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BOROUGH OF MIDDLETON

1946

ANNUAL REPORT

OF THE

MEDICAL OFFICER

OF HEALTH

FOR THE YEAR

1946

J. BROOKS, M.R.C.S., L.R.C.P., D.P.H.

ACTING MEDICAL OFFICER OF HEALTH.

BOROUGH OF MIDDLETON
1946

HEALTH COMMITTEE.

Chairman :
ALDERMAN T. COATES.

Vice-Chairman :
COUNCILLOR MRS. C. REDFERN.

HIS WORSHIP THE MAYOR—COUNCILLOR MRS. C. FLETCHER, J.P.

ALDERMAN F. L. KAY, J.P.
COUNCILLOR F. BLACKBURN, J.P.
COUNCILLOR T. HALSALL.
COUNCILLOR R. SCOTT.
COUNCILLOR W. STUART.
COUNCILLOR A. WOLSTENCROFT, J.P.

MATERNITY AND CHILD WELFARE SUB-COMMITTEE.

MEMBERS OF THE HEALTH COMMITTEE, TOGETHER WITH THE FOLLOWING
CO-OPTED LADIES :—

THE MAYORESS (MRS. T. HEYWOOD).
MRS. L. BALL.
MRS. ANNE HILTON, J.P.
MRS. F. L. KAY.

BOROUGH OF MIDDLETON

STAFF OF THE PUBLIC HEALTH DEPARTMENT.

Medical Officer of Health and School Medical Officer :

H. L. SETTLE, M.Sc., M.D., Ch.B., D.P.H.
(On Military Service until September, 1946.)
(Resigned December, 1946.)

Acting Medical Officer of Health :

J. BROOKS, M.R.C.S., L.R.C.P., D.P.H.

Temporary Assistant Medical Officer of Health :

Mrs. V. SETTLE, B.Sc., M.B., Ch.B., D.C.H. (Resigned 31.7.46).

Obstetric Consultant :

- *R. NEWTON, M.D., M.R.C.O.G. (Resigned November, 1946.)
- *E. M. MILLS, M.R.C.O.G., F.R.C.S. (Appointed December, 1946.)

Orthopaedic Surgeon :

‡Miss M. F. JOHNSTONE, M.B., Ch.B.

Ophthalmic Surgeon :

‡P. A. HARRY, M.D., B.Ch.

Dental Surgeon :

‡A. E. BUTLER, L.D.S., R.C.S. (England).

Chief Sanitary Inspector :

T. TURNER, M.R.San.I.

Sanitary Inspector :

S. HACKING, C.R.S.I.

Health Visitors :

Miss E. M. HARRISON, S.R.N., S.C.M., H.V. Cert.
Miss T. DUNSCOMBE, S.R.N., S.C.M., H.V. Cert.
Miss H. BOWDELL, S.R.N., S.C.M., H.V. Cert.

Masseuses :

‡Miss E. G. LEE, C.S.M.M.G.
‡Miss D. J. MACGILL, C.S.M.M.G.

Clerical Staff :

Miss E. M. HOWARTH.
Miss A. DEAN.
Miss J. M. JACKSON.
Miss M. LOMAS.

*Part-time Officer.

‡Part-time Officers employed by the School Medical Committee, but whose services are available for Maternity and Child Welfare Cases.

HEALTH CENTRE,
DURNFORD STREET,
MIDDLETON,
November, 1947.

**To the Chairman and Members of the Health and Maternity and
Child Welfare Committee.**

Mr. Chairman, Ladies and Gentlemen,

I beg to submit the Annual Report on the Health of the
Borough of Middleton for the year 1946.

As you are aware, the Health Services were under the charge
of Dr. Settle for the period under review, and I present for your
consideration a complete survey of the work of the Department.

I wish to express my thanks to Miss Howarth and the Staff of
the Department for their valuable help in the compilation of this
report.

I am,

Ladies and Gentlemen,

Your obedient Servant,

J. BROOKS,

Acting Medical Officer of Health.

STATISTICS AND SOCIAL CONDITIONS.

GENERAL STATISTICS.

TABLE I.

Area of the Borough (acres) ... ..	...	...	...	...	5,170
Population at Census, 1931 ... ..	...	...	...	...	29,188
Registrar-General's estimated resident population (mid-year 1946) ... ..	...	...	...	...	30,160
Number of Persons per acre ... ..	...	...	...	...	5.83
Number of Inhabited Houses ... ..	...	...	...	...	10,250
Rateable Value at 1st April, 1946 ... ..	...	...	...	...	£165,069
Sum represented by a Penny Rate ... ..	...	...	...	...	£666

VITAL STATISTICS.

TABLE II.

	Total	M.	F.	
LIVE BIRTHS :—				
Legitimate ...	530	290	240	Birth-rate per 1,000 estimated population mid-1946... .. 18.8
Illegitimate ...	40	21	19	
Total ...	570	311	259	
STILL-BIRTHS ...	18	11	7	Rate per 1,000 total (live and still) births ... 30
DEATHS	359	176	183	Death-rate per 1,000 estimated population ... 11.9
Deaths from puerperal causes :—				
			Deaths	Death-rate per 1,000 total (live and still) births
Puerperal and post-abortive sepsis			Nil.	Nil.
Other maternal causes ... ..	...	...	1	1.70
Total maternal mortality ... ..	...	...	1	1.70

Death-rate of infants under one year of age :—

All infants per 1,000 live births	...	...	...	...	49
Legitimate infants per 1,000 legitimate live births	...	...	...	...	47
Illegitimate infants per 1,000 illegitimate live births	...	...	...	...	75
Deaths from Cancer (all ages)	...	...	...	...	63
„ „ Measles (all ages)	...	...	...	...	Nil.
„ „ Whooping Cough (all ages)	...	...	...	...	Nil.
„ „ Diarrhœa (under 2 years of age)	...	...	...	...	5

POPULATION.

The Registrar-General's estimate of population for the year 1946 is 30,160, which is 1,870 in excess of the estimated population for 1945 and 972 more than the Census population for 1931.

BIRTHS.

570 live births were assigned to the Borough, representing an annual birth rate of 18.8 per 1,000 of the population, compared with the figure of 19.1 for England and Wales and 21.3 for the 148 smaller towns. The annual birth rates for the past 40 years are shown in Table IV.

DEATHS.

The number of deaths for Middleton during 1946 was 359, giving a crude death rate of 11.9 per 1,000 of the population, compared with 11.5 for England and Wales and 11.7 for the 148 smaller towns.

The age and ward incidence are shown in Table III.

TABLE III.

Age and Ward Incidence of Deaths occurring in 1946.

Ward.	Under									Total	
	1	1	2	5	15	25	45	65	75 and up-wards		
North ...	7	—	—	2	—	4	26	11	16	...	66
Central ...	3	—	1	—	—	8	12	21	13	...	58
South ...	5	—	1	—	1	7	26	23	21	...	84
East ...	8	—	—	—	4	7	14	12	16	...	61
Parkfield .	1	—	—	1	—	2	12	16	13	...	45
West ...	4	—	2	1	—	1	11	10	16	...	45
Total ...	28	—	4	4	5	29	101	93	95	...	359

The zymotic death rate was 0.19 per 1,000 of the population compared with 0.00 for 1945.

The maternal mortality rate was 1.70 per 1,000 total (live and still) births. This is also an increase on the previous year when no maternal deaths occurred.

Infant mortality showed 49 per 1,000 live births as compared with 38 in 1945. The comparative rate for England and Wales is 43 and for the 148 smaller towns 37.

The cancer death rate of 2.09 remains high, the corresponding figure for England and Wales being 1.7 per 1,000 of the population, whilst the tuberculosis death rate was 0.69 as compared with 0.53 in 1945.

Comparative death rates for various diseases for the past 40 years are shown in Table IV and the classified causes of death in 1946 are given in Table V.

TABLE IV.

Year	Birth Rate	Crude Death Rate	Zymotic Death Rate	Infant Mortality Rate	Cancer Death Rate	Tuberculosis Death Rate
1907...	21.6	16.7	2.0	140	1.1	1.9
1908...	22.8	16.1	1.85	153	1.0	1.9
1909...	23.1	14.6	0.6	114	0.98	1.6
1910...	24.2	14.6	1.4	100	0.78	1.2
1911...	23.0	16.6	2.5	181	0.57	1.5
1912...	21.4	15.1	0.6	117	0.74	1.7
1913...	21.0	12.8	0.28	98	0.66	1.0
1914...	19.8	14.6	1.6	126	1.18	1.5
1915...	17.5	16.1	0.64	93	1.2	1.47
1916...	15.8	14.2	0.81	79	1.1	1.59
1917...	14.5	15.3	0.93	114	1.52	1.76
1918...	13.0	17.2	0.90	80	1.37	1.49
1919...	14.0	14.0	0.54	76	1.29	0.90
1920...	22.6	12.3	1.00	90	1.2	1.25
1921...	19.4	13.3	0.69	78	1.2	1.21
1922...	17.5	13.1	0.38	72	1.34	1.14
1923...	14.7	12.3	0.51	72	1.24	0.87
1924...	15.2	12.6	0.34	54	1.68	0.93
1925...	13.3	14.1	0.58	95	1.38	0.90
1926...	15.3	12.6	0.21	57	1.30	0.91
1927...	14.2	13.0	0.41	63	1.55	0.55
1928...	14.6	11.2	0.07	63	1.17	0.75
1929...	14.1	17.1	1.08	96	1.28	0.91
1930...	14.7	11.4	0.23	46	1.59	0.67
1931...	13.2	14.8	0.40	99	1.69	0.67
1932...	14.0	12.9	0.51	80	1.47	0.65
1933...	12.8	14.2	0.27	61	1.89	0.62
1934...	13.7	12.6	0.24	53	1.76	0.48
1935...	12.7	14.2	0.06	35	1.54	0.89
1936...	14.3	14.4	0.30	52	1.88	0.72
1937...	13.2	12.9	0.03	51	1.27	0.30
1938...	13.6	12.5	0.23	59	1.96	0.50
1939...	15.2	13.6	0.10	46	1.77	0.36
1940...	14.8	14.0	0.10	56	1.27	0.43
1941...	15.7	13.7	0.10	41	2.13	0.77
1942...	15.8	13.5	0.17	57	2.01	0.45
1943...	17.2	13.9	0.21	61	1.91	0.35
1944...	21.3	14.8	0.25	53	2.07	0.57
1945...	15.6	13.4	0.00	38	2.05	0.53
1946...	18.8	11.9	0.19	49	2.09	0.69

TABLE V.
Causes of Death, 1946.

	Males	Females	Total
Typhoid and Paratyphoid Fevers ...	—	1	1
Cerebro-spinal Fever	—	—	—
Scarlet Fever	—	—	—
Whooping Cough	—	—	—
Diphtheria	—	—	—
Tuberculosis of Respiratory System ...	12	5	17
Other forms of Tuberculosis	4	—	4
Syphilitic Diseases	2	2	4
Influenza	—	2	2
Measles	—	—	—
Acute Poliomyelitis and Polio-encephalitis	—	—	—
Acute Infectious Encephalitis	—	—	—
Cancer	29	34	63
Diabetes	—	1	1
Cerebral Hæmorrhage	13	27	40
Heart Disease	55	55	110
Other Circulatory Diseases	2	9	11
Bronchitis	10	9	19
Pneumonia	7	9	16
Other Respiratory Diseases	4	—	4
Peptic Ulcer	5	—	5
Diarrhœa under 2 years... ..	3	2	5
Appendicitis	1	1	2
Other Digestive Diseases	2	2	4
Nephritis	2	7	9
Puerperal Sepsis	—	—	—
Other Maternal Causes	—	1	1
Premature Birth	3	1	4
Congenital Malformations, Birth Injury, etc.	3	5	8
Suicide	4	2	6
Road Traffic Accidents	1	2	3
Other Violence	2	1	3
All other Causes	12	5	17
Total	176	183	359

GENERAL PROVISION OF HEALTH SERVICES FOR THE AREA.

1. STAFF.

Full details of the Staff of the department are given at the beginning of this report.

2. LABORATORY FACILITIES.

The complete facilities of the University of Manchester Department of Bacteriology and Preventive Medicine, at the Public Health Laboratory are available and are fully utilized.

During 1946 the following specimens were submitted for examination :—

TABLE VI.

Throat Swabs	39
Blood for Agglutination	2
Fæces for Bacteriological examination ...	5
Ice Cream for B. Count, etc....	4
Milk samples :—	
(a) Methylene Blue	29
(b) Guinea Pig inoculation—B. Tuberc.	28
	57
Water :—	
Bacteriological examination	5
Chemical examination	5
	10
	117

3. AMBULANCE FACILITIES.

Two ambulances are provided by the Borough Council for the removal of non-infectious cases, medical, maternity or accident. The control and supervision of the ambulance service was transferred to the Medical Officer of Health on the 1st November, 1946.

In addition, a certain number of cases from Boundary Park General Hospital are transported by the ambulances of the Oldham and District Joint Ambulance Board.

During the year 1946 the following cases were conveyed by the above vehicles :—

Accident cases	...	...	...	...	...	146
Medical cases	...	...	...	...	...	713
Deaths	...	...	...	...	...	13
Sudden illness	...	...	...	...	...	31
Maternity cases	...	...	...	...	...	11
Removals	...	...	...	...	...	18
						<hr/>
						932
						<hr/>

For the removal of cases of infectious diseases to Isolation Hospitals, a special ambulance is maintained by the Health Department. During the year, 27 cases were removed by this ambulance. In addition, the Rochdale County Borough ambulance removed two infectious cases from the Borough to Marland Isolation Hospital.

4. HOSPITAL ARRANGEMENTS.

There are no hospitals situated within this Borough, which is, however, well served by numerous institutions in the surrounding areas. General medical and surgical cases receive attention at the Voluntary Hospitals in Manchester, Oldham and Rochdale, and also at Boundary Park General Hospital, Oldham. Maternity cases are admitted to Boundary Park Hospital, Oldham, St. Mary's Hospital and North Manchester Maternity Home, Manchester. Arrangements for hospital treatment are usually made by the patient's own doctor, but the Local Authority has now completed financial arrangements for the treatment of approved admissions for confinement to St. Mary's Hospitals, Manchester.

5. HOME AND DOMESTIC HELP SERVICE.

One full time and one part time help were regularly employed during the year, 34 homes being attended for varying intervals.

MATERNITY AND CHILD WELFARE.

Notification of Births.

Under Section 203 of the Public Health Act, 1936, 585 live births and 19 still-births were notified during 1946.

Midwifery and Maternity Services.

The liaison established in 1943 between these services continues and the County Council midwives attend and are responsible for the running of one weekly ante-natal clinic.

Owing to the increased attendance it was found necessary to hold an additional weekly ante-natal clinic and this was commenced in October, 1946. The Health Visitors attend and run this second session.

Only one maternal death occurred during 1946.

Ante-Natal Service.

266 women made 1,254 attendances at the ante-natal clinic, of whom 26 were referred to St. Mary's Hospitals, Manchester, and Boundary Park Hospital, Oldham, and where eleven were subsequently confined.

Post-Natal Service.

No "ad hoc" clinic has been established but 20 women made 25 attendances at the ante-natal clinic and received advice and treatment from the obstetric consultant.

Infant Welfare.

The clinic services relating to child welfare, after the upheaval they suffered during the earlier war years, and despite the deplorable accommodation available at the district clinics, go on from strength to strength. More and more mothers continue to make use of the services and, as will be seen from Table VII, the number of infants under one year of age making their first attendance at the welfare centres represented almost 61 per cent. of the total births for the year, being an increase of 10 per cent. over the figure for 1938. Infant deaths, classified according to age and cause of death, are shown in Table VIII.

The attendances, especially at the Durnford Street welfare centre, reached dimensions that threatened to reduce the efficiency of the work carried out and, with the concurrence of the Committee, an additional weekly session was instituted at that centre early in 1946.

Table VII. gives a record of work carried out at the centres and in the homes by the health visitors.

War-time Day Nurseries.

The War Time Day Nursery at Sunny Brow ceased to be the responsibility of the Health Committee on the 31st March, 1946, when it was handed over to the Lancashire County Council. It is now running as a Nursery School under that Authority.

SPECIAL TREATMENT CLINICS.

Sunlight Therapy.

This clinic continues to be held thrice weekly. 178 school children, 92 pre-school children and three adults made 3,936 attendances during the year.

Orthopaedic Clinic.

A consultative session attended by Dr. Johnstone was held every second month, when 116 school children and 61 pre-school children made 221 attendances. In addition, three remedial sessions are held weekly by the orthopaedic nurses. It has now proved possible to hold small classes at Durnford Street Clinic at which the orthopaedic nurse gives group instruction in exercises devised to remedy minor postural and foot defects.

396 children made a total of 1,763 attendances at the Orthopaedic Clinic.

Ophthalmic Clinic.

Sixty-four pre-school children and 381 school children attended the fortnightly Ophthalmic Clinic, making 660 attendances in all.

Dental Clinic.

Twelve pre-school children and 947 school children made 1,834 attendances for advice and treatment. Five expectant or nursing mothers attended for advice and treatment and the small numbers attending are, in my view, related solely to the fact that the service is not yet adapted to meet this class of work.

TABLE VII.
CHILD WELFARE CLINICS.

	1938	1939	1940	1941	1942	1943	1944	1945	1946
Number of children who attended for the first time during the year and who, on the date of their first attendance were :—									
(1) Under 1 year of age...	205	229	206	260	242	284	351	285	345
(2) Between the ages of 1 and 5 years ...	67	64	34	59	52	25	45	32	46
Percentage of notified births represented by the number of children who on the date of their first attendance were under one year of age ...	51.00	50.32	46.19	55.56	53.19	58.44	58.60	64.19	60.53

Child Welfare Clinics—Table vii—(contd.)

	1938	1939	1940	1941	1942	1943	1944	1945	1946
Number who attended and at the end of the year were :-									
(1) Under 1 year of age ...	170	184	184	229	210	218	328	242	330
(2) Between the ages of 1 and 5 years ...	441	448	397	410	379	291	382	469	531
Number of attendances by children :—									
(1) Under 1 year of age ...	3611	4106	4602	5427	4438	4549	5636	5053	5678
(2) Between the ages of 1 and 5 years ...	4506	3854	4404	3586	1639	1288	1687	1713	197

Ante-Natal Clinics.

Number of expectant mothers attended ...	155	134	71	132	91	119	239	176	266
Number of attendances by expectant mothers ...	546	367	196	402	124	471	1054	905	1254
Percentage of total notified live and still births represented by the number of expectant mothers who attended the Ante-Natal Clinics ...	36.21	28.63	15.34	26.83	19.20	23.47	38.74	38.18	45.24

Gynaecological and Post-Natal Clinics.

Number of mothers attended	14	6	3	7	4	2	11	22	24
Number of attendances ...	17	6	3	7	4	4	15	28	29

Health Visiting.

(1) To expectant mothers :...									
First visits ...	58	57	31	25	23	6	11	17	76
Total visits ...	423	498	225	187	153	54	72	63	232
(2) To children under 1 year of age :—									
First visits ...	455	466	482	503	521	435	598	442	551
Total visits ...	1927	2114	1880	1650	1631	788	1321	1282	2263
(3) To children between the ages of 1 and 5 years :...									
Total visits ...	3493	3673	3369	2745	2125	627	1072	1036	2476

TABLE VIII.
INFANT DEATHS, 1946.

Cause of death.	Under 1 day	1—7 1 day	1—4 days	1—4 wks.	Total	1—3 mths.	3—6 mths.	6—12 mths.	Total
Prematurity ...	2	1	1	—	4	—	—	—	4
Spina Bifida and Hydrocephalus	—	—	—	2	2	—	—	—	2
Cong. Heart Disease ...	—	—	—	—	—	1	—	—	1
Pneumonia ...	—	—	—	—	—	1	3	1	5
Bronchitis ...	—	—	—	—	—	—	1	—	1
Gastro-Enteritis	—	—	—	1	1	4	—	—	5
Melæna Neonatorum...	—	—	1	—	1	—	—	—	1
Intussusception .	—	—	—	—	—	—	1	—	1
Weak Baby ...	—	1	—	—	1	—	—	—	1
Nephritis ...	—	—	—	—	—	—	1	—	1
Other causes ...	2	1	1	1	5	—	1	—	6
Total ...	4	3	3	4	14	6	7	1	28

GENERAL HEALTH SERVICES.

Scabies Treatment Clinic.

During the year the incidence of Scabies lessened but the facilities at the Health Centre continue to be fully used.

Affected persons, including all family contacts, are offered treatment at the Health Centre, and a good response has been obtained. Where adequate bathing facilities are available at home, suitable preparations and instructions in their use are supplied, and the patients are kept under supervision. Where home facilities are unsatisfactory, the treatment is carried out by the Health Visitors at the Health Centre. The local Medical Practitioners have co-operated and have referred cases to the Clinic for treatment. Details of the number of individuals, including family contacts, treated are as follows :—

TABLE IX.**Age Distribution.**

	Treated at Home.	Treated at Clinic.	Treated elsewhere e.g., Hospital.	Total
Pre-school ...	8	20	3	31
Schoolchildren	4	78	3	85
Adults ...	66	62	5	133
	<hr/>	<hr/>	<hr/>	<hr/>
Total ...	78	160	11	249
	<hr/>	<hr/>	<hr/>	<hr/>

The preparations used are Ascabiol and Sulphur.

Verminous Conditions.

Attention to louse infestation has continued throughout the year. Most of these cases are discovered amongst the school populace, and wherever possible adult and pre-school contacts are also examined and advised regarding treatment. During the year the following cases were dealt with at the Health Centre :—

TABLE X.**Cleansed at Clinic.**

Pre-school children	...	...	...	...	—
School children	...	...	...	...	24
Adults	...	...	...	...	—
					<hr/>
					24
					<hr/>

SANITARY CIRCUMSTANCES OF THE AREA, ETC.

SEWAGE DISPOSAL.

The Sewage from this Borough is treated by Manchester Corporation.

WATER SUPPLY.

The town is supplied with water by the Heywood and Middleton Joint Water Board. The supply is upland surface water, of good quality. Details of the catchment area and reservoir installations have been given in previous reports.

1,663 yards of mains were laid during the year for housing development.

No. of houses supplied by the Joint Board ... 10,383

No. of baths in Borough 5,287

During the year the following examinations were made, and the results were satisfactory in all cases.

(a) Raw Water—Bacteriological 9

Chemical 3

(b) Water going into supply where treatment is installed—

Bacteriological 16

Chemical 1

Chlorination of the water is in operation, the dosage being 0.2 parts per million.

Precautions taken to prevent contamination by lead include, addition of chalk to saturation point in raw water, followed by sedimentation, filtration and further addition of Soda Ash.

A small number of outlying farms have independent water supplies from wells.

SANITARY SERVICES.

Closest Accommodation.

The following is a list of the types of closets existing in the Borough at the end of the year:—

TABLE XI.

Privy middens	...	...	...	...	63
Pail closets	...	...	...	...	211
Waste-water closets	...	...	...	...	2,886
Fresh-water closets	...	...	...	...	6,122

Refuse Collection and Disposal.

Refuse collection and disposal is carried out by the Cleansing Department. An efficient Salvage Plant and Destructor are available. The following information has been supplied by the Chief Sanitary Inspector who is also Cleansing Superintendent.

Refuse Collection.

The work of refuse collection was again handicapped during the year 1946 owing to shortages of labour and transport difficulties.

Early in March a 1938 model Ford motor vehicle which had become worn-out was taken out of service, and it was not possible to obtain delivery of a replacement vehicle until October, when an ex-W.D. Chevrolet wagon was purchased.

There are approximately 6,758 movable ashbins, 1,384 ashpits, 354 wall-type dustbins and 211 pail closets in the Borough. Ashbins and pail closets are emptied weekly and ashpits fortnightly.

The majority of the pail closets are in connection with premises in the villages of Bowlee and Birch which are not sewered.

The net cost of Refuse Collection for the financial year ended 31st March, 1947, was £5,211.

Refuse Disposal.

Of the refuse collected, 6,835 tons was dealt with at the Separation and Salvage Plant and 356 tons was dealt with by tipping.

The cost of Refuse Disposal for the year amounted to £1,012.

TABLE XII.

Income from Sales of Salvage.

	T.	C.	Q.	£	s.	d.
Waste paper	147	9	2	941	4	6
Light scrap	27	5	3	13	12	9
Baled scrap	128	0	0	211	3	11
Bottles, jars	3	7	1	9	13	1
Textiles... ..	9	12	0	59	11	0
Bones	2	7	3	12	16	3
Kitchen waste	148	7	3	222	11	7
Broken glass	19	0	0	16	12	5
Screened fuel	472	18	1	210	14	4
Screened dust	3515	6	1	—		
Total	4473	14	2	£1697	19	10

TABLE XIII.
SANITARY INSPECTION OF THE AREA.

The following tables give details of the various inspections carried out by the Sanitary Inspectors during the year:—

RECORD OF INSPECTIONS.**Public Health Act, 1936.**

	Inspections made, etc.
Drainage work	315
Refuse removal	347
Water samples taken	10
Tents, vans, sheds, etc.	2
Stables, piggeries, etc.	15
Schools	24
Common lodging houses	35
Houses let in lodgings	28
Houses	1347
Manure dumps	3
Investigation and removal of patients	
Infectious diseases	363
Disinfection	7
Verminous conditions and disinfestation	11
Miscellaneous visits and re-visits	107
Total	2614

Housing Act, 1936.

Housing defects	14
Measured for permitted number	2
Investigations overcrowding	111
Miscellaneous visits and re-visits	8
Total	135

Food and Drugs Act, 1938.

Samples taken—Milk designated, for Bacteria..	10
Milk ordinary, for Bacteria	29
Ice cream	4
Food preparing etc. premises	92
Dairies	15
Cowsheds	4
Markets and shops	87
Unsound food	93
Miscellaneous visits and re-visits	63
Total	397

Factories Act, 1937.						Inspections made, etc.
Factories with power	...	...	...	...	...	27
Bakehouses	...	...	...	...	...	10
						—
Total	...	...	...	...	...	37
						—
Shops Acts.						
Hours of closing	...	...	...	...	...	Nil.
Health, etc. (Sec. 10)	...	...	...	...	...	Nil.
Diseases of Animals Acts.						53
Rats and Mice (Destruction) Act.						
Rat infestation	...	...	...	...	...	1069
Mice infestation	...	...	...	...	...	185
						—
Total	...	...	...	...	...	1254
						—
Miscellaneous Visits.						
Re-inspection where notices in force	...	...	...	...	...	906
Interviews with owners, builders, etc.	...	...	...	...	...	264
Works in progress	...	...	...	...	...	66
Public conveniences	...	...	...	...	...	89
Meetings	...	...	...	...	...	36
Tip and salvage depot	...	...	...	...	...	642
Salvage and refuse collection	...	...	...	...	...	135
Air raid shelters	...	...	...	...	...	21
Other visits	...	...	...	...	...	65
						—
Total	...	...	...	...	...	2224
						—
Total Number of Visits						6714
Complaints.						
Number of complaints during the year	...	...	...	...	...	705
Notices.						
Informal notices served	...	...	...	...	...	643
Informal notices complied with	...	...	...	...	...	588
Statutory notices served	...	...	...	...	...	15
Statutory notices complied with	...	...	...	...	...	7

TABLE XIV.**Work carried out in compliance with Notices.**

Drains cleared	154
Drains repaired or re-constructed	26
Rainwater pipes repaired	17
New water-closets installed	—
Water closets repaired	115
Eaves-gutters repaired	25
Sinks provided	5
Bins provided	91
Roofs repaired	100
Other nuisances abated	158
Plasterwork repaired	48
Skirting boards repaired	2
Rising dampness remedied	11
Fire-ranges repaired	37
Floors repaired	17
Sash-cords repaired	48
Dampness remedied	248
Waste pipes remedied	30
Doors repaired	27
Wash boilers repaired	2

TABLE XV.**FACTORIES ACT, 1937.**

Defects found	3
Notices served :—	
(a) Sanitary defects	— Remedied, —
(b) Other defects	3 „ 3

TABLE XVI.**ERADICATION OF BED BUGS.**

(a) No. of Council houses found to be infested	3
„ „ „ disinested	3
(b) No. of other houses found to be infested ...	4
„ „ „ disinested	4

INSPECTION AND SUPERVISION OF FOOD.

TABLE XVII.

(a) MEAT AND OTHER FOODS CONDEMNED.

Stewed Steak, 1 qr. 2 lbs. ; Meat and Vegetable Ration, 14 lbs. ; Beef and Vegetable, 1 lb. ; Mutton and Vegetable, 1 lb. ; Ox Tongue 6 lbs. ; Luncheon Meat, $4\frac{1}{2}$ lbs. ; Chopped Ham, $\frac{3}{4}$ lb. ; Lamb Tongues, $1\frac{3}{4}$ lbs. ; "Kam", $1\frac{1}{2}$ lbs. ; Beef Links, 13 lbs. ; "Prem", $3\frac{1}{2}$ lbs. ; Steak and Kidney Pudding, 2 lbs. ; Potted Meat, $\frac{1}{2}$ lb. ; Salmon, $9\frac{3}{4}$ lbs. ; Pilchards, 1 qr., $19\frac{1}{4}$ lbs. ; Crawfish, $\frac{3}{4}$ lb. ; Herring, 5 lbs. ; Sild, $\frac{3}{4}$ lb. ; Brisling, $\frac{1}{4}$ lb. ; Sardines, $\frac{3}{4}$ lb. ; Soup, 4 lb. ; Apricot, 27 lbs. ; Peas, 2 qrs. 25 lb. ; Carrots, $4\frac{1}{4}$ lbs. ; Beans, 1 qr. 14 lbs. ; Soya Extract, 2 qrs. ; Beetroot, 7 lbs. ; Spaghetti, 1 lb. ; Semolina, 1 cwt. 1 qr. ; Figs, 3 cwts. 2 qrs. ; Onions in brine, 2 tons 4 cwts. ; Cucumber in Brine, 9 tons 14 cwts. ; Grape Fruit Pulp, 1 ton, 19 cwts. ; Orange Pulp, 4 tons. 2 cwts. ; Strawberry Pulp, 6 cwts. ; Blackberry Pulp 18 tons, 6 cwts. ; Plum Pulp, 6 cwts. ; Apricot Kernels, 12 cwts. ; Orange Shred, 15 cwts. ; Jam, 3 cwts. 3 qrs. 24 lbs. ; Marmalade, 2 lbs. ; Red Plum, 5 lbs. ; Corned Beef, 2 cwts. 1 qr. 12 lbs. ; Evaporated Milk (113 tins), 3 qrs. $18\frac{1}{2}$ lbs. ; Household Milk, 1 tin ; Pork Sausage, 14 tins ; Eggs, 36.

TABLE XVIII.

(b) MILK SUPPLY.

Milk and Dairies Order, 1926.

No. of Cowkeepers registered in the district ...	69
No. of Retail Milk Sellers registered ...	34
No. of Cowshed Inspections during the year ...	86

Samples of milk were taken from producers and retail purveyors of milk for examination by the methylene blue test with the following results :—

TABLE XIX.

Satisfactory ...	23
Unsatisfactory ...	6

Twenty-eight samples of ordinary milk were submitted for biological test for Tubercle Bacilli. One was found to contain Tubercle Bacilli, the remainder being satisfactory.

Milk (Special Designations) Orders 1936 and 1938.

The Lancashire County Council is the Licensing Authority under the above Orders with respect to the production of "Accredited" and "Tuberculin Tested" Milk, and the following licences have been issued and are at present in force in the Borough :

No. of Licences to produce "Tuberculin Tested" Milk ... Nil.	
(a) To produce only	„
(b) To produce and bottle	„
No. of Licences to produce "Accredited" Milk	3
(a) To produce only	—
(b) To produce and bottle	3

Licences to dealers in Designated Milk were issued by the Local Authority, as follows :—

No. of Licences to deal in "Pasteurised Milk"	1
--	---

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS DISEASES.

Epidemiologically little untoward occurred during 1946. No disease was epidemic in nature, though measles and whooping cough were fairly prevalent.

Table XX shows the number of cases occurring amongst the individual diseases, the number removed to hospital and the deaths occurring in hospital.

Total Cases Notified.

TABLE No. XX.

Infectious Diseases.	No.	Removed to Hospital.	Deaths in Hospital.
Scarlet Fever	30	15	—
Diphtheria	5	5	—
Pneumonia	39	3	10
Ophthalmia Neonatorum	2	2	—
Puerperal Pyrexia	1	1	—
Paratyphoid	1	1	—
Measles	110	—	—
Whooping Cough	274	—	—
Dysentery	1	—	—
Cerebro-Spinal Fever	1	1	—
	<hr/> 464	<hr/> 28	<hr/> 10

Scarlet Fever.

The incidence of scarlet fever continued to fall during 1946 when 30 cases only were notified. The cases were scattered over the whole of the borough and over the whole of the year and the disease generally was mild in character. No death occurred.

Diphtheria.

Only five cases of diphtheria occurred during the year and all recovered.

The scheme of immunisation continues to function actively and 334 children were immunised through the local authority's scheme whilst a further 67 children were known to have been immunised by private practitioners. In addition, 311 children immunised some years previously received a re-inforcing inoculation during the year.

It is estimated that at the end of 1946, 57.2 per cent. of children under 5 years of age and 77.2 per cent. of children between the ages of 5 and 15 years were immunised against diphtheria. Table XXI. shows the progress of the scheme since its inception.

Whooping Cough.

Two hundred and seventy-four cases occurred during the year, 72.99 per cent. being under five years of age. The whole of the borough was involved, the cases occurring mostly during the Summer months. No death occurred.

Measles.

One hundred and ten cases of measles occurred mainly in the last quarter of the year. The South Ward was principally involved. No death occurred.

TABLE No. XXI.
DIPHTHERIA IMMUNISATION :
Persons Inoculated each year from 1936—1946.

Age at date of inoculation	1936		1937		1938		1939		1940		1941		1942		1943		1944		1945		1946	
	*1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Under 1	-	-	-	-	-	-	-	-	-	-	2	1	-	14	4	8	15	14	9	26	23	18
1	-	-	-	-	-	-	-	-	1	-	22	29	36	80	40	66	65	85	101	126	94	75
1½	-	1	-	-	1	1	-	3	1	7	23	12	19	47	9	21	17	25	19	8	18	10
2	1	-	-	-	-	-	3	1	-	-	33	15	11	41	13	19	5	15	12	11	11	6
2½	1	-	1	-	-	1	-	-	-	-	42	15	13	54	5	6	4	5	5	10	11	4
3	-	-	-	1	-	2	1	2	-	-	30	13	12	44	9	6	3	7	6	1	4	2
3½	-	1	-	2	-	1	-	-	-	1	34	9	11	38	4	7	4	5	3	10	5	5
4	1	-	1	1	1	1	1	-	1	1	40	14	12	37	4	14	1	4	4	-	2	2
4½	1	1	2	1	-	1	1	-	-	-	41	15	8	33	6	8	3	8	2	3	5	2
5	1	-	1	-	-	1	1	-	1	3	41	18	16	54	9	11	5	12	-	3	3	3
5½	-	-	-	-	-	-	-	-	-	-	52	19	15	44	6	16	5	13	3	5	6	4
6	-	1	2	1	-	1	-	2	-	-	39	11	17	43	6	12	5	10	-	3	1	2
6½	1	-	-	-	-	-	-	-	-	-	48	9	22	44	6	6	-	6	5	1	2	-
7	1	2	2	2	1	2	-	-	-	-	43	12	23	30	6	12	1	6	5	2	-	1
7½	-	-	-	2	1	-	1	-	1	-	30	11	19	27	3	7	1	5	2	1	2	-
8	-	1	2	-	-	-	-	-	-	-	36	12	13	28	5	9	1	5	-	1	-	-
8½	-	-	2	1	-	-	1	-	-	-	32	5	17	27	3	13	1	11	1	-	1	-
9	-	-	-	-	-	1	-	-	1	1	27	10	19	33	1	8	1	7	3	1	1	-
9½	1	1	-	-	1	-	-	-	-	-	39	12	26	26	5	9	2	5	-	-	2	3
10	-	-	1	-	-	1	-	-	-	-	24	3	21	30	9	11	-	2	2	1	-	-
10½	-	-	-	-	1	-	-	-	-	1	29	4	14	26	5	10	2	6	-	-	-	-
11	-	-	-	1	-	-	1	-	-	-	33	4	22	31	6	20	-	3	-	-	-	1
11½	-	-	-	-	-	-	-	-	-	-	26	8	18	36	1	9	1	9	1	-	1	-
12	-	-	-	-	-	-	-	-	-	-	29	11	8	30	2	10	-	12	1	1	1	-
12½	-	-	-	-	-	-	-	-	-	-	23	1	16	25	1	5	2	2	1	-	3	-
13	1	-	-	-	-	-	-	-	-	-	29	9	18	16	3	8	1	9	3	1	-	-
13½	-	-	-	-	-	-	-	-	-	-	33	5	16	25	5	3	1	11	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	6	-	-	4	2	1	-	2	1	-	-	-
14½	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-
Total each yr.	17		26		19		18		20		1,174		1,409		514		450		404		334	

Total inoculated under five years on 31st Dec., 1946 : 1,033.

Total inoculated aged 5-14 years on 31st Dec., 1946 : 2,646.

Total inoculated aged 15 years and over on 31st Dec., 1946 : 706.

* 1 — January to June.

2 — July to December.

TABLE I
 PHYSICAL PROPERTIES OF
 THE POLYMER

Run	Temp. (°C)	Viscosity (dl/g)	Inherent Viscosity (dl/g)	Intrinsic Viscosity (dl/g)	Number-average Molecular Weight (M _n)	Weight-average Molecular Weight (M _w)	Polydispersity Index (M _w /M _n)
1	100	0.15	0.015	0.015	100,000	150,000	1.5
2	100	0.18	0.018	0.018	120,000	180,000	1.5
3	100	0.20	0.020	0.020	140,000	210,000	1.5
4	100	0.22	0.022	0.022	160,000	240,000	1.5
5	100	0.25	0.025	0.025	180,000	270,000	1.5
6	100	0.28	0.028	0.028	200,000	300,000	1.5
7	100	0.30	0.030	0.030	220,000	330,000	1.5
8	100	0.32	0.032	0.032	240,000	360,000	1.5
9	100	0.35	0.035	0.035	260,000	390,000	1.5
10	100	0.38	0.038	0.038	280,000	420,000	1.5
11	100	0.40	0.040	0.040	300,000	450,000	1.5
12	100	0.42	0.042	0.042	320,000	480,000	1.5
13	100	0.45	0.045	0.045	340,000	510,000	1.5
14	100	0.48	0.048	0.048	360,000	540,000	1.5
15	100	0.50	0.050	0.050	380,000	570,000	1.5
16	100	0.52	0.052	0.052	400,000	600,000	1.5
17	100	0.55	0.055	0.055	420,000	630,000	1.5
18	100	0.58	0.058	0.058	440,000	660,000	1.5
19	100	0.60	0.060	0.060	460,000	690,000	1.5
20	100	0.62	0.062	0.062	480,000	720,000	1.5
21	100	0.65	0.065	0.065	500,000	750,000	1.5
22	100	0.68	0.068	0.068	520,000	780,000	1.5
23	100	0.70	0.070	0.070	540,000	810,000	1.5
24	100	0.72	0.072	0.072	560,000	840,000	1.5
25	100	0.75	0.075	0.075	580,000	870,000	1.5
26	100	0.78	0.078	0.078	600,000	900,000	1.5
27	100	0.80	0.080	0.080	620,000	930,000	1.5
28	100	0.82	0.082	0.082	640,000	960,000	1.5
29	100	0.85	0.085	0.085	660,000	990,000	1.5
30	100	0.88	0.088	0.088	680,000	1,020,000	1.5
31	100	0.90	0.090	0.090	700,000	1,050,000	1.5
32	100	0.92	0.092	0.092	720,000	1,080,000	1.5
33	100	0.95	0.095	0.095	740,000	1,110,000	1.5
34	100	0.98	0.098	0.098	760,000	1,140,000	1.5
35	100	1.00	0.100	0.100	780,000	1,170,000	1.5
36	100	1.02	0.102	0.102	800,000	1,200,000	1.5
37	100	1.05	0.105	0.105	820,000	1,230,000	1.5
38	100	1.08	0.108	0.108	840,000	1,260,000	1.5
39	100	1.10	0.110	0.110	860,000	1,290,000	1.5
40	100	1.12	0.112	0.112	880,000	1,320,000	1.5
41	100	1.15	0.115	0.115	900,000	1,350,000	1.5
42	100	1.18	0.118	0.118	920,000	1,380,000	1.5
43	100	1.20	0.120	0.120	940,000	1,410,000	1.5
44	100	1.22	0.122	0.122	960,000	1,440,000	1.5
45	100	1.25	0.125	0.125	980,000	1,470,000	1.5
46	100	1.28	0.128	0.128	1,000,000	1,500,000	1.5
47	100	1.30	0.130	0.130	1,020,000	1,530,000	1.5
48	100	1.32	0.132	0.132	1,040,000	1,560,000	1.5
49	100	1.35	0.135	0.135	1,060,000	1,590,000	1.5
50	100	1.38	0.138	0.138	1,080,000	1,620,000	1.5
51	100	1.40	0.140	0.140	1,100,000	1,650,000	1.5
52	100	1.42	0.142	0.142	1,120,000	1,680,000	1.5
53	100	1.45	0.145	0.145	1,140,000	1,710,000	1.5
54	100	1.48	0.148	0.148	1,160,000	1,740,000	1.5
55	100	1.50	0.150	0.150	1,180,000	1,770,000	1.5
56	100	1.52	0.152	0.152	1,200,000	1,800,000	1.5
57	100	1.55	0.155	0.155	1,220,000	1,830,000	1.5
58	100	1.58	0.158	0.158	1,240,000	1,860,000	1.5
59	100	1.60	0.160	0.160	1,260,000	1,890,000	1.5
60	100	1.62	0.162	0.162	1,280,000	1,920,000	1.5
61	100	1.65	0.165	0.165	1,300,000	1,950,000	1.5
62	100	1.68	0.168	0.168	1,320,000	1,980,000	1.5
63	100	1.70	0.170	0.170	1,340,000	2,010,000	1.5
64	100	1.72	0.172	0.172	1,360,000	2,040,000	1.5
65	100	1.75	0.175	0.175	1,380,000	2,070,000	1.5
66	100	1.78	0.178	0.178	1,400,000	2,100,000	1.5
67	100	1.80	0.180	0.180	1,420,000	2,130,000	1.5
68	100	1.82	0.182	0.182	1,440,000	2,160,000	1.5
69	100	1.85	0.185	0.185	1,460,000	2,190,000	1.5
70	100	1.88	0.188	0.188	1,480,000	2,220,000	1.5
71	100	1.90	0.190	0.190	1,500,000	2,250,000	1.5
72	100	1.92	0.192	0.192	1,520,000	2,280,000	1.5
73	100	1.95	0.195	0.195	1,540,000	2,310,000	1.5
74	100	1.98	0.198	0.198	1,560,000	2,340,000	1.5
75	100	2.00	0.200	0.200	1,580,000	2,370,000	1.5
76	100	2.02	0.202	0.202	1,600,000	2,400,000	1.5
77	100	2.05	0.205	0.205	1,620,000	2,430,000	1.5
78	100	2.08	0.208	0.208	1,640,000	2,460,000	1.5
79	100	2.10	0.210	0.210	1,660,000	2,490,000	1.5
80	100	2.12	0.212	0.212	1,680,000	2,520,000	1.5
81	100	2.15	0.215	0.215	1,700,000	2,550,000	1.5
82	100	2.18	0.218	0.218	1,720,000	2,580,000	1.5
83	100	2.20	0.220	0.220	1,740,000	2,610,000	1.5
84	100	2.22	0.222	0.222	1,760,000	2,640,000	1.5
85	100	2.25	0.225	0.225	1,780,000	2,670,000	1.5
86	100	2.28	0.228	0.228	1,800,000	2,700,000	1.5
87	100	2.30	0.230	0.230	1,820,000	2,730,000	1.5
88	100	2.32	0.232	0.232	1,840,000	2,760,000	1.5
89	100	2.35	0.235	0.235	1,860,000	2,790,000	1.5
90	100	2.38	0.238	0.238	1,880,000	2,820,000	1.5
91	100	2.40	0.240	0.240	1,900,000	2,850,000	1.5
92	100	2.42	0.242	0.242	1,920,000	2,880,000	1.5
93	100	2.45	0.245	0.245	1,940,000	2,910,000	1.5
94	100	2.48	0.248	0.248	1,960,000	2,940,000	1.5
95	100	2.50	0.250	0.250	1,980,000	2,970,000	1.5
96	100	2.52	0.252	0.252	2,000,000	3,000,000	1.5
97	100	2.55	0.255	0.255	2,020,000	3,030,000	1.5
98	100	2.58	0.258	0.258	2,040,000	3,060,000	1.5
99	100	2.60	0.260	0.260	2,060,000	3,090,000	1.5
100	100	2.62	0.262	0.262	2,080,000	3,120,000	1.5
101	100	2.65	0.265	0.265	2,100,000	3,150,000	1.5
102	100	2.68	0.268	0.268	2,120,000	3,180,000	1.5
103	100	2.70	0.270	0.270	2,140,000	3,210,000	1.5
104	100	2.72	0.272	0.272	2,160,000	3,240,000	1.5
105	100	2.75	0.275	0.275	2,180,000	3,270,000	1.5
106	100	2.78	0.278	0.278	2,200,000	3,300,000	1.5
107	100	2.80	0.280	0.280	2,220,000	3,330,000	1.5
108	100	2.82	0.282	0.282	2,240,000	3,360,000	1.5
109	100	2.85	0.285	0.285	2,260,000	3,390,000	1.5
110	100	2.88	0.288	0.288	2,280,000	3,420,000	1.5
111	100	2.90	0.290	0.290	2,300,000	3,450,000	1.5
112	100	2.92	0.292	0.292	2,320,000	3,480,000	1.5
113	100	2.95	0.295	0.295	2,340,000	3,510,000	1.5
114	100	2.98	0.298	0.298	2,360,000	3,540,000	1.5
115	100	3.00	0.300	0.300	2,380,000	3,570,000	1.5
116	100	3.02	0.302	0.302	2,400,000	3,600,000	1.5
117	100	3.05	0.305	0.305	2,420,000	3,630,000	1.5
118	100	3.08	0.308	0.308	2,440,000	3,660,000	1.5
119	100	3.10	0.310	0.310	2,460,000	3,690,000	1.5
120	100	3.12	0.312	0.312	2,480,000	3,720,000	1.5
121	100	3.15	0.315	0.315	2,500,000	3,750,000	1.5
122	100	3.18	0.318	0.318	2,520,000	3,780,000	1.5
123	100	3.20	0.320	0.320	2,540,000	3,810,000	1.5
124	100	3.22	0.322	0.322	2,560,000	3,840,000	1.5
125	100	3.25	0.325	0.325	2,580,000	3,870,000	1.5
126	100	3.28	0.328	0.328	2,600,000	3,900,000	1.5
127	100	3.30	0.330	0.330	2,620,000	3,930,000	1.5
128	100	3.32	0.332	0.332	2,640,000	3,960,000	1.5
129	100	3.35	0.335	0.335	2,660,000	3,990,000	1.5
130	100	3.38	0.338	0.338	2,680,000	4,020,000	1.5
131	100	3.40	0.340	0.340	2,700,000	4,050,000	1.5
132	100	3.42	0.342	0.342	2,720,000	4,080,000	1.5
133	100	3.45	0.345	0.345	2,740,000	4,110,000	1.5
134	100	3.48	0.348	0.348	2,760,000	4,140,000	1.5
135	100	3.50	0.350	0.350	2,780,000	4,170,000	1.5
136	100	3.52	0.352	0.352	2,800,000	4,200,000	1.5
137	100	3.55	0.355	0.355	2,820,000	4,230,000	1.5
138	100	3.58	0.358	0.358	2,840,000	4,260,000	1.5
139	100	3.60	0.360	0.360	2,860,000	4,290,000	1.5
140	100	3.62	0.362	0.362	2,880,000	4,320,000	1.5
141	100	3.65	0.365	0.365	2,900,000	4,350,000	1.5
142	100	3.68	0.368	0.368	2,920,000	4,380,000	1.5
143	100	3.70	0.370	0.370	2,940,000	4,410,000	1.5
144	100	3.72	0.372	0.372	2,960,000	4,440,000	1.5
145	100	3.75</					