the latter cases 2 died from the disease; this gives a case mortality of 0.6%. Death occurred in 1 case sent in as scarlet fever, but found to have valvular disease of the heart with heart failure; and in 1 case admitted as diphtheria, but found to have scarletina angina.

Complications.—The complications met with among the 314 completed cases were as follows:—

13 suffered from rheumatism	3.9%
26 suffered from rhinitis	8.2%
20 suffered from adenitis	6.4%
19 suffered from otorrhœa	6.0%
18 suffered from heart murmurs	5.7%
7 suffered from abscess	2.0%
5 suffered from bronchitis	1.6%
4 suffered from secondary sore throat	1.3%
3 suffered from albuminuria	0.9%
2 suffered from osteomyelitis	0.6%
1 suffered from pyæmia	0.3%
1 suffered from vaginitis	0.3%
1 suffered from pemphigoid	0.3%
1 suffered from proctitis	0.3%
1 suffered from varicella	0.3%
1 suffered from diphtheria	0.3%
1 suffered from secondary scarlet fever	0.3%
1 suffered from mumps	0.3%

Average stay in hospital.—The average length of stay in hospital of all cases notified as scarlet fever was 32.5 days. Uncomplicated cases were isolated for 28 days at least (calculated from the onset of the disease).

Type of disease.—This has remained mild, with few serious complications. There have been no considerable variations in the percentage incidence of the various complications. The slight increase in average stay in hospital has been due to the prolonged stay of a few cases with complications liable to be infectious.

Use of antiscarletinal serum.—As in previous years this has been extensively used. During 1928 the results showed that its use had reduced the number of complications, and it also appeared to lessen the severity of the disease. It has therefore been given to all definite cases during the year under review, as it was thought inadvisable to withhold it from some cases purely for the purposes of comparison.

Diphtheria.—

Cases discharged or died, notified as diphtheria	92
Cases found to be suffering from diphtheria on admission	64
Cases found not to be suffering from diphtheria	28
Deaths from diphtheria	2
Case mortality rate approximately	3.1%

Of those found not to be suffering from diphtheria—

- 1 died of scarlatina anginosa and uræmia.
- 1 died of acute pharyngitis. (A Coroner's inquest was held on this case.)
- 1 died of primary broncho-pneumonia.
- 1 died of measles and broncho-pneumonia.

The 2 cases dying of diphtheria both died within 24 hours of admission, and 1 was in the 5th day of disease and the other about the same, on admission. The fact that none of the other cases died emphasises the need for taking swabs from suspicious cases and giving serum early in such cases.

Tracheotomy.—6 cases required tracheotomy operation for laryngeal obstruction, 1 of which died of cardiac paresis 4 hours after admission, giving a death-rate of 16.6%.

In addition, 1 case of measles with laryngitis required tracheotomy, but died.

Average stay in hospital.—The average length of stay in hospital of all cases notified as diphtheria was 37.4 days.

Complications.—The complications met with among the 64 completed cases of diphtheria were as follows:—

Paralysis or paresis—

Cardiac and palatal and ciliary (1),
palatal (1), cardiac (2), legs (2)... 6 9.4%

Heart—

Extra systoles 2, systolic murmur 5 7 10.9%

Rhinorrhœa 4 6.2%

Otorrhœa 2 3.1%

Broncho-pneumonia (1) bronchitis (1).

secondary sore throat (1), scarlet
fever (1) measles (1) 5 7.8%

Carriers (of a virulent bacilli) 4 6.2%

28 43.7%

Importance of early diagnosis.—The importance of early diagnosis and early application of appropriate treatment in cases of diphtheria is again demonstrated by an analysis of the records for the year.

Thus the percentage of cases developing complications, tabulated according to the day of disease on admission, is as follows:—

1st day of disease	20%	complications
2nd day of disease	31%	complications
3rd day of disease	35%	complications
4th day of disease	42%	complications
5th day of disease	50%	complications
6th day of disease	20%	complications
7th day of disease	71%	complications
10th day of disease	50%	complications
14th day of disease	100%	complications

Again, of the 6 cases requiring tracheotomy—

- 1 was admitted on the 14th day
- 2 were admitted on the 7th day
- 1 was admitted on the 6th day
- 1 was admitted on the 5th day
- 1 was admitted with indefinite history.

In every case of "sore throat" in children medical advice should be obtained at once. It should be remembered that in diphtheria the symptoms are often much less severe at the onset than in a case of ordinary tonsillitis.

Case mortality.—Again this is lower than for the previous year, but the number of cases is too small to enable reliable deductions to be drawn.

Immunisation.—(a) The immunisation of members of the staff and patients suffering from diseases other than diphtheria has been continued. In addition, other children (*e.g.*, the brothers or sisters of patients) have been immunised at the request of parents. The following table shows the work done at the hospital during the year 1929 as regards testing for susceptibility (Schick testing) and immunisation of those shown to be susceptible (this work is also carried on at the school clinics, and some of the cases shown below as incomplete cases have been completed at these other clinics).

	Tested	Positive	Negative	Pseudo	Immunisation		
					Com- pleted	Partly	In Progress
Staff	7	3	4	—	3	—	—
Patients and others {	Over 15.....	42	13	29	—	1	—
	15 & under.	196	96	96	4	31	18
Totals	245	112	129	4	35	18	13
Re-schicked...	9	—	9	—	—	—	—

It will be seen that of 112 patients and others giving a positive test (*i.e.*, susceptible to diphtheria at any time)—

- 35 (30%) received a full immunising course
- 18 (16%) received part of an immunising course
- 13 (11%) were being immunised at the end of the year.

There is good reason for supposing that many of these have been prevented from contracting diphtheria because (a) all the Re-Schicks performed were negative; (b) no case immunised in previous years has been admitted to hospital since with diphtheria or contracted the disease to our knowledge.

Other diseases.—

Enteric fever.—5 cases were sent in as, and proved to be, enteric fever. 4 of these were Para Typhoid B. cases, and 1 was probably so, but not proved.

In addition in 1 case admitted as typhoid, this was disproved and the patient discharged undiagnosed.

1 case notified as scarlet fever proved to be Para Typhoid B.

1 case notified as enteric fever proved to be encephalitis.

Of the above cases there died 2, 1 (typhoid) from intestinal perforation, and 1 (encephalitis) on the day of admission.

Mumps.—5 cases were admitted, 1 of which proved to be not suffering from mumps. There were no complications. These cases were Jamboree Scouts.

Erysipelas.—2 cases were admitted and discharged in 1929. Both cases recovered without complications.

Encephalitis.—Of 2 cases sent in as encephalitis 1 proved to be otitis media, and recovered; 1 died of abscess of the pons.

1 case sent in as enteric proved on post-mortem examination to be encephalitis, the type not being apparent.

Tuberculous meningitis.—1 case admitted during 1929 died on day of admission.

Pertussis.—1 case admitted during 1929; it died of bronchopneumonia and convulsions. In addition, 1 case admitted as scarlet fever proved to be pertussis and urticaria (recovered).

Varicella.—1 case admitted during 1929 recovered.

Training of nurses.—Courses of instruction for the examinations of the General Nursing Council have been continued.

Infectious illness among the staff.—2 probationer nurses contracted scarlet fever, and made good recoveries.

E. P. Smith memorial fund.—No case received assistance from this fund during the year.

MUNICIPAL LABORATORY.

Examination of clinical material.—The nature and number of the examinations of clinical material made at the Municipal Laboratory during 1929 are shown in the following table:—

Examination	Pos.	Neg.	Total
Sputum for <i>B. tuberculosis</i>	138	241	379
Cultures for <i>B. diphtheriæ</i>	166	533	699
Blood tests (Widal) against enteric group	5	13	18
	309	787	1096

Other examinations were made as follows:—

Fæces for <i>B. Typhosus</i>	13
Smears, G.C.	21
Urine	48
Miscellaneous	33
	115

Bacteriological examinations of water.—Examinations of the Alwen water supply were carried out at the laboratory during the year, on the lines indicated in my annual report for 1924. In all, 88 complete bacteriological examinations were made, samples being taken from the mains, and from the Alwen reservoir before and immediately after filtration.

The results obtained have again been very satisfactory and indicate that the water supply maintains its high level of bacteriological purity.

Bacteriological examination of milk.—(A) *The testing of graded milks.*—During the year the regular bacteriological examination of milk was carried out. 178 samples were examined. The work is undertaken primarily because of the introduction into the Borough of "designated milks" as laid down in the Milk (Special Designations) Order, 1923. These milks are:—

- (1) Certified milk.
- (2) Grade A (tuberculin tested) milk.
- (3) Grade A milk.
- (4) Pasteurised milk.

The bacteriological examinations consist of:—

- (a) The enumeration of the micro-organisms present per cubic centimetre.
- (b) Examination for the presence of *B. coli* in specified quantities of milk.

The examination of certified milk is carried out at the request of, and for, the Ministry of Health, who grant licences for the production of this milk.

The Grade A milks are examined for the Corporation, who grant the licences for the retailing of this class of milk.

In addition to the designated milks, other samples of milk have been examined from time to time, but no routine examination is carried out on ordinary milk, for which no standard of bacteriological purity has been laid down.

The results obtained are set out on pages 40-42 of this report.

(B) *The examination of milk for tubercle bacilli.*—The procedure followed in connection with the examination of milk for tubercle bacilli was explained in my 1927 report. During 1929 81 samples, all of ordinary milk, were examined for tubercle bacilli. Details and the results of these examinations will be found under the Water Supply, Food and Drugs section of this report (page 43).

Laboratory accommodation.—The work of the laboratory staff steadily increases in amount and complexity. The present accommodation of two rooms at No. 6 Duncan Street, above the Tuberculosis Clinic, is quite inadequate. If this work is to develop as it ought to do, and it is an essential part of public health machinery, the question of larger and more suitable premises must be considered without delay.

MENTAL DEFICIENCY.

ADMINISTRATIVE ARRANGEMENTS.

Cases of mental deficiency fall into two categories—

- (a) Those which can be dealt with under the Mental Deficiency Acts, 1913 and 1927; for these the Mental Deficiency Act Committee is responsible.
- (b) Those which can be dealt with under the Education Act, 1921; for these the Education Authority is responsible.

CASES COMING WITHIN THE PROVISIONS OF THE MENTAL DEFICIENCY ACTS, 1913 and 1927.

The following classes of persons who are mentally defective are deemed to be defectives within the meaning of the Mental Deficiency Acts, 1913 and 1927* :—

- (a) Idiots; that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers;
- (b) Imbeciles; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, *or, in the case of children, of being taught to do so*;
- (c) Feeble-minded persons; that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, *or, in the case of children, that they appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools*;
- (d) Moral imbeciles; that is to say, persons in whose case there exists mental defectiveness coupled with strongly vicious or criminal propensities and who require care, supervision and control for the protection of others.

Note.—The definition “ mental defectiveness ” means a condition of arrested or incomplete development of mind *existing before the age of eighteen years*, whether arising from inherent causes or induced by disease or injury.

It will be seen from the above definitions that certain special provisions are made with regard to children. Briefly, the effect of these is that a mentally defective child remains under the care of the Local Education Authority if he can be taught in one of the schools provided by that authority—the term “ ordinary ” in paragraph (c) being taken to include “ special ” schools for mentally defective children.

The Local Education Authority must, however, give notice to the Local Mental Deficiency Authority in the case of all children over the age of seven

*The revised definitions are those given in the Mental Deficiency Act, 1927.

- (a) who have been ascertained to be incapable by reason of mental defect of receiving benefit or further benefit in special schools or classes, or who cannot be instructed in a special school or class without detriment to the interests of the other children, or as respects whom the Board of Education certify that there are special circumstances which render it desirable that they should be dealt with under this Act by way of supervision or guardianship;
- (b) who on or before attaining the age of sixteen are about to be withdrawn or discharged from a special school or class, and in whose case the local education authority are of opinion that it would be to their benefit that they should be sent to an institution or placed under guardianship.

The Special School for mentally defective children provided by the Local Education Authority is referred to in another section of this report (page 107). An After-Care Committee carries out general supervision in connection with children on leaving this school; the number of cases being dealt with at the end of 1929 was 290 (196 boys and 94 girls).

During the past year 13 new cases came under the care of the Mental Deficiency Acts Committee.

3 cases were sent to institutions by judicial orders.

2 cases were placed under guardianship by judicial orders.

2 cases were placed under supervision pending institutional vacancies arising; 8 cases were placed under home supervision; 1 case died during the year; 1 case was discharged from institution; 2 cases left the district.

10 first visits and 245 revisits were paid to the homes of mental defectives by the Health Nurses.

At the end of 1929 there were under the care of the Mental Deficiency Acts Committee 432 cases, as set out in the following table:—

In institutions (placed by the Mental Deficiency Acts Committee under judicial orders)—

	Males	Females	Total
Ashton House (Birkenhead)	0	1	1
Birkenhead Union Institution	7	7	14
Caterham Institution (Surrey)	1	0	1
Chester Union Institution	0	3	3
Royal Albert Institution (Lancaster)	7	2	9
Sandlebridge Colony (Cheshire)	1	3	4
Stoke Park Colony (Bristol)	3	3	6
Newtown Institution (Caerwys)	1	0	1
Royal Hostel (Surrey)	0	1	1
	20	20	40

In institutions (placed by the Birkenhead Board of Guardians, or by parents; not under judicial order)—

Birkenhead Union Institution	7	9	16
Sandlebridge Colony (Cheshire)	1	1	2
County Mental Hospital (Cheshire)	1	2	3
Royal Albert Institution (Lancaster)	6	2	8
	15	14	29

In Rampton State Institution (placed by Board of Control—cases which have become too violent for retention in ordinary institutions)	3	2	5
Under home supervision—			
(a) Cases discharged from institutions on "licence"	3	5	8
(b) Cases which should be in institutions	19	11	30
(c) Others (including ex-Special School cases, 290 in number)	213	104	317
Under guardianship	2	1	3
	237	121	358
Total	275	157	432

Scarcity of institutional accommodation.—It will be seen that in the above table 30 cases at present under home supervision are classed as cases which should be in institutions. Adding to these the 29 cases which are in institutions but are not under order, and for which provision should be made by the Local Mental Deficiency Authority, we have a total of 59 cases, as at the end of 1929, for whom institutional accommodation should be provided.

The difficulties which have been experienced in endeavouring to discover accommodation for these cases, and the urgent need for the provision of adequate local accommodation, were fully discussed in my annual report for 1925.

CASES DEALT WITH UNDER THE EDUCATION ACT, 1921.

The cases of mental deficiency in children which come under the care of the Local Education Authority are children over the age of 7 and under the age of 16 who, not being imbecile, and not being merely dull or backward, are defective; that is to say, children who by reason of mental defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, *but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as may be provided by the Local Education Authority for mentally defective children.*

CASES COMING WITHIN THE PROVISIONS OF THE BLIND PERSONS ACT, 1920.

The following classes of persons are included in the category of mental defectives by the Ministry of Health for the purposes of the Blind Persons Act, 1920:—

Blind persons suffering from epilepsy, fits or nervous disability.

Age incidence of blindness.—So far as can be ascertained the age of onset of blindness is set out below:—

Age at onset of blindness	M.	F.	Total.
0—1	18	14	32
1—5	5	8	13
5—10	4	2	6
10—20	10	5	15
20—30	4	3	7
30—40	15	7	22
40—50	14	13	27
50—60	23	19	42
60—70	23	20	43
Over 70	18	14	32
Not ascertained ...	7	5	12
<hr/>			
Total ...	141	110	251
<hr/>			

Blind persons who are otherwise defective.—Twenty-nine of the blind persons on the register were handicapped in addition by other physical or mental defects:—

	M.	F.	Total.
Mentally defective	3	1	4
Deaf	2	4	6
Deaf and dumb	1	1	2
Otherwise physically defective	10	7	17
<hr/>			
	16	13	29
<hr/>			

Children under 16 years of age.—These numbered 8; 3 boys and 5 girls. 2 boys and 4 girls were attending school; 1 boy and 1 girl were not attending school.

Conditions as regards employment.—The following table shows the position of blind persons in the area over the age of 16 with reference to employment:—

	M.	F.	Total.
Employed	21	3	24
Trained but unemployed...	4	9	13
Under training	3	3	6
Not trained, but probably trainable	—	1	1
Probably unemployable ...	113	94	207
<hr/>			
	141	110	251
<hr/>			

The occupations of the employed blind in the area were as follows:—

Agents, collectors, etc.	...	...	...	...	...	2
Basket and cane workers	...	...	...	..	...	5
Brush makers	...	...	...	...	...	5
Mat makers	...	...	...	...	...	2
Home teachers	...	...	...	...	...	1
Knitters	...	...	...	...	...	1
Musicians and music teachers	...	...	...	...	...	1
Newsvendors	...	...	...	...	...	1
Tuners	...	...	...	...	...	3
Miscellaneous	...	...	...	...	...	3
Total						24

Home visiting of blind persons.—The Health Nurses paid 49 first visits and 469 revisits to blind persons in the area.

Financial assistance to blind persons.—At the end of the year 172 blind persons (95 males and 77 females) were in receipt of financial assistance under the scheme of the Council for the Welfare of the Blind.

HOUSING AND GENERAL SANITATION.

ADMINISTRATIVE ARRANGEMENTS.

The staff engaged on the work of housing and general sanitary inspection consisted, at the end of the year, of the Chief Inspector, one housing inspector, and eight sanitary inspectors.

The eight sanitary inspectors are required to devote approximately half their time to the work of housing inspection.

GENERAL.

Area of the Borough.—The area of the Borough (land and inland water) was at the time of the 1921 census 3,924 statute acres. This area is largely built over, or otherwise occupied, by domestic buildings, docks, factories, railway stations, and sidings, etc. The area of the extended borough (as from 1st April, 1928) is 6,016 acres.

Number of dwelling houses in the Borough.—The approximate number of dwelling houses of all descriptions within the Borough, excluding institutions, on 31st December, 1929, was 31,121.

New dwellings erected, 1921-1929.—The new dwellings erected in the Borough between the date of the census and the end of 1929 were as follows:—

(1) Between the date of the census and 31st December, 1928		
(a) With State assistance under the Housing Acts, 1919-1925		
(i) By the Local Authority	1652	
(ii) By other bodies or persons	609	
(b) Other	551	
		2812
(2) During 1929		
(a) With State assistance under the Housing Acts, 1919 or 1925		
(i) By the Local Authority	—	
(ii) By other bodies or persons	52	
(b) Other	124	
		176
		<hr/>
	Total	2988
		<hr/>

2 houses were erected during the year which did not comply with the building byelaws. (These were bungalows on small holdings.)

Uninhabited property.—The following is a return of uninhabited property in Birkenhead for the past year:—

Districts	Half-year ended 30th June, 1929					Half-year ended 31st Dec., 1929				
	Private houses	Shops	Cottages	Dock cottag's	Total	Private houses	Shops	Cottages	Dock cottag's	Total
Birkenhead	21	20	—	—	41	16	20	—	—	36
Claughton and Oxtun	107	9	1	82	199	83	7	—	48	138
Tranmere, Rock Ferry, and added Areas	110	16	1	—	127	119	5	5	—	129
Total ..	238	45	2	82	367	218	32	5	48	303

The total uninhabited and unoccupied property, 31st December, 1928, was 303, so that there was no change at the end of 1929 as compared with the previous year.

ADMINISTRATIVE ACTION TAKEN IN CONNECTION WITH HOUSING AND GENERAL SANITATION.

(a) Mainly under Housing Acts.

During the twelve months ending December 31st, 1929, the following work was carried out by the department under the provisions of the Housing Acts and Regulations (the arrangement is based on that suggested by the Ministry of Health):—

Inspection.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) ; all these houses were also recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing (Consolidated) Regulations, 1925

1079

(2) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation

97

(3) 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

827

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

5

Action under statutory powers.

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

(1) Number of dwelling-houses in respect of which notices were served requiring repairs—

822

(2) Number of dwelling-houses which were rendered fit after service of formal notices—

(a) by owners	
(1) Houses in respect of which notices were served during 1929	331
(2) Houses in respect of which notices were served prior to 1st January, 1929	580
(b) by local authority in default of owners	7
	<hr/>
Total	918
	<hr/>
(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declarations by owner of intention to close	6
B. <i>Proceedings also taken under the Public Health Acts in connection with above properties.</i>	
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	386
(2) Number of dwelling-houses in which defects were remedied after service of formal notices—	
(a) by owners	378
(b) by local authority in default of owners ...	1
C. <i>Proceedings under sections 11, 14 and 15 of the Housing Act, 1925.</i>	
(1) Number of representations made with a view to the making of closing orders	97
(2) Number of dwelling-houses in respect of which closing orders were made	91
(3) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit	1
(4) Number of dwelling-houses in respect of which demolition orders were made.....	—
(5) Number of dwelling-houses demolished in pursuance of demolition orders	—
(6) Number of dwelling-houses demolished after the making of closing orders, but without service of demolition orders	7

(b) *Mainly under Public Health Acts.*

In addition to the housing work outlined above, other work, of which the following is a summary, was carried out by the inspectors during the year. (The work of scavenging, removal of refuse, and care of sewers is entirely dealt with by the Borough Engineer and Surveyor's department.)

Number of houses inspected (not included in preceding section)	9033
Number of re-inspections of houses	56,186
Number of unhealthy conditions reported and investigated	6203
Number of formal notices given	1543
Number of informal notices given	3854
Number remedied after formal notice and without proceedings	1542

Number of cases in which proceedings had to be taken	1
Number abated after proceedings	—
Defects referred for action:—	
(a) to Borough Engineer and Surveyor	304
(b) to Water Engineer	361
(c) To Borough Treasurer	85
Number of excavations made for the purpose of testing the condition of house drains	196
Number of smoke tests applied to drains of premises reconstructed under the supervision of this department	156
Number of water tests applied to drains	94
Number of smoke tests applied to the drains of new buildings, in conjunction with the Borough Engineer and Surveyor's department	156
Number of smoke observations taken	12
Number of smoke nuisances from factory and other chimneys reported to the Health Committee.....	1
Number of schools specially examined by the sanitary inspectors	18
Number of cowsheds inspected	47
Number of inspections of dairies and milkshops	623
Number of inspections <i>re</i> offensive trades.....	274
Number of sewer ventilators inspected	25
Number of street gullies inspected	17
Number of caravans inspected	123
Number of caravans re-inspected	87
Number of back passages inspected	108
Number of investigations regarding the keeping of pigs, fowls, and other animals	63
Miscellaneous inspections (not included above)	511

(c) **Actual defects in domestic dwellings dealt with under (a) and (b) above.**

The following is a summary of sanitary improvements effected at dwelling houses during the year under the provisions of the Public Health and Housing Acts:—

<i>Houses—</i>		New sash cords provided ...	1248
Roofs repaired	1849	Window fasteners renewed...	538
Chimney stacks pointed or repaired	231	Windows made to open	192
Rainwater gutters repaired or renewed	367	Firegrates repaired	589
Down spouts repaired or renewed	278	Ovens repaired or renewed...	204
Down spouts disconnected from drains ...	17	Plastering to firegrates repaired	521
Walls pointed or repaired ...	1584	Hearthstones repaired or renewed	154
Lighting improved	8	Floors relaid or repaired.....	1186
Ventilation improved	69	Skirting boards repaired or renewed	138
Windows repaired	439	Wall plaster repaired	1922
		Ceiling plaster repaired	916

Walls cleansed.....	772	Drains disconnected from	
Ceilings cleansed.....	623	sewer	5
Doors repaired.....	522	Drains—inspection chambers	
Door fasteners repaired or re-		provided	6
newed	1119	Drains ventilated	8
Sinks repaired or renewed ...	95	Drains cleansed	775
Sink waste pipes repaired ...	293	Self-cleansing gullies provided	37
Sink waste pipes trapped ...	10	<i>Water closets—</i>	
Washing boilers repaired ...	277	Roofs repaired.....	321
Washing boilers—new pans		Walls repaired.....	392
provided	60	New basins fixed.....	244
Washing boilers—firegrates		Connections repaired	567
repaired	174	Cisterns repaired or renewed.	471
Washing boilers—flues repaired	53	New flush pipes fixed.....	30
Dampness remedied	72	Provided with a sufficient	
Nuisances from animals abated	23	supply of water	463
Yard surfaces relaid or re-		Doors repaired or renewed ...	185
paired	749	Seats repaired or renewed...	74
Yard surfaces—proper means		<i>Ashpits—</i>	
of drainage provided	—	Provided with roofs	25
Sufficient water supply pro-		Provided with doors	48
vided	137	Roofs repaired.....	66
<i>Drainage—</i>		Walls repaired.....	78
New drains constructed	45	Cemented inside ..	51
Old drains reconstructed.....	80	Abolished.....	430
Drains repaired	142	Ashbins provided.....	1370
		<i>Miscellaneous—</i>	
		(not included above)	1828

(d) Increase of Rent and Mortgage Interest (Restriction) Acts, 1920-1923.

During the year no applications for certificates under section 2 of the Act were received.

(e) Theatres, music halls, &c.

(Ministry of Health Circular No. 120, dated 25th August, 1920).

49 visits were made to theatres, music halls and other places of entertainment, with a view to ascertaining whether conditions as to ventilation, structure of dressing rooms, &c., were satisfactory.

(f) Rats and mice.

The following is a summary of the work carried out by the district inspectors under the provisions of the Rats and Mice (Destruction) Act, 1919:—

No. of premises inspected	133
No. of visits and re-visits	161
No. of notices served on occupiers	92
No. of notices served on owners	71
No. of premises satisfactorily dealt with	60
No. of premises still under observation or where work is being carried out	11

(g) Inspection of lodging houses, &c.

During the year the inspector of common lodging houses, &c. paid regular visits to common lodging houses, and houses let in lodgings, and to the Corporation tenement dwellings.

Registered common lodging houses (15 in number):	
Day inspections	3510
Night inspections	135
Insanitary conditions reported and dealt with	26
Houses let in lodgings (333 in number):	
Day inspections	2026
Night inspections	—
Insanitary conditions reported and dealt with	248
Corporation tenement dwellings (132 in number):	
No. of visits	3049
Insanitary conditions reported and dealt with	208

FACTORIES, WORKSHOPS AND WORKPLACES.

FACTORY AND WORKSHOP ACTS, 1901 AND 1907.

The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his annual report to the Council to report specifically on the administration of that Act in workshops and work-places. The following is a summary of the work carried out during the year.

1.—Inspection of factories, workshops and workplaces.

Premises	No. of		
	Inspections	Written notices	Prosecutions
Factories (including Factory Laundries)	—	—	—
Workshops (including Workshop Laundries) ...	729	30	—
Workplaces (other than Outworkers' premises)...	8	1	—
Total.....	737	31	—

2.—Defects found in factories, workshops and workplaces.

Particulars	No. of defects			Number of prosecutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts*—</i>				
Want of cleanliness	43	39	—	—
Want of ventilation	2	2	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances.....	7	7	—	—
Sanitary accommodation—				
Insufficient ..	1	—	—	—
Unsuitable or defective	8	8	—	—
Not separate for sexes	—	—	—	—
<i>Offences under the Factory & Workshops' Acts—</i>				
Illegal occupation of underground bake-house (s. 101)....	—	—	—	—
Other offences	4	4	4	—
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)				
Total.....	64	60	4	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Home work.—Lists were received from employers as follows:—

From employers sending twice in the year—3 lists (8 workmen).

From employers sending once in the year—4 lists (2 contractors, 7 workmen).

In each case the work handled was the making of wearing apparel.

Registered workshops.—The workshops on the register at the end of the year were:—

Bakehouses	60
Confectioners	55
Boot repairers	52
Cabinet making and upholstery	28
Dressmaking	38
Millinery	21
Tailoring	34
Laundries	27
Joinery and carpentry	12
Saddlery and harness making	7
Smiths	14
Wagon repairers	6
Motor and cycle repairers	9
Other workshops	57
	<hr/>
	420
	<hr/>

Other matters.

Workshops removed from the register	4
New workshops opened and placed on register	8
Underground bakehouses discontinued	—
Number of underground bakehouses on the register at the end of the year	22
Instances of failure to affix abstract dealt with	4

RAG FLOCK ACT, 1911.

Pursuant to the provisions of the above Act, 23 visits were made.

At the time of these visits the rag flock being used or stored on the premises was to all appearance in a satisfactory condition; no samples were, therefore, taken for the purpose of analysis.

POISONS AND PHARMACY ACT, 1908, AND ORDERS, 1909.

Visits were made to 3 shops and premises in the Borough, in which insecticides containing poison were likely to be kept for sale, but no infringement of the Act was reported.

HEALTH EDUCATION.

Dr. John Hall, M.A., the Lecturer Organiser to the Merseyside Boroughs Health Education Committee, has continued to give lectures and talks on health matters to audiences of various descriptions, and the general extension of the scope of this work and the increasing number of invitations he receives from organisations of widely different character testifies to the field for useful propaganda that exists. During the year Dr. Hall addressed 35 meetings whose audiences totalled 3,538.

2,200 copies of "Better Health," which have on several occasions contained articles of local interest, have been distributed monthly through the schools and clinics and in other ways.

MATERNITY AND CHILD WELFARE.

ADMINISTRATIVE ARRANGEMENTS.

General arrangements.—Provision has been made by the local authority for carrying out the requirements of:—

1. The Notification of Births Acts, 1907 and 1915.
2. The Midwives' Acts, 1902 and 1918.
3. The Maternity and Child Welfare Act, 1918.
4. The Nursing Homes Registration Act, 1927.

The authority's scheme now includes:—

1. Inspection of midwives practising in the area.
2. Health visiting.
3. The provision of four postnatal clinics.
4. The provision of an antenatal clinic.
5. The supply of free milk, etc., for necessitous mothers and infants.
6. Home visiting in connection with cases admitted to the Birkenhead Day and Resident Nurseries.
7. The provision of treatment at the Maternity Hospital of cases of complications arising before, during, and after confinement, and of cases of confinement where the home conditions are bad.
8. The payment in whole or in part of fees to medical practitioners called in by midwives to attend to difficult cases of confinement.
9. The payment in whole or in part of fees to midwives in attendance upon temporarily necessitous cases.
10. The provision of home nursing for children under five suffering from certain diseases, and for expectant and nursing mothers.
11. Financial support of certain institutions engaged in work in the interests of mothers and infants belonging to the Borough, namely, The Birkenhead Day and Resident Nurseries, The Birkenhead and Wirral Invalid Children's Association and St. Faith's Home for Mothers and Babies.

The infant welfare or postnatal clinics are held at Hamilton Square, Brassey Street, St. Paul's Road, and Mount Grove. The Hamilton Square clinic was opened in 1916; Brassey Street and St. Paul's Road clinics in 1919; the Mount Grove clinic in 1923. The Brassey Street clinic was closed in October and the work transferred to the North clinic.

The antenatal clinic, which is held at No. 9, Hamilton Square, was opened in 1920.

In 1928 the number of antenatal clinics sessions was increased from one to two per week.

The North Health Clinic was formally opened by Sir George Newman, K.C.B., HON. D.C.L., HON. LL.D., M.D., F.R.C.P., F.R.C.S., Chief

Medical Officer, Ministry of Health and Board of Education, on Wednesday, 20th November, 1929. A full description of the premises will be found in the preface to this report (pages viii-xi).

The arrangements for home nursing came into force on 1st July, 1919. An agreement between the Corporation and the Birkenhead District Nursing Society provides for the nursing at home of cases of ophthalmia neonatorum; of measles, whooping cough, epidemic diarrhoea, and poliomyelitis in children under the age of five years; and of illnesses of women associated with pregnancy and confinement.

Staff.—The executive medical staff engaged on maternity and child welfare work at the end of the year consisted of Dr. Deacon (ante-natal clinic, and Hamilton Square postnatal clinics); Dr. Leete (St. Paul's Road postnatal clinics); Dr. Foster (Mount Grove postnatal clinic); and Dr. Williams (Brassey Street and North postnatal clinics).

In addition to the Chief Health Nurse and the Inspector of Midwives, the equivalent of the whole time of seven nurses was available for infant welfare work during the year.

Demonstrations, etc., to school children on Mothercraft.—During the year practical demonstrations, etc., on Mothercraft were again given by the Health Nurses on the staff of the Department to the senior girls in some of the elementary schools in the Borough.

The Head Teachers of the schools concerned inform me that teaching of this nature has proved very helpful and useful to the scholars.

INSPECTION AND SUPERVISION OF MIDWIVES.

Work under this section is concerned with the administration of the Midwives' Acts, 1902 and 1918; the visiting of the homes of midwives, inspecting their instruments, etc., advising them on the details of their work and on their duties as set out in the above Acts, and in the rules issued by the Central Midwives' Board.

Number of midwives.—During the year 1929, 84 midwives entered their names on the local register as practising in the Borough. Of these, 10 subsequently left the district, and their names have been removed from the register accordingly. 3 midwives gave notice of change of addresses.

Of the 84 midwives, 78 were trained and 6 untrained.

Number of cases attended by midwives.—The cases attended by midwives alone (no doctor being in attendance) numbered 2,614; over three-quarters of the total births in the Borough.

Visits of inspection.—The Inspector of Midwives paid 135 quarterly and 103 special visits of inspection.

Interviews in office.—45 midwives were interviewed during the year.

Cases of puerperal fever and puerperal pyrexia in practice of midwives.—The inspector investigated 2 cases of puerperal fever and 13 cases of puerperal pyrexia. 2 deaths were certified during the year as having been due to these conditions.

Cases requiring medical help.—427 cases were notified by midwives in which medical aid had been called in, as against 388 last year. The inspector made 139 special enquiries regarding cases requiring medical help.

Notifications received from midwives.—51 cases of stillbirths were notified; 10 cases were notified of infants receiving artificial feeding; 5 cases were notified in which deaths (infants) had occurred in the practice of midwives; 2 cases of laying out a dead body were notified.

Supply of silver nitrate to midwives.—Supplies of a colloid preparation of silver nitrate are issued to midwives at cost price. No requests were made for this during the year.

Ophthalmia neonatorum.—22 cases were notified during the year.

Notified	Treated at home	Treated in hospital	Vision unimpaired	Vision impaired	Total blindness	Deaths
22	17	5	22	—	—	—

Employment of, or subsidy to, practising midwives by the local authority.—No practising midwives are employed or subsidised by the Birkenhead Local Supervising Authority.

HOME VISITING OF EXPECTANT MOTHERS, MOTHERS, AND YOUNG CHILDREN.

Home visiting.—The following is a summary of the visits paid by the health nurses in connection with expectant mothers, mothers, and young children:—

- 2875 routine first visits were paid to infants.
- 3986 routine revisits were paid to infants under 1 year.
- 10638 routine visits were paid to children over 1 year and under 5 years old.
- 37 first visits and 1 revisit were paid in connection with the investigation of stillbirths.
- 22 cases of ophthalmia neonatorum were visited and kept under supervision.

75 first visits were paid to expectant mothers.
 9 revisits were paid to expectant mothers.
 230 visits were made in connection with deaths of infants.
 3217 visits were made in connection with miscellaneous matters.

POSTNATAL CLINICS.

The main features of the work carried out at these clinics were set out in my annual report for 1923.

At the end of the year the clinics were being held as follows:—

Hamilton Square clinic: Monday and Wednesday afternoons, 2 to 5 p.m.

Brassey Street clinic: Thursday afternoon, 2 to 5 p.m. (Discontinued 3rd October.)

St. Paul's Road clinic: Tuesday and Friday afternoons, 2 to 5 p.m.

Mount Grove clinic: Friday afternoon, 2 to 5 p.m.

North clinic: Wednesday and Thursday afternoons, 2 to 5 p.m.

The following table gives an indication of the work done at the clinics during the year:—

	Hamilton Sq. (100 sessions)		Brassey Street (39 sessions)		St. Paul's Road (102 sessions)		Mount Grove (50 sessions)		North* (13 sessions)	
	1st visits	Re- visits	1st visits	Re- visits	1st visits	Re- visits	1st visits	Re- visits	1st visits	Re- visits
Attendances made by infants under 12 months	348	3825	226	2110	258	2946	175	2087	84	822
Attendances made by children aged 1—2 years.....	17	958	11	428	24	492	11	271	1	145
Attendances made by children aged 2—5 years.....	26	451	10	177	17	159	13	249	9	58
Examinations of children by Doctor.....	380	4900	239	1799	281	1826	199	1174	85	900
Mothers advised by Doctor regarding their own health...	92	242	18	194	216	103	85	72	166	24

*The first session was held on Thursday, 10th October, 1929.

Voluntary workers—I have again to express appreciation of the valuable services given at the various clinics by voluntary workers, who give up a great deal of their time to this work.

Supply of Milk.—Dried milk was sold at the clinics to suitable cases.

During the year supplies of milk were given free under the Milk (Mothers and Children) Order, 1919, to

198 expectant mothers
 25 nursing mothers
 174 children.

Milk is given only to—

- (a) Nursing mothers who are actually suckling their children ;
- (b) Expectant mothers in the last three months of pregnancy ;
- (c) Children up to twelve months whose mothers are unable to nurse them ;

and to these only when the doctors at the clinics have satisfied themselves, by a medical examination of the cases on whose behalf the applications have been made, that the supply is essential on grounds of health.

ANTENATAL CLINIC.

At the end of the year the antenatal clinic at No. 9, Hamilton Square, was held as follows:—

Tuesday and Thursday afternoons, 2 to 5 p.m.

During the year 102 sessions were held, 639 new cases were seen, and 2,585 revisits were made. The total attendances thus numbered 3,224 visits.

Condition with regard to pregnancy.—The condition of the 639 cases with regard to pregnancy, at the time of their first attendance, was as follows:—

- (a) 155 were in their first pregnancy.
- (b) 385 were in their second or subsequent pregnancy (95 of these patients had attended the clinic during a previous pregnancy; 26 had attended during two previous pregnancies; 2 had attended during three previous pregnancies; and 1 had attended during four pregnancies).
- (c) 99 were not pregnant (9 attended the clinic for a second year; 1 for a third year; and 2 for a fourth year).

Attendances.—The attendances made during the year were as follows:—

Attendances made by the new cases as classified above:

(a)	250
(b)	2783
(c)	127

Attendances made during 1929 by patients who were attending the clinic at the end of 1928 64

3224

Abnormalities.—The abnormalities or diseases found to be present in the new cases who attended the clinic during 1929 were as follows:—

(a) Women who came to the clinic in their first pregnancy

Abnormality	No. of cases
Venereal disease.....	4
Eclampsia after albuminuria	2
Tuberculosis (labour induced at 3 months)	1

(b) Women who came to the clinic in their second or subsequent pregnancy

Abnormality	No. of cases
Venereal disease	13
Tuberculosis (labour induced in 1 case)	2
Placenta praevia	1

(c) Women who were not pregnant when they first attended the clinic

Abnormality	No. of cases
Debility after confinement.....	14
Venereal disease	9
Retroversion of uterus	3
Rheumatism	3
Prolapse of uterus	5
Conditions associated with menopause	3
Other defects ...	37

Progress of pregnancies.

(a) of the 155 women who came in their first pregnancy

119 were delivered before the end of 1929, having 61 boys and 58 girls (including 4 stillborn children)

1 had a miscarriage

2 left the district

32 were not delivered before the end of the year

1 had induced labour.

(b) Of the 385 in their second or subsequent pregnancy

269 were delivered before the end of the year, having 125 boys and 147 girls (including 3 sets of twins and 19 still-born children)

4 had miscarriages

5 left the district

106 were not delivered before the end of the year

1 had induced labour.

Maternity outfits.—4 outfits were lent out and returned during the year.

General remarks.—It should be noted that the number of new cases attending the clinic is still increasing. During 1929 the increase was entirely due to mothers attending in their second or subsequent pregnancies.

It is satisfactory to state that the midwives in the area co-operate with the clinic in every way possible.

OTHER PROVISION MADE BY THE LOCAL AUTHORITY.

Cases dealt with at Maternity Hospital.—During the year 30 cases were admitted into the Maternity Hospital under the terms of the agreement; the number of bed days being 539.

Cases dealt with by the Birkenhead District Nursing Society.—During the year the Society's nurses paid 801 visits to 47 cases, under the agreement between the Society and the Corporation. In addition 731 visits were paid to 63 cases in children under 5 years of age not included in the agreement.

Cases of confinements attended by medical practitioners.—In 187 cases where doctors were called in to difficult cases of confinement the doctors' fees were paid by the Corporation under the provisions of the Midwives' Act, 1918. Recovery of the fees paid was made in 6 cases.

Cases of temporarily necessitous cases attended by midwives.—In 63 cases where midwives attended temporarily necessitous cases of confinement the midwives' fees were paid by the Corporation under the provisions of the Maternity and Child Welfare Act, 1918.

AGENCIES ASSISTED BY THE LOCAL AUTHORITY.

The Corporation gives financial support to certain other institutions, etc., for general services rendered in connection with maternity and child welfare work.

Birkenhead Day and Resident Nurseries.—Here accommodation is provided for 17 children.

Birkenhead and Wirral Invalid Children's Association.—Arrangements are made by this association to send children to convalescent homes, and to provide massage treatment for cases of infantile paralysis, etc.

St. Faith's Home for Mothers and Babies.—Here accommodation is provided for unmarried mothers and their children—22 beds for babies and 12 for mothers.

The grants made by the Corporation to the above agencies for the current financial year were as follows:—

Birkenhead Day and Resident Nurseries	£50
Birkenhead and Wirral Invalid Children's Association	40
St. Faith's Home for Mothers and Babies	50
	<hr/>
	£140
	<hr/>

AGENCIES NOT PROVIDED OR ASSISTED BY THE LOCAL AUTHORITY.

Other agencies whose work in Birkenhead touches the welfare of mothers and infants, but which are not provided or assisted by the Birkenhead Corporation, are the following:—

- The Birkenhead Union.
- The Birkenhead and Wirral Children's Hospital.
- The Charity Organisation Society.
- The Society for the Prevention of Cruelty to Children.
- The Naval and Military War Pensions Committee.
- The Sisters of Charity (St. Elizabeth's) Welfare Centre,
Claughton Road, Birkenhead.
- The Gynæcological Clinic at the General Hospital.

NURSING HOMES.

The total number of Nursing Homes registered in the Borough at the end of the year was 11.

No orders were made refusing, and none cancelling, registration.

3 applications were received and granted for exemption from registration—from the Birkenhead General Hospital, the Birkenhead and Wirral Children's Hospital, and the Birkenhead Maternity Hospital.

MATERNAL MORTALITY.

During 1929 the deaths of 8 women who died in the Borough from causes associated with pregnancy and childbirth were investigated by the Inspector of Midwives.

The causes of the deaths were as follows:—

Puerperal septicæmia	2
Puerperal hæmorrhage	3
Abortion	2
Puerperal albuminuria and convulsions	1

6 of the deaths took place at the Birkenhead Infirmary and General Hospital, and 2 occurred at the homes of the patients.

The ages at which deaths occurred were 17 years (2), 21 years, 22 years, 28 years, 31 years (2), and 42 years.

In 4 of the cases midwives were in attendance on the patients.

HEALTH OF SCHOOL CHILDREN

ADMINISTRATIVE ARRANGEMENTS

Staff.—Dr. Deacon, Dr. Williams and Dr. Foster have carried out school medical service duties throughout the year. Dr. Anderson, who was similarly occupied, left to take up an appointment at Hendon on 31st July, and was succeeded by Dr. Woodeson, who commenced duty on 7th August.

Mr. P. Wilson Smith, L.D.S., School Dental Surgeon, and Miss E. M. Warlow, L.D.S. Assistant School Dental Surgeon, have been responsible for dental inspection and treatment during the past year.

New and prospective arrangements

1. *Partially blind children.*—A special class for children suffering from a high degree of myopia or some other defects which cause very poor vision (*e.g.*, nystagmus) was opened on the 4th February, 1929. The class is held in the Park Road Temporary Council School, and accommodates principally suitable children living at the south end of the Borough. It is in charge of a teacher who has had special instruction in methods of teaching partially blind children, and special books (with bold print) and apparatus are used. No near work of any description is allowed; all writing is done on desk blackboards, and instruction in handiwork such as knitting, basket-making, and mat-making is given in place of lessons in which a strain upon the eyes is involved. It is important that the children should be preserved as far as possible from being stigmatised as "out of the ordinary," and they therefore attend oral lessons at Well Lane School as often as is convenient.

During the year 16 children (11 boys and 5 girls) whose ages ranged from 7 to 14 were in attendance. Inspections of the class have found all of them to be interested and some of them very proficient in their work.

It is hoped that similar accommodation for children living in the centre and north end of the town will be provided during 1930.

2. *Open-air school.*—Further consideration was given during the year to the question of the establishment of an open-air school for the Borough. This subject has been fully dealt with in my annual reports during the past ten years.

3. *Operative treatment for nose and throat obstruction.*—The scheme for the provision of this treatment came into operation on the 29th June, 1929. Up to the end of the year operations were performed upon 81 children.

4. *Stammering children.*—Steps were taken during the year with a view to making arrangements for the provision of special facilities for children afflicted with the defect of stammering.

MEDICAL INSPECTION AND TREATMENT (ELEMENTARY SCHOOLS)

(A) INSPECTION

Number of elementary schools and school children.—The number of elementary schools in the borough is:

Council Schools	17	
Voluntary Schools	18	Total 35

The recognised accommodation of these schools on the 31st December, 1929, was :

Council Schools	14,042	
Voluntary Schools	11,817	Total 25,859

The average number of scholars on the rolls during the year was:

Council Schools	11,815	
Voluntary Schools	10,958	Total 22,773

The average attendance was:

Council Schools	10,478	
Voluntary Schools	9,660	Total 20,138

Children inspected.—The following elementary school children were medically inspected during the year:—

1. At Routine Inspections	7151
2. At Special Inspections in the ordinary schools	94
3. At Routine Inspections at the Special Council School ...	103
4. As prospective entrants to the Birkenhead Institute, the Girls' Secondary School, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College and the Catholic Institute	301
5. As entrants to the Cloughton Road Special School for Mental Defectives	15
6. Under the Employment of Children Bye-laws	75
Total	7739

Re-examination of defective children.—During the year 2,374 re-examinations of defective children were made by the Assistant Medical Officers.

Co-operation of parents.—Parents attended at the examination of 5,325 (74.4 per cent.) of the 7,151 children dealt with at routine inspections; and 243 (80.7 per cent.) of the 301 prospective entrants to secondary schools.

Increasing appreciation of the work of the school medical service is evidenced by a steadily rising percentage of parents' attendances—

1922	59.2%
1923	60.4%
1924	62.9%
1925	66.7%
1926	68.1%
1927	70.2%
1928	71.2%
1929	74.4%

Vaccination.—In the ordinary inspections children were examined as to vaccination marks. Of the 7,151 children examined

1575 (22.0%) showed no marks.
2707 (37.9%) showed one mark.
745 (10.4%) showed two marks.
231 (3.2%) showed three marks.
1893 (26.5%) showed four or more marks.

The following figures show the percentage of infants vaccinated year by year during the last ten years :

Year	Percentage
1920	81.8
1921	81.7
1922	80.6
1923	78.2
1924	78.9
1925	77.1
1926	76.6
1927	78.6
1928	79.3
1929	77.9

Infectious diseases.—Enquiry was made at each inspection as to the infectious diseases from which the children had suffered in the past. The information elicited is summarised in Table S 6.

Defects found requiring medical or dental treatment.—Out of the 7,245 children inspected at routine and special inspections, 1,078 were found to have defects requiring medical attention. The defects found were as follows:—

	Code Groups	Special Cases
<i>Skin Diseases</i>		
Ringworm	4	2
Scabies	8	—
Impetigo	9	3
Other diseases	18	1
<i>Eye Defects</i>		
Defective vision and squint (for further details see Table S 2)	321	22
External eye disease	24	6
<i>Ear Defects</i>		
Defective hearing	8	—
Ear disease	18	5
<i>Nose and Throat Defects</i>		
Enlarged tonsils	86	3
Enlarged tonsils and adenoids	13	—
Adenoids	18	1
Other defects	8	3

<i>Teeth defects</i>	463	4
<i>Pulmonary Tuberculosis</i>		
Definite	—	—
Suspected	3	—
<i>Non-Pulmonary Tuberculosis</i>		
Glands	—	—
Other forms	—	—
<i>Other Defects or Diseases</i>	118	15

A full statement regarding the defects found, setting out the number of defective children, is given in Table S 2. In Table S 5 the defective children are classified according to the schools attended.

(B) TREATMENT

The parents or guardians of all children found at routine examinations to be defective are informed immediately of the need for medical advice or treatment. They are later visited at their homes by the Health Nurses and urged to obtain this advice or treatment, the Assistant Medical Officers making periodical re-examinations in the schools to ascertain what action has been taken.

During the past year the Health Nurses paid 1,077 visits to the homes of defective children in connection with "following up"—862 first visits and 215 re-visits; and 2,374 re-examinations of defective children were made by the Assistant Medical Officers. In addition, the Nurses paid 38 special visits.

Treatment of children found, at medical inspections held during 1929, to be suffering from defects which required medical attention.—As has been stated above, 1,078 out of 7,245 children examined at routine and special inspections in elementary schools during 1929 were found to be suffering from defects requiring medical attention; of these 1,078, 325 or 30.2 per cent. received treatment before the end of the year.

Details of the various types of ailment treated will be found in Table S 4.

Treatment carried out at the Eye Clinic.—Children who were found by the Assistant Medical Officers to require spectacles, and whose parents were not in a position to secure the necessary attention privately, were seen at the Eye Clinic by Dr. Williams; Mr. Norman Wilson as usual assisting with this work.

During the year 521 new cases were examined, 697 children attended for re-examination, and 710 pairs of spectacles were supplied. The total cost of all the spectacles which were ordered during the year was £129 2s. 11d., of which the parents were expected to pay £124 7s. 4d. The total sum collected during the year (including arrears from previous years) was £121 8s. 7d.

The following is a summary of the visual defects of new cases for whom spectacles were prescribed during the year:—

First Eye	Second Eye	
Hypermetropia	Hypermetropia	130
Hypermetropia	Normal	3
Hypermetropia	Hypermetropic astigmatism	22
Hypermetropia	Myopic astigmatism	2
Hypermetropia	Mixed astigmatism	1
Hypermetropic astigmatism	Hypermetropic astigmatism	64
Hypermetropic astigmatism	Myopic astigmatism	2
Hypermetropic astigmatism	Mixed astigmatism	6
Myopia	Myopia	69
Myopia	Normal	6
Myopia	Myopic astigmatism	5
Myopic astigmatism	Myopic astigmatism	19
Myopic astigmatism	Normal	2
Myopic astigmatism	Mixed astigmatism	2
Mixed astigmatism	Mixed astigmatism	11
Mixed astigmatism	Normal	2
		346

124 children who were submitted to refraction were found to be emmetropic and not in need of spectacles.

The following conditions were also recorded among the new cases who attended the clinic:—

Corneal nebulae	13
Dense leucoma	1
Congenital choroiditis	1
Anterior polar cataract	1
Posterior polar cataract	1
Needling for cataract	1
Old injury	1
Left eye removed	1

The new cases of strabismus noted during the year were as follows:—

Convergent: Right eye, 26; left eye, 57; alternating, 11.
Divergent: Right eye, 3.

Blind and partially blind children

(1) Totally blind children

At the beginning of 1929 there were 13 *totally blind* children of school age on the register. During the year the names of 3 children were removed, and 3 added, leaving 13 at the end of the year. Of these 13 children, 11 were in attendance at certified schools for the blind; the other 2 were awaiting admission.

(2) Partially blind children

At the beginning of 1929 there were 51 *partially blind* children of school age on the register. During the year the names of 10 children were removed (5 on their becoming over school age, 3 on being transferred to a school for blind children, 1 on being admitted to an institution for epileptics, and 1 on account of improvement in his sight), and 12 new cases were added. At the end of 1929 there were 53 cases on the register. Of these children 16 boys and 21 girls were attending ordinary elementary schools. 11 boys and 5 girls were in attendance at the myope class held at Park Road Council School.

Myopia	10
Myopia and nystagmus	2
Myopic astigmatism	19
Myopic astigmatism and nystagmus	2
Corneal nebulae	8
Hypermetropic astigmatism and nystagmus	2
Hypermetropic astigmatism and retino-choroiditis	1
Hypermetropia and nystagmus	1
Dislocated lenses	1
Coloboma of choroid and nystagmus	1
Corneal nebulae and myopia	3
Mixed astigmatism and retino-choroiditis	1
Optic atrophy	1
Cataract	1
	—
	53
	—

Of the 36 children in the myopic group who were on the register in 1928, and who were re-examined during 1929, the visual condition of 14 had grown worse.

Treatment of ringworm carried out at the X-Rays Clinic.—During the year 16 cases were treated for ringworm at the X-Rays Clinic by Dr. Foster. 80 exposures to X-Rays were given. The duration of exposure is carefully checked by the use of pastilles, and averaged 15 minutes.

Treatment carried out at the General School Clinic.—Details of the work of this clinic, where cases of external eye disease, ear inflammation, skin disease, etc., are treated, will be found in Table S 4.

The number of children who received treatment at the Clinic was 2,645; the total attendances numbered 11,183.

Treatment of orthopædic defects.—In November, 1925, a municipal orthopædic clinic was opened at the premises then occupied by the Birkenhead and Wirral Invalid Children's Association in Albion Street, Birkenhead. Later the clinic was removed to the Association's new premises at 43 Hamilton Square. During the past four years there has been considerable development in the work of orthopædic treatment; the main features of this are dealt with below.

1. *Examinations carried out at the clinic by the orthopædic surgeon.*—At the clinic Dr. Hartley Martin, the orthopædic surgeon, has attended 23 times during the year—arrangements having been made for fortnightly attendances instead of monthly attendances as in 1928. The after-care sister attended weekly.

The clinic deals with all forms of crippling disease in children. The cost of the clinic is distributed as follows:—

- (a) Tuberculous cases (all ages): Health Committee.
- (b) Non-tuberculous cases under school age: Maternity and Child Welfare Committee.
- (c) Non-tuberculous cases of school age: Education Committee.

During 1929, 133 new cases were dealt with, as compared with 154 in the previous year:

Tuberculous cases	15
Non-tuberculous cases—	
Under school age	65
Of school age	52
Over school age	1
	<hr/>
	133

There were 676 re-examinations made, as compared with 452 in 1928:

Tuberculous cases	76
Non-tuberculous cases—	
Under school age	243
Of school age	339
Over school age	18
	<hr/>
	676

The average number of cases seen by the surgeon per session was 35.

In the following table Dr. Hartley Martin sets out a classification of cases dealt with, and shows the results of treatment:

Diagnosis	Remaining 1928	1929			Remaining			Discharges 1929				
		New cases			1930			Cured	Relieved	Left district	Refused treatment	Unsuitable
		School age			School age							
		Under	Of	Over	Under	Of	Over					
Infantile Paralysis	18	2	2	...	4	16	1	...	...	1	...	...
Spastic Paralysis	24	1	3	...	4	21	..	...	1	1	1	...
Rickets	82	31	5	..	52	19	...	39	...	3	5	...
Tuberculous	31	6	9	...	3	31	3	7	1	...	1	...
Non-Tuberculous	4	...	1	...	...	2	...	2	...	1	..	...
Congenital Deform.	15	12	6	...	13	12	...	5	...	2	1	...
Acquired Deform.....	56	9	26	1	14	38	1	26	....	3	7	3
Diagnosis	3	10	9	...	2	...	...	...	...	....	..	20
Totals...	233	71	61	1	92	139	5	79	2	11	15	23

2. *Massage and remedial exercises.*—Massage and remedial exercises as prescribed by Dr. Martin were provided by the Invalid Children's Association. (There are two whole-time masseuses on the Association's staff.)

Attendances for massage and remedial exercises were made by clinic cases as follows:

Tuberculous cases	64
Non-tuberculous cases—	
Under school age	524
Of school age	2770
Over school age	—

In addition to the above, 2,274 attendances were made by non-clinic cases (that is to say, cases sent to the Association by orthopædic surgeons attached to voluntary hospitals, etc.).

3. *Artificial sunlight*.—A carbon-arc lamp is installed at the premises of the Invalid Children's Association. Selected cases attended for the administration of this form of treatment by the Association's staff, as follows:

Clinic cases (sent by Dr. Martin)		Attendances.
Tuberculous cases	—	—
Non-tuberculous cases—		
Of school age	13	396
Under school age	18	
Over school age	—	
Non-clinic cases	85	1179

4. *Surgical apparatus—splints, etc.*—These are provided by the Association, the number of cases dealt with during the past year being as follows:

Clinic cases	102
Non-clinic cases	62

5. *Milk, tonics, convalescence, after-care*.—Most useful work is also done by the Association in providing milk, tonics, etc., for patients for whom these have been prescribed by the orthopædic surgeon and other doctors, and in following up and helping patients who have passed through the stage of active treatment.

	Clinic cases	Non-clinic cases
Children supplied with milk	127	614
Children supplied with tonics	247	484
Children sent to convalescent homes and country hospitals	53	116

6. *Children's Hospital, Leasowe*.—Of the 366 cases that have been on the register of the orthopædic clinic and regarded as suitable for treatment during the past year, 29 (or 7.9%) required hospital treatment and were admitted to the Children's Hospital, Leasowe. These cases comprise:

	Cases	Stay in Hospital		
		Min.	Max.	Average
Congenital deformities	8	29	181	92
Rickets	18	39	237	97
Infantile paralysis	1	29	—	29
Other acquired deformities ...	2	4	29	16

The total number of days in hospital was 2,549 (6.9 beds occupied throughout the year).

In addition to the above, 18 cases were referred to the hospital for X-Rays examination, and 27 cases for the application of plaster of Paris splints.

7. *Thingwall Sanatorium*.—At this institution children suffering from orthopædic defects of tuberculous origin are treated. Many are

cases who have passed through a course of treatment at Leasowe Hospital, or are awaiting admission to that institution.

Treatment of enlarged tonsils and adenoids.—Operations were performed at the Birkenhead and Wirral Children's Hospital upon 81 children under the Committee's scheme for the provision of this treatment.

Treatment of uncleanness.—The average number of visits paid during 1929 by the Health Nurses to each school in the Borough was 25.6; the total examinations numbering 54,597.

The number of individual children found by the Health Nurses to require attention was 2,525, as compared with 2,855 in 1928. In every case the parents were informed. In 23 cases of persistent neglect notices were served; and 13 children were compulsorily cleansed at the cleansing station. The Nurses paid 15 visits to the homes of children (10 first visits, 5 re-visits).

DENTAL INSPECTION AND TREATMENT (ELEMENTARY SCHOOLS)

(A) INSPECTION

Scope of past year's work.—The work of dental inspection and treatment was concerned with the periodical re-inspection and treatment of some of those children who had been examined in the original dental inspection which was carried out during 1921 and the first part of 1922 (children born in the year 1916), and with the inspection and treatment of children born in the years 1921, 1922, 1923 and 1924.

Number inspected.—10,940 children were dentally inspected during the year as follows:

Aged four years	67
Aged five years	1454
Aged six years	1986
Aged seven years	1789
Aged eight years	2373
Aged nine years	1384
Aged twelve years	1238
Aged thirteen years	649
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	10940
	<hr/>

The figures for the preceding year (1928) were:

Aged four years	188
Aged five years	2515
Aged six years	1015
Aged seven years	1715
Aged twelve years	2121
Aged thirteen years	1230
Aged fourteen years	34
	<hr/>
	8818
	<hr/>

Number requiring dental treatment.—Of the 10,940 children inspected, 7,751 (73.8%) were selected as requiring treatment, the

parents being advised to obtain this treatment privately, or, if unable to do this, at the Dental Clinic.

Cleanliness of teeth.—The children examined were classified according to cleanliness of teeth as follows:

Clean	4079
Fairly clean	5987
Dirty	874
	<hr/>
	10940
	<hr/>

Condition of gums.—The following figures show the condition of the gums of the children examined:

Gums healthy	7021
Gums inflamed	2387
Gums septic	1532
	<hr/>
	10940
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Condition of bite.—This was found to be as set out below:

Bite good	7046
Bite fair	3256
Bite bad	638
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	10940
	<hr/>

(B) TREATMENT

Notices were sent out to the parents of the 7,751 children found to require dental treatment, with the following results:—

Refused to have treatment done.....	901	(11.6%)
Stated that treatment would be obtained privately ...	1910	(24.6%)
Requested treatment at the Dental Clinic	4940	(63.8%)
	<hr/>	
	7751	
	<hr/>	

Treatment at the Dental Clinic.—Of the 4,940 children for whom treatment at the clinic was requested

3589 were treated before the end of the year
861 did not attend when sent for
490 were awaiting treatment at the end of the year
<hr/>
4940
<hr/>

Besides the above 4,940 children treated at the clinic following on inspections held in 1929, 37 were treated who had been inspected in 1928, and had not been treated before the end of that year; and 1,154 children who were brought by parents on their own initiative to the clinic were also treated. The total number of children treated at the clinic during 1929 was therefore:

Following on 1928 inspections	37
Following on 1929 inspections	3589
Brought by parents on their own initiative	1154
	<hr/>
	4780
	<hr/>

Details of treatment carried out.—This was as follows:

Temporary teeth filled	416
Temporary teeth extracted	6344
Permanent teeth filled	2566
Permanent teeth extracted	737
Total extractions	7081
Total fillings	2982
Anæsthetics—general	—
local	3840
Scalings	2296
Dressings	887

The total number of attendances at the clinic numbered 5,626. and the number of treatments completed during the year was 4,514; 2,226 parents paid 1s. each and 85 parents 6d. each for treatment; the total amount paid being £113 10s. 6d.

MEDICAL INSPECTION AND TREATMENT (SECONDARY SCHOOLS AND CONTINUATION SCHOOLS)

The powers and duties of local education authorities with regard to medical inspection and treatment in secondary schools and continuation schools are set out in Section 80 of the Education Act, 1921.

Schools at which medical inspection is carried out.—Medical inspection is arranged for at the following schools:

	No. on Roll.
(a) Provided by the Local Education Authority—	
The Birkenhead Institute (Boys)	492
The Girls' Secondary School	396
Park High School (Boys)	268
Rock Ferry High School (Boys)	301
(b) Not provided by the Local Education Authority—	
The Higher Tranmere High School for Girls	314
The Convent Secondary School	286

There are no continuation schools provided by the local education authority at which medical inspection has to be carried out.

Scope of medical inspection.—The existing arrangements provide for the examination once in each year of every child in the schools inspected; and for the re-examination of children found to be defective.

The opinion of the Board of Education in this connection is expressed in Circular 1153:—"In view of the many defects that may arise during the critical period of adolescence, the Board attach great importance to arrangements being made for all pupils to come annually, as a matter of routine, under medical supervision."

Birkenhead Institute.—At the annual inspection 423 children were inspected. Included in that number there were 57 children now examined for the first time as secondary school children. 113 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	70
Defective vision	33
Nose and throat defects	12
Heart defect	1
Other defects	8

Girls' Secondary School.—At the annual inspection 362 girls were examined.

Included in the above total (362) there were 53 children now examined for the first time as secondary school children.

Of the 362 children examined, 25 were found to have defects requiring medical or dental attention; the defects found being as follows:

Defective teeth	13
Defective vision	7
Deformities	1
Heart defects	3
Other defects	1

Rock Ferry High School.—At the annual inspection 266 children were inspected. 81 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	54
Defective vision	14
Nose and throat defects	13
Deformities	1
Heart defects	2
Other defects	4

Park High School.—At the annual inspection 240 children were inspected. 68 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	35
Defective vision	4
Nose and throat defects.....	11
Ear defects	2
Heart defects	2
Nervous disease	1
Skin disease	1
Other defects	12

Higher Tranmere High School for Girls.—At the annual inspection 47 children were inspected. 5 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	4
Defective vision	1

Convent F.C.J.—At the annual inspection 239 children were inspected. 18 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	12
Defective vision	6

MISCELLANEOUS

Examination of entrants to the Girls' Secondary School, the Birkenhead Institute, Park High School, Rock Ferry High School, Higher Tranmere High School for Girls, The Convent Secondary School, St. Francis Xavier's College, and the Catholic Institute.—During the year 301 elementary school children were examined with a view to their admission to the above schools. 98 were found to require treatment for 116 defects, the latter being as follows:

Defective teeth	70
Defective vision	17
Nose and throat defects	10
Deformities	2
Other defects	17
	<hr/>
	116

Claughton Road Special Council School for Mentally Defective Children.—The accommodation at the Special School for the year 1929 was 154. The average number on the rolls during the year was 115, and the average daily attendance was 96.

A routine inspection of all scholars attending the School was carried out. 103 children were examined, of whom 18 were found to have defects requiring medical or dental advice, the defects found being as follows:

Defective teeth	14
Defective vision	2
Enlarged tonsils	1
Skin disease	1
Eye defect	1

Nine visits were paid to the school during the year by the Assistant School Medical Officer, Dr. Deacon. At these visits 3 examinations were held of children suspected to be mentally deficient with reference to their suitability for admission to the Special School. The results were as follows:

Total number examined—Boys	9
Girls	6
	<hr/>
	15
Number certified for admission—Boys	9
Girls	6
	<hr/>
	15

16 children left the school during the year as follows:

(a) on reaching the age of 16 years	7*
(b) before reaching the age of 16 years	
Fit for work	3
Transferred to industrial school	1
Referred to Local Authority under the Mental Deficiency Acts as incapable of receiving further benefit from instruction in a Special School	1
Left district	2
Physically unfit to continue in attendance	2
	<hr/>
Total	16

*6 of these cases were notified to the Local Authority under the Mental Deficiency Acts.

Of the 3 children who left to take up work—

- 1 is employed by a cooper;
- 1 is employed in a shipyard;
- 1 is employed as an errand boy

School dinners have been provided throughout the year at a cost to the parent of 2d. per day.

Daily average supplied	80
Total cost for the year	£133

The weekly menu was:

- Monday*.....Soup; boiled suet pudding.
- Tuesday*.....Irish stew; milk pudding.
- Wednesday*...Meat pie and vegetables.
- Thursday*.....Irish stew; milk pudding.
- Friday*.....Potato pie; fruit (when possible).

Children living at a distance from the school are now conveyed by a Corporation motor bus, provided by the Local Education Authority. The bus leaves the North End at 8-50 a.m. and after collecting children at various points arrives at the school at 9-20 each morning.

The Voluntary After-Care Association in connection with the school has continued throughout the year to supervise and help former pupils of the school.

Holiday camp at Gronant.—The 1928 camp having proved helpful to the girls, it was decided to carry on this year and to include the boys. 25 boys and 26 girls enjoyed a fortnight at the Gronant bungalow.

The total amount chargeable to the Committee was £26 10s. 0d., part of which, it is anticipated, will be covered by a Government grant.

Provision of meals.—During the year 1,375 children have been supplied with 107,449 meals. Meals were provided five days per week, with the exception of Bank and Public Holidays.

TABLE S 1

Return of Medical Inspections during 1929 (see note *a*)

A.—ROUTINE MEDICAL INSPECTIONS

Number of Code Group Inspections (see note <i>b</i>)	
Entrants	2585
Intermediates	2502
Leavers	2064
Total	7151
Number of other routine inspections (see note <i>c</i>)	
102	

B.—OTHER INSPECTIONS

Number of special inspections (see note <i>d</i>)	3733
Number of re-inspections (see note <i>e</i>)	5879
Total	9612

NOTES ON TABLE S 1

(*a*) The return refers to a complete calendar year.

(*b*) This heading relates solely to the routine medical inspection of the three ordinary age groups, *i.e.*, to medical inspections carried out:—

(i) in compliance with Article 7 of the Consolidated Regulations relating to Special Services—Grant Regulations No. 19;

(ii) on the school premises (or at a place specially sanctioned by the Board under Article 44 (*h*) of the Code);

(iii) for the purpose of making a report on each child on the lines of the approved Schedule set out in Circular 582.

(*c*) Under this heading may be recorded *routine* inspections, if any, of children who do not fall under the three code age-groups, *e.g.*, *routine* inspections of a fourth age-group or of other groups of children, as distinct from those who are individually selected on account of some suspected ill-health for a "Special" Inspection.

(*d*) A Special Inspection is a medical inspection by the School Medical Officer himself or by one of the Assistant Medical Officers on his staff of a child specially selected or referred for such inspection, *i.e.*, not inspected at a routine medical inspection as defined above. Such children may be selected during a visit to the school or may be referred for inspection by the teachers, health nurses, attendance officers, parents, or otherwise. It is immaterial for the purpose of this heading whether the children are inspected at the school or at the Inspection Clinic or elsewhere. If a child happens to come before the School Medical Officer for special inspection during a year in which it falls into one of the routine groups, its routine inspection is entered in Part A of Table S 1 and its special inspection in Part B. The inspection to be recorded under the heading of special inspections is only the first inspection of the child so referred for a particular defect. If a child who has been specially inspected for one defect is subsequently specially inspected for another defect, such subsequent inspection is recorded as a special inspection and not as a re-inspection.

(*e*) Under this heading are entered the medical inspections of children who as the result of a routine or special inspection come up later on for subsequent re-inspection, whether at the school or at the inspection clinic. The first inspection in every case is entered as a routine or special inspection as the case may be. Every subsequent inspection of the same defect is entered as a re-inspection.

Nothing is included under the head of special inspections or re-inspections except such inspections as are defined above. Attendances for treatment by a nurse or for examinations by anyone other than a doctor on the staff of the School Medical Service are not recorded as medical inspections. If, however, at any such attendance, a child is also examined by a member of the authority's medical staff, this is recorded as a special inspection or re-inspection as the case may be, even if treatment is also given; but such attendance may also of course be recorded as an attendance for treatment.

TABLE S 2

A. Return of Defects found by Medical Inspection during the year ended 31st December, 1929

Defect or disease (1)	Routine Inspections		Special Inspections	
	No. of defects		No. of defects	
	Requiring treatment (2)	Requiring to be kept under observation, but not requiring treatment (3)	Requiring treatment (4)	Requiring to be kept under observation, but not requiring treatment (5)
<i>Malnutrition</i>	3	3	1	—
<i>Uncleanliness</i>	—	—	—	—
(See Table S 4, Group V.)				
<i>Skin</i> Ringworm—Scalp	3	—	23	—
..... Body	1	—	39	—
..... Scabies	8	1	39	—
..... Impetigo	9	—	205	—
..... Other diseases (non-tuberculous)	18	—	207	—
<i>Eye</i> Blepharitis	15	4	99	—
..... Conjunctivitis	7	1	173	—
..... Keratitis	—	—	2	—
..... Corneal opacities	1	—	6	—
..... Defective vision (excluding squint)	251	107	68	1
..... Squint	70	14	14	2
..... Other conditions	1	2	73	—
<i>Ear</i> Defective hearing	8	3	12	—
..... Otitis media	14	8	122	—
..... Other ear diseases	4	1	42	—
<i>Nose and throat</i> Enlarged tonsils only	86	95	184	—
..... Adenoids only	18	11	18	—
..... Enlarged tonsils and adenoids	16	5	9	—
..... Other conditions	8	6	169	—
<i>Enlarged cervical glands (non-tuberculous)</i>	3	6	17	—
<i>Defective speech</i>	—	3	2	—
<i>Teeth</i> Dental diseases (see note a)	463	12	52	—
(See Table S 4, Group IV.)				
<i>Heart and circulation</i> —				
..... Heart disease—Organic	7	12	2	—
..... Functional	12	25	4	—
..... Anæmia	2	4	18	—
<i>Lungs</i> Bronchitis	13	12	92	—
..... Other non-tuberculous diseases	6	36	162	—
<i>Tuberculosis</i> ... Pulmonary—Definite	—	—	—	—
..... Suspected	3	—	4	—
..... Non-pulmonary—Glands	—	—	1	—
..... Spine	—	—	—	—
..... Hip	—	—	—	—
..... Other bones and joints	—	—	—	—
..... Skin	—	—	1	—
..... Other forms	—	1	1	—
<i>Nervous system</i> Epilepsy	—	—	3	—
..... Chorea	1	1	4	1
..... Other conditions	1	2	7	—
<i>Deformities</i> Rickets	4	1	1	—
..... Spinal curvature	—	1	1	—
..... Other forms	8	3	1	—
<i>Other defects and diseases</i>	58	59	1824	—

TABLE S 2—Continued

B. Number of *individual children* (see note *b*) found at *routine* medical inspection to require treatment (excluding uncleanness and dental diseases)

Group. (1)	Number of children.		Percentage of children found to require treatment (4)
	Inspected (see note <i>c</i>). (2)	Found to require treatment. (3)	
CODE GROUPS:			
Entrants.....	2585	175	6.7
Intermediates.....	2502	348	13.9
Leavers.....	2054	494	23.9
Total (code groups)	7151	1017	14.2
Other routine inspections.....	103	18	17.4

NOTES ON TABLE S 2.

(a) The figures included in this space refer to the findings of the Medical Staff and not those resulting from dental inspection in the schools by the School Dental Surgeon. The findings of the School Dental Surgeon are recorded in Table S 4 Group IV.

(b) No individual child is counted more than once in this part of Table S 2, *i.e.*, under B., even if it is found to be suffering from more than one defect.

(c) The figures in this column are the same as those given in Table S 1 A.

TABLE S 3

Return of all exceptional children in the area (see note *a*)

			Boys	Girls	Total
<i>Blind</i> (including partially blind) (see note <i>b</i>)	(i) Suitable for training in a school or class for the totally blind	Attending certified schools or classes for the blind	8	3	11
		Attending public elementary schools (see note <i>c</i>)	-	-	-
		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	11	5	16
		Attending public elementary schools (see note <i>c</i>)	16	21	37
		At other institutions	-	-	-
		At no school or institution	-	-	-
<i>Deaf</i> (including deaf and dumb and partially deaf) (see note <i>d</i>)	(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	8	11	19
		Attending public elementary schools (see note <i>c</i>)	-	-	-
		At other institutions	-	-	-
		At no school or institution	-	-	-
	(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 (see note <i>c</i>)	-	-	-
		At other institutions	-	-	-
		At no school or institution	-	-	-
<i>Mentally defective</i>	Feeble-minded (cases not notifiable to the Local Control Authority.) (see note <i>e</i> .)	Attending certified schools for mentally defective children	68	49	117
		Attending public elementary schools (see note <i>c</i>)	-	-	-
		At other institutions	2	1	3
		At no school or institution	-	-	-
<i>Epileptics</i>	Suffering from severe epilepsy (see note <i>f</i>)	Attending certified special schools for epileptics	4	2	6
		In institutions other than certified special schools	-	-	-
		Attending public elementary schools (see note <i>c</i>)	-	-	-
		At no school or institution	-	1	1
	Suffering from epilepsy which is not severe (see note <i>g</i>)	Attending public elementary schools (see note <i>c</i>)	-	2	2
		At no school or institution	-	-	-
<i>Physically defective</i>	Infectious pulmonary and glandular tuberculosis (see note <i>h</i>)	At sanatoria or sanatorium schools approved by the Ministry of Health or the Board	-	-	-
		At other institutions	3	2	5
		At no school or institution	2	2	4
	Non-infectious but active pulmonary and glandular tuberculosis (see note <i>h</i>)	At sanatoria or sanatorium schools approved by the Ministry of Health or the Board	2	3	5
		At certified residential open air schools	-	-	-
		At certified day open air schools	-	-	-
		At public elementary schools (see note <i>c</i>)	4	2	6
		At other institutions	-	-	-
		At no school or institution	2	2	4

TABLE S 3—Continued

<i>Physically defective (continued)</i>	Delicate children (<i>e.g.</i> , pre-or latent tuberculosis, malnutrition, debility, anæmia, etc.) (see note <i>h</i>)*	At certified residential open air schools	—	—	—
		At certified day open air schools.....	—	—	—
		At public elementary schools (see note <i>c</i>).....	30	34	64
		At other institutions	—	—	—
		At no school or institution	—	—	—
	Active non-pulmonary tuberculosis (see note <i>h</i>)	At sanatoria or hospital schools approved by the Ministry of Health or the Board	11	8	19
		At public elementary schools (see note <i>c</i>).....	3	2	5
		At other institutions	—	—	—
		At no school or institution	2	2	4
	Crippled children (other than those with active tuberculous disease), <i>e.g.</i> , children suffering from paralysis, &c., and including those with severe heart disease (see note <i>h</i>)	At certified hospital schools	—	—	—
		At certified residential cripple schools	—	—	—
		At certified day cripple schools	—	—	—
		At public elementary schools (see note <i>c</i>).....	33	35	68
		At other institutions	—	—	—
		At no school or institution	9	16	25

*A complete record of these children has not been kept, as there is no open-air school available.

NOTES ON TABLE S 3

(a) This Table is a return of all children in the area for whom the Local Education Authority are responsible and who (except in the case of children suffering from epilepsy which is not severe) have been ascertained to be blind, deaf, defective or epileptic within the meaning of Part V of the Education Act 1921. It is the statutory duty of every Local Education Authority formally to ascertain all defective children in their area irrespective of the actual provision now made for their instruction in Special Schools. It is assumed by the Board of Education that every authority will have a complete list of such children compiled from returns made continuously during the year and kept constantly up to date. In order to secure uniformity, authorities are requested to make up this Table from their list of defective children as it stands on the last day of each calendar year.

Children who are living in residential schools in the area but who come from other areas are not included in this Table; but children are included who are living in residential schools outside the area and who are being maintained there by the authority.

For the purpose of this Table no child is included whose defect has not been ascertained by the School Medical Officer or a medical member of the authority's staff.

The definitions of defective children as given in the Act are as follows—

A blind child is a child who is too blind to be able to read the ordinary school books used by children.

A deaf child is a child who is too deaf to be taught in a class of hearing children in an elementary school.

Mentally and physically defective children are children who, not being imbecile and not being merely dull and backward, are defective, that is to say, children who by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but are not incapable by reason of that defect of receiving benefit from instruction in such special classes or schools as under Part V of the Act may be provided for defective children.

Epileptic children are children who, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary public elementary schools.

NOTES ON TABLE S 3—Continued

(b) For the purpose of this return the Board require that children who are blind within the meaning of the Act should be divided into two categories, *i.e.*, (1) those who are totally blind or so blind that they can only be appropriately taught in a school or class for totally blind children, and (2) those who though they cannot read ordinary school books, or cannot read them without injury to their eyesight, have such power of vision that they can appropriately be taught in a school or class for the partially blind.

It should be understood that children who are able by means of suitable glasses to read the ordinary school books used by children without fatigue or injury to their vision are not included in this Table.

(c) The Board emphasises the fact that it should be understood that none of the children in this Table (except children suffering from epilepsy which is not severe) should in fact be attending public elementary schools. When the heading is retained, it is merely because at present the insufficiency of Special School accommodation makes it impossible to do better for some defective children than to allow them to attend the ordinary school. No space is left for the entry of children with infectious pulmonary tuberculosis attending public elementary schools, as these children should, of course, be promptly excluded from such schools.

(d) Children who are deaf within the meaning of the Act are classified for the purpose of this Table as (1) totally deaf or so deaf that they can only be appropriately taught in a school or class for the totally deaf, and (2) partially deaf, *i.e.*, those who can appropriately be taught in a school or class for the partially deaf.

(e) This category includes only those children for whose education and maintenance the Local Education Authority are responsible, and who are not eligible for notification to the Local Control Authority under the Mental Deficiency Act.

(f) In this part of the Table only those children are included who are epileptic within the meaning of the Act.

(For practical purposes the Board are of opinion that children who are subject to attacks of major epilepsy in school should be recorded as "severe" cases and excluded from ordinary public elementary schools.)

(g) In this part of the Table are entered the remainder of the epileptic children in the area, *i.e.*, children whose disease is of such a kind as not to unfit them for attendance at an ordinary public elementary school.

(h) The exact classification of physically defective is admittedly a matter of difficulty. The Board request School Medical Officers to record these defective children as accurately as possible under the selected sub-headings, taking care that no child is entered under more than one sub-heading.

TABLE S 4

Return of Defects treated during the year ended 31st December, 1929.
(see note a)

TREATMENT TABLE

Group I.—Minor Ailments (excluding uncleanness, for which see Group V)

Defect or disease (1)	Number of defects treated, or under treatment during the year		
	Under the Authority's scheme (see note b.) (2)	Otherwise (3)	Total (4)
Skin—Ringworm—scalp	21	1	22
body	39	—	39
Scabies	39	—	39
Impetigo	202	—	202
Other skin diseases	206	7	213
Minor eye defects	345	1	346
(external and other, but excluding cases falling in Group II.)			
Minor ear defects	171	2	173
(see note c)			
Miscellaneous	1816	17	1833
(c.g., minor injuries, bruises, sores, chil-blains, &c.)			
Total ..	2839	28	2867

Group II.—Defective Vision and Squint (excluding minor eye defects treated as minor ailments—Group I.)

Defect or disease (1)	Number of defects dealt with			
	Under the Authority's scheme (see note b.) (2)	Submitted to refraction by private practitioner or at hospital, apart from the Authority's scheme (3)	Otherwise. (4)	Total (5)
Errors of refraction (including squint) (operations for squint should be recorded separately in the body of the report)	825	6	—	831
Other defect or disease of the eyes (excluding those recorded in Group I)	10	—	—	10
Total	835	6	—	841

Total number of children for whom spectacles were prescribed—

(a) Under the Authority's scheme 784
(b) Otherwise 6

Total number of children who obtained or received spectacles—

(a) Under the Authority's scheme 710
(b) Otherwise 6

TABLE S 4—Continued

Group III.—Treatment of Defects of Nose and Throat

Number of defects.				
Received operative treatment.			Received other forms of treatment.	Total number treated.
Under the Authority's scheme, in clinic or hospital (see note b.) (1)	By private practitioner or hospital, apart from the Authority's scheme. (2)	Total. (3)		
81	11	92	174	266

Group IV.—Dental Defects

(1) Number of children who were—

(a) Inspected by the Dentist—

Routine age groups—aged 4	67
aged 5	1454
aged 6	1986
aged 7	1789
aged 8	2373
aged 9	1384
aged 12	1238
aged 13	649
	— 10940

Special (see note d) —

(b) Found to require treatment 7751

(c) Actually treated 4780

(d) Re-treated during the year as the result of periodical examination (see note c) —

(2) Half-days devoted to—Inspection 113
Treatment 635
— 748

(3) Attendances made by children for treatment 5626

(4) Fillings Permanent teeth 2566
Temporary teeth 416
— 2982(5) Extractions Permanent teeth 737
Temporary teeth 6344
— 7081

(6) Administrations of general anaesthetics for extractions —

(7) Other operations Permanent teeth 524
Temporary teeth 363
— 887

Scalings 2296

Local anaesthetics 3840

Group V.—Uncleanliness and Verminous Conditions (see note f)

(i) Average number of visits per school made during the year by Health Nurses 25.6

(ii) Total number of examinations of children in the schools by Health Nurses 54597

(iii) Number of individual children found unclean 2525

(iv) Number of children cleansed under arrangements made by the Local Education Authority 13

(v) Number of cases in which legal proceedings were taken—

(a) Under the Education Act, 1921 —

(b) Under School Attendance Byelaws —

NOTES ON TABLE S 4

(a) The Table deals with all defects treated during the year, however they were brought to the Authority's notice, *i.e.*, whether by routine inspection, special inspection, or otherwise, during the year in question or previously.

(b) This heading includes all cases that received treatment under definite arrangements or agreements for treatment made by the Local Education Authority and sanctioned by the Board of Education under Sections 16 and 80 of the Education Act, 1921. Cases which, after being recommended for treatment or advised to obtain it, actually received treatment by private practitioners, or by means of direct application to Hospitals, or by the use of hospital tickets supplied by private persons, etc., are entered under other headings.

(c) The Board request that if any treatment is given for more serious diseases of the ear (*e.g.*, operative treatment in hospital) it should not be recorded here but in the body of the School Medical Officer's Annual Report.

(d) The heading "Specials" in this Table relates to all children inspected by the School Dentist otherwise than in the course of the routine inspection of children in one of the age groups covered by the Authority's approved scheme, namely, to children specially selected by him, or referred by medical officers, parents, teachers, etc., on account of urgency. The number inspected in each age group is separately shown, as well as the total, but under "Specials" only the total number is given.

(e) It should be understood that all the cases entered under this head are also entered under head (c)

(f) A statement as to the arrangements made by the Local Education Authority for cleansing verminous children and a record of the cases in which legal proceedings were taken are included in the body of the School Medical Officer's report.

N.B.—Groups I—V above cover all the defects for which treatment is normally provided as part of the School Medical Service. The Board request that particulars as to the measures adopted by the Authority for providing treatment for other types of defect (*e.g.*, for orthopædic treatment) or for securing improvement in types of defect which do not fall to be treated under the Authority's own scheme and for which the Authority neither incur expenditure nor accept any responsibility, together with a statement of the effect of the measures taken, should be included in the body of the School Medical Officer's report; such particulars following the headings of Table S 2.

TABLE S 5

Number of children examined at Routine Medical Inspections in the Schools and number found defective in each School

SCHOOL	Entrants	Intermediates	Leavers	Total ordinary inspections	Parents present	*Number of defective children	Number of defects found	CLASSIFICATION OF DEFECTS													Totals		
								Malnutrition	Skin diseases	Eyes	Ears	Nose and throat	Cervical glands (non-tuberculous)	Defective speech	Teeth	Heart and circulation	Lungs	Tuberculosis (pulmonary)	Tuberculosis (non-pulmonary)	Nervous system		Deformities	Other defects and diseases
Bidston Avenue	127	130	67	324	288	69	81	—	1	13	2	15	1	—	40	2	1	1	—	—	—	5	81
Brassey Street Infants ..	97	52	—	149	126	12	13	—	—	2	—	2	—	—	7	—	—	—	—	—	—	2	13
Cathcart Street	126	109	49	284	229	54	60	—	2	13	1	16	—	—	21	3	2	—	—	—	—	2	60
Heningford St. Infants..	—	56	—	56	54	4	4	—	1	1	—	1	—	—	1	—	—	—	—	—	—	—	4
Laird Street	124	124	61	309	235	61	71	—	5	19	1	7	—	—	34	2	—	—	—	—	1	2	71
Mersey Park	103	156	35	294	226	28	30	—	2	7	1	11	—	—	4	1	1	—	—	—	1	2	30
Pilgrim Street	75	79	44	198	144	31	31	—	—	11	1	3	—	—	12	—	1	—	—	—	1	2	31
Rock Ferry	144	102	108	354	265	38	40	1	1	17	—	6	1	—	10	1	—	—	—	—	—	3	40
The Woodlands	78	91	64	233	175	22	26	—	—	8	2	5	—	—	10	—	—	—	—	—	—	1	26
Well Lane.....	93	97	101	291	221	29	31	—	1	24	—	1	—	—	2	1	—	—	—	—	—	2	31
Woodchurch Road	161	165	51	377	308	25	25	—	1	10	2	6	—	—	3	—	—	—	—	—	1	2	25
Park Road Temporary ...	29	24	—	53	42	3	3	—	—	1	—	1	—	—	—	—	—	—	—	—	1	—	3
Cole Street ..	88	—	—	88	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Price Street ..	77	55	15	147	119	14	17	—	—	8	—	2	—	—	7	—	—	—	—	—	—	—	17
Trinity Street ..	36	54	18	108	79	29	40	1	3	11	—	5	—	—	15	—	3	—	—	—	—	2	40
Claughton H.G.	107	102	81	290	239	15	16	—	—	6	1	3	1	—	4	—	—	—	—	—	1	—	16

TABLE S 6

Past Infectious Diseases (Elementary School Children)

(1) Children aged 3—7		No. of Cases	Percentage
No Infectious Disease	436	16.8	
Measles	1839	71.1	
Whooping Cough	1167	45.1	
Scarlet Fever	97	3.7	
Diphtheria	40	1.5	
Chicken Pox	779	30.1	
Mumps	322	12.4	
(2) Children aged 8—14		No. of Cases	Percentage
No Infectious Disease	211	4.6	
Measles	4228	92.6	
Whooping Cough	2718	59.5	
Scarlet Fever	376	8.2	
Diphtheria	169	3.7	
Chicken Pox	2111	46.2	
Mumps	1418	30.0	

Note.—The same child may have had more than one of these diseases