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County Borough



of Blackburn.

ANNUAL REPORT

UPON THE

Health of Blackburn

For the Year 1933.

BY

V. T. THIERENS, M.B., Ch.B. (L'pool), D.P.H. (Cambridge),

MEDICAL OFFICER OF HEALTH,

ADMINISTRATIVE TUBERCULOSIS OFFICER,

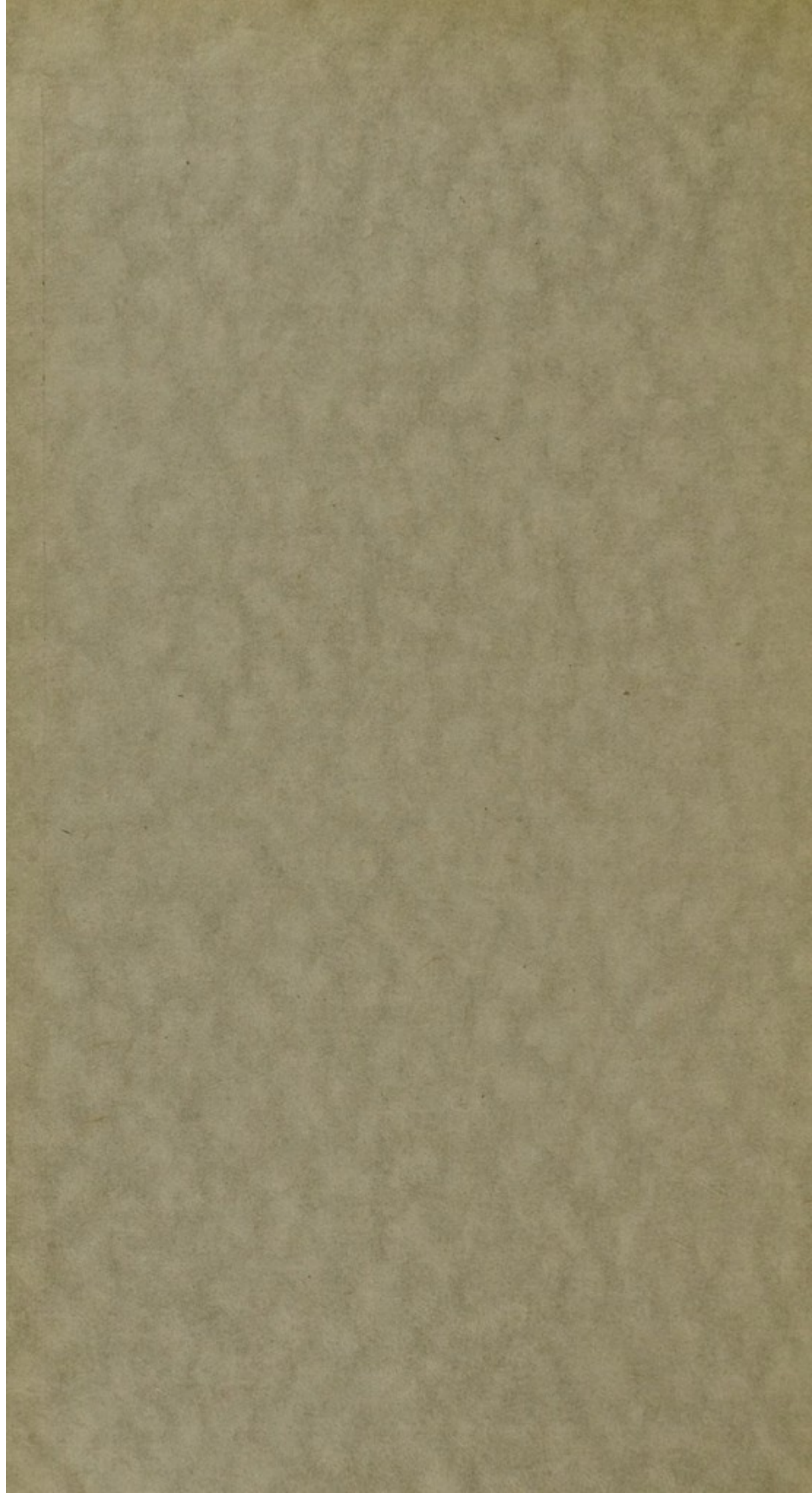
MEDICAL SUPERINTENDENT OF THE CORPORATION ISOLATION HOSPITALS

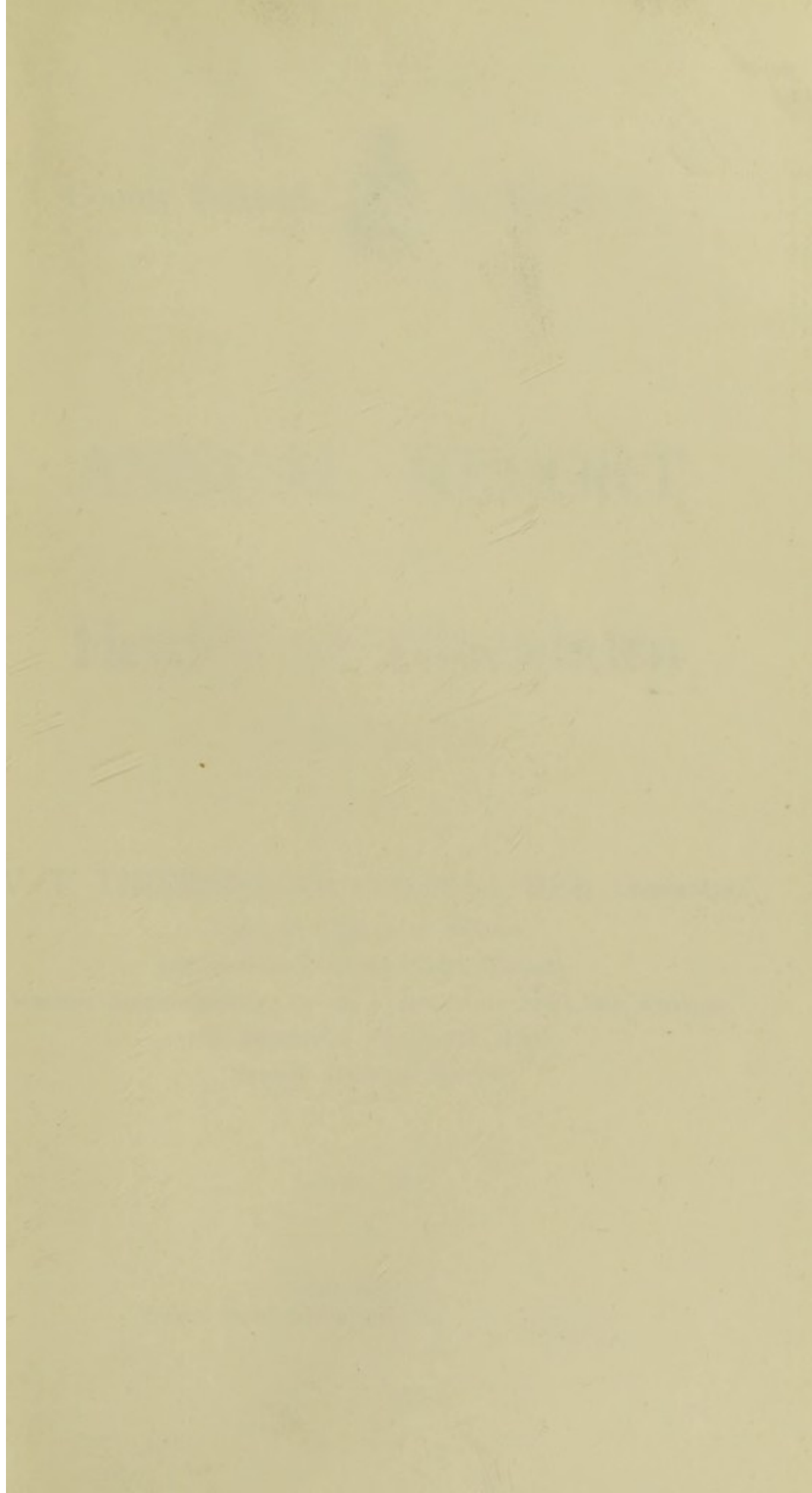
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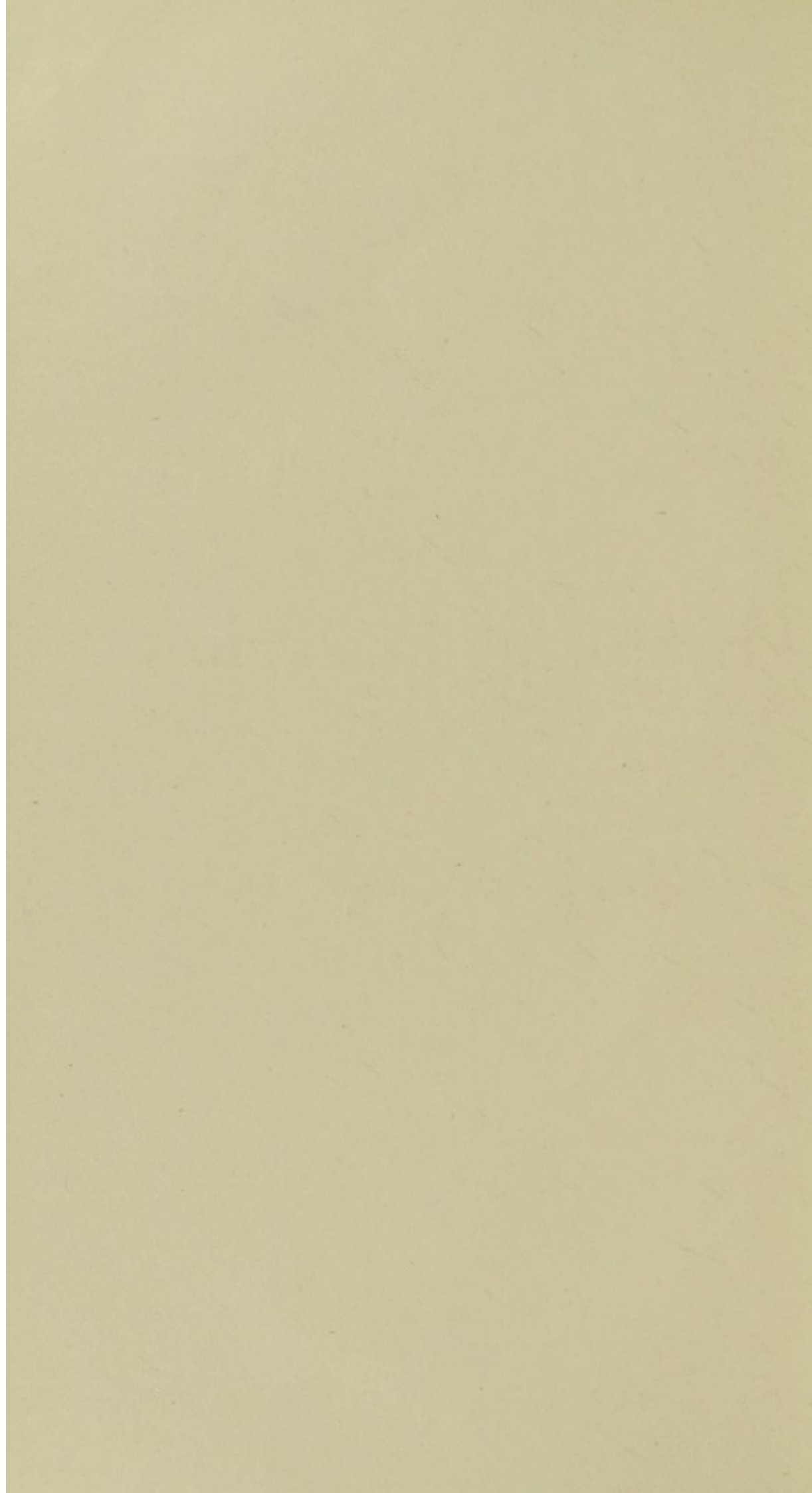
SCHOOL MEDICAL OFFICER.

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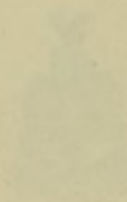
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ANNUAL REPORT

Health of Blackburn

For the Year 1911

W. T. THORNTON, M.B., D.S., F.R.C.S., F.R.C.P., F.R.S.E., F.R.S.D., F.R.S.M., F.R.S.O., F.R.S.N., F.R.S.P., F.R.S.C., F.R.S.I., F.R.S.A., F.R.S.E., F.R.S.D., F.R.S.M., F.R.S.O., F.R.S.N., F.R.S.P., F.R.S.C., F.R.S.I., F.R.S.A.

Medical Officer of Health

Department of Public Health

Printed and Published by the County Council, Blackburn

Price 1s. 6d. (net)

Blackburn, 1912

W. T. THORNTON

Printed and Published by the County Council, Blackburn

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Health Committee.

THE MAYOR (C. A. CRITCHLEY, Esq., J.P.).

ALDERMAN F. J. GREEVES, J.P., L.R.C.P., CHAIRMAN.

ALDERMEN—

FISH, HEYES, JOHNSON, SMETHURST, AND GRIMSHAW.

COUNCILLORS--

BRADLEY	EDDIE	MARSDEN
CAMPBELL	HAWORTH	MOTTERSHEAD
CARMICHAEL	HOLDEN, B. (VICE-CHAIRMAN)	RILEY
CASWELL	HORNE	SHORROCK
COTTON	LIVESEY	TAYLOR, J. T.

With the Addition of the following :—

FOR MATERNITY AND CHILD WELFARE PURPOSES :

MESDAMES CAMPBELL, J. COTTON, A. MATHERS-SMETHURST,
W. TATTERSALL, B.Sc., WALSH, Miss HOWARD AND Miss DEAN.

Public Health Officers of the Local Authority.

Medical Officer of Health—

V. T. THIERENS, M.B., CH.B., D.P.H.

Deputy Medical Officer of Health and Tuberculosis Officer—

I. M. McLACHLAN, M.D., B.S., B.Hy., D.P.H.

Assistant Medical Officers of Health—

E. D. IRVINE, M.D., M.R.C.S., L.R.C.P., D.P.H. (Commenced 1/2/33).

DOROTHEA I. BAIRD, M.B., CH.B. (EDIN.), D.P.H.

Dental Surgeons—

H. YATES, L.D.S.

A. E. B. NOBLE, L.D.S. (Commenced 3/1/33).

Part Time Medical Officers—

W. BRIGGS, M.B., B.S. (Orthopaedic Surgeon).

R. Y. AITKEN, F.R.C.S. (Puerperal Fever Consultant).

J. M. WISHART, F.R.C.S.E. (Oculist and Laryngologist).

W. CRAN DUTHIE, M.B., C.M. (M.O. i/c Male Venereal Diseases Clinic).

J. A. SELLARS, M.B., B.Ch., B.A.O. (Radiologist).

Pathologists—

Pathological work is carried out by the Pathologists at the Blackburn and East Lancashire Royal Infirmary and the Manchester and Liverpool Public Health Laboratories.

District Medical Officers—

J. T. T. RAMSAY, L.R.C.P., L.R.C.S., J.P.

D. O'DRISCOLL, M.B., CH.B., B.A.O.

C. M. BRADLEY, L.R.C.P., L.R.C.S.

G. B. MESSENGER, L.M.S.S.A.

ARTHUR LEIGH, M.B., CH.B.

Public Vaccinators—

J. T. T. RAMSAY, L.R.C.P., L.R.C.S., J.P.

D. O'DRISCOLL, M.B., CH.B., B.A.O.

C. M. BRADLEY, L.R.C.P., L.R.C.S.

G. B. MESSENGER, L.M.S.S.A.

G. A. FLEMING, M.B., CH.B.

D. KELLEHER, M.B., CH.B., B.A.O.

Vaccination Officer—

G. G. DICKINSON.

Public Health Officers of the Local Authority—Continued

Public Analyst—

W. H. ROBERTS, M.Sc., F.I.C.

Veterinary Inspector and Chief Meat Inspector—

E. J. BURNDRED, M.C., M.R.C.V.S., D.V.H.

*H. KENYON, Chief District Sanitary Inspector.

*W. H. GOODMAN, Assistant Meat Inspector.

*O. H. WILLIAMS, Special Inspector for Food and Drugs, etc.

District Inspectors—

*J. W. MARGINSON. *W. WALNE. *H. W. FOWLER.

 *J. A. SHAW. *J. MARGINSON.

Lady Health Visitors—

§†*Miss LOWE. §*Miss STANANOUGHT. §‡†Miss BELL.

†‡*Miss THOMPSON (Commenced 14/8/33). †‡§Miss SUDWORTH.

 §‡†Miss FRANKS. §‡†Miss JONES.

Matron, Corporation Hospital— §‡†Miss CRITCHLEY.

Matron, Springfield Maternity Home— §‡†Miss BAMBRIDGE.

Tuberculosis Nurse— §‡†Miss WILLIAMS.

Chief Clerk— THOMAS FOWLER.

Clerks—

§H. WALSH. *J. R. MARSDEN. Miss E. COMBERBACH. Miss C. HAWORTH

§C. AINSWORTH. J. MATHER. §H. ROTHWELL. F. BRIGGS.

Disinfectors—

F. HOLDEN. J. SLEVIN.

*Holders of Certificates of the Royal Sanitary Institute.

†Certificated Midwives.

‡Trained Nurses.

§A contribution to the salaries of these Officers is made from Exchequer grants.

CLINICS.

NAME.	PURPOSE.	WHERE HELD.	TIMES.
Inspection Clinic.	Special Examination of Cases Referred by Teachers, School Attendance Officers and School Nurses.	68, Victoria Street.	Wednesdays, 2 p.m. Saturdays, 9-30 a.m.
Ophthalmic Clinic.	Prescription of Spectacles.	68, Victoria Street.	Mondays, 1-30 p.m. Fridays, 1-30 p.m.
Dental Clinic.	Dental Treatment.	"	Every week-day by appointment.
Minor Ailments Clinic.	Treatment of Minor Diseases of Skin, etc.	68, Victoria Street.	Every week day, at 8-45 a.m.
"	"	All Saints' School, Bolton Road.	Mondays to Fridays at 2-0 p.m.; Saturdays, 9-0 a.m.
Cleansing Station	Treatment of Scabies and Cleansing of Verminous Cases.	Throstle Street.	Tuesdays and Thursdays (by appointment).
Throat Clinic.	Operative Treatment of Adenoids and Enlarged Tonsils.	Blackburn and East Lanes. R. Infirmary.	Arranged as required.
"	" (In-Patients).	Queen's Park Hospital.	Arranged as required.
Remedial Exercises.	Treatment of Deformities.	68, Victoria Street.	Every week-day (by appointment).
Tuberculosis Clinic.	Diagnosis and Treatment of Tuberculosis.	Dispensary, Duke Street.	Every week-day (except Thursday), at 2 p.m. Tuesday, 7-0 p.m.
Orthopædic Clinic.	Supervision of Cripples, etc.	68, Victoria Street.	Third Friday in each month, at 4-0 p.m.
Maternity and Child Welfare Centres.	Child Welfare.	Bent Street School.	Monday, 2-0 p.m.
	"	Kendal St. School.	Monday, 2-0 p.m.
	"	Hozier St. School.	Tuesday, 2-0 p.m.
	"	Cornelian St. Institute.	Tuesday, 2-0 p.m.
	"	All Saints' Sch. Bolton Road.	Wednesday, 2-0 p.m.
	"	Hozier St. School.	Thursday, 2-0 p.m.
	"	Kendal St. School.	Thursday, 2-0 p.m.
	"	Griffin Parochial Hall	Friday, 2-0 p.m.
Ante-Natal Clinic.		68, Victoria Street.	Wednesday and Friday at 10-0 a.m.
Special Ante-Natal Clinic.	(V.D.)	"	Tuesday, 10-0 a.m.
Strabismus Clinic.	Correction of Squint in infants under school age.	"	By special appointment.
Venereal Diseases Clinics.	(V.D.)	Royal Infirmary.	Men: Tuesday, 5-30 p.m. Friday, 6-0 p.m. Women: Monday, 5-30 p.m. Thursday, 6 p.m.
Ultra-Violet Light Clinic	Artificial Light Treatment.	Corporation Hospital.	Mondays, Tuesdays, Thursdays & Fridays, 2 p.m.
"	"	68, Victoria St.	Every week-day by appointment.
X-Ray Clinic.	X-Ray Examinations.	"	By appointment.
Diphtheria Immunisation Clinic.	Prevention of Diphtheria.	68, Victoria Street.	Monday, 10-0 a.m. Monday, 4-30 p.m. Thursday, 10-0 a.m.

PUBLIC HEALTH OFFICE,

BLACKBURN,

May, 1934.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I beg to present the Annual Report upon the Health of Blackburn for 1933, which has been compiled on lines indicated by the Ministry of Health.

I would take this opportunity of thanking all members of the Health Department Staff for the zeal and loyalty which they have, one and all, displayed during the year.

It is once again a privilege to express to the members of the Health Committee my appreciation of the sympathy and interest which they have displayed in the work of this Department.

I am,

Mr. Chairman, Ladies and Gentlemen,

Your obedient servant,

V. T. THIERENS.

CLINICAL

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PART I.

Vital Statistics
and
Social Conditions.

CENSUS, 1931.

TABLE 1.

WARDS	Acreage (Land and Inland Water)	TOTAL POPULATION.					PRIVATE FAMILIES AND DWELLINGS.				
		1921		1931			Private Families	Population in Private Families	Structurally Occupied Dwellings	Rooms Occupied	Persons per Room
		Persons	Persons	Males	Females	Persons per Acre					
BLACKBURN	7653	126922	122697	56238	66459	16.0	33815	117746	32696	144055	0.82
PARK	651	9479	9052	4084	4968	13.9	2353	8418	2321	9928	0.85
St. ANDREW'S	1146	10930	10783	4983	5800	9.4	3062	10666	2975	12739	0.84
St. JOHN'S	101	7186	6520	2979	3541	64.6	1835	6310	1790	8001	0.79
St. LUKE'S	168	7572	7333	3412	3921	43.6	2023	7222	1962	7917	0.91
St. MARK'S	403	10427	9979	4467	5512	24.8	2752	9807	2703	12506	0.78
St. MARY'S	174	5525	5147	2474	2673	29.6	1295	4564	1138	4882	0.93
St. MATTHEW'S	107	9321	8561	3977	4584	80.0	2341	8328	2323	9584	0.87
St. MICHAEL'S	623	8975	8580	3986	4594	13.8	2541	8511	2472	10691	0.80
St. PAUL'S	123	9771	8929	4014	4915	72.6	2566	8780	2442	10770	0.82
St. PETER'S	133	6719	6213	2932	3281	46.7	1612	5754	1454	6336	0.91
St. SILAS'S	985	9009	9108	3911	5197	9.2	2693	8793	2609	14202	0.62
St. STEPHEN'S	1171	11076	13215	6115	7100	11.3	3756	13074	3662	15795	0.83
St. THOMAS'S	1718	12068	11255	5241	6014	6.6	2746	9793	2692	11925	0.82
TRINITY	150	8864	8022	3663	4359	53.5	2240	7726	2153	8779	0.88

TABLE 1—(Continued).
COMPARISONS BETWEEN 1921 AND 1931.

WARDS	Acreage	TOTAL POPULATION.						PRIVATE FAMILIES AND DWELLINGS.				
		1921		1931				Private Families	Population in Private Families	Structurally Occupied Dwellings	Rooms Occupied	Persons per Room
		Persons	Persons	Males	Females	Persons per Acre						
BLACKBURN	+233	126922	—4225	—1548	—2677	—1.1	+2207	—5778	+1748	+7071	—0.29	
PARK	9479	—427	—143	—284	—0.7	+22	—739	—10	+37	—0.23	
ST. ANDREW'S	+225	10930	—147	—10	—137	—2.2	+315	—15	+289	+1277	—0.23	
ST. JOHN'S	7186	—666	—287	—379	—6.5	—41	—812	—40	—21	—0.34	
ST. LUKE'S	7572	—239	—59	—180	—1.5	+87	—330	+90	+164	—0.12	
ST. MARK'S	10427	—448	—215	—233	—1.1	+91	—574	+110	+791	—0.35	
ST. MARY'S	5525	—378	—142	—236	—2.2	+24	—499	—74	—277	—0.09	
ST. MATTHEW'S	9321	—760	—283	—477	—7.1	—16	—873	—11	—32	—0.18	
ST. MICHAEL'S	8975	—395	—105	—290	—0.6	+287	—423	+230	+898	—0.30	
ST. PAUL'S	9771	—842	—378	—464	—6.9	+34	—954	—3	—99	—0.30	
ST. PETER'S	6719	—506	—318	—188	—3.8	+31	—516	—43	—271	—0.14	
ST. SILAS'S	9009	+99	+69	+30	+0.1	+253	—58	+192	+886	—0.88	
ST. STEPHEN'S	+8	11076	+2139	+1026	+1113	+1.8	+1065	+2070	+1027	+3948	—0.25	
ST. THOMAS'S	12068	—813	—312	—501	—0.4	+20	—1126	+23	+93	—0.26	
TRINITY	8864	—842	—391	—451	—5.6	+35	—929	—32	—323	—0.17	

VITAL STATISTICS.

	1933
Area (in Acres)	7,653
Population (Census, 1931)	122,697
„ (Estimated middle of 1933)	121,400
Number of Inhabited Houses (1931)	32,696
Number of Families or Separate Occupiers (1931)	33,815
Rateable Value	£702,636
Sum Represented by a Penny Rate	£2,724
Rate in the £ (excluding Water) 1933-1934	13/-*
Gross Expenditure on Health Social Services	£50,445
Income on Health Social Services	£16,067†
Net Expenditure on Health Social Services	£34,378

* Subject to 2½% discount for early payment, making a net rate of 12/8·1d.

† This sum does not include any money received through the Block Grant.

Live Births	{	Legitimate ... 1397	}	M. 733	} Birth Rate ... 12·0
	{	Illegitimate ... 60	}	F. 724	

Number of women dying in, or in consequence of, child-birth, from—

Sepsis	0	{	0·00	} per 1,000
Other Causes	6	{	0·04		} population

Still Births 80

Rate per 1,000 total births 54·9

Deaths	{	M. 846	} 1759	Death Rate ...	14·4
	{	F. 913			

Percentage of total deaths occurring in public institutions ... 44·2

Deaths of infants under one year of age per 1,000 live births:—

Legitimate	79·4
Illegitimate	50·0

Deaths rate from Measles (all ages) 0·17

„ Whooping Cough (all ages) 0·01

„ Diarrhoea (under two years of age) 6·17
(Per 1,000 births).

Births :—The births registered were 1,457, of which 60 were illegitimate. The total male births were 733, and female 724. The birth rate was 12·0 per 1,000, compared with 14·4 for England and Wales, and 14·4 for the 118 great towns.

TABLE 2.

<i>Year.</i>	<i>Birth Rate.</i>	<i>Death Rate.</i>	<i>Natural Increase 1,000 Population.</i>
1920	22·1	13·9	8·2
1921	19·5	12·7	6·8
1922	16·8	14·2	2·6
1923	16·2	13·4	2·8
1924	15·3	14·0	1·3
1925	14·9	13·9	1·0
1926	14·0	12·9	1·1
1927	13·7	14·9	-1·3
1928	13·8	12·2	1·5
1929	12·4	14·9	-2·5
1930	12·7	12·8	-0·08
1931	12·4	12·8	-1·7
1932	12·6	12·6	0·008
1933	12·0	14·4	-2·4

The death rate of Blackburn males was 15·2, and of females 13·8 per 1,000 living of each sex.

Marriages.—There were 1,089 marriages solemnized during the year as follows : Established Churches, 475 ; other places of worship, 394 ; Register Office, 220.

TABLE 3.

WARD DEATH RATES IN RELATION TO PERSONS PER ACRE
AND ROOM SPACE.

1931 CENSUS.

<i>Ward.</i>	<i>Death Rate.</i>	<i>Persons per Acre.</i>	<i>Rooms per Person.</i>
St. Stephen's	12·0	11·2	1·19
Trinity	12·8	53·4	1·09
St. Michael's	13·6	13·7	1·24
St. John's	17·0	64·5	1·22
St. Silas'	14·5	9·2	1·55
St. Paul's	16·0	72·5	1·20
St. Peter's	14·4	46·7	1·01
St. Mary's	15·4	29·5	0·94
St. Matthew's	15·8	81·0	1·11
St. Thomas's	14·1	6·4	1·06
Park	16·1	13·9	1·09
St. Luke's	14·0	43·6	1·08
St. Mark's	14·5	24·7	1·25
St. Andrew's	14·0	9·4	1·09

TABLE 4.

DEATH RATES IN WARDS FOR THE PAST SIX YEARS.

<i>Ward.</i>	1928	1929	1930	1931	1932	1933	<i>Av. for 6 Years</i>
St. Stephen's ..	12·2	17·8	16·0	17·1	12·1	12·0	14·5
Trinity	13·2	14·1	12·5	13·9	13·1	12·8	13·2
St. Michael's	11·3	14·7	7·8	12·1	12·5	13·6	12·0
St. John's	12·3	11·8	13·4	12·0	14·6	17·0	13·5
St. Silas's	9·7	15·1	13·0	14·9	13·0	14·5	13·4
St. Paul's	14·2	15·7	13·7	14·8	12·7	16·0	14·5
St. Peter's	17·4	16·2	13·1	15·5	15·3	14·4	15·3
St. Mary's	14·6	18·1	19·0	16·6	12·4	15·4	16·0
St. Matthew's	9·8	12·6	11·9	13·3	12·6	15·8	12·2
St. Thomas's	10·8	15·7	12·4	12·3	11·9	14·1	12·8
Park	13·1	15·7	12·9	12·9	12·3	16·1	13·8
St. Luke's	11·7	15·2	11·6	14·6	11·7	14·0	13·1
St. Mark's	11·7	10·9	10·9	12·5	11·2	14·5	11·9
St. Andrew's	11·7	15·3	12·6	15·0	12·4	14·0	13·5
Borough	12·2	14·9	12·8	14·1	12·6	14·4	13·5

TABLE 5.
VITAL STATISTICS DURING 1933.

WARDS	Popula- tion	Births	Deaths	Birth- Rate	Death- Rate	Deaths under one year per 1000 Births	Death- rate from six Zymotic Diseases excluding Diarrhea	Death- rate from Diar- rhea	Death- rate from Bron- chitis & Pneu- monia	Death-rate from Pulmonary Tuberculosis	Death-rate from Non-Pulmonary Tuberculosis
ST. STEPHEN'S ...	13075	192	158	14.6	12.0	67	0.22	0.00	1.45	0.53	0.15
TRINITY ...	7940	88	102	11.0	12.8	56	0.00	0.00	2.77	0.37	0.00
ST. MICHAEL'S ...	8498	105	116	12.3	13.6	38	0.11	0.11	2.58	1.29	0.11
ST. JOHN'S ...	6446	86	110	13.3	17.0	22	0.62	0.00	4.18	1.08	0.31
ST. SILAS'S ...	9008	73	131	8.1	14.5	41	0.00	0.00	1.22	0.55	0.11
ST. PAUL'S ...	8826	110	142	12.4	16.0	45	0.33	0.00	3.05	1.13	0.00
ST. PETER'S ...	6155	89	89	14.4	14.4	134	0.32	0.00	2.59	0.32	0.00
ST. MARY'S ...	5098	77	79	15.1	15.4	90	0.72	0.19	2.35	1.37	0.19
ST. MATTHEW'S ...	8473	95	134	11.2	15.8	63	0.35	0.23	3.65	0.70	0.11
ST. THOMAS'S ...	11132	105	157	9.4	14.1	104	0.26	0.17	2.42	0.53	0.08
PARK ...	8960	144	145	16.0	16.1	97	0.11	0.22	3.34	1.00	0.00
ST. LUKE'S ...	7248	85	102	11.7	14.0	82	0.27	0.13	2.89	0.41	0.41
ST. MARK'S ...	9870	96	144	9.7	14.5	83	0.20	0.20	2.63	0.50	0.00
ST. ANDREW'S ...	10671	112	150	10.4	14.0	62	0.18	0.00	2.24	0.28	0.00
BOROUGH ...	121400	1457	1759	12.0	14.4	71	0.24	0.09	2.59	0.69	0.09

TABLE 6.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1933 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.				
		Un-corrected Number	Nett.	Number	Rate	of Non-registered residents in the District.	of Residents not registered in the District.	Under 1 Year of Age.	At all Ages.	Rate.		
1	2	3	4	5	6	7	8	9	Number	Rate per 1,000 Nett Births.	Number	Rate.
1923	129000	2121	2094	16.2	1878	14.5	191	49	210	100.2	1736	13.4
1924	129000	2013	1980	15.3	2013	15.4	250	47	167	84.3	1810	14.0
1925	126900	1948	1902	14.9	1973	15.5	251	45	186	97.7	1767	13.9
1926	124400	1802	1743	14.0	1795	14.4	240	61	156	89.5	1616	12.9
1927	124500	1764	1702	13.7	2128	17.0	327	63	131	77.0	1864	14.9
1928	125100	1803	1730	13.6	1758	14.0	275	52	139	80.3	1535	12.2
1929	125300	1637	1554	12.4	2102	16.7	305	74	125	80.4	1871	14.9
1930	125300	1683	1595	12.7	1911	15.2	345	39	133	83.3	1605	12.8
1931	123900	1690	1539	12.4	2045	16.5	349	59	94	61.0	1755	14.1
1932	122200	1659	1543	12.6	1864	15.2	379	57	103	66.7	1542	12.6
1933	121400	1575	1457	12.0	2033	16.7	326	52	104	71.3	1759	14.4

TABLE 7.

DEATHS REGISTERED DURING THE CALENDAR YEAR 1933 CLASSIFIED BY AGE AND CAUSE.

CAUSES OF DEATH.	Nett Deaths at the subjoined ages of "Residents," whether occurring within or without the District.												Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District.
	All Ages	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 35 years.	35 and under 45 years.	45 and under 55 years.	55 and under 65 years.	65 years and upwards.		
1	2	3	4	5	6	7	8	9	10	11	12	13	
All Causes { Certified	1747	104	24	25	35	56	67	101	195	303	837	900	
{ Uncertified	12	..	..	..	..	..	1	..	..	5	6	..
Enteric Fever .....	..	..	..	..	..	..	..	..	..	..	..	..
Small Pox .....	..	..	..	..	..	..	..	..	..	..	..	..
Measles	21	6	7	5	3	..	..	..	..	..	..	6
Scarlet Fever	2	..	1	1	..	..	..	..	..	..	..	1
Whooping Cough	2	2	..	..	..	..	..	..	..	..	..	1
Diphtheria and Croup	5	1	..	1	3	..	..	..	..	..	..	7
Influenza	61	..	..	..	1	..	7	6	7	14	26	9
Erysipelas	5	1	..	..	..	..	..	..	1	1	2	1
Tetanus .....	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary Tuberculosis	84	1	1	1	1	22	19	17	10	9	3	36	
Tuberculous Meningitis	5	..	..	..	3	1	..	1	..	..	..	7
Other Tuberculous Diseases	7	..	..	..	2	3	..	..	2	..	..	5
Cancer, Malignant Disease	202	..	..	..	..	1	2	7	36	62	94	105
Acute Rheumatism and Rheumatic Fever	9	..	..	..	1	1	1	2	1	2	1	2
Cerebro-Spinal Meningitis	1	1	..	..	..	..	..	..	..	..	..	1
Encephalitis Lethargica	5	..	..	..	..	2	..	..	2	1	..	4
Other Forms of Meningitis (not T.B.)	3	..	1	..	1	..	..	..	1	..	..	5
Poliomyelitis .....	..	..	..	..	..	..	..	..	..	..	..	..
Locomotor Ataxy .....	..	..	..	..	..	..	..	..	..	..	..	..
General Paralysis of the Insane	3	..	..	..	..	..	..	..	1	2	..	3
Cerebral Hæmorrhage	68	1	..	..	..	..	..	4	5	12	46	16
Other Diseases of the Nervous Sys'm	38	5	1	..	2	1	1	2	5	11	10	18	
Senile Decay	174	..	..	..	..	..	..	..	..	2	172	114
Organic Heart Disease	189	..	1	1	3	2	6	9	23	43	101	47	
Arterio-Sclerosis	126	..	..	..	..	..	2	..	7	19	98	63
Aneurism .....	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of the Circulatory System	10	..	..	..	..	..	1	..	1	4	4	3
Bronchitis, Acute	20	1	..	..	..	..	..	..	..	5	14	1
Bronchitis, Chronic	158	3	1	1	1	2	..	5	17	27	101	54	
Influenzal Broncho Pneumonia	13	..	..	..	..	..	3	3	1	3	3	3
Pneumonia (other forms)	124	16	6	7	4	5	8	5	17	22	34	77	
Other Diseases of the Respiratory System	20	..	..	..	1	..	..	3	8	5	3	6
Diarrhœa and Enteritis	11	8	1	1	..	..	..	..	..	..	1	8
Appendicitis, Typhlitis and Peritonitis	11	..	..	..	..	5	..	..	2	2	2	23
Cirrhosis of the Liver	1	..	..	..	..	..	..	1	..	..	..	5
Alcoholism .....	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases of the Digestive Sys'm	35	3	1	..	..	..	..	5	8	7	11	39
Nephritis and Bright's Disease	86	..	..	..	1	1	..	4	17	21	42	31
Other Diseases of the Urinary Sys'm	16	..	..	..	..	..	2	1	2	5	6	11
Puerperal Fever .....	..	..	..	..	..	..	..	..	..	..	..	3
Puerperal Pyrexia .....	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases and Accidents of Pregnancy and Parturition	6	..	..	..	..	..	5	1	..	..	..	11
Congenital Debility and Malforma'n	30	30	..	..	..	..	..	..	..	..	..	18
Premature Birth	22	22	..	..	..	..	..	..	..	..	..	16
Veneral Diseases	4	..	..	..	..	..	1	1	..	1	1	2
Other Diseases of the Reproductive System (Non-Malignant)	12	..	..	..	..	..	..	..	..	..	12	12
Violent Deaths (excluding Suicide)..	57	1	1	4	4	6	6	6	5	7	17	73	
Suicide	31	..	..	..	..	1	2	10	5	6	7	3
All other Defined Diseases	82	2	2	3	4	3	2	8	11	15	32	50	
Diseases Ill-defined or unknown .....	..	..	..	..	..	..	..	..	..	..	..	..
All Causes	1759	104	24	25	35	56	68	101	195	308	843	900	

TABLE 8.

CLASSIFICATION OF DEATHS ACCORDING TO DISEASE.

CAUSE OF DEATH.	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	
	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Total Deaths	Death Rate.
Enteric Fever	1	..	1	2	1	..	..	2	1	..	..	0.00
Smallpox .....	..	..	..	..	..	..	..	..	..	..	..	0.00
Measles	6	20	28	3	36	..	..	23	1	..	21	0.17
Scarlet Fever.....	..	1	3	1	1	..	2	..	..	1	2	0.01
Whooping Cough	7	7	16	20	1	4	8	5	15	9	2	0.01
Diphtheria and Croup	1	3	8	8	11	14	18	9	2	7	5	0.04
Influenza	49	69	34	23	74	19	65	7	52	31	61	0.50
Erysipelas	2	1	..	1	7	..	3	3	5	1	5	0.04
Phthisis (Pulmonary Tuberculosis)	93	85	90	106	96	82	114	105	97	79	84	0.69
Tuberculous Meningitis	4	4	9	2	2	7	4	9	7	5	5	0.04
Other Tuberculous Diseases..	27	22	11	8	12	14	9	9	11	14	7	0.05
Cancer, Malignant Disease ..	177	184	160	166	160	163	192	185	213	202	202	1.66
Rheumatic Fever .....	..	..	2	..	5	2	2	3	4	8	9	0.07
Meningitis	10	11	18	9	5	14	18	8	11	6	3	0.02
Organic Heart Disease.....	166	204	211	198	269	334	315	279	240	192	189	1.55
Bronchitis	209	238	194	192	221	119	190	140	209	129	178	1.46
Pneumonia (all forms).....	189	199	176	112	175	152	201	142	139	89	137	1.12
Other Diseases of Respiratory Organs	22	21	15	20	27	25	29	28	17	19	20	0.16
Diarrhœa and Enteritis	24	15	12	15	24	8	8	9	13	8	11	0.09
Appendicitis and Typhlitis..	9	4	10	13	12	19	21	11	7	15	11	0.09
Cirrhosis of Liver	10	5	5	2	3	1	4	4	5	..	10	0.068
Alcoholism .....	..	..	..	1	1	..	..	..	1	..	..	0.00
Nephritis & Bright's Disease.	53	51	44	59	40	31	66	76	75	72	86	0.70
Puerperal Fever	5	3	4	7	3	1	2	..	1	1	..	0.00
Other Accidents and Diseases of Pregnancy and Parturition	9	7	7	7	10	6	13	7	5	8	6	0.04
Congenital Debility and Malformation, including Premature Birth.....	100	59	68	76	66	71	57	75	38	66	52	0.42
Violent Deaths, excluding Suicide	36	49	46	52	60	50	72	57	60	63	57	0.46
Suicide	22	21	20	16	27	20	17	26	25	22	31	0.25
Other Defined Diseases	500	526	567	494	514	372	435	379	501	495	574	4.72
Diseases ill-defined or unknown	5	2	8	3	1	7	6	3	..	..	..	0.00
TOTAL.....	1736	1810	1767	1616	1864	1535	1871	1605	1755	1542	1759	14.48

Deaths.—The total number of deaths registered was 1,759, of which 846 were males and 913 were females. The death rate was 14·4 per 1,000, compared with 12·3 for England and Wales and 12·2 for the 118 great towns.

CAUSES OF DEATH AND SICKNESS.

During 1933 the chief causes of death were as under :—

<i>Disease.</i>	<i>No. of Deaths.</i>		<i>Deaths per 1,000.</i>	
Organic Heart Disease	189	(192)	1·55	(1·57)
Pneumonia	137	(89)	1·12	(0·72)
Cancer	202	(202)	1·66	(1·65)
Bronchitis	178	(129)	1·46	(1·05)
Pulmonary Tuberculosis	84	(79)	0·69	(0·64)

The bracketed figures represent the corresponding number for 1932.

The deaths from Cancer numbered 202, as compared with 202 in 1932 ; 213 in 1931 ; 185 in 1930 ; 192 in 1929 ; 163 in 1928 ; 160 in 1927 , 166 in 1926.

The Death Rates from Cancer per 1,000 of the population for the past 12 years are as under :—

1922	1·26	1928	1·30
1923	1·37	1929	1·53
1924	1·42	1930	1·48
1925	1·26	1931	1·71
1926	1·33	1932	1·65
1927	1·28	1933	1·66

TABLE 9.

DEATHS FROM CANCER OCCURRED AT THE FOLLOWING AGES :

<i>Age Period.</i>	<i>Male.</i>	<i>Female</i>	<i>Total</i>	<i>No. of popu- lation at this age period.</i>	<i>Number of deaths per 1,000 persons living.</i>
Under 25 years	1	..	1	40062	0·02
25 and under 35 years .. .. .	..	2	2	30228	0·06
35 .. 45 years	2	5	7	19060	0·36
45 .. 65 years	41	57	98	25494	3·84
65 years and over	45	49	94	6556	14·33
	89	113	202	121400	1·66

TABLE 10.

SITES OF FATAL CANCER.

<i>Site.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
Tongue and Mouth .. .	13	3	16
Oesophagus	7	3	10
Stomach	15	14	29
Liver	8	9	17
Bowel and Abdominal .. .	13	17	30
Rectum	12	6	18
Bladder	3	1	4
Larynx	4	—	4
Uterus	—	24	24
Breast	—	18	18
Pancreas	1	6	7
Gall Bladder	1	5	6
Bones	2	4	6
Lung	3	1	4
Male Genital Organs .. .	1	—	1
Others	6	2	8
TOTAL	89	113	202

RADIUM TREATMENT OF CANCER.

The Manchester Radium Institute hold 70 mgs. of radium for the Blackburn and East Lancashire Royal Infirmary (in consideration of a sum of £1,000 paid by the Infirmary to the Institute). The Infirmary has also a lien on a further 25 mgs., in consideration of money raised for the Cancer Research Fund, a portion of which was allocated to the Manchester Radium Institute. In actual practice this limit of 95 mgs. may be exceeded, provided that a weekly balance of radium stands to the credit of the Infirmary.

The appended abstract from the Royal Infirmary Report for 1933 indicates the scope and activity of the Infirmary Radium Clinic :—

“ The following is a summary of the number of cases and the various types of diseases treated during the year 1933 :—

DISEASES :				IN-PATIENTS :	OUT-PATIENTS :
Epithelioma—Tongue...	...	...	...	11	15
„ Larynx...	...	...	...	1	1
„ Floor of Mouth	...	...	...	1	7
„ Palate ...	...	...	...	4	4
„ Tonsil ...	...	...	...	4	5
„ Cheek ...	...	...	...	3	4
„ Alveolus ...	...	...	...	3	3
„ Ear ...	...	...	...	1	3
Carcinoma—Lip	...	...	...	5	7
Malignant Glands—Neck	...	...	...	—	3
Paget's Disease of Nipple	...	...	...	—	1
Carcinoma—Breast	...	...	...	11	25
„ Cervix ...	...	...	...	20	25
„ Vagina ...	...	...	...	2	4
„ Labium ...	...	...	...	1	1
„ Uterus ...	...	...	...	1	2
„ Vulva ...	...	...	...	1	1
„ Penis ...	...	...	...	1	2
„ Scrotum ...	...	...	...	2	3
Malignant Glands—Groom	...	...	...	1	1
Epithelioma—Rectum	...	...	...	1	2
„ Skin ...	...	...	...	12	19
Lupus ...	...	...	...	1	2
Naevi ...	...	...	...	7	13
Rodent Ulcers ...	...	...	...	10	56
Keloid Scar ...	...	...	...	1	1
Non-Malignant...	...	...	...	5	28
				<hr/> 110	<hr/> 238
				<hr/>	<hr/>

Since the inauguration of this Department, in April, 1932, the demand upon its resources has shown a constant increase. In the treatment of Out-patients with radium emanations and the operative treatment of In-patients with radium element, the amount of radium at our disposal is in full use, and an increased supply will certainly become imperative during the present year.

I consider that the results of the treatment have been quite satisfactory, but, as a large number of the cases attend too late for ultimate cure to be possible, much of the work is palliative with a view to relieving the patients of their distressing symptoms.

J. KEITH CUMMING, M.B., CH.B. (ABERDEEN)."

Diseases of bodily systems and group diseases to which death was assigned are as follows :—

<i>Disease.</i>	<i>No. of Deaths.</i>		<i>Deaths per 1,000.</i>	
Respiratory System (Non-Tubercular) ...	335	(237)	2.75	(1.93)
Circulatory System	325	(291)	2.67	(2.38)
Nervous System (Non-Tubercular)	118	(128)	0.97	(1.04)
Cancer	202	(202)	1.66	(1.65)
Tuberculosis (all forms)	96	(98)	0.79	(0.80)
Renal System (Non-Tubercular)	102	(84)	0.84	(0.68)
Infectious Diseases	96	(49)	0.79	(0.40)
Digestive Diseases	58	(70)	0.47	(0.57)
Diseases of Babyhood (under one year) ...	52	(66)	0.42	(0.54)
Diseases associated with Maternity	6	(9)	0.04	(0.07)

The bracketed figures represent the corresponding number for 1932.

MORTALITY STATISTICS IN COTTON OPERATIVES.

The subjoined Tables are a continuation of those given in previous reports.

TABLE 11.
RESPIRATORY DISEASES (NON-TUBERCULAR).
DEATH-RATES PER 1,000 EMPLOYEES (1921 CENSUS).

DEATHS. **DEATH RATES.**

Age Period.	Weavers.		Spinners.	Winders, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.	Weavers.		Spinners.	Winders, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.
	M.	F.						M.	F.					
Years														
15-25..	1	..	..	..	1	..	7	0.4	..	2.2	..	1.8	..	0.3
25-35..	2	2	1	..	..	..	11	1.5	..	..	..	..	..	0.5
35-45..	2	2	..	1	..	..	16	0.6	..	..	..	..	..	0.8
45-55..	1	3	1	4	..	..	43	1.0	..	4.5	..	..	2.4	2.6
55-65..	2	5	1	2	1	3	62	3.0	..	8.5	..	11.6	13.9	5.8
65 and upwards..	11	7	1	4	1	8	155	54.7	..	34.4	..	47.6	148.1	22.5
TOTAL ..	19	19	4	11	3	12	294	3.0	1.0	2.1	2.5	2.1	3.3	3.0

PULMONARY TUBERCULOSIS.

15-25..	..	5	..	..	1	..	22	..	0.7	..	..	1.8	..	1.0
25-35..	1	3	1	..	..	1	19	0.7	0.6	2.0	..	..	1.1	0.9
35-45..	..	..	..	2	..	1	17	..	..	..	2.4	..	1.4	0.8
45-55..	..	1	1	..	..	2	10	..	0.5	4.5	..	..	4.8	0.6
55-65..	..	..	..	..	..	..	9	..	..	..	..	..	..	0.8
65 and upwards..	..	..	..	..	..	..	3	..	..	..	..	..	..	0.4
TOTAL ..	1	9	2	2	1	4	80	0.1	0.5	1.0	0.4	0.7	1.1	0.8

TABLE 11—Continued.

NON-PULMONARY TUBERCULOSIS.

Age Period.	DEATHS.				DEATH RATES.									
	Weavers.		Spinners.	Winders, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.	Weavers.		Spinners.	Winders, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.
	M.	F.						M.	F.					
Years														
15-25..	4	..	..	..	..	..	..	0.1
25-35..
35-45..	1	..	..	1	..	..	..	..	..	..	0.05
45-55..	2	..	..	..	..	..	..	0.1
55-65..
65 and upwards..
TOTAL	2	..	..	7	..	..	..	..	..	..	0.07

ALL OTHER DISEASES.

15-25..	1	3	..	2	..	1	23	0.4	0.4	..	1.2	..	0.7	1.0
25-35..	4	6	..	2	..	..	38	3.1	1.2	..	1.8	2.7	..	1.8
35-45..	3	16	1	4	1	5	67	2.6	4.7	2.7	4.8	3.7	7.4	3.3
45-55..	8	16	2	9	2	6	140	8.0	9.3	8.8	17.9	12.2	14.5	8.7
55-65..	12	12	3	5	2	10	237	18.1	17.7	25.6	19.1	23.2	46.5	22.2
65 and upwards..	46	23	20	13	4	29	685	228.8	185.4	689.6	200.0	190.4	537.0	99.7
TOTAL ..	74	76	26	35	10	51	1190	11.7	4.2	13.3	8.0	7.0	14.2	12.3
GRAND TOTAL....	94	104	32	50	14	67	1571	14.9	5.8	16.4	11.4	9.8	18.7	16.3

TABLE 12.

POPULATION, 1921 CENSUS.

Age Period.	Weavers.		Spinners.	Winders, Warpers, etc.	Card Room Hands.	Other Cotton Operatives.	Borough.
	M.	F.					
Years							
15—25.. .. .	2019	7009	723	1616	530	1329	21946
25—35.. .. .	1258	4892	490	1094	359	899	20876
35—45.. .. .	1151	3380	367	819	269	674	19878
45—55.. .. .	1000	1707	224	501	164	412	16052
55—65.. .. .	660	676	117	261	86	215	10647
65 and upwards.. .	201	124	29	65	21	54	6866
TOTAL	6289	17788	1950	4356	1429	3583	96265

HOSPITAL ACCOMMODATION.

(a) HOSPITALS MAINTAINED BY THE LOCAL AUTHORITY.

(1) *Infectious Diseases* :—

The Corporation Hospital, in Longshaw Lane, has accommodation for 60 fever patients. In time of undue prevalence of infectious disease, closure of Wards V and I, at present used as Tuberculosis Pavilions, will provide 60 additional beds for fever cases, bringing the Fever bed accommodation to 120.

The Deputy Medical Officer of Health (who resides at the Corporation Hospital) is responsible to the Medical Officer of Health for the general administration of the Hospital. The services of specialists are available as required for consultation and for major operative work, although Tracheotomies are performed by Medical Officers of the Health Department.

(2) *Puerperal Fever and Pyrexia, Ophthalmia Neonatorum* :—

Cubicles are available in Ward III for the reception of selected cases of the above.

No difficulty has been experienced in securing the admission of cases of puerperal fever or pyrexia to the Royal Infirmary or Queen's Park Hospital.

(3) *Small Pox* :—

The Finnington Hospital, which is situated three miles outside the Borough, has beds for the reception of 60 Small-Pox cases.

This Hospital is staffed as required from the Corporation Hospital.

(4) *Tuberculosis* :—

Sixty-four beds, for the reception of Tuberculous cases, are available at the Corporation Hospital.

Ten beds for the reception of early cases of Tuberculosis are retained by the Corporation at Meathop Sanatorium, Grange-over-Sands.

The Nursing Staff of the Corporation Hospital is as under :—

Matron	...	...	...	...	...	1
Night Sister	...	...	...	...	...	1
Day Sisters	...	..	(...	...	...	3
Staff Nurses	...	...	...	...	...	3
Assistant Nurses	...	...	...	...	...	15
Probationers	...	...	...	..	...	6

HOSPITAL PATHOLOGICAL WORK.

The routine pathological work of the Hospital is undertaken by Medical Officers of the Health Department in the Hospital Laboratory. Particulars of the work done are given in Section IV of this Report.

(5) *Maternity* :—

The Municipal Maternity Home, Preston New Road, has accommodation for 20 cases.

The Nursing Staff of Springfield comprises a Matron (S.R.N., C.M.B.), one Sister (S.R.N., C.M.B.), three Nurses, all of whom hold the C.M.B., and four pupils who are State Registered Nurses.

Table 13 contains particulars of the Maternity Beds available at Queen's Park Hospital.

QUEEN'S PARK HOSPITAL.

This Hospital, since its transfer from the Blackburn Board of Guardians to the Local Authority, on April 1st, 1930, has been administered by the Public Assistance Committee.

The medical staff comprises three residents and one stipendiary consultant surgeon. In addition, services of other consultants are obtained as required.

Facilities are available for major operative surgery, and there are special departments for orthopædics, X-ray, ultra-violet light therapy, massage and dental work.

Routine pathological work is undertaken by a lay pathological assistant under the supervision of the Resident Medical Officers.

The Nursing Staff of the Hospital is as under :—

- 1 Superintendent Nurse, Trained State Registered Nurse, C.M.B.,
Certificate in Ultra-Violet Light Therapy.
- 1 Sister Tutor, Trained State Registered Nurse, C.M.B.
- 1 Home Sister, Trained State Registered Nurse, C.M.B.
- 1 Night Superintendent Nurse, Trained State Registered Nurse,
C.M.B.
- 1 Assistant Night Sister, Trained State Registered Nurse, C.M.B.
- 1 Charge Sister (for Ultra-Violet Light Treatment) Trained State
Registered Nurse, C.M.B., and Certificate in Ultra-Violet
Light Therapy.
- 13 Charge Sisters, Trained State Registered Nurses (eight with
C.M.B.).
- 70 Probationer Nurses.
- 10 Male Nurses.

The appended Table classifies the accommodation for the sick at the Queen's Park Hospital :—

TABLE 13.

Classification of Wards	Number of Wards	BEDS AVAILABLE.			
		Men	Women	Children	Total.
Medical	4	43	89	...	132
Surgical	2	37	28	...	65
Children... ..	3	...	...	120	120
Chronic Sick... ..	5	64	64	...	128
Tuberculosis	1	18	4	15	37
Maternity	1	...	32	...	32
Mental	2	76	94	...	170
Other ... ..	...	7	...	...	7
TOTAL	18	245	311	135	691

The Hospital is a recognised training school for nurses.

(b) VOLUNTARY HOSPITALS.

The Blackburn and East Lancashire Royal Infirmary has accommodation for 240 in-patients. The beds are allotted as under :—

	<i>Males.</i>	<i>Females.</i>
General Medical	11	14
General Surgical	76	83
Children	14	13
Venereal Disease	2	2
Eye, Ear, Nose & Throat ...	11	14
TOTAL	114	126

During the year two important innovations were introduced at the Royal Infirmary.

The first was the establishment of a special heart-clinic, equipped with an electrocardiograph, which is administered by the Senior Honorary Physician at the Infirmary.

The second innovation consists of a " Nerve Clinic " (formed under the provisions of the Mental Treatment Act, 1930), for the treatment of functional nervous disorders and early stages of mental derangement.

The Clinic is supervised by the Medical Superintendent of a neighbouring Mental Hospital and an Honorary Physician on the Infirmary staff. The functions of the Clinic comprise both the psychological treatment of the various neuroses and the appropriate treatment of incipient mental breakdown. Although the objects of the Centre are primarily therapeutic, consultative work will form an integral feature in its functions.

The Physicians in charge of both the Heart and Nerve Clinics have co-operated most helpfully with the School Medical and Health Departments, and have expressed their willingness to place the resources of their specialised Departments at our disposal.

AMBULANCE FACILITIES.

(1) *For Infectious Cases* :—

The Local Authority provide Two Motor Ambulances.

(2) *For Non-Infectious Cases* :—

Three Motor Ambulances are available, one provided by the Watch Committee, one by the Joint Committee of the British Red Cross Society and the St. John Ambulance Brigade, and one by the Public Assistance Committee.

PUBLIC ASSISTANCE.

I am indebted to Mr. G. B. Pye, Public Assistance Officer, for the appended particulars.

No. of residents in the County Borough in receipt of out-door relief :—

1st January, 1933	...	2077 families	comprising	4491 persons.
1st July, 1933	...	2217 families,	comprising	4857 persons.
1st January, 1934	...	2468 families,	comprising	5493 persons.

No. of Blackburn persons relieved on the 1st January, 1934, in the—

Institution	...	...	...	..	697
Cottage Homes	...	...	...	...	58
Working Boys' Home	...	...	...	...	7

In addition there are a number of persons in the Institution, Cottage Homes and the Working Boys' Home who are chargeable to the Lancashire County Council.

Expenditure on out-relief to Blackburn persons during the 12 months ended 30th September, 1933, was £57,025/14/3.

No. of Blackburn persons in Queen's Park Hospital on the 1st January, 1934, included in the 697 mentioned above	...	...	...	...	...	...	...	312
Average No. of Blackburn persons in the Cottage Homes during 1933	...	...	...	...	...	...	...	(per day) 65
Total number of Beds in the Institution, 1st January, 1934	...	...	...	...	...	...	...	1220
Total number of Inmates on the same day (including persons chargeable to the Lancashire County Council)	...	...	...	...	...	...	...	992
Total number of Inmates of the Institution on the 1st January, 1934, who were suffering from sickness, accident, bodily or mental infirmity, including aged and infirm persons requiring regular nursing care or treatment	...	...	...	...	...	...	...	965
Total number of Sick Children on the 1st January, 1933	...	...	...	...	...	...	...	118
Admitted during 1933	...	...	...	...	...	...	...	586
Discharged during 1933	...	...	...	...	...	...	...	537
Died during 1933	...	...	...	...	...	...	...	51
Total number of Sick Children on the 1st January, 1934	...	...	...	...	...	...	...	116
Number of Beds available for Casuals	...	...	...	...	...	...	...	95

There has been no change in the administration of Poor Law Medical Out-relief since the service was transferred to the Local Authority.

The districts, with populations, are as under :—

<i>Districts.</i>	<i>Population 1931.</i>
St. Matthew's Ward	} 28868
Park Ward ...	
St. Thomas's Ward	
St. Luke's Ward ...	} 22475
St. Paul's Ward ...	
St. Peter's Ward	
St. Mary's Ward	} 26384
St. Stephen's Ward	
Trinity Ward ...	
St. John's Ward ...	} 24208
St. Michael's Ward	
St. Silas' Ward ...	
St. Andrew's Ward	} 20762
St. Mark's Ward	

PART II.

Sanitary Circumstances.

WATER SUPPLY.

The town is supplied with an upland surface water, which has been satisfactory, both as regards quantity and chemical and bacteriological purity.

Appended are representative reports of bacteriological and chemical examinations carried out during the year:—

(a) CHEMICAL.

Numerical results expressed in parts per 100,000 :

	Turbidity : <i>Nil.</i>	Smell : Indistinct.
Colour : Yellow-Brown.		Hardness : Clarke's Method :
Oxygen absorbed... .. 0·214 (4 hours at 27° C.)		Temporary 0·4
Free and Saline Ammonia 0·0008 as NH ₃		Permanent 1·7
Albuminoid Ammonia 0·0107 as NH ₃		Total 2·1
Nitrous Nitrogen <i>nil.</i> as NH ₃		Reaction, pH 6·65
Nitric Nitrogen 0·020 as NH ₃		Gases, dissolved Oxygen —
Chlorides 0·89 as Cl.		Action on Lead 0·33 24 hours.
		Iron present Trace
		Action on Copper 0·05 24 hours.

(b) BACTERIOLOGICAL.

<i>Quantitative Analysis.</i>	<i>Average Results of Examinations.</i>
(a) <i>Æ</i> robic micro-organisms growing in nutrient gelatine in three days at 20° C.	No. of colonies in one gramme (15·43 grains of water)
Non-liquefying bacteria	80
Liquefying bacteria... ..	8
	} Total 88
(b) <i>Æ</i> robic micro-organisms growing on standard agar in 48 hours at 37° C.	20

<i>Qualitative Analysis.</i>	<i>Quantity of water in which these bacteria were—</i>	
	<i>found</i>	<i>not found</i>
(a) Bacteria associated with sewage or faecal pollution ... <i>Bacillus coli</i>	100 cc.	10 cc.

HOUSING.

(a) GENERAL.

Action taken in respect of temporary buildings	...	...	One demolished
No. of houses completed and occupied during 1933, including those :—			
(a) Built by the Corporation	...	...	Nil
(b) Built by private enterprise	...	...	114
(c) By private enterprise towards which a State subsidy was paid	...	...	Nil
No. of houses in course of erection at the end of 1933 :—			
(d) By the Corporation...	...	...	Nil
By private builders...	...	...	149
(e) No. of houses on various Housing Sites completed and occupied during 1933	...	...	Nil
(f) The rents of the various Corporation houses are as follows :—			
Parlour, 3 Bedrooms	...	17/-, 16/5, 16/2, 15/8	
Non-Parlour, 3 Bedrooms	...	16/2, 15/5, 15/2, 14/7, 13/6, 11/3, 10/6	
Non-Parlour, 2 Bedrooms	...	11/5, 10/10, 10/7, 9/9	
		(Inclusive of rates).	
(g) No. of applicants on waiting list at the end of 1933 :—			
Parlour, 3 Bedrooms	...	...	Nil
Non-Parlour, 3 Bedrooms (large)	...	...	Nil
Non-Parlour, 3 Bedrooms (small)	...	...	252
Non-Parlour, 2 Bedrooms	...	...	458

(b) STATISTICS :

1. INSPECTION OF DWELLING-HOUSES DURING THE YEAR :—

(1) (a) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)...	...	...	5219
(b) Number of inspections made for the purpose	...	...	14717
(2) (a) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	...	...	741
(b) Number of inspections made for the purpose	...	...	741
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	...	...	3
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation...	...	...	2996

2. REMEDY OF DEFECTS DURING THE YEAR WITHOUT SERVICE OF FORMAL NOTICES :—

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	2214
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3. ACTION UNDER STATUTORY POWERS DURING THE YEAR :—

A. Proceedings under sections 17, 18 and 23 of the Housing Act, 1930 :

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	150
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—	
(a) By owners	150
(b) By local authority in default of owners ... ..	..

B. Proceedings Under Public Health Acts :

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	212
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—	
(a) By owners	187
(b) By local authority in default of owners ... ..	...

C. Proceedings Under sections 19 and 21 of the Housing Act, 1930 :

(1) Number of dwelling-houses in respect of which demolition orders were made	0
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	0

D. Proceedings Under section 20 of the Housing Act, 1930 :

(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made... ..	0
(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	0

E. Proceedings under section 3 of the Housing Act, 1925 : Nil

F. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 : Nil

HOUSING CONDITIONS.

Blackburn is in a comparatively happy position as regards housing in general. As regards the size of house, the Census for 1931 gave the number of two or three-roomed houses as 2,394 (7·23% of the total). The same Census gave the number of four-roomed houses as 19,806, and the remaining 11,018 houses in the Borough contain five rooms or more.

The back-to-back dwelling is a rarity, as all houses erected within the Borough since 1854 have been at least obliquely ventilated and provided with a minimum of ~~four~~¹⁵⁰ square feet of open space to the back or side.

Such property within the Borough as is beyond repair or badly congested is to be dealt with by demolition under the Housing Act, 1930.

In Blackburn there are many dwellings, not ripe for demolition, which have been allowed to fall into a state of bad repair, yet are capable of being rendered thoroughly fit by sound overhaul and reconditioning.

During the year much property has been reconditioned, a process which comprises alterations and renewals of more extensive and elaborate nature than the usual current repairs normally dealt with by means of Sec. 17 notices.

Reconditioning aims not only at the abatement of sanitary defects and dilapidation, but also requires such additions to the existing amenities as are essential to ensure a reasonable standard of comfort for the occupants, and facilities for the housewife in the performance of her every-day domestic duties.

Our notices require, therefore, that not only shall the general fabric of a dwelling-house be restored and its interior suitably colour-washed, or otherwise decorated, but also that adequate domestic equipment be installed. With reference to domestic equipment, one or several of the following inadequacies have been present in the majority of houses included in the reconditioning list :

- (1) Inadequate or otherwise unsuitable provision for the storage of food ;
- (2) Bad lighting (natural and artificial) of sculleries ;
- (3) Poor accommodation for the washing of clothes ;
- (4) Shallow sink-stones ;
- (5) Defective ovens and fire-ranges.

As regards structural or sanitary deficiency, other than that occasioned by age or wear and tear, the following represent the most common defects :

- (1) Stairs badly lighted ; no handrails ;
- (2) Insufficient window area in living or sleeping rooms ; windows not made to open ;
- (3) Porous wall-facing behind sinks, allowing soakage ;
- (4) Insufficient height of bedrooms ;
- (5) Defective yard surfaces.

In view of the costly nature of restoration of dilapidation entailed by wear and tear, the provision of requisite amenity and the abatement of pre-existing sanitary defect, reconditioning is required in respect only of such dwellings as will then have an estimated minimum life of 25—30 years.

At the time of writing this Report approximately 500 houses are in the process of being so dealt with, and it is proposed that a further 1,500 houses shall be reconditioned during the coming few years.

The greater portion of reconditioning so far carried out has followed informal action. The owner is invited to attend the Health Office for preliminary interview with myself, at which the schedule of works required is explained. Following this discussion the chief sanitary inspector meets the owner and contractor on the site in order that any difficulties arising out of the specification may be dealt with and work begun with the minimum delay.

The majority of owners so far affected have entrusted the general oversight of the work when in progress to the Chief Sanitary Inspector. Such oversight results in the specification being carried out to the satisfaction of the Health Department, and thereby saves the owner such additional expense as is occasioned by the return of the workmen to an incomplete or unsatisfactory repair. Our experience is that informal action obtains a speedy, amicable and satisfactory settlement of many housing difficulties.

There still remain many landlords who, from a mistaken sense of economy, entrust their work to jobbers who are unskilled and untrained in housing repairs. Such workmen invariably do a patchy " job," which fails to pass subsequent inspection. As a result of requiring a clean finish to work thus " completed," there is an increasing tendency amongst landlords to entrust property repairs only to accredited contractors.

OVERCROWDING.

Based upon the "improvement area" model bye-law standards, it is estimated from our available records that approximately 250 houses in the Borough, in themselves fit for habitation, are overcrowded. This figure is not the result of a detailed survey, but has been arrived at from analysis of 3000 record cards of four-roomed houses in the Borough, 43 of which proved to be overcrowded either by reason of insufficient air-space or undesirable sex-distribution.

The financial circumstances of the 43 families concerned were inquired into with the following results :—

- (1) Total income ranged from £1/10/0 to £3 per week ;
- (2) Average weekly rent was 6/4½ ;
- (3) Only 25 per cent. of the families affected could afford the rent of a house suitable for their needs.

From day to day instances of overcrowding are brought to the notice of the Health Department which permit of abatement by more judicious use of the available accommodation. The estimated figure of 250 overcrowded houses does not come within this category, but forms a distinct group in which abatement is impossible, either by reason of the size of family or age and sex distribution of its members. Larger houses are required for these families but, under existing legislation, no subsidy is available for rehousing families dispossessed from houses other than those dealt with as part of an insanitary area under the Housing Act of 1930. Even were such subsidy available for rehousing occupants of overcrowded dwellings, the majority of families affected are financially incapable of affording accommodation adequate for their needs.

The solution of the problem would appear to lie in :—

- (1) Subsidy being available for rehousing of the overcrowded ; and
- (2) A system of differential renting for families so rehoused.

I understand that the Government is at present giving close attention to the question of overcrowding. As a result of such consideration it is hoped that a solution of the overcrowding question will be provided.

BYE-LAWS RELATING TO HOUSES.

The Bye-Laws in force in the Borough and relating to houses have been recently revised and are adequate.

HOUSES LET IN LODGINGS.

Although there are now only 81 such houses on the register, the number (471) of furnished rooms available exceeds the corresponding number (407) for 1932, when 82 houses were on the register.

During 1933 many of the smaller, and more often undesirable, houses let in lodgings went out of commission, and other houses, larger in type, and, until recently used as private dwellings, were adapted for tenement purposes.

Of rooms at present available 385, or 82 per cent., are occupied. In the past the demand for "furnished" rooms has exceeded the supply, a fact which has enabled proprietors to charge grossly exorbitant rents for accommodation. That the influence of demand is ceasing to operate is shewn not only by the number of empty rooms, but also by the fact that the average weekly rental per room has fallen from 8/6 in 1932, to 7/7 for the year under review. In the majority of instances the rents charged still remain excessive, and it is to be hoped that, in the absence of some legal means of rent control, decreased demand and increasing competition will occasion not only a reduction in rents charged, but an improvement in accommodation offered.

Two factors have led to decline in demand. Of late tenants of larger houses in better working-class and even residential districts have been forced, by financial difficulty, to let off part of their homes as apartments. This accommodation, whilst of definitely superior type to that offered at houses let in lodgings, is no more costly than the latter. In consequence many married couples hitherto condemned by force of circumstances to exist in houses let in lodgings transfer to this better type accommodation as and when opportunity offers.

The second factor which is undoubtedly leading to decreased use of the house-let-in-lodgings is to be found in the fact that such houses are largely peopled by families of the semi-vagrant, pedlar, or casual labour class, who now tend to migrate from the town in search of better markets for their wares or services.

COMMON LODGING HOUSES.

There are 18 Common Lodging Houses in the Borough, which provide accommodation for 733 persons.

In all these houses the domestic conveniences are of a much higher standard than those provided at the majority of houses let in lodgings. Facilities for the storing and preparation of food, for personal ablution, etc., are in most cases satisfactory.

The bye-laws relating to these premises are adequate.

TENTS, SHEDS, CARAVANS, ETC.

At the end of the year there were 66 caravans in the Borough used as human habitations.

Constant sanitary survey is necessary if the caravans and their surroundings are to be kept in a cleanly and sanitary state.

During the year 344 visits were paid to this class of dwelling, the majority of which were maintained in a sanitary state.

The general cleanliness of the travelling vans which came to Blackburn during the Easter holidays was satisfactory.

The bye-laws in force are adequate.

CANAL BOATS ACTS, 1877 and 1884.

Eighty-two boats were inspected during the year. There are 41 boats on the register.

One infringement of the Acts was detected as follows :—

Boat in a leaky condition.

OFFENSIVE TRADES.

The number of offensive trades within the Borough is 30, of which 18 are bone, and rag and bone dealing, four are fat extraction or fat rendering, two are gut-scraping, four are tripe-boiling, and two knackerings.

Nuisances arising in connection with offensive trades are influenced by the amount of care exercised in the storage of the raw material and waste products. Careless methods of storage and production have been responsible for the majority of nuisances reported, and attention paid to these details has resulted generally in abatement of the nuisance complained of.

SANITARY ACCOMMODATION.

1.—*Sanitary Accommodation* :—

Privies	...	...	...	...	...	...	...	...	...	1
Pail Closets	...	...	...	...	...	...	...	...	...	125
Slop Water Closets	...	...	...	...	...	...	...	...	...	2080
Fresh Water Closets	...	...	...	...	...	...	...	...	...	39179
TOTAL									<u>41385</u>

Conversions :—

	<i>During 1933</i>		<i>1928-1932 Inclusive</i>	
Pails by Owners...	...	2	...	7
Pails by Corporation	...	Nil	...	3
Tipplers to Fresh Water Closets	
(by Owners)	...	34	...	196
Tipplers to Fresh Water Closets	
(by Corporation)	...	1	...	11
Wet Pits by Owners	...	Nil	...	13
Privies to Pails	...	Nil	...	13

2.—*New Sewers* :—

An improvement was completed during the year in the drainage system of the Ewood, Lower Darwen and Longshaw areas by the laying of a relief sewer from Stancliffe Street, Waterfall, to Witton Eyes Pumping Station consisting of 868 yards of 27-in., 24-in., and 18-in. pipes.

In addition 1,039 yards of new pipes of 6-in.—12-in. diameter were laid ; and also 50 yards of 6-in. surface water drains.

3.—*Lavatory and Urinal Accommodation* :—

A new brick urinal has been built in Whalley New Road to replace the old iron one in Teak Street, which has been demolished.

No. of Nuisances Discovered as Result of :—

Complaints by Inhabitants	990
Visiting Cases of Infectious Diseases	354
Complaints from other Departments	376
Notifications of H.M. Inspector of F actories	2
Routine Inspection Visits	2568
Housing and Town Planning Inspections	6176
Visits to Factories and Workshops	27
T otal number of Defects found	10034
T otal number of Defects remedied	4564
N o. of Informal Notices Served	3215
N o. of Formal Notices Served	363
N o. of Informal Notices complied with	2214
N o. of Formal Notices complied with	337
N o. of Interviews	454
N o. of Letters sent out	22

Sanitary improvements made and defects remedied under the supervision of the Sanitary Inspectors :—

TABLE 15.

DWELLING HOUSES.

Insufficient closet accommodation	0
Water supply improved	10
Cleansed and limewashed	109
Overcrowding abated	5
Damp and defective house, walls, roofs, etc.	396
Defective gutters and downspouts	471
Cleansing dirty floors	69
" " woodwork	9
" " dirty yards	67
" " bedding	15
" " windows	3
" " gully traps	28
" " cellar areas	2
Obstructive buildings removed	1
Defective sink waste pipes	153
Defective dishstones	36
Waste pipes disconnected from drain	—
Yards and passages reflagged	4
Flooding of houses	—
Yards badly paved or flagged	160
Insufficient lighting and ventilation of rooms	20
Defective chimney flues	54
Window sash frames, cords, internal walls, ceilings, floors, stairs, fireplaces, doors, cupboards to be repaired	1475
Dangerous and defective chimney stacks	46
Fractured internal walls	22
Gas pipes repaired	15
Water pipes repaired	87
Yard division walls	62
Defective and bulging external walls	104
Dry rot	—
Outbuildings repaired	91

BAKEHOUSES.

Cleansed and limewashed	55
Sanitary accommodation improved	—
Drains repaired	—
Animals removed	—
Other nuisances abated	3

DAIRIES, COWSHEDS, AND MILKSHOPS.

Reconstructed	—
Dairy	2
Middensteads	—
Floors repaired	3
Improved Lighting	—
Improved ventilation	—
Improved drainage	—
Cubic space increased	—
Internal walls and ceilings repaired	4
Improved yard space	—

ICE CREAM MANUFACTORIES.

Cleansing and limewashing	100
Sanitary conditions improved	35

SCHOOLS.

Playgrounds—repairs to drains	—
" repairs to asphalt	—
" repairs to paving	—
" repairs to flags	—
Urinals repaired or improved	—
Sanitary accommodation repaired or improved	1

WORKSHOPS & WORKPLACES.

Cleansed and limewashed	24
Provided with sufficient sanitary accommodation	—
Sanitary condition improved	5
Ventilation improved	—
Overcrowding abated	—
Drains repaired	—
Other nuisances abated	—

DRAINS.

Re-layed	41
Cleansed or repaired	286
Intercepting traps provided	—
Soil pipes repaired	13
Self-cleansing gullies provided	35

WATER CLOSETS.

Cleansed	76
Repaired	40
Cisterns and flushing fittings repaired	240
Provided in substitution of slop-water closets	19

PAIL CLOSETS.

Nuisance abated	—
Converted from privies	—

OFFENSIVE TRADES PREMISES.

Limewashed	30
------------	----

COMMON LODGING-HOUSES.

Cleansed and limewashed	36
Other nuisances abated	—

TABLE 15—(Continued).

OFFENSIVE ACCUMULATIONS.		ASH RECEPTACLES.	
Removed	93	Repaired	—
ANIMALS KEPT AS TO BE A NUISANCE.		Portable receptacles provided....	372
Nuisances abated	4	STABLE PREMISES.	
SEWERS.		Removing manure	10
Cleansed.....	22	Reconstructed middensteads	—
SLOP-WATER CLOSETS.		HOUSES LET IN LODGINGS.	
Nuisances abated	40	Nuisances abated	3
Converted to W.C.'s	19	CANAL BOATS.	
ASHPITS.		Leaky condition	1
Abolished	71	Cover to water cask provided ..	—
		Boat not registered	—
		Master without Certificates	—
		Boat not numbered	—
		Unsuitable certificate	—

DETAILS OF INSPECTION WORK.

Schools.....	52	Dirty Houses	154
Tents, Vans, Sheds.....	344	Common Yards, Back Roads and Passages	5022
Factories	52	Infected Houses	4984
Workshops	705	Housing and Town Planning Acts...	3358
Workplaces	11	Fishmongers and Greengrocers....	248
Bakehouses—Ordinary	496	Ashes Receptacles	639
Underground	6	Food Preparing and Storing Places.	260
Cowsheds	424	Outworkers' Premises.....	6
Dairies and Milkshops	2476	Enquiries <i>re</i> Milk Supply	7
Ice Cream Premises	516	Dwelling Houses <i>re</i> Nuisances	5113
Offensive Trade Premises	284	Samples of—	
Fried Fish Shops.....	419	Milk purchased for Sediment Test	769
Common Lodging Houses	737	Milk purchased for Bacterio- logical Examination	141
Stable Premises	440	Milk purchased for Bacterio- logical content.....	140
Offensive Accumulations	93	Labelling of Condensed Milk Tins.	1542
Animals so kept as to be a nuisance	4	Insufficient Water Supply.....	64
Sewers	22	Miscellaneous	69
Street Gullies	173	Merchandise Marks Acts	1761
Canal Boats.....	82		
Smoke Observations	188		
Theatres and Cinemas	88		
Houses Let-in-Lodgings.....	2622		

TABLE 16.

FACTORIES, WORKSHOPS AND WORKPLACES.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.
Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES. (1)	NUMBER OF		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
FACTORIES ... (Including Factory Laundries)	52	2	...
WORKSHOPS ... (Including Workshop Laundries)	705	12	...
WORKPLACES ... (Other than Outworkers' premises)	11	—	...
TOTAL ...	768	14	...

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	Number of Defects.			Number of offences in respect to which prosecut'ns were instituted. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness ...	6	6	...	...
Want of Ventilation ...	...	...	...	...
Overcrowding ...	...	...	...	...
Want of drainage of floors ...	...	...	...	...
Other Nuisances ...	12	10	...	...
<i>Sanitary Accommodation :—</i>				
Insufficient... ..	...	1	...	...
Unsuitable or defective ...	5	4	...	...
Not separate for sexes ...	...	...	...	...
<i>Offences under the Factory and Workshops Acts :—</i>				
Illegal occupation of underground bakehouse (s. 101) ...	...	...	...	...
Other offences ... (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.)	1	...	...	...
TOTAL ...	24	21	...	...

FACTORIES AND WORKSHOPS.

TABLE 17.

This Table contains particulars of matters referred by the Factory Inspector and of action taken by the Health Department in respect thereof :—

FACTORY.

- (a) “ No sanitary accommodation provided for use of workers on premises.”
A suitable water closet was provided after a Statutory Notice had been served.

WORKSHOPS.

- (a) “ Walls, etc., of bakehouse require limewashing.”
Verbal notice given and work done.
- (b) “ Arrangements to be made for use of separate sanitary convenience by female worker.”
Satisfactory arrangements made.

SMOKE OBSERVATIONS.

During the year 188 smoke observations were made, and in three smoke was emitted in excessive quantities. In each instance the premises were visited by the sanitary inspectors, who gave verbal notice to abate, investigated the cause and advised as to prevention. In all instances this course of action has been sufficient to secure abatement.

The standards of smoke permissible from a factory chimney in Blackburn are as follows :—

One boiler..	..	..	..	..	4 minutes black smoke in the hour
Two boilers	..	..	..	5	.. .. ..
Three boilers	..	..	..	6	.. .. ..
Four boilers or more	..	..	..	7	.. .. ..

TABLE 18. SANITARY ACCOMMODATION IN SCHOOLS, 1933.

SCHOOLS	No. ON ROLLS	No. OF PEDESTAL WATER CLOSETS FLUSHED WITH		No. OF TROUGH CLOSETS TOGETHER WITH NO. OF SEATS FLUSHED :		URINALS.		REMARKS.
		Separate Cisterns	Automatic Cisterns	Auto-matically.	By Hand	No. with Sparge Pipes	No. with- out sparge Pipes	
ACCRINGTON ROAD	294	30	—	—	—	14	—	
AUDLEY C.	780	39	—	—	—	20	—	
BANK TOP C.	296	2	—	—	12	6	10	
BANGOR STREET	625	—	26	—	—	18	—	
BLAKEY MOOR C.	935	7	28	—	—	20	—	
CEDAR STREET C.	369	18	—	—	—	16	—	
CHRIST CHURCH C.E.	581	—	15	6	5	7	8	
EMMANUEL	350	—	—	21	—	—	30	
FURTHERGATE C.	242	—	—	14	—	8	—	
FOUR LANES END	135	—	—	8	—	—	10	
GRIFFIN C.E.	263	2	12	—	—	10	6	
HOLY TRINITY C.E.	407	1	16	—	—	5	10	
INTACK COUNCIL	473	20	—	—	—	12	—	
LOWER DARWEN C.	103	—	9	—	—	—	5	
MILL HILL C.	278	7	16	—	—	—	20	
MOSS STREET C.	258	2	11	—	—	5	5	
C.E. CENTRAL	770	2	13	—	—	18	—	
PARK ROAD C.	337	13	—	—	—	—	5	
REGENT STREET SPECIAL	12	2	6	—	—	3	—	
ST. AIDAN'S C.E.	264	12	4	—	—	10	—	
ST. ALBAN'S R.C.	919	21	—	—	—	—	10	
ST. ALBAN'S H.G.	215	6	—	—	—	—	10	
ST. ANNE'S R.C.	712	3	—	20	—	—	9	
ST. ANDREW'S C.E.	190	—	—	11	—	—	6	
ST. BARNABAS' C.E.	384	—	13	—	—	—	8	
ST. BARTHOLOMEW'S	234	—	—	13	—	—	12	

TABLE 18—Continued. SANITARY ACCOMMODATION IN SCHOOLS, 1933.

SCHOOLS	No. ON ROLLS	No. OF PEDESTAL WATER CLOSETS FLUSHED WITH		No. OF TROUGH CLOSETS TOGETHER WITH No. OF SEATS FLUSHED :		URINALS.		REMARKS.
		Separate Cisterns	Automatic Cisterns	Auto-matically.	By Hand	No. with Sparge Pipes	No. without Sparge Pipes	
ST. GABRIEL'S C.E. ...	138	—	—	7	—	—	4	
ST. JAMES' B.A.M. ...	78	—	3	4	—	8	—	
ST. JAMES', GUIDE ...	83	—	—	10	—	2	6	
ST. JAMES' C.E. ...	202	1	9	—	—	—	8	
ST. JOHN'S C.E. ...	480	—	—	23	—	9	—	
ST. JOSEPH'S R.C. ...	550	—	—	14	—	—	9	
ST. LUKE'S C.E. ...	260	—	14	—	—	—	9	
ST. PETER'S R.C. ...	503	2	25	—	—	17	—	
ST. MICHAEL'S C.E. ...	165	—	—	6	7	12	—	
ST. MATTHEW'S C.E. ...	386	1	—	12	—	—	10	
ST. MARY'S R.C. ...	565	1	—	10	—	4	4	
ST. PAUL'S C.E. ...	371	—	13	—	—	20	—	
ST. PETER'S C.E. ...	187	15	—	—	—	—	15	
ST. STEPHEN'S C.E. ...	276	1	—	21	—	7	—	
ST. SILAS' C.E. ...	354	—	16	—	—	12	—	
ST. THOMAS' C.E. ...	481	—	12	—	—	—	12	
SACRED HEART R.C. ...	131	1	—	7	—	2	2	
WENSLEY FOLD C.E. ...	230	2	8	—	—	12	—	
WITTON INFANTS' ...	47	—	6	—	—	6	—	
ROE LEE PARK ...	260	18	—	—	—	18	—	
JUVENILE UNEMPLOYED TRAINING CENTRE SCHOOLS :								
MAUDSLEY STREET ...	—	1	—	9	—	8	—	
AUDLEY RANGE ...	—	—	—	13	—	9	—	

Much valuable information regarding the existence of non-notifiable infectious disease has reached the Health Office through the agency of Head Teachers and School Attendance Officers.

Convalescents from infectious disease and contacts who have been excluded from school are not readmitted until the Head Teacher receives a clearance certificate issued by the Health Department or the private practitioner in attendance. Children convalescent from infectious disease are excluded from school for varying periods following discharge from hospital, or, in the case of children who have been nursed at home, following disinfection of the home.

The period of exclusion of contacts depends upon the type of infectious disease.

Water at the Schools is drawn from the Corporation mains and is satisfactory as regards quantity and quality.

A sanitary survey of each school is made three times each year by the Assistant School Medical Officer, who reports thereon to the School Medical Officer who is also Medical Officer of Health. Any sanitary defects found are reported to the Education Authority, who take such action as may be necessary.

Absences from school due to sickness are reported to the School Medical Department through the School Attendance Officers.

A full survey of the health of the school-child is contained in the Annual Report on the work of the School Medical Service.

THE TESTING OF DRAINS.

No. of Smoke Tests	..	..	..	..	..	..	129
No. of Water Tests	..	..	..	..	..	..	49
No. of Colour Tests	..	..	..	..	..	..	77
Breaking Down	..	..	..	..	..	..	54
Inspections made while work was in progress	..	..	..	..	..	..	189
Total number of Defects found	..	..	..	..	..	..	118
No. of Informal Notices Served	..	..	..	..	..	..	87
No. of Formal Notices Served	..	..	..	..	..	..	1
No. of Defects Completed	..	..	..	..	..	..	118
No. of Defects outstanding at end of 1932	..	..	..	..	..	..	1

THE RAG FLOCK ACTS, 1911 & 1928.

There is one premises in Blackburn where rag-flock is used. The flock is not manufactured locally, but is purchased under guarantee of Government Standard of Cleanliness.

The premises concerned have been visited in the course of routine district inspections.

DISPOSAL OF THE DEAD.

The arrangements for the disposal of the dead will remain adequate for at least a further ten years.

PART III.



Food Supply.

FOOD SUPPLY.

In later paragraphs of this Section the Veterinary Inspector discusses in detail the work carried out by the Food and Drugs Staff. There are, however, several matters raised in his Report which warrant some amplification.

First of all the *modus operandi* of the Clean Milk Competition calls for comment. The term "Clean Milk Competition" is a misnomer, inasmuch as it implies that attention is paid only to the mechanical cleanliness of the milk. It should be remembered that milk may be entirely free from visible extraneous material such as manure, dust, farm yard debris, and the like, and yet be of gross bacterial impurity. Careful filtration or other forms of mechanical clarification will certainly remove much foreign material, often harmless, which finds its way into carelessly produced milk, but such processes are ineffective in removing bacteria. A milk competition based solely on standards of mechanical cleanliness is devoid of utility; to be of value such a competition should aim at the attainment of a safe milk, as indicated by bacterial content. Further, as milk forms the basis of infants' and invalids' diets, a further object of the competition should be the production of a milk of high chemical standard, with extraneous material excluded to a minimum.

Your Clean Milk Competition is organised on the above principles.

The premises of all entrants, therefore, are subject to frequent visits by members of your staff; each visit is the occasion of an examination of all cattle, a careful inspection of premises and a scrutiny of the methods employed. Inspection of cattle and premises has as its object the production of mechanically clean milk from cows showing no clinical evidence of disease. As a further check upon the cleanliness of the milk, samples are taken monthly for sedimentation test.

With the object of controlling bacterial content and of ensuring a milk SAFE as well as CLEAN, a sample from each competitor is examined bacteriologically once in every quarter. This examination includes a count of the total number of bacteria present, a quantitative estimation of *B. Coli* (presence of which indicates manurial contamination), and a biological test for the presence of *B. Tuberculosis*. That the milks have attained a high standard of safety is indicated by the fact that samples purchased from competitors

in Class II (non-designated), and examined during 1933 fell into the appended bacteriological categories :—

- (a) 65.6% were of " Certified " standard.
 - (b) 8 % were of " Grade A " standard.
 - (c) 42% contained less than 5000 bacteria per c.c.
 - (d) 48.4% did not contain B. Coli in 1.c.c.
- and (e) Only 1.6% of samples examined were T.B. positive.

As the majority of competitors in Class II carry on their business at dairy-farms devoid of elaborate plant, the above findings would tend to explode the hypothesis that clean milk can be produced only at expensively equipped premises. The purity and cleanliness of these milks is largely due to the producers' conscientious attention to detail and hygiene, although, at the same time, the majority of the competitors continue to improve their premises and instal such plant, generally of a simple nature, as is desirable for clean milk production ; it should be stated, however, that in many instances the producer pays insufficient attention to the milkers' overalls, although year by year an improvement is noted in this respect.

In a previous paragraph of this section I mentioned " cleanliness " of milk as indicated by the absence of visible extraneous material. On page 64 of this Report are recorded the results of sedimentation tests carried out during the year, and a brief explanation is there given of the interpretation of results. That the presence or absence of extraneous material is no criterion of the safety, or otherwise, of milk, is clearly denoted by the fact that of samples shown by means of sedimentation to be " contaminated," many have been of high bacteriological standard. Conversely other samples, clean by mechanical standards, have proved to be grossly contaminated on bacteriological examination. In other words, a milk is not necessarily safe because it contains no foreign material, although one which contains such material is potentially harmful, inasmuch as extraneous material indicates either lack of care or some unnoticed mishap in the course of production or distribution. Possibly the greatest value of the sedimentation test lies in the fact that the producer may be furnished thereby with ocular proof of his misdeeds or mishaps. To the average farmer, or layman, the terms " high total count," " B. Coli present in /1,000th cc," and the like convey no definite significance. The same farmer or laymen confronted with a filter disc showing hair, dust or manure cannot fail to appreciate and acknowledge an unsatisfactory result.

In addition to bacteriological examination, samples of milk from competitors are analysed chemically once in each quarter. The results have been uniformly good.

HANDLING OF MEAT.

Year by year there has been a steady local improvement in the conditions under which meat is transported and handled. The meat traders, as a body, are becoming increasingly "house-proud," both as regards methods of transport, storage and retail distribution. For the most part meat is transported in covered motor vehicles, the majority of which have been found satisfactory as regards structure and design. In the shops the old type of ice-box is gradually being supplanted by the automatic refrigerator, and practically all the local butchers now possess up-to-date mechanical refrigerators. All traders in the Borough have provided glass fronts to their premises, with the exception of several who occupy stalls at the bi-weekly open market.

ICE CREAM.

In previous Reports I have mentioned the difficulty experienced in the control of ice-cream produced by casual or itinerant vendors. As far as possible the activities of all vendors are supervised by this Department, although the scope and extent of such supervision is necessarily limited by existing and unavoidable inadequacy of means of ascertainment. Many of the casuals produce their commodity outside, but retail it within, the Borough, to the financial disadvantage of those Blackburn ratepayers engaged in a similar means of livelihood, but preparing a wholesome product under hygienic conditions.

It will be remembered that a local Bill, rejected by a poll of ratepayers in 1929, contained a clause which required the registration of ice-cream manufacturers and premises. This clause was included mainly in order to control the activities of those casual vendors who hawk from street to street a commodity often, I fear, produced under unsatisfactory conditions. Although the public have exercised their right to demand protection against the potential dangers of unwholesome food in general, they have been slow to realise the desirability of ensuring a compulsory supervision of the ice-cream trade.

Many of our local producers have incurred not inconsiderable expenditure in so equipping their premises as to enable them to produce clean ice-cream. In fact, their premises and methods would, with very few exceptions, survive the most critical scrutiny, and the cleanliness of their product satisfies, generally speaking, bacteriological requirements.

Although their care and financial outlay entitle them to some more tangible reward than the knowledge of a task well done, attainment of the substance is largely hampered through the competition of itinerant vendors.

Such competition is evident in the neighbourhood of many Blackburn Schools, where, particularly during summer months, ice-cream barrows congregate at school-closing and opening times. It is not uncommon to notice at these times two or three barrows at the school-gates, and others placed along the routes leading to and from the schools.

Compulsory registration would certainly eliminate from the competitive field those whose methods of production or distribution fall short of a reasonable hygienic standard, and thereby benefit the clean tradesman and ensure for the children a pure and wholesome ice-cream.

REPORT OF THE VETERINARY INSPECTOR

(MR. E. J. BURNDRED, M.R.C.V.S., D.V.H.).

FARM AND DAIRY CATTLE INSPECTION.

During the year 245 visits were paid to farms, 424 cowsheds were inspected and the udders of 5,374 cows examined.

Three cows on different farms in the Borough were found to be affected with tuberculosis of the udder. They were all slaughtered, and on post mortem examination, two were classed as advanced tuberculosis, and one not advanced.

Two cases of tuberculosis with cough in two cows were dealt with. The two cows were slaughtered, and on post mortem examination, one was classed as advanced, one not advanced.

Ten cows affected with tuberculous emaciation were slaughtered, and post mortem examination in each case revealed advanced tuberculosis.

Ten cows were suffering from mastitis, and during the affection the milk was not used for human food.

DAIRIES, COWSHEDS AND MILKSHOPS.

Regular visits were paid to all producing and retailing premises in Blackburn, and many visits were paid, in conjunction with the local officials, to milk producing premises outside the Borough which supply milk for consumption in Blackburn.

Much more remains to be done to improve both the conditions and the methods, but each year sees some improvement. The use of steam for the sterilisation of utensils is slowly but surely increasing, and quite a number of producers have now installed mechanical plants for the cooling and storing of the milk.

CLEAN MILK COMPETITION.

There are four classes of competitors for the Clean Milk awards.

A cup is awarded in each class, and this is held by the winner for one year. He also receives a miniature cup and gold medal, which he retains.

CLASS I. is open to producers of raw, designated milks, purveyed in Blackburn. The award in this class is the "Redmayne" Cup. The winner for 1933 was Storm's Dairy, Keswick.

CLASS II. is open to producers of non-designated milks purveyed in Blackburn. The award in this class is the "Porritt" Cup, and the winner for 1933 was J. H. Holgate, Kay Fold Farm, Ramsgreave.

CLASS III. is open to producers of designated milk, whose main source of livelihood is dairy farming, and is awarded for the best farm, the award being the "Burke" Cup. The winner in 1933 was W. Harrison, Home Farm, Dutton.

CLASS IV. is for the best undesignated dairy farm, under the same conditions as Class III. The winner for 1933 was R. Townson, Magnols Farm, Oswaldtwistle.

Mr. Arthur Holgate again consented to judge in Classes III and IV; he pays particular attention to the care taken both in the fields and in the cowsheds and dairy.

MILK (SPECIAL DESIGNATIONS) ORDER, 1923.

Certified Milk. There are two farms holding the Certificate of the Ministry of Health which supply certified milk in Blackburn. They are both some distance away, consequently the milk is not delivered the same day as produced. The prices are 7½d. and 6d. per pint.

Grade " A " (Tuberculin Tested) milk is used at the Corporation Hospital.

Grade " A " Milk. There are 12 farms in the district where Grade " A " milk is produced ; four of these are in the Borough, and eight in the County area. There are also 16 retailers of Grade " A " milk. The price is usually ½d. per pint more than ordinary milk.

Pasteurised Milk. Two dairies in the Borough are licensed for the pasteurisation of milk, and other dairies obtain supplies from licensed establishments outside Blackburn.

Sterilised Milk, which is not a designated milk, is sent into Blackburn from factories outside.

BACTERIOLOGICAL EXAMINATION OF MILK.

(a) *B. Coli.*

One hundred and forty samples were submitted to the Bacteriologist Public Health Laboratories, Liverpool. The following is a summary of his findings :—

Bacillus Coli Content :—

Not found in 1 cubic centimetre	76
Found in 1 c.c. only	21
.. 0.1 c.c.	8
.. 0.01 c.c.	7
.. 0.001 c.c.	10
.. 0.0001 c.c.	5
.. 0.00001 c.c.	13

The presence of bacillus coli, or a member of its group, is evidence of manurial contamination of the milk.

The above results show 54% clean, 26% with slight contamination ; 20% grossly contaminated.

The appended Table gives particulars of B. Coli counts month by month :

TABLE 19.

1933	Not Present in 1-C.C.	Present in 1-C.C.	Present in 1/10 C.C.	Present in 1/100 C.C.	Present in 1/1,000 C.C.	Present in 1/10,000 C.C.	Present in 1/100,000 C.C.
January ..	..	..	..	..	..	..	..
February ..	1	..	..	..	..	..	..
March ..	18	8	2	1	..	..	..
April ..	4	..	..	..	2	..	..
May ..	2	..	..	..	..	..	..
June ..	4	2	1	4	7	3	9
July ..	1	..	..	..	..	..	..
August ..	..	..	..	1	..	..	2
September ..	16	5	3	..	1	2	2
October ..	2	..	..	1	..	..	..
November ..	6	1	..	..	..	..	..
December ..	22	5	2	..	..	..	..
TOTAL ..	76	21	8	7	10	5	13

It will be seen that the heaviest contamination takes place in June, August and September, all months when the cows are out at grass.

(b) *Tubercle Bacilli*. One hundred and forty-seven samples of milk were taken and examined for the presence of tubercle bacilli. The samples were made up as follows :—

One hundred and forty-one mixed samples were taken in the course of delivery ; six special samples were taken direct from one or more quarters of the udders showing some abnormality.

Of the 141 mixed samples taken, two contained tubercle bacilli, 132 were negative, and in seven cases the experimental animal died before a definite diagnosis could be made.

Three special samples were negative.

In two cases tubercle bacilli were found microscopically.

A third case was positive only after inoculation.

The three samples of milk containing tubercle bacilli were taken from cows at farms in the Borough. These three cows were dealt with under the Tuberculosis Order, 1925, and slaughtered.

The two mixed samples of milk which contained tubercle bacilli were from farms in the County Area.

The cows at these two farms were examined in my presence by a veterinary surgeon, with the result that three cows affected with tuberculosis were slaughtered and destroyed.

A further source of infection was a dairy milk in Blackburn which was reported as containing tubercle bacilli by a neighbouring authority. The infected milk came from one or more of 32 farms. The cows were examined by veterinary surgeons, and four cows with tubercular udders were discovered and slaughtered.

Mixed samples of milk supplied to the Royal Infirmary were taken periodically and examined for the presence of tubercle bacilli, and on each occasion were found to be free.

EXAMINATION OF MILK FOR DIRT.

Samples examined for dirt are submitted to filtration through cotton-wool discs.

Any departure from absolute cleanliness, as indicated by the presence of extraneous material, however slight, on the disc, places the sample in the "Contaminated" Class. In no case is the milk given the benefit of the doubt; if there is suspicion of deposit on the disc, the milk is classified as "fairly clean."

Gross and very gross contamination indicate the presence of manure in the milk.

Letters are sent to purveyors of contaminated milks, and usually visits are paid to the producing premises.

During the year 769 samples of milk were taken and examined for the presence of dirt.

One hundred and forty-six of these samples were taken from producer-retailers whose premises are within the Borough, and were classified as follows :

Clean	..	..	..	..	..	..	19 or 13·01%
Fairly Clean	..	..	..	..	..	..	91 or 62·3%
Contaminated	..	..	..	..	..	..	36 or 24·6%

Five hundred samples were taken from producer retailers whose premises are outside the Borough :—

Clean	..	..	..	..	..	..	134 or 26·8%
Fairly Clean	..	..	..	..	..	..	265 or 53·0%
Contaminated	..	..	..	..	..	..	101 or 20·2%

Ninety-three samples were taken from retailers who reside in the Borough, but who procure their supplies from producers whose premises are, for the most part, outside the Borough.

Clean	..	..	..	..	..	..	3 or 3·22%
Fairly Clean	..	..	..	..	..	..	57 or 61·29%
Contaminated	..	..	..	..	..	..	33 or 35·48%

Thirty samples were taken from retailers who reside outside the Borough.

Clean	...	...	...	...	...	...	5 or 16·66%
Fairly Clean	...	...	...	...	...	...	16 or 53·33%
Contaminated	...	...	...	...	...	...	9 or 30·0%

CHEMICAL ANALYSIS OF MILK.

Two hundred and ninety-one samples of milk, 165 of which were informal, were taken during the year and examined at the Public Health Laboratory, Liverpool. Thirteen samples, or 4·4%, were reported not to conform with the standard prescribed by the Ministry of Agriculture. In 1933, twelve of the defective samples were found to be considerably below the legal standards. If an informal sample proves to be not genuine on analysis, a formal sample is purchased and submitted to the analyst.

Two formal samples presented marked deficiency, and the vendors concerned were prosecuted.

TABLE 20.

AVERAGE COMPOSITION OF MILK SOLD IN BLACKBURN,
YEAR 1933.

MONTH	No. of Samples Taken.	% of Fat	% of other Solids.
January	38	3·71	8·82
February	14	3·64	8·89
March	14	3·90	8·67
April	34	3·56	8·88
May	30	3·60	9·15
June	28	4·00	9·09
July	43	3·65	9·29
August ... ..	..	..	..
September	8	4·00	9·13
October	42	4·18	9·15
November	23	3·84	8·88
December	17	4·02	9·01
Average	291	3·83	8·99

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS)
REGULATIONS, 1925.

No action was necessary with regard to tuberculous employees in the Milk Trade.

THE PUBLIC HEALTH (CONDENSED MILK) REGULATIONS,
1923 & 1927.

Twenty-six samples were purchased under the above regulations, and all were found, on analysis, to be genuine. All were properly labelled.

These samples are included in Table 29, Food and Drugs (Adulteration) Act.

THE ARTIFICIAL CREAM ACT, 1929.

No action has been taken under the above Act.

THE PUBLIC HEALTH (DRIED MILK) REGULATIONS, 1923 & 1927.

No action has been taken under the above Regulations.

SECTION 80 BLACKBURN CORPORATION ACT, 1922.

FOOD PREPARING PREMISES.

This Section reads as follows :—

“ Any premises ordinarily used, or proposed to be ordinarily used, for the preparation or manufacture of sausages, pressed, potted or preserved meat, fish or other food, intended for the purposes of sale, shall be registered by the owner or occupier thereof with the Corporation from time to time in such manner as they may direct, and no premises shall be used for the purposes aforesaid unless the same are so registered, and the Corporation shall have power to refuse registration of any premises where the conditions are unsuitable.”

There are 46 premises registered under the above section, and in addition there are a large number of food preparing premises which are exempt from registration.

Two hundred and twenty-six visits were made to such premises. Generally they were found to comply with requirements.

In certain cases, the necessity for repairs was pointed out, and in other cases suggestions for improvements were made and in all cases improvements were effected.

DISEASES OF ANIMALS ACTS AND ORDERS.

Foot and Mouth Disease.—No outbreaks occurred in Blackburn.

There were 87 outbreaks in Great Britain, necessitating the slaughter of 7806 animals.

The figures for the preceding five years were :—

1932	...	25 outbreaks with	2659 animals slaughtered
1931	...	97 outbreaks with	10257 animals slaughtered.
1930	...	8 outbreaks, with	306 animals slaughtered.
1929	...	38 outbreaks, with	3570 animals slaughtered.
1928	...	138 outbreaks, with	11441 animals slaughtered.

Anthrax. Two cases of Anthrax were confirmed on two farms in the Borough, and in each case a cow was the affected animal.

The carcasses were taken to the Audley Destructor and cremated. Thorough disinfection of the premises, utensils, persons and clothing was carried out, and all the persons and animals were kept under observation until all danger of further infection had passed.

There were 297 outbreaks in Great Britain, affecting 345 animals.

Routine microscopical examination of blood smears from carcasses of animals arriving at the Abattoir and Railway Siding in a dead or dying condition was carried out throughout the year. No cases were discovered.

Glanders.—No cases occurred in Great Britain

Sheep Scab. No cases occurred in Blackburn. There were 566 outbreaks in Great Britain. Animals at a farm in the Borough which had been in contact with affected animals were dipped under supervision.

Parasitic Mange. No cases occurred in Blackburn. One hundred and thirty-two outbreaks were reported in Great Britain, involving 225 animals.

Swine Fever. There were five investigations of suspected Swine Fever, and in four of these the disease was confirmed.

Two of the four cases were at the Public Abattoirs, and involved the destruction of two carcasses, and five carcasses which were found to be affected with the disease.

The other two outbreaks were on different premises in the Borough. Restrictions were imposed until all danger of spread of the disease was passed.

One thousand four hundred and fourteen outbreaks were confirmed in Great Britain.

The disease became so prevalent in Lancashire during the year that in December the County was declared a Swine Fever Infected Area ; all movements of pigs were controlled, and sale of stores through Markets was prohibited.

Tuberculosis. Three cases of Tuberculosis of the Udder ; two cases of Tuberculosis with cough ; and ten cases of Tuberculous emaciation were dealt with under the Tuberculosis Order, 1925.

On post mortem examination the cases were classified as follows :—

Tuberculosis of the udder : two advanced ; one not advanced.

Tuberculosis with cough : one advanced ; one not advanced.

Tuberculous emaciation : 10 advanced.

Cattle Market. The approximate number of animals exposed for sale was :—

TABLE 21.

<i>Year.</i>	<i>Cattle.</i>	<i>Sheep.</i>	<i>Calves.</i>	<i>Pigs.</i>	<i>Horses</i>	<i>Asses.</i>
1933	3553	2975	1276	512	9	...
<i>Year.</i>	<i>Cattle.</i>	<i>Sheep.</i>	<i>Calves.</i>	<i>Pigs.</i>	<i>Horses</i>	<i>Asses</i>
1932	4541	5558	1721	781	34	...
1931	4885	6260	2183	1244	11	...
1930	6965	8869	2037	573	17	...
1929	6947	9552	2291	966	19	...
1928	6432	5655	2041	1045	19	...
1927	9960	9922	2675	1333	...	21
1926	8092	7410	2285	930	20	...
1925	7171	6962	2346	486	23	...
1924	5609	5608	3493	620	24	...
1923	7716	10026	3040	721	35	...
1922	4650	11289	2681	362	554	...
1921	4681	1913	2812	835	416	..
1920	9341	942	2258	530	365	...

MEAT INSPECTION.

The year 1933 will be long remembered as the year which ushered in the new Charter for Animals, the Slaughter of Animals Act, 1933.

During the year the Pig Slaughtering Department at the Public Abattoir was entirely reconstructed.

Pigs from adjoining lairages at either of two ends of the building enter a stunning pen, where they are stunned by electricity, hoisted, and bled. From the bleeding passage, the carcass passes to the dressing room, where an automatic dropper allows it to descend slowly into the scalding tank. Carcasses

are, after scraping, dressed, and then switched on to hanging rails in an adjoining cooling room. It is gratifying to be able to report that there is a vast improvement in the appearance and the keeping qualities of the carcasses.

The number of animals slaughtered at the Public Abattoir was 84,742, this being an increase of 3,253 compared with 1932.

Tuberculosis caused the waste of a large amount of food material, due to condemnation of diseased carcasses and parts.

The number of susceptible animals (cattle, calves, pigs) affected with Tuberculosis during 1933 was 474, or 3.1% of those slaughtered.

Corresponding percentages were in 1932, 3.35%; 1931, 3.43; 1930, 2.38; 1929, 2.22; 1928, 2.9; 1927, 2.079; 1926, 2.15; 1925, 1.83; 1924, 1.87.

Of 803 cows slaughtered, 218, or 27.1%, were found to be affected with tuberculosis in some degree.

Heifers show a lower percentage, as only 3 out of 75, or 4.0% slaughtered, were affected.

Of 1,064 bulls, 46, or 4.3%, were affected.

Of 5,369 bullocks, only 38, or nearly 0.7%, were affected.

Tuberculosis was found in three out of 1,326 calves slaughtered, or 0.22%.

Of 6,502 pigs slaughtered, 166 were affected, a percentage of 2.5.

The number of carcasses in which the disease was so advanced as to necessitate total condemnation was 80, compared with 84 in 1932; 90 in 1931; 68 in 1930; 84 in 1929; 111 in 1928; 107 in 1927; 107 in 1926; 69 in 1925; 85 in 1924.

In 1933, 54 carcasses of cattle were totally condemned as being unfit for human food, and of these, 46 were affected with tuberculosis.

The dry year of 1933 was responsible for a great improvement in Fluke disease.

Fluke was responsible for the condemnation of 7,741 livers, compared with 9,019 in 1932 ; 6,579 in 1931 ; 5,247 in 1930 ; 6,249 in 1929 ; 6,042 in 1928 ; 3,836 in 1927.

During the year regular visits were made to the one private slaughterhouse in the Borough, butchers, and other meat shops, food preparing premises, wholesale and retail fish markets, and the meat market.

TABLE 22.

NUMBER OF ANIMALS SLAUGHTERED AT THE PUBLIC ABATTOIR.

1933.	Beasts	Sheep	Calves	Pigs	Goats	Total
January	638	5428	110	613	..	6789
February	453	4515	91	555	..	5614
March	595	4595	85	549	..	5824
April	683	5780	143	514	..	7120
May	504	4956	34	298	..	5792
June	557	6702	38	230	..	7527
July	399	5387	43	163	..	5992
August	549	6338	114	257	..	7258
September	700	7838	163	451	..	9152
October	639	6354	184	718	..	7895
November	840	7157	192	850	..	9039
December	613	4694	129	1304	..	6740
TOTAL	7170	69744	1326	6502	..	84742

NUMBER OF CARCASSES AND PORTIONS OF CARCASSES
BROUGHT TO THE ABATTOIR.

TABLE 23.

1933.	CARCASSES.			BEEF		
	Beef	Mutton	Pork	Fore Qrs.	Hind Qrs.	Buttocks
January	24	41	...	22	...
February	6	18	37	...	9	...
March	24	35	34	9	...
April	30	32	41	...	...
May	14	...	26	...
June	30	15	...	47	...
July	22	16	...	22	...
August	24	12	...	35	...
September	41	...	51	...
October	20	40	12	15	...
November	23	41	15	24	...
December	110	17	17	...
TOTALS	6	215	434	119	277	...

1933.	CASES OF			Lengths of Pork	Legs of Pork	Tins of Meat
	Kidneys	Pork	Liver			
January	8	...	...	48	...	...
February	8	...	...	38	20	...
March	8	...	...	32	15	...
April	10	...	...	11	7	...
May	8	...	...	...	...	...
June .. ..	...	...	...	...	...	...
July	6	...	...	...	...	...
August	8	...	...	...	...	...
September	10	...	...	...	...	...
October	8	...	...	32	...	...
November	11	...	...	75	...	...
December	6	...	...	169	42	...
TOTALS ..	91	...	...	405	84	...

TABLE 24.
ORGANS AND PARTS OF CARCASES EXAMINED, REJECTED AND DESTROYED, FOR DISEASES OTHER THAN TUBERCULOSIS.

Disease or Condition	Diaphragm	Tongues	Heads	Lungs	Hearts	Livers	Stomachs	Udders	Intestines	Kidneys	Tails	Lbs. of Meat
Fluke	7741	..	..	..	..	..	..
Cirrhosis	359	..	..	..	..	..	..
Angioma	44	..	..	..	..	..	..
Unsound	46	63	20	33	1	..	..	..	..	1368½
Abscesses	1	..	..	21	13	..	..	..	..	..
Actinomycosis	1	..	..	..	..	..	..	..	..	..
Mammitis	120	..	..	..	..
Parasitic	142	..	130	..	..	8	18	..	..
Nephritis	20	..	..
Bruised	2586
Congested
Pericarditis	20	..	..	..	..	..	..	..
Pneumonia	22	..	..	..	..	..	..	..	..
Melanosis
Endocarditis
Fatty Degen'n...	2	..	..	..	..	..	..
TOTAL ..	—	—	48	227	40	8330	14	120	8	38	—	3954½

TABLE 25.
DISEASED CARCASSES EXAMINED, REJECTED AND DESTROYED FOR DISEASES, ETC.,
OTHER THAN TUBERCULOSIS.

CARCASSES.

BEEF. DISEASE.	MUTTON.		VEAL.		PORK.		FOWL.		VENISON.		
	No	DISEASE.	No	DISEASE.	No	DISEASE.	No	DISEASE.	No	DISEASE.	
Septicæmia ...	5	Congested	53	Immature...	48	Rachitis ...	...	7	Peritonitis...	...	1
Extensively Bruised ...	1	Œdematous	62	Joint Ill ...	7	Pneumonia ...	...	3			
Nephritis ...	1	Parasitic ...	33	Septicæmia ...	38	Septicæmia ...	...	2			
Pneumonia ...	1	Emaciated	2	Navel Ill ...	2	Pyæmia ...	...	4			
		Pneumonia	3	Congested...	5	Peritonitis...	...	4			
		Pyæmia ...	1	Pyæmia ...	2	Swine Fever ...	...	2			
		Extensively Bruised ...	3	Staggers ...	1	Enteritis ...	...	1			
		Septicæmia ...	1	Nephritis ...	1	Toxæmia ...	...	1			
		Unsound ...	1	Œdematous ...	2						
	8		159		106			24			1

TABLE 26.
TUBERCULOUS CARCASSES EXAMINED AND REJECTED.

1933	Cows		Heifers		Bulls		Bullocks		Calves		Sheep		Pigs		Fowl		Totals	
	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected	Examined	Rejected
January ..	22	6	1	...	3	...	4	...	1	1	...	...	14	2	...	...	45	9
February ..	17	1	...	...	4	...	2	...	...	...	...	...	14	4	...	...	37	5
March ..	17	3	...	...	2	...	5	2	...	...	...	...	17	...	4	...	45	9
April ..	14	1	...	...	3	...	2	...	1	1	...	...	12	...	5	...	37	7
May ..	15	3	...	...	4	1	6	1	...	...	...	...	14	5	2	...	41	12
June ..	15	2	1	...	5	...	4	1	...	...	...	...	6	2	1	...	32	6
July ..	13	1	...	...	2	...	4	...	...	...	...	...	7	1	...	...	26	2
August ..	20	5	1	...	4	...	...	...	1	1	...	...	10	...	4	...	40	10
September ..	19	3	...	...	4	...	2	...	...	...	...	...	19	11	2	...	46	16
October ..	19	4	...	...	5	...	3	2	...	...	...	...	14	3	...	...	41	9
November ..	26	4	...	...	5	...	3	...	...	...	...	...	11	1	1	...	46	6
December ..	21	2	...	...	5	...	3	1	...	...	...	...	28	5	2	...	59	10
TOTALS ..	218	35	3	...	46	1	38	7	3	3	...	...	166	34	21	...	495	101

TABLE 27.
TUBERCULOSIS IN THE ANIMALS SLAUGHTERED.

Kind of Animal.	Number Slaughtered.	Of which were Tuberculous.	Totally Rejected	EXTENT OF THE TUBERCULAR PROCESS IN PARTIALLY REJECTED CARCASSES.															
				THORAX.			ABDOMEN.							Bones	Testicles	Udders	Parts of Carcasses in lbs.		
				Lungs	Heart and Pericardium	Serous Membranes	Livers	Stomachs	Spleens	Kidneys	Intestines	Uteri	Serous Membranes						
Cows ...	802	218	35	179	—	60	1	4	—	—	—	—	—	—	—	—	—	9	4879
Heifers ...	75	3	...	3	—	2	1	—	—	—	—	—	—	—	—	—	—	—	350
Bulls ...	1064	46	1	41	—	14	—	1	—	—	—	—	—	—	—	—	—	—	620
Bullocks ...	5369	38	7	28	—	7	1	—	—	—	—	—	—	—	—	—	—	—	852
Calves ...	1326	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pigs ...	6502	166	34	132	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS ...	15139	474	80	383	—	83	3	5	—	—	—	—	—	—	—	—	—	9	6701

TABLE 28.

FISH, RABBITS, ETC., EXAMINED, REJECTED AND DESTROYED.

Pots of Shrimps	FISH			Rabbits	Tins of Meat	Cauliflowers	Fowl	Boxes of Pears	Boxes of Apples	Boxes of Tomatoes	Chips of Strawberries	Grapes, lbs.	Bags of Peas	Cases of Onions	Tins of Tongue	Tins of Fruit	Tins of Cream	Tins of Milk	Mushrooms, lbs.
	Bags	Boxes	Lbs.																
19	5½	155¼	347	637	9	120	32	3	16	51	76	24	67	66	1	18	2	2	54

NUMBER OF VISITS TO INSPECT FOOD.

Fish Shops	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	822
Provision Shops	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1042
Butchers' Shops	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1986
Private Slaughterhouses	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38
Meat Market	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	144
Fish Market	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	251
Railway Station	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	278
																				4561

CARCASSES, ETC., SENT FOR UTILIZATION.

					<i>Tons.</i>	<i>Cwts.</i>	<i>Qrs.</i>
January	..	..	..	..	8	19	3
February	..	..	..	..	6	9	2
March	..	..	..	..	7	3	0
April	..	..	..	..	6	1	1
May	..	..	..	..	4	19	3
June	..	..	..	..	5	3	1
July	..	..	..	..	3	12	0
August	..	..	..	..	6	4	3
September	..	..	..	..	8	7	1
October	..	..	..	..	7	4	1
November	..	..	..	..	9	12	3
December	..	..	..	..	7	13	2
					—	—	—
TOTAL	..	..	..	..	81	11	0
					—	—	—

E. J. BURNDRED,

Veterinary and Chief Meat Inspector.

ICE CREAM.

There are 134 ice-cream preparing premises in Blackburn, to which 516 visits were paid during the year. Cleansing and whitewashing has been carried out at 100 of the premises, and in 35 instances the existing sanitary conditions were otherwise improved upon.

THE FOOD AND DRUGS (ADULTERATION) ACT, 1928.

The Public Analyst is Professor W. H. Roberts, M.Sc., F.I.C. Samples taken under the above Acts are submitted to him for examination at the Public Health Laboratory, Liverpool.

The number of samples examined during 1933 was 508. Twenty two, or 4.33%, of the total proved on examination to be adulterated, or not up to standard.

TABLE 29.

THE FOOD AND DRUGS (ADULTERATION) ACT, 1928.

	Samples Taken.		Samples Genuine.		Samples Adulterated.	
	Formal.	Inform'l	Formal.	Inform'l	Formal.	Inform'l
Milk	126	165	124	154	2	11
Butter	-	19	-	19	-	-
Margarine	-	10	-	10	-	-
Tea	-	13	-	13	-	-
Coffee	-	9	-	9	-	-
Cocoa	-	12	-	12	-	-
Cheese	-	7	-	7	-	-
Lard	-	6	-	6	-	-
Rice	-	7	-	6	-	1
Jam	-	13	-	12	-	1
Baking Powder	-	4	-	4	-	-
Custard Powder	-	4	-	4	-	-
Egg Powder	-	4	-	4	-	-
Condensed Milk	-	26	-	25	-	1
Tinned Fruit Salad	-	8	-	6	-	2
„ Pineapple	-	1	-	1	-	-
„ Peaches	-	8	-	7	-	1
„ Pears	-	6	-	6	-	-
„ Plums	-	1	-	1	-	-
„ Apricots	-	3	-	3	-	-
Self-Raising Flour	-	1	-	1	-	-
Ovaltine	-	1	-	1	-	-
Ice Cream	-	20	-	20	-	-
Treacle	-	1	-	1	-	-
Vinegar	-	2	-	2	-	-
Castor Oil	-	1	-	1	-	-
Olive Oil	-	1	-	1	-	-
Lemon Cheese	-	5	-	5	-	-
Tinned Crab	-	1	-	1	-	-
„ Grape Fruit	-	2	-	1	-	1
Sultanas	-	1	-	1	-	-
Bottled Gooseberries	-	1	-	1	-	-
Tinned Cream	-	8	-	8	-	-
„ Loganberries	-	1	-	1	-	-
Sausage	-	1	-	1	-	-
Tinned Cherries	-	1	-	1	-	-
„ Lobster	-	1	-	1	-	-
Honey	-	1	-	1	-	-
Tinned Peas	-	1	-	1	-	-
„ Vegetable Soup	-	1	-	-	-	1
Turkey and Tongue Paste	-	1	-	1	-	-
Plum Pudding	-	1	-	1	-	-
Compound Syrup of Figs	-	1	-	1	-	-
Glauber's Salts	-	1	-	-	-	1
TOTALS	126	382	124	362	2	20

TABLE 31.

THE PUBLIC HEALTH (PRESERVATIVE, & C. IN FOOD) REGULATIONS, 1925 & 1927.

DESCRIPTION OF SAMPLE.	No. of Samples Examined	No. of Samples Free	No. Containing Preservative	Sulphur Dioxide	Benzoic Acid	Borates	Salicylic Acid	H'drogen Peroxide	Formaldehyde	Fluorides	Sodium Nitrite
Milk	291	291	—			x			x		
Butter	19	19	—			x				x	
Margarine .. .	10	10	—			x				x	
Jam	13	12	1	60	x	x	x				
Plum Pudding..	1	1	—	x		x					
Sultanas	1	—	1	350							
Custard Powder	4	4	—	x							
Condensed Milk	26	26	—			x					
Tinned Cream...	8	8	—			x		x			
Lemon Cheese..	5	5	—	x	x	x	x		x		
Ice Cream	20	20	—	x		x					
Honey	1	1	—	x							
Turkey and Tongue Paste	1	1	—	x		x					
Bottled Gooseberries	1	1	—	x	x	x					
Sausage	1	1	—	x		x					

Where examination of preservative has been made and none found the fact is indicated by a x. All results are expressed in parts per million.

FERTILISERS AND FEEDING STUFFS ACT, 1926.

Nine samples of feeding stuffs and fertilisers were examined by the Analyst during the year. Of these, three conformed with the statutory statement, and five failed to do so. In one case no statutory statement was given. The vendors of the latter samples were informed of the difference between the actual composition and the composition as defined in the statutory statement, and the deficiency or excess was pointed out.

The appended Table gives particulars of work done under the Act :—

TABLE 32.

ARTICLE.	Formal	Informal	According to Statutory Statement	Not According to Statutory Statement	ACTION TAKEN.
Meat Meal... ..	2			2	Reported to Ministry of Agriculture Warning Letter.
Meat and Bone Meal .		3		3	
Barley Meal		1	1		
Laying Meal		1	1		
Dairy Meal		1	1		
Sweetened Palm Kernel... ..		1	No Statutory Statement	given.	Letter sent.

SUCCESSFUL PROSECUTIONS OTHER THAN UNDER THE FOOD AND DRUGS (ADULTERATION) ACT.

One milk vendor fined 10s. for selling milk from an unlabelled can.

For selling milk without being registered, a dairyman had to pay the cost of the prosecution.

MERCHANDISE MARKS ACT, 1926.

Every endeavour has been made to give publicity to the provisions of the above Act.

Notices, setting out shortly and concisely the provisions of the Act, have been distributed to all traders concerned. Four hundred and ninety-nine visits were made to premises following the distribution of these notices, and personal warnings given by the Inspector in many instances. Prosecutions were instituted in 7 cases, and fines were inflicted varying from cost of prosecution to ten shillings.

PART IV.

Prevalence of,
and
Control over,
Infectious Disease.

TABLE 33.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1933.

NOTIFIABLE DISEASE.	Cases notified in whole District.												Total cases notified in each Locality.												Total cases removed to Corporation Hospital	Total Deaths in the Borough							
	At Ages—Years.												St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas'	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	St. Thomas'	Park	St. Luke's			St. Mark's	St. Andrew's					
	At all Ages	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55																	55 to 65	65 and upwards			
Small-pox...																																	
Cholera ...																																	
Diphtheria (including Membranous Croup) ...	109	1	2	4	6	8	38	25	12	9	2	2																					
Erysipelas...	58	3						3	2	7	12	12	9	10																			
Scarlet Fever ...	549	2	16	31	41	76	241	83	47	5	4																						
Typhus Fever ...																																	
Enteric Fever ...	1																																
Puerperal Fever ...	6																																
Puerperal Pyrexia ...	10																																
Cerebro-spinal Meningitis	2	1	1																														
Ophthalmia Neonatorum	12	12																															
Pulmonary Tuberculosis	M 55 F 29	1					3	1	2	20	9	15	4	1							2	8	1	5	2	1	4	2	1				
Other forms of Tuberculosis	M 16 F 12						7	1	3	4	1											1	1	2	2	1	1	1	1				
Poliomyelitis ...																																	
Encephalitis Lethargica	5								2																								
Dysentery...																																	
Malaria ...																																	
Pneumonia ...	253	5	6	10	14	10	39	13	22	38	31	22	22	21																			
*Diarrhoea ...	1	1																															
TOTALS ...	1122	26	25	46	65	97	333	133	93	110	69	55	38	32	149	73	88	54	43	74	53	58	89	109	114	61	63	94	626	262			

* Notifiable from July 1st to October 31st only.

TABLE 34

INFECTIOUS DISEASES. AGE INCIDENCE OF CASES NOTIFIED.

	Under One Year		1-2 Years		2-3 Years		3-4 Years		4-5 Years		5-10 Years		10-15 Years		15-20 Years		20-35 Years		35-45 Years		45-65 Years		Over 65 Years		Totals 1930		Totals 1931		Totals 1932				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F			
Scarlet Fever	1	1	9	7	19	12	26	18	39	37	116	125	37	46	21	26	..	5	3	1	271	278	139	203	37	44	97	135
Diphtheria .....	..	1	..	2	4	..	3	6	2	22	16	13	12	5	7	3	6	..	2	1	1	..	..	..	57	52	58	75	27	30	42	53
Erysipelas	2	1	..	..	..	..	..	..	..	..	..	..	2	1	1	3	4	9	3	9	12	4	6	30	28	24	32	18	18	21	21	
Enteric Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	4	3	2	..	3	6
Puerperal Fever .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	2	..	..	..	..	..	..	6	..	7	..	7	..	4
Puerperal Pyrexia .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	6	..	..	..	..	..	10	..	16	..	21	..	13
Ophthalmia Neonatorum	5	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	7	10	11	6	1	6	6
Pneumonia Ac. Primary ..	..	5	4	2	6	4	6	8	5	5	24	15	6	7	18	4	27	11	13	18	21	23	8	13	138	115	95	66	166	124	114	62
Tuberculosis—Lungs	1	..	..	..	..	..	..	..	..	3	..	3	1	1	2	3	50	16	9	2	19	6	..	1	55	29	83	70	88	72	66	50
do. Other Forms .....	..	..	..	..	..	..	..	..	..	7	5	1	5	3	..	4	2	1	..	..	..	..	..	..	16	12	21	17	27	23	14	19
Encephalitis Lethargica ..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	3	2	..	2	3	3	4	6
Diarrhœa	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	3	2	..	3	1	2
TOTALS	10	15	13	11	29	17	35	29	50	45	172	161	60	72	52	41	58	52	35	34	51	42	12	20	577	539	437	504	374	346	368	377	

TABLE 35.
Infectious Diseases.

CASE INCIDENCE PER 1000 OF THE POPULATION.

	St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	St. Thomas	Park	St. Luke's	St. Mark's	St. Andrew's
Scarlet Fever	6.73	4.40	6.12	2.17	2.10	4.18	4.87	4.51	4.48	4.58	5.58	3.58	3.34	4.96
Diphtheria	1.14	0.62	0.70	1.86	0.66	0.79	0.48	1.76	0.70	1.25	1.45	1.10	0.20	0.28
Erysipelas	0.53	0.62	0.23	0.15	0.33	0.34	0.48	0.58	0.70	0.35	0.78	0.82	0.30	0.46
Enteric Fever	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
Puerperal Fever	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.44	0.00	0.00	0.00
Puerperal Pyrexia	0.07	0.12	0.11	0.31	0.00	0.00	0.00	0.00	0.00	0.26	0.11	0.00	0.00	0.09
Ophthalmia Neonatorum	0.07	0.00	0.00	0.15	0.00	0.22	0.48	0.00	0.23	0.00	0.11	0.13	0.10	0.00
Acute Primary Pneumonia ..	2.21	2.64	1.88	3.10	0.99	1.35	1.13	3.13	3.06	1.61	2.78	1.93	1.72	2.15
Tuberculosis—Lungs	0.46	0.25	0.82	0.46	0.66	1.02	0.48	0.98	0.70	1.34	0.55	0.82	0.50	0.56
do. Other Forms ..	0.16	0.37	0.35	0.00	0.00	0.11	0.48	0.38	0.35	0.26	0.44	0.00	0.20	0.18
Encephalitis Lethargica	0.00	0.12	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00
Diarrhoea	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 36.
 SHEWING NUMBER OF CASES OF INFECTIOUS DISEASES NOTIFIED FROM 1914 TO 1933.

DISEASE.	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	9	5	10	34	...	...	...	...
Diphtheria (including Membranous Croup)	62	39	52	50	57	30	69	45	52	35	62	67	81	99	124	197	133	57	95	109
Erysipelas	97	69	66	40	52	38	59	47	54	52	45	39	44	66	42	57	56	36	42	58
Scarlet Fever	704	460	153	96	150	136	181	211	231	216	70	304	218	125	121	761	342	81	232	549
Enteric Fever	31	44	14	13	13	3	5	2	5	3	3	2	9	2	1	6	7	2	9	1
Puerperal Fever	10	5	5	3	5	5	12	15	7	12	10	13	11	7	10	9	7	7	4	6
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	...	...	...	11	19	9	16	16	21	13	10
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Meningitis	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	212	213	154	131	176	124	88	150	145	176	150	169	132	111	106	125	153	160	116	84
Other forms of Tuberculosis	60	88	49	47	54	47	38	71	70	102	63	71	44	40	36	30	38	50	33	28
Ophthalmia Neonatorum	15	19	15	7	15	18	22	24	22	15	17	25	19	19	17	13	21	7	12	12
*Measles	...	...	1081	1938	1560	103	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	...	...	...	...	...	5	2	2	1	10	32	5	9	8	7	5	2	6	10	5
Dysentery	...	...	...	...	...	3	1	1	...	...	...	...	1	1	1	...	5	1	...	...
Malaria	...	...	...	...	...	61	18	4	2	1	1	1	1	...	...	...	...	...	2	...
Pneumonia	...	...	...	...	...	114	158	176	275	349	358	242	149	256	222	305	161	290	176	253
†Diarrhoea...	...	...	...	...	...	...	...	31	1	2	4	21	12	1	1	6	5	3	3	1
*Chicken-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	44	257	...	...	...	...
TOTALS	1191	937	1592	2325	2083	689	654	782	865	974	816	959	750	759	751	1823	950	721	749	1122

* No longer notifiable. † Notifiable from July 1st to October 31st.

TABLE 38.

NOTIFICATION OF INFECTIOUS DISEASES.—ROOM SPACE IN RELATION TO INFECTIOUS DISEASES INCIDENCE.

Disease.	1933			1932			1931			1930			1929																											
	Admitted to Hospital.		Remaining at Home.	Admitted to Hospital.		Remaining at Home.	Admitted to Hospital.		Remaining at Home.	Admitted to Hospital.		Remaining at Home.	Admitted to Hospital.		Remaining at Home.																									
	Less than one	1-2	More than 2	Total.	Less than one	1-2	More than two	Total.	Less than one	1-2	More than two	Total.	Less than one	1-2	More than two	Total.																								
Scarlet Fever	141	251	38	430	73	46	..	119	3	104	82	189	7	33	3	43	12	43	9	64	10	7	..	17	75	154	56	285	25	32	..	57	12	287	335	634	18	91	18	127
Diphtheria	23	49	27	99	6	4	..	10	2	50	39	91	2	2	..	4	13	23	14	50	6	1	..	7	16	66	43	125	5	2	1	8	10	94	71	175	2	13	7	22
Enteric Fever	1	..	..	1	..	..	..	..	..	6	3	9	..	..	..	..	1	..	..	1	1	..	..	1	1	2	..	3	3	1	4	..	3	1	4	..	2	..	2	
TOTAL	165	300	65	530	79	50	..	129	5	160	124	289	9	35	3	47	26	66	23	115	17	8	..	25	92	222	99	413	33	35	1	69	22	384	407	813	20	106	25	151

SCARLET FEVER.

During 1933, 549 cases of scarlet fever were notified, an incidence of 4·52 cases per 1,000 living. Four hundred and thirty cases, or 78·3% of those notified, were removed to the Hospital.

The majority of the cases were mild, only two deaths occurring, a figure equivalent to a case mortality rate of 0·36%.

As in 1932 the heaviest incidence was amongst the 5-15 group, where 400 cases, or 72·8% of the total notified, occurred.

The Dick Test and active immunisation have not been employed by the Health Department.

Scarlet fever anti-toxin is supplied free of charge to practitioners desirous of passively immunising immediate contacts of the disease.

Eight "return" cases were brought to the notice of the Health Department during the year.

Seven cases developed a secondary attack during their stay in Hospital.

TABLE 39.
SCARLET FEVER.

Year.	Cases Notified in Black-burn.	Attack Rate per 100,000 of population.	No. of Deaths.	Percentage of Deaths to cases notified.	All Cases Admitted to Hospital.		
					No. Admitted	No. of Deaths.	Percentage of Deaths to cases treated.
1906	849	635.5	33	3.88	625	27	4.30
1907	544	479.0	21	3.86	381	12	3.10
1908	595	439.8	20	3.36	434	18	4.10
1909	1013	744.1	53	5.23	760	39	5.10
1910	795	580.3	27	3.39	538	17	3.10
1911	343	248.9	10	2.91	241	5	2.00
1912	116	87.1	3	2.59	78	2	2.50
1913	268	200.8	1	0.37	199	2	1.01
1914	704	524.1	10	1.40	560	6	1.07
1915	460	341.5	6	1.30	360	5	1.40
1916	153	116.1	4	2.60	101	2	1.90
1917	96	76.0	2	2.08	68	1	1.50
1918	150	120.1	2	1.30	122	2	1.60
1919	136	103.6	2	1.47	105	2	1.90
1920	181	120.9	3	1.60	164	3	2.40
1921	211	163.0	1	0.40	162	1	0.60
1922	231	178.5	2	0.80	186	2	0.80
1923	216	167.4	0	0.00	181	0	0.00
1924	70	54.2	1	1.43	62	1	1.60
1925	304	239.5	3	0.98	274	3	1.10
1926	218	175.2	1	0.46	192	1	0.53
1927	125	100.4	1	0.80	116	1	0.86
1928	121	96.7	0	0.00	104	0	0.00
1929	761	607.3	2	0.26	634	1	0.15
1930	342	272.1	0	0.00	285	0	0.00
1931	81	65.3	0	0.00	64	1	1.56
1932	232	189.8	1	0.43	189	1	0.52
1933	549	452.5	2	0.36	430	2	0.46

DIPHTHERIA.

During the year 109 cases of diphtheria were notified, a figure equivalent to an attack rate of 0·89 per 1,000 of population. There were five deaths, giving a mortality rate of 4·58 per 100 cases notified.

Sixty-three, or 57·6%, of the cases occurred in the 5—15 age group.

Ninety-one cases, or 90·8% of the total notified, were removed to Hospital.

The disease was of a moderately severe type.

The practitioners, as a body, avail themselves of the anti-toxin provided by the Health Department. During 1933, 748,000 units of anti-toxin were so dispensed.

There is an increasing tendency to administer anti-toxin at an early stage of the disease and to suspect cases, and the majority of local practitioners are sensible of the need of adequate dosage. More reliance is now placed upon clinical evidence as an aid to diagnosis than was the case some five or six years ago, and there is a diminishing tendency to attach undue importance to the negative swab.

TABLE 40.
DIPHTHERIA.

Year.	Cases Notified in Blackburn.	Attack Rate per 100,000 of population.	No. of Deaths.	Percentage of Deaths to cases notified.	All Cases Admitted to Hospital.		
					No. Admitted	No. of Deaths.	Percentage of Deaths to cases treated.
1906	166	124.2	26	15.7	56	5	8.9
1907	150	111.5	17	11.3	63	5	7.9
1908	100	73.9	12	12.0	39	0	<i>Nil.</i>
1909	102	74.9	18	17.6	29	5	17.2
1910	96	70.0	22	22.9	42	9	21.4
1911	107	77.6	28	26.1	54	9	16.6
1912	55	41.3	9	16.4	36	5	13.9
1913	76	56.7	7	9.2	55	7	12.7
1914	62	46.1	7	11.3	37	2	5.4
1915	39	28.9	8	20.6	24	3	12.5
1916	52	39.5	9	17.3	32	3	9.3
1917	50	39.5	8	16.0	41	4	9.9
1918	57	45.6	11	19.3	56	4	7.1
1919	30	22.8	3	10.0	24	1	4.1
1920	69	49.3	10	14.5	59	7	13.2
1921	45	34.8	6	13.4	27	3	11.0
1922	52	40.1	7	13.4	38	6	13.0
1923	35	27.1	1	2.8	32	1	3.1
1924	62	48.0	3	4.8	48	2	4.1
1925	67	52.8	8	11.9	58	6	7.7
1926	81	65.0	8	9.9	73	8	9.3
1927	99	79.5	11	11.1	106	12	11.3
1928	124	99.1	14	11.2	111	7	6.3
1929	197	157.2	18	9.1	175	16	9.2
1930	133	106.0	9	6.7	125	12	9.6
1931	57	46.0	2	3.5	50	3	6.0
1932	95	77.7	7	7.3	91	9	9.8
1933	109	89.7	5	4.5	99	5	5.0

SUPPLY OF ANTITOXIN TO PRACTITIONERS.

A supply of antitoxin for the use of practitioners is kept at the Health Office. A further quantity is kept at the Police Office, to which practitioners apply when the Health Office is closed.

Practitioners are advised to administer prophylactic doses of anti-toxin to immediate contacts of cases of diphtheria. On request anti-toxin is supplied free for this purpose.

DIPHTHERIA PREVENTION.

Each year the head teachers of selected schools in the town are circularised with a view to securing their continued interest and co-operation in diphtheria prophylaxis. Following the receipt of this circular the head-teachers make arrangements for a meeting of parents, which is addressed by one of the medical officers of your staff. At each address the parents are encouraged to air their difficulties and doubts, most of which are dissipated as the result of free discussion with the lecturer. That the parents are appreciative of the dangers of diphtheria and of the advantages of immunisation is shown by the fact that consent was obtained in respect of 34% of children attending the schools dealt with.

In all 4,087 children were treated in school, and 273 children attended the Victoria Street Immunisation Centre during 1933. None of the cases treated during the year experienced untoward local or general reaction.

Since the inception of the diphtheria immunisation scheme it has been our aim to Schick-test all cases immunised four or five months after completion of the course, and give certificates of immunity to negative reactors.

During 1930 and 1931, when the numbers immunised were small, little difficulty was experienced in testing the majority of cases treated. Last year, however, 4,360 children underwent treatment, and during 1932 the figure was over 2,000. With our present staff it will be a matter of great difficulty to carry out a final test in respect of such high numbers; in fact, such testing will lead to considerable reduction in the numbers immunised.

Our object has been to attain mass immunity of the most susceptible age-groups of our community in the minimum time. Although the present procedure is scientifically and practically correct, the fact remains that, if testing of approximately 4,000 is to be carried out each year, our aim of mass immunity will be long of realisation.

TABLE 41.

CHILDREN IMMUNISED AT SCHOOL.

<i>Total No. Innocolated.</i>		<i>Three Innocolations.</i>		<i>Two Innocolations.</i>		<i>One Innocolation.</i>
4087	...	3846	...	179	...	62

SCHICK TESTS PERFORMED AT SCHOOL.

<i>Total.</i>		<i>Negative.</i>		<i>Positive.</i>		<i>Failed to attend for Reading.</i>
432	...	380	...	37	...	15

TABLE 42.

IMMUNISATIONS AT HEALTH DEPARTMENT CLINIC.

<i>Total.</i>		<i>Three Innocolations.</i>		<i>Two Innocolations.</i>		<i>One Innocolation.</i>
273	...	180	...	82	...	11

SCHICK TESTS PERFORMED AT HEALTH DEPARTMENT CLINIC.

<i>Total.</i>		<i>Negative.</i>		<i>Positive.</i>		<i>Failed to Attend for Reading.</i>
248	...	187	...	34	...	27

TABLE 43.

<i>Total Immunisations at all Diphtheria Prevention Clinics.</i>		<i>Total Schick Tests Performed at all Clinics.</i>
4360	...	680

ENTERIC FEVER.

Of one case of enteric fever notified in the Borough none terminated fatally.

PUBLIC HEALTH (INFECTIOUS DISEASES) REGULATIONS, 1927.

Two hundred and fifty-three cases of acute primary and acute influenzal pneumonia were notified in 1933, compared with 176 in 1932. Twenty-four of these cases terminated fatally, which represents a case mortality of 9.48, compared with 9.66% in 1932.

MEASLES.

This disease is not notifiable under the Infectious Diseases (Notification) Act.

One thousand nine hundred and ninety-four cases were brought to the notice of the Public Health Department by parents and teachers. The cases notified in previous years were : 68 in 1932 ; 447 in 1931 ; 1,976 in 1930 ; 242 in 1929 ; 67 in 1928 ; 1,272 in 1927 ; and 619 in 1926.

Twenty-one deaths from measles occurred during the year, giving a case mortality rate of 1·05%.

WHOOPIING COUGH.

This disease is not notifiable. Such cases as were brought to the notice of the Health Department were ascertained through the agency of teachers, school attendance officers, and the Maternity and Child Welfare Centres. The number of cases (124) was lower than in 1932, when 267 cases were notified ; 2 deaths occurred from this cause, a case mortality rate of 1·61% compared with 3·37% in 1932.

DIARRHŒA.

This disease is voluntarily notifiable in Blackburn between July 1st and October 31st of each year, notification being required in respect of children under two years of age. Only one case was notified during the year.

Diarrhœa was certified as the cause of 11 deaths.

Eight of the deaths were in respect of infants under one year of age ; one was in the 1—2 age group.

The death rate per 1,000 births for the age group under two years was 6·17 ; the corresponding figure in 1932 was 3·24, and 6·4 in 1931, and 5·6 in 1930.

CHICKEN-POX.

During 1933 419 cases were notified by parents, school teachers, etc., compared with 436 cases notified in 1932, and 271 cases in 1931.

ANTHRAX.

No cases of human anthrax occurred in Blackburn during the year.

ENCEPHALITIS LETHARGICA.

During 1933 five cases were notified as encephalitis lethargica. Five cases were certified as having died from encephalitis lethargica during the year.

No special arrangements exist for the after-care of cases of encephalitis lethargica, although accommodation is available at Queen's Park Hospital for this class of case.

OTHER NON-NOTIFIABLE DISEASES.

Full use is made of information received from teachers and school attendance officers respecting the occurrence of cases of measles and whooping-cough, etc. These cases are followed up and investigated by the District Sanitary Inspectors, who submit investigation reports to the Medical Officer of Health.

INFLUENZA.

Influenza was fairly prevalent during the first and last quarters of the year and accounted for 61 deaths, a figure equivalent to 0·50 deaths per 1,000 population.

TABLE 44.

VACCINATION RETURNS, 1933.

Month	Births	Successfully Vaccinated	Exempted	Died Unvaccinated	Vaccination Postponed	Removed not traced	Removed traced	Unaccounted for	Insusceptible
January	128	37	73	10	1	—	—	7	—
February	117	45	63	3	1	—	1	4	—
March	137	50	76	7	1	1	1	1	—
April	122	33	70	10	2	—	—	7	—
May	159	42	95	13	3	—	1	4	1
June	158	44	98	8	2	—	—	6	—
July	143	47	81	8	1	—	1	4	1
August	151	48	95	3	—	—	—	5	—
September	118	28	70	8	1	—	1	10	—
October	120	16	68	4	1	—	1	30	—
November	114	4	57	4	—	—	—	49	—
December	94	1	18	3	—	—	—	72	—
TOTALS	1561	395	864	81	13	1	6	199	2

From the above Table it will be noted that of 1,561 children born during the year only 395, or 25·2%, were successfully vaccinated, and exemptions were successfully claimed in respect of 864 children, or 55·3% of those born.

SMALL-POX.

No cases of Small-Pox were notified during the year and, in consequence, no action was necessary under the Public Health (Small-Pox Prevention) Regulations.

CORPORATION HOSPITAL.

There are 124 beds at the Corporation Hospital, allotted as follows :—

Scarlet Fever	...	..	...	...	...	30 beds
Diphtheria	...	...	...	...	...	16 beds
Tuberculosis	...	...	...	...	...	64 beds
Other Infectious Diseases	...	...	...	...	..	14 beds

TABLE 45.
Corporation Hospital.

	Patients remaining in Hospital on January 1st, 1933.		Patients admitted and Discharged in 1933.		Patients remaining in Hospital on December 31st, 1933		Analysis of all cases admitted in 1933 whether discharged or not during the year.				Average number of beds occupied during 1933	Cases removed expressed as a percentage of total notified	
	Total cover'd	Died	Total covered	Died	Total covered	Died	Total covered	Died	Re-covered	Died			Case Mortality %	Av. No of days in Hosp'l
Tuberculosis	31	4	42	16	42	1	78	61	17	21.5	123.14	26.65	—
INFECTIOUS DISEASES													
Scarlet Fever ..	61	—	409	2	54	—	463	461	2	0.43	35.28	44.66	78.3
Diphtheria ..	27	—	115	6	18	—	133	127	6	4.51	46.33	14.49	90.8
Enteric Fever ..	1	—	1	—	—	—	1	1	—	0.00	47.00	0.10	100.0
Measles ..	—	—	17	1	—	—	17	16	1	5.88	20.06	0.93	—
Erysipelas ..	1	—	6	—	—	—	6	6	—	0.00	14.30	0.23	10.3
Chicken Pox ..	—	—	1	—	—	—	1	1	—	0.00	21.00	0.06	—
Other Diseases ..	—	—	23	1	—	—	23	22	1	4.34	18.83	1.26	—
Puerperal Fever ..	—	—	1	—	—	—	1	1	—	0.00	1.00	0.003	16.6
Puerperal Pyrexia ..	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—
TOTALS	90	—	573	10	72	—	645	635	10	1.55	34.73	61.68	—

SCARLET FEVER.

Four hundred and sixty-three cases of scarlet fever were admitted to the Hospital during the year, of which two terminated fatally. This is equivalent to a case mortality of 0·43%.

Anti-toxin is administered to all cases of scarlet fever admitted on or before the 3rd day of disease, and patients are no longer detained in hospital until desquamation ceases, provided always that no discharges or septic sores are present.

The following Table gives the ages and sexes of the patients admitted :—

TABLE 46.

<i>Ages.</i>	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>	<i>Deaths.</i>
0—1 years ..	1	—	1	—
1—2 „ ..	8	4	12	1
2—3 „ ..	18	11	29	—
3—4 „ ..	20	18	38	—
4—5 „ ..	33	24	57	1
5—10 „ ..	93	108	201	—
10—15 „ ..	36	33	69	—
15—25 „ ..	21	27	48	—
25—35 „ ..	2	5	7	—
35—45 „ ..	—	1	1	—
45 and over ..	—	—	—	—
Total, 1933 ..	232	231	463	2
Total, 1932 ..	86	121	207	1
Total, 1931 ..	31	51	82	1
Total, 1930 ..	131	176	307	1
Total, 1929 ..	313	344	657	2

The following Table is an analysis of all cases admitted to the Corporation Hospital as Scarlet Fever.

TABLE 47.

AGE GROUPS (YEARS).	DAY OF DISEASE ON ADMISSION							Proved to be Scarlet Fever	COMPLICATIONS							SENT IN AS SCARLET FEVER BUT PROVED TO BE				DEATHS			
	1	2	3	4	5	6	7		7+	Rhinorrhoea	Otorrhoea	Rheumatism	Albuminuria	Adenitis	Pneumonia	Tonsillitis	N.A.D.	Measles	Tonsillitis		Varicella		
0-5 ... M. F. ...									76	3	7	—	1	4	1	—	2	—	—	—	1		
	7	20	12	14	9	6	2	8		2	5	—	—	4	—	—	—	—	—	—	—	1	
5-10 ... M. F. ...									93	3	8	1	2	2	—	—	—	—	—	—	—	—	
	4	20	28	20	9	4	4	4		3	8	1	2	2	—	1	—	—	—	—	—	—	
	6	27	36	20	9	2	5	4	105	5	4	—	—	4	—	—	2	1	—	—	—	—	
10-15 ... M. F. ...									34	2	—	—	—	—	—	—	1	—	—	—	—	—	
	1	12	8	8	3	2	—	1		2	—	—	—	—	—	—	—	—	—	—	—	—	
	2	8	6	8	4	1	—	2	31	2	—	—	—	1	—	—	—	—	—	—	—	—	
15-20 ... M. F. ...									14	—	1	1	1	—	—	—	1	—	—	—	—	—	
	—	4	6	3	2	—	—	—		—	1	1	1	—	—	—	—	—	—	—	—	—	
	—	4	2	5	2	2	1	1	16	—	1	1	—	—	—	—	—	—	1	—	—	—	
20+ ... M. F. ...									10	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	2	2	2	4	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	2	3	6	4	—	—	1	16	—	—	1	1	—	—	—	—	—	—	—	—	—	
	463							454	69							9		2					

Of the 26 cases with otorrhœa, seven developed acute mastoiditis, necessitating an operation, which was performed by Mr. J. M. Wishart.

The following Table shows the percentage of Scarlet Fever removals in Wards, 1933 :—

TABLE 48.

<i>Ward.</i>						1933 <i>Percentage</i>	1932 <i>Percentage.</i>
St. Stephen's	..	..	..	..	..	84·0	87·5
Trinity	..	..	..	..	..	94·2	100·0
St. Michael's	..	..	..	..	..	69·2	100·0
St. John's	..	..	..	..	..	100·0	85·7
St. Silas's	..	..	..	..	..	73·6	66·6
St. Paul's	..	..	..	..	..	81·0	81·8
St. Peter's	..	..	..	..	..	80·0	81·8
St. Mary's	..	..	..	..	..	91·3	100·0
St. Matthew's	..	..	..	..	..	73·7	76·4
St. Thomas's	..	..	..	..	..	74·5	82·3
Park	..	..	..	..	..	60·0	88·2
St. Luke's	..	..	..	..	..	88·4	100·0
St. Mark's	..	..	..	..	..	70·0	75·0
St. Andrew's	..	..	..	..	..	79·2	53·6
TOTAL	..	..	..	..	..	78·3	81·4

Monthly Admissions of Scarlet Fever Cases to the Corporation Hospital during 1933 :—

TABLE 49.

<i>Month.</i>	1933.			1932.		
	<i>Cases Notified.</i>	<i>Cases Removed.</i>	<i>Percentage of Removals</i>	<i>Cases Notified.</i>	<i>Cases Removed.</i>	<i>Percentage of Removals.</i>
January .. .	48	35	72·9	5	5	100·0
February . .	18	15	83·3	10	8	80·0
March .. .	35	24	68·5	7	7	100·0
April .. .	38	29	76·3	11	10	90·9
May .. .	59	52	88·1	7	7	100·0
June .. .	36	31	86·1	12	10	83·3
July .. .	33	33	100·0	10	8	80·0
August .. .	31	21	67·7	4	4	100·0
September ..	62	49	79·1	14	10	71·4
October .. .	62	46	74·1	25	21	84·0
November . .	79	61	77·2	54	43	79·6
December ..	48	34	70·8	73	56	76·7
TOTAL ..	549	430	78·3	232	189	81·4

Cases of scarlet fever are removed to Hospital on request by the general practitioner in charge of the case. Such request is invariably reserved for cases where home isolation or nursing presents difficulty.

DIPHTHERIA

One hundred and thirty-three cases, of which 34 were from outside the Borough, were admitted to Hospital during 1933.

Twenty-six of these cases proved not to be diphtheria, but were suffering from the undermentioned conditions :—

Scarlet Fever	...	...	...	...	...	3
Tonsillitis	...	...	...	...	...	14
Carrier	...	...	...	...	...	7
Laryngitis and Bronchitis	...	...	...	...	...	1
Quinsy	...	...	...	...	...	1
						—
						26
						—

The following is an analysis of the cases admitted as diphtheria :—

The type of diphtheria prevalent throughout the year was not as severe as during 1932. The death rate of 5.0 was the lowest recorded during the past decade.

During the year 11 cases of laryngeal and tracheal diphtheria were admitted to the Corporation Hospital. Tracheotomy was necessary in four cases, one of which died.

TABLE 51.

INCIDENCE OF DIPHTHERIA CASES ADMITTED TO HOSPITAL.

<i>Ages.</i>	<i>Males.</i>	<i>Females.</i>	<i>Totals.</i>	<i>Deaths.</i>
Under 1 year	—	1	1	1
1—2 years	—	2	2	—
2—3 years	4	2	6	—
3—4 years	5	5	10	—
4—5 years	9	1	10	1
5—10 years	27	18	45	2
10—15 years	14	14	28	1
15—25 years	5	9	14	—
25—35 years	5	7	12	—
35 years and over ..	1	4	5	1
TOTALS, 1933	70	63	133	6
TOTALS, 1932 .. .	42	66	108	11
TOTALS, 1931	27	29	56	3
TOTALS, 1930	60	81	141	13

The following Table shows the percentage of Diphtheria removals in Wards, 1933 :—

TABLE 52.

Ward.						1933	1932
						Percentage.	Percentage.
St. Stephen's .. .. .	..	..	..	..	..	100·0	100·0
Trinity .. .. .	..	..	..	..	..	100·0	100·0
St. Michael's.. .. .	..	..	..	..	..	83·3	57·1
St. John's .. .. .	..	..	..	..	..	91·6	100·0
St. Silas's .. .. .	..	..	..	..	..	83·3	50·0
St. Paul's .. .. .	..	..	..	..	..	85·7	100·0
St. Peter's .. .. .	..	..	..	..	..	100·0	100·0
St. Mary's .. .. .	..	..	..	..	..	100·0	100·0
St. Matthew's .. .. .	..	..	..	..	..	100·0	100·0
St. Thomas's .. .. .	..	..	..	..	..	100·0	100·0
Park .. .. .	..	..	..	..	..	100·0	100·0
St. Luke's .. .. .	..	..	..	..	..	100·0	100·0
St. Mark's .. .. .	..	..	..	..	..	100·0	100·0
St. Andrew's.. .. .	..	..	..	..	..	100·0	100·0
TOTAL .. .. .	..	..	..	..	..	90·8	95·7

TABLE 53.

The monthly incidence of Diphtheria in Blackburn was :—

Month.	1933.			1932.		
	Cases Notified.	Cases Removed.	Percentage of Removals.	Cases Notified.	Cases Removed.	Percentage of Removals.
January	8	8	100·0	6	6	100·0
February	1	—	0·0	3	2	66·6
March	12	11	91·7	4	4	100·0
April	8	8	100·0	9	9	100·0
May	22	21	95·4	6	5	83·3
June	12	10	83·3	4	4	100·0
July	4	4	100·0	3	3	100·0
August	6	5	83·3	3	3	100·0
September	12	11	91·7	14	14	100·0
October	7	7	100·0	9	9	100·0
November	8	6	75·0	16	16	100·0
December	9	8	88·0	18	16	88·8
TOTAL	109	99	90·8	95	91	95·7

TABLE 54.
ENTERIC FEVER.

<i>Age Period.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>	<i>Deaths.</i>
Under 10 years	—	—	—	—
10—15 years.. ..	—	—	—	—
15—25 years.. ..	—	—	—	—
25—35 years.. ..	1	—	1	—
35—45 years.. ..	—	—	—	—
45 and upwards	—	—	—	—
TOTAL.. ..	1	—	1	—

OTHER DISEASES.

TABLE 55.
AGE PERIODS.

<i>Disease.</i>	0—1		1—2		2—5		5—15		15—25		25—35		35—45		45 & up		Total	Deaths
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
Whooping Cough ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	1	1	—	8	2	3	1	—	1	—	—	—	—	—	—	17	1
Puerperal Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia ..	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—
Erysipelas	—	—	—	—	—	—	1	—	—	—	2	—	—	2	1	—	6	—
Chickenpox	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—
Ophthalmia																		
Neonatorum ..	3	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—
Meningitis	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	2	1
No Disease	—	—	—	—	—	—	—	—	2	—	3	—	1	—	—	—	6	—
Other Diseases ..	—	—	—	—	1	—	2	1	—	2	—	—	—	—	—	—	6	—
	3	7	1	—	9	3	7	2	—	6	—	6	—	1	2	1	48	2

Selected and complicated cases of measles and whooping cough are admitted to the Corporation Hospital. Such admissions have been made possible by the recent addition of extra cubicles to Ward III.

TABLE 56.

OUT OF BOROUGH CASES.

<i>Disease.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>	<i>Deaths.</i>
Scarlet Fever	12	21	33	—
Diphtheria	20	14	34	1
Measles	2	2	4	1
Erysipelas	—	—	—	—
Puerperal Pyrexia ..	—	1	1	—
No disease	—	—	—	—
Other Diseases	1	1	2	1
TOTAL	35	39	74	3

TABLE 57.

ADMISSIONS FROM THE BLACKBURN ROYAL INFIRMARY.

<i>Disease.</i>	<i>Male.</i>	<i>Female</i>	<i>Total</i>	<i>Deaths</i>
Scarlet Fever	8	6	14	—
Diphtheria	9	8	17	—
Measles	6	4	10	—
TOTAL	23	18	41	—

ADMISSIONS FROM QUEEN'S PARK HOSPITAL.

<i>Disease</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Deaths</i>
Scarlet Fever	5	1	6	—
Diphtheria	—	1	1	—
Enteric Fever	1	—	1	—
TOTAL	6	2	8	—

Cases from the Blackburn and East Lancashire Royal Infirmary and Queen's Park Hospital are included in the Out-of-the-Borough Table, if the cases were not Blackburn residents.

BACTERIOLOGICAL EXAMINATIONS.

AT THE CORPORATION HOSPITAL.

TABLE 58.

<i>Examination and Material.</i>	1933			1932
	<i>Positive</i>	<i>Negative</i>	<i>Total</i>	<i>Total</i>
For Diphtheria Bacilli :—				
<i>Swabs—</i>				
Private Practitioners	56	425	481	260
Hospital	71	250	321	234
Others	0	40	40	0
For Tubercle Bacilli :—				
<i>Sputum—</i>				
Private Practitioners	25	106	131	91
Hospital	58	101	159	306
Tuberculosis Dispensary ...	26	124	150	156
Examination of Urine, Pus, etc. :—				
Private Practitioners	0	14	14	10
Hospital	0	16	16	21
Tuberculosis Dispensary ...	0	6	6	8
Totals	236	1082	1318	1086

Examinations at the Public Health Laboratories, Liverpool and Manchester, are contained in Part VIII of the Report.

DISINFECTION.

Number of Rooms Sprayed :—

Tuberculosis	125
Fever	921
Vermin	285
Institutions	54
Schools	122
Others	107
Articles Disinfected by Steam	10580
Number of Articles Destroyed by Consent of Owners	440

Amount of Disinfectant Distributed :—

Chloros (Gallons)	<table> <tbody> <tr> <td>Schools ..</td> <td>230$\frac{5}{8}$</td> </tr> <tr> <td>Houses ..</td> <td>142</td> </tr> </tbody> </table>	Schools ..	230 $\frac{5}{8}$	Houses ..	142
Schools ..	230 $\frac{5}{8}$				
Houses ..	142				
Persons Cleansed at Disinfection Station	34				
Cleansings	136				
Library Books Fumigated	362				
Private Books Fumigated	133				
School Books Fumigated	137				

CLEANSING OF PERSONS.

During 1933, 34 persons were dealt with at the Throstle Street Disinfecting and Cleansing Station. The conditions for which baths were given were as under :—

Verminous Conditions	1
Scabies	33

Thirty of the persons dealt with were referred from the School Medical Department. The total number of baths given was 136.

PART V.

Prevalence of,
and
Control over,
Tuberculosis.

TUBERCULOSIS.

INCIDENCE AND MORTALITY.

During the year 108 cases of Tuberculosis, 81 Pulmonary and 27 Non-Pulmonary, were notified. In 1932 the notifications numbered 114 ; in 1931, 210 ; in 1930, 191 ; in 1929, 155 ; in 1928, 142 ; in 1927, 151 ; and in 1926, 176. The notification of Tuberculosis in the area has been fairly satisfactory and there have been no cases of wilful neglect or refusal to notify.

The number of deaths in 1933 from all forms of Tuberculosis was 96 ; Pulmonary Tuberculosis caused 84 deaths, and Non-Pulmonary Tuberculosis 12. Seventeen, or 17·81% of the deaths from Tuberculosis were in respect of cases which had not been notified during life.

RECORDS OF PREVIOUS YEARS.

<i>Deaths from Tuberculosis</i>	1933	1932	1931	1930	1929	1928	1927	1926
Pulmonary	84	79	97	105	114	82	96	106
Non-Pulmonary	12	19	18	18	13	21	14	10

The number of deaths from all forms of Tuberculosis is equivalent to a rate of 0·78 deaths per 1,000 living.

MORTALITY RATE PER 1,000 LIVING COMPARED WITH THAT OF ENGLAND AND WALES.

	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923
Blackburn...	0·78	0·79	0·93	0·97	1·01	0·82	0·88	0·93	0·86	0·86	0·96
England & Wales...	—	0·89	0·89	0·89	0·96	0·93	0·97	0·96	1·04	1·06	1·03

Perusal of the above Table shows that the death rate from all forms of Tuberculosis in Blackburn compares favourably with the corresponding rate for England and Wales.

Of the cases notified during the year 29 died, 28 of the deaths being from Pulmonary, none from Non-Pulmonary disease, and one from a Non-Tuberculous disease.

The appended Table gives the age-groups of the cases notified and of the deaths for the year 1933.

TABLE 59.

Age Periods.	New Cases				Deaths.			
	Pulmonary		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
Under one year	1	—	—	—	2	—	—	—
1—5 years	—	—	—	—	1	—	—	—
5—10 „	3	—	7	5	—	—	—	2
10—15 „	1	1	1	5	—	1	—	2
15—20 „	2	3	3	—	3	6	1	1
20—25 „	8	5	1	1	9	3	—	2
25—35 „	12	11	3	1	10	9	—	—
35—45 „	9	2	1	—	9	7	1	1
45—55 „	15	4	—	—	10	3	1	1
55—65 „	4	2	—	—	4	5	—	—
65 and upwards	—	1	—	—	—	2	—	—
Totals	55	29	16	12	48	36	3	9

Of cases notified during the year, the attack rate corresponds, in the case of males, to 1·12 per 1,000, and of females, to 0·66 per 1,000.

THE TUBERCULOSIS SCHEME.

During the year practitioners have referred 145 cases for examination at the Dispensary, and the Tuberculosis Officer has held 208 consultations with practitioners.

One hundred and thirty-one sputum examinations were undertaken for private practitioners, and 309 in respect of patients attending the Dispensary.

During the year the Nurse made 2,253 home visits, 172 of which were in respect of ex-Service men.

The appended Table, which relates to persons who were at home during the last quarter of 1933, demonstrates the difficulty experienced in securing isolation of this type of case :—

TABLE 60.

	On First Visit.	After-wards.
No. who occupy a separate bedroom	210	219
No. who occupy a separate parlour alone	6	6
No. who occupied a kitchen alone	1	1
No. who occupied a shelter in yard	—	—
No. who occupied a separate bed in a room occupied by :—		
One other person	29	35
Two other persons	20	19
Three other persons	5	5
Four other persons	2	2
Many other persons (Common Lodging House, &c.) ..	5	5
No. who occupied a bed in common with :—		
One other person	143	131
Two other persons	5	4
Two beds in a room :—		
Two persons in each bed	10	9
Three persons in each bed	1	1
TOTAL	437	437

THE TREATMENT OF TUBERCULOSIS.

At the beginning of 1933 there were 429 Pulmonary and 95 Non-Pulmonary cases on the Dispensary Register.

The Tuberculosis Notification Register is a Register of all notified cases of Tuberculosis, whereas the Dispensary Register refers only to cases actually attending the Dispensary.

During the year 202 Pulmonary and 14 Non-Pulmonary cases were added to the Register, consequently 631 Pulmonary, and 109 Non-Pulmonary cases

were dealt with during the year. At the end of the year there were 444 Pulmonary, and 103 Non-Pulmonary cases on the Register, 193 names having been removed in the course of the year by reason of :—Died, 52 ; transferred to other areas and lost sight of, 9 ; Non-Tuberculous, 132.

Of cases on the Register on December 31st, 1933, 41 were receiving no form of treatment. The majority of these were following their ordinary occupations.

Blackburn patients are admitted either to the Sanatorium Blocks at the Corporation Hospital, or to Meathop Sanatorium, Grange-over-Sands, where the Corporation reserves ten beds. The more advanced cases are received into the Corporation Hospital, the early cases, or those which have improved under treatment at the Corporation Hospital, being drafted to Meathop.

At the beginning of the year 17 males, 10 females, and three children were in-patients in the Sanatorium block ; during the year 46 males, 28 females, and four children were admitted ; on December 31st, 1933, 25 males, 15 females and four children were still undergoing treatment. In the course of the year 28 males, 15 females and three children were discharged. Ten males and eight females died.

The appended Table shows the condition of patients on discharge from the Sanatorium Block :—

				<i>Disease</i>	<i>Much</i>					
				<i>Quiescent</i>	<i>Improved</i>	<i>No Change</i>			<i>Dead</i>	
Males	—	...	23	...	5	...	10
Females	—	...	7	...	8	...	8
Children	—	...	3	...	—	...	—
				—	...	33	...	13	...	18
				—	—	—	—	—	—	—

At the commencement of the year three males and five females were in-patients at Meathop Sanatorium, while during 1933 eight males and six females were admitted. At the end of the year four males and five females remained at Meathop. The appended Table shows the condition of patients on discharge from Meathop :—

			<i>Disease</i>	<i>Much</i>			
			<i>Quiescent</i>	<i>Improved</i>	<i>No Change</i>	<i>Dead</i>	
Males	...	...	3	...	1	...	2
Females	...	...	1	...	4	...	0
			—	—	—	—	—
			4	...	5	...	2
			—	—	—	—	—

NON-PULMONARY TUBERCULOSIS.

During the year 12 deaths were certified to be due to Non-Pulmonary Tuberculosis, compared with 19 in 1932, 18 in 1931, 18 in 1930, 13 in 1929, 21 in 1928, 14 in 1927, and 10 in 1926. The deaths were due to :—

						<i>Male.</i>	<i>Female.</i>
Tuberculous Meningitis	...	...	...	...	...	1	4
Tuberculosis of Mesentery	...	...	...	...	...	1	1
Bone and Joint Tuberculosis...	...	...	...	...	...	0	2
Intestinal Tuberculosis	...	...	...	...	...	1	0
Abdominal Tuberculosis	...	...	...	...	...	0	1
Tuberculosis of Cerebellum	...	...	...	...	...	0	1

Twenty-eight cases of Non-Pulmonary Tuberculosis were notified. The diagnoses were :—

						<i>Male.</i>	<i>Female.</i>
Tuberculous Glands of Neck	..	..	..	..	..	2	8
Abdominal Tuberculosis	..	..	..	..	..	6	1
Intrathoracic Glands	...	...	...	...	...	1	1
Tuberculous Joint Disease	..	..	..	..	..	3	0
Tuberculous Bone Disease	..	..	..	..	..	3	1
Kidney	...	...	...	...	...	1	0
Tubercular Salpingitis	...	...	...	...	...	0	1

BONE AND JOINT TUBERCULOSIS.

Twenty-seven cases of bone or joint tuberculosis were examined by Dr. Briggs at the Special Orthopaedic Clinic.

DENTAL TREATMENT OF TUBERCULOSIS PATIENTS.

The following Table gives details of Dental work carried out as part of the Tuberculosis Scheme :—

The Dental Surgeons carried out the following work in 1933 :—

Number of Patients	..	..	..	..	..	14
Permanent Teeth extracted	..	..	..	..	..	21
Temporary Teeth extracted	..	..	..	..	..	2
Permanent Teeth Filled	..	..	..	..	..	0
Other Operations	..	..	..	..	..	2
Number of Sessions held	..	..	..	..	..	11

The following treatment was carried out at Meathop Sanatorium by the Dental Surgeon attached to that Institution. The cost of this treatment was borne by the Health Committee; in some cases a part of the expense was refunded by the patients :—

Number of Patients Treated	..	..	..	..	5
Permanent Teeth extracted	..	..	..	..	36
Dentures fitted or remodelled	..	..	..	..	2

ULTRA-VIOLET LIGHT TREATMENT.

Particulars of the Ultra-Violet Light Treatment of Tuberculosis patients will be found in Table 88.

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1295.

It was not found necessary to take any action during the year under the above regulations relating to tuberculous employees in the milk trade.

TABLE 61.

FORM T. 137/1931 MINISTRY OF HEALTH.
PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1930.

AGE PERIODS...	FORMAL NOTIFICATIONS.													TOTAL NOTIFICATIONS
	NUMBER OF PRIMARY NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS.													
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	TOTAL ALL AGES		
Pulmonary Males	-	-	3	1	2	8	12	9	15	4	-	54	58	
„ Females... ..	-	-	-	1	3	4	10	2	4	2	1	27	29	
Non-Pulmonary Males	-	-	7	1	3	1	2	1	-	-	-	15	16	
„ Females... ..	-	-	5	5	-	1	1	-	-	-	-	12	13	

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1924.

Number of cases of Tuberculosis remaining on the Register of Notifications kept by the Medical Officer of Health of the County Borough on the 31st December, 1933.

TOTAL CASES.	PULMONARY.			NON-PULMONARY.		
	Males	Females	Total.	Males	Females	Total
666	280	188	468	100	98	198

This shows a decrease of three in the total number ; which comprises a decrease of 16 pulmonary, and an increase of 13 non-pulmonary.

TABLE 62.

(FORM T. 145 OF THE MINISTRY OF HEALTH).

TUBERCULOSIS DISPENSARY—WORK CARRIED OUT DURING THE YEAR 1933.

PART "A"

DIAGNOSIS	PULMONARY				NON-PULMONARY				TOTAL				GRAND TOTAL
	Ad'lts		Chil'n		Ad'lts		Chil'n		Ad'lts		Chil'n		
	M	F	M	F	M	F	M	F	M	F	M	F	
A.—New Cases examined during the year (excluding contacts):													
(a) Definitely tuberculous ...	47	19	4	1	1	—	5	7	48	19	9	8	84
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	13	9	5	5	32
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	35	30	10	6	81
B.—Contacts examined during the year:													
(a) Definitely tuberculous ...	—	1	—	—	—	—	1	—	—	1	1	—	2
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	—	2	—	—	2
(c) Non-tuberculous ...	—	—	—	—	—	—	—	—	3	4	1	4	12
C.—Cases written off the Dispensary Register as:—													
(a) Recovered ...	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Non tuberculous (including any such cases previously diagnosed and entered on the Dispensary register as tuberculous) ...	—	—	—	—	—	—	—	—	56	41	17	18	132
D.—Number of Persons on Dispensary Register on Dec. 31st:													
(a) Diagnosis completed ...	234	132	27	17	21	19	37	26	255	151	64	43	513
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	13	11	5	5	34

1.—Number of Cases on Dispensary Register on January 1st	...	...	...	524
2.—Number of Cases Transferred from other Areas and Cases returned after Discharge under Head 3 in previous years...	...	...	...	3
3.—Number of Cases Transferred to other Areas, cases not desiring further assistance under Scheme and cases "lost sight of"	...	...	...	9
4.—Cases written off during year as Dead (all causes)...	...	...	...	52
5.—Number of Attendances at the Dispensary (including Contacts)	...	...	...	4233
6.—Number of Insured Persons under Domiciliary Treatment on 31st December...	...	...	...	214
7.—Number of Consultations with Medical Practitioners :	(a) Personal	...	...	38
	(b) Other	...	...	170
8.—Number of Visits by Tuberculosis Officer to homes (including personal consultations)...	...	...	...	44
9.—Number of Visits by Nurses or Health Visitors to Homes for Dispensary Purposes	...	...	...	2253
10.—Number of :—(a) Specimens of sputum, etc., examined...	...	...	...	440
	(b) X-Ray Examinations made in connection with Dispensary work	...	...	459
11.—Number of "Recovered" Cases restored to Dispensary Register	...	...	...	—
12.—Number of "T.B. Plus" Cases on Dispensary Register on December 31st	...	...	...	213

TABLE 63. (FORM T. 145 OF THE MINISTRY OF HEALTH)
PART "G."
RESULTS OF TREATMENT.

Classification on Admission to the Institution	Condition at time of Discharge	DURATION OF RESIDENTIAL TREATMENT IN THE INSTITUTION												GRAND TOTALS				
		Under 3 months.			3-6 months			6-12 months			More than 12 months				TOTALS			
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.		M.	F.	Ch.	
Class T.B. Minus.	Quiescent	1	1	1	...	...	...	1	1	...	...	...	...	...	2	3	1	6
	Not Quiescent ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Class T.B. plus. Group I.	Quiescent ... ..	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	1	3
	Not Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Class T.B. plus. Group II.	Quiescent	2	1	...	4	1	...	3	2	...	...	...	...	...	10	4	...	14
	Not Quiescent	3	1	...	5	2	...	1	2	...	...	...	...	...	9	6	...	15
	Died in Institution	3	3	...	1	2	...	1	...	...	...	...	...	...	5	5	...	10
Class T.B. plus. Group 3.	Quiescent	2	...	...	1	1	...	...	...	...	...	...	...	...	3	1	...	4
	Not Quiescent	3	1	...	1	1	...	1	...	...	...	...	...	...	5	3	...	8
	Died in Institution	4	...	...	2	1	...	1	2	...	...	...	...	...	7	3	...	10
Bones and Joints...	Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Not Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Abdominal	Quiescent ... ..	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	1	2
	Not Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Organs	Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Not Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peripheral Glands	Quiescent ... ..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1
	Not Quiescent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Died in Institution ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

PULMONARY TUBERCULOSIS. Non-PULMONARY TUBERCULOSIS.

TABLE 64.

(FORM T. 145 OF THE MINISTRY OF HEALTH).

PART " C."—NUMBER OF BEDS AVAILABLE FOR THE TREATMENT OF TUBERCULOSIS ON THE 31ST DECEMBER IN INSTITUTIONS BELONGING TO THE COUNCIL.

NAME OF INSTITUTION	FOR PULMONARY CASES		FOR NON PULMONARY CASES		TOTAL
	Adults	Children	Adults	Children	
CORPORATION HOSPITAL... ..	55	4	...	6	65
MEATHOP SANATORIUM	10	...	...	...	10
Queen's Park Hospital	18	...	4	15	37

TABLE 65.

PART " D."—RETURN SHOWING EXTENT OF RESIDENTIAL TREATMENT DURING THE YEAR 1933.

		In Institutions on Jan. 1st	Admitt'd during the year	Dis-charged during the year	Died in the Institutions	In Institutions on Dec. 31st.
Doubtfully Tuberculous Cases Admitted for Observation	Adult Males ...	2	3	2	...	3
	Adult Females.	4	4	3	...	5
	Children... ..	2	1	2	...	1
	Total	8	8	7	...	9
Definitely Tuberculous patients admitted for Treatment	Adult Males ...	18	52	32	12	26
	Adult Females.	11	31	19	8	15
	Children... ..	1	6	4	...	3
	Total	30	89	55	20	44
GRAND TOTAL ...	...	38	97	62	20	53

TABLE 66. (FORM T. 145 OF THE MINISTRY OF HEALTH).

PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the Return relates.			Previous to 1933.					1933.					
			Class T.B. minus	Class T. B. plus.				Class T.B. minus	Class T. B. plus.				
				Group 1	Group 2	Group 3	Total (Class T.B. plus)		Group 1	Group 2	Group 3	Total (Class T.B. plus)	
(a) Remaining on Dispensary Register on 31st December.	DISEASE ARRESTED ...	Adults	M.	25	6	12	...	18	...	...	...	...
		F.	17	7	6	1	14	...	...	...	...	...
		Children		20	...	...	...	...	...	...	...	...
	DISEASE NOT ARRESTED .	Adults	M.	35	14	38	11	63	12	7	14	3	24
		F.	18	12	22	3	37	1	5	7	...	12	
		Children		5	...	1	...	1	1	2	1	...	3
Condition not ascertained during year				68	13	14	9	36	...	...	...	...
Total on Dispensary Register on December 31st				188	52	93	24	169	14	14	22	3	39
(b) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered	Adults	M.	18	...	1	...	1	...	...	...	...
		F.	15	...	...	...	...	...	...	...	...	...
		Children		5	...	1	...	1	...	...	...	...
	Lost sight of or otherwise removed from Dispensary Register... ..				531	97	57	32	186
	Dead... ..	Adults	M.	52	40	104	256	400	...	1	3	7	11
		F.	46	34	106	190	330	...	1	4	2	7	
		Children		32	7	32	54	93	1	...	1
	Total written off Dispensary Register				699	178	301	532	1011	...	2	8	9	19
GRAND TOTALS				887	230	394	556	1180	14	16	30	12	58

TABLE 66—Continued

NON-PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the Return relates.			Previous to 1933.					1933.					
			Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total.	
(a) Remaining on Dispensary Register on 31st December.	Disease Arrested	Adults	M.	2	1	3
		F.	...	...	2	3	5	...	...	...	...	...
	Children		1	9	1	8	19	...	...	...	...	...
	Disease Not Arrested	Adults	M.	2	2	1	2	7	1	1
		F.	...	1	5	2	8	...	...	...	...	...
Children		4	6	1	7	18	...	5	...	8	13		
Condition not ascertained during year				12	6	4	7	29	...	...	...	...
Total on Dispensary Register on December 31st				21	25	14	29	89	1	5	...	8	14
Transferred to Pulmonary				2	...	1	9	12
(b) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered	Adults	M.	2	2	4
		F.	1	...	...	2	3	...	...	...	...	...
	Children		4	1	4	20	29	...	...	...	...	...
	Lost sight of or otherwise removed from Dispensary Register ...				66	62	55	243	426
	Dead... ..	Adults	M.	22	17	9	4	52
F.		14	17	10	2	43	...	...	...	...	...
Children		18	34	27	5	84	...	...	...	...	...
Total written off Dispensary Register				127	131	105	278	641	...	...	...	...
GRAND TOTALS (excluding those transferred to Pulmonary) ...				148	156	119	307	730	1	5	...	8	14

TABLE 68.
ANNUAL RETURN SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF PATIENTS DISCHARGED FROM
MEATHOP SANATORIUM DURING THE YEAR 1933.

	Condition at time of discharge.	PULMONARY TUBERCULOSIS.—Duration of Residential Treatment.															
		Under 3 months			3-6 months.			6-12 months.			More than 12 months.			Total.			
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.				
CLASS A																	
Cases in which Tubercle Bacilli have never been found ...	Quiescent ...	-	1	-	-	-	1	-	-	-	-	-	-	-	1	-	4
	Not Quiescent ...	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	Died in Institution ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLASS B 1																	
Early Cases in which Tubercle Bacilli have been found ...	Quiescent ...	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	Not Quiescent ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Died in Institution ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLASS B 2																	
Intermediate Cases in which Tubercle Bacilli have been found ...	Quiescent ...	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
	Not Quiescent ...	1	-	-	1	-	-	-	-	1	-	-	-	-	-	-	3
	Died in Institution ...	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2
CLASS B 3																	
Advanced Cases in which Tubercle Bacilli have been found ...	Quiescent ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Not Quiescent ...	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	Died in Institution ...	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		2	1	-	3	-	1	2	-	1	3	1	3	-	-	-	13

TABLE 69.

SHOWING THE EXTENT OF RESIDENTIAL TREATMENT FOR PULMONARY TUBERCULOSIS DURING 1933.

			In Institutions on Jan. 1st.	Admitted during 1933.	Discharged during 1933.	Died in the Institutions.	In Institutions on Dec. 31st, 1933.
Meathop Sanatorium ...	Adults	M. F.	3 5	8 6	5 6	2 —	4 5
	Children	M. F.	— —	— —	— —	— —	— —
Corporation Hospital. ...	Adults	M. F.	17 10	46 28	28 15	10 8	25 15
	Children	M. F.	2 1	2 2	1 2	— —	3 1
Residential Open-Air School. ...	Children	M. F.	— —	— —	— —	— —	— —
TOTAL ...	...		38	92	57	20	53

TABLE 70.

CONDITION AT END OF 1933 OF PATIENTS TREATED AT AND DISCHARGED
FROM THE BLACKBURN CORPORATION HOSPITAL

Year Discharged	At full work. No Symptoms 1	At full work, but with difficulty 2	Not able to work full time owing to ill health. 3	Not able to work but able to get about 4	Confined to the house 5	Confined to bed 6	Died (not in the Institution at time of first admission). 7	Cannot trace 8	Total.
1914	12	—	1	—	—	—	36	19	68
1915	5	—	1	—	—	—	58	9	73
1916	3	1	—	—	—	—	46	6	56
1917	6	—	2	—	—	—	29	1	38
1918	10	—	3	—	—	—	38	6	57
1919	17	1	2	3	—	—	46	4	73
1920	16	—	—	7	—	—	46	4	73
1921	17	3	2	5	—	—	45	5	77
1922	25	2	2	6	3	—	54	11	103
1923	31	3	—	5	2	2	66	14	123
1924	13	3	—	7	2	—	64	12	101
1925	12	4	2	4	5	2	54	19	102
1926	7	3	4	3	1	—	27	10	55
1927	13	2	1	2	2	1	14	10	45
1928	4	2	1	5	1	3	23	3	42
1929	2	2	2	5	1	—	18	1	31
1930	3	4	4	17	3	1	22	6	60
1931	4	10	14	43	5	—	31	7	114
1932	5	16	25	31	7	—	47	1	132
1933	8	11	9	3	1	2	30	—	64
Total..	213	67	75	146	33	11	794	148	1487
%	14.3	4.5	5.0	9.8	2.3	0.8	53.4	9.9	—

TABLE 71.

CONDITION AT END OF 1933 OF PATIENTS TREATED AT AND DISCHARGED FROM MEATHOP SANATORIUM.

Year Discharged.	At full work. No Symptoms. 1	At full work, but with difficulty 2	Not able to work full time owing to ill health 3	Not able to work but able to get about 4	Confined to the house. 5	Confined to bed. 6	Dead 7	Can-not trace 8	Total.
1910 and previous	—	—	—	—	—	—	19	4	23
1911	—	—	—	1	—	—	15	1	17
1912	—	—	—	—	—	—	16	3	19
1913	9	—	—	1	1	—	13	12	36
1914	13	1	—	—	—	—	12	12	38
1915	6	—	—	—	—	—	12	14	32
1916	9	—	1	—	—	—	15	5	30
1917	10	—	1	1	—	—	20	4	36
1918	6	—	1	6	—	—	23	4	40
1919	13	2	—	1	—	1	19	12	48
1920	15	—	1	3	—	—	17	6	42
1921	16	2	1	1	1	1	11	9	42
1922	7	—	—	—	—	—	11	4	22
1923	3	—	3	1	—	2	9	6	24
1924	3	1	—	3	—	—	13	6	26
1925	4	—	1	1	3	—	14	2	25
1926	4	—	—	3	1	—	9	9	26
1927	4	—	1	4	1	1	5	3	19
1928	—	2	2	2	1	1	9	2	19
1929	—	2	1	3	1	—	6	—	13
1930	—	1	3	3	—	—	13	1	21
1931	1	3	3	5	—	1	3	1	17
1932	2	3	2	8	1	—	3	4	23
1933	5	2	1	1	1	1	2	—	13
Total	130	19	22	48	11	8	289	124	651
%	19·8	2·9	3·3	7·4	1·7	1·2	44·5	19·2	—

TABLE 72.

SUMMARY OF DISPENSARY STATISTICS AND OF HOME VISITING.

	1933	1932
Number of persons placed under observation for purpose of diagnosis	145	205
Number of persons for whom the period of observation exceeded two months	30	33
Number of visits paid by the Tuberculosis Officer to the homes of patients	82	97
Number of visits paid by Nurses to the homes of patients for dispensary purposes	2253	2911
Number of attendances of patients at the Dispensary :—		
Insured	2969	2912
Not Insured	1264	1234
Total	4233	4146
Number of patients under Domiciliary Treatment :—		
Pulmonary	167	165
Non-Pulmonary	47	43
Total	214	208
Number of reports received from practitioners in respect of patients on Domiciliary Treatment	81	79
Number of specimens of sputum examined in connection with the work of the Dispensary :—		
Positive	109	150
Negative	331	424
Total	440	574
Number of houses disinfected during the year :—		
(i) On removal of patient to Hospital	61	102
(ii) On death	39	39
(iii) On changing address.. .. .	5	11
Number of Reports made to Local War Pensions Committee by the Tuberculosis Officer on general progress and capacity for work of Tuberculous Discharged ex-Service men	38	70

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

NO. 10

BY

DR. J. H. VAN VAN NEST

AND

DR. W. H. RAY

CHICAGO, ILL.

1911

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PART VI.



Venereal Diseases.

VENEREAL DISEASES.

The arrangements for the treatment of Venereal Disease and for the examination of pathological material are the same as in 1932.

(a) *The Royal Infirmary Centre :*

Six hundred and twenty patients, of whom 299 were Blackburn residents, attended this Centre for the first time during the year. Of the Blackburn cases 81 were suffering from gonorrhœa, 35 from syphilis, and 183 from conditions non-venereal.

The appended Table shows the number of new cases seen yearly at the Royal Infirmary since 1924.

<i>Year.</i>		<i>Male.</i>		<i>Female.</i>		<i>Total.</i>
1924	..	243	..	148	..	391
1925	..	225	..	131	..	356
1926	..	260	..	144	..	404
1927	..	300	..	103	..	403
1928	..	349	..	291	..	640
1929	..	380	..	251	..	631
1930	..	365	..	265	..	630
1931	..	384	..	269	..	653
1932	..	440	..	267	..	707
1933	..	412	..	210	..	622

The total number of attendances for all patients was 20,263, 12,385 of which were in respect of Blackburn residents. The aggregate number of in-patient days at the Royal Infirmary was 639 for Blackburn cases, and 203 for cases from other sources.

During the year 112 males and 59 females ceased to attend the Clinic before completion of the full course, and 50 cases, 28 males, and 22 females, discontinued attendance after completion of treatment, but before final tests for cure had been carried out.

(b) *The Victoria Street Centre :*

This centre is for the treatment of women maritally infected, and of children congenitally or accidentally infected. The Clinic forms part of the Maternity and Child Welfare Scheme, and all cases referred for treatment have passed through the Welfare Centres.

At the beginning of the year 15 females were under treatment for syphilis and 38 females and four males for gonorrhœa. In the course of the year the following cases were dealt with for the first time :—Syphilis, four ; gonorrhœa, 29 ; non-venereal conditions, 26. The total number of attendances made was 1,139, compared with 1,013 attendances in 1932.

FORM V.D. (R) (REVISED).
TABLE 73.
 RETURN relating to all persons who were treated at the Treatment Centre at the ROYAL INFIRMARY, BLACKBURN, during the year ended the 31st December, 1933.

	Syphilis		Soft Chancere		Gonorrhoea		Conditions other than Venereal		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1. Number of cases on 1st January under treatment or observation	145	88	...	...	241	213	21	51	407	352	759
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection... ..	3	5	...	...	9	4	...	...	12	9	21
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	7	1	...	...	...	...	...	...	7	1	8
" secondary	5	3	...	...	...	...	...	...	5	3	8
" latent in 1st year of infection... ..	1	...	...	...	...	...	...	...	1	...	1
" all later stages	21	18	...	...	...	...	...	...	21	18	39
" congenital... ..	6	5	...	...	...	...	...	...	6	5	11
Soft Chancere ... ..	...	...	...	...	...	...	...	...	...	...	...
Gonorrhoea, 1st year of infection ... ..	...	...	...	...	124	40	...	...	124	40	164
" later ... ..	...	...	...	...	16	10	...	...	16	10	26
Conditions other than venereal ... ..	...	...	...	...	...	...	232	133	232	133	365
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	3	1	...	...	3	1	...	...	6	2	8
TOTALS OF ITEMS 1, 2, 3 AND 4	191	121	...	...	393	268	253	184	837	573	1410
5. Number of cases discharged after completion of treatment and final tests of cure (see Item 15)... ..	8	3	...	...	58	4	243	153	309	160	469
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	10	8	...	...	...	...	...	...	10	8	18
" secondary	4	1	...	...	...	...	...	...	4	1	5
" latent in 1st year of infection... ..	...	...	...	...	...	...	...	...	...	...	...
" all later stages	19	16	...	...	...	...	...	...	...	...	...
" congenital... ..	2	2	...	...	...	...	...	...	2	2	4

TABLE 73—Continued.

Chief preparations used in treatment of Syphilis:—	Arsenobenzene Compounds	Mercury	Bismuth
(a) Names of preparations	Neokharsivan, Stabilarsan, Sulfarsenol, Silver Salvarsan, Kharsulphan.	Pil. Hydrarg. Hyd. c Creta.	Bicreol Bismostab Iodoform Bismuthate Quinine
(b) Total number of injections given (out-patients and in-patients)	2217	...	1252
(c) Number of injections included in (b) given to patients who on first attendance at this Centre were suffering from primary and secondary syphilis	97	...	107

15. Are the tests recommended in Memo. V21 as amended by Memo. V21a followed in deciding as to the discharge of the patient after treatment and observation for syphilis and gonorrhœa?	Yes.
If not, in what way are they modified? ...	There is no complement fixation test done for Gonorrhœa.

16. PATHOLOGICAL WORK:—	MICROSCOPICAL		SERUM TESTS.	
	for spirochetes	for gonococci	Wassermann	Others for syphilis for gonorrhœa
(a) Number of specimens examined at and by the medical officer of the treatment centre	4	2819	...	...
(b) Number of specimens from patients attending at the centre sent for examination to an approved laboratory.	...	...	831	...

STATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE DURING THE YEAR, CLASSIFIED
ACCORDING TO THE AREAS IN WHICH THE PATIENTS RESIDED.

Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings

	Blackburn	Lancashire	Preston	Oldham	Burnley	Total
A. Number of cases in Items 3 and 4 from each area found to be suffering from:—						
Syphilis	35	36	...	...	...	71
Soft Chancre ... ..	...	...	...	...	...	...
Gonorrhoea	81	112	1	...	...	194
Conditions other than venereal	183	176	5	1	...	365
TOTAL	299	324	6	1	...	630

B. Total number of attendances of all patients residing in each area	12385	7849	23	1	5	20263
C. Aggregate number of "In-patient days" of all patients residing in each area... ..	639	203	...	...	...	842
D. Number of doses of arsenobenzene compounds given in the out-patient Clinic and In-patient Department to patients residing in each area	1296	907	10	...	4	2217

(Signed) DOROTHEA I. BAIRD,
W. CRAN DUTHIE,
Medical Officers of the Treatment Centre.

February 16th, 1934.

TABLE 74. FORM V.D. (R) (REVISED).
 RETURN relating to all persons who were treated at the Treatment Centre at the HEALTH DEPARTMENT CLINIC, BLACKBURN, during the year ended the 31st December, 1933.

	Syphilis		Soft Chancres		Gonorrhoea		Conditions other than venereal		TOTALS		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1. Number of cases on 1st January under treatment or observation	4	15	...	...	...	38	...	...	4	53	57
2. Number of cases removed from the register during any previous year which returned or observation of the same infection... ..	...	5	...	...	...	14	...	8	...	27	27
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary ... ..	...	...	...	...	...	...	...	...	...	...	...
" secondary ... ..	...	...	...	...	...	...	...	...	...	...	...
" latent in 1st year of infection... ..	...	...	...	...	...	...	...	...	...	...	...
" all later stages ... ..	...	4	...	...	...	...	...	...	...	...	4
" congenital... ..	...	...	...	...	...	...	...	...	...	...	...
Soft Chancres ... ..	...	...	...	...	...	...	...	...	...	...	...
Gonorrhoea, 1st year of infection ... ..	...	...	...	...	1	28	...	...	1	28	29
" later ... ..	...	...	...	...	...	13	...	...	...	13	13
Conditions other than venereal ... ..	...	...	...	...	...	...	26	...	...	26	26
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection ... ..	...	...	...	...	...	...	...	...	...	...	...
TOTALS OF ITEMS 1, 2, 3 AND 4	4	24	...	...	1	93	...	34	5	151	156
5. Number of cases discharged after completion of treatment and final tests of cure (see Item 15)... ..	...	...	...	...	...	...	...	...	...	...	...
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary ... ..	...	...	...	...	...	...	...	...	...	...	...
" secondary ... ..	...	...	...	...	...	...	...	...	...	...	...
" latent in 1st year of infection... ..	...	1	...	...	...	...	...	...	...	...	1
" all later stages ... ..	...	3	...	...	...	...	...	...	...	...	3
" congenital... ..	1	...	...	...	...	...	...	...	1	...	1
TOTALS OF ITEMS 5, 6 AND 7 ... ..	...	...	...	...	...	...	...	34	...	34	34

TABLE 74—Continued.

14. Chief preparations used in treatment of Syphilis :—				
(a) Names of preparations	Arsenobenzene Compounds Neokharsivan, Sulfarsenol	Mercury Pil. Hydrarg. Hyd. c Creta.	Bismuth Bicreol.	
(b) Total number of injections given (out-patients and in-patients)	253	...	43	
(c) Number of injections included in (b) given to patients who on first attendance at this Centre were suffering from primary and secondary syphilis ... ..	...	...	...
15. Are the tests recommended in Memo. V21 as amended by Memo. V21a followed in deciding as to the discharge of the patient after treatment and observation for syphilis and gonorrhœa ?				
If not, in what way are they modified ? ...				
<p><i>Primary syphilis.</i>—If blood negative to begin with patient discharged ; if blood negative for two years from commencement of treatment without return of symptoms.</p> <p><i>Secondary syphilis.</i>—After provocative dose of arsenobenzol and if blood negative two years after treatment ceased, <i>Gonorrhœa</i> : Discharged after three successive smears from Urethra and Cervix after menstrual period and provocative vaccine.</p>				
16. PATHOLOGICAL WORK :—				
(a) Number of specimens examined at and by the medical officer of the treatment centre	Microscopical for spirochetes	Wassermann	Serum Tests Others for syphilis	for gonorrhœa
(b) Number of specimens from patients attending at the centre sent for examination to an approved laboratory.	...	235	77	...

STATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE DURING THE YEAR, CLASSIFIED
ACCORDING TO THE AREAS IN WHICH THE PATIENTS RESIDED.

Name of County or Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings

	Blackburn	Samlesbury	Total
A. Number of cases in Items 3 and 4 from each area found to be suffering from:—			
Syphilis	4	...	4
Soft Chancre ... ..	...	...	...
Gonorrhoea	41	1	42
Conditions other than venereal	26	...	26
TOTAL	71	1	72

B. Total number of attendances of all patients residing in each area	1138	1	...	...	...	1139
C. Aggregate number of "In-patient days" of all patients residing in each area ... ..	...	...	...	...	...	...
D. Number of doses of arsenobenzene compounds given in the out-patient Clinic and In-patient Department to patients residing in each area	253	...	...	...	...	...

29th January, 1934.

(Signed) DOROTHEA I. BAIRD,
Medical Officer of the Treatment Centre.

BLACKBURN ROYAL INFIRMARY—V.D. Beds : Male 2 ; Female 2.

PARTICULARS OF STAFF.

	Duties.	If Employed Whole or Part-Time on Duties in V.D. Centre.
Medical Officers— Dr. W. Cran Duthie.	In charge of Male clinic.	Part-time.
Dr. D. I. Baird	In charge of Female clinic ..	Part-time.
Resident Medical Officers ..	Assist at male clinics	Part-time.
Nurses—Two	To prepare for and assist at clinics Do irrigations, &c., and keep registers	One whole time. One at female clinic only.
Male Attendants—Two ..	To prepare for and assist at male clinics. Do irrigations, &c., and general porter's work in connection with clinics.	One nearly whole-time and evenings and week-ends and one at clinics only.
Dispenser—One	General Dispensing duties	Four clinics per week.
Clerk	Preparation of statistical returns and general clerical duties	Part-time.

Patients from Blackburn attended the following centres for treatment during the year :—

	<i>Gonorrhœa.</i>	<i>Non-Venereal</i>	<i>Syphilis.</i>
Preston	1	...	...
Liverpool	1	...	...
Hampshire .. .. .	...	...	1
Salford .. .. .	...	1	...

PART VII.

Maternity and Child
Welfare.

ANTE-NATAL WORK.

An Ante-Natal Clinic is conducted twice weekly, particulars of which will be found in the appended Table :—

TABLE 75.

No. of Sessions held	...	...	...	...	...	...	99
No. of Attendances made	...	...	...	...	...	...	2558
No. of Individuals	...	...	...	...	...	...	737
No. of Normal Labours	...	...	...	...	...	...	391
No. of Abnormal Labours	...	...	...	...	...	...	83
No. Non-pregnant	...	...	...	...	...	...	125
No. Undelivered at End of 1933	...	...	...	...	...	...	138
Sent by Health Visitors	...	...	...	...	...	...	122
Sent by Matron, Springfield	...	...	...	...	...	...	164
Referred from other sources	...	...	...	...	...	...	278
Women who came on their own initiative	...	...	...	...	...	...	173
Primigravidæ Examined	...	...	...	...	...	...	270
Multigravidæ Examined	...	...	...	...	...	...	342
Multigravidæ undelivered at end of year	...	...	...	...	...	...	81
Primipara undelivered at end of year	...	...	...	...	...	...	57

The 83 abnormal cases were as follows :—

Instrumental	...	...	...	26	Miscarriage	...	...	...	5
Stillbirths	...	...	...	16	Twins	...	...	...	8
Cæsarean Section	...	...	...	8	Placenta Prævia	...	...	...	1
Premature Births	...	...	...	6	Hydrocephalus	...	...	...	2
Breech	...	...	...	8	Rupture of Uterus	...	...	...	1
Footling	...	...	...	1	Transverse Presentation	...	...	...	1

The number of women who attended the Clinic during 1933 was 76 more than for the preceding year, and the number of attendances made by them was 288 in excess of the corresponding figure for 1932.

The number of women who came on their own initiative was 35 more than in the preceding year.

SUPERVISION OF MIDWIVES.

This work is undertaken by the Lady Assistant Medical Officer of Health, assisted by the Senior Health Visitor, who pays periodical visits to the homes of the midwives.

Forty-four midwives notified their intention to practise within the Borough during 1933. Fourteen of these are attached to the District Nurses' Home, 43 are trained midwives and hold the Certificate of the C.M.B. by examination, and one is a bona-fide midwife.

During the year one midwife died (bona-fide), and nine left the Borough, leaving 34 on the register on 31st December, 1933.

The domestic and personal cleanliness of the midwives has been satisfactory.

Midwives visit their patients once in each month throughout the earlier months of pregnancy, and more frequently in the later months.

During the year 155 visits were made to the midwives by the Senior Health Visitor, of which 113 were effective and 42 ineffective.

On the occasion of each visit the inspector scrutinises all records required to be kept by the Central Midwives' Board, and bags and appliances are examined. Attention is also paid to the home hygiene of the midwife, which in all cases has been found satisfactory.

The following notifications required under the rules of the Central Midwives' Board were received :—

Notifications of still birth	...	...	...	...	25
„ laying out dead body	...	...	...	...	2
„ deaths in practice	...	...	...	...	7
„ having advised artificial feeding	...	...	...	...	10
„ liability to be a source of infection	...	...	...	...	1
					—
			TOTAL	...	45
					—

Result of Treatment in each Case :

	<i>Admitted.</i>	<i>Discharged.</i>	<i>No. of days in Hospital.</i>	
1.	31/5/33	20/6/33	20 days	Cured.
2.	4/8/33	14/8/33	10 Days	„
3.	11/9/33	23/9/33	12 Days	„
Number of Maternal Deaths	...	...	...	...
Number of Infant Deaths :—				
(i) Stillborn	...	...	...	9
(ii) Within Ten Days of Birth	...	...	...	9
Cause of Death in each Case, and results of Post-Mortem Examination (if obtainable) :—				
(i) Macerated Fœtus	...	4	(ii) Mongolian	...
Hydrocephalus	...	3	Birth Injuries	...
Prolapse of Cord	...	1	Atelectasis	...
Albuminuria	...	1	Convulsions	...
			Asphyxia	...
			Prematurity	...

The increasing use which is being made of the maternity beds provided by the Corporation is gratifying. There is no doubt that, as regards a large section of our population, the interests of the parturient woman are better served by confinement in hospital than in the home. Our records demonstrate that many deliveries take place in houses totally unsuitable for the purpose, midwives and doctors alike being faced with the numerous difficulties inevitable in a small four-roomed house, ill-provided with the amenities so essential for the proper care of the case. To quote one such instance to which my attention was drawn during the year. The house consisted of a kitchen-living-room (in which the woman was delivered and subsequently nursed), small scullery-kitchen, and two bed-rooms. The family consisted, at the time of the confinement, of the mother, husband and eight children, aged 16, 13, 11, 9, 8, 6, 3 and 2 years respectively. The surroundings, in fact, were such that the process of delivery and lying-in took place in an environment devoid of privacy, comfort, and even elementary decency.

The maternity beds provided by the Corporation are intended to meet the requirements of cases such as the one I have described, and efforts are accordingly made, not only by members of your staff, but also by private practitioners, to secure hospitalisation of such cases.

It often happens that women, desirous of going into hospital for confinement, are deterred by reason of home ties. One can appreciate the unwillingness of the mother of a large family to entrust her domestic responsibilities to the care of an outsider during a stay in hospital. Many such women attend our clinics for advice on the subject, and it is generally possible to suggest some arrangement to meet such domestic difficulties as might follow her admission to hospital. This type of expectant mother, appreciative of her obligations to the unborn child and anxious to follow the best course, invariably co-operates to the full with the Maternity and Child Welfare staff, realising that it is in her best interests to do so.

Another type of mother, often from the most unsuitable class of home, is well-nigh impossible to deal with. Deaf to the advice of health visitor and public assistance visitor alike, she leaves all to chance. In spite of conscientious following up, she neglects the most elementary ante-natal precautions, engages neither midwife nor doctor, and apart from occasional complaint as to the discomforts associated with her pregnant state, displays an attitude of complete indifference and irresponsibility. No active provision is made until well-advanced labour and imminent parturition compel her to dispatch a relative or neighbour to the nearest midwife or District Nurses' Home.

It may be argued that propaganda will disperse such difficulties and ignorance. To some extent we must agree, although I fear that many, most in need of health advice, through ignorance, carelessness, or worse, will ever fail to respond to all but the most urgent stimuli of instinct.

PUERPERAL FEVER & PUERPERAL PYREXIA.

(a) *Puerperal Fever* :—

Six notifications were received during the year, four of which, in respect of out-of-the-Borough cases, were not investigated. Three cases (all out-of-the-Borough) terminated fatally.

Based on the nett number of births registered in the Borough, the puerperal fever rate for 1933 is 1·4 per 1,000.

No. of cases notified	6
Borough cases	2
Out of Borough cases	4
No. of cases attended by midwife alone	0
No. of cases attended by a doctor and midwife	1
No. of cases attended in an Institution	1
No. of cases treated in Hospital	6
No. of cases which recovered... ..	3

(b) Puerperal Pyrexia :—

Ten cases, of which one terminated fatally, were notified during the year.

No. of cases notified	10
Borough cases	10
No. of cases attended by Doctor alone	4
No. of cases attended by Midwife alone	1
No. of cases attended by Doctor and Midwife	1
No. of cases attended in Institution... ..	4
No. of cases treated at Home	4
No. of cases treated in Hospital	6
No. of cases attended by District Nurse	2
No. of cases which recovered... ..	9
No. of cases which died	1
No. of cases treated in Private Maternity Home	0

Based on the nett births registered, the puerperal pyrexia rate for 1933 was 6·8 per 1,000 births, compared with 12·9 and 7·8 for 1932 and 1931 respectively.

Specialist opinion, in cases of puerperal fever and puerperal pyrexia is available on request to the Medical Officer of Health. Examination of pathological material in connection with these cases is carried out at the Public Health Laboratories in Manchester and Liverpool.

No difficulty has been experienced in securing immediate hospitalisation of cases of puerperal infection, as beds are available at the Royal Infirmary, the Corporation Hospital and the Queen's Park Hospital.

MATERNAL MORTALITY.

During the year 18 deaths occurred in association with pregnancy, nine of which were in respect of out-of-Borough cases admitted to Blackburn Hospitals for the treatment of puerperal abnormality. Based on the nett births registered, the maternal mortality rate for 1933 was 6·1 per 1,000 births.

The appended Table gives a classification of the causes leading to death of the nine Borough cases :—

- 1.—(a) Cardiac muscle failure ; (b) Influenza.
- 2.—(a) Hæmorrhage and shock ; (b) Placenta Prævia ; (c) Pregnancy.
- 3.—(a) Toxæmia ; (b) Diabetic Coma
- 4.—(a) Pneumonia ; (b) Pulmonary Tuberculosis ; (c) Childbirth. Tuberculosis
- 5.—(a) Cardiac failure ; (b) Antepartum hæmorrhage (external accidental hæmorrhage) Pregnancy eight months.
- 6.—Heart failure, accelerated by an anæsthetic of two parts chloroform and three parts ether, administered for an operation for uterine hæmorrhage.
- 7.—(a) Toxæmia ; (b) Intestinal obstruction ; (c) Post operative adhesions, following cæsarean Section and left ovariectomy ten years ago, and recent second cæsarean section.
- 8.—Eclampsia.
- 9.— I. (a) Acute Myocardial failure ; (b) Cerebral embolism ; (c) Auricular fibrillation, due to Mitral Stenosis.
- II. Parturition.

All maternal deaths are investigated in collaboration with the private practitioners concerned, or with the doctors at the Hospital in which patient died.

If the above causes leading to death be analysed, deaths (1) and (3) and (4) might be excluded, since they are not attributable to processes directly occasioned by pregnancy.

The number of deaths directly attributable to childbirth is, therefore, six, a figure equivalent to a maternal mortality rate of 4·11 per 1,000 births registered.

An analysis of the investigations shows that one of the deaths, namely that from eclampsia, could probably have been prevented had the case concerned received early medical supervision.

TABLE 76.

MATERNAL MORTALITY

RATES PER 1,000 BIRTHS REGISTERED.

YEAR	SEPSIS	OTHER CAUSES	TOTAL	YEAR	SEPSIS	OTHER CAUSES	TOTAL
1891	1.71	2.70	4.41	1913	1.02	4.46	5.48
1892	2.31	4.64	6.95	1914	2.14	4.28	6.42
1893	0.51	4.38	4.89	1915	1.22	2.03	3.25
1894	0.55	5.24	5.79	1916	1.93	1.93	3.86
1895	1.79	5.89	7.68	1917	0.61	5.53	6.14
1896	1.40	7.03	8.43	1918	1.29	5.80	7.09
1897	1.92	2.75	4.67	1919	2.72	3.28	6.00
1898	0.54	3.00	3.54	1920	1.06	4.59	5.65
1899	2.19	3.29	5.48	1921	2.37	1.97	4.34
1900	2.90	1.16	4.06	1922	0.45	6.43	6.88
1901	2.65	3.54	6.19	1923	2.39	4.29	6.68
1902	3.27	4.73	8.00	1924	1.51	3.53	5.04
1903	1.50	6.05	7.55	1925	2.10	3.68	5.78
1904	0.96	4.19	5.15	1926	4.01	4.01	8.02
1905	3.13	6.57	9.60	1927	1.76	5.87	7.63
1906	1.46	3.80	5.26	1928	0.58	3.46	4.04
1907	3.58	5.07	8.65	1929	1.93	7.72	9.65
1908	0.58	4.09	4.67	1930	0.00	4.38	4.38
1909	2.23	4.14	6.37	1931	0.64	3.24	3.88
1910	2.71	4.41	7.12	1932	0.64	5.18	5.82
1911	1.75	5.60	7.35	1933	0.00	4.11	4.11
1912	1.09	3.28	4.37				
Average	1891—	1900	..	..	1.58	4.00	5.59
	1901—	1910	..	..	2.20	4.65	6.85
	1911—	1920	..	..	1.48	4.07	5.56
	1921—	1930	..	..	1.71	4.53	6.24

NOTIFICATION OF BIRTHS.

The following Table illustrates the source of notifications during the year :—

	<i>Live Births</i>	<i>Still Births</i>	<i>Total</i>
Doctors	40	6	46
Midwives	1315	64	1379
Parents and others ...	252	13	265
	—	—	—
TOTALS	1607	83	1690
	—	—	—

STILL BIRTHS.

The number of still-births allocated to the Borough during the year was 80, of which number 64 occurred in the practices of midwives.

All still-births are investigated with a view to ascertainment of cause. The appended Table gives particulars with reference to possible and probable causes :—

<i>Cause.</i>	<i>No. of Still-births.</i>
(1) Complications of labour	25
(2) Ante-Natal Causes (including Toxæmia and Syphilis) ...	29
(3) Fœtal States (excluding Syphilis)	4
(4) Prematurity	12
(5) Unascertained	10
(6) Out-of-Borough Cases	9
	—
	89
	—

NEO-NATAL DEATHS.

During the year 60 infants died within two months of birth ; 17 of the deaths were ascribed to fœtal states, 21 to prematurity, and the remaining 22 to post-natal causes.

The number of neo-natal deaths (*i.e.*, within the first four weeks of life) was 54, a figure equivalent to 3·7% of live births registered (1457).

PREMATURE BIRTHS.

All premature births are followed up, and of 62 premature infants born during 1933, 36 or 58·1% were alive at the end of the year.

Causes of prematurity :

Albuminuria... ..	4
Ante partum hæmorrhage	2
Multiple pregnancy	13
Shock	0
Not known	42
Other Maternal conditions	1

INFANTILE MORTALITY.

During the year there were 104 deaths of infants, compared with 103 in 1932. This figure corresponds to an infantile mortality rate of 71·3 per 1,000 births registered, compared with 66·7 in 1932, and 61·0 in 1931.

Of the deaths registered, 101 were of legitimate, and three of illegitimate children. The rate of infantile mortality amongst legitimate infants was 79·4 per 1,000 legitimate births registered, and amongst illegitimate children 50·0 per 1,000 illegitimate births registered.

Of the deaths certified 54, or 51·9%, occurred within the first month of life.

The more important causes of death were as follows :—

<i>Cause.</i>	<i>Number of Deaths.</i>	<i>Percentage of Total Infantile Deaths.</i>
Premature Birth	22 ..	21·1
Congenital defect	11 ..	10·5
Pneumonia	19 ..	18·3
Whooping Cough	1 ..	0·9
Debility, &c.....	6 ...	5·4

St. Peter's Ward shows the highest rate of infantile mortality (134), followed by St. Thomas's (104), and Park (97). St. John's exhibited the lowest rate (22).

Taking the Infantile Mortality over a period of ten years, St. Silas's shows by far the best figures, St. Andrew's comes next, followed by St. Stephen's. The worst wards during the same period were St. Mary's, St. Peter's and Trinity.

TABLE 77.

INFANTILE MORTALITY IN WARDS AND COMPARISON WITH
DENSITY OF POPULATION.

WARD	Estimated Population mid- dle of 1933	Persons per Acre	Rooms per person	Births	Birth Rate	Infantile Mortality	Deaths	Death Rate	Natural Increase or Decrease of Popul'n 1932-33	Census Popula- tion 1931
	1	2	3	4	5	6	7	8	9	10
St. Stephen's . . .	13075	11.2	1.19	192	14.6	67	158	12.0	+34	13215
Trinity	7940	53.4	1.09	88	11.0	56	102	12.8	-14	8022
St. Michael's . . .	8498	13.7	1.24	105	12.3	38	116	13.6	-9	8580
St. John's	6446	64.5	1.22	86	13.3	22	110	17.0	-24	6520
St. Silas's	9008	9.2	1.55	73	8.1	41	131	14.5	-58	9108
St. Paul's	8826	72.5	1.20	110	12.4	45	142	16.0	-32	8929
St. Peter's	6155	46.7	1.01	89	14.4	134	89	14.4	-	6213
St. Mary's	5098	29.5	0.94	77	15.1	90	79	15.4	-2	5147
St. Matthew's . . .	8473	81.0	1.11	95	11.2	63	134	15.8	-29	8561
St. Thomas'	11132	6.4	1.06	105	9.4	104	157	14.1	-52	11255
Park	8960	13.9	1.09	144	16.0	97	145	16.1	-1	9052
St. Luke's	7248	43.6	1.08	85	11.7	82	102	14.0	-17	7333
St. Mark's	9870	24.7	1.25	96	9.7	83	144	14.5	-48	9979
St. Andrew's	10671	9.4	1.09	112	10.4	62	150	14.0	-38	10783
	121400	16.0	1.17	1457	12.0	71	1759	14.4	-302	122697

COMPARISON OF BLACKBURN INFANTILE MORTALITY RATE WITH THAT OF
ENGLAND AND WALES FROM 1924—1933.

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Blackburn	84	97	89	77	80	80	83	61	66	71
England and Wales . .	75	75	70	69	65	74	60	66	65	64

TABLE 78.

INFANTILE MORTALITY IN WARDS FROM 1924 TO 1933.

WARD.	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	Average for 10 y'rs
St. Stephen's	68	65	130	45	47	62	36	62	98	67	68
Trinity	60	101	62	153	118	96	80	76	84	56	88
St. Michael's	99	80	78	46	65	108	95	34	54	38	69
St. John's	101	61	66	52	108	99	109	81	43	22	74
St. Silas's	44	29	67	41	53	63	59	40	38	41	47
St. Paul's	76	107	83	59	73	110	56	74	69	45	75
St. Peter's	149	105	104	119	127	116	103	100	122	134	117
St. Mary's... ..	99	188	158	97	77	126	205	65	108	90	121
St. Matthew's	120	65	106	41	105	39	68	72	63	63	74
St. Thomas's	76	84	53	76	77	103	128	60	18	104	77
Park	86	118	75	80	81	58	50	38	45	97	72
St. Luke's... ..	90	118	92	147	111	44	60	56	37	82	83
St. Mark's... ..	60	122	99	61	51	71	96	31	104	83	77
St. Andrew's	73	110	75	68	60	56	71	61	21	62	65
Borough	84	97	89	77	80	80	83	61	66	71	78

TABLE 79.—DEATHS UNDER ONE YEAR, ARRANGED ACCORDING TO DAYS, WEEKS AND MONTHS.

CAUSES OF DEATH.	Nett Deaths registered during the calendar year of												TOTAL.												
	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.													
All Causes { Certified Uncertified... ..	20	7	5	6	4	1	3	46	3	3	2	54	6	3	6	1	4	4	4	9	6	6	1	104	
Smallpox																									
Chickenpox																									
Measles																					2	1	2		6
Scarlet Fever																									
Whooping-cough																									
Diphtheria and Croup																									
Erysipelas																									
Tuberculous Meningitis																									
Abdominal Tuberculosis																									
Other Tuberculous Diseases																									
Meningitis (not Tuberculous)																									
Convulsions	1		1	1				3				3			1									4	
Laryngitis																									
Bronchitis										1		1													4
Pneumonia (all forms)		1						1				1			1					1	1	4	2	16	
(Diarrhoea																									
(Enteritis																									
Gastritis																									
Syphilis																									
Rickets																									
Suffocation, overlying																									
Injury at birth																									
Atelectasis					1				1			2													
Congenital Malformations	6	2	1	3	1	1		14			1	15													2
Premature Birth	11	3	1		1		2	18	2	1		21													17
Atrophy, Debility and Marasmus	1	1	1	2			1	6		1	1	8	2												10
Other causes	1		1		1			3				3													8
TOTAL	20	7	5	6	4	1	3	46	3	3	2	54	6	3	6	1	4	4	4	9	6	6	1	104	

Nett Births registered during the calendar year ... { legitimate ... 1397 illegitimate ... 60 }
 Net Deaths registered during the calendar year of ... { legitimate infants ... 101 illegitimate infants ... 3 }

TABLE 80.

DEATH RATES UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.	RATES PER 1,000 BIRTHS.												
	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Small-pox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chicken-pox	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles	1.1	2.7	0.9	0.5	4.2	0.5	3.5	0.0	0.0	3.7	0.6	0.0	4.1
Scarlet Fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Whooping-cough	3.5	1.8	2.3	2.0	2.1	3.4	0.0	1.1	1.2	1.2	5.2	3.8	1.3
Diphtheria and Croup	0.3	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.6	0.0	0.0	0.6
Erysipelas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Tuberculous Meningitis	0.0	0.4	0.4	0.5	0.0	0.5	0.0	0.0	0.6	0.0	0.6	0.6	0.0
Abdominal Tuberculosis	1.1	0.4	0.0	0.5	0.5	0.5	0.0	0.5	0.0	0.0	0.0	0.6	0.0
Other Tuberculous Diseases	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.6	0.0	0.6
Meningitis (<i>not Tuberculous</i>)	0.7	2.3	0.9	1.0	2.1	2.2	0.5	1.7	1.9	0.0	1.3	0.0	0.6
Convulsions	8.3	4.5	4.3	5.0	5.2	2.2	2.9	2.8	4.5	5.0	1.9	0.6	2.7
Laryngitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bronchitis	10.6	5.9	7.1	7.0	12.0	8.6	6.4	10.3	8.3	3.7	3.2	4.5	2.7
Pneumonia (<i>all forms</i>)	14.2	12.8	12.4	12.6	13.1	13.2	11.7	9.8	15.4	12.5	13.6	7.1	10.9
Diarrhœa	7.9	3.2	4.3	5.5	4.7	4.0	7.0	1.7	2.5	3.7	5.2	1.2	1.3
Enteritis	4.7	4.1	4.8	0.0	0.5	1.1	0.0	0.5	0.0	0.6	0.0	0.6	4.1
Gastritis	1.1	1.8	0.9	3.0	1.0	1.7	1.7	0.0	0.0	0.0	0.6	0.0	0.6
Syphilis	2.3	0.9	2.8	2.0	2.6	0.0	0.0	2.3	0.6	0.0	0.0	0.0	0.0
Ricketts	1.5	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Suffocation, overlying	0.0	0.4	0.4	0.0	0.0	0.0	0.5	0.5	0.6	1.8	0.0	0.6	0.0
Injury at Birth	0.3	1.3	0.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Atelectasis	2.7	0.4	0.9	0.5	0.5	0.0	2.3	0.0	0.6	1.2	1.3	0.6	1.3
Congenital Malformations	3.9	4.5	10.5	3.5	5.7	5.7	3.5	0.5	2.5	10.6	5.2	9.7	11.6
Premature Birth	22.5	25.7	25.3	15.6	20.5	23.5	14.7	16.1	20.6	22.5	13.6	22.6	15.1
Atrophy, Debility and Marasmus	14.2	14.2	10.9	10.6	8.6	14.3	17.0	21.9	13.5	11.2	3.2	7.7	6.9
Other causes	7.1	9.6	9.5	14.1	13.6	6.3	4.7	8.6	6.4	4.3	4.5	5.1	5.4

OPHTHALMIA NEONATORUM.

Twelve cases were notified during the year, all in respect of children resident in the Borough.

TABLE 81.
RESULTS OF TREATMENT.

Cases Treated.			Vision Unimpaired	Vision Impaired	Total Blindness	Deaths.
Notified	At Home.	In Hospital				
12	3	9	11	1	—	—

MATERNITY AND CHILD WELFARE CENTRES.

There are six Maternity and Child Welfare Centres in the Borough, situated at Bent Street, Nova Scotia, Kendal Street, Griffin Parochial Hall, Cornelian Street and Hozier Street. Two sessions are held each week at Hozier Street and Kendal Street.

In the following Table it will be noted that the attendances numbered 37,081, a figure which shows an increase over that for 1932.

The average weekly attendances show an increase over last year of nearly 5%, and the number of consultations with the doctor in attendance are nearly 12% higher than in 1932.

Extended use continues to be made of the facilities offered by the Council for Infant Consultations, particularly so at the Bent Street, Bolton Road and Griffin Centres, where, during 1933, the average attendances were 114, 118 and 111 per session respectively. Such high attendances, though gratifying evidence of the good purpose served by your Clinics, are nevertheless somewhat difficult to cope with.

The increase has been brought about by two factors :—

- (1) Unemployment enables many previously employed female textile workers to bring their children to the Centres ;
- (2) A growing interest in mothercraft, particularly so amongst the younger mothers.

Although a return to times of normal prosperity will probably witness some reduction in Clinic attendances, I do not consider that the decline will be heavy. This opinion is based on the following facts : —

- (1) As a result of following up by the Health Visitors there is a growing tendency amongst employed women to arrange for their children to attend the Clinics in the care of some neighbour or friend ;
- (2) During the last few years there has been a steady increase in attendances of children of mothers who would not require remunerative employment were such available ;
- (3) Our Blackburn mothers no longer regard the Clinics as free treatment Centres, but have become appreciative of the preventive nature of the work carried out there. They now realize that the paramount object of the Child Welfare Scheme is prevention of disease, coupled with the detection of incipient defect and its eradication, either by means of some simple dietetic or hygienic measure or more active form of treatment at the hands of the family practitioner.

If, as I anticipate, the attendances remain high, you may consider it advisable to arrange duplication of certain Child Welfare Sessions during the coming financial year.

TABLE 82.

	Bent Street.	Hozier Street (2 sessions weekly).	Bolton Road	Kendal Street (2 sessions weekly).	Griffin.	Cornelian Street	Total, 1933.	Total, 1932.	Total, 1931.
Infants :—									
New cases under 1 year	126	234	159	238	177	78	1012	..	..
No. of re-attendances..	2113	3621	2616	3540	3152	1608	16650	..	..
New cases over 1 year..	35	35	47	43	36	12	208	..	..
No. of re-attendances..	2883	5528	2972	3093	2112	1733	18321	..	..
Attendances of Infants	5157	9418	5794	6914	5477	3431	36191	..	..
Consultations with Dr.	416	1301	1043	1538	854	399	5551	..	..
Expectant Mothers—									
No. of new cases ..	43	45	25	28	18	11	170	..	..
No. of re-attendances	225	234	103	46	60	52	720	..	..
Total Attendances of Expectant Mothers..	268	279	128	74	78	63	890	..	..
Total Attendances	5425	9697	5922	6988	5555	3494	37081	..	..
Average Attendance per session									
1933	114	97	118	72	111	73	*772	..	..
1932 .. ..	..	..	..	..	..	..	..	*736	..
1931 .. ..	..	..	..	..	..	..	..	..	*563

* Total average attendance *each week* at all the Centres.

A doctor attends at each session, together with two Health Visitors, and assistance is given by three or four voluntary workers. To these ladies I wish to express my thanks for the enthusiastic manner in which they have performed their self-imposed duties.

Of the 1,457 live births notified during the year, 1,012, or 69·4%, attended the Infant Consultation Centres, an increase of 4·8% over the figure for 1932.

The percentages seen by a Doctor at each session per Clinic are as under :—

Bent Street	..	..	..	..	..	9.0
Hozier Street	..	..	..	..	..	13.4
Nova Scotia	..	..	..	..	..	18.0
Kendal Street	..	..	..	..	..	11.2
Griffin	..	..	..	..	..	15.0
Cornelian Street	..	..	..	..	..	14.0

The talks by Health Visitors at the Clinics have been continued. The syllabus is as under :—

I. Expectant Motherhood. II Care of the New-Born Infant. III The Diet of a Nursing Mother. IV Breast Feeding. V Artificial Feeding. VI Weaning. VII The Hygiene of Infancy. VIII Baby Clothes. IX The Development of the Child. X Feeding from 1-5 Years. XI Rickets. XII Common Ailments of Infancy.

The appended Table shows the deaths of babies who attended the Clinics during their first year, as compared with the deaths of those who never attended the Clinics.

TABLE 83.

Area	Deaths	Attend'd a Clinic		Attendance at Birth			FullTime Baby		Births during same period.	Deaths in Institutions			
		Yes	No	Doctor	Mid-wife	Doctor & Mid-wife	Yes	No		Q'eens Park	Royal Infirmary	Springfield	Reg. Mat. Home
District I.	16	6	10	..	9	7	7	9	276	3	3	..	1
.. II.	26	8	18	2	13	11	16	10	278	6	2	2	..
.. III.	17	3	14	2	7	8	10	7	179	6	2	1	..
.. IV.	7	1	6	2	3	2	5	2	173	2	2	1	..
.. V.	15	3	12	1	7	7	13	2	180	5	2	1	..
.. VI.	15	5	10	..	8	7	10	5	256	2	2	1	..
.. VII.	8	3	5	1	3	4	6	2	115	2	2	2	..
	104	29	75	8	50	46	67	37	1457	26	15	8	1

DENTAL TREATMENT OF MATERNITY AND CHILD WELFARE CASES.

Mr. H. Yates, the Senior Dental Surgeon, carried out the following work in connection with Maternity and Child Welfare Cases :—

	1933	1932
Number of Sessions held	58	64
Number of Patients : Mothers	138	153
Children	76	134
Permanent Teeth Extracted	179	220
Permanent Teeth Filled	51	44
Temporary Teeth Extracted	87	217
Temporary Teeth Filled	19	14
Other Operations	37	59

ORTHOPÆDIC TREATMENT.

The arrangements in force for the care of deformity or crippling defect are as outlined in the Health Report for the year 1932.

TABLE 84.
THE WORK OF THE HEALTH VISITORS.
HOME VISITING.

	<i>District</i> I.	<i>District</i> II.	<i>District</i> III.	<i>District</i> IV.	<i>District</i> V.	<i>District</i> VI.	<i>District</i> VII.	<i>Totals</i>
Visits to Expectant Mothers—								
First Visits	52	48	52	25	110	49	21	357
Re-visits.. .. .	121	31	19	7	133	83	117	511
Ineffective Visits ..	19	20	7	14	1	1	1	63
Infants under 1 year—								
First Visits	277	270	179	176	175	264	112	1453
Re-visits.. .. .	823	800	635	628	593	828	629	4936
Ineffective Visits ..	85	182	100	81	90	42	105	685
Infants aged 1 year—								
Re-visits.. .. .	759	670	567	605	495	667	676	4439
Special Visits.. ..	7	2	3	..	3	7	..	22
Ineffective Visits ..	113	114	85	68	90	36	30	536
Children 2—5 years ..	1158	1342	1168	1256	1054	1305	578	7861
Ineffective	191	268	162	175	136	94	7	1033
Ophthalmia								
Neonatorum—								
First Visits	2	2	2	..	..	3	..	9
Re-visits.. .. .	2	1	..	2	..	5	..	10
Diarrhoea—								
First Visits .. ..	..	..	..	..	..	..	..	..
Re-visits.. .. .	..	..	..	..	..	..	..	..
Stillbirths	12	26	3	2	8	17	6	74
Doctors' Accounts ..	26	48	36	16	17	38	10	191
Milk (Mothers and Children Order)—								
Visits .. .. .	..	..	..	..	..	..	..	..
Midwives—								
Routine	99	..	..	..	..	..	..	99
Special	14	..	..	..	..	..	..	14
Ineffective	42	..	..	..	..	..	..	42
Puerperal Fever Visits	1	2	1	2	1	5	..	12
Houses where deaths of infants occurred	6	17	4	..	5	2	4	38
Miscellaneous Visits..	24	22	32	31	24	53	4	190
TOTALS .. 1933 ..	3833	3865	3055	3088	2935	3499	2300	22575
1932 ..	3812	3385	3961	2431	3141	3754	3461	23945

The number of visits paid by the Health Visitors is slightly lower (—6%) than in 1932, although in considerable excess of the figure for other years.

TABLE 85.

CLINIC SESSIONS ATTENDED

	<i>District</i> I.	<i>District</i> II.	<i>District</i> III.	<i>District</i> IV.	<i>District</i> V.	<i>District</i> VI.	<i>District</i> VII.	<i>Totals.</i>
Maternity and Child Welfare Clinics ..	91	121	79	135	144	107	100	777
Ante-Natal Clinics ..	23	15	14	16	15	19	96	198
Special V.D. Clinics ..	...	...	...	1	11	...	73	85
Other Clinics	33	33	32	32	43	26	34	233
TOTALS ..	147	169	125	184	213	152	303	1293
Total Houses visited ..	3117	3371	2645	2699	2336	3386	1813	19367
Total Persons visited. .	3580	3967	3064	3092	3019	3529	2307	22558

MATERNITY AND CHILD WELFARE ACT, 1918.

The following Table gives the number of families to whom assistance was rendered during 1933 under the Milk (Mothers and Children) Order.

TABLE 86.

Price.	No. on Jan. 1st, 1933.	New Cases during Year.	Cases Discontinued.	No. on Dec. 31st, 1932.
Free	334	369	427	276
Quarter Price .	24	104	91	37
Half-Price	13	51	50	14
TOTAL	371	524	568	327

For former years the corresponding figures (totals) are :—

1925	*130	242	255	†117
1926	*117	316	238	†195
1927	*195	367	323	†239
1928	*239	363	482	†120
1929	*120	264	271	†113
1930	*113	322	265	†170
1931	*170	401	282	†289
1932	*289	521	439	†371

* Beginning of Year. † End of Year.

During the year 30,629 pounds of dried milk have been supplied to expectant and nursing mothers and young children at a cost to the Local Authority of £1,812/2/0½. In 1932, 32,284 pounds were supplied at a cost of £1,970/8/9. The nett cost in 1933, therefore, dropped by £158/6/8½.

CARE OF ILLEGITIMATE CHILDREN.

No special provision is made by the Corporation for the care of illegitimate children or unmarried mothers ; this work is undertaken at Viewfield Hostel by the Manchester Diocesan Association for Preventive and Rescue Work. The Health Department maintains a close co-operation with the authorities of the Hostel, and takes an active interest in the important work carried out there.

The Assistant Medical Officer for Maternity and Child Welfare visits Viewfield at regular intervals for the purpose of inspection and consultation with the Viewfield staff.

INSTITUTIONAL PROVISION FOR MOTHERS & CHILDREN.

Maternity beds are provided at Springfield and Queen's Park Hospital.

Special accommodation is available for infants and children at both the Royal Infirmary and Queen's Park Hospital.

I am indebted to Miss Duckworth for the appended particulars respecting Viewfield :—

	<i>Mothers.</i>	<i>Babies.</i>
Number of Beds	12	12
Number of Cases Admitted, 1933	13	13
Number in Hostel, Jan. 1st, 1934	11	11
Number returned to relatives and friends	3	3
Number of Mothers sent to situations	6	—

At the end of the year there were six babies under one year. Of these two were on four-hourly breast feeds.

NURSING HOMES REGISTRATION ACT, 1927.

On receipt of application for registration under the above Act, the premises are visited by either the Medical Officer of Health or by the lady Assistant Medical Officer of Health. This visit is the occasion of a survey of the available accommodation, and advice is given as to structural or other alterations required. The number of beds to be used for the reception of cases is also decided upon. Following registration, the Homes are visited quarterly by Dr. Baird, and at more frequent intervals by the Senior Health Visitor. All have been found satisfactory.

(a) Maternity Homes :—

At the beginning of the year there were eight private maternity homes in Blackburn. During the year no new homes were registered, and two were discontinued. At the end of the year six labour beds and 15 lying-in beds were available in private maternity homes.

(b) Nursing Homes :—

At the end of the year there were three registered Nursing Homes in Blackburn, providing a total of 25 beds. During the year no further homes were registered.

THE PRE-SCHOOL CHILD.

CAUSES OF DEATH IN CHILDREN FROM ONE TO FIVE YEARS OF AGE.

	1932	1933
Pneumonia and Bronchitis	18	15
Infectious Diseases (Non-Tubercular)	5	15
Tuberculosis (all forms)	3	2
Digestive System Diseases	4	3
All other causes	14	14
	—	—
TOTALS	44	49
	—	—

There are now 16 Nursery Classes in Blackburn, with accommodation for 550 children under the age of five years. The work carried out at these classes has been fully described in the School Medical Report.

Many of the children in attendance at these Schools have been under supervision at the Child Welfare Centres. In order to secure continuity of observation the Assistant Medical Officer for Maternity and Child Welfare, who is also Assistant School Medical Officer, undertakes the School Medical Inspection of Nursery Class children.

INFANT LIFE PROTECTION

The appended Table gives particulars of infants nursed out for reward within the Borough :—

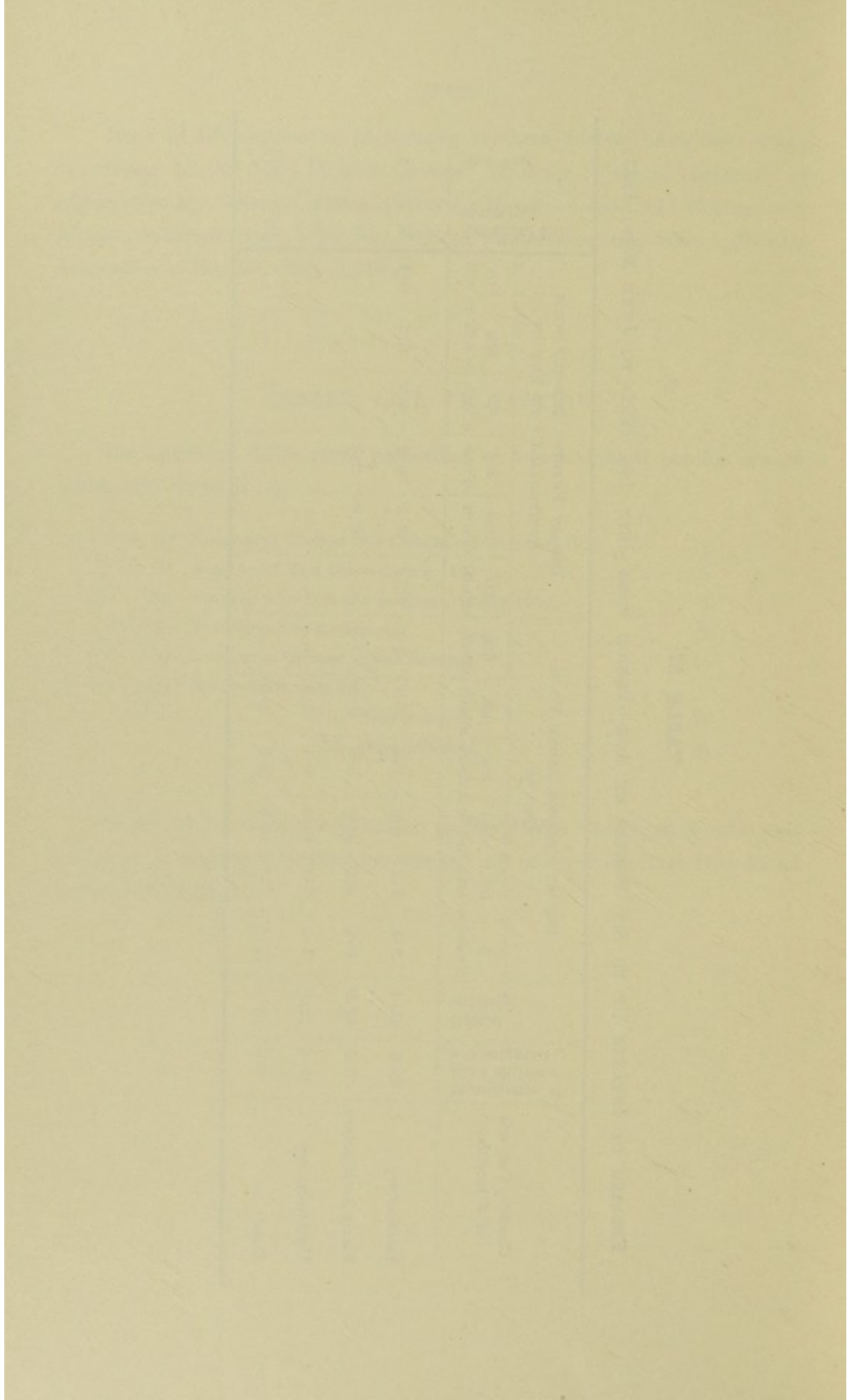
(a) Number of Nursed Out Children, December, 1932	..	18
(b) Number of New Cases during 1933	.. ..	8
(c) Number who Left the Borough during 1933	.. ..	3
(d) Transferred to Relatives	.. ..	7
(e) Number at present in the Borough	.. ..	16
(f) Number found to be :—		
(i) Satisfactory	.. ..	16
(ii) Unsatisfactory	.. ..	0

Inspection duties were undertaken by the Health Visiting Staff, who visit each case at least once in every six weeks. All the children have been found to be well cared for.

TABLE 87.

FEEDING OF INFANTS UP TO SIX MONTHS OF AGE—PERIOD FROM JULY 1ST, 1932, TO JUNE 30TH, 1933.

Condition at end of 6 months	Percentage of 1518 children investigated	Breast entirely.	BREAST FEEDING ALONE UP TO END OF							BREAST FEEDING JOINTLY WITH ARTIFICIAL UP TO END OF						Artificial fed entirely.	Not Fed.
			3 weeks	1st m'nth	2nd m'nth	3rd m'nth	4th m'nth	5th m'nth	1st m'nth	2nd m'nth	3rd m'nth	4th m'nth	5th m'nth	6th m'nth			
Satisfactory ...	83.5	45.7	3.4	9.3	8%	7.4	3.6	3.9	0.7	0.3	0.7	0.3	0.3	0.3	0.16	14.3	...
Fairly Satisfactory.	7.2	32.0	0.9	8.2	10%	5.5	0.9	3.6	...	0.9	2.7	...	...	...	...	34.8	...
Unsatisfactory ...	3.8	22.0	1.6	6.7	18.6	8.4	1.6	...	...	...	...	...	...	...	...	40.6	...
Dead ...	5.9	8.8	17.7	7.7	6.6	3.3	2.2	...	..	...	...	2.2	...	...	20%	30%	...



PART VIII.

Miscellaneous.

TABLE 88.
ULTRA-VIOLET LIGHT CLINIC.

Diagnosis	No. of Cases Treated			No. of Cases Discharged			No. of cases attending at end of year		Total number of all exposures given to cases attending	
	Total	Male	Female	Cured	Improved	No Change	M.	F.	Carbon Arc	Merc. Vap.
Debility	181	51	130	18	107	11	16	25	1950	1091
Rickets	112	66	46	10	52	9	20	14	2579	15
Anæmia	57	16	41	20	19	3	5	5	1206	183
Lung Conditions (Non-Tubercular)	49	25	24	14	7	10	6	8	1186	141
Tubercular Conditions ...	44	13	31	10	10	5	6	9	488	1930
Skin Diseases	24	10	14	7	9	1	2	4	222	425
Malnutrition	80	28	52	8	29	9	7	24	1498	186
Other Conditions	104	40	64	7	52	13	11	15	1034	1360
TOTAL	651	249	402	94	285	61	73	104	10163	5331
CLINICS :—										
Total Health Dept. Clinic	497	181	316	43	272	56	50	76	5478	2963
Total Corporation Hospital Clinic	154	68	86	51	13	5	23	28	4685	2368
GRAND TOTAL ...	651	249	402	94	285	61	73	104	10163	5331
SECTIONS :—										
Tuberculosis	24	10	14	12	1	1	3	4	68	1186
Maternity & Child Welfare	332	116	216	9	200	26	35	54	3779	1975
School Medical	283	117	166	73	82	33	32	40	6181	1668
Other	12	6	6	...	2	1	3	6	135	502
GRAND TOTAL ...	651	249	402	94	285	61	73	104	10163	5331

Table 87 is a composite Table which contains particulars of cases treated at both the Health Department and Hospital Clinics.

BACTERIOLOGICAL AND PATHOLOGICAL EXAMINATIONS.

Facilities are available for the examination of pathological and bacteriological specimens at the Corporation Hospital, at the Royal Infirmary, and at the Public Health Laboratories at Manchester and Liverpool.

The appended Table gives particulars of examinations carried out during 1933.

For particulars of work carried out at the Corporation Hospital Laboratory see Table 58.

TABLE 89.

Blackburn & East Lancashire Royal Infirmary :—

Specimens examined for Spirochaetes	...	...	...	...	...	4
" " Gonococci	...	...	...	...	...	2819

Manchester University :—

Specimens examined for Gonococci	...	...	...	...	...	35
" " Wasserman Test...	...	...	...	...	...	1024
Fæces and urine for Typhoid	...	...	...	...	...	15
" " Dysentery...	...	...	...	...	...	1
Swab	...	...	...	...	...	1

LOCAL GOVERNMENT ACT, 1929.

No alterations or developments have taken place during the year.

The work of both Public Assistance and Health Committees is closely co-ordinated.

MENTAL DEFECTIVES.

The Local Authority does not provide institutional accommodation for mental defectives, nor has there been any change in the arrangements in force.

NURSING IN THE HOME.

Domiciliary nursing of cases of Measles, Whooping Cough, Diarrhœa, Puerperal Fever, Ophthalmia Neonatorum, Influenzal Pneumonia, and Tuberculosis is undertaken by the District Nursing Association.

The Corporation pay the Association an annual retaining fee of £35 for these services, with an additional payment of 8d. per visit.

The appended Table gives particulars of the work carried out by the District Nursing Association in this respect during 1933 :—

TABLE 90.
HOME NURSING BY DISTRICT NURSES.

Disease	On books Jan. 1st 1933	New Cases	Cured	Died	Hospital	Remain- ing end of 1933	Visits
Tuberculosis	5	19	6	10	3	5	1946
Pneumonia	3	129	95	23	10	4	2669
Puerperal Fever and Pyrexia ..	2	1	2	..	..	1	113
Ophthalmia Neonatorum ..	1	4	4	..	1	..	115
Measles .. .. .	..	1	1	..	..	..	2
TOTAL	11	154	108	33	14	10	4845

HEALTH EDUCATION.

During the year 43 lectures (in addition to those given to school-children and their parents) were given by members of your staff to audiences totalling approximately 2,500.

PREVENTION OF BLINDNESS.

Beds are provided at the Corporation Hospital for the reception of selected cases of ophthalmia neonatorum ; the District Nursing Association, under agreement with the Corporation, undertakes the domiciliary nursing of ophthalmia neonatorum, and during the year nursed 5 cases, to which 115 visits were paid.

A special school, at Roe Lee, for the care of children suffering from severe visual defect provides accommodation for 20 children.

WELFARE OF THE BLIND.

THE BLIND PERSONS ACT, 1920, SEC. 2, SUB-SECTION 1.

The Local Authority has made provision for the welfare of the blind through the Blackburn Workshops for the Blind and the Blackburn and Darwen Home Visiting Society. The Workshops are now administered by the Corporation.

In 1933 the Blind Persons Scheme cost the Corporation £4,681, allotted as under :—

Workshops for the Blind	...	...	...	...	£1,603.
Visiting Society	...	...	...	...	£434.
Other Blind Agencies	...	...	...	...	£318.
Grants to unemployable necessitous persons	...			...	£2,316.
Sundry expenses	...	...	...	...	£10.

In addition to the above grants the Workshops received £680 and the Visiting Society £170 from the Joint Finance Committee for the Blind. This Committee is composed of representatives from the Local Authorities whose districts are served by the Workshops and Visiting Society. Its function is to organise and co-ordinate the raising of voluntary funds for the Blind.

The Blind Register contains particulars of 275 blind persons resident in Blackburn.

TABLE 91.

METEOROLOGY, 1933.

Corporation Hospital Station, Height 560 feet.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Amount of Bright Sunshine	hrs. min. 27 45	hrs. min. 68 40	hrs. min. 123 20	hrs. min. 90 50	hrs. min. 137 55	hrs. min. 207 5	hrs. min. 187 20	hrs. min. 169 5	hrs. min. 191 15	hrs. min. 67 0	hrs. min. 33 5	hrs. min. 16 55	hrs. min. 1322 30
Average per day	0 53	2 27	3 59	3 2	4 27	6 54	6 2	5 27	6 22	2 9	1 6	0 32	..
Maximum amount in one day.	hrs. min. 4 20	hrs. min. 8 0	hrs. min. 9 45	hrs. min. 10 20	hrs. min. 11 5	hrs. min. 14 40	hrs. min. 15 10	hrs. min. 12 30	hrs. min. 10 50	hrs. min. 7 0	hrs. min. 7 30	hrs. min. 3 15	..
Total Rainfall (in inches)	2.37	3.12	2.31	1.75	1.53	1.75	2.62	2.34	1.40	4.35	2.77	0.71	27.02
No. of days on which rain fell.	18	15	14	11	17	11	14	17	8	22	16	18	181
Av. Temp. at 9 a.m. (Fabr.)	34.9	37.3	41.6	44.3	48.7	55.9	59.2	57.3	52.3	47.0	40.05	34.6	—
Temp. of earth at depth of 1ft.	37.8	37.3	40.1	44.7	51.4	57.5	61.6	60.8	57.2	51.1	43.6	37.4	—
Temp. of earth at depth of 4ft.	43.1	40.8	40.5	43.8	47.4	52.8	56.9	58.4	57.5	54.2	48.9	43.7	—
Highest Temp. in Shade	53.0	53.0	64.0	65.0	70.0	81.05	81.5	80.0	76.0	63.0	54.0	46.0	—
Lowest Temp. in Shade	20.0	22.0	31.0	28.0	38.0	44.0	47.0	46.0	41.0	30.0	26.0	25.0	—
Av. Temp. Sun (black bulb)	36.0	46.6	52.4	51.0	55.1	83.7	89.8	83.5	86.5	45.0	34.2	31.4	—
Lowest Temp. on Grass	20.0	20.0	27.0	24.0	36.0	39.0	43.0	43.0	32.0	26.0	23.0	20.0	—
Highest cor. reading of barom.	30.554	30.517	30.389	30.451	30.046	30.226	30.450	30.212	30.290	30.301	30.137	30.526	—
Lowest cor. reading of barom.	29.284	29.136	28.928	29.510	29.396	29.156	29.444	29.498	29.503	29.028	29.141	29.132	—
Mean reading of barometer (uncorrected)	29.415	29.378	29.251	29.494	29.310	29.276	29.428	29.387	29.425	29.243	29.306	29.522	—

LOCAL POWERS RELATING TO PUBLIC HEALTH.

1.—BLACKBURN CORPORATION ACTS AND ORDERS :—

- The Blackburn Improvement Act, 1882.
- The Blackburn Water Act, 1885.
- The Blackburn Corporation Act, 1892.
- Local Government Board's Provisional Orders Confirmation (No. 14) Act, 1894.
- Local Government Board's Provisional Orders Confirmation (No. 18) Act, 1897.
- The Blackburn Corporation Act, 1901.
- The Blackburn Corporation Act, 1908.
- Local Government Board's Provisional Orders Confirmation (No. 9) Act, 1910.
- The Blackburn Corporation Water Act, 1911.
- Local Government Board's Provisional Orders Confirmation (No. 1) Act, 1919.
- The Blackburn Corporation Act, 1922.
- The Blackburn Corporation Act, 1929.

2.—ACTS OF PARLIAMENT ADOPTED BY THE COUNCIL :—

- Parts II. & III. of the Public Health Acts (Amendment) Act, 1890, adopted by the Town Council, 2nd April, 1891.
- INFECTIOUS DISEASES (PREVENTION) ACT, 1890, adopted by the Town Council (except Sections 14 and 19), 5th March, 1891.
- Part III. of the Housing of the Working Classes Act, 1890, adopted by the Town Council, 5th August, 1897.
- Public Health Acts Amendment Act, 1907 : Certain sections adopted by Orders of the Local Government Board on the 5th December, 1908 ; 5th January, 1910 ; and by Order of the Secretary of State, dated 27th October, 1909.

3.—BYE-LAWS AND REGULATIONS IN FORCE IN THE BOROUGH :—

- General Bye-Laws, dated 12th January, 1855.
- Bye-Laws for Regulation of Private Slaughterhouses, 25th October, 1877.
- Regulations for Preventing Waste, Misuse, or Contamination of Water, 17th December, 1887.
- Bye-Laws *re* Common Lodging Houses, 6th September, 1888.
- Bye-Laws made under the Contagious Diseases (Animals) Act, 1878 to 1890, and the Dairies, Cowsheds, and Milkshops Orders of 1885 and 1886, 5th July, 1893.
- Bye-Laws *re* Houses Let in Lodgings, 4th April, 1895.
- Bye-Laws for Regulation of Offensive Trades, 4th March, 1897.
- Bye-Laws with Respect to Management and Charges for Slaughterhouses Established by the Council, 20th March, 1901.
- Bye-Laws for the Prevention of Carrying Carcases through the Streets, 25th April, 1901.
- Bye-Laws *re* Cattle Markets, 1st June, 1905.
- Regulations made under the Diseases of Animals Acts, 1894 to 1903 and Lancashire (Parasite Mange) Order, of 1908, 9th February, 1910.
- Regulations made under the Diseases of Animals Acts and Glanders or Farcy Order of 1920, 17th February, 1921.
- County Borough of Blackburn Offensive Trades Confirmation Order, 1922, declaring Rag and Bone Dealing to be an Offensive Trade.
- Bye-Laws *re* Tents, Vans, Sheds and Similar Structures, 15th May, 1924.
- Bye-Laws *re* Houses Let in Lodgings, 20th June, 1924.

MINISTRY OF HEALTH ORDERS, ETC., 1933.

STATUTES :—

13/4/33	...	Children and Young Persons Act, 1933.
19/7/33	...	Rent and Mortgage Interest Restrictions (Amendment) Act, 1933.
28/7/33	...	Slaughter of Animals Act, 1933.

REGULATIONS :—

No. 38	...	4/2/33	...	The Port Sanitary Regulations, 1933.
No. 648	...		...	The Housing Consolidated Amendment Regulations, 1933.
No. 408	...	8/5/33	...	The Local Government (Qualifications of Medical Officers and Health Visitors) (Amendment) Regulations, 1933.
No. 347	...	25/4/33	...	The Public Health (Imported Food) Amendment Regulations, 1933.
No. 487	...	9/7/33		Dangerous Drugs.
No. 742	...	27/7/33	...	The Town and Country Planning Regulations, 1933.
No. 775	...	1/8/33	...	The Children and Young Persons (Voluntary Homes) Regulations, 1933.
No. 787	...	4/8/33	...	The Children and Young Persons (Boarding Out) Regulations, 1933.
No. 806	...	8/8/33	...	The Pharmacy and Poisons Act, 1933.
No. 819	...	10/8/33	...	The Summary Jurisdiction (Children and Young Persons) Rules, 1933.
		9/8/33	...	Juvenile Offenders, Children and Young Persons in Need of Care or Protection.
		19/7/33	...	Provisional Regulations under Section 14 of the Rent and Mortgage Interest Restrictions (Amendment) Act, 1933.

ORDERS :—

No. 359	...	19/4/33	...	The Merchandise Marks (Imported Goods)	No. 5 Order, 1933.
No. 360	...	19/4/33	...	Ditto	No. 6 Order, 1933.
No. 362	...	19/4/33	...	Ditto	No. 8 Order, 1933.
No. 363	...	19/4/33	...	Ditto	No. 9 Order, 1933.
No. 491	...	25/5/33	...	Ditto	No. 10 Order, 1933.
No. 492	...	25/5/33	...	Ditto	No. 11 Order, 1933.
No. 638	...	21/6/33	...	Ditto	Act, 1926, <i>re</i> Maize Starch.
No. 659	...	26/6/33	...	Ditto	(Imported Goods)
					No. 12 Order, 1933.
No. 733	...	24/7/33	...	Ditto	No. 13 Order, 1933.
No. 734	...	24/7/33	...	Ditto	No. 14 Order, 1933.
No. 1074	...	10/11/33	...	Ditto	No. 15 Order, 1933.

CIRCULARS :—

No. 1296	...	13/2/33	...	Port Sanitary Regulations, 1933.
No. 1305	...	4/3/33	...	Town and Country Planning Act.
No. 1326	...	24/3/33	...	Maternity and Child Welfare Infant Life Protection.
No. 1331	...	6/4/33	...	Housing Act, 1930. Part I.

No. 1336	...	13/5/33	...	Appointment of Health Visitors.
No. 1337	...	22/5/33	...	The Deaf and Dumb.
No. 1337a	...	22/5/33	...	Prevention of Deafness.
No. 1338	...	12/5/33	...	Rural Water Supplies.
No. 1345	...	26/7/33	...	Public Health (Imported Food) Regulations, 1925. " " (Amendment) Regs., 1933.
No. 1348	...	24/7/33	...	Rent and Mortgage Interest Restrictions (Amendment) Act, 1933.
No. 1349	...	30/8/33	...	Slaughter of Animals Act, 1933.
No. 1350	...	30/8/33	...	Public Health (Imported Food) Regulations, 1925. " " (Amendment) Regs., 1933.
No. 1354	...	5/9/33	...	Rent and Mortgage Interest Restrictions (Amendment) Act, 1933.
No. 1353	...	5/10/33	...	Certification of Blindness.
No. 1356	...	2/11/33	...	Ambulance Services.
No. 1364	...	14/12/33	...	Public Health (Imported Food) Regulations, 1925. " " (Amendment) Regs., 1933.
No. 1365	...	7/12/33	...	Treatment of Ex-Service Men Suffering from Tuberculosis.
No. 1368	...	28/12/33	...	Treatment of Tuberculosis.

MEMORANDA :

Memo. 171/med.—/2/33 ... Antimony Poisoning due to the use of Enamelled Vessels.

MINISTRY OF AGRICULTURE AND FISHERIES :

		17/1/33	...	The Animals (Landing from Ireland, Channel Islands, and Isle of Man) Order, 1933.
No. 90	...	20/2/33	...	The Agricultural Produce (Grading and Marking) (Cabbage Lettuce) Regulations, 1933.
No. 91	...	20/2/33	...	Ditto (Cauliflower and Broccoli) Regs., 1933.
No. 449	...	11/5/33	...	Ditto (Plums) (Amendment) Regs., 1933.
No. 447	...	17/5/33	...	Ditto (Asparagus) Regulations, 1933.
No. 564	...	29/5/33	...	Ditto (Gooseberries) Regulations, 1933.
No. 527	...	23/5/33	...	Ditto (Canned Vegetables) (Amendment) Regulations, 1933.
No. 565	...	29/5/33	...	Ditto (Loganberries) Regulations, 1933.
No. 567	...	29/5/33	...	Ditto (Red Currants) Regulations, 1933.
No. 592	...	12/6/33	...	Ditto (Wheat Flour) Regulations, 1933.
No. 538	...	23/5/33	...	Ditto (Canned Fruits) Regulations, 1933.
No. 540	...	24/5/33	...	Ditto (Malt Extract and Malt Flour) Regs., 1933.
No. 563	...	29/5/33	...	Ditto (Blackcurrants) Regulations, 1933.
No. 566	...	29/5/33	...	Ditto (Raspberries) Regulations, 1933.
No. 664	...	1/7/33	...	Ditto (Jam) Regulations, 1933.
No. 677	...	4/7/33	...	Ditto (Cheshire Cheese) Regulations, 1933.
No. 692	...	7/7/33	...	Ditto (Bunched Carrots) Regulations, 1933.
No. 693	...	7/7/33	...	Ditto (Green Peas) Regulations, 1933.
No. 807	...	9/9/33	...	Ditto (Bottled Fruits) Regulations, 1933.
No. 824	...	16/8/33	...	Ditto (Honey) (Amendment) Regs., 1933.
No. 844	...	25/8/33	...	Ditto (Brussels Sprouts) Regulations, 1933.
No. 1124	...	30/11/33	...	The Licensing of Bulls (Applications to England and Wales) Order, 1933.

