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City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1922

BIRMINGHAM:
HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

1923.

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PUBLIC HEALTH DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM,

July, 1923.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH COMMITTEE.

LADIES AND GENTLEMEN,

I beg to present my report for the year 1922.

Notwithstanding the continued distress arising from a large amount of unemployment and the horrible conditions in which many people are living owing to lack of proper housing facilities, the general health of the community was exceedingly good during the whole of the year. I believe that this maintenance of relatively good health has been due to the care taken by various organisations, but particularly the Board of Guardians and the Relief Committees, to enable the citizens who are in poverty to obtain sufficient food. I am of opinion that the lesson of the last two years, as well as one of the lessons we learned during the war, is that much more care ought to be taken by the community in providing an adequate supply of food of the proper quality, cooked in the proper way, and served at regular intervals.

Not only was the general death-rate last year a good one for a large industrial town, but the infant mortality rate also was low, the incidence and mortality of most of the infectious diseases was relatively good, and generally speaking, it is correct to say that Birmingham enjoyed unusually good health during this period of distress. All forms of Tuberculosis were relatively low in incidence and in mortality.

If the various statistics were put on a chart it would be noted that there is a decline in deaths from nearly every cause, and that this decline is continuing in many cases at an accelerated rate. Except during the Influenza epidemic there has been no upward movement in most cases. There are, however, one or two causes of death which give rise to great anxiety, and among these by far the most important is Cancer, of which we do not yet know how to prevent a single case. Some encouragement may be taken from the fact that throughout the world more money is being spent on investigation into the causation of this disease than has ever been expended on research in connection with any other single disease, and that the expenditure of this money has proceeded to a point at which very definite information has been obtained along certain lines, though no practical results have yet been achieved.

The paramount need in Birmingham, as everybody knows, is more houses. Building by private enterprise has at the present time almost entirely disappeared and seems likely to be absent for some years to come. It is, therefore, incumbent on the municipality to build and continue building until private enterprise is again available, because the conditions are getting more distressing. The families which on account of their poverty and large numbers are the least desirable as tenants are the ones which are most in need of houses. It is possible to endure the misery of living with a quarrelsome neighbour in the same house for a few months, but when this period is prolonged to some years I am inclined to think that it reacts on the health of the people. A large number of appeals for houses are made on the ground of ill-health produced by this cause.

I have again to report that all the members of the staff have worked conscientiously and well, and to my entire satisfaction.

I am,

Your obedient servant,

JOHN ROBERTSON,

Medical Officer of Health

BIRTH-RATE AND DEATH-RATE PER 1,000.

City of Birmingham.

REPORT OF THE MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1922.

POPULATION.

The Registrar-General's estimate of the population of Birmingham on June 30th, 1922, was 945,100. This figure has been arrived at after distributing the excess population found in various holiday resorts at the time of taking the census. It is, however, for Birmingham, probably too high. In this report the population figure which has been used unless otherwise stated is 927,844.

Only the preliminary figures of the census have so far been available and therefore it has been impossible to apply any local adjustments to the total population figures for Birmingham.

NATURAL INCREASE OF THE POPULATION.

This is usually stated as the excess of births over deaths.

Average annual increase	1905-1914	... ...	10,000
Annual increase	1920	... ...	13,660
,, ,,	1921	... ...	11,773
,, ,,	1922	... ...	8,638

MARRIAGES.

In 1922 there were 7,168 marriages, *i.e.*, 14,336 persons were married. This represents a rate of 15·5 per thousand of the population. In 1921 the rate was 15·9, and for the preceding ten years it was on an average 17·7.

BIRTHS.

There were 19,850 babies born, as compared with 22,134 in 1921 and 25,069 in 1920.

Birth-Rates per 1,000.

	Birmingham.	England and Wales.
1901-1905	30·7	28·2
1906-1910	28·3	26·3
1911-1915	25·9	23·6
1916	23·1	20·9
1917	19·7	17·8
1918	19·4	17·7
1919	20·9	18·5
1920	27·6	25·5
1921	24·1	22·4
1922	21·5	20·6

Birth-Rates in Wards.

The next table gives the birth-rates in wards, compared with the average for the years 1912-14 :—

	Ward.	Birth-rate, 1922.	Average Birth rate, 1912-1914.	Decrease
Central Wards ...	St. Paul's	29·7	32·3	–2·6
	St. Mary's	30·8	35·2	–4·4
	Duddeston and Nechells	27·5	37·2	–9·7
	St. Bartholomew's	28·5	34·5	–6·0
	St. Martin's and Deritend	28·6	33·1	–4·5
	Market Hall	20·8	25·6	–4·8
	Ladywood	25·4	29·5	–4·1

	Ward.	Birth-rate, 1922.	Average Birth-rate, 1912-1914.	Decrease.
Middle Ring ...	Lozells...	18·3	23·2	–4·9
	Aston	25·4	31·4	–6·0
	Washwood Heath	21·9	29·9	–8·0
	Saltley...	20·6	29·0	–8·4
	Small Heath	18·3	23·5	–5·2
	Sparkbrook	20·2	25·5	–5·3
	Balsall Heath	21·5	23·6	–2·1
	Edgbaston	14·1	16·4	–2·3
	Rotton Park	22·6	29·0	–6·4
	All Saints'	23·6	29·8	–6·2
Outer Ring ...	Soho	18·7	22·6	–3·9
	Sandwell	15·0	22·0	–7·0
	Handsworth	15·4	19·6	–4·2
	Erdington North	20·7	22·8	–2·1
	Erdington South	15·7	22·2	–6·5
	Yardley	18·9	23·9	–5·0
	Acock's Green	18·0	27·1	–9·1
	Sparkhill	17·4	18·5	–1·1
	Moseley and King's Heath ...	14·3	17·5	–3·2
	Selly Oak	17·6	26·7	–9·1
	King's Norton	17·6	22·8	–5·2
	Northfield	17·5	22·5	–5·0
	Harborne	15·5	22·6	–7·1

St. Mary's Ward had the highest birth-rate, 30·8 per 1,000, while Edgbaston was lowest with 14·1. It will be noted that in 1922 the decline in the birth-rate was very general throughout the City. The average decrease in the central wards was 5·2, in the middle ring of wards it was 5·5, and in the outer ring 5·3.

During the year under review, a good deal of discussion was directed in lay papers to the question of Birth Control. On the whole, this has been mischievous and apparently will result in the limitation of the families of the artisan classes, the best stock we possess, while the selfish and the wastrels of society go unaffected. Any wide-spread propaganda on Birth Control will certainly lead to increase of promiscuity and fewer marriages. There is, too, a moral and physical effect on some of those who practise it, in some circumstances so great as to be definitely harmful.

ILLEGITIMACY.

There were 719 illegitimate infants born in or belonging to Birmingham, in 1922, as compared with 823 in 1921, 894 in 1920, 858 in 1919, and 858 in 1918.

For the year 1922 the rate was 3·6 per cent. of the total births. The deaths of 128 illegitimate babies were recorded in 1922, equal to an infant mortality rate of 178 per 1,000 illegitimate infants born. Among legitimate babies, the rate was 82 per 1,000 babies born.

NOTIFICATION OF BIRTHS ACT.

This Act requires the notification to the Public Health Department within 36 hours of all babies born in the City. During 1922, 19,233 births were notified out of a total of 19,850 births, *i.e.*, 97 per cent. were notified.

The early notification of births is important, as it enables the Infant Welfare nurses to visit in time to allow advice to be given in regard to the early feeding and rearing of the baby, a work which is of great value to the infant.

STILLBIRTHS.

There were 660 stillbirths reported, *i.e.*, one to every thirty live births. In 1921, there was one to every twenty-eight live births.

DEATHS.

The deaths of 11,212 persons were reported in 1922, against 10,361 in 1921. Of the deaths, 5,718 were male and 5,494 female.

DEATH-RATE.

The death-rate was 12·1 per 1,000 of the population, being 13·1 for males, and 11·3 for females. The rate is shown for Birmingham and England and Wales in recent years in the accompanying table.

DEATH-RATES PER 1,000 IN BIRMINGHAM, 1871 TO 1922.

	Birmingham.	England and Wales.
1871-1875 (Old City)	25·2	22·0
1876-1880 ,, ...	22·8	20·8
1881-1885 ,, ...	20·7	19·4
1886-1890 ,, ...	20·2	18·9
1891-1895 ,, ...	20·3	18·7
1896-1900 ,, ...	20·5	17·7
1901-1905 (Present Area) ...	16·5	16·0
1906-1910 ,, ...	15·0	14·7
1911-1915 ,, ...	14·6	14·3
1916 ,, ...	13·5	14·4
1917 ,, ...	12·6	14·4
1918 ,, ...	15·2	17·6
1919 ,, ...	13·0	13·8
1920 ,, ...	12·6	12·4
1921 ,, ...	11·3	12·1
1922 ,, ...	12·1	12·9

COMPARATIVE DEATH-RATES IN NINE LARGEST TOWNS.

(*From Registrar-General's Figures.*)

London	13·4	per 1,000
Glasgow	17·2	,,
Birmingham	11·9	,,
Liverpool	14·5	,,
Manchester	14·0	,,
Sheffield	11·6	,,
Leeds	13·7	,,
Edinburgh	15·2	,,
Bristol	12·8	,,

DEATH-RATES IN MUNICIPAL WARDS.

The next table gives the population and the death-rate in each ward :—

	Ward.	Approximate Population.	Death-Rate.
Central Wards ...	St. Paul's	31,400 ...	15·1
	St. Mary's	33,700 ...	15·5
	Duddeston and Nechells ...	45,400 ...	13·2
	St. Bartholomew's	40,100 ...	15·9
	St. Martin's and Deritend ...	45,000 ...	16·7
	Market Hall	18,700 ...	15·1
	Ladywood	30,400 ...	14·8
Middle Ring ...	Lozells	34,700 ...	12·3
	Aston	42,500 ...	12·6
	Washwood Heath	37,700 ...	10·4
	Saltley	30,900 ...	10·1
	Small Heath	31,200 ...	10·9
	Sparkbrook	36,800 ...	12·2
	Balsall Heath	39,700 ...	12·8
	Edgbaston	34,800 ...	11·8
	Rotton Park	41,700 ...	11·8
	All Saints'	43,600 ...	11·8

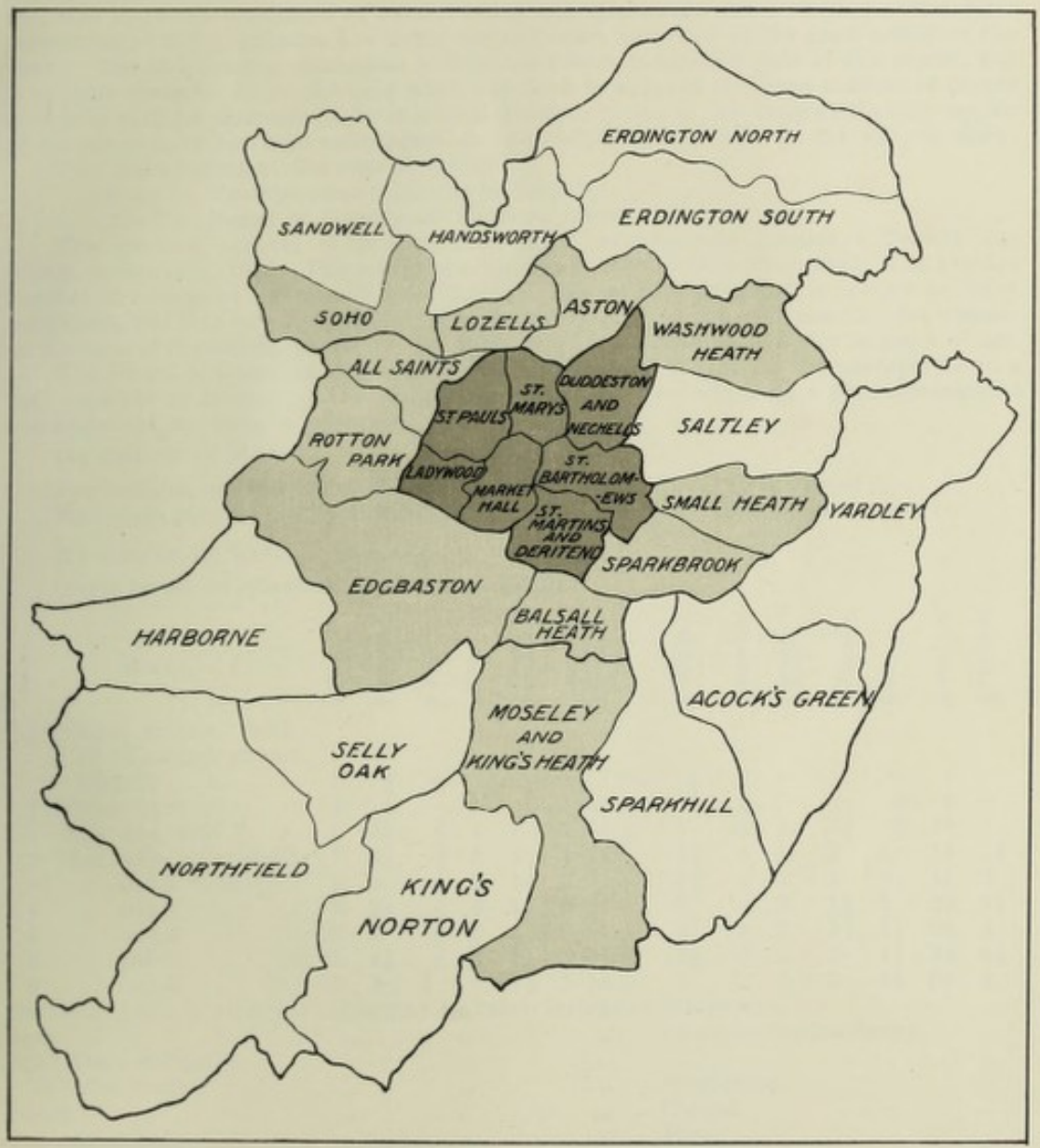
	Ward.	Approximate Population.	Death-Rate.
Outer Ring ...	Soho	27,700 ...	12·2
	Sandwell	19,400 ...	9·1
	Handsworth	28,200 ...	9·6
	Erdington North	18,700 ...	10·7
	Erdington South	19,300 ...	10·1
	Yardley	17,200 ...	9·2
	Acock's Green	30,100 ...	9·6
	Sparkhill	25,600 ...	10·6
	Moseley and King's Heath ...	28,600 ...	12·3
	Selly Oak	28,800 ...	10·4
	King's Norton	23,700 ...	7·8
	Northfield	8,800 ...	9·5
	Harborne	16,700 ...	10·1

It will be seen from the above table that the highest mortality rate was registered in St. Martin's and Deritend Ward, 16·7. Although this is high, it is a better rate than had ever been recorded before as the highest in the city. Indeed, all the Central Wards show a great reduction in 1922, but they still maintain their relative positions when compared with the other wards. This is well seen on the sketch map of Birmingham (opposite), and in the table following :—

REDUCTION IN DEATH-RATES.

	Ward.	Mean Death-Rate, 1913-1917.	Death-Rate, 1918-1922.	Increase or Decrease.
Central Wards ...	St. Paul's	20·2	16·7	–3·5
	St. Mary's	23·2	18·8	–4·4
	Duddeston and Nechells ...	19·6	15·7	–3·9
	St. Bartholomew's	20·0	16·8	–3·2
	St. Martin's and Deritend ...	20·4	17·4	–3·0
	Market Hall	17·5	15·5	–2·0
	Ladywood	16·6	16·1	–0·5
Middle Ring ...	Lozells	13·3	12·9	–0·4
	Aston	14·9	13·3	–1·6
	Washwood Heath	12·1	11·3	–0·8
	Saltley	12·1	10·9	–1·2
	Small Heath	11·7	11·7	—
	Sparkbrook	12·8	12·4	–0·4
	Balsall Heath	12·7	13·2	+0·5
	Edgbaston	12·0	12·0	—
	Rotton Park	14·8	13·1	–1·7
	All Saints'	14·2	12·8	–1·4
Outer Ring ...	Soho	12·6	11·7	–0·9
	Sandwell	10·2	10·3	+0·1
	Handsworth	10·4	10·5	+0·1
	Erdington North	10·9	10·1	–0·8
	Erdington South	9·1	10·4	+1·3
	Yardley	10·1	9·7	–0·4
	Acock's Green	11·4	10·0	–1·4
	Sparkhill	9·5	10·3	+0·8
	Moseley and King's Heath ...	9·8	11·1	+1·3
	Selly Oak	11·0	10·2	–0·8
	King's Norton	9·2	8·6	–0·6
	Northfield	9·9	9·2	–0·7
	Harborne	10·3	10·5	+0·2
	Whole City	14·0	12·8	–1·2

MORTALITY IN WARDS.



TOTAL DEATH-RATE 1918-1922.

BETWEEN 8 AND 11 PER 1,000

" 11 " 15 "

" 15 " 19 "

The percentage reduction shown in the above table is as follows:—

Central Wards	14·8	per	cent.	reduction.
Middle Ring of Wards	5·3	,,	,,	,,
Outer Ring of Wards	1·0	,,	,,	,,
Whole City	8·6	,,	,,	,,

It is difficult to understand why these records of good health in 1922 were possible during a year of the most severe industrial depression ever known in Birmingham. Those too, who know the conditions of overcrowding and discomfort under which a considerable proportion of the population are living are still more surprised at the good record of the year. The bad housing conditions will be dealt with in another part of this report, but it appears desirable to record here what was done to support the large number of people unable to earn for themselves, for it is almost certainly due to this support that the health of the community has been maintained in as satisfactory condition as the records show.

Two main organisations were at work:

1.—The Unemployment Insurance Benefit.

2.—The Board of Guardians' Unemployment Relief.

The greatest number of persons receiving Unemployment Insurance Benefit was 86,524, in January, 1922. The lowest number was 53,933, in December, 1922. The average number in receipt of the benefit was 72,735. The scale of payment is subject to many conditions, but may be approximately stated as 15/- per week for men, and 12/- for women. In the case of dependent wives, 5/- per week and 1/- for each child under 16 years of age.

The Board of Guardians have dealt with the problem of relief to the unemployed in a very satisfactory manner. The scale of allowances for cases which have been investigated and approved has been as follows:—

(1) Relief in Money.

For families, not to exceed 12/- and an allowance for rent not to exceed 8/-.
For single persons, not to exceed 6/- and an allowance for rent not to exceed 4/-.

(2) Relief in Kind.

(Scale based on quantities and not on price).

Scale.	FAMILY.	Tea. ozs	Sugar. lbs.	Rice. lbs.	Rolled Oats. lbs.	Cheese, Col. or American lbs.	Full Cream Sweetened Condensed Milk. tins.	Margarine. lbs.	Loose cocoa. ozs.	Golden syrup. lbs.	Blue peas. lbs.	Soap. lbs.	Bread lbs.	Plain flour. lbs.
¼	Single female, with 12/- Unemployment Benefit	2	¼	–	¼	¼	1– 7 oz.	¼	1	–	–	–	4	–
½	Single person ...	4	1	–	1	½	1–14 ,,	½	2	–	–	¼	6	–
1	Man and wife ...	6	1¼	–	1	1	1–14 ,,	1	4	1	¼	½	10	1
2	Man, wife, and 1 child	7	2¼	–	1	1¼	1–14 ,,	1¼	4	1	1	1	14	1½
3	,, and 2 children...	8	3	–	1	1½	2–14 ,,	1¾	4	1	1	1	18	2
4	,, and 3 ,, ...	9	3½	¼	2	1¾	2–14 ,,	2	8	2	1½	1	22	2½
5	,, and 4 ,, ...	10	4	¼	2	2	2–14 ,,	2¼	8	2	1½	1½	26	3
6	,, and 5 ,, ...	11	4½	¼	2	2¼	3–14 ,,	2½	8	2	2	1½	34	3½
7	,, and 6 ,, ...	12	5	1	3	2½	3–14 ,,	3	12	3	2	1½	38	4

Butter or Lard to an equal value may be taken instead of Margarine.

Jam	,,	,,	,,	Cocoa or Golden Syrup.
Split Peas or Lentils or Dried Fruit	,,	,,	,,	Blue Peas.
Bacon	,,	,,	,,	Cheese.
Tapioca or Sago	,,	,,	,,	Rice.
Dried Fruit	,,	,,	,,	Rolled Oats.

In all cases the earnings or monetary income are taken into account.

The maximum number of persons receiving relief was 91,340 on June 17th, and the minimum number 58,103, on December 30th, 1922.

(3) Indoor Relief.

The number of persons receiving indoor relief varied from 6,813 to 7,219 persons at any one time during 1922.

(4) Aged Persons and Widows.

These received out-door relief as follows :—

	s.	d.
Single person	13	6
Aged couple	25	0
Widow or other woman with 1 child ...	27	0
" " " " 2 children ...	36	0
" " " " 3 " ...	44	0
" " " " 4 " ...	51	0
" " " " 5 " ...	58	0
" " " " 6 " ...	65	0
" " " " 7 " ...	71	0
And every additional child	6	0

plus allowance for rent in each case.

Under this last form of relief, the numbers varied from 6,391 persons to 6,551 persons in 1922.

It appears from the above that at any one time during the year 1922 the Birmingham Board of Guardians were relieving in one form or another from 71,000 to 105,000 of the inhabitants, *i.e.*, from 1/13th to 1/9th of the population. Then again, Unemployment Insurance benefitted from 54,000 to 86,000 persons. In addition, help was given in the form of

(*a*) Meals to school-children.
(*b*) Meals to expectant and nursing mothers.

Soup kitchens were established and a considerable amount of other private and public help was given.

The great and satisfactory result is that as far as can be observed, no obvious damage to the health of the people took place. Considerable care was taken by observation and otherwise, to, if possible, detect any general deterioration in health, but no evidence of underfeeding was detected. The relief granted by the Board of Guardians was largely in kind, rather than money, in order that the food should be available.

The nourishment appears to have been adequate and the administration of it very satisfactory.

In many cases, rents were paid.

The Lord Mayor and Lady Mayoress inaugurated a clothing fund, which supplied clothes in part or complete to 50,699 persons (223,000 articles). This included boots. Many other useful funds supplied boots or other comforts to people in distress.

Chief Causes of Death.

Deaths from	1917.	1918.	1919.	1920.	1921.	Average, 1917-1921.	1922	Increase or Decrease.
Measles	333	71	189	147	153	179	79	−100
Whooping Cough	131	277	60	182	93	149	356	+207
Diphtheria	112	160	126	201	120	144	89	− 55
Influenza	98	2,172	1,062	421	134	777	442	−335
Pulmonary Tuberculosis ...	1,169	1,171	1,019	843	890	1,018	899	−119
Other Tuberculosis	236	214	169	158	145	184	150	− 34
Cancer	912	883	935	1,014	1,020	953	1,090	+137
Cerebral Hæmorrhage ...	485	455	473	464	474	470	499	+ 29
Convulsions (under 5) ...	139	107	96	111	85	108	61	− 47
Organic Diseases of Heart ...	1,298	1,183	1,187	1,143	1,113	1,185	1,214	+ 29
Arterio Sclerosis	152	137	203	184	198	175	250	+ 75
Cerebral Embolism and Thrombosis	121	127	98	100	79	105	98	− 7
Bronchitis	910	1,059	1,285	1,066	798	1,024	1,080	+ 56
Pneumonia	846	1,270	1,013	1,011	950	1,018	998	− 20
Diarrhœa and Enteritis ...	366	445	260	309	442	364	224	−140
Nephritis and Bright's Disease	290	251	230	200	219	238	230	− 8
Premature Birth	389	379	437	507	447	432	439	+ 7
Debility, etc.	258	182	208	207	214	214	151	− 63
Old Age	611	451	628	576	577	569	556	− 13
Suicide	55	60	98	98	93	81	112	+ 31
Accident	340	300	314	313	238	301	234	− 67

The table shows an increased number of deaths, compared with the average for the preceding five years, in the case of :—

Whooping Cough	+ 207	deaths.
Cancer	+ 137	,,
Arterio Sclerosis	+ 75	,,
Bronchitis	+ 56	,,
Suicide	+ 31	,,
Organic Diseases of Heart ...	+ 29	,,
Cerebral Hæmorrhage	+ 29	,,

Some of these are dealt with elsewhere in the report, but the outstanding feature of the table is the fact that the principal killing diseases are the following :—

Organic Diseases of Heart ...	1,214	deaths.
Cancer	1,090	,,
Bronchitis	1,080	,,
Pneumonia	998	,,
Pulmonary Tuberculosis	899	,,

Each of these causes about twice as many deaths as any other disease.

Rates of Mortality at Ages.

The approximate population, together with the number of deaths and the death-rate at certain ages, are set out below :—

	Approximate Population.	Deaths.	Approximate Death-Rate per 1,000.
Under 1 year	18,660	1,705	91·4
1 and under 2	20,850	536	25·7
2 ,, 3	23,150	207	8·9
3 ,, 4	17,590	65	3·7
4 ,, 5	14,950	58	3·9
5 ,, 10	98,240	205	2·1
10 ,, 15	91,140	131	1·4
15 ,, 20	88,110	198	2·2
20 ,, 25	87,590	210	2·4
25 ,, 35	166,490	552	3·3
35 ,, 45	127,940	898	7·0
45 ,, 55	86,990	1,217	14·0
55 ,, 65	50,650	1,592	31·5
65 and upwards	35,490	3,638	102·5

The following table shows the actual number of deaths which occurred at certain specified ages :—

Under 1 year	1,705	deaths.
At 1 year	537	,,
At 2 years	209	,,
At 3 years	66	,,
At 4 years	58	,,
At 5 years	60	,,
At 10 years	27	,,
At 15 years	32	,,
At 20 years	42	,,
At 25 years	44	,,
At 30 years	59	,,
At 35 years	68	,,
At 40 years	72	,,
At 45 years	94	,,
At 50 years	113	,,
At 55 years	126	,,
At 60 years	137	,,
At 65 years	173	,,
At 70 years	191	,,
At 75 years	190	,,
At 80 years	136	,,
At 85 years	64	,,
At 90 years	22	,,
At 95 years	3	,,

These figures are the actual number of deaths at the particular age mentioned ; they are not the deaths at age groups as commonly given. It will be noted that excluding deaths in infancy and extreme old age there are more deaths at the age of 70 than at any other individual year of life, and that the age at which fewest deaths occur is 15 years.

Compared with figures obtained about ten years ago a great improvement is shown—the deaths at the earlier ages being much fewer, while those at an advanced age are much more numerous ; in other words, the length of life has considerably increased.

There is great disparity in the ages at death in the various wards of the City. This may be illustrated as follows :—

PERCENTAGE OF DEATHS AT CERTAIN AGE PERIODS TO TOTAL DEATHS.

	Whole City.	St. Mary's Ward.	Moseley and King's Heath.
Under 30 years	31·7	45·7	15·0
30 to 55 years	22·8	19·9	21·3
Over 55 years	45·5	34·4	63·7

Thus while the deaths in Moseley at ages over 55 years constitute 63 per cent. of the total deaths, in St. Mary's the percentage is only 34.

INFANT MORTALITY.

(*See page* 36.)

INFECTIOUS DISEASES.

The deaths during 1922 from some of the chief infectious diseases were as follows :—

DISEASE.	Deaths in 1922.	Average 1912-21.	Above or below the average.
Enteric Fever	3	10	− 7
Smallpox	0	0	—
Measles	79	269	− 190
Scarlet Fever	36	78	− 42
Whooping Cough	356	204	+ 152
Diphtheria	89	150	− 61
Diarrhœa and Enteritis	224	508	− 284
Pulmonary Tuberculosis	899	1,053	− 154
Other Forms of Tuberculosis ...	150	211	− 61
Influenza	442	453	− 11

The prevalence of the notifiable diseases is shown in the next table :—

DISEASE.	Cases in 1922.	Average 1912-21.	Above or below the average.
Enteric Fever	11	44	− 33
Smallpox	0	0	—
Scarlet Fever	3,250	3,937	− 687
Diphtheria	1,285	1,147	+ 138
Erysipelas	408	555	− 147
Puerperal Fever	137	122	+ 15
Ophthalmia Neonatorum	484	311	+ 173
Pulmonary Tuberculosis	1,669	3,162	−1,493
Other forms of Tuberculosis ...	292	Not notifiable in 1912.	
Acute Primary or Influenzal Pneumonia	2,166	Only recently notifiable.	
Cerebro-Spinal Fever	18	19	− 1
Acute Poliomyelitis	6	12	− 6
Polio Encephalitis	0	Only recently notifiable.	
Encephalitis Lethargica	12	,,	,,
Malaria	16	,,	,,
Dysentery	6	,,	,,
Trench Fever	0	,,	,,

In addition to the above the following cases were reported by the elementary school teachers :—

Whooping Cough	7,175
Chicken Pox	3,673
Mumps	3,937
Measles	4,147
German Measles	125

(See Health Visitors' Work for visits paid to the above).

ENTERIC FEVER.

The cases and deaths from this disease are set out in the table below and need no comment. For a large manufacturing city, much in contact with other areas on account of its commerce, the record is one of which the Public Health Committee may justly be proud.

Year.	Cases reported.	Deaths.	Mortality rate per cent.	Death-rate per 1,000.
1916	19	5	26	·01
1917	22	7	32	·01
1918	23	5	22	·01
1919	34	9	26	·01
1920	12	0	—	—
1921	26	5	19	·01
1922	11	3	27	·00

SMALLPOX.

No case of this disease occurred in Birmingham during 1922. There were, however, many alarms caused by the reporting of cases which were found to be wrongly diagnosed. In other parts of England, over 1,000 cases of smallpox were reported and treated. In view of the occurrence of these cases the Ministry of Health issued in November, a "Memorandum on the steps requisite to be taken by Sanitary Authorities on the occurrence of Smallpox."

VACCINATION.

The following statement shows the vaccinal state of the infants born during the year ending June 30th, 1922.

Births returned	21,381	
Conscientious objections	4,826, or 22·6%	of total.
Died unvaccinated	1,377	
Successfully vaccinated	12,028, or 60·1%	of survivors.
Insusceptible	58, or 0·3%	,,
Postponed by medical certificate ...	504, or 2·5%	,,
Removed to other districts	451, or 2·3%	,,
Lost sight of	744, or 3·7%	,,
Still under notice	1,393, or 7·0%	,,

MEASLES.

The year 1922 was a year of low measles mortality. There were 4,147 cases reported to the Public Health Department and there were 79 deaths. The death-rate was ·09.

The cases and deaths in the years 1903 to 1922 are set out in the accompanying table.

	CASES.		DEATHS.		Death-Rate (Measles only).
	Measles.	German Measles.	Measles.	German Measles.	
1903	?	?	245	?	·32
1904	?	?	243	?	·31
1905	?	?	300	?	·38
1906	?	?	275	?	·34
1907	?	?	409	?	·51
1908	?	?	70	?	·08
1909	?	?	676	?	·82
1910	?	?	42	?	·05
1911	?	?	395	?	·47
1912	7,693*	1,088*	571	3	·67
1913	3,661*	85*	398	1	·46
1914	4,612*	61*	310	—	·35
1915	8,144*	680*	420	—	·47
1916	10,635	4,996	101	1	·11
1917	15,516	472	333	4	·37
1918	5,413	300	71	1	·08
1919	15,158	565	189	—	·20
1920	7,144*	477*	147	2	·16
1921	4,618*	121*	153	1	·17
1922	4,147*	125*	79	0	·09

* Partial notification only through schools.

The main reason for the smaller number of deaths from measles was the occurrence of the outbreak during the summer months, rather than during the cold winter months.

The table above shows that during the past 6 or 7 years, measles has been less fatal than formerly. There ought to be few, if any, deaths from measles if reasonable care were taken with young children suffering from it. Little needs to be done other than keeping the children warm and in a specially well-ventilated room during the first ten days of the attack. Unless every mother and guardian of young children knows this, the high mortality is likely to continue—hence the importance of the Health Visitor in spreading this knowledge. It may be difficult to prevent infection spreading, but it should not be difficult to educate the mothers who have the necessary accommodation in applying the fresh air treatment to the disease in its earliest stages. It has often been suggested that hospital provision might be made for children from poor homes, but as a rule the fatal complications are contracted before any request is received for hospital treatment and therefore the results have not been commensurate with the expense.

The Birmingham District Nursing Society and other similar nursing societies are paid for nursing cases of measles in poor class homes by the Public Health Department.

SCARLET FEVER.

After making allowance for revisions in diagnosis, the number of cases of Scarlet Fever stood at 3,250. This figure differs only very slightly from that recorded in 1921. The cases and deaths during the last seven years have been as follows :—

Year.	Cases reported.	Deaths.	Percentage Mortality based on cases notified.	Death-rate per 1,000 of population.
1916	1,796	26	1·45	·03
1917	1,143	12	1·05	·01
1918	1,035	11	1·06	·01
1919	2,821	45	1·60	·05
1920	5,563	110	1·98	·12
1921	3,320	40	1·20	·04
1922	3,250	36	1·11	·04

The relative mortality at different age-periods can be seen from the following figures :—

Ages.	Cases notified.	Deaths registered.	Case Mortality per cent.
Under 1 year	28	1	4
Between 1 and 2 years ...	83	6	7
Between 2 and 3 years ...	161	10	6
Between 3 and 4 years ...	161	1	1
Between 4 and 5 years ...	196	3	2
Between 5 and 10 years ...	1,452	9	1
Between 10 and 15 years ...	701	2	0
Between 15 and 20 years ...	205	1	0
20 years and over	263	3	1
	3,250	36	1

It will be seen from the table above that the mortality is very small among patients who are over 3 years old, while among infants and very young children it is comparatively high.

Of the 3,294 cases originally reported, 2,070 were removed to hospital (63 per cent.), while 1,224 were kept at home. The deaths from Scarlet Fever among the hospital-treated cases were 32, giving a mortality of 1·5 per cent., while among those treated at home the deaths numbered 4, giving a case of mortality of ·3 per cent. The comparative figures for 1921 were 1·7 and ·3, and for 1920, 2·4 and 1·1.

A report on the City Hospital is given on page **56**.

Secondary Cases of Scarlet Fever.

Of the 2,070 patients removed to hospital, 178 (8·6 per cent.) were followed by 238 further cases in the homes after the removal, while among the cases wholly treated at home or before their removal to Hospital, 206 patients were followed by 274 secondary cases.

The percentage of hospital treated cases followed by secondary cases at home was 8·6 in 1921, exactly the same as in the year now under consideration.

Among the 238 secondary cases were 28 mothers of the original patients, 24 of whom contracted the disease while nursing the patient at home, while four developed Scarlet Fever after the removal of the patient to hospital.

Return Cases.

Of the 3,250 cases of Scarlet Fever occurring during the year, 122 or 3·8 per cent. were cases developing in the homes within a month following the discharge of 102 original patients from hospital or from home isolation. Of these infecting patients, 80 discharged from hospital were followed by 93 return cases, and 22 after isolation at home were followed by 29 return cases. The corresponding numbers for return cases for 1921 was 3·3 per cent. and for 1920 5·5 per cent.

Details of return cases are shown thus :—

	Infecting cases discharged.	Number of Infecting Cases each followed by 1 Return case.	2 Return cases.	3 Return cases.	Total Return cases.
Patients treated in hospital ...	80	68	11	1	93
Patients treated at home ...	22	17	3	2	29
	102	85	14	3	122

The following table shows the number of return cases in relation to the hospital treated original cases for the past 6 years :—

Year.	Cases notified.	No. removed to Hospital.	Return cases.	Percentage of return cases to admissions.
1917	1,143	901	48	5·3
1918	1,035	797	55	6·9
1919	2,821	2,158	75	3·5
1920	5,563	3,612	264	7·3
1921	3,320	2,028	99	4·9
1922	3,250	2,070	122	3·8

WHOOPING COUGH.

This disease was epidemic during 1922 and caused 356 deaths, as compared with 93 deaths in 1921.

The ages at death were as follows :—

	1918.	1919.	1920.	1921.	1922.
Under 1 year	95	19	77	50	147
Between 1 and 2 years	98	21	59	26	135
Between 2 and 3 years	45	8	17	5	46
Between 3 and 4 years	19	7	12	6	16
Between 4 and 5 years	9	2	9	1	5
Over 5 years	11	3	8	5	7
	277	60	182	93	356

It may not be possible to prevent the infection of Whooping Cough from spreading, but to a large extent it ought to be possible to prevent death following an attack.

During 1922 the mortality was very heavy where ignorance and carelessness exists. This is indicated by the following figures.

	Population.	Deaths.	Death-Rate.
Central Wards	244,700	179	·73
Middle Wards	373,600	134	·36
Outer Wards	292,800	43	·15

This indicates that if the same mortality rate occurred in the Central Wards as actually occurred in the outer wards, there would have been a saving of over 140 lives in these central wards.

It will be noted that 282 of the 356 deaths were of infants under two years of age—that is about 80 per cent. of the deaths are of these very young infants.

The Health Visitors were instructed to visit every known case with a view to instructing the child's mother what to do. In the severe cases a request was made for a district nurse.

DIPHTHERIA.

During 1922 there were fewer cases and deaths from this disease than during the preceding two years, as will be seen from the following table :—

	Cases Notified	Case-Rate per 1,000 of Population.	Deaths.	Death-Rate per 1,000.	Case Mortality per cent.
1890	283*	·69	123	·28	43
1891	205	·48	59	·14	29
1892	533	1·10	115	·24	22
1893	387	·79	98	·20	25
1894	406	·83	108	·22	27
1895	741	1·50	219	·44	30
1896	1,194	2·35	312	·61	26
1897	713	1·41	171	·34	24
1898	689	1·36	139	·27	20
1899	720	1·40	149	·29	21
1900	542	1·05	86	·17	16
1901	789†	1·04†	125†	·16†	16†
1902	1,118	1·44	189	·24	17
1903	1,176	1·52	176	·23	15
1904	902	1·15	167	·21	19
1905	972	1·23	136	·17	14
1906	1,165	1·46	138	·17	12
1907	1,459	1·81	159	·20	11
1908	1,229	1·49	168	·20	14
1909	1,136	1·38	167	·20	15
1910	1,063	1·28	112	·13	11
1911	1,134	1·35	112	·13	10
1912	807	·95	101	·12	13
1913	991	1·13	169	·19	17
1914	1,623	1·84	260	·30	16
1915	1,072	1·21	135	·15	13
1916	951	1·07	116	·13	12
1917	770	·86	112	·13	14
1918	881	1·02	160	·18	18
1919	970	1·05	126	·14	13
1920	1,755	1·93	201	·22	11
1921	1,652	1·80	120	·13	7
1922	1,285	1·39	89	·10	7

*Notification became compulsory on January 20th, 1890.
† The figures from 1901 onwards relate to Greater Birmingham.
NOTE.—In recent years the cases have been revised as far as possible to exclude errors in diagnosis.

One very satisfactory feature was the reduction in the case mortality. It will be noted that during the past two years this has been 7 per cent., a very much lower rate than during any of the preceding years shown on the above table.

The present rather heavy incidence of Diphtheria commenced in 1919 and the cases notified since then have been as follows:—

DIPHTHERIA CASES IN FOUR-WEEKLY PERIODS.

1919.	1920.	1921.	1922.
47	135	194	127
43	148	185	113
43	135	192	100
53	110	129	59
47	119	116	105
57	100	96	60
63	125	121	76
56	86	87	60
64	94	85	64
130	152	96	89
115	188	121	116
110	184	86	142
115	179	144	174

The distribution of the cases over the wards is shown below :—

DIPHTHERIA IN WARDS.

		Cases Notified.	Case-rate per 1,000.		Case Mortality per cent.	
Central Wards	St. Paul's	69	2·20	Average 1·77	1	Average 6
	St. Mary's	71	2·10		7	
	Duddeston and Nechells ...	60	1·32		12	
	St. Bartholomew's	68	1·70		4	
	St. Martin's and Deritend ...	63	1·40		10	
	Market Hall	31	1·66		3	
	Ladywood	61	2·01		5	
Middle Ring ...	Lozells...	40	1·16	Average 1·56	2	Average 7
	Aston	67	1·58		1	
	Washwood Heath	31	·82		3	
	Saltley...	59	1·91		10	
	Small Heath	89	2·85		25	
	Sparkbrook	61	1·66		8	
	Balsall Heath...	77	1·94		5	
	Edgbaston	42	1·21		—	
	Rotton Park	40	·96		10	
	All Saints'	67	1·54		4	
Outer Ring ...	Soho	12	·43	Average ·77	17	Average 7
	Sandwell	16	·82		—	
	Handsworth	27	·96		—	
	Erdington North	11	·59		9	
	Erdington South	15	·78		7	
	Yardley	14	·81		21	
	Acock's Green	27	·90		4	
	Sparkhill	32	1·25		3	
	Moseley and King's Heath ...	13	·45		—	
	Selly Oak	17	·59		24	
	King's Norton	19	·80		11	
	Northfield	7	·79		—	
	Harborne	15	·90		—	

The distribution of the cases of Diphtheria is usually somewhat local in Birmingham. In 1922 the mortality was highest in the central areas and lowest in the outer ring of wards.

The age incidence and mortality are shown in the following table :—

Ages.	Cases Notified.	Deaths Registered.	Case Mortality per cent.
Under 1 year...	25	3	12
Between 1 and 2 years ...	66	9	14
Between 2 and 3 years ...	98	9	9
Between 3 and 4 years ...	73	6	8
Between 4 and 5 years ...	65	6	9
Between 5 and 10 years ...	479	43	9
Between 10 and 15 years ...	232	6	3
Between 15 and 20 years ...	93	1	1
20 years and over	154	6	4
Total ...	1,285	89	7

Hospital treatment at the City Hospital was given in 84 per cent. of the cases, while in the previous year 79 per cent. of the cases were removed to hospital.

The percentage mortality among hospital treated cases was 6·8 per cent., while that among home treated cases was 7·5 per cent.

During the year 1922 the Ministry of Health issued a memorandum on the supply and administration of Diphtheria antitoxin and on the use of the Schick test and methods of active immunisation for the prevention of Diphtheria. A copy of this very timely and valuable memorandum was sent to every medical practitioner in Birmingham. At the same time the supply of antitoxin which had previously been of the diluted variety was changed to that of the concentrated variety, so that it might be possible in every case to give an initial dose of at least 8,000 units.

In regard to the other part of the memorandum dealing with the Schick test, this in the first place is a test which can be applied to a child to ascertain whether it is susceptible to Diphtheria infection. The evidence as to the reliability of this test is considerable, both in this country and in America. The test is one which would probably be considered by the lay public as analogous to ordinary vaccination. Such a test would of course be of little use unless some action could be taken on the results obtained. If the test indicates that the child is susceptible to Diphtheria, it is possible then to proceed by a new method to immunise the child against Diphtheria, such immunity lasting for a number of years. Theoretically, therefore, it is possible, by means of the Schick test and the subsequent immunisation of those found to be susceptible, to entirely prevent the occurrence of (clinical) Diphtheria. There are many points, however, in this work which require the most careful further observation before any attempt can be made to introduce it into the ordinary practice of the Public Health Department.

In America many towns are making use of it on a grand scale, and it is possible that the experience they obtain will be most valuable.

Dr. Harries has been making considerable use of the test in the case of new members of his staff at the City Fever Hospital, and his results will in time be very valuable in indicating the use of this method of protecting those exposed from an attack of Diphtheria.

INFLUENZA.

This disease caused 442 deaths during 1922, nearly all of which occurred during the first quarter of the year.

The last very fatal epidemic occurred during the fourth quarter of 1918 and the first quarter of 1919, no less than 2,625 deaths being registered as due to the disease during this six months' period. Since this great epidemic, lesser recrudescences of Influenza have occurred during the first quarter of 1920 and in the first quarter of 1922.

In 1922 the recrudescence caused 362 deaths in the first quarter, as directly due to Influenza, but the prevalence of Influenza was accompanied by other closely associated diseases very much as occurred in the years following the great influenza epidemic of 1890. The general death-rate of 1922 would have been the lowest ever recorded, but for these Influenza deaths and the deaths from the associated diseases.

DIARRHŒA AND ENTERITIS.

The year 1922 was noted as one in which there was no fatal epidemic Diarrhœa during the summer months.

The deaths under two years of age occurred as follows :—

January	8	July	2
February	15	August	8
March	17	September	13
April	18	October	13
May	16	November	21
June	13	December	25

In addition to the above, two deaths occurred at between 3 and 5 years of age and 53 deaths occurred at ages over five years.

The rate of mortality, 0·24 per 1,000 of the population, was the lowest ever recorded in Birmingham.

The summer was, as regards the soil temperature the coldest during the third quarter of any on record. There was not one day during the third quarter when the maximum temperature reached 75°F. Most people would say that it was a miserable summer, but it saved the lives of many infants by its low temperature and heavy rainfall.

Some further particulars as to the mortality from Diarrhœa and Enteritis among infants will be found on page 38.

TUBERCULOSIS.

The year 1922 was remarkable for the decline of the number of new cases of Tuberculosis and for the continuance of the low mortality.

Tuberculosis Cases Notified in 1922.

Pulmonary Tuberculosis	1,669
Tubercular Meningitis	36
Tubercle of the Abdomen	52
Tubercle of the Spinal Column	37
Tubercle of the Joints	54
Disseminated Tuberculosis	16
Tubercle of the Glands and other parts	97

The decrease in the cases and deaths is shown by the figures in the next statement :—

Tuberculosis (All Forms).

	Cases notified.	Deaths.	Death-rate in Birmingham.	Death-rate in England & Wales.
1913 ...	5,196	1,341	1·53	1·35
1914 ...	3,815	1,293	1·47	1·36
1915 ...	3,518	1,377	1·55	1·51
1916 ...	3,830	1,324	1·48	1·53
1917 ...	3,543	1,405	1·56	1·62
1918 ...	3,254	1,385	1·60	1·69
1919 ...	3,116	1,188	1·28	1·26
1920 ...	2,974	1,001	1·10	1·13
1921 ...	2,247	1,035	1·13	1·13
1922 ...	1,961	1,049	1·13	—

Tuberculosis (All Forms).

	Total cases in 1914-16.	Total cases in 1920-22.	Decrease per cent.
Under 5 years	693	296	57·3
Between 5 and under 10	1,458	749	48·6
Between 10 and under 15	1,215	575	52·7
Between 15 and under 20	765	559	26·9
Between 20 and under 25	1,111	865	22·1
Between 25 and under 35	2,350	1,672	28·9
Between 35 and under 45	1,953	1,336	31·6
Between 45 and under 55	1,061	723	31·9
At 55 years and over	557	407	26·9
All ages	11,163	7,182	35·7

From the above it will be seen that the incidence has declined at all ages, but that the greatest rate has been among children under 15. The smallest rate of decline was 22·1 per cent. at ages 20—25 years.

PULMONARY TUBERCULOSIS.

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1903 ...	— ...	992 ...	1·28 ...	1·21
1904 ...	— ...	1,018 ...	1·30 ...	1·24
1905 ...	— ...	994 ...	1·26 ...	1·14
1906 ...	— ...	908 ...	1·14 ...	1·16
1907 ...	— ...	898 ...	1·11 ...	1·15
1908 ...	— ...	1,021 ...	1·24 ...	1·12
1909 ...	— ...	1,008 ...	1·22 ..	1·09
1910 ...	— ...	898 ...	1·08 ...	1·01
1911 ...	— ...	958 ...	1·14 ...	1·08
1912 ...	4,394 ...	1,088 ...	1·28 ...	1·04
1913 ...	4,229 ...	1,041 ...	1·19 ...	1·01
1914 ...	3,317 ...	1,059 ...	1·20 ...	1·04
1915 ...	3,027 ...	1,141 ...	1·28 ...	1·16
1916 ...	3,388 ...	1,107 ...	1·24 ...	1·18
1917 ...	3,074 ..	1,169 ...	1·30 ...	1·25
1918 ...	2,905 ...	1,171 ...	1·35 ...	1·34
1919 ...	2,704 ...	1,019 ...	1·10 ...	1·00
1920 ...	2,609 ...	843 ...	·93 ...	·89
1921 ...	1,969 ...	890 ...	·97 ...	·88
1922 ...	1,669 ...	899 ...	·97 ...	—

Incidence and death-rates, Males and Females, 1918—1922.

	Incidence-rate.		Death-rate.	
	Males.	Females.	Males.	Females.
1918	4·24	2·67	1·91	0·93
1919	3·72	2·23	1·38	0·86
1920	3·56	2·26	1·20	0·69
1921	2·49	1·85	1·27	0·71
1922	2·08	1·55	1·27	0·71

This table illustrates the very substantial reduction which has taken place in new cases of Pulmonary Tuberculosis among males.

Distribution of Pulmonary Tuberculosis in Birmingham.

		Case-rate per 1,000.		
Central Wards ...	St. Paul's	2·23	Average	1922 2·68
	St. Mary's	3·20		
	Duddeston and Nechells	2·80		
	St. Bartholomew's	2·47		
	St. Martin's and Deritend	3·42	,,	1917-21 4·35
	Market Hall	2·40		
	Ladywood	2·21		
Middle Ring ...	Lozells	1·59	Average	1922 1·60
	Aston	1·74		
	Washwood Heath	1·81		
	Saltley	1·17		
	Small Heath	1·44		
	Sparkbrook	1·41	,,	1917-21 2·73
	Balsall Heath	2·17		
	Edgbaston	1·21		
	Rotton Park	1·63		
	All Saints'	1·81		

		Case rate per 1,000.		
Outer Ring ...	Soho	1·15		
	Sandwell	·62		
	Handsworth	1·17		
	Erdington North	1·71		
	Erdington South	1·40		
	Yardley	1·45		
	Acock's Green	1·20	Average	1922 1·31
	Sparkhill	1·88	,,	1917-21 2·06
	Moseley and King's Heath	·84		
	Selly Oak	1·74		
	King's Norton	·67		
	Northfield	1·81		
	Harborne	1·44		

OTHER FORMS OF TUBERCULOSIS.

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death rate in England and Wales.
1903 ...	— ...	370 ...	·48 ...	·54
1904 ...	— ...	351 ...	·45 ...	·54
1905 ...	— ...	322 ...	·41 ...	·49
1906 ...	— ...	295 ...	·37 ...	·50
1907 ...	— ...	343 ...	·43 ...	·47
1908 ...	— ...	287 ...	·35 ...	·47
1909 ...	— ...	248 ...	·30 ...	·45
1910 ...	— ...	270 ...	·32 ...	·42
1911 ...	— ...	272 ...	·32 ...	·38
1912 ...	— ...	204 ...	·24 ...	·33
1913 ...	967 ...	300 ...	·34 ...	·34
1914 ...	498 ...	234 ...	·27 ...	·32
1915 ...	491 ...	236 ...	·27 ...	·35
1916 ...	442 ...	217 ...	·24 ...	·35
1917 ...	469 ...	236 ...	·26 ...	·37
1918 ...	349 ...	214 ...	·25 ...	·35
1919 ...	412 ...	169 ...	·18 ...	·26
1920 ...	365 ...	158 ...	·17 ...	·24
1921 ...	278 ...	145 ...	·16 ...	·24
1922 ...	292 ...	150 ...	·16 ...	—

Varieties of Non-Pulmonary Tuberculosis.

	Cases notified in 1922.	Deaths not notified as cases.	Total Deaths.
Tubercular Meningitis	36	31	72
Abdominal Tuberculosis	52	26	32
Tuberculosis of Spine...	37	5	7
Tuberculosis of Joints	54	3	6
Tuberculosis of other organs, mostly glands	97	6	12
Disseminated Tuberculosis	16	12	21

For a number of years the densely-crowded industrial city of Birmingham has suffered less from non-Pulmonary Tuberculosis than the rest of England, including the rural areas.

This result is probably due to the long and sustained effort which has been made to teach all infectious cases how to live with the least danger of infecting others. Possibly, also, some credit is due to the lessened chance of contracting Tuberculosis from the milk supply.

PREVENTION OF TUBERCULOSIS.

The staff employed in anti-tuberculosis administration remains the same as in the preceding year. There is ample scope for the activities of the Tuberculosis Visitors, not only in inducing patients to obtain early treatment, but in inculcating the general principles which tend to prevent the spread of infection in the home, as evidenced by the fact that of 2,040 cases to which primary visits were paid during the year, 1,054 were found to share a bed with another member of the family, 269 were sharing a bedroom, and in 50 cases fresh air was not being obtained by means of opened windows. In an attempt to discover other cases in the families of patients notified, the names of 511 persons were put on a special "contact" register and referred to the Tuberculosis Dispensary for examination. A considerable number of these were diagnosed as suffering from Tuberculosis.

In order to remedy the crowding together of the healthy with the affected members of families owing to the lack of bed and bedding, 673 sets of bed and bedding are now in use in the City, which have been supplied to patients through the Public Health Department. Those patients who can afford it are required to purchase the articles at cost price on the hire-purchase system. If the family income does not warrant this course, the bedding is supplied on loan. In all cases where the patient has been reported as having tubercle bacilli in the sputum, if the isolation of the patient is not satisfactory, and the risk of infection of the other members of the family can be lessened by the issue of a bed and bedding, this procedure is adopted. There are 110 sleeping shelters now in use. These shelters are erected in the garden in suitable cases, on the recommendation of the Tuberculosis Officer. There is, however, a certain amount of overcrowding which cannot be prevented, either by the issue of shelters or of bed and bedding, and which is due to the housing shortage and the crowding together of two families in one house. Every effort has been made to assist these families by supporting their applications for Municipal Houses.

The Tuberculosis Visitors' work during 1922 is summarised in the following table :—

New cases received	1,936
Primary visits paid to civilians	1,753
" " ex-soldiers	287
Periodic re-visits paid to civilians	22,704
" " ex-soldiers	7,570
Special re-visits	13,540
Useless calls	3,017
Total calls	48,871
Patients recommended for a shelter	33
" " extra nourishment	494
" " clothing	53
" " additional bed	123
Nuisances Reported to Sanitary Inspectors—	
Houses to be cleansed	184
Houses damp	117
Houses in bad repair	366
Houses badly ventilated	21
Drains defective	31
Closets defective	32
Other nuisances	73
Houses disinfected	2,297

TREATMENT OF TUBERCULOSIS.

The next statement shows the number of persons examined by the Medical Staff at Broad Street Centre :—

TUBERCULOSIS PATIENTS EXAMINED AT BROAD STREET CENTRE.

	New Patients.	Contacts or Suspects.	Old Patients Re-examined
Completed Examinations	1,281	1,039	6,667
No. recommended for Sanatorium	545	367	649
,, ,, Hospital ...	132	39	286
,, ,, Dispensary	60	31	1,385
,, ,, Domiciliary	80	47	1,393
No treatment required at present	464	555	2,954
Incomplete Examinations	394	873	317
Total Examinations	1,675	1,912	6,984

The number of patients sent to the different Sanatoria is given in the statement below :—

PATIENTS TREATED AT SANATORIA.

	Yardley Road.	Salterley Grange.	Romsley Hill.	West Heath.	Witton.	Total.
In sanatorium at beginning of year	220	50	91	102	64	527
Transferred from another sanatorium	33	—	—	32	—	65
,, to ,, ,,	5	—	—	11	54	70
Admitted during year	992	201	381	307	52	1,933
Discharged	887	204	367	271	43	1,772
Died	84	—	17	90	19	210
Remaining at end of year	269	47	88	69	—	473

The number of patients who attended at Broad Street Centre for out-patient treatment (in most cases after a previous stay at a sanatorium) was as follows :—

TREATMENT AT BROAD STREET DISPENSARY.

New patients attending for treatment	539
Total attendances of old and new patients	21,674

Dental treatment was given to 186 patients.

THE ANTI-TUBERCULOSIS CENTRE.

REPORT BY DR. G. B. DIXON, (CHIEF TUBERCULOSIS OFFICER).

The Anti-Tuberculosis Centre is open daily for five days during the week and on Saturday for half a day. There are four evening sessions each week. New patients are examined and old patients are re-examined by appointment during the morning and afternoon; treatment is given during the evenings to those who are working, and in the afternoon to children and those women and men who are not working. Those patients who are unable to attend for examination are visited and examined by members of the medical staff in their own homes. Consultations are held at the Dispensary with the doctors of patients who desire it, and a number of consultations are also held between doctors and the Chief Tuberculosis Officer at the patients' own homes.

On return from the Sanatoria, patients are again seen at the Centre, where many continue to attend as out-patients ; some, however, return to their own doctors. The patients attending the Centre are examined from time to time, and those old patients who have discontinued regular attendance are re-examined after varying intervals of time.

ATTENDANCES AND EXAMINATIONS OF PATIENTS.

During the year 1922 the total number of attendances, both for the purpose of diagnosis and treatment, was 34,257, the total attendances for treatment alone were 21,674 ; the total number of examinations was 10,571, and in addition there were 2,012 X-ray examinations. As compared with last year, there is a slight drop in the total attendances for the purpose of treatment, but there is an increase in the number of examinations.

During the year there were examined 1,197 newly notified cases of pulmonary tuberculosis out of the 1,669 persons who were notified to the Medical Officer of Health as suffering from this disease ; this figure indicates that 72 per cent. of all notified cases of pulmonary tuberculosis in the City were

examined at the Centre during the year. In addition 2,888 return cases, *i.e.*, those who had been treated in previous years, were also examined, as well as 1,499 "suspect" and "contact" cases. We also examined during the year 1,825 patients who had completed a course of treatment. These figures show that the total number of patients examined was 7,409, and they received 10,571 examinations.

Treatment Recommended.

In the two tables below, the forms of treatment allotted to the different categories of adults and children are shown, and in the two latter tables the same patients are classified according to the stage of their disease.

Adult Patients.

	Newly notified cases.	Old cases.	"Suspect" cases.	"Contact" cases.	Total.
Sanatorium observation	97	12	97	19	225
Sanatorium	271	302	113	10	696
Hospital	137	186	45	6	374
Domiciliary	76	620	40	3	739
Dispensary	27	149	5	5	186
Home treatment for disease other than P.T.	32	101	15	3	151
No treatment required	313	1,108	321	151	1,893
	953	2,478	636	197	4,264

Children.

Sanatorium observation	51	6	73	46	176
Sanatorium	43	65	26	20	154
Hospital	—	2	—	—	2
Domiciliary	4	11	2	—	17
Dispensary	8	63	3	2	76
Home treatment for disease other than P.T.	4	7	2	5	18
No treatment required	134	256	160	327	877
	244	410	266	400	1,320

Classification of Patients according to stage of Disease.

Adults.

	Newly notified cases.	Old cases.	Suspects and contacts.	Total.
Stage I.	100	697	70	867
Stage II.	176	1,215	86	1,477
Stage III.	274	525	102	901
No treatment required	391	37	568	996
Tuberculosis other than pulmonary	12	4	7	23
				4,264

Children.

Stage I.	16	181	36	233
Stage II.	20	122	26	168
Stage III.	16	64	22	102
No treatment required	172	20	573	765
Tuberculosis other than pulmonary	20	23	9	52
				1,320

Working Capacity when First Examined.

In the following tables the patients referred to us for treatment are again sub-divided into adults and child patients, and the working capacity of the different types of patient in each sub-division is shown. It is interesting to note that among the adults 33·2 per cent. were sent to us whilst their working capacity was still unimpaired, and only 12·07 per cent. came to us when totally incapacitated. In the case of the children this point is more emphasised. 70·5 per cent. had an unimpaired working capacity and 3·5 per cent. were totally incapacitated; the working capacity indicated here being the ability or otherwise to attend school regularly.

Working Capacity on First Examination.

Adults.

	Newly notified cases.	Old cases.	Suspects and contacts.	Total.
Unimpaired	281	665	471	1,417
Impaired	496	1,543	293	2,332
Totally incapacitated	176	270	69	515
				4,264

Children.

Unimpaired	156	230	545	931
Impaired	70	161	111	342
Totally incapacitated	18	19	10	47
				1,320

Family History.

A survey of the family and social history of the 5,584 patients submitted to us for examination and treatment during the year shows that there was no history of existing tuberculosis or no knowledge of relatives dying from tuberculosis in connection with 2,836, or 50·7 per cent. In 2,748, or 49·2 per cent. there was a history of some near relative or intimate friend either being affected with tuberculosis or having succumbed to it. In 296 instances, or 5.3 per cent. the relative affected was the father, and in 217, or 3·8 per cent., the relative affected was the mother, and 284 instances, or 5·08 per cent., the brother or sister was affected. In no less than 1,039 instances two or more relatives were known to have suffered from tuberculosis.

Dental Treatment.

The services of a part-time dental surgeon are utilised at the Centre for the necessary treatment of our patients. The treatment is conservative in type, and consists mainly of extractions, fillings and scalings. There is no fund to assist in the provision of artificial dentures. Those patients who wish to provide their own can do so under conditions advantageous to themselves by arrangement with the dentist. The condition of the teeth and gums of most of our patients is carefully noted, and in the table below is briefly summarised the dental condition of patients seen during the year so far as dental caries, masticatory power and the state of the gums is concerned. The dental surgeon informs me that there were 997 extractions, for which local anæsthesia was administered on 210 occasions, and a general anæsthetic on 10 occasions. There were 94 fillings and 57 scalings, and dentures were supplied in 28 instances.

Condition of Teeth and Gums.

Number of Teeth with infected pulp chambers.			Masticatory power in Molars and Bicuspeds.			State of Gums.		
None	1 to 4	More than 4	6 or more	Less than 6	None	Healthy	Gingivitis	Pyorrhœa
1,145	3,442	626	3,239	1,561	412	3,181	1,248	788

There were 317 patients with dentures.

Sputum Results.

Amongst the notified adult cases there were 457, or 21·7 per cent., of those suffering from tuberculosis who presented tubercle bacilli in their sputum, and amongst the children there were 8, or 2·5 per cent., whose sputum was positive for tubercle bacilli.

In the two tables below the sputum conditions of all patients referred to us during the year are summarised. They are sub-divided into adults and children, and are arranged to show the sputum conditions of the different types of patients.

Adults.

	Notified cases.	Return cases.	Suspects and contacts.	Total.
Tubercle bacilli present	188	269	66	523
Tubercle bacilli absent*	505	1,652	488	2,645
No sputum	260	557	279	1,096
	953	2,478	833	4,264

Children.

Tubercle bacilli present	2	6	3	11
Tubercle bacilli absent*	46	88	125	259
No sputum	196	316	538	1,050
	244	410	666	1,320

* In 3 separate examinations.

Laboratory Work at Centre.

In the Laboratory during the year there were 8,562 specimens of sputum examined; there were 69 other specimens also examined. Of the sputum specimens 1,871, which were previously negative after one staining, were examined by the concentration method of Davis, the results being as follows:—

Tubercle bacilli demonstrated after 1st concentration ...	52
,, ,, ,, ,, 2nd ,, ...	9
,, ,, ,, ,, 3rd ,, ...	0

No change after 3rd, 4th, 5th or 6th examination.

Laboratory Work—Yardley Road Sanatorium.

There were examined during the year 2,231 specimens of urine, and 4,044 specimens of sputum. Of the sputum specimens examined 728 presented tubercle bacilli after staining alone, and the remaining 3,316 specimens were tested by the sedimentation method devised by Ellermen and Erlandsen. Of these 910, or 27·4 per cent., after this test, were found to contain tubercle bacilli; these were not found in every instance after one examination, and in some cases the test had to be repeated on several occasions before a positive result was obtained, as shown in the following table:—

Tubercle bacilli found after 1st sedimentation in	603	instances.
,, ,, ,, ,, 2nd ,, ,,	216	,,
,, ,, ,, ,, 3rd ,, ,,	64	,,
,, ,, ,, ,, 4th ,, ,,	27	,,
	910	

Completed Cases.

During the year 1,825 patients completed a course of treatment at the Centre, of whom 1,630 were adults and 195 were children. Of the adults 490 were newly notified cases, 977 were old cases, and 163 were "contact" and "suspect" cases.

Of the 195 children 57 were new cases, 78 were old cases, and 60 were combined "suspect" and "contact" cases.

Amongst the children there were 8 suffering from glandular tuberculosis and 3 from abdominal tuberculosis in addition to pulmonary tuberculosis.

Working Capacity.

In the following tables the change between the working capacity at the commencement and termination of treatment of the patients differentiated into stages of disease is shown for both adults and children.

ADULTS.

	Stage I.	Stage II.	Stage III.	Glands.	Total.
Unimpaired working capacity becoming impaired	12	8	2	—	22
Unimpaired becoming totally incapacitated ...	—	1	—	—	1
Unimpaired capacity persisting	14	6	—	2	22
Impaired becoming unimpaired	146	156	10	1	313
Impaired becoming totally incapacitated... ...	2	33	30	—	65
Impaired capacity persisting	157	389	165	3	714
Totally incapacitated becoming impaired ...	31	111	122	1	265
Totally incapacitated becoming unimpaired ...	4	11	4	—	19
Totally incapacitated persisting	10	57	142	—	209
					1,630

CHILDREN.

	Stage I.	Stage II.	Stage III.	Glands.	Total.
Unimpaired working capacity becoming impaired	1	—	—	—	1
Unimpaired capacity persisting	10	5	1	1	17
Impaired becoming unimpaired	51	37	8	12	108
Impaired persisting	17	14	8	—	39
Impaired becoming totally incapacitated	—	—	—	—	—
Totally incapacitated becoming impaired	5	6	2	—	13
Totally incapacitated becoming unimpaired ...	2	3	2	—	7
Totally incapacitated persisting	2	4	3	1	10
					195

CONDITION OF DISEASE ON COMPLETION OF TREATMENT.

In the following tables the same differentiation of patients into adults and children and stages of disease has been observed and shows the numbers according to these different classifications in which the disease has become inactive and greatly improved, improved and stationary or progressive :—

ADULTS.

	Disease inactive and greatly improved.	Disease improved.	Disease stationary or progressive.
Stage I.	316	46	14
Stage II.	445	222	105
Stage III.	100	208	167
Glands	4	2	1
	865	478	287

CHILDREN.

	Disease inactive and greatly improved.	Disease improved.	Disease stationary or progressive.
Stage I.	83	4	1
Stage II.	53	10	6
Stage III.	18	3	3
Glands	12	1	1
	166	18	11

The terms "disease inactive" and "greatly improved" indicate that there was an entire absence of constitutional symptoms, expectoration if present contains no tubercle bacilli, and is but slight in amount ; physical signs do not indicate activity of the disease.

"Improved" indicates that constitutional symptoms are greatly lessened or entirely absent, physical signs improved, cough and expectoration present, tubercle bacilli may be present in sputum.

"Stationary or progressive" indicates that all the physical signs and symptoms are either unaltered, unabated, or increased.

AFTER CARE.

Results of Investigation into the Present Condition of the Patients Treated in the Past.

In the following tables are set out as briefly as possible the main points in connection with an investigation undertaken to ascertain the condition of our past patients who received treatment at the Centre between the years 1913 and 1918 inclusive. The survey covers a period of from four to nine years and shows their condition at the beginning of the present year.

For the purposes of classification the patients have been divided into those in whose sputum tubercle bacilli have been found and those without tubercle bacilli. Naturally, the known mortality rate is much less in the latter than in the former type of patient.

Results of an Inquiry into present condition of Patients Treated and whose Sputum contained Tubercle Bacilli.

Year.	No. of patients treated.	Now working regularly.	Working irregularly.	Totally incapacitated.	Known to have left the City.	Lost all trace.	Known to have died.
1913 ...	505	22·1%	10·1%	2·1%	2·1%	29·8%	33·4%
1914 ...	573	28·2%	10·8%	1·2%	5·4%	13·4%	40·8%
1915 ...	308	24·6%	12·9%	3·5%	4·8%	12·3%	41·5%
1916 ...	207	27·5%	11·5%	·9%	6·2%	10·1%	43·4%
1917 ...	212	37·7%	15·1%	5·6%	7·1%	4·7%	29·7%
1918 ...	191	25·6%	24·8%	2·6%	9·9%	6·2%	31·4%

Results of an Inquiry into present condition of Patients Treated whose Sputum did not contain Tubercle Bacilli.

1913 ...	1,140	35·1%	8·1%	·8%	4·5%	37·9%	13·1%
1914 ...	895	49·8%	11·6%	1·7%	4·4%	20·2%	10·9%
1915 ...	1,222	51·8%	9·8%	1·4%	5·1%	26·6%	13·3%
1916 ...	996	56·0%	11·4%	1·0%	7·1%	15·9%	9·4%
1917 ...	812	65·5%	12·5%	·6%	6·7%	8·5%	6·0%
1918 ...	821	54·8%	17·4%	·8%	7·8%	12·4%	8·1%

SANATORIA FOR TUBERCULOSIS.

(Report by Dr. G. B. Dixon, Chief Tuberculosis Officer.)

The Birmingham Public Health Committee has 610 beds available for the treatment and prevention of pulmonary tuberculosis. These beds are distributed in four different Sanatoria, namely, Yardley Road Sanatorium, West Heath Sanatorium, Salterley Grange Sanatorium, Cheltenham, and Romsley Hill Sanatorium, Halesowen. The three former are the property of the city, but in the latter, which belongs to the Birmingham Saturday Hospital Fund, 93 beds are rented.

The Yardley Road Sanatorium is situated in a suburban part of the city, about 3½ miles from its centre, and has accommodation for 325 patients. The beds are available for male and female adults, and for children. There are 154 beds for male adults, 10 of which are reserved for the admission of patients for observation purposes, and the remainder are utilised for the treatment of those in intermediate and advanced stages of tuberculosis. There are 52 beds provided for female adults, which include 8 beds reserved for observation purposes. The female patients admitted are those in the early and intermediate stages of tuberculosis. There are 119 beds for the treatment of children, and included in these are 15 beds available for the purpose of observation. Children in all stages of tuberculosis are admitted. During the past year a large Recreation Block and dining room for male patients was completed and opened.

The West Heath Sanatorium is situated about 6 miles from the centre of the city; it contains 184 beds, 100 of which are set apart for the treatment of female adult patients suffering from advanced tuberculosis, 24 beds are available in the Red Cross Pavilion for ex-service men, a limited number of which are allocated to this city, and there is in addition a Training Colony with 60 places for the concurrent training and treatment of ex-service men, the patients being admitted from any part of the country. The courses of vocational training undertaken are furniture repairing, tin-smithing, art metal work, and house repairing.

The Salterley Grange Sanatorium, with 68 beds, is situated in the Cotswold Hills, about 3½ miles from Cheltenham, and has accommodation for 36 males and 32 females. The patients selected are all of adult age, and are the most promising from a medical standpoint of all our patients, the majority of them suffering from tuberculosis in an early stage.

Romsley Hill Sanatorium is the property of the Birmingham Hospital Saturday Fund, and is situated in the Clent Hills, 11 miles from the centre of the city. The Birmingham Public Health Committee rents

93 beds for the admission of their patients, 63 for male and 30 for female adults. Those in all stages of the disease are admitted.

Admission to these different Sanatoria is arranged by the staff of Tuberculosis Officers, after examination of the patients at the Municipal Anti-Tuberculosis Centre, 44a Broad Street. The treatment given to patients in the Sanatoria is on similar lines, and includes hygienic and dietetic treatment, graduated rest, exercise and occupation, the employment of appropriate drugs when indicated, or specific treatment by means of the various tuberculins and vaccines, etc. Radium treatment, heliotherapy, and artificial pneumothorax are undertaken in suitable cases.

Total Numbers Treated in the Sanatoria and Duration of Stay.

During the year 1922 there were 1,946 patients admitted to all the Sanatoria, 1,745 patients were discharged, and 191 died. The total number of patients admitted included 1,042 males, 589 females and 315 children. Those discharged included 958 males, 494 females and 293 children.

The following table shows the number of patients, adults and children, discharged from the various Sanatoria during the year:—

	Males.	Females.	Children.	Died.
Yardley Road Sanatorium ...	398	201	293	84
West Heath Sanatorium ...	160	122	—	90
Salterley Grange Sanatorium ...	139	65	—	—
Romsley Hill Sanatorium ...	261	106	—	17
	958	494	293	191

In the table below are given the average durations of stay for male, female and child patients in the different sanatoria, and also the average stay of these different classes of patients as worked out for all our Sanatoria:—

	Yardley Road Sanatorium.	West Heath Sanatorium.	Romsley Hill Sanatorium.	Salterley Grange Sanatorium.
Males ...	120·8	118·3	101	88·4 days.
Females ...	96·5	169	104	127·7 ,,
Children ...	145·1	—	—	— ,,

Average: Males ... ... 107·1 days.
Females ... ... 124·3 ,,
Children ... ... 145·1 ,,

Observation Patients.

The beds reserved for the purpose of observation are at Yardley Road Sanatorium, and vary in number from time to time, the average being about 30. About 15 per cent. of the total number of patients admitted to the Sanatoria during the year were sent primarily to Yardley Road for the purpose of observation. Observation patients are those who, after careful and repeated examinations at the Centre, are found to be indefinite either as to the absence or presence of tuberculosis, or as to its activity or otherwise when present, and are usually admitted for a period varying from 2 to 4 weeks. Of the 2,217 patients admitted to all the Sanatoria 337 were admitted to the Yardley Road Sanatorium for the purpose of observation. The medical findings after varying periods of observation in connection with these patients are set out in the following table:—

	Positive diagnosis.	Negative diagnosis.	Total.
Adult Males	25	78	103
Adult Females	31	59	90
Children	28	116	144
	84 = 24·9%	253 = 75·1%	337

Discharged Patients, Tabulated According to Sex and Age.

	Males.	Females.
Under 10 years	92	81
10 to 15 ,, ...	71	78
16 to 20 ,, ...	73	74
21 to 25 ,, ...	128	94
26 to 30 ,, ...	126	91
31 to 35 ,, ...	125	65
36 to 40 ,, ...	140	55
41 to 45 ,, ...	143	45
46 to 50 ,, ...	111	27
51 to 55 ,, ...	60	9
56 to 60 ,, ...	34	—
Over 60 ,, ...	20	3
	1,123	622

Classification of Patients' Disease.

In the following table the total discharges during the year are arranged according to the stages of the patients' disease, the classification used being that of Turban Gerhardt.

At Salterley Grange Sanatorium of the patients treated there were—

37·2%	in Stage I.
50%	,, ,, II.
12·7%	,, ,, III.

At Romsley Hill Sanatorium there were—

7·9%	in Stage I.
51·5%	,, ,, II.
40·5%	,, ,, III.

At Yardley Road Sanatorium, of the adult patients there were—

14%	in Stage I.
34·3%	,, ,, II.
51·6%	,, ,, III.

Of the children—

40·2%	were in Stage I.
36·2%	,, ,, ,, II.
23·5%	,, ,, ,, III.

At West Heath Sanatorium 100 per cent. of the patients were in Stage III. Of the total number of patients discharged from the Sanatoria during the year 16·6 per cent. were in Stage I., 36·1 per cent. were in Stage II., and 46·2 per cent. were in Stage III. Those who died in sanatoria or hospital beds are not included in this calculation.

Of all patients discharged from the Sanatoria, 10·04 per cent. of those in Stage I., 35·3 per cent. of those in Stage II., and 60·4 per cent. of those in Stage III. showed tubercle bacilli in their sputum.

The bacillary losses for patients in all stages of tuberculosis was as follows :—

Yardley Road Sanatorium	29·5%
Salterley Grange ,, ...	44·8%
West Heath ,, ...	1·0%
Romsley Hill ,, ...	8·8%

Gain or Loss in Weight.

Amongst a total of 1,745 patients discharged, many of whom were advanced hospital cases, having been admitted in the interests of the prevention oi tuberculosis, it was found that 8·4% lost weight, 7·5% remained stationary, whilst 84·0% gained weight.

Results of Treatment.

The next table deals with the results of treatment and relates to all the discharged patients from the different Sanatoria. The results are shown for males, females and children, and are set out according to the stages of the patients' disease.

	Males.					Females.					Children.					
	I.	II.	III.	Other forms of Tuberculosis.	N.A.S.	I.	II	III.	Other forms of Tuberculosis.	N.A.S.	I.	II.	III.	Other forms of Tuberculosis.	N.A.S.	Total.
Much improved	27	66	46	3	78	40	52	41	1	59	33	25	14	5	116	606
Improved ...	54	212	264	—	—	40	79	115	2	—	36	38	20	4	—	864
Stationary ...	12	45	93	—	—	6	3	28	—	—	—	—	—	—	—	187
Worse ...	—	18	40	—	—	—	—	28	—	—	1	—	1	—	—	88
Died	—	3	127	—	—	—	—	55	—	—	—	—	6	—	—	191
																1,936

Treatment Recommended Subsequently to Sanatorium Treatment.

This table shows the recommendations as to treatment which were made for the patients when they left the various Sanatoria. The table is sub-divided to show the recommendations for males, females and children.

	Dispensary treatment.	Domiciliary treatment.	Hospital treatment.	Returning to own doctor.	Super vision.	N.A.S.	Total.
Males	461	361	21	14	23	78	958
Females	274	131	4	20	6	59	494
Children	148	—	13	4	12	116	293

Medical Staff in Sanatoria.

At Yardley Road Sanatorium, which has accommodation for 325 patients, there are a medical superintendent and three assistant medical officers, but as they spend their time equally between the Anti-Tuberculosis Centre and the Sanatorium, this gives an available staff of two for the Sanatorium.

At West Heath, with 124 beds for hospital treatment and a training centre for combined vocational training and treatment of ex-service tuberculous men with 60 places, there is a medical superintendent.

At Salterley Grange there is a medical superintendent, as there is at Romsley Hill.

Occupational Therapy.

Occupational therapy is employed in all the Sanatoria to a varying extent, which is dependent upon the physical condition and medical grading of the patients.

In the different Sanatoria patients are employed in gardening work, road making, wood cutting, basket making, wood carving, etc. Basket making and wood carving as forms of occupational therapy in a Sanatorium have the combined advantage of interesting patients whilst undergoing treatment, and providing them with an occupation or hobby which may be made remunerative after discharge. Amongst pensioners, and those who are unmarried and live upon the family earnings, it has been possible for some of our patients to become almost self-supporting from their earnings in this occupation, in addition it is an occupation which can be carried on in a chalet or shed in the garden or yard under conditions which are not detrimental to the patients' health.

Summary of Sanatorium Report.

There are 610 sanatorium and hospital beds available for the treatment and prevention of pulmonary tuberculosis in Birmingham, and of these 110 beds are available for the treatment of children. A number of beds varying from 30 to 35 is reserved for the reception of patients for the purpose of observation.

During the year 1,946 patients were admitted to all the Sanatoria, 1,745 patients were discharged, and 191 died; practically all the deaths occurred amongst those occupying hospital beds.

The average duration of treatment for patients in both sanatorium and hospital beds in all institutions was 107 days for males, 124 days for females, and 145 days for children.

Of the total number of patients admitted to our Sanatoria, 15 per cent. were given admission primarily for the purpose of observation.

Of those who were admitted for the purposes of observation a positive diagnosis of tuberculosis was made in 24·9 per cent.

Amongst those who were discharged from the sanatorium and hospital beds, 16 per cent. were in Stage I., 36 per cent. in Stage II., and 46 per cent. in Stage III.

There were 40·4 per cent. of the total number of patients discharged from Sanatoria, excluding those who died, who during treatment showed tubercle bacilli in their sputa.

The bacillary losses for patients in every stage of the disease in the different Sanatoria were:—

Salterley Grange	44·8%
Yardley Road	29·5%
Romsley Hill	8·8%
West Heath	1·0%

It should be noted in connection with these figures that the patients at Salterley Grange included only 12·7 per cent. who were in Stage III. At Yardley Road 51·6 per cent. of the patients were in Stage III. At Romsley Hill, 40·5 per cent. were in Stage III., whilst at West Heath 100 per cent. were in Stage III. Amongst a total of 1,745 patients discharged from the sanatorium and hospital beds only 8 per cent. lost weight, 7 per cent. remained stationary, and 84 per cent. showed an increase in weight.

I am indebted to Dr. Peebles, Dr. Stevenson, and to Dr. Bodington for the figures relative to the work at Salterley Grange, West Heath and Romsley Hill Sanatoria.

TUBERCULOSIS AND THE MILK SUPPLY.

The precautions to reduce the amount of tubercle infection in the milk sold in the city have bee ncontinued on similar lines as in previous years, namely :—

(*a*) The detection of infected milk;
(*b*) The detection of cows with tuberculosis of the udder;
(*c*) The eradication of tuberculosis from dairy herds supplying milk to Birmingham.

(*a*) *The detection of infected milk.* In addition to samples of milk taken from city dairies and outside farms, mixed samples of milk arriving in the city from outside dairies and other sources have been taken at railway stations and from milk arriving by lorry or float. Altogether 228 mixed samples were collected from lorries and railway stations; of these 8 proved on bacteriological examination to contain living tubercle bacilli. The 8 farms from which these samples came were visited by a Veterinary Inspector, and further mixed and individual samples taken. As a result, 7 cows giving tubercle infected milk were traced to outside farms. These cows were all slaughtered.

(*b*) *The detection of cows with tuberculosis of the udder.* In the city dairies regular monthly inspection is carried out, special attention being paid to any cows suspected of being affected with tuberculosis of the udder. In three suspicious cases samples of milk were taken and examined, but in each case with negative results. One definite case of tuberculosis with emaciation was found and the cow was removed from the herd and slaughtered.

(*c*) *The eradication of tuberculosis from dairy herds supplying milk to Birmingham.* At the end of the year there were 16 herds continuing under the above scheme from the previous year. During the year we had six applications for herds to be included in the scheme, and these herds were all tested for the first time, three of which are continuing with the test. This makes a total of 19 herds being dealt with under the scheme at the end of the year. Owing to the high percentage of reactors in the other three herds tested for the first time, the owners decided not to come into the scheme.

The following is a list of the herds dealt with under the scheme.

The first 16 herds are those continuing under the scheme from the previous year. Herd No. 17 has been in the scheme for several years, but the testing has now been discontinued. The last 6 herds were tested during the year for the first time, and in the case of Nos. 18, 19 and 20 the test is being continued.

No.	Appr'x-imate No. of Cows in Herd.	Herds Free.	Herds being Freed.	Br'ding Herds.	Non-br'ding Herds.	Mixed Br'ding & Non-br'ding Herds.	City Dairies.	Outside Dairies.
1	5	1	—	—	1	—	—	1
2	12	1	—	1	—	—	—	1
3	19	1	—	—	—	1	—	1
4	10	1	—	—	1	—	1	—
5	39	1	—	—	1	—	1	—
6	87	1	—	1	—	—	1	—
7	18	1	—	1	—	—	—	1
8	40	1	—	1	—	—	—	1
9	35	1	—	1	—	—	1	—
10	14	1	—	—	—	1	—	1
11	5	1	—	—	—	1	—	1
12	48	1	—	—	—	1	—	1
13	19	1	—	1	—	—	—	1
14	37	1	—	1	—	—	—	1
15	19	—	1	—	—	1	1	—
16	12	1	—	1	—	—	—	1
17	21	discontinued.						
18	12	continuing with the scheme.						
19	50	,,	,,	,,	,,			
20	20	,,	,,	,,	,,			
21	55	under consideration.						
22	55	not to be continued.						
23	34	,,	,,	,,	,,			

Cow Testing.

The testing of the herds which come under the scheme has been carried out half-yearly.

No.	Cows Tested.	Passed.	Failed (Reactors and Doubtful).
1	9	9	—
2	24	24	—
3	41	40	1
4	9	9	—
5	66	61	5
6	172	169	3
7	37	35	2
8	77	77	—
9	69	69	—
10	28	27	1
11	4	2	2
12	101	82	19
13	33	31	2
14	106	106	—
15	38	35	3
16	11	10	1
17	21	17	4
18	10	7	3
19	95	84	11
20	20	20	—
21	53	24	29
22	54	21	33
23	34	27	7
	1,112	986	126

(Nos. 18-23 are the cows in herds tested for the first time.)

Note.—In the case of herd No. 12, there were 11 reactors at the last test. The owner of this herd has not carried out fully the conditions of the scheme, as there was delay in disposing of reactors following half-yearly tests.

The cows which failed to pass were in most cases cows which were purchased subject to their passing the tuberculin test, or cows in herds tested for the first time. The newly-purchased cows which failed to pass the test were returned to the vendors; the doubtful reactors in tested herds were isolated and re-tested a month or six weeks later.

The newly-purchased cows and those tested for the first time numbered 427; of these 104, or 24·35 per cent., failed to pass the test.

Cost Incurred by Testing Herd.

The testing of the herds has continued to be carried out chiefly by the Corporation Veterinary staff, and partly by Local Veterinary Surgeons on behalf of the Corporation. The cost of this work during the year was £69 4s. 2d., of which £39 was for tuberculin and £30 4s. 2d. for veterinary fees and expenses. In 1921 the cost was £89 18s. 6d., and in 1920 £126 0s. 7d.

INFANT MORTALITY.

The infant mortality rate in England and Wales was during 1922 the lowest recorded —seventy-seven deaths of infants under one year of age per 1,000 born during the year.

In Birmingham it was at the rate of 86 per 1,000 born.

In the following table the infant mortality is set out for Birmingham and for England and Wales for the past twenty-two years.

	Birmingham.		England and Wales.
1901-05	157	...	138
1906-10	131	...	117
1911-15	126	...	110
1916	104	...	91
1917	101	...	96
1918	99	...	97
1919	84	...	89
1920	83	...	80
1921	83	...	83
1922	86	...	77

The table above shows the present rate of infant mortality is a little more than one-half of what it was twenty years ago in Birmingham, and represents a saving of 1,400 lives per annum.

The infant mortality rate among illegitimate infants was 178 per 1,000, against 82 among the legitimate.

Infant Mortality Rates in Wards.

The mortality rates in the various municipal wards are set out in the following statement :—

		Infant Mortality Rate, 1922.	Infant Mortality Rate, 1912 – 1921.	Increase or Decrease in 1922.
Central Wards :	St. Paul's	105	138	–33
	St. Mary's	117	162	–45
	Duddeston and Nechells ...	102	140	–38
	St. Bartholomew's	115	142	–27
Average infant mortality rate, 109.	St. Martin's and Deritend ...	107	128	–21
	Market Hall	113	128	–15
	Ladywood	102	121	–19
Middle Ring :	Lozells...	58	95	–37
	Aston	84	109	–25
	Washwood Heath	69	94	–25
	Saltley...	82	88	– 6
	Small Heath	68	81	–13
Average infant mortality rate, 80.	Sparkbrook	92	86	+ 6
	Balsall Heath	81	81	—
	Edgbaston	75	80	– 5
	Rotton Park	101	104	– 3
	All Saints'	90	104	–14
Outer Ring :	Soho	66	82	–16
	Sandwell	68	72	– 4
	Handsworth	51	75	–24
	Erdington North	54	67	–13
	Erdington South	69	69	—
	Yardley	55	74	–19
	Acock's Green	79	75	+ 4
Average infant mortality rate, 62.	Sparkhill	56	64	– 8
	Moseley and King's Heath	81	60	+21
	Selly Oak	69	70	– 1
	King's Norton	41	69	–28
	Northfield	58	68	–10
	Harborne	58	65	– 7
	City	86	103	–17

It will be noted from the above table that the largest decreases in mortality were registered in the Central Wards where the mortality has always been high.

Infant Mortality Rates in Large Towns.

The infantile mortality rates in the eight largest towns (from the Registrar-General's figures) were as follows :—

Glasgow	120
Birmingham	85
Liverpool	94
Manchester	94
Sheffield	81
Leeds	97
Bristol	71
Edinburgh	91
England and Wales	77

Infant Mortality from Diarrhœa.

In the following table will be found set out :—

(*a*) The total infant mortality rate.
(*b*) The infant mortality rate from Diarrhœa and Enteritis.
(*c*) The maximum soil temperature (4 ft.) for each summer.
(*d*) Rainfall in the third quarter.

Year	Total Infant Mortality Rate.	Infant Mortality Rate from Diarrhœa and Enteritis.	Max. Soil Temp. 4ft., 3rd Quarter.	Rainfall in ins., 3rd Quarter.
1897 (Old City Area)	214 ...	67 ...	55·0 ...	7·24
1898	190 ...	55 ...	56·1 ...	4·50
1899	193 ...	63 ...	57·8 ...	4·98
1900	199 ...	48 ...	55·9 ...	5·43
1901	188 ...	47 ...	56·0 ...	5·91
1902	157 ...	24 ...	53·9 ...	7·51
1903	158 ...	32 ...	53·8 ...	9·85
1904	195 ...	50 ...	55·8 ...	5·75
1905	155 ...	31 ...	55·4 ...	7·33
1906 (Present Area)	157 ...	47 ...	56·2 ...	2·97
1907	133 ...	16 ...	53·2 ...	6·08
1908	130 ...	25 ...	54·2 ...	6·94
1909	121 ...	15 ...	54·3 ...	7·63
1910	115 ...	16 ...	53·2 ...	8·24
1911	150 ...	47 ...	57·2 ...	3·27
1912	111 ...	9 ...	53·9 ...	10·99
1913	129 ...	29 ...	54·0 ...	4·51
1914	122 ...	22 ...	55·3 ...	7·00
1915	118 ...	23 ...	54·3 ...	8·34
1916	104 ...	14 ...	54·8 ...	5·42
1917	101 ...	12 ...	54·0 ...	9·74
1918	99 ...	15 ...	55·9 ...	9·83
1919	84 ...	8 ...	55·0 ...	8·44
1920	83 ...	9 ...	53·0 ...	7·59
1921	83 ...	14 ...	57·0 ...	5·54
1922	86 ...	7 ...	52·8 ...	13·45

The next table shows the causes of death and the ages at death of the infants who died under one year.

Infantile Mortality during the year 1922.

Deaths from stated Causes in Weeks and Months under One Year of Age.

Cause of Death.	Weeks.				Total under 1 m'nth	Months.				Total Deaths under 1 year.
	0.	1.	2.	3.		1.	3.	6.	9.	
Measles	—	—	—	—	—	2	1	5	14	22
Scarlet Fever	—	—	—	—	—	—	—	1	—	1
Whooping Cough	—	—	1	3	4	21	41	34	47	147
Diphtheria and Croup	—	—	—	—	—	—	—	—	3	3
Influenza	—	—	—	—	—	2	3	3	—	8
Tuberculous Meningitis	—	—	—	—	—	—	5	5	6	16
Abdominal Tuberculosis	—	—	—	—	—	—	1	—	2	3
Other Tuberculous Diseases ...	—	—	—	—	—	2	—	1	1	4
Rickets	—	—	—	—	—	—	—	—	—	—
Syphilis	—	—	5	2	7	10	2	—	1	20
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—
Cerebro-Spinal Fever	—	—	—	—	—	—	4	2	—	6
Meningitis (not Tuberculous) ...	—	—	—	—	—	2	4	8	5	19
Convulsions	7	3	—	5	15	9	6	10	4	44
Bronchitis	—	2	4	6	12	38	31	25	12	118
Pneumonia (all Forms)	2	2	9	5	18	50	66	74	85	293
Gastritis	—	2	—	1	3	12	6	—	—	21
Diarrhœa, Enteritis, etc.	2	4	2	3	11	35	59	23	18	146
Congenital Malformations	42	5	5	2	54	25	6	2	3	90
Premature Birth	292	40	37	12	381	50	4	3	1	439
Atrophy, Debility and Marasmus ...	54	11	16	7	88	35	21	5	2	151
Atelectasis	18	2	—	1	21	2	—	—	—	23
Injury at Birth	21	3	—	—	24	—	—	—	—	24
Neglect (under 3 months)	6	—	—	—	6	1	—	—	—	7
Suffocation (Overlying)	3	—	—	1	4	7	3	1	—	15
Other causes	9	11	6	8	34	12	13	12	14	85
All causes	456	85	85	56	682	315	276	214	218	1705

Of the 1,705 babies who died during 1922 the following figures indicate the percentage at each age.

Under 7 days	27%	All under one month 40%
7 days to 28 days ...	13%	
1—3 months	18%	
3—6 „	16%	
6—9 „	13%	
9–12 „	13%	

Stated in another way the rates of death per 1,000 births were as follows :—

	Birmingham, 1922.	England and Wales, 1921.
All under 4 weeks	34·4	35·2
4 weeks to 3 months	15·9	14·8
3—6 months	13·9	14·0
6—9 „	10·8	10·1
9–12 „	11·0	8·6

The mortality rate is nearly the same for Birmingham as for England and Wales at ages under 9 months, but for some reason difficult to ascertain the rate is higher considerably for the infants aged 9—12 months.

The largest single cause of death among these infants is prematurity—no less than 439 babies dying from this cause. Closely allied causes are atrophy, debility and maras-

mus, 151 deaths, and congenital malformations, 90 deaths. It is safe to say that more than one-third of all the deaths of infants are due to these causes.

This is one of the large causes of death which has not shown any decline (or increase) in recent years. It ought, however, to be one of the group which is most affected by the scheme of ante-natal supervision which is now in being.

Next in importance is the 411 deaths due to bronchitis and pneumonia. Most of these deaths are easily preventable. Largely they are due to ignorance on the part of the mothers as to the needs of very young babies.

Third in importance is the group of diseases of the digestive system: Diarrhœa, enteritis, gastritis, with 167 deaths.

For statistical purposes Birmingham has been divided into three areas:—(1) The Central Area containing a large number of old back-to-back dwellings, (2) the Middle Ring, containing better artisan dwellings mainly, and (3) the Outer Ring of good-class artisan and middle-class houses. Child mortality differs considerably in these three areas, and this is shown in the table below:—

INFANT MORTALITY PER 1,000 BIRTHS (FIVE YEARS, 1918–22).

Cause of Death.	Central Wards.	Middle Ring.	Outer Ring.	Whole City.
Measles	2·0	1·1	0·5	1·3
Whooping Cough	5·0	3·8	2·1	3·8
Tuberculosis	1·7	1·0	1·0	1·2
Bronchitis and Pneumonia	25·7	17·5	9·4	18·2
Diarrhœa and Enteritis	15·2	9·4	4·5	10·3
Congenital Malformations	3·7	3·9	3·9	3·8
Premature Birth	23·9	20·2	20·1	21·4
Atrophy, Debility and Marasmus	11·4	8·8	7·3	9·3
Suffocation (overlying)	1·9	1·0	0·4	1·2
All causes	108·6	81·8	62·1	86·5

Except in the case of congenital malformation and of prematurity, all the causes of death specified above are very much higher in the central than in the outer areas.

In these same areas and for the same period the proportion of deaths at different ages was as follows:—

Ages.	Central Wards.	Middle Ring.	Outer Ring.	Whole City.
Under 1 week	23·2	22·6	21·6	22·8
1 and under 2 weeks	5·1	4·8	4·6	4·9
2 ,, 3 ,, ...	5·2	4·6	4·0	4·7
3 ,, 4 ,, ...	3·6	2·8	2·1	2·9
1 month and under 3 months	20·9	15·0	10·6	15·9
3 months ,, 6 ,, ...	20·1	12·9	7·1	14·0
6 ,, ,, 9 ,, ...	15·2	10·4	6·7	11·1
9 ,, ,, 12 ,, ...	15·3	8·7	5·4	10·2
All ages	108·6	81·8	62·1	86·5

It will be noted that in the first few weeks the mortality in the central wards is only very slightly in excess of that recorded in the outer wards, but this excess increases rapidly at the older ages until at the age-period 9 to 12 months the mortality is three times as great in the central wards as it is in the suburbs.

STILLBIRTHS.

There were 660 stillbirths reported, against 804 in 1921, 911 in 1920, and 744 in 1919. These occur amongst all classes of the population and among mothers of all ages.

Child Mortality (Ages 1 to 4 inclusive).

At this age-period there were 866 deaths made up as follows :—

Measles	52	Bronchitis and Pneumonia	299
Whooping Cough ...	202	Diarrhœa and Enteritis ...	25
Diphtheria	30	Burns	20
Scarlet Fever	20	All other causes ...	144
Tuberculosis	74		
		Total	866

MATERNITY AND CHILD WELFARE CENTRES.

The most effective part of the work of saving infant lives and improving the health of the surviving babies is that done by the staff of Health Teachers (generally called Health Visitors) who educate the mothers either at their own homes or in the various centres which have been established. During the recent financial stress some curtailment of their work has been made in many towns, but not in Birmingham. We are, however, severely rationed for the present, so that no new work can be undertaken.

It is possible to prevent still more deaths and at the same time to enable the mass of young lives to be stronger and healthier. This will cost money, and it will need the force of public opinion before it is desirable to advocate further expenditure. It is not sufficiently recognised that "Health is Purchaseable," and that this is particularly true of young life.

Figures giving some idea of the work done by the staff of Infant Visitors will be found in the table on next page.

Illegitimate Births.

The figures relating to illegitimate births are as follows :—

No. reported as having occurred in Birmingham	682
No. still remaining in infirmaries or homes	59
No. boarded out under Board of Guardians	30
No. who died before a visit was paid	59
No. who had removed before a visit was paid	68
No. who were seen at least once in their homes	466

Of these 466 cases there were 136 in which the father and mother were living together. In 52 other instances the father made an allowance for the child's maintenance, under an Affiliation Order, and in 43 a voluntary allowance was made. This leaves 235 cases, or more than 50 per cent., in which the father contributed nothing towards the child's upkeep.

In the cases in which the father was not living with the mother the age of the mother was as follows :—

15 and under 20 years	36*
20 „ „ 25 „	101
25 „ „ 30 „	61
30 and over	62
Not ascertained	70

*This includes two mothers aged 15, two aged 16, and three aged 17 years.

The parity of the child was as follows :—

1st child	254
2nd „	55
3rd „	33
4th „	37
5th or more	47
Not ascertained	40

Maternity and Child Welfare Centres—Year 1922.

	10a Aston St.	Berkeley Rd., Hay Mills	Bloomsbury St.	Bristol Road, Northfield.	Farm St.	Harborne Lane, Selly Oak.	Hope St.	Lansdowne St., Winson Green.	Ridley St.	Lichfield Rd.	St. Vincent St.	Short Heath Rd., Erdington.	Smith St.	Stratford Rd.	Warwick Rd., Greet.	Washwood Heath Rd.	Wright St.	Floodgate St.	Stirchley and Cotteridge.	Handsworth.	Harborne.	Total.
Infants and Children :—																						
Births (and stillbirths) reported...	394	467	1205	85	954	334	1326	1100	533	1246	1259	577	1252	1051	531	818	1166	663	178	645	253	16037
Primary visits	422	431	1110	66	989	345	1471	1050	478	1336	1313	476	1407	993	527	922	1093	673	263	640	249	16254
Re-visits (infants and children) ..	6108	5972	10364	1842	11591	5245	17450	12406	7331	14980	15139	4332	13907	12321	6023	8987	10579	7810	2615	9190	4661	188853
Total visits and re-visits ..	6530	6403	11474	1908	12580	5590	18921	13456	7809	16316	16452	4808	15314	13314	6550	9909	11672	8483	2878	9830	4910	205107
Mothers :—																						
Primary visits	111	65	71	29	158	211	119	195	12	89	159	51	165	229	118	100	122	305	48	147	50	2554
Re-visits	502	109	116	33	140	184	178	100	13	36	185	67	149	191	198	150	169	1356	138	215	157	4386
Total visits and re-visits ...	613	174	187	62	298	395	297	295	25	125	344	118	314	420	316	250	291	1661	186	362	207	6940
Children's Consultations :—																						
Number held	98	111	196	48	148	50	195	192	97	193	190	131	179	180	97	141	98	96	48	96	119	2703
Fresh children attending ..	345	296	770	121	651	226	987	942	282	1448	903	443	988	783	405	648	694	445	214	584	190	12365
Total attendances	4811	3428	5978	983	5364	1933	7460	7176	2780	15582	6755	4669	9509	7920	3564	5751	4077	4700	2141	6916	3257	114754
Number seen by Doctor... ..	1509	2372	4194	905	3038	1234	4176	4410	1517	5374	3977	2398	4470	4124	2322	3055	2483	1149	1269	1639	1924	57537
Mothers' Consultations :—																						
Number held	27	50	48	As required	48	22	48	49	As required.	47	47	50	56	48	48	46	51	48	As required	21	46	800
Fresh mothers attending ...	133	165	327	38	218	80	246	269	64	467	244	169	393	305	173	165	227	254	1	69	88	4095
Total attendances	270	340	551	90	422	191	515	506	110	821	536	351	823	512	467	406	392	689	5	103	350	8450
Attendance at :—																						
Sewing classes	1319	595	746	111	442	—	415	175	485	639	459	377	593	303	699	471	502	901	190	398	173	9993
Cookery classes	303	—	95	275	171	6	90	209	50	35	58	—	752	343	189	151	—	—	—	—	—	2727
Health talks	1800	2520	899	966	1260	267	2790	2933	977	4667	588	1715	2133	3241	1101	842	542	681	1335	394	109	31760

Attendances at Dental Clinics: Mothers, 988; Children, 272.

At the time of the first visit the feeding was as follows :—

Breast only	411
Artificial	80
Breast and artificial	45
Not recorded	10

The next statement indicates who had charge of the child when first visited :—

Mother	331
Grandmother	24
Other relative	9
Not stated	22

Up to June, 1923, out of the 466 infants 41 had died, 288 were apparently in good health, 92 were fair, 30 were unsatisfactory, and in 15 cases no report could be obtained.

WITTON BABIES' HOSPITAL.

This Hospital was opened on February 14th, 1921, with the object of attempting to deal with two groups of infantile diseases which at present cause high mortality or ill-health, i.e., the group known as Marasmus and that known as Epidemic Diarrhœa.

At the Hospital there is accommodation for fifty babies, but owing to lack of funds only one-half of the beds are in use.

The majority of the patients are recommended for Hospital treatment by the doctor at the Welfare Centre—in this way only the worst cases are admitted. The parents of the infants pay 5/- per week.

There were 24 cases in Hospital on January 1st, 1922, and there were 97 admitted during the year. The average stay of these patients was 66 days.

The cases treated comprised :—

Marasmus	110
Rickets and Marasmus	10
Rickets	1
	121

No cases of Epidemic Diarrhœa were treated, because at no time during the summer was there an epidemic in the ordinary sense.

The following complications occurred :—

Whooping Cough	5 cases.
Chicken Pox	1 case.
Mumps	1 ,,
Scarlet Fever	1 ,,
Impetigo	2 cases.

Eight deaths occurred from the following causes :—

Marasmus	after	49	days in Hospital.
,, ...	,,	75	,,
,, ...	,,	58	,,
Prematurity and Marasmus	,,	70	,,
,, ,, ...	,,	8	,,
General Tuberculosis	,,	13	,,
Prematurity, Rickets, Marasmus, and Broncho-Pneumonia	,,	11	,,
Marasmus following operation for Pyloric Stenosis ...	,,	19	,,

Seventeen of the children were discharged or transferred for the following reasons :—

1. To Children's Hospital for Empyema. (Died.)
2. Selly Oak Hospital.
3. Dudley Road Hospital. (Parents could not pay longer.)
4. City Fever Hospital. Scarlet Fever.
5. Whooping Cough when admitted. (Died at home.)
6. Measles. (Re-admitted later.)
7. At parents' request and against doctor's wishes.

8. To City Fever Hospital with Scarlet Fever.
9. Dudley Road Hospital. Whooping Cough.
10. Children's Hospital. Laparotomy.
11. Selly Oak Hospital. Chicken Pox.
12. Children's Hospital. (Parents unable to pay.)
13. Children's Hospital. Pneumonia and Empyema. (Died.)
14. Parents left Birmingham.
15. Children's Hospital. (Parents unable to pay.)
16. At mother's request. (Parents unable to pay.)
17. Children's Hospital. Pyloric Stenosis. (Improving.)

These cases indicate fairly well the difficulty experienced in dealing with Marasmus. Marasmus means "wasting." It is the symptom of a disease rather than a disease itself. During 1922 no less than 214 babies were said to have died from this cause. To these 214 deaths at least an equal number might be added to ascertain the toll of infant life from wasting. It is therefore important to find out the chief causes of wasting and the best way of dealing with these as they occur. For this reason it is very desirable to continue the work of the Babies' Hospital on the best possible lines, and even to extend it.

MATERNITY HOMES.

At Heathfield Road Maternity Home there were 240 cases admitted, of which 20 were delivered by doctors. In 56 cases medical help was sought by the Matron, these being as follows :—

(*a*) Ante Natal—					
Albuminuria	4				
(*b*) During Labour—					
Placenta prævia	1	Transverse presentation ...	1		
Delayed labour	16	Complicated breech presentation	2		
		No. presenting part	1		
(*c*) After Labour—					
Lacerated perineum	16	Hæmatoma	1		
Post-partum hæmorrhage ...	1	Rise of temperature of patient	2		
		Mastitis	3		
		Abdominal pains and tenderness	1		
(*d*) For Infant—					
Weakly babies	5	Babies' inflamed eyes	2		

In twenty-one instances the infants could not be breast fed while in the institution owing to insufficient milk being secreted.

Four of the babies were stillborn and four others died within ten days of birth.

The average duration of the stay in the home was fifteen days.

The great majority of the patients paid a fee of £3 3s. 0d. per week, but where circumstances required it, the fee was reduced, in some few cases to as low as £1 1s. 0d. per week.

The Penns Lane Home was closed on May 13th, 1922. Between that date and the beginning of the year there had been thirty-six cases there.

At Pype Hayes Convalescent Home 350 mothers were received during the year.

HOME HELPS.

The work of these women is primarily to attend to the home, between the hours of 8 a.m. and 6 p.m. daily, during the mother's lying-in period. They do not act in any way as nurses, but do the cleaning, cooking, washing and look after the children. They have occasionally attended during the mother's absence in Convalescent Homes or in Hospitals, and in special instances where an expectant or nursing mother has been unable to do her own housework. Great care has been taken in choosing suitable women, and previous to engagement the younger ones had a brief useful course of training in cookery, laundry and housewifery. The number of cases attended during the year was 137, 70 per cent. of these being amongst the very poor. The work has been carefully supervised and greatly appreciated. Fifteen women are now engaged in fairly regular employment, they are keen on their work and adapt themselves very well to the different households to which they are sent, and to the large (sometimes unruly and difficult) families with whom they have to cope.

There has been a definite increase in the demand for the services of the home helps, and this will probably continue as the scheme becomes better known. The charges for the service of the home helps are based on a scale determined by the family income, and the number in the family. The details are appended :—

CHARGES FOR THE SERVICES OF HOME HELPS.

When the income of the family, after deducting rent, is :—
Below 9/- per head per week, the charge is 1/- per day.
Between 9/- and 12/- per head per week, the charge is 2/- per day.
Between 12/- and 15/- per head per week, the charge is 3/- per day.
Over 15/- per head per week, the charge is 5/- per day.

MATERNITY FEEDING CENTRES.

During the year 39,057 dinners were served at the six Maternity Feeding Centres. At the Smith Street Centre only is the food cooked on the premises, the other five are supplied with cooked food from a restaurant and suitable arrangements have been made for the transport of these meals to the different centres. The food reaches the centres in time to allow of thorough re-heating before the meals are served.

The quality of the food supplied has been on the whole decidedly good, and latterly there has been much more variety in the meals sent—a fact which has been appreciated by the mothers.

A two-course dinner is provided, and stews, boiled meat, roast meat or meat pies with two vegetables and milk puddings, suet puddings or fruit tarts is the usual weekly menu. During the month of August cooked dinners were supplied to Smith Street Centre also, so that meals continued to be served without a break while the kitchen staff were on holiday.

The attendances have been very regular throughout the year, but the numbers attending Dyson Hall Centre have considerably decreased during the last quarter.

Total attendances	39,057.		
Cost of food	£1,042	5	10
Receipts	327	4	8
Transport cost	74	17	0
Total net cost	789	18	2
Net cost per meal	0	0	4·8

THE MIDWIVES ACTS, 1902 AND 1918.

For the year 1922 there were 196 midwives gave notice as required by the above acts of their intention to practice in Birmingham. Of these, 123 were certificated and 73 were "bona fide." The proportion of certificated to uncertificated is now greatly increased over the ratio which existed ten years ago, a fact which is greatly to the advantage of the mothers they attend.

Last year the midwives attended 13,128 confinements—this represents about 60 per cent. of the total births.

Midwives are required to call in a medical practitioner whenever there is any need, and last year help was obtained in 1,987 cases, the causes being as follows :—

In the case of the mother.		In the case of the child.	
Delayed labour	558	Ophthalmia	224
Laceration of perineum	231	Prematurity	134
Hæmorrhage	146	Convulsions	12
Adherent placenta	78	Jaundice	10
Placenta prævia	8	Deformity	31
Abnormal presentation	113	Skin eruption	81
Abortion or miscarriage	18	Other causes	69
Rise of temperature	111		
Eclampsia	8		
Other causes	155		

The midwives' inspectors paid 317 visits to midwives at their homes and had 117 interviews with them at the Council House.

No midwife was reported to the Central Midwives Board for breach of rules.

THE WELFARE OF THE EXPECTANT MOTHER.

Since so large a proportion of the midwifery in the City is in the hands of the midwives, it was felt that only through their active co-operation could further advances be made in ante-natal care. The midwives were asked to attend meetings at the Public Health Department, at which the importance of preliminary enquiries in every case, and the advantages of careful supervision of the health of expectant mothers, was pointed out. The midwives were asked to keep ante-natal registers which were supplied to them. A proportion already made careful enquiries, and examined the urine once in each case. In order to encourage others to do the same, a cheap urine testing outfit was made available at cost price. Where the midwife did not wish to examine the urine herself, it was suggested that she should advise attendance at the Ante-natal Clinics at the Child Welfare Centres. When the midwife felt that medical advice was required, and in the case of every primipara she was asked to send the patient to the family doctor, or where there were financial difficulties, to the Ante-natal Clinic.

Maternity outfits were made available at the price of 6/2. These include all the mother's requirements for the labour, and were sterilised and carefully packed. The outfits could be supplied to the midwives or could be obtained at the Centres.

The midwives responded well to these suggestions, and it may be said that all the better class midwives are now definitely doing a certain amount of ante-natal work.

There are at present 177 midwives in active practice in the City; of these 148 are now keeping ante-natal registers, 43 are regularly testing the urine, and 16 are sending cases to the Ante-natal Clinics. Two hundred maternity outfits were stocked, and a quarter of these were sold in the first six months, while of 50 urine testing outfits 46 have been purchased by the midwives.

This is a very satisfactory result, as the scheme was only initiated in May and June, 1922.

The number of births in families visited from the Child Welfare Centres during the year was 16,037, while the number of women attending the Ante-natal Clinics was 6,169. This gives an attendance at the Ante-natal Clinics of 38 per cent. of the births, and is extremely satisfactory. The greater proportion of these were midwives' cases.

The following is a copy of the letter which was issued to midwives :—

PUBLIC HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM,

April, 1922.

MATERNITY CARE BY MIDWIVES.

MADAM,

The Public Health Committee (being the Local Supervising Authority under the Midwives Acts) are anxious to improve still further the midwifery service in Birmingham. For this purpose they propose to issue annually certificates of competence to those midwives who carry out their midwifery duties in a satisfactory manner, and who, at the same time, take adequate ante-natal care of the mothers who engage them.

The following is a copy of the form of certificate : –

THIS IS TO CERTIFY *that*.....
certified midwife No.....*has carried out her duties, both as regards ante-natal care and midwifery, during the year ended December* 31*st*, 19 , *to the entire satisfaction of the Public Health Committee.*

Signed on behalf of the Public Health Committee,

Chairman.

For the purpose of the above certificate the ordinary midwifery work performed during the year will be taken into account. In the case of ante-natal care, consideration will be given to the following facts :—

1. That the midwife has interviewed each patient, either at the patient's home, or at that of the midwife, and kept a record of ante-natal conditions in a register to be provided.

2. That at least one test of the urine is made in every case. (For this purpose a cheap testing outfit can be purchased at cost price from the Midwives Inspectors. Specimens of urine may be sent to the nearest ante-natal centre for examination if preferred.)

3. That whenever any ante-natal condition is found which will be prejudicial to the health of mother or child, the case is sent to the patients' private medical practitioner. (In the case of women who have no doctor, or are too poor, the midwife should send the mother to one of the ante-natal clinics at the Maternity and Child Welfare Centres. Better still, the midwife should accompany the patient to the doctor or Centre.) Cards to be used for this purpose are supplied herewith.

It is hoped that in every case where the card is used, the doctor will reply to the midwife and give her the necessary instructions. If no such reply is received, the midwife should call on the patient and ascertain whether she visited the doctor. Instructions have been given to doctors at Maternity Centres to consult with the midwife before sending patients to a hospital, except in emergency conditions.

Ante-natal home visits will be paid by Infant Visitors at the request of a midwife, either to keep a patient under observation or to induce attendance at the ante-natal clinic.

Cheap sterilised midwifery outfits for confinements may be purchased by patients at the ante-natal clinics, or from the Midwives Inspectors.

Midwives may purchase indiarubber gloves at cost price from the Midwives Inspectors.—Yours faithfully,

JOHN ROBERTSON.

PUERPERAL FEVER.

(Report by Dr. Ethel Cassie, Assistant Medical Officer of Health.)

The cases and deaths from this disease are set out below :—

Year.	Cases.	Deaths.	Deaths per 1,000 births, &c.
1912	78	27	1·07
1913	112	44	1·64
1914	149	33	1·24
1915	161	35	1·43
1916	170	31	1·29
1917	97	26	1·28
1918	92	29	1·49
1919	105	23	1·01
1920	148	51	1·75
1921	105	26	1·03
1922	137	25	1·10

It will be seen that there is no progressive reduction in the number of cases or in the deaths from Puerperal Fever. This can only be taken to indicate that the present midwifery service is not satisfactory. A special inquiry was made in all cases notified from October, 1921, to October, 1922, and the facts ascertained amply bear out the above statement. There is defective ante-natal and post-natal care. It is not possible to give a detailed statement here, but a brief summary is appended which may be of some interest.

Summary of Cases of Puerperal Sepsis Specially Investigated.

Number of cases investigated, 129.

Abortions, 35 (simple incomplete cases, 10).

Confinements (period over seven months), 94 (non-septic cases, 5).

Cases of Puerperal Sepsis, 89.

Attendance :—

Doctor and handywoman ...	14	Doctors' cases ...	38
Doctor and midwife	10		
Doctor and midwife (Hospital) ...	11		
Doctor and relative	3		
Midwife alone	30	Midwives' cases ...	51
Midwife and doctor (called during labour	12		
Midwife (Institution)	5		
Medical students and midwife ...	4		

From these figures it will be seen that omitting the institutional cases and those attended by medical students, doctors were primarily in attendance in 27 cases, or 30 per cent., and midwives in 42 cases, or 48 per cent. This must be taken with the fact that the midwives normally attend 65 per cent. of all confinements, so that the percentage of puerperal sepsis in midwives' cases is not unduly high.

Nature of Labour :—

Normal (no interference beyond vaginal examination)	52
Instrumental	29
Version (manual removal of placenta, etc.)	8
Total ...	89

Conditions associated with the Onset of Sepsis :—

Incomplete evacuation and injury (alone or together)	65 or 73%
Some form of interference	8 or 9%
Normal labour (nothing to account for sepsis)	13 or 15%
Normal labour (conditions during labour very bad)	3 or 3%

In 36 apparently normal labours, incomplete evacuation or injury or both were present.

The time of Onset in the Puerperium :—

Onset :—1st day, 3 ; 2nd day, 22 ; 3rd day, 27 ; 4th day, 7 ; 5th day, 8 ; 6th day, 7 ; 7th day, 4 ; 8th day, 3 ; 9th day, 2 ; 10th day, 1 ; after 10th day, 5 (these include 3 without satisfactory information).

The late onset in a few cases should be noted. Probably an earlier indication could have been obtained with more careful pulse and temperature records.

Period in Puerperium when admitted to Hospital :—

1st week, 32 ; 2nd week, 24 ; 3rd week, 5 ; later, 11 ; in Institution for labour, 13 ; treated at home, 4.

Parity :—

Primipara, 40 ; multipara, 49.

Age Groups :—

Under 20, 9 ; 20 to 30, 42 ; 30 to 40, 33 ; over 40, 5.

Health of Mother :—

Good, 64 ; debility, 15 ; bad, 10.

Cause of Bad Health :—

Venereal disease, 3 ; pulmonary tuberculosis, 3 ; nephritis, 1 ; asthma, 1 ; bronchitis, 1 ; endocarditis, 1.

Condition of Infant :—

Living and healthy in 68 cases ; living but feeble in 3 cases (2 died within a week) ; living, but injured in 4 cases (3 died within a week) ; died during labour in 10 cases ; died before labour in 4 cases (macerated).

Deaths :—

There were 19 deaths, or 21·3 per cent., 5 being in primipara. In 9 cases, 47 per cent., the labour was normal, but in 8 cases, 42 per cent., the women were in bad health. The immediate cause of death was general peritonitis in 8 cases, septicæmia in 5 cases, pyæmia in 2 cases, and Endometritis in 4 cases. Of the infants, 15 were living and healthy, and 4 stillborn.

Abortions, 35 :—

Septic incomplete abortions, 25 ; simple incomplete abortions, 10 ; recoveries, 31 ; deaths, 4. Considering the septic abortions alone, the deaths were 4 in 25 cases, or 16 per cent. This is not as high as the rate in puerperal sepsis, but is nevertheless a high rate. The period of pregnancy in these cases was as follows :—

2 months (or less) ...	...	8
2—3 „ ...	...	16
3—4 „ ...	...	7
4—5 „ ...	...	3
5—6 „ ...	...	1
Total	...	35

All were multipara, and 16 had never previously had a miscarriage. Twenty-seven of the women were in good health. It should be realised that only a small proportion of septic abortions are notified.

PEMPHIGUS NEONATORUM.

This condition occurs from time to time in the practice of the midwives. During the year a special explanatory leaflet was sent to each midwife giving the method of dealing with these cases. The following is a record of the cases during the year as dealt with by the Inspectors of Midwives :—

Two midwives had 5 cases each, in one instance with 4 deaths. One midwife had 3 cases and 1 death. There were 49 other cases, with 4 deaths, in the practice of 28 midwives. An outbreak was also investigated in the practice of a handywoman. There were 12 cases and 2 deaths. This gives a total of 74 cases with 11 deaths.

OPHTHALMIA NEONATORUM.

During the year 1922 there were 484 cases reported, as compared with 427 in the previous year.

These figures are not very reliable as an indication of the extent and nature of the disease. As more attention is paid to Ophthalmia Neonatorum, so the number of mild cases increases. It is exceedingly important that all cases should be reported, and that none, however mild, shall fail to receive adequate attention. By this means it has been possible to prevent blindness in any of the babies born during last year.

A good many exaggerated statements have been prevalent during recent years as to the number of persons who are blind as the result of Ophthalmia Neonatorum, so far as Birmingham is concerned. It is probable that the figures will now be very small in which it can be said that a child is blind owing to Ophthalmia Neonatorum. In addition to the blind children, however, there will be a good many children who will have defective sight as a result of the disease.

It is possible to prevent Ophthalmia Neonatorum with comparative ease if, at the time of the child's birth, certain precautions are taken. Up to the present time these are not without the liability of danger to the child. This being the case, a trial is being made whereby we are asking half the midwives in Birmingham to use another method with a view to seeing if we can get satisfactory results with less danger to the child than has occurred in the past.

Ophthalmia Neonatorum.

Number of cases notified	484
Attack rate per 1,000 births	24·4
In these cases—A doctor attended	80
A midwife attended	404
Treated at hospital	420
Died before treatment was completed	7
Left district before treatment was completed ...	4

Under the arrangement made with the Eye Hospital, 43 cases were admitted as in-patients.

There were only two cases in which permanent injury to the eyes resulted. In one the left eye became blind, and the right eye was severely damaged, but had some vision. In the other there was no defect of vision, but a faint scar below the pupil.

VENEREAL DISEASES.

The diagram and tables on next page show the official figures since November, 1917, when the scheme commenced. The diagram is very similar in appearance to that for other large cities. There has been a steady fall in the cases coming to official clinics and there is every reason to believe that this reduction in public clinic cases corresponds with a general reduction in all cases.

COST OF VENEREAL DISEASES SCHEME FOR YEAR ENDING 31ST DECEMBER, 1922.

	£	s.	d.
General Hospital Clinic	4,223	9	8
Skin and Urinary Hospital Clinic	1,346	7	11
Women's Hospital Clinic	446	18	0
Dr. E. W. Assinder	458	12	7
Cost of Salvarsan	1,128	14	9
Cost of Gonococcal Vaccine	144	12	4
Bacteriological Laboratory	179	8	6
Grant, N.C.C.V.D.	250	0	0
Stationery and other expenses	12	13	0
	£8,190	16	9

DETAILED EXPENDITURE OF CLINICS.

	General Hospital.			Skin and Urinary Hospital.			Women's Hospital.		
	£	s.	d.	£	s.	d.	£	s.	d.
Medical officers	1,381	5	11	272	4	11	231	18	0
Pathologists	300	0	0	137	0	6			
Salaries of orderlies, nurses, etc. ...	656	15	4	256	0	0			
Clerical and administrative salaries ...	225	7	2	75	0	0			
Provisions for officers	190	10	1	—					
Rent, rates, taxes, light, etc. ...	216	3	2	100	0	0			
Drugs	671	5	4	459	7	0			
Dressings	55	1	3	—					
Apparatus	218	18	11	—			215	0	0
In-patient days	107	5	6	44	5	0			
Stationery, printing and postage ...	31	16	4	2	10	6			
Laundry (officer's)	43	4	7	—					
Building alterations	59	14	10	—					
Furniture	13	7	3	—					
Employers' liability insurance ...	10	9	6	—					
Sundries	42	4	6	—					
Totals ...	£4,223	9	8	1,346	7	11	£446	18	0

There are many defects in the treatment of patients which require to be remedied.

(1) Apparently there are a certain number of persons who never apply for treatment anywhere and who do not treat themselves. A large number of women suffering from gonorrhœa never apply for treatment, the first indication in some of these is an attack of gonorrhœal ophthalmia in their newborn baby. In others nothing is done until severe suppurative complications compel them to apply for medical aid.

Theoretically there ought to be as many women apply for treatment as men, but the Birmingham figures show that there are six times as many men applying at the clinics.

(2) Many people come up for treatment for a short time and then fail to continue. Undoubtedly some of these have received sufficient treatment, but it is generally believed that in the majority of cases the disease is not cured and that the patient is infectious.

Much angry controversy has occurred during the past five or six years over the best way of preventing venereal diseases. In April, 1922, a semi-official medical committee was appointed with the "encouragement and support of Sir Alfred Mond," then Minister of Health, to report on the best medical measures for preventing venereal diseases in the civil community. This committee has now reported, and the following sentences are extracted as giving the important points for general administrative purposes :—

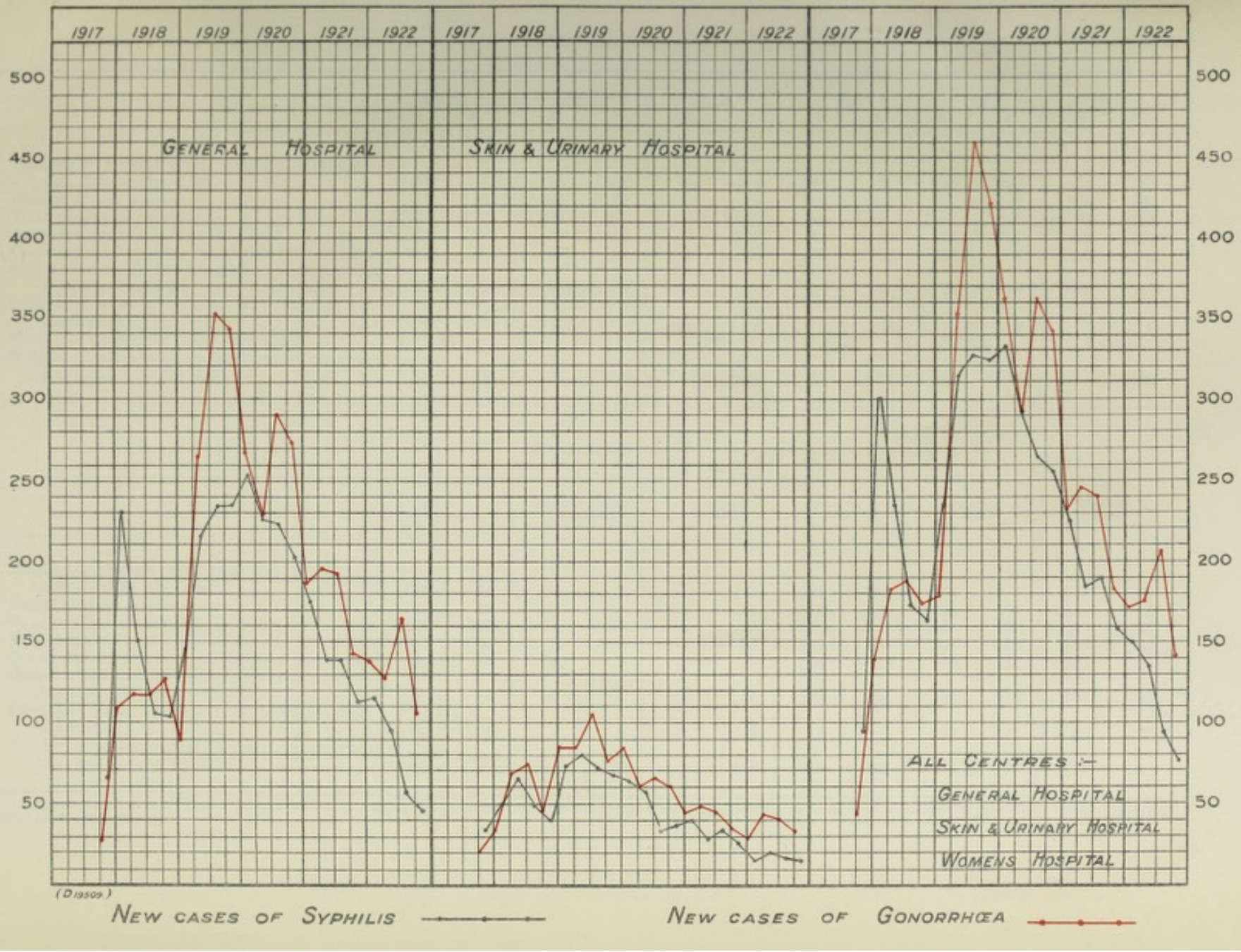
"Promiscuous intercourse is the main cause of venereal diseases."

"There is no absolute preventive except continence, and that a single exposure may result in infection."

"So far as the community at large is concerned no sufficient case has been made out to justify the introduction at the public expense of a general system of facilities for self-disinfection or skilled disinfection, and whenever there is a limited amount of public money available, we have no doubt that the money spent on :—

VENEREAL DISEASE

BIRMINGHAM TREATMENT CENTRES



SYPHILIS.*

	General Hospital. M.	F.	Skin and Urinary Hospital. M.	F.	Women's Hospital. M.	F.	Total for 1922. M.	F.	Total for 1921. M.	F.	Total for 1920. M.	F.
Number of patients under treatment or observation, January 1st, 1922...	151	65	115	34	—	272	266	371	521	360	571	392
Number of new cases	173	139	47	23	—	75	220	237	423	343	704	441
Total number of attendances	4,531	5 013	1 589	677	—	1,731	6,120	7,421	7,485	9,001	12,783	9,298
Aggregate number of in-patient days	81	892	31	70	—	195	112	1,157	423	701	622	816
Ceased attendance before completion of treatment	247	141	42	18	—	43	289	202	593	401	276	182
Ceased attendance after completion of treatment, but before final tests	52	14	44	2	—	—	96	16	70	28	477	243
Discharged after completion of treatment and observation	4	3	3	—	—	2	7	5	7	8	7	3
Number of doses of Salvarsan substitutes	4,657		771		695		6,123		6,825		9,679	
Number of patients under treatment or observation on January 1st, 1923	21	43	71	35	—	302	92	380	266	173	521	395

GONORRHŒA.*

	General Hospital. M.	F.	Skin and Urinary Hospital. M.	F.	Women's Hospital. M.	F.	Total for 1922. M.	F.	Total for 1921. M.	F.	Total for 1920. M.	F.
Number of patients under treatment or observation, January 1st, 1922	170	31	156	7	—	128	326	166	544	116	664	108
Number of new cases	493	38	135	17	—	28	628	83	825	131	1,191	185
Total number of attendances	27,124	517	6,494	177	—	865	33,618	1,559	32,066	973	31,359	1,722
Aggregate number of in-patient days	283	326	—	76	—	58	283	460	261	628	558	550
Ceased attendance before completion of treatment	328	25	50	3	—	—	378	28	906	91	547	55
Ceased attendance after completion of treatment, but before final tests	81	20	92	4	—	—	173	24	98	27	695	87
Discharged after completion of treatment and observation	5	4	8	2	—	2	13	8	33	41	48	11
Number of patients under treatment or observation on January 1st, 1923	245	20	141	15	—	154	386	189	326	45	544	133

* Figures for Skin and Urinary Hospital relate to Birmingham residents only; those for other centres relate to all cases in attendance. About 90 per cent. of the total cases are Birmingham residents.

(*a*) Treatment of disease,
(*b*) Continuous education of the community in regard to the nature and danger of venereal disease and the importance of seeking prompt and skilled treatment, and,
(*c*) The elimination of those conditions of life which tend to foster promiscuous intercourse and the spread of disease,

will be much better spent than any money expended in establishing a general system for affording facilities for disinfection."

This pronouncement will be most useful in enabling effort to be concentrated on the lines indicated, for there has been a tendency to doubt the value of the work being done in Birmingham and elsewhere on these lines.

CANCER.

The following table shows the number of people who have died each year since 1912 in Birmingham. It also shows the mortality rate for Birmingham and England and Wales. It will be noted that the rate for Birmingham is always very slightly below that for England and Wales, but in Birmingham, as in England and Wales, the rate is an ever increasing one, although it is increasing very slowly.

CANCER DEATHS.

	Total Deaths in Birmingham.	Death Rates. Birmingham.	Death Rates. England & Wales.
1912	791	·93	1·02
1913	893	1·02	1·06
1914	743	·88	1·07
1915	885	1·00	1·12
1916	897	1·00	1·17
1917	912	1·02	1·21
1918	883	1·02	1·22
1919	935	1·01	1·14
1920	1,014	1·12	1·16
1921	1,020	1·12	1·21
1922	1,090	1·18	—

The ages at death of the 1,090 cases were as follows :—

Under 20	9	45—55	198
20—25	4	55—65	351
25—35	18	65—75	303
35—45	93	75 upwards	114

The following table shows the distribution of Cancer for males and females as a whole :—

	Male.	Female.
1. Lip, tongue, palate, jaw	57	4
2. Pharynx, Œsophagus, stomach, liver	171	153
3. Peritoneum, intestine, rectum	128	104
4. Female organs of reproduction	—	143
5. Breasts	—	114
6. Other parts	138	78

During the year the Erlangen apparatus has been installed at the Skin Hospital with a view to making it available for people in the City.

CEREBRO-SPINAL FEVER.

During the year 1922, eighteen cases of this disease were notified, of whom two recovered and sixteen died, showing a mortality of 89 per cent. among the total cases notified.

Of the eighteen cases, bacteriological confirmation of the diagnosis was obtained in fourteen cases, of which thirteen died, this giving a mortality among the verified cases of 93 per cent.

The total number of cases notified for the past six years is shown thus :—

Year.	Total Cases.			Verified Cases.		
	Cases.	Deaths.	Percentage death rate.	Cases.	Deaths.	Percentage death rate.
1917	29	21	72	18	11	61
1918	16	10	62	7	4	57
1919	14	9	64	11	7	63
1920	25	18	72	22	15	68
1921	9	7	78	5	4	80
1922	18	16	89	14	13	93

The ages of attack and mortality during 1922 were as follows :—

	Males.		Females.	
	Cases.	Deaths.	Cases.	Deaths.
Under 1 year ...	3	3	3	3
1 to 5 years ...	4	3	3	3
6 to 10 years ...	—	—	1	1
11 to 20 years ...	2	1	—	—
21 to 30 years ...	—	—	1	1
31 to 40 years ...	1	1	—	—

Treatment of the cases is shown as follows :—

	Cases.	Died.
Removed to General Hospital	7	6
Removed to Queen's Hospital	1	1
Removed to Children's Hospital	5	4
Removed to Selly Oak Hospital	3	3
Treated at home	2	2

Details of each case are given below :—

Case.	Date of notification.	M. or F.	Age.	Treated in hospital.	Whether verified bacteriologicaly.	Result.
1	January 17th	... F.	24	H	Yes	Died 24 days after onset.
2	,, 18th	... F.	5 mths.	H	Yes	Died 74 days after onset.
3	,, 20th	... F.	4	H	Yes	Died 40 days after onset.
4	February 26th	... M.	4 mths.	—	No examination made	Died 1 day after onset.
5	,, 17th	... M.	22 mths.	H	Yes	Died 16 days after onset.
6	March 20th	... M.	14	H	No organism found	Recovery.
7	,, 31st	... M.	16 mths.	H	Yes	Recovery.
8	May 15th	... M.	11	H	Yes	Died 72 days after onset.
9	,, 18th	... F.	14 wks.	H	Yes	Died 37 days after onset.
10	,, 23rd	... F.	7	H	Yes	Died 46 days after onset.
11	June 2nd	... M.	18 mths.	H	Yes	Died 24 days after onset.
12	July 20th	... F.	2	H	Yes	Died 20 days after onset.
13	August 9th	... M.	37	H	No organism found	Died 15 days after onset.
14	,, 10th	... F.	5 mths.	H	Yes	Died 33 days after onset.
15	,, 19th	... M.	4 mths.	H	Yes	Died 21 days after onset.
16	November 7th	... F.	5	H	Yes	Died 4 days after onset.
17	December 6th	... M.	6 mths.	—	No examination made	Died 12 days after onset.
18	,, 13th	... M.	2½ mths.	H	Yes	Died 3 days after onset.

ACUTE ANTERIOR POLIOMYELITIS.

Six cases of this disease were reported during 1922, as against eleven in the previous year. Of these six cases, one made a complete recovery and five were left with some permanent paralysis. There were no deaths among these cases.

The corresponding figures for the past six years are shown thus :—

Year.	Cases reported.	Completely recovered.	Recoveries with various paralysis left.	Deaths.
1917	11	6	3	2
1918	4	2	2	0
1919	14	6	7	1
1920	1	1	0	0
1921	11	1	6	4
1922	6	1	5	0
	47	17	23	7

Further details of the six cases during 1922 are shown thus :—

Case.	Date of Notification.	M. or F.	Age.	Remarks.
1	July 19	M.	11 mths.	Still has paralysis of left wrist and three fingers of left hand.
2	Aug. 18	F.	1 yr. 9 mths.	Left arm paralysed from shoulder downwards.
3	Sept. 11	M.	15 yrs.	Complete recovery. No paralysis.
4	Oct. 31	M.	3 yrs.	Right leg paralysed from hip downwards.
5	Nov. 4	F.	3 yrs.	Paresis of left leg with wasting and shortening.
6	Nov. 23	M.	9 mths.	Some paresis of left leg, but no shortening or wasting.

All the above patients (except number 3) are still under out-patient treatment by massage, electric treatment, etc.

ACUTE ENCEPHALITIS LETHARGICA.

Twelve cases of this disease were notified during 1922, of which four proved fatal, giving a mortality of 33·3 per cent. The number of cases notified since the disease became notifiable is shown as follows :—

Year.	No. of cases reported.	Deaths.	Percentage of deaths to cases.
1919	11	5	45·5
1920	18	7	38·9
1921	25	8	32·0
1922	12	4	33·3

The greater number of cases were reported in the early months of the year, and were of a very severe type. Several of these cases, while not proving fatal, were followed by most serious sequelæ as shown below :—

Case.	Date of notification.	M or F.	Age.		Result.
1	Feb. 1	F.	19	H	Left with paralysis of right face, arm and leg, and of ocular muscles. No mental sequelæ.
2	,, 18	M.	10		Recovery. No sequelæ.
3	,, 20	F.	45	H	Recovery. No sequelæ.
4	,, 22	M.	14	H	Left with paralysis and twitching of all limbs, and patient is quite helpless, being unable to stand or feed himself. Mental condition very excitable.
5	,, 25	F.	19		Recovery. No sequelæ.
6	March 2	F.	55		Died on March 1st (before notification). Had been ill for five months.
7	,, 2	F.	50		Patient during convalescence became excitable, developed delusions and later became suicidal. Is now in an asylum.
8	,, 6	F.	15		Recovery. Still frequently has periods of depression.
9	,, 28	F.	48	H	Recovery, but still complains of some difficulty in movement of eyes.
10	Aug. 10	F.	43	H	Died 8 days after onset of disease.
11	Oct. 22	M.	2½		Died 16 days after onset of disease.
12	Nov. 3	M.	28	H	Died 14 days after onset of disease.

BRONCHITIS AND PNEUMONIA.

The following table gives the figures in regard to Bronchitis and Pneumonia during 1922. Both of these diseases are among the important causes of death, and both are causes which can apparently be reduced. It will be noted that the death-rate from these diseases has declined very considerably in recent years, and it is hoped this decline will continue.

Death-Rates from Bronchitis and Pneumonia.

	BRONCHITIS.				PNEUMONIA.			
	Birmingham.		England and Wales.		Birmingham.		England and Wales.	
1901 ...	1·80		1·37		1·55		1·15	
1902 ...	1·64	Average	1·32	Average	1·46	Average	1·41	Average
1903 ...	1·46	1·62	1·11	1·24	1·32	1·44	1·22	1·27
1904 ...	1·76		1·25		1·49		1·28	
1905 ...	1·43		1·14		1·37		1·30	
1906 ...	1·38		1·04		1·32		1·22	
1907 ...	1·49	Average	1·22	Average	1·47	Average	1·35	Average
1908 ...	1·47	1·41	1·10	1 09	1·22	1·30	1·19	1·23
1909 ...	1·47		1·15		1·36		1·30	
1910 ...	1·24		0·96		1·15		1·11	
1911 ...	1·25		1·00		1·16		1·04	
1912 ...	1·26	Average	1·08	Average	1·20	Average	1·02	Average
1913 ...	1·20	1·27	1·06	1·13	1·13	1 20	1·02	1·10
1914 ...	1·26		1·08		1·24		1·08	
1915 ...	1·37		1·44		1·28		1·36	
1916 ...	1·29		1·25		1·13		1·06	
1917 ...	1·01	Average	1·25	Average	0·94	Average	1·14	
1918 ...	1·22	1·22	1·23	1·20	1·46	1·15	1·65	Average
1919 ...	1·39		1·24		1·10		1·06	1·18
1920 ...	1·17		1·01		1·11		0·99	
1921 ...	0·87		0·89		1·04		0·92	
1922 ...	1·17		—		1·08		—	

The mortality from these diseases is always enormously higher in the crowded central wards than in the outlying parts of the City. Last year the groups of wards had death-rates as follows :—

Central Wards	...	...	3·48 per 1,000.
Middle Ring	...	...	2·09 ,,
Outer Wards	...	...	1·42 ,,

DISEASES OF ANIMALS COMMUNICABLE TO MAN.

(Report by Mr. Brennan De Vine, F.R.C.V.S., Veterinary Superintendent.)

Anthrax.

During the year there were nine cases of suspected anthrax in the City area reported to us. In each case we took specimens of the blood and examined it microscopically. In one case we found anthrax, which was subsequently confirmed by the Ministry of Agriculture. The infected animal was found dead in a field at West Heath. We had the carcase incinerated. In addition to these cases reported, examination was made of several suspected portions of carcases sent into the Meat Market from outside districts for sale.

Foot-and-Mouth Disease.

The year 1922 was remarkable. in respect to contagious diseases of animals, for the large number of outbreaks of foot-and-mouth disease occurring throughout the country.

During January, 1922, an outbreak of foot-and-mouth disease was detected in the North-east of England, and the following week outbreaks were confirmed at widely-separated centres, namely :—Yorkshire, Lincolnshire, Cheshire, Cumberland, Northumberland and Durham.

On Friday, 9th June we discovered a case of foot-and-mouth disease among the pigs at Montague Street Market. At the time there were 145 pigs in the market, and all of these animals were immediately slaughtered and the market disinfected. In June, foot-and-mouth disease was discovered at King's Heath, and also in pig-styes at Bordesley Green.

The affected and in-contact animals were immediately slaughtered, and no other outbreaks occurred. These outbreaks at King's Heath and Bordesley Green were traceable to the outbreak at the Montague Street Market. All the restrictions were removed from this area on 11th July.

During the year there were 1,139 outbreaks in the country, and 55,565 infected and in-contact animals were slaughtered. This is the largest outbreak of foot-and-mouth disease which has occurred in this country since 1883.

The result of the year's experience confirmed our opinion that, from the point of view of eradication from the country of this disease, the policy of slaughter, as opposed to isolation and treatment, is the better one and should be continued. It is undoubtedly the safest and most economical way in the end.

Glanders.

During the year there were three suspected cases of glanders reported to us by veterinary surgeons. These cases were tested with mallein, but none of them were confirmed. The City has continued free from glanders since 1916.

Rabies.

We have pleasure in reporting that there has been no case of rabies in the city during the year. A number of suspected cases, principally where dogs had bitten human beings, were submitted to us for examination, but no case was confirmed. During the year 1922 there has been only one confirmed case in the country. Owing to the restrictions imposed by the Ministry of Agriculture, the number of cases has been reduced from 150 in 1919 to 40 in 1920, and 22 in 1921, and one case in 1922.

Tuberculosis.

Since the Tuberculosis Order was suspended this disease has not been classed as one of the scheduled contagious diseases of cattle, and we therefore have no power of dealing with advanced open tuberculosis in cattle, except cases in milking cows, which are dealt with under the Milk Bye-Laws. From our experience in the Meat Market, we are forced to the conclusion that tuberculosis in cattle continues widely prevalent throughout the country, and we are of the opinion that a Tuberculosis Order would be useful in removing from our cattle herds the most advanced cases, which are dangerous sources of infection to others.

The situation regarding the diseases of animals in the city during 1922 has been satisfactory.

CITY HOSPITALS.

As the cases of Scarlet Fever were less numerous than in some recent years, it was found possible for Lodge Road Hospital to be kept closed throughout the year. All cases of scarlet fever and diphtheria which required removal were sent into Little Bromwich Hospital, a few being afterwards transferred when convalescent to Witton Hospital.

The following statement shows the cases dealt with during the 52 weeks which constitute the statistical year:—

Scarlet Fever.

	1922.	1921.	1920.
Under treatment at beginning of year	347	509	770
Admitted during year	2,092	2,064	3,652
Discharged	2,098	2,188	3,824
Died	32	38	89
Remaining at end of year	309	347	509

Diphtheria.

	1922.	1921.	1920.
Under treatment at beginning of year	198	274	170
Admitted during year	1,088	1,300	1,376
Discharged	1,001	1,269	1,119
Died	74	107	153
Remaining at end of year	211	198	274

These figures include a certain number of cases in which the diagnosis was revised in hospital.

REPORT ON LITTLE BROMWICH HOSPITAL.

(By Dr. E. H. R. Harries, Medical Superintendent.)

I beg to submit to you a report upon the work done in this hospital for the year ending December 31st, 1922. Scarlet fever and diphtheria have, as usual, been the chief diseases admitted.

The following are the figures for each disease:—

Scarlet Fever.

Remaining December 31st, 1921	315
Admitted during 1922	2,102
Discharged during 1922	1,796
Died during 1922	32
Remaining December 31st, 1922	274

Diphtheria.

Remaining December 31st, 1921	198
Admitted during 1922	1,090
Discharged during 1922	806
Died during 1922	74
Remaining December 31st, 1922	213

In addition, two cases of measles and five of chicken-pox were admitted as such during the year. All these cases recovered. This gives a total of 3,199 cases admitted during the year.

The crude admission figures for both scarlet fever and diphtheria are subject to correction on account of revised diagnosis. This amounts to approximately 4 per cent. of cases sent in as scarlet fever, and 5 per cent. for those sent in as diphtheria, which, having regard to the extraordinarily difficult conditions under which the diagnosis may have to be made in general practice shows a high degree of accuracy in diagnosis on the part of the practitioners concerned. Similarly deductions have to be made from the number of deaths ascribed to each disease. The net deaths from scarlet fever amount to 22, which, calculated upon the corrected admission figure of 2,025 gives a death-rate of approximately 1 per cent. The net deaths from diphtheria total 56, which, similarly calculated on the revised admission figure of 1,035, gives a death-rate of 5·4 per cent.

After the end of the first quarter of 1922, the clinical severity of the cases of diphtheria received in hospital markedly declined, and this remained the case until towards the end of the last quarter. A long series of cases of malignant or hypertoxic type were then admitted, nearly all these cases coming from the same locality. It was possible to observe clinically the results of infection by two strains of apparently greatly differing virulence. The hypertoxic types "bred true" in case after case coming from one small area, whereas from other quarters of the city the cases received during the same period showed the clinical characteristics of average virulence.

Ear Complications of Scarlet Fever.—Whether regarded from a curative, preventive, or economic standpoint, infection of the middle ear in the case of one of the common fevers is a serious complication, and may result in infection of the mastoid bone, and possibly, if not promptly treated, terminate in fatal meningitis. Short of this, middle ear disease associated with measles or scarlet fever, and to a much smaller extent with diphtheria, is the cause of a large amount of deafness and deafmutism amongst children. The chronic running ear is a grave disability to children of school age; further, the discharge in scarlatinal otitis is infectious, and may remain so for long periods, thus giving rise to "return cases" and to outbreaks of scarlet fever in Institutions. Although hospital statistics based on large numbers are not available for measles, there is reason to believe that this disease ranks at least equal with scarlet fever as a destroyer of hearing in children.

Scarlatinal otitis varies in its incidence with the prevailing type of disease. If "septic" cases are numerous, the percentage of otitis increases.

During the last two years (1921-1922)—throughout which the disease maintained on the whole the mild form it has assumed in recent times—3,684 cases were admitted with a diagnosis of scarlet fever. (This figure is uncorrected for revised diagnosis.) Of this total, 280 cases either had on admission, or developed during their stay in hospital, running ears on one or both sides. This number represents 7·6 per cent. of the crude scarlet fever admission figure. Of 122 cases of otitis during 1921, 22 had running ears on admission, and in nearly every one of these cases the discharge was of long standing. Scarlet fever could therefore not be blamed in these instances. On investigating the origin of the otorrhœa in these 22 cases, it was found that in the majority measles was the originating exanthem.

This hospital is concerned only indirectly or occasionally with the otitis associated with measles. The running ear associated with scarlet fever may, as stated above, remain a source of infection to others for many weeks or months, hence the importance of sending children out of hospital—however long the result may take to obtain—with dry ears. From an economic standpoint alone, it is of great importance to release beds as soon as they can be released with safety to the community, and it is important to insure that the ear, once dry, will remain permanently dry. Both these objects are to be attained, as might be expected, most speedily and surely by removing the *cause* of the running ear.

The average duration of the running ear in cases treated by routine methods was nearly 40 days, the duration after the onset of otitis varying in individual cases from a few days up to 118. In 1921, 108, or 89 per cent. of the total of 122, were ultimately discharged with dry ears, including three upon whom a modified mastoid operation had been performed. Three died, and 11 were discharged from hospital with ears still running. Superficially these results may appear to be fairly satisfactory, inasmuch as a large percentage of cases left hospital with dry ears, but they are not necessarily so, because in most of these cases the source of the running ear had not been removed. There is little doubt that the ears in a number of these cases started discharging again after leaving hospital, resulting in chronic otitis, and possibly ultimate deafness. Something more is required of the modern fever hospital than the mere palliative treatment of the running ear associated with scarlet fever.

Otologists have long urged that they should be given the opportunity of treating scarlatinal otitis as and when it occurred, rather than being afforded the very dubious privilege of treating the chronic running ear possibly months or years after the primary infective condition which had initiated more or less intractable aural disease. That this claim is well-founded may be judged by the striking results obtained from those hospitals where otologists have already been appointed, as in London and Edinburgh.

It is a great pleasure to record the appointment by the Committee of a visiting otologist to this hospital also. Mr. F. Brayshaw Gilhespy, Honorary Assistant Surgeon to the Birmingham Ear and Throat Hospital, the otologist appointed, did not commence work in an official capacity until February, 1923, but as he had done a considerable amount of otological work at the institution during 1922, it seems desirable to include in this report some account of the problem as it presents itself at this hospital, and a brief statement of what is in process of being done to solve it.

The patient who is responsible for the genuine "return" case, whether of diphtheria or of scarlet fever is in a very large proportion of instances the subject of pathological naso-pharyngeal conditions—unhealthy tonsils, adenoids, or turbinates.

At this hospital in many cases the results of simple removal of adenoids upon the discharging ear have been extraordinarily good.

There is no doubt that the otologist will play an increasingly important part on the staff of infectious diseases hospitals, and will do valuable service for preventive medicine. The work required is of special nature, and should be done by the specialist. In common with other of my colleagues in fever practice I was at one time dubious of the safety of these operations in the *milieu* of infective diseases, but I am satisfied that operative work of this nature can be safely done in the fever hospital and with remarkable success if the necessary precautions are taken.

Mr. Gilhespy has furnished me with the following note for inclusion in this report:—

"The main objects to be attained are of (1) immediate, and (2) future importance.

"To obtain the above objects the following methods have been considered essential:—

"(1) Educational lectures on ear diseases have been delivered to the nursing staff—various methods of treatment and of the underlying rationale has been explained in the wards. As far as possible suitable instruments for such treatment have been stocked in all wards.

"(2) A special ward of 34 beds for ear cases has been allocated. To this ward a dark room is attached for examination and special treatment, and all the special instruments are available in this ward. Politzerization is practised when necessary. All cases are dressed three times a day if necessary.

"(3) Excellent results have followed the removal of tonsils and adenoids, and this would appear our most valuable means of curing cases of otorrhœa in scarlet fever. In certain cases adenoids *only* have been removed with equally good results. The slightly added risk of removal of tonsils was taken into account, and the tonsils were only enucleated if obviously diseased. *The average duration of ear discharge after removal of adenoids has been* 10·5 *days.*

"(4) Stress has been laid by some writers on the value of early paracentesis of the membrana tympani. Holding, as we do, the view that the infection in the ear arises primarily in the naso-pharynx, the ideal of surgical treatment would be the removal of the septic focus in the throat, namely, the adenoids and the provision of free counter-drainage by paracentesis of the membrane. In practice it is found that in many cases the membrane ruptures painlessly and without pyrexia. Thus no warning is given of the necessity of such a procedure. Paracentesis in young children without an anæsthetic is not considered justifiable, and by the time permission has been obtained, the necessity for intervention by these means has passed. Therefore removal of tonsils and adenoids at the earliest time possible (that is, in the apyrexial period) is resorted to, and if the middle ear is not then found to be draining, the perforation of the drum is enlarged. The Schwartze operation has been done in cases of acute mastoiditis. It is hoped that the necessity for mastoid operations will in future be lessened. Conservative and radical operations have also been performed to clear up old-standing cases of ear disease acquired before admission. These cases have been sent out with dry ears. It is realised that they would require operation eventually, and that they were not suitable cases for a voluntary hospital, as epidemics of fever are liable to arise in hospitals from the presence of such cases."

It is hoped to present a much more detailed account of results of otological work in this hospital in the report for next year.

The Schick Test.—This test has continued to be employed in large numbers of cases throughout the year, and it has proved of great service. Certain continental observers have cast doubt upon the relia-

bility of the test by recording cases in which a Schick negative reactor has contracted clinical diphtheria, and they have therefore omitted a preliminary Schick test before proceeding to produce active immunisation with toxin anti-toxin mixture. It is clear that if genuine Schick negative subjects can suffer from clinical diphtheria, that much of the value of the test disappears. All our nurses are Schick-tested on entry, and only Schick negative reactors do duty in diphtheria wards. (Pending the evolution of a T.A.T. mixture which is not productive of more than trifling disturbance, we have not so far actively immunised our nursing staff on any large scale.)

Amongst these Schick negative nurses there have been during the past year three cases of considerable interest from the point of view of the reliability of the Schick test. One nurse recorded as Schick negative developed a classical attack of faucial diphtheria. Diphtheria bacilli were obtained from the throat, and were subsequently found to be virulent. The Schick test was immediately repeated upon the nurse reporting sick, and was found to be markedly *positive*. Two other nurses recorded as Schick negative reactors developed at different times sore throats overnight. In both instances on examination in the morning, a deposit of paper-like thinness was seen to be present on one or other tonsil. This deposit was readily detachable without bleeding, and revealed beneath a slightly inflammatory area. The deposit was quite white in colour, and quite friable. It had not the cohesion and toughness of diphtheria membrane. Both nurses felt quite well apart from slight soreness of the throat. In neither case was there malaise or pyrexia. The Schick test was repeated in both cases, and proved again to be definitely *negative*. Morphological diphtheria bacilli were recovered in both cases, but it is to be regretted that no virulence test of the organisms present was done in either case. Both nurses were working in diphtheria wards. In both instances the fauces were perfectly clean 24 hours after the first examination; neither patient received anti-toxin. The first case—the nurse who developed undoubted diphtheria—was, I have no doubt, really Schick positive all along; her original reading for one reason or another was erroneously recorded. Dr. R. A. O'Brien says that American workers recognise this small percentage of error due to faint or fleeting reactions which may be missed if repeated readings are not taken; to the inadvertent injection of inert or heated toxin (the control) into both arms; or to loss of potency of the toxin employed.

(Our present practice is to take readings of results on three consecutive days and again on the tenth day. This late reading occasionally gives valuable evidence of pigmentation or desquamation when earlier readings have possibly been doubtful.)

The two genuine Schick negative reactors represent a class of case which would never have been brought to light but for the test. They suffered from a simple tonsilitis of fleeting character, due to the presence of morphological diphtheria bacilli (virulence untested) as distinct from the *disease* diphtheria with its accompanying toxæmia. They were, in fact, little more than healthy carriers with, however, visible deposits on the tonsils. The amount of natural anti-toxin they possessed was sufficient to neutralise any toxin produced by bacilli growing on the tonsils, and they therefore did not suffer any effects. This class must be a fairly numerous one, and is of importance from both clinical and preventive standpoints.

I have reported these anomalous cases thus fully as it is of the first importance to establish the absolute integrity of the Schick test. I continue to believe, and to act upon the belief, that if the test is properly carried out with active toxin, and the results accurately recorded, it is absolutely reliable.

Virulence Test.—The hospital is now able to obtain reports as to the virulence of diphtheria bacilli wherever this is desirable. The City Bacteriologist (Dr. H. Henry) kindly arranged to do all these tests for us, employing the recent economical intradermal method.

This is an important advance in the investigation of doubtful cases sent in as diphtheria, and of diphtheria carriers, whether "healthy" or convalescent. The combination of the Schick test and of a virulence test of the organisms present enables many cases to be discharged much earlier than they otherwise might be. It is clear that the Schick negative reactor harbouring virulent organisms cannot himself suffer from the disease; he does need, however, to be treated as a carrier. On the other hand, there is no necessity for detention in hospital of the patient, even although he be Schick positive (that is, susceptible to diphtheria), who is harbouring avirulent, and therefore harmless organisms.

Bed Isolation.—This system of barrier nursing has been alluded to in my previous reports to you. At the time of writing this report considerably over 1,000 cases have been treated on the lines of bed isolation. The original ward selected for this work was "E" ward, and the system was there worked with a wall space per patient of only nine feet. Some 800 cases were treated under these conditions. During the course of treatment of these 800 cases, the system broke down on six occasions, namely, three times after the introduction of chicken pox in the incubation stages, twice after measles, introduced either in the incubation or very early catarrhal stages, and once after scarlet fever of septic type. In a further series of 293 cases since treated in "C" ward, which is a better ward for the purpose, and where a wall space of 12 feet per patient is possible, two instances of cross infection have occurred, namely, once after measles admitted in the incubation period, and once after scarlet fever. Thus in treating well over 1,000 cases on this system, eight instances of failure to prevent spread have occurred in a period of approximately three years. My personal opinion is that when cross infection has occurred, it has been due in most instances to a flaw in technique, that is, that the infection has been inadvertently conveyed by human agency. Nevertheless, it is impossible to exclude entirely, so far as investigation has gone, the alternative theory of air-borne infection for at any rate short distances in the case of measles and chicken pox. I believe that scarlet fever under the conditions of bed-isolation is always conveyed by human agency. Although mumps

has on several occasions been introduced in the incubation period, and whooping cough has also been nursed in what was undoubtedly an infective stage, no instance of cross infection from these diseases has occurred in this ward. To summarise the experiences of working the ward for three years, one would say that, however spread, chicken pox, in the incubation or early eruptive stage, cannot be nursed in such a ward without great anxiety arising as to its spread; and that the same thing applies, although possibly to lesser extent, to measles admitted in the incubation or early catarrhal stage of the disease. A very great deal depends upon the amount of protection afforded to the other patients present in the ward by previous attack. There is little doubt that this protection by previous attack by introducing human barriers who are immune for example to measles, is of great value in the successful working of the ward. It is not desirable or necessary, however, intentionally to introduce these human barriers into the ward, or so to arrange patients that they are in specially protected positions.

In spite of its limitations in the direction of chicken pox and measles, bed-isolation remains a valuable and economical system of nursing certain cases which for one reason or another it is undesirable to put into an ordinary ward; but the limitations are quite definite, and if the amount of actively infective material introduced at any one time becomes excessive, too great a strain is put upon the system, which is then naturally liable to break down.

Team Work.—From the indications given in the above notes, it will be seen that "team work" is regarded as essential in the investigation and treatment of the acute infections, if the best results are to be obtained. The co-operation of the City Bacteriologist, who has free access to the bedside of any case he desires to investigate—and a considerable amount of investigation is being carried out—is very welcome indeed.

The work of the otologist already promises most valuable results, both preventive and curative. Needless to say any general major surgical complication is dealt with by an operating surgeon called in specifically.

Other directions in which this hospital could receive and possibly impart valuable information by means of a suitable scheme of *liaison* include the following:—

Exact information is much to be desired as to the real significance of the renal complications of scarlet fever as precursors of chronic kidney disease; the after-history of cases of scarlatinal arthritis with or without endocarditis; the after-history (particularly the cardiological after-history) of the patient who has recovered from a severe attack of diphtheria. Without knowledge on our part of the subsequent history, and equally without knowledge on the part of the physician—who may be called in later on—of the exact nature or severity of the primary infective process, and what was done to combat it while the patient was in the fever hospital, the best means of avoiding—and treating should it occur—any aftermath of the acute specific infections of childhood may not be attained.

The field for clinical research in the common infections is a very wide one; the "commoner" the fever the greater the need for research, in order, perchance, that it may be rendered less "common." The infectious diseases hospital would seem to be the place where this research should, in part at least, be carried out.

BACTERIOLOGICAL WORK.

The following table shows the character and number of the examinations carried out at the Bacteriological Laboratory:—

Swabs for diphtheria	2,962
Blood for enteric fever	35
Sputum for tuberculosis	1,713
Blood for syphilis	611
Cerebro-spinal fluid for Syphilis	18
Films, etc., for gonorrhœa	125
Vaccines	18
Milk for tuberculosis	37*
Shell fish for sewage contamination	35
Water	207
Fæces	92
Miscellaneous	254
Total	6,107

*241 other samples were examined at the Birmingham University.

Dr. Henry, the City Bacteriologist, has supplied the following report on the work of his laboratory :—

I beg to submit herewith the report on the work of the laboratory for the year 1922.

The actual figures in regard to routine work show a considerable diminution on those for the preceding year, but this is accounted for to a large extent by the diminished incidence of diphtheria examinations.

In addition, a considerable amount of work, other than routine work, has been carried out, which is not dealt with in the report, and which cannot be assessed in terms of figures.

In the course of the year one of the tuberculosis officers undertook in the laboratory the diagnostic examination of specimens of blood taken from cases of pulmonary tuberculosis. This particular blood test is one which is used extensively throughout France and is rapidly becoming known in this country. It is utilised to determine whether or not a patient is suffering from tuberculosis, and therefore provides a ready means of diagnosis in a disease where diagnosis by the other methods at our command may at times give negative or inconclusive information. Unfortunately, the laboratory work in this connection ceased because the tuberculosis officer had not sufficient time from his other duties to devote to it. I may perhaps express the wish that it be soon possible to resume these observations on what is admittedly a most valuable blood test.

We have also prepared a certain number of vaccines for the treatment of cases of tuberculosis with mixed infections, and the Chief Tuberculosis Officer informs me that these have been of great use to him in treatment.

During the last three months of the year we have examined 577 specimens for the Medical Superintendent of the City Asylums at Rubery and Hollymoor. About half of these specimens referred to a small outbreak of diphtheria, the remainder being blood tests for venereal disease and specimens taken from lunatics with various septic conditions. There is increasing evidence to show that certain deranged mental states are either initiated or accentuated by some physical derangement, and the examination and detection of a septic focus of chronic poisoning offers a method of approach to the more rational treatment of these unfortunate folk. I think this work could with profit be extended.

In addition, there have been started a series of experiments with regard to the causation of scarlet fever. I might say that, between 1909 and 1920, over a million cases of this disease were notified in England and Wales. Although the disease is at present of a relatively mild character as gauged by its death-rate, yet there can be no doubt as to the enormous number of damaged human lives for which it is responsible. From time to time various microbes isolated from cases of scarlet fever have been brought forward as the actual cause of the disease, but none of these has stood the test of further experiment and more extended experience. So that at the moment one may say that the actual organism which causes scarlet fever is quite unknown. By arrangement with the Superintendent of the City Fever Hospital it has been possible to gain access to the large number of scarlet fever patients at Little Bromwich and to obtain material from them. The only method by which these specimens can be examined is by inoculation into animals, and during the last three months this procedure has been carried out as extensively as the existing resources of the laboratory permit. The work which has already been done has given satisfactory results, but is no more than preliminary in character. It is now necessary to extend and enlarge the scope of this investigation. The animals have to be watched carefully for symptoms of illness, their temperatures have to be taken regularly, their bloods have to be examined from time to time by a rigorous technique, and when they are killed their tissues have to be examined microscopically. Already the work absorbs all my spare time and I should be glad to have the services of an extra laboratory assistant capable of carrying out microscopic section work. Such an assistant would be employed full time and his services could be obtained for about £5 a week.

DISINFECTION.

The houses disinfected during the year were as follows :—

After Scarlet fever	2,834
Diphtheria	1,080
Enteric fever	15
Tuberculosis	2,297
Other diseases	127

The following articles which had been exposed to infection were disinfected, either by steam under pressure or by formaldehyde gas :—

Beds	5,978	Bolsters	2,429
Mattresses	2,417	Pillows	7,694
Counterpanes	3,405	Garments	7,236
Blankets	7,632	Boots	101
Sheets	2,605	Carpets	241
Other articles	8,957		

HOUSING.

Great efforts have been and are being made in Birmingham to bring up the supply of small dwelling houses to the requirements of the people who need them. The problem has been a very difficult one, and there is no doubt that the best thought in the district has been given to it.

But the City is still grievously short of the number of houses necessary for its citizens. Overcrowding is still very acute, and a large number of new houses must be erected before the overcrowding is reduced. Some of the overcrowding and discomfort which at present exist is about as bad as it is possible to imagine in a civilised country not in a state of war. We have received complaints from numbers of families where father, mother, and four or more children have to live and sleep in one room, often an attic, with inadequate cooking accommodation, with no proper food store, no water supply, and no means of getting rid of slops. In many of these cases buckets of water have to be carried up steep staircases in our back-to-back houses—staircases which are positively dangerous at any time, while all slop water has to be carried down these dangerous steps to be emptied away.

Bad as the conditions described above are, they are very frequently made intolerable by continuous quarrelling between the occupants of adjoining rooms in these overcrowded houses. The lot of many of these families is very distressing. They realise that the overcrowding is damaging the health of their children, that there is a liability to indecency, that they are surrounded by bad neighbours, and that by no possible chance can they move into another house to improve the conditions under which they are living. The real need of Birmingham is large numbers of houses.

The following figures show what has been done to alleviate this state of things :—

NEW HOUSES BUILT.

	No. of houses erected by private enterprise.	Corporation houses.	Total.
1920	244	407	651
1921	426	970	1,396
1922	382	902	1,284

The wards in which houses have been built during the last three years are shown below.

THREE YEARS, 1920, 1921 and 1922.

Ward.	Houses erected by private enterprise.	Corporation houses.	Total.
Acock's Green	85	30	115
All Saints'	1	0	1
Aston	0	0	0
Balsall Heath	0	0	0
Duddeston and Nechells	0	0	0
Edgbaston	55	0	55
Erdington N.	61	317	378
Erdington S.	35	280	315
Handsworth	8	110	118
Harborne	37	16	53
King's Norton	44	171	215
Ladywood	0	0	0
Lozells	0	0	0
Market Hall	0	0	0
Moseley and King's Heath	125	435	560
Northfield	186	50	236
Rotton Park	6	0	6
St. Bartholomew's ...	0	0	0
St. Martin's and Deritend	0	0	0
St. Mary's	0	0	0
St. Paul's	0	0	0
Saltley	9	180	189
Sandwell	42	21	63
Selly Oak	32	0	32
Small Heath	10	68	78
Soho	20	0	20
Sparkbrook	2	0	2
Sparkhill	224	370	594
Washwood Heath ...	6	203	209
Yardley	64	28	92
	1,052	2,279	3,331

It will be noticed that the largest number of new houses has been erected in Sparkhill Ward, closely followed by Moseley and King's Heath Ward. Naturally the new houses are being built in the outlying districts and will have the effect of spreading the population of the City over a very wide area.

The preceding figures show that the new dwellings erected do not meet the needs of the ordinary growth of the population and that nothing has been added to our house accommodation to make up for the loss of building due to the cessation of building operations during the war. In the above table the houses erected by private enterprise have been mainly of the small villa type.

It seems doubtful if ever private enterprise will again play any substantial part in providing small dwelling houses. Two reasons seem to prevent private enterprise entering :—

1. The investor who used to put his capital in this type of investment is now hedged round by so many restrictive conditions contained in recent legislation that he must be very ignorant of housing problems if he does continue to invest ;

2. An owner of small house property has always been regarded in the eyes of the people as a rapacious individual, to the proper care of whose property not the slightest regard need ever be paid.

If one adds to these the fact that there are so many investments better and easier to work, it must be obvious that until there is an altered attitude of mind towards the owner of small house property it is not likely that private enterprise will relieve the situation, and, therefore, in the meantime it is necessary to proceed energetically with the erection of dwellings by public enterprise.

GENERAL SANITARY INSPECTORS' WORK.

The work carried out by the Sanitary Inspectors during the year was very similar to that in previous years, as will be seen from the tables below. In order to enable the arrears of work which have accumulated since the war to be made up, six additional temporary inspectors were appointed on December 11th. They were engaged for a period of two years.

Towards the end of 1922 the Public Health Committee decided to carry out work under Section 28 of the Housing and Town Planning Act, which was a new procedure as far as Birmingham is concerned, and one which in principle is distinctly bad, but there appeared to be no other method at the time of getting reasonable work done. During the year 217 notices were issued under this section.

The following statement shows the amount of sanitary work done as compared with previous years :—

Year.	Number of visits paid by inspectors.	Number of defects for which notices were served.
1917	94,860	33,419
1918	95,036	27,596
1919	111,379	56,611
1920	113,315	60,802
1921	119,147	62,497
1922	134,516	86,938

The next table gives fuller details of the character of the work done :—

No. of visits and revisits paid :—

General House inspection	12,242
Special House inspections	6,694
Infectious Diseases	10,224
Nuisances or Complaints	29,578
Work ordered	45,131
Work in progress	16,679
Inspection of Dirty Courts	2,038
Manure Receptacles	1,093
Smoke or Water Tests	752
Tents, Vans and Sheds	249
Offensive Trades	47
Ice Cream Vendors	1,610
Rats Order	914
Calls on Owners or Agents	4,242
Other Purposes	3,023
Total	134,516

Nuisances, etc., reported :—

Houses to be disinfected after Scarlet Fever ...	2,834
,, ,, ,, Diphtheria	1,080
,, ,, ,, Typhoid Fever ...	15
Repairs to Houses	44,530
Houses to be cleansed	5,734
Houses to be provided with better ventilation ...	90
Houses to be provided with separate water supply	34
Cases of overcrowding to be remedied	39
Houses to be provided with Damp Courses... ...	142
Water to be removed from Cellars	406
Spouting to be repaired or disconnected	7,899
Rain Water Cisterns to be disconnected or abolished	402
Ashpit Privies to be converted to Water Closets ...	60
Pan Privies to be converted to Water Closets ...	36
Privies and Closets to be limewashed	463
Water Closets to be repaired or reconstructed ...	4,794
Additional Water Closets to be provided	57
Ashplaces to be repaired or limewashed	593
Soilpipes to be repaired or removed	44
Urinals to be put in order or closed	48
Drains to be relaid or repaired	1,450
Drains to be opened and cleansed	6,179
Gully Traps to be provided	337
Interception Traps to be provided on main drains ...	40
Premises to be supplied with additional drains ...	250
Drains in cellars to be disconnected or abolished ...	10
Sink Bend Pipes to be repaired or affixed	1,288
Sanitary Sinks to be provided	401
Yards to be paved	97
Yards to be repaired	1,053
Courts or Yards to be cleansed by Tenants... ...	131
Houses to be cleansed by Tenants	65
Wash Houses to be repaired or limewashed ...	1,548
Keeping of fowls to be discontinued	84
Nuisances from swine and swine styes abated ...	19
Accumulations of rubbish, manure, etc., to be removed	186
Manure receptacles to be provided or repaired ...	36
Dangerous premises to be reported to City Surveyor's Department	882
Defective Fittings to be reported to Water Dept....	1,675
Other Work to be done	1,907
Total	86,938

In connection with the defects discovered notices were issued as follows :—

Preliminary notices	19,859
Reminders	2,486
Statutory notices	1,796

In 95 instances a summons was issued. Seven summonses were afterwards withdrawn. Of the other 88 cases, in only one was a fine imposed, in 51 the defendant was ordered to do the work and pay the costs of the summons, and in 35 cases an order to do the work only was made, the defendant not paying even the costs of the summons.

COURTYARDS.

Two special Inspectors are engaged in visiting courtyards in order to see that the water closets, outhouses and drain traps are kept clean by the tenants. They made 87,000 inspections of water closets and found 1,625 obstructed and 14 in a dirty condition.

The special staff of court cleaners carried out the following :—

Courts cleansed (paid)	13,009
Courts cleansed (free)	10,167
Houses stripped	84
Water closets inspected	106,003
Water closets opened	9,522
Water closets cleansed	70,500
Pan privies cleansed	6
Sheds washed	29,499
Drain traps cleansed	157,723
Drains opened	5,487

COMMON LODGING HOUSES.

At the close of the year there were 31 of these on the register, with accommodation for 2,132 persons. Of these 28 houses with beds for 2,038 are for men only and the other three with 94 beds are for women only.

The visits paid during the day to these houses numbered 1,074, while 122 visits were paid at night. The average number of persons found occupying the houses was 1,561.

No serious breaches of the rules were discovered, but a large number of minor sanitary defects were found and remedied.

HOUSES LET IN LODGINGS.

Of these there were 493 on the register at the end of the year, giving accommodation for 4,152 lodgers. They were visited about once a month, the actual number of visits paid being 5,989. At these visits attention was called to a large number of small defects in the houses themselves as well as to the want of cleanliness in a good many instances. In the main, however, the houses are kept in fairly good condition, having regard to the class of tenants who, as a rule, are occupying them.

The total number of rooms in the 493 houses was 1,953. In 942 instances these rooms were let singly, the remaining 1,011 rooms were let to 489 tenants, most of whom rented two rooms.

Some idea of the objectionable conditions found and remedied is obtainable from the statement below :—

Overcrowding	6
Sexes not separated	0
Repairs to houses	1,097
Rooms not swept daily	6
Passages not swept	2
Stairs not swept	2
Houses to be cleansed (walls and ceilings)	376
Drains, etc., obstructed	100
Water-closets to be repaired	90
Windows not opened	2
Rubbish to be removed from yards and cellars ...	13
Ashbins to be provided	26
Water taps and pipes to be repaired	18

CANAL BOATS REPORT.

THE COUNCIL HOUSE,
BIRMINGHAM,
January 22nd, 1923.

GENTLEMEN,

In compliance with Section 3 of the Canal Boats Act, 1884, I beg to submit the annual report of the work done by this department during the year 1922 under the Canal Boats Acts, 1877 and 1884, and the Regulations under these Acts.

The Canal Boat Inspector for the City is Inspector W. G. E. Childs, who combines with this work the duties of Inspector of Common Lodging Houses. His salary for the joint appointment is 55s. per week and bonus, with uniform and allowance for cycle.

INSPECTION OF BOATS.

During the year 1922 the number of boats inspected on the canals within the City area was 1,093, and the number of inspections during each quarter is shown as follows:—

During the	first	quarter of the year	241	boats	were examined.
,,	second	,, ,,	310	,,	,,
,,	third	,, ,,	260	,,	,,
,,	fourth	,, ,,	282	,,	,,
		Total ...	1,093		

The 1,093 boats inspected were registered for the accommodation of 3,414 persons and when inspected were found to be carrying 1,319 men, 842 women, and 873 children, a total of 3,034 persons, represented in terms of adults as 2,743.

The following table shows the number of boats inspected during the last five years, giving the number of persons whom the boats were registered to accommodate and the actual number of occupants at the time of inspection.

Year.	No. of boats inspected.	Registered to carry (adults).	Actually occupied by:— Men.	Women.	Children.	Total occupying.	Equivalent to adults.
1918	868	3,017	1,027	674	743	2,444	2,196
1919	890	2,975½	1,189	566	553	2,308	2,124
1920	930	3,076½	1,121	676	569	2,366	2,176
1921	1,037	3,311½	1,224	773	817	2,814	2,542
1922	1,093	3,414	1,319	842	873	3,034	2,743

Of the 1,093 boats inspected during the year, it was found that 986, or 90·2 per cent., were in good condition and conforming with the Acts and Regulations; while in 107, or 9·8 per cent. of the total, various contraventions were found. These are classified thus:—

Boats	met with	one	contravention	each	40	making total	contraventions	40
,,	,,	two	,,	,,	28	,, ,,	,,	56
,,	,,	three	,,	,,	16	,, ,,	,,	48
,,	,,	four	,,	,,	23	,, ,,	,,	92
			Total ...		107		Total ...	236

Complaint notes were duly served on the owners in all cases.

During the year, certificates were returned by owners, signed by various Canal Boat Inspectors, showing that 185 complaints had been remedied.

The following table shows the number and character of contraventions found and remedied during the year.

Contraventions referring to.	Outstanding and brought forward from 1921.	Found during 1922.	Remedied during 1922.	Carried forward to 1923.
Cabins requiring painting ...	10	46	35	21
Cabins requiring repairs ...	5	45	33	17
Cabins requiring marking ...	5	41	30	16
Cabins leaking	4	35	25	14
Non-Registration	1	5	4	2
Not producing certificate ...	2	13	11	4
Certificate not identifying boat	1	1	1	1
Fly-boats being used as ordinary	—	3	3	—
Separation of sexes	3	21	20	4
Overcrowding	1	24	21	4
Dirty cabins	—	2	2	—
Totals ...	32	236	185	83

No legal proceedings have been taken in any case during the year.

Infectious Diseases.

On November 13th a woman was removed to Hospital from the boat Northolt, No. 1042, Birmingham, and on November 29th it was reported that the patient was suffering from para-typhoid fever. The Northolt was then at Ellesmere Port, and on communication with the owners it was ascertained that the occupants had changed over with their bedding and belongings to the boat Siberia, No. 1206, Birmingham, which was then on its way back to Birmingham. The cabin and its contents of the Siberia were thoroughly disinfected on the arrival of the boat in Birmingham. The Northolt, which had in the meantime left Ellesmere Port for Birmingham, was also disinfected on its arrival here. No other cases of illness occurred in this family, and as the Northolt had been working all over the Midland area, it was impossible to trace the source of the disease. No other case of infectious disease was reported from the boats during the year.

Registration of Boats.

There were 17 boats registered during 1922 in Birmingham, and 6 registrations were cancelled, leaving a total of 516 boats on the Birmingham Register on December 31st, 1922, as against 505 on December 31st, 1921.

The Registrations were as follows:—

New motor boats registered	0
New ordinary boats registered	3
Ordinary boats re-registered	14
	17
Registration cancelled	6
Increase	11

Eleven of these re-registrations were due to change of ownership, one to structural alteration, one from use of fly-boat to ordinary boat, and one, where registration had been previously cancelled on being used as a day boat only, was re-registered on reverting to use as a dwelling boat.

Of the 14 boats re-registered, 5 were previously registered at Chester, 1 at Wolverhampton, 3 at Stoke-on-Trent, 2 at Uxbridge, and 3 at Birmingham. The outside authorities concerned were all notified of the re-registration.

The number of boats on the Birmingham Register for the last five years has been as follows:—

December 31st,	1918	Boats on Register	465
,,	1919	,, ...	470
,,	1920	,, ...	478
,,	1921	,, ...	505
,,	1922	,, ...	516

The 516 boats on the Register at present are classified as follows:—

Ordinary boats	465
Steam boats	21
Motor boats	30

I am, Gentlemen, your obedient servant,

T. W. BEAZELEY, M.B., D.P.H.,

Assistant Medical Officer of Health.

MILK SUPPLIES

The record of the Veterinary Superintendent who deals with the inspection of the cows and cowsheds in Birmingham, and with the taking of samples of milk for examination for tubercle bacilli is set out on page 35.

Again the record of the milk shop inspectors, who look after the registration of milk vendors and the cleanliness of their utensils and premises is set out below:—

No. of Milkshops on Register	4,098
No. of Dairies on Register	8
No. of Purveyors on Register	602
New milkshops registered	331
New purveyors registered	197
Milkshop transfers	336
No. of visits to Milkshops	4,248
No. of visits to Dairies	43
No. of visits to Purveyors	796
No. of visits to Railway Stations	104

Milk vessels examined at milkshops	7,281
Dirty vessels found at milkshops	2
Milk churns examined at stations	301
Dirty churns found at stations	0
Milkstores limewashed	2
Milkshops limewashed	45
Sanitary defects found	43
Other contraventions	20
Cases of infectious disease reported	52
Milkshops registrations cancelled	72
Purveyors' registrations cancelled	68

The sampling of milk for adulteration is recorded by the City Analyst in his annual report.

But all this care and supervision does not give us a clean milk. People do not like milk, for it is so liable to go sour and putrid. There is a substantial amount of tuberculosis caused by milk, and, further, a certain number of cases of scarlet fever and diphtheria are spread by milk. Some people allege that the cow dung in milk may cause epidemic diarrhœa in young children in summer.

Nearly all of these disadvantages can be got rid of without greatly added cost by requiring all milk to be properly pasteurised and bottled.

Nearly all large American cities have adopted this method of distributing milk. To become familiar with the various steps taken by these cities to obtain their splendid milk supply I was instructed to visit American cities and report on their supplies. This I did by means of a special report which has been widely distributed among the milk trade. Already several large distributors are actively engaged in equipping machinery to provide pasteurised bottled milk cooled to 40° F. before being sent out. Already, too, it is found that some means must be taken both by the dealer and by the Public Health Department to control the bacteriological content of the milk at various stages of the process through which it passes.

One large firm of distributors has found it profitable to pay for clean milk at a higher rate, *i.e.*, milk containing fewer bacteria. At several of the other plants bad results have been obtained by not controlling the process bacteriologically.

THE DAIRIES, COWSHEDS AND MILKSHOPS ORDERS, 1885-1899.

(Report made by Mr. Brennan De Vine, F.R.C.V.S., Veterinary Superintendent.)

Inspection of Cows and Cowsheds in the City.

There were 138 dairy farms having 284 registered cowsheds housing 1,750 dairy cows in the City under the supervision of the Veterinary Department on 31st December, 1922.

During the year 3,369 visits of inspection have been made to City dairies. The cows within the City area are inspected by a Veterinary Officer at least once a month, and their udders examined for disease.

The health and condition of the cows in City dairies has been good. There has been an all-round improvement during the last two years, and during the past year the standard of cleanliness of cows in the City has much improved.

During the year there were 21 cows found to be affected with acute catarrhal mastitis. In each case the owners were notified that the milk from these cows should not be sold for human consumption, and in the majority of cases, where possible, the animals were kept isolated from the rest of the herd.

There was one case of tuberculosis with emaciation and tuberculosis of the udder. This cow was removed from the herd and slaughtered. No other case of tuberculosis was detected in any cow in the City during the year.

During the year 13 applications were received for change of occupancy of cowsheds and 9 applications from dairy keepers to commence keeping cows in the City for the sale of milk.

Only one new cowshed was erected during 1922.

On the whole the cleanliness of the cowsheds visited was satisfactory. In several cases it was found necessary to give notice in writing to cowkeepers to have their cowsheds limewashed and effect certain structural alterations, principally with regard to the length of the cowbeds and size of the gutter, and in a number of cases farmers were requested to have the manure heaps removed from close proximity to the cowshed doors.

INSPECTION OF MEAT, FISH, FRUIT, ETC.

(Report by Mr. Brennan De Vine, F.R.C.V.S., Veterinary Superintendent.)

The inspection of meat and other foods has been continued on the lines of the previous year, the City being divided into districts and an inspector being placed in charge of each district. Inspectors are constantly employed in the Public Abattoirs and in the Wholesale Fish, Poultry and Vegetable Markets. All food offered for sale in these markets is subject to daily inspection.

During the year the Ministry of Health issued a Memorandum on the system of Meat Inspection. This was issued to all Local Authorities with a view to, as far as possible, bringing about uniformity in meat inspection both as regards the amount of inspection carried out in different districts and the standard of judgment and practice of individual inspectors. The inspection in Birmingham is being carried out on the lines recommended by the Ministry of Health; particular attention being paid to give each member of the food inspection staff an opportunity of seeing most of the meat and other foods which have been judged as unfit from the different districts. This has been carried out with a view to introducing, as far as possible, an equal standard of judgment all over the City. This removes any unfairness to traders in one part of the City as compared with traders in another part as regards their treatment by inspectors. Under the present system the same amount of inspection is carried out equally in all parts of the City.

Food Preparation Premises.—During the year registration was effected of 287 premises used for the manufacture of potted and cooked meats. Your Food Inspectors were instructed to furnish the names and addresses of all the places in their districts in which potted meats were manufactured. The effect of registration was to bring to light many places, especially those smaller places at the back of private houses and in backyards, the existence of which was previously unknown. These premises are now subject to regular inspection by the district inspectors, and steps are taken to keep the places in a sanitary condition, and to prevent, as far as possible, any contamination of the potted meats, etc., prepared.

The following list gives the number of registered premises used for the manufacture of potted meats, etc., at 31st December:—

	No. in City.
A-la-mode Beef	67
Sausage Manufacturers	32
Pork Pie Manufacturers, etc.	34
Tripe Dressers	52
Potted and Cooked Meat Manufacturers ...	102
Total ...	287 on register.

Note.—In addition to the above, fish friers' premises and factories where pork pies, sausages, tripe, etc., are prepared, are not included in this registration, but are regularly visited for the purposes of inspection.

Inspectors.—There are two inspectors engaged whole-time at the Public Abattoir and there is one inspector in charge of the Fish and Vegetable Markets. There are also four district inspectors who are responsible for the inspection of meat, fish, fruit, etc., in their districts, which cover the whole of the City.

During the year they paid the following visits:—

	Visits.
Slaughter-houses	12,106
Beef Butchers	15,204
Pork Butchers	4,719
Fishmongers	5,785
Fruiterers	8,315
Provision Dealers	947
Tripe Dealers, etc.	305
Caterers	801
Fish Friers	2,321
Wholesale Provision Merchants	109
A-la-mode Beef Shops	2,394
Ham and Bacon Dressers	359
Street Hawkers	6,958
Inspections by request	474
Jam, etc., Manufacturers...	15
Cold Stores	414
	61,226

Slaughtering of Animals for Food.—The following table gives the number of animals slaughtered in the public slaughterhouse. The meat of these was examined before being submitted for sale:—

	1922.	1921.	1920.
Cattle ...	39,060	31,127	42,729
Calves ...	63,371	63,502	47,193
Sheep ...	174,965	187,443	126,980
Pigs ...	36,616	52,519	22,250
	314,012	334,591	239,152

Note.—Owing to the prevalence of foot-and-mouth disease in the country, and the restrictions imposed by the many Foot-and-Mouth Disease Orders issued by the Ministry of Agriculture, the number of fat cattle sent to our markets was very materially interfered with during 1922.

During the year three cases of illicit slaughtering were detected in the City area, and legal proceedings were instituted.

The amount of food seized or given up voluntarily as unfit for human consumption was as follows:—

Bad Meat.	
Voluntarily surrendered	7,342 lots.
Weight destroyed	410 tons.
Bad Fish, Poultry, etc.	
Voluntarily surrendered	162 tons.
Bad Fruit, Vegetables, etc.	
Weight destroyed	58 tons.
Persons prosecuted	4
Penalties inflicted	£22 5 0

The Public Abattoir statistics showed that the majority of the emaciated animals sent in for slaughter are affected with tuberculosis, but a large percentage are affected with Johne's Disease. From the numbers met with in the Public Abattoir, this disease appears to be much more prevalent than is commonly believed.

Samples of shell fish, when in season, are collected weekly by us and sent to the City Laboratory for examination. No shell fish are allowed to be sold on our markets unless they are accompanied by a certificate of origin.

Control of Damaged Fruit.—The practice in our wholesale markets of disposing of consignments of fruit and vegetables, parts of which are known to be damaged, at a "sorting price," is often the cause of much increased work to our Food Inspection Department, and gives rise to serious trouble and to insanitary conditions.

Towards the end of the different seasons, such as the orange, tomato, and plum seasons, a large percentage of the goods arrive in a damaged state, due to climatic conditions, delays in transport, over-ripeness of food when packed, and several other causes. If these goods were to be sorted at the vegetable market, it would seriously inconvenience the stall-holders, and cause an undue delay in their business. To avoid this the salesmen dispose of such goods to hawkers and others at much reduced prices. The goods are then removed from the markets, and the sorting is very often carried out in the public highway, the really rotten fruit being thrown into the street and courts. The portions of the damaged fruit, etc., which appear to the hawkers saleable (much of which is unfit for human consumption) is sold by them in the streets.

It is advisable that goods being sold at a "sorting price" should be labelled as such, passed through a sorting room, and be subjected to inspection before being offered for sale from handcarts in the street.

It is anticipated that if the wholesale firms will help by carrying out the wishes of the Committee, that under this system it would prevent the dumping of fruit in the streets, which often under past conditions lay there over the week-end during the summer months, giving rise to flies, bad smells, and in addition being visited by children of the poorer class in the neighbourhood, who often picked up unfit portions of fruit and eat it. This would overcome the difficulty of keeping the streets free from this refuse, and would prevent, to a great extent, the sale of unfit fruit in our streets.

The Committee are arranging to provide a sorting room in Gloucester Street, which is close to the Wholesale Market, and hope to get possession of these premises in March, and it is expected that the use of them will prove a benefit, not only to the public health, but to the trader and hawker generally.

SHOPS ACT, 1912, 1913, 1920 and 1921.

The work under these Acts has continued to be carried out by two whole-time inspectors.

The total number of shops observed and visited is shown thus:—

Shops observed without entering	22,116
Systematic visits to shops	9,800
Re-visits	1,315
Special visits	384

In the course of these visits, the following infringements were found :—

Early closing notice not exhibited	404
Shop not closed at 1 p.m.	34
Exempted trades notice not exhibited	342
Young persons' notice not exhibited	13
Young persons' hours of work not exhibited ...	7
Assistants' half-holiday not exhibited	125
Assistants' meal times not exhibited	6
Seats for assistants not provided	2
Sanitary convenience not provided	1
Change of early closing day not notified	146

Prosecutions were undertaken in five cases with the following results :—

For keeping open his shop on the weekly half-holiday :—

One defendant was fined £10 (this being his sixth conviction).

Three defendants were fined 10s. each.

For not exhibiting exempted trade notice :—

One defendant was fined 10s.

Closing and Exemption Orders under the 1912 Act.

These orders are the same as were in force in the previous year. The Closing Orders include pawnbrokers and hay and corn dealers, who are required to close their shops on a half-holiday or a specified day in each week, a Wednesday or a Saturday being the day selected), and butchers, who are required to close their shops at 8 p.m. on Friday nights and at 7 p.m. on all other nights of the week.

The Exemption Orders in force are those relating to grocers' shops and photographic studios, which are freed from the necessity of closing for a weekly half-holiday.

Proceedings against butchers for keeping open after the hours permitted in the Order were taken in thirty cases with the following results :—

15 defendants were fined £1 each for a first offence.

3 defendants were fined 10s. each for a first offence.

One defendant was fined costs only for a first offence.

3 defendants were fined £5 each for a second offence.

2 defendants were fined £3 each for a second offence.

1 defendant was fined £2 for a second offence.

2 defendants were fined £1 each for a second offence.

3 defendants were fined £5 each for a third offence.

Shops Act, 1913.

This Act, which is an amending Act to the Shops Act, 1912, is applicable only to premises used for the sale of refreshments, and regulates hours of employment, hours of meal times and holidays of all persons employed at such establishments in connection with the sale of refreshments. It may be adopted for these purposes in place of the 1912 Act, and, if so adopted, can only be relinquished at the end of one year or of any succeeding year afterwards. At the present time there are five establishments in the City which have adopted the 1913 Act.

Shops Act, 1920.

This Act, which replaced the Defence of the Realm Regulations, and which requires all shops, with specified exceptions, to close at 9 p.m. on Saturdays and at 8 p.m. on all other days of the week, has again been extended under the Expiring Laws Continuation Act, and is in force till 31st December, 1923.

Proceedings were taken under this Act in 13 cases for keeping shops open after the closing hour, with the following results :—

3 defendants were fined £1 each.

5 defendants were fined 10s. each.

4 defendants were fined 5s. each.

1 defendant was fined 2s. 6d.

Shops Act, 1921.

This Act is an amendment of the 1920 Act, and extends the hours during which shops may be kept open for the sale of fruit, table waters, sweets, chocolates, sugar confectionery and ice-cream till 9-30 p.m. on week-days other than Saturdays, and 10 p.m. on Saturdays.

FACTORIES AND WORKSHOPS.

The supervision of factories and workshops is partly in the hands of the Home Office and partly in the hands of the City Council. The work done by the three Inspectors engaged by the Public Health Committee is indicated in the following tables :—

I. Inspection of Factories, Workshops and Workplaces.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)... ...	1,065	128	—
Workshops (including Workshop Laundries) ...	5,575	259	—
Workplaces (other than Outworkers' Premises included in Part 3 of this Report)	436	18	—
Total	7,076	405	—
Re-visits paid ...	3,109	—	—

II. Defects found in Factories, Workshops and Workplaces.

Particulars. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H. M. Inspector. (4)	
Nuisances under the Public Health Acts:—				
Want of cleanliness	1,083	1,082	—	—
Want of ventilation	16	16	—	—
Overcrowding	5	5	—	—
Want of drainage of floors	1	1	—	—
Other nuisances	569	566	—	—
Sanitary accommodation—				
Insufficient	55	54	—	—
Unsuitable or defective	987	985	—	—
Not separate for sexes	65	65	—	—
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	1	1	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	—	—	—	—
Total	2,782	2,775	—	—

III.—Home Work.

NATURE OF WORK.	Outworkers' Lists, Section 107.									Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending Lists.	Prosecutions.							
	Sending twice in the year.			Sending once in the year.				Failing to keep or permit inspection of Lists.	Failing to send Lists.	Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
	Lists.	Outworkers.		Lists.	Outworkers.										
		Contractors	Workmen.		Contractors.	Workmen.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing apparel	308	820	935	42	65	121	—	—	—	—	—	—	—	—	—
Household linen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lace, lace curtains and nets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Curtains and furniture hangings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Furniture and upholstery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electro-plate	26	161	26	1	2	2	—	—	—	—	—	—	1	1	—
File making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brass and brass articles	4	—	14	—	—	—	—	—	—	—	—	—	—	—	—
Fur pulling	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cables and chains	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anchors and grapnels	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cart gear	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Locks, latches and keys	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Umbrellas, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Artificial flowers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nets, other than wire nets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tents	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sacks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Racquet and tennis balls	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paper, etc., boxes, paper bags	18	—	71	2	—	7	—	—	—	—	—	—	1	1	—
Brush making	4	—	55	—	—	—	—	—	—	—	—	—	—	—	—
Pea picking	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Feather sorting	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Carding, etc., of buttons, etc.	64	14	612	7	22	187	—	—	—	—	—	—	1	1	—
Stuffed toys	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Basket making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chocolates and sweetmeats	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	424	995	1713	52	89	317	549	—	—	—	—	—	3	3	—

IV.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year 5,034

V.—Other Matters.

		Number.
Matters notified to H.M. Inspector of Factories :—		
Failure to affix Abstract of the Factory and Workshop Acts (s.133, 1901)		4
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (s. 5, 1901)	Notified by H.M. Inspector ...	205
	Reports (of action taken) sent to H.M. Inspector ...	247
Other	... ...	—
Underground bakehouses (s. 101) :—		
Certificates granted during the year		—
In use at the end of the year		4

BLACK SMOKE PREVENTION.

The figures below show the numbers of observations made during the year. Two Inspectors devote the whole of their time to making observations of chimneys and reporting to the Public Health Committee every case of emission of black smoke. Most of the prosecutions are not taken under the Public Health Act, but under the Birmingham Corporation Act, 1883.

Total number of observations of one hour's duration made ...	3,726
Cases reported for excessive black smoke :—	
Boiler fires	119
Boilers and furnaces	17
Furnaces only	68
Total	204

Length of black smoke emissions :—

Under 5 minutes in one hour	...	174	instances.		
6 to 10	„	„	„	...	246	„
11 to 15	„	„	„	...	140	„
16 to 20	„	„	„	...	114	„
21 to 25	„	„	„	...	98	„
26 to 30	„	„	„	...	18	„
31 to 35	„	„	„	...	6	„
37	„	„	„	...	1	„

HEALTH VISITORS' WORK, 1922.

(By Blanche Gardiner, B.A., Superintendent of Health Visitors.)

During the year 1922, the number of health visitors (general, tuberculosis, and infant welfare) was about the same as in the previous year, viz., 94 (19 being engaged in general health visiting, 14 or 15 in tuberculosis visiting, and the remainder in maternity and infant welfare work).

Though the *number* of visitors remained fairly constant, the actual workers varied considerably : 27, who left for different reasons during the year, being replaced by the same number of new ones. This frequent change of visitors is detrimental to good work, and is regrettable on grounds of both efficiency and economy, and whenever possible should be avoided.

Reports dealing more fully with maternity and infant welfare work, and also with tuberculosis are given elsewhere ; but the following table indicates the class of cases dealt with by the general health Visitors. Last year there had been some changes in its grouping and sub-divisions, and this year an attempt has been made to combine the present and previous tabulated forms in such a way that the figures given for the last twelve years may be comparable.

Those under the heading of *Overcrowding* have been omitted this time, since they convey no true idea of the evil, as a very large number of homes, visited for other reasons, might also with justice (in the present house shortage) be termed " Overcrowded."

Some of the visitors gave written details in September of a few of the worst instances of overcrowding, *e.g.*, parents and seven children (ages 17—2) living and sleeping in one room, and many instances of parents and five children sleeping in one bedroom.

PRIMARY VISITS:—	1919	1920	1921	1922
House Inspection	3,508	3,821	6,697	6,111
Infant Visits	3,589	2,767	3,151	3,033
Measles	13,284	6,154	3,825	3,704
German Measles	566	358	90	102
Chicken Pox	2,277	3,204	2,395	3,083
Whooping Cough	843	2,764	1,758	5,169
Mumps	738	698	7,497	3,591
Influenza	1,301	327	134	569
Pneumonia	771	1,783	1,138	2,129
Epidemic Diarrhœa (and Prevention)	?	?	1,400	544
Scabies	1,153	981	643	233
Impetigo	159	224	542	782
Conjunctivitis	25	9	83	72
Enlarged Glands	?	?	?	946
Bronchitis, Colds, etc.	3,277	2,833	3,853	3,058
Neglect, Insufficient Clothing, etc.	?	?	?	64
Verminous Cases	17	42	103	81
Visits to Schools	273	255	382	277
Visits to obtain Addresses	?	?	?	421
Visits to Officials, Doctors, etc.	Included in "Other Visits" during these three years.			500
Visits to Aged Persons or on their behalf				216
Visits for Special Enquiries	?	?	?	685
Country Holiday Inspections	21	24	151	87
Health Talks	25	23	36	13
Other Visits	6,389	5,467	4,052	778
Total Primary Visits	38,216	31,734	37,930	36,248
RE-VISITS	13,985	15,501	18,920	19,968
TOTAL EFFECTIVE VISITS	52,201	47,235	56,850	56,216
USELESS VISITS (Out, Removed, etc.)	6,652	5,685	5,871	4,955
GRAND TOTAL	58,853	52,920	62,721	61,171

Scabies.—The number of scabies cases reported from the schools (and visited in the homes), which has been decreasing each year since the end of the war, shows in 1922 a still larger fall. Sixty-seven tickets for free baths at the Skin Hospital were given by the visitors, to children under, and persons above, school age.

Pneumonia.—2,166 cases of pneumonia were notified by doctors to the Health Department. The health visitors paid 2,129 primary visits and 2,689 re-visits, and as before tried to help the anxious relatives by putting them into touch with various agencies. In a large number of instances (543) the patients were treated in hospital. Sometimes death had occurred before the notification was received and the home visited.

The *Birmingham District Nursing Society* nursed for the Public Health Department cases of pneumonia, whooping cough and measles. Other illness referred to the district nurses by the health visitors were:—Pleurisy, bronchitis, influenza, dressing after operation, convulsions, and bed-sores.

Births.—The general health visitors (who visit those infants whose births occur outside the Infant Welfare Centres areas) paid 2,950 primary visits and 5,297 re-visits, and also 83 visits and 20 re-visits, in connection with still-births.

The Aged Poor.—Many verbal and written applications are still received each year for the health visitors to call upon and to try and improve the conditions of aged men and women—some living with relatives or friends, others quite alone. They are most difficult cases to deal with; and special kindness, tact, and powers of persuasion are needed to bring about any real improvement in their circumstances. This year 216 primary visits and 384 re-visits were made respecting these.

The Staff of Visitors.—The visitors in all departments have worked well; and now that the strenuous times of the war and immediate post-war conditions are well past, it is desirable that all possible shall be done to render their circumstances easy, and their work (often in itself unpleasant) as little unpleasant as possible. Kindly consideration and appreciation is requisite for all, and more especially for those who have borne the brunt of long difficult years of service, and undoubtedly the best way of maintaining their keen interest and high standard of efficiency in their ever-varying duties, is for those who have proved themselves trustworthy to be fully trusted.

TABLE I.

Vital Statistics of Whole District during 1922 *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.			
		Uncorrected	Nett.				Non-residents registered in the District.	Residents not registered in the District.	Under 1 year of Age.		At all Ages.	
		Number.	Number.	Rate.	Number.	Rate.			Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1901	760,989	?	23,866	31·4	14,089	18·6	?	?	4,205	176	13,290	17·5
1902	768,757	?	24,246	31·2	12,973	16·7	?	?	3,503	144	12,650	16·3
1903	776,604	?	23,956	30·9	12,433	16·0	?	?	3,525	147	12,224	15·8
1904	784,532	?	24,260	31·0	14,047	17·9	?	?	4,346	179	13,882	17·7
1905	792,540	?	22,939	29·0	12,132	15·3	?	?	3,224	141	11,948	15·1
1906	800,631	?	23,484	29·4	12,983	16·2	?	?	3,682	157	12,737	15·9
1907	808,803	?	23,233	28·8	12,567	15·6	?	?	3,084	133	12,356	15·3
1908	817,060	?	23,986	29·1	12,782	15·5	?	?	3,124	130	12,596	15·3
1909	825,400	?	22,555	27·4	12,573	15·3	?	?	2,727	121	12,398	15·1
1910	833,826	?	22,288	26·8	11,200	13·5	?	?	2,570	115	11,001	13·2
1911	842,337	?	21,975	26·1	12,760	15·2	?	?	3,298	150	12,623	15·0
1912	850,947	22,186	22,168	26·1	12,131	14·3	338	212	2,470	111	12,005	14·1
1913	859,644	23,858	23,812	27·3	13,116	15·0	362	208	3,070	129	12,962	14·9
1914	882,534	23,268	23,207	26·4	13,115	14·9	346	257	2,839	122	13,026	14·8
1915	891,234	21,217	21,187	23·8	12,907	14·5	448*	357	2,490	118	12,816	14·4
1916	895,678	20,663	20,618	23·1	12,268	13·7	603*	416	2,142	104	12,081	13·5
1917	900,000	17,681	17,706	19·7	11,252	12·5	569*	591	1,791	101	11,274	12·6
1918	870,000	16,932	16,840	19·4	13,334	15·4	741*	582	1,674	99	13,175	15·2
1919	910,000	19,468	19,335	20·9	12,180	13·2	585	405	1,630	84	12,000	13·0
1920	910,000	25,276	25,069	27·6	11,664	12·9	588	333	2,072	83	11,409	12·6
1921	919,683	22,307	22,134	24·1	10,665	11·6	630	326	1,838	83	10,361	11·3
Averages for years 1901-1921	842,914	?	22,327	26·6	12,532	14·9	?	?	2,824	125	12,324	14·7
1922	927,844	19,975	19,850	21·5	11,454	12·4	531	289	1,705	86	11,212	12·1

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.

Total population at all ages at Census of 1921, 919,438. Area of District in acres, 43,537. Number of occupied houses (from Rate Books) in 1921, 194,687.

Average Number of Persons per house, 4·7.

* Including all members of the Military and Naval Forces, whether residents of Birmingham or not.

TABLE II.

Causes of, and Ages at, Death during the Year ending December 30th, 1922.

CAUSE OF DEATH.	AGES.																Males	Females.	Persons
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
I.—General Diseases.																			
Enteric Fever	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	—	2	1	3
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	2	—	2
Smallpox—																			
(*a*) Vaccinated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Not Vaccinated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Doubtful	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	22	32	14	3	3	5	—	—	—	—	—	—	—	—	—	—	37	42	79
German Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	1	6	10	1	3	9	2	1	1	1	—	—	1	—	—	—	22	14	36
Whooping Cough	147	135	46	16	5	7	—	—	—	—	—	—	—	—	—	—	170	186	356
Diphtheria	3	9	9	6	6	43	6	1	1	3	1	1	—	—	—	—	46	43	89
Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Influenza	8	14	5	1	1	3	3	14	13	47	53	74	76	78	45	7	216	226	442
Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Asiatic Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera Nostras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	2	—	2
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leprosy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	3	—	—	—	—	—	1	1	—	1	2	4	5	1	2	—	9	11	20
Other Epidemic Diseases	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Pyæmia, Septicæmia	2	—	—	—	—	—	—	—	—	1	1	2	—	—	—	—	4	2	6
Glanders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anthrax (Splenic Fever)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rabies	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tetanus	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2	—	2
Mycoses	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1	2
Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Beri-Beri	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Pul. Tuberculosis (not acute)	—	2	4	2	1	2	16	58	82	178	231	153	92	23	1	—	526	319	845
Acute Phthisis	—	—	—	—	1	2	1	5	3	8	6	8	2	—	—	—	19	17	36
Acute Miliary Tuberculosis	1	3	4	2	2	1	—	1	1	1	1	1	—	—	—	—	10	8	18
Tuberculous Meningitis	16	14	10	4	5	11	4	5	1	—	2	—	—	—	—	—	35	37	72
Tuberculosis (Periton. Intest.)	3	2	2	3	4	5	2	4	1	1	3	—	1	1	—	—	15	17	32
Tuberculosis (Spinal Column)	—	—	—	—	—	2	—	1	—	2	—	1	1	—	—	—	6	1	7
Tuberculosis (Joints)	—	—	—	—	—	1	—	2	—	1	—	1	—	1	—	—	3	3	6
Tuberculosis (other organs)	2	—	—	—	—	3	1	—	1	1	1	2	—	—	1	—	7	5	12
Disseminated Tuberculosis	1	6	—	1	2	—	—	1	1	1	5	1	1	1	—	—	9	12	21
Rickets, Softening of Bones	—	5	—	—	—	1	1	—	—	—	1	—	—	—	—	—	3	5	8
Syphilis	20	—	—	—	—	—	—	—	2	—	3	3	3	1	1	—	20	13	33
Other Venereal Diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cancer (buccal cavity)	—	—	—	—	—	—	—	1	—	—	2	11	22	22	3	—	57	4	61
Cancer (stomach, liver, etc.)	—	—	—	—	—	—	—	—	—	4	22	58	103	94	39	4	171	153	324
Cancer (periton., intest., rectum)	—	—	—	—	—	—	—	1	1	4	10	30	81	83	20	2	128	104	232
Cancer (female genital organs)	—	—	—	—	—	—	—	—	2	3	24	30	47	23	13	1	—	143	143
Cancer (breast)	—	—	—	—	—	—	—	—	—	4	14	33	29	23	10	1	—	114	114
Cancer (skin)	—	—	—	—	—	—	—	—	—	—	—	2	1	3	—	2	4	4	8
Cancer (other organs)	1	—	—	—	1	1	3	1	1	3	21	34	68	55	18	1	134	74	208
Other Tumours (undefined)	—	—	—	—	—	—	—	1	—	—	1	4	1	1	1	—	6	3	9
Rheumatic Fever	—	—	—	—	—	4	10	6	4	2	2	3	2	2	1	—	18	18	36
Ch. Rheumatism, Osteo-Arthritis	—	—	—	—	—	—	—	—	—	2	2	3	10	9	6	—	13	19	32
Gout	—	—	—	—	—	—	—	—	—	—	1	2	2	2	2	—	5	4	9
Scurvy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diabetes	—	—	—	—	—	2	1	1	1	8	3	16	15	16	10	—	25	48	73

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Females	Persons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Exophthalmic Goitre	—	—	—	—	—	—	1	1	1	1	4	3	3	1	—	—	1	14	15
Addison's Disease	—	—	—	—	—	—	1	—	—	—	—	—	3	—	—	—	3	1	4
Leucocythæmia, Lymphad'oma	—	—	—	—	—	—	2	1	2	2	3	4	2	1	—	—	11	6	17
Anæmia, Chlorosis	—	—	1	—	1	—	—	2	1	4	7	8	13	7	1	—	20	25	45
Other General Diseases ...	4	1	1	—	—	1	1	—	1	3	—	4	2	1	—	—	10	9	19
Alcoholism	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	1	1	2
Chronic Lead Poisoning ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1
Other Poisonings (occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ditto do. (not occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
II.—Nervous System.																			
Encephalitis	1	1	1	—	1	—	1	1	—	1	1	6	1	1	—	—	7	9	16
Encephalitis Lethargica ...	—	—	1	—	—	—	—	—	1	—	1	—	1	—	—	—	2	2	4
Cerebro-Spinal Fever	6	2	2	1	—	2	1	—	1	—	1	—	—	—	—	—	8	8	16
Acute Polio Encephalitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Meningitis (other forms) ...	19	19	5	—	—	4	2	1	2	5	1	4	—	—	—	—	38	24	62
Locomotor Ataxy	—	—	—	—	—	—	—	—	—	2	5	2	7	6	—	—	17	5	22
Acute Poliomyelitis	—	—	1	—	—	—	—	—	—	—	2	—	—	—	—	—	2	1	3
Other Dis., Spinal Cord ...	—	—	—	1	—	—	—	1	—	3	4	6	17	13	5	1	25	26	51
Cerebral Hæmorrhage, Apoplexy	2	—	—	—	—	—	2	—	—	6	12	60	107	183	106	21	230	269	499
Softening of Brain	—	—	—	—	—	—	—	—	—	—	—	—	3	5	5	1	11	3	14
Paralysis (no specified cause) ...	—	—	—	—	—	—	—	—	—	—	1	6	7	16	14	4	20	28	48
General Paralysis of Insane ...	—	—	—	—	—	—	—	1	—	5	12	11	5	—	—	—	25	9	34
Other Mental Alienation ...	—	—	—	—	—	—	—	—	—	—	1	—	2	2	—	—	2	3	5
Epilepsy	2	—	—	—	—	1	2	—	8	10	13	5	7	7	1	—	30	26	56
Convulsions (5 and over) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Convulsions (under 5)	44	15	2	—	—	—	—	—	—	—	—	—	—	—	—	—	34	27	61
Chorea	—	—	—	—	—	—	2	—	—	—	—	1	—	—	—	1	1	3	4
Hysteria, Neuralgia, Neuritis ...	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	2	2
Other Dis. of Nervous System...	2	—	—	—	—	—	1	2	2	6	8	9	12	9	5	—	27	29	56
Diseases of Eyes and Annexa...	1	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	3	1	4
Mastoid Disease	1	—	1	—	—	2	1	3	—	4	—	—	1	—	—	—	11	2	13
Other Diseases of Ears ...	2	1	1	—	1	2	1	4	3	1	2	—	—	1	—	—	8	11	19
III.—Circulatory System.																			
Pericarditis	—	—	—	—	—	2	3	1	—	—	1	—	—	—	—	—	2	5	7
Acute Endocarditis	—	—	—	—	—	1	3	1	2	12	17	15	7	2	—	—	29	31	60
Valvular Disease	—	—	—	1	—	5	8	15	9	25	51	76	92	96	46	5	165	264	429
Fatty Degeneration of Heart ...	—	—	—	—	—	—	—	—	—	—	1	5	14	16	4	—	20	20	40
Other Organic Diseases of Heart	2	—	—	—	—	6	3	7	4	15	38	88	134	248	168	32	329	416	745
Angina Pectoris	—	—	—	—	—	—	—	—	—	—	1	6	6	6	5	1	16	9	25
Aneurysm	—	—	—	—	—	—	—	—	1	—	3	5	6	2	—	—	14	3	17
Arterio Sclerosis	—	—	—	—	—	—	—	—	—	—	2	19	46	90	82	11	127	123	250
Other Diseases of Arteries ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1	1	2	3
Cer. Embolism, Thrombosis ...	—	—	—	—	—	—	—	—	—	—	1	11	27	30	24	5	34	64	98
Other Embolism and Throm. ...	1	—	—	—	—	—	—	—	—	1	1	—	—	2	2	—	6	1	7
Diseases of Veins	—	—	—	—	—	—	—	—	—	1	1	—	2	1	2	—	—	7	7
Status Lymphaticus	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2	—	2
Other Dis. of Lymphatic System	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2	—	2
Other Dis. of Circulatory System	—	—	—	—	—	—	—	—	—	3	1	3	4	4	2	1	9	9	18
IV.—Respiratory System.																			
Diseases of Nasal Fossæ ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of Larynx	2	1	2	—	—	1	—	—	—	—	—	—	—	—	—	—	2	4	6
Diseases of Thyroid Body ...	—	—	—	—	—	—	—	—	—	—	—	—	1	4	1	—	1	5	6
Bronchitis	118	30	6	3	2	3	1	3	3	10	37	66	166	310	263	59	525	555	1080
Broncho-pneumonia	260	163	53	7	7	19	3	1	5	8	12	26	25	30	12	2	355	278	633
Lobar Pneumonia	12	4	2	2	1	5	1	7	9	22	43	30	32	20	9	1	131	69	200
Pneumonia (type not stated)...	21	12	4	2	1	6	2	5	1	8	22	22	17	27	11	4	99	66	165
Pleurisy	5	3	1	—	—	—	1	3	—	5	7	9	6	4	1	—	25	20	45
Pul. Cong., Pul. Apoplexy ...	2	1	—	—	—	—	—	—	—	—	—	2	2	8	12	1	13	15	28
Gangrene of Lung	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Females.	Persons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Asthma	—	—	—	—	—	—	—	—	—	1	3	9	7	4	5	—	13	16	29
Pulmonary Emphysema	—	—	—	—	—	—	—	—	—	—	—	1	—	3	—	—	3	1	4
Fibroid Disease of Lung	—	—	—	—	—	—	—	—	—	—	—	2	2	—	—	—	3	1	4
Other Dis. of Respiratory System	—	—	—	—	—	—	—	—	—	1	1	1	—	2	—	—	4	1	5
V.—Digestive System.																			
Diseases of Teeth and Gums	—	2	—	—	—	—	—	1	1	—	1	2	—	—	—	—	4	3	7
Other Dis. of Mouth and Annexa	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1	2
Diseases of Pharynx, Tonsillitis	—	1	—	—	1	4	1	2	—	—	1	1	—	—	—	—	7	4	11
Diseases of the Œsophagus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Perforating Ulcer of Stomach	—	—	—	—	1	—	—	—	1	1	14	17	12	5	1	—	30	22	52
Inflammation of Stomach	21	2	1	—	—	—	—	1	—	—	1	2	7	6	5	1	26	21	47
Other Diseases of Stomach	—	—	—	—	1	—	—	—	—	—	—	—	4	2	2	1	5	5	10
Diarrhœa, Enteritis	146	23	—	2	—	3	—	—	—	4	11	5	6	13	9	2	128	96	224
Ankylostomiasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Intestinal Parasites	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Appendicitis	—	—	1	1	—	5	10	4	5	6	9	9	11	1	—	—	40	22	62
Hernia	1	—	—	—	—	—	—	—	—	1	—	3	12	6	11	2	20	16	36
Intestinal Obstruction	10	2	—	1	—	—	1	1	1	—	6	7	8	7	5	1	28	22	50
Other Diseases of Intestines	1	1	—	—	—	—	—	2	—	—	—	2	—	—	1	—	5	2	7
Acute Yellow Atrophy of Liver	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1
Hydatid of Liver	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Cirrhosis of Liver	—	1	—	—	—	1	—	1	—	—	6	10	11	9	1	1	22	19	41
Biliary Calculi	—	1	—	—	—	—	—	—	—	1	—	5	2	3	4	—	5	11	16
Other Diseases of Liver	1	1	—	—	1	—	—	—	1	2	1	3	9	4	1	—	8	16	24
Diseases of Spleen	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Peritonitis (cause unstated)	—	—	—	—	—	6	1	—	—	4	2	1	3	—	1	—	3	15	18
Other Dis. of Digestive System	—	—	—	—	—	—	—	1	—	—	—	3	—	1	—	—	3	2	5
VI.—Genito-Urinary System.																			
Acute Nephritis	1	2	2	—	1	2	4	1	—	2	3	5	4	3	—	—	22	8	30
Bright's Disease	—	—	1	—	—	1	2	6	7	15	18	42	51	48	8	1	103	97	200
Chyluria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Kidney & Annexa	—	—	—	—	—	—	1	—	—	—	2	3	3	3	—	—	6	6	12
Calculi of Urinary Passages	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	1	2	3
Diseases of Bladder	1	—	—	—	—	—	—	—	—	—	2	—	4	4	8	—	14	5	19
Diseases of Urethra, etc.	—	—	—	—	—	—	—	—	—	1	1	2	1	3	—	—	8	—	8
Diseases of Prostate	—	—	—	—	—	—	—	—	—	—	—	—	4	16	13	—	33	—	33
Diseases of Male Genital Organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uterine Hæmorrhage	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	2	2
Uterine Tumour	—	—	—	—	—	—	—	—	—	—	2	4	—	2	—	—	—	8	8
Other Diseases of Uterus	—	—	—	—	—	—	—	—	2	—	3	2	1	—	—	—	—	8	8
Ovarian Cyst, Tumour	—	—	—	—	—	—	—	—	—	1	—	2	—	—	1	—	—	4	4
Other Dis. of Female Organs	—	—	—	—	—	—	—	—	3	3	4	1	—	1	—	—	—	12	12
Diseases of Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
VII.—The Puerperal State.																			
Accidents of Pregnancy	—	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	6	6
Puerperal Hæmorrhage	—	—	—	—	—	—	—	—	1	4	4	—	—	—	—	—	—	9	9
Other Accidents of Childbirth	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	3	3
Puerperal Fever	—	—	—	—	—	—	1	—	3	13	6	2	—	—	—	—	—	25	25
Puerperal Alb'ria & Convulsions	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	5	5
Phleg. Dolens, Embolism	—	—	—	—	—	—	—	—	—	8	4	—	—	—	—	—	—	12	12
Puerperal Insanity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Diseases of Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VIII.—Skin & Cellular Tissue.																			
Senile Gangrene	—	—	—	—	—	—	—	—	—	—	—	—	5	9	11	2	12	15	27
Gangrene (other types)	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	1	1	2
Carbuncle, Boil	—	—	—	—	—	—	—	1	—	—	—	1	1	3	—	—	5	1	6
Phlegmon, Acute Abscess	4	—	—	—	—	—	—	—	—	1	—	2	4	5	1	1	14	4	18
Dis. of Integumentary System	14	1	—	—	—	1	—	—	—	—	—	2	1	5	3	—	14	13	27

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.																Males	Females.	Persons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
IX.—Bones and Organs of Locomotion.																			
Diseases of Bones	1	—	1	—	1	3	5	1	—	—	—	—	2	3	1	—	10	8	18
Diseases of Joints	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2	1	3
Amputations	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Locomotor System	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1
X.—Malformations.																			
Congenital Malformations ...	90	3	1	—	—	1	—	1	—	—	—	—	—	—	—	—	57	39	96
XI.—Diseases of Early Infancy.																			
Premature Birth	439	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	256	183	439
Infantile Debility, Icterus, etc.	151	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	97	54	151
Other Diseases of early infancy	56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32	24	56
Lack of Care (under 3 months)	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	4	7
XII.—Old Age.																			
Old Age	—	—	—	—	—	—	—	—	—	—	—	2	4	95	327	128	237	319	556
XIII.—External Causes.																			
Suicide—																			
By Poison	—	—	—	—	—	—	—	1	2	3	5	2	1	—	—	—	5	9	14
By Asphyxia	—	—	—	—	—	—	—	—	2	2	3	7	1	3	—	—	12	6	18
By Hanging, Strangulation...	—	—	—	—	—	—	—	—	1	1	3	5	5	3	—	—	15	3	18
By Drowning	—	—	—	—	—	—	—	1	1	3	5	8	8	6	—	—	18	14	32
By Firearms	—	—	—	—	—	—	—	—	—	—	2	1	2	—	—	—	5	—	5
By Cutting or Piercing ...	—	—	—	—	—	—	—	—	—	2	5	1	6	1	1	—	14	2	16
By Jumping from high places	—	—	—	—	—	—	—	—	1	—	1	—	—	3	1	—	4	2	6
By Crushing	—	—	—	—	—	—	—	—	—	1	—	—	2	—	—	—	2	1	3
Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poisoning by Food	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Other Acute Poisonings ...	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—	3	—	3
Conflagration	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
Burns (conflagration excepted)	3	7	7	4	2	1	—	2	1	1	1	2	3	4	1	2	23	18	41
Deleterious Gases	16	—	—	—	—	—	—	—	—	—	1	2	—	1	—	—	9	11	20
Accidental Drowning	—	—	—	—	—	2	1	—	—	1	2	1	—	—	1	—	7	1	8
Injury—																			
By Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Cutting or Piercing ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Fall	—	—	1	—	—	—	—	1	—	3	4	9	6	15	27	4	33	37	70
In Mines and Quarries ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Machines	—	—	—	—	—	—	—	—	2	4	2	2	—	—	—	—	9	1	10
By Other Crushing ...	1	—	3	—	2	11	8	2	1	2	7	9	10	3	1	—	48	12	60
By Animals	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	2	—	2
Starvation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Excessive Cold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Effects of Heat	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	2	—	2
Lightning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electricity	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Homicide by Firearms ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Cutting or Piercing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by other means ...	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	2
Fractures (cause not specified)	—	—	—	—	—	—	—	—	—	—	—	2	1	—	3	—	2	4	6
Other Violence	—	—	1	—	—	—	—	—	—	5	1	—	—	—	—	—	6	1	7
XIV.—Ill-Defined Causes.																			
Dropsy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Syncope (1 year and under 70)	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2	—	2
Sudden Death (not defined) ...	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Heart Failure (1 and under 70)	—	—	—	—	—	—	1	1	—	—	5	14	15	4	—	—	18	22	40
Other ill-defined causes ...	—	4	—	1	—	2	—	—	—	—	—	—	2	1	—	—	4	6	10
Cause not specified	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	2	1	3
Totals	1705	536	207	65	58	205	131	198	210	552	898	1217	1592	1910	1412	316	5718	5494	11212

TABLE III. *Births and Deaths Registered in, or belonging to, each Ward during the Year ending December 30th, 1922.*

Causes of Death.	Acock's Green	All Saints'	Aston	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	City
Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	3
Measles	1	1	10	5	3	2	...	...	...	1	...	4	2	3	...	...	1	13	13	4	3	3	...	...	6	...	3	...	1	...	...	79
Scarlet Fever	1	3	4	3	3	2	...	...	...	...	2	1	...	...	2	2	1	...	3	3	1	1	...	...	...	...	1	...	...	1	2	36
Whooping Cough ...	3	22	16	17	26	3	1	5	2	5	2	20	7	9	2	2	14	42	45	23	14	18	1	8	10	3	19	6	8	3	...	356
Diphtheria, Croup ...	1	3	1	4	7	...	1	1	...	...	2	3	1	1	...	...	4	3	6	5	1	6	...	4	23	2	5	1	1	3	...	89
Influenza	22	22	23	24	23	19	8	9	10	13	6	18	16	5	10	5	12	16	22	11	22	14	3	17	17	15	14	15	20	5	6	442
Erysipelas	1	...	...	1	2	1	...	...	...	2	1	1	...	...	...	...	3	...	1	...	...	2	...	...	1	...	2	1	1	...	...	20
Pulmonary Tuberculosis	29	46	48	42	53	23	19	14	23	10	11	43	27	25	17	10	51	50	64	45	39	26	11	23	22	28	32	26	29	13	...	899
Tuberculous Meningitis	...	4	4	4	7	1	3	1	...	...	...	5	2	2	3	1	5	1	2	4	1	3	1	3	1	4	3	2	3	2	...	72
Abdominal Tuberculosis	...	...	1	...	3	1	2	...	4	...	...	...	1	2	1	...	...	3	4	1	1	...	...	...	1	3	1	...	3	...	...	32
Other Tuberculous Dis.	1	2	...	1	6	...	1	2	2	1	2	2	1	1	...	...	...	4	2	2	1	2	...	3	1	3	2	1	1	...	2	46
Cancer	21	44	43	63	41	55	27	24	30	16	21	41	60	23	50	8	52	49	62	33	34	25	18	27	41	35	51	29	43	19	5	1090
Rheumatic Fever ...	1	2	3	4	3	...	2	...	1	3	2	...	...	...	1	...	1	1	1	...	2	...	2	1	3	1	...	1	...	1	...	36
Diabetes	3	4	4	5	3	6	...	3	3	3	...	1	1	...	8	1	1	1	1	2	2	2	3	5	2	3	3	1	2	...	...	73
Encephalitis Lethargica	...	...	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	4
Cerebro-Spinal Fever...	1	...	1	...	...	...	2	...	...	...	...	...	1	...	2	...	1	2	...	3	...	...	...	1	...	...	2	...	...	...	...	16
Acute Polio-Encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (other forms)	1	4	3	1	2	7	...	1	3	...	...	5	2	1	2	1	...	4	8	4	2	2	2	1	...	2	3	...	...	1	...	62
Acute Poliomyelitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cereb'l Hæmorr., Apop.	13	19	24	29	18	21	9	5	12	4	4	22	26	16	21	1	26	26	22	15	12	19	10	17	16	13	25	14	26	10	4	499
Convulsions	...	2	4	4	3	3	...	1	...	1	...	2	3	1	...	1	1	6	7	4	5	2	...	1	1	3	1	2	1	2	...	61
Organic Dis. of Heart...	28	61	63	51	49	47	26	31	31	16	26	45	64	30	41	10	41	62	67	47	58	37	24	29	42	42	37	30	46	21	12	1214
Arterio-Sclerosis ...	6	8	7	13	5	10	2	11	9	9	17	9	11	5	12	...	7	4	6	8	6	8	...	13	5	10	12	13	2	8	14	250
Cereb'l Embol., Thromb.	1	2	3	7	9	2	1	...	6	1	2	2	5	...	6	...	2	9	5	4	5	2	2	3	6	4	2	2	4	...	1	98
Bronchitis	18	49	71	38	68	32	19	9	17	10	16	41	43	35	29	7	40	77	78	58	44	35	21	25	31	41	40	24	34	11	19	1080
Pneumonia	15	46	56	34	76	23	16	15	25	9	6	48	33	31	13	2	52	83	82	65	65	22	8	14	22	23	42	13	36	11	12	998
Other Respiratory Dis.	4	7	9	10	12	5	...	...	5	...	1	...	6	...	5	1	1	8	10	7	3	3	1	3	6	4	7	3	5	1	1	128
Diarrhœa & Enteritis :																																
Under 2 years ...	3	13	2	4	12	6	1	1	2	1	2	10	2	6	3	...	15	7	12	18	14	6	2	3	1	1	7	6	3	...	6	169
Two years and over ...	1	2	...	2	1	1	2	...	4	2	1	1	5	...	3	...	1	2	2	1	6	...	1	3	1	1	2	4	5	...	1	55
Appendicitis, Typhlitis	2	4	2	4	5	2	...	3	1	2	2	...	...	...	2	...	6	4	2	1	2	6	1	...	1	1	4	2	2	1	...	62
Cirrhosis of Liver ...	1	...	1	3	...	3	1	1	1	2	4	1	3	...	1	2	2	2	3	...	1	...	1	2	2	2	...	2	...	...	...	41
Alcoholism	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2
Nephritis & Bright's Dis	10	10	7	10	11	10	3	7	8	5	5	11	8	2	9	...	9	17	16	11	11	2	4	6	8	3	8	5	6	6	2	230
Puerperal Fever ...	...	1	3	3	2	...	...	...	...	..	...	...	...	1	1	1	...	1	2	3	1	...	2	...	...	...	...	2	2	...	...	25
Other Acc. and Dis. of Pregnancy&Parturit'n	3	...	...	...	2	6	...	...	...	...	1	...	2	...	3	1	2	...	4	3	...	1	...	...	1	1	2	1	2	...	...	35
Congenital Debility and Malformation, Premature Birth	21	37	30	22	41	19	12	8	7	8	6	32	15	23	18	6	37	55	48	47	36	19	11	19	19	12	21	8	34	10	5	686
Old Age...	17	21	21	30	23	40	11	14	17	11	9	17	23	17	30	6	28	19	33	11	17	4	9	12	10	25	28	23	13	5	12	556
Accidents or Negligence	6	10	9	13	19	11	5	4	1	3	4	10	6	10	8	3	5	13	19	12	9	4	5	5	3	11	7	1	9	6	3	234
Suicides...	4	4	2	4	6	4	4	2	5	2	1	2	3	1	4	1	7	2	14	6	4	3	2	2	6	2	4	5	4	1	1	112
Other Causes	49	62	62	51	54	47	22	23	41	29	28	51	46	32	46	12	62	53	85	62	52	34	30	48	31	40	58	28	45	17	22	1322
Total Deaths ...	288	515	537	507	598	412	200	195	271	169	184	449	426	282	353	84	491	639	752	523	474	311	176	298	340	339	448	272	391	158	130	11212
Deaths under 1 year	43	93	1∞	69	128	37	21	21	22	15	17	79	37	44	33	9	95	131	138	121	98	52	20	35	39	34	68	25	57	18	15	1705
Births	543	1028	1081	854	1249	491	387	303	435	258	418	773	635	390	408	154	944	1143	1285	1038	933	637	292	506	572	518	743	445	825	326	236	19850

TABLE IV.

Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending December 30th, 1922.

Causes of Death.	Acock's Green.	All Saints'.	Aston.	Balsall Heath.	Duddeston and Nechells.	Edgbaston.	Erdington (North).	Erdington (South).	Handsworth.	Harborne.	King's Norton.	Ladywood.	Lozells.	Market Hall.	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomew's.	St. Martin's.	St. Mary's.	St. Paul's.	Saltley.	Sandwell.	Selly Oak.	Small Heath.	Soho.	Sparkbrook.	Sparkhill.	Washwood Heath.	Yardley.	Not Located.	City.
Measles	...	...	1	2	...	...	...	...	...	...	...	2	...	1	...	...	...	3	4	1	2	3	...	...	1	...	1	...	1	...	...	22
Scarlet Fever	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Whooping Cough ...	2	9	8	5	13	...	1	3	1	3	1	8	4	2	2	1	8	17	20	8	5	6	...	2	4	...	5	5	4	...	...	147
Diphtheria, Croup ...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	3
Influenza	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	1	...	1	1	1	1	...	...	8
Tuberculous Meningitis	...	1	1	1	3	...	1	...	...	...	...	3	...	...	...	...	1	...	...	1	1	...	...	1	...	1	1	...	1	...	...	16
Abdominal Tuberculosis	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	3
Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	...	...	...	...	4
Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	1	2	...	1	1	...	...	...	...	...	...	1	...	1	...	...	1	1	2	2	2	...	...	...	...	1	2	...	2	...	...	20
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	...	...	1	...	...	2	...	...	...	...	6
Meningitis (not Tuberculous)	1	...	2	1	1	2	...	1	1	...	...	1	...	...	...	...	...	1	1	2	1	...	...	...	...	1	3	...	...	...	...	19
Convulsions	...	1	2	3	1	3	...	1	...	1	...	1	2	...	...	1	1	4	6	4	3	2	...	1	1	2	1	2	...	1	...	44
Bronchitis	2	7	12	8	14	2	2	1	1	...	3	3	2	3	...	1	2	10	5	10	4	3	3	...	3	7	5	...	5	...	...	118
Pneumonia (all forms)	6	16	21	10	30	2	...	3	4	2	2	14	5	7	4	...	23	27	27	25	21	9	1	2	8	3	13	2	4	2	...	293
Gastritis	2	1	2	2	...	1	...	...	2	...	...	...	2	...	...	...	2	...	...	1	...	1	...	...	...	2	...	...	2	...	1	21
Diarrhœa, Enteritis, etc.	2	13	...	4	10	5	...	2	2	1	1	8	2	6	2	...	14	7	11	13	11	5	2	3	1	1	6	6	3	...	5	146
Congenital Malformations	3	3	2	3	5	4	4	2	2	...	1	3	2	1	3	...	4	6	7	3	4	7	1	3	...	1	3	2	8	3	...	90
Premature Birth ...	6	22	17	16	29	11	6	5	4	6	4	24	9	18	12	4	23	35	29	30	21	10	8	13	18	10	13	6	20	7	3	439
Atrophy, Debility, and Marasmus	12	11	11	3	6	4	2	1	1	2	1	5	3	4	3	2	10	14	12	13	11	2	2	2	1	1	5	...	5	...	2	151
Atelectasis	2	1	...	...	1	...	1	...	...	...	2	...	...	...	1	...	...	...	1	2	3	...	1	2	1	...	3	...	...	2	...	23
Injury at Birth ...	1	2	2	1	...	1	1	1	...	...	...	...	1	1	2	...	1	1	2	...	1	1	1	2	...	1	...	...	...	1	...	24
Neglect (under three months)	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	2	7
Suffocation (Overlying)	...	1	2	...	2	...	...	...	...	...	...	...	...	...	...	...	2	1	3	...	1	...	1	...	...	1	1	...	...	...	...	15
Other causes	3	3	7	7	9	2	1	1	4	...	2	6	4	...	4	...	2	2	6	4	5	2	...	1	1	1	4	1	1	...	2	85
All Causes ...	43	93	91	69	128	37	21	21	22	15	17	79	37	44	33	9	95	131	138	121	98	52	20	35	39	34	68	25	57	18	15	1705

TABLE V.

Cases of Infectious Disease notified during each week of the year 1922.

Week. Number.	Week. Ending.	Enteric Fever.	Continued Fever.	Malaria.	Trench Fever.	Smallpox.	Scarlet Fever.	Diphtheria.	Dysentery.	Erysipelas.	Pulmonary Tuberculosis.	Other Tuberculosis.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Poliomyelitis.	Polio-Encephalitis.	Pneumonia.	Puerperal Fever.	Ophthalmia Neonatorum.	Total.
	1922.																			
1	Jan. 7	—	—	—	—	—	81	28	—	8	28	4	—	—	—	—	28	4	15	196
2	„ 14	1	—	1	—	—	88	28	—	8	30	1	—	—	—	—	41	2	7	207
3	„ 21	—	—	—	—	—	73	34	—	8	35	5	—	3	—	—	119	2	1	280
4	„ 28	—	—	—	—	—	75	37	—	6	26	6	—	—	—	—	167	1	7	325
5	Feb. 4	—	—	—	—	—	77	33	—	8	42	5	1	—	—	—	142	3	8	319
6	„ 11	—	—	—	—	—	64	32	—	7	33	6	—	—	—	—	81	2	14	239
7	„ 18	—	—	—	—	—	74	28	1	9	44	4	1	—	—	—	66	1	13	241
8	„ 25	—	—	—	—	—	68	20	—	12	34	3	2	—	—	—	54	2	6	201
9	March 4	—	—	—	—	—	55	26	1	4	40	5	3	2	—	—	44	—	12	192
10	„ 11	1	—	—	—	—	61	39	—	8	36	4	1	—	—	—	26	3	12	191
11	„ 18	1	—	—	—	—	51	17	1	5	36	6	—	—	—	—	22	5	5	149
12	„ 25	—	—	—	—	—	65	18	—	3	38	11	—	1	—	—	38	2	7	183
13	April 1	—	—	—	—	—	69	21	—	9	40	6	1	1	—	—	50	3	11	211
14	„ 8	1	—	2	—	—	59	14	—	7	34	13	—	—	—	—	33	1	8	172
15	„ 15	2	—	—	—	—	73	11	—	3	37	3	—	—	—	—	66	2	11	208
16	„ 22	—	—	—	—	—	82	13	—	9	22	4	—	—	—	—	76	5	13	224
17	„ 29	—	—	1	—	—	58	17	—	6	29	3	—	—	—	—	71	1	8	194
18	May 6	—	—	1	—	—	61	31	—	10	49	9	—	—	—	—	70	3	16	250
19	„ 13	—	—	—	—	—	63	28	—	4	35	6	—	—	—	—	70	2	16	224
20	„ 20	—	—	1	—	—	59	29	—	2	26	2	—	2	—	—	71	1	14	207
21	„ 27	—	—	1	—	—	51	15	—	4	40	3	—	1	—	—	40	1	13	169
22	June 3	—	—	—	—	—	56	12	—	2	43	13	—	1	—	—	46	3	9	185
23	„ 10	—	—	—	—	—	55	18	—	5	21	9	—	—	—	—	36	1	8	153
24	„ 17	—	—	—	—	—	76	15	—	1	42	—	—	—	—	—	40	2	9	185
25	„ 24	—	—	—	—	—	52	20	—	7	30	3	—	—	—	—	25	1	8	146
26	July 1	—	—	—	—	—	49	19	—	10	28	14	—	—	—	—	26	—	6	152
27	„ 8	—	—	1	—	—	70	21	—	5	34	8	—	—	—	—	16	5	9	169
28	„ 15	—	—	—	—	—	68	16	—	3	22	6	—	—	—	—	17	8	8	148
29	„ 22	—	—	1	—	—	66	14	—	7	40	8	—	1	1	—	35	4	11	188
30	„ 29	1	—	1	—	—	71	18	—	6	43	8	—	—	—	—	27	2	8	185
31	August 5	—	—	—	—	—	68	18	—	7	24	1	—	—	—	—	18	3	13	152
32	„ 12	—	—	—	—	—	35	10	—	9	17	6	—	2	—	—	16	8	7	110
33	„ 19	—	—	1	—	—	38	13	1	9	29	6	—	1	1	—	15	3	10	127
34	„ 26	—	—	—	—	—	41	13	—	4	33	9	1	—	—	—	25	1	10	137
35	Sept. 2	—	—	—	—	—	52	17	—	9	23	4	—	—	—	—	10	1	10	126
36	„ 9	1	—	—	—	—	58	21	—	5	33	4	—	—	—	—	7	2	13	144
37	„ 16	—	—	—	—	—	45	16	—	11	27	8	—	—	1	—	10	2	8	128
38	„ 23	—	—	2	—	—	83	16	—	9	28	3	—	—	—	—	11	5	7	164
39	„ 30	—	—	—	—	—	53	30	—	11	31	8	—	—	—	—	34	2	12	181
40	Oct. 7	1	—	—	—	—	69	27	—	9	37	5	—	—	—	—	23	5	11	187
41	„ 14	—	—	—	—	—	50	20	—	10	26	12	—	—	—	—	24	2	11	155
42	„ 21	—	—	—	—	—	48	28	—	7	23	3	—	—	—	—	32	5	5	151
43	„ 28	—	—	2	—	—	79	43	—	10	31	5	1	—	—	—	19	—	4	194
44	Nov. 4	—	—	—	—	—	81	25	1	13	26	3	1	—	2	—	33	3	4	192
45	„ 11	—	—	—	—	—	65	37	—	9	38	3	—	1	—	—	37	2	6	198
46	„ 18	—	—	—	—	—	63	36	—	10	42	8	—	—	—	—	40	1	10	210
47	„ 25	—	—	—	—	—	48	34	—	14	30	5	—	—	1	—	26	4	10	172
48	Dec. 2	1	—	—	—	—	60	35	—	16	35	5	—	—	—	—	17	3	10	182
49	„ 9	1	—	1	—	—	80	49	—	8	30	6	—	1	—	—	32	5	4	217
50	„ 16	—	—	—	—	—	70	43	—	17	31	5	—	1	—	—	39	3	12	221
51	„ 23	—	—	—	—	—	41	55	1	10	27	5	—	—	—	—	36	4	9	188
52	„ 30	—	—	—	—	—	53	27	—	15	11	—	—	—	—	—	19	1	5	131
	Total ...	11	—	16	—	—	3250	1285	6	408	1669	292	12	18	6	—	2166	137	484	9760

TABLE VI.

Cases of Infectious Disease notified during the Year 1922. *Classified according to ages.*

Disease.	AGES.																Totals.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-	
Enteric Fever	...	...	...	...	...	...	1	2	1	2	2	2	1	...	...	...	11
Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria	...	...	...	...	...	...	...	...	9	3	3	1	...	...	...	...	16
Trench Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	28	83	161	161	196	1452	701	205	111	106	37	7	1	1	...	...	3250
Diphtheria	25	66	98	73	65	479	232	93	56	51	36	8	3	...	...	...	1285
Dysentery	...	...	1	...	...	...	...	...	1	2	2	...	...	...	...	...	6
Erysipelas	18	7	1	1	1	16	24	26	21	45	67	80	57	36	8	...	408
Pulmonary Tuberculosis ...	1	7	5	4	10	134	88	132	200	400	326	228	92	41	1	...	1669
Tuberculous Meningitis ...	7	5	6	3	2	8	2	2	...	...	1	...	...	...	...	...	36
Tuberculosis of Peritoneum and Intestines	2	5	8	1	2	19	4	3	2	3	2	1	...	...	...	...	52
Tuberculosis of Spinal Column	...	...	2	2	3	10	11	1	1	5	...	2	...	...	...	...	37
Tuberculosis of Joints ...	...	...	1	3	2	19	9	10	2	1	4	2	...	1	...	...	54
Tuberculosis of Other Organs	2	1	5	2	2	38	27	11	2	2	2	1	...	1	1	...	97
Disseminated Tuberculosis ...	2	1	...	1	...	5	2	...	...	2	1	1	1	...	...	...	16
Encephalitis Lethargica ...	...	...	1	...	...	...	2	3	...	1	1	3	1	...	...	...	12
Cerebro-Spinal Fever ...	6	3	2	...	1	2	2	...	1	...	1	...	...	...	...	...	18
Poliomyelitis	2	1	...	2	...	...	...	1	...	...	...	...	...	...	...	...	6
Polio-encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	175	227	175	86	42	179	64	133	103	293	232	192	136	94	30	5	2166
Puerperal Fever	...	...	...	...	...	...	1	3	31	62	38	2	...	...	...	...	137
Ophthalmia Neonatorum ...	484	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	484
Total	752	406	466	339	326	2361	1170	625	541	978	755	530	292	174	40	5	9760

TABLE VII.

Cases of Infectious Disease notified during the Year 1922. Classified according to Wards.

DISEASE.	Acock's Green.	All Saints'.	Aston.	Balsall Heath.	Duddeston and Nechells.	Edgbaston.	Erdington North.	Erdington South.	Handsworth.	Harborne.	King's Norton.	Ladywood.	Lozells.	Market Hall.	Moseley and King's Heath.	Northfield.	Rotton Park.	St. Bartholomew's.	St. Martin's and Deritend.	St. Mary's.	St. Paul's.	Saltley.	Sandwell.	Selly Oak.	Small Heath.	Soho.	Sparkbrook.	Sparkhill.	Washwood Heath.	Yardley	Not located.	City.
Enteric Fever	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	1	...	...	1	...	...	...	3	...	...	...	2	11
Continued Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria	...	1	...	1	1	1	...	...	...	...	...	4	1	...	...	...	1	...	1	3	...	1	...	...	...	...	...	...	1	...	...	16
Trench Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	127	204	203	88	178	74	89	88	109	56	90	133	152	38	107	19	116	103	96	150	143	70	44	140	79	126	82	60	75	31	180	3250
Diphtheria	27	67	67	77	60	42	11	15	27	15	19	61	40	31	13	7	40	68	63	71	69	59	16	17	89	12	61	32	31	14	64	1285
Dysentery	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	6
Erysipelas	11	10	12	17	42	14	5	2	9	9	7	18	13	6	9	1	16	23	31	21	21	7	3	9	10	9	15	10	8	7	33	408
Pulmonary Tuberculosis	36	79	74	86	127	42	32	27	33	24	16	67	55	45	24	16	68	99	154	108	70	36	12	50	45	32	52	48	68	25	19	1669
Tubercular Meningitis	...	2	2	1	5	2	2	1	...	...	...	3	2	1	1	...	2	1	1	1	...	...	2	3	1	2	...	1	...	...	...	36
Tuberculosis of Peritoneum and Intestines	2	...	1	6	2	1	1	...	4	..	1	3	3	...	...	...	1	2	13	...	2	1	...	...	...	2	2	1	2	1	1	52
Tuberculosis of Spinal Column	1	3	3	1	1	1	...	...	3	1	...	1	1	...	1	...	3	3	2	2	2	1	...	1	1	1	...	1	1	1	1	37
Tuberculosis of Joints	4	4	1	...	2	...	...	...	...	...	2	...	5	2	...	...	4	1	6	4	2	1	1	2	2	2	3	1	2	2	1	54
Tuberculosis of Other Organs	5	4	3	6	4	2	4	4	6	2	2	5	4	1	...	1	3	6	10	6	3	3	1	...	1	2	5	1	2	1	...	97
Disseminated Tuberculosis	2	1	...	1	1	...	...	1	...	...	...	1	1	...	...	...	...	1	3	...	...	...	...	1	...	...	1	...	1	1	...	16
Encephalitis Lethargica	...	...	...	1	1	...	1	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	2	1	1	...	...	1	12
Cerebro-Spinal Fever	1	...	1	...	...	...	2	...	...	...	...	...	2	...	2	...	1	2	...	2	...	...	...	1	...	...	2	...	...	1	1	18
Poliomyelitis	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...	...	6
Polio-encephalitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	57	183	111	39	119	41	25	27	72	39	34	141	67	36	55	14	156	86	86	126	124	42	18	64	44	39	62	51	58	33	117	2166
Puerperal Fever ...	6	4	8	6	13	6	2	...	1	1	3	9	4	1	4	2	7	5	7	8	7	4	3	1	3	...	1	8	10	2	1	137
Ophthalmia Neonatorum	6	32	21	14	33	6	10	9	9	...	2	17	16	4	5	...	32	46	46	62	34	16	...	5	8	9	16	2	17	6	1	484
Total	285	596	508	346	589	232	184	174	274	147	176	464	367	166	222	60	451	446	522	566	477	241	101	295	283	238	307	218	276	125	424	9760

TABLE VIII.

Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1922.
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,
by Mr. A. J. Kelley.

Month.	Temperature of the Air.						Temperature of the Ground.		Hours of Sunshine.		Rainfall in inches.		Days on which 0·01 inch or more of Rain Fell.	Miles of Wind.	
	Highest in the shade.		Lowest in the shade.		Mean for the Month.		Maximum at 1 foot deep.	Maximum at 4 feet deep.							
	1922.	Above or below the previous highest. *	1922.	Above or below the previous lowest. *	1922.	Above or below the average. *			1922.	Above or below the average. *	1922.	Above or below the average. *		1922.	Above or below the average. *
Jan.	55°	− 3	22°	+ 11	37·8°	− 0·3	45·9	47·1	40	+ 7	3·42	+ 1·41	23	10757	+ 331
Feb.	59	− 3	22	+ 14	39·6	+ 0·7	44·4	44·4	82	+ 35	2·51	+ 0·89	18	9347	− 103
Mar.	55	− 15	28	+ 9	39·6	− 1·5	45·1	44·8	67	− 9	1·70	− 0·30	16	11130	+ 567
Apr.	62	− 17	28	+ 2	41·9	− 3·7	44·3	43·9	106	− 20	3·20	− 1·58	17	8835	− 717
May	81	− 1	35	+ 4	55·8	+ 3·8	60·8	49·3	204	+ 39	1·37	− 0·73	10	8041	− 771
June	83	− 2	42	+ 4	57·2	− 0·5	61·5	52·3	188	+ 32	0·78	− 0·35	12	8915	+ 598
July	71	− 18	45	+ 6	56·1	− 3·1	56·6	52·2	121	− 37	5·83	+ 3·53	22	8973	+ 679
Aug.	71	− 23	42	+ 1	55·7	− 3·6	55·5	52·8	106	− 40	4·89	+ 2·00	18	7615	− 837
Sept.	69	− 22	38	+ 6	53·6	− 2·1	55·2	52·6	82	− 30	2·73	+ 0·93	15	8269	+ 274
Oct.	63	− 16	30	+ 2	46·8	− 2·0	53·3	52·0	95	+ 19	0·46	− 2·23	8	8980	+ 52
Nov.	52	− 10	28	+ 8	42·2	− 0·3	45·0	49·0	37	− 8	1·24	− 0·94	13	8533	− 724
Dec.	51	− 6	32	+ 18	41·7	+ 2·4	45·8	46·9	35	+ 14	4·08	− 1·33	20	11042	+ 425

* In the thirty-five years 1887-1921.

TABLE IX.

Meteorology and Mortality in each week of the year 1922.

Week.		Total Deaths.	Deaths under 1 year.	Deaths 65 and up.	Deaths from						Temperature				Horizontal Movement of Air in Miles	Hours of Sunshine.	Rainfall in Inches.
											of the Air.			of Ground			
No.	Ending. 1922.				Measles.	Whooping Cough.	Diarrhœa and Enteritis under 2.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Respiratory Diseases.	Highest in Shade.	Lowest in Shade.	Mean of Daily Maxima and Minima.	Highest 4 Feet Deep.			
1	Jan. 7	242	35	73	1	7	4	23	3	50	55	29	39	47·1	3,196	3·2	0·80
2	„ 14	298	46	95	—	7	1	21	2	71	54	29	40	46·7	2,569	14·0	0·28
3	„ 21	334	36	127	1	12	1	30	—	87	46	27	35	46·0	2,087	11·4	1·04
4	„ 28	371	49	139	2	17	2	27	4	91	50	22	37	45·0	2,436	9·6	1·02
5	Feb. 4	340	54	102	—	19	5	18	1	85	50	27	41	45·7	1,790	8·1	1·03
6	„ 11	343	48	117	—	21	3	22	4	84	45	22	32	44·4	1,658	23·4	—
7	„ 18	348	51	135	—	17	4	23	4	90	49	27	38	44·0	1,775	10·1	0·43
8	„ 25	294	38	115	1	19	3	26	3	67	59	33	45	43·5	3,179	30·3	0·41
9	Mar. 4	260	47	81	—	19	6	15	1	56	55	35	44	44·2	2,837	24·0	1·38
10	„ 11	226	34	70	1	17	2	15	1	48	52	31	42	44·8	2,841	18·8	0·69
11	„ 18	236	43	76	1	6	1	19	5	47	53	33	41	44·8	2,539	10·4	—
12	„ 25	229	34	79	—	15	2	23	5	41	47	28	36	44·3	2,482	21·4	0·3
13	April 1	297	53	94	—	19	6	18	6	86	44	29	37	43·8	2,207	10·6	0·27
14	„ 8	272	45	81	—	11	6	27	1	64	48	28	38	43·2	1,662	16·6	0·67
15	„ 15	266	51	82	1	13	5	21	4	74	62	32	44	43·1	2,337	11·6	0·84
16	„ 22	276	67	84	1	14	2	19	6	76	55	33	43	43·7	1,954	31·5	0·21
17	„ 29	307	65	89	3	14	5	20	5	96	53	32	43	43·9	2,271	32·9	1·46
18	May 6	265	68	76	1	14	2	19	5	78	63	36	46	44·2	2,104	31·8	0·95
19	„ 13	257	51	70	—	14	6	26	3	51	78	35	52	45·4	1,598	37·3	0·09
20	„ 20	238	38	66	3	10	2	24	4	56	67	38	54	46·1	2,511	44·6	0·12
21	„ 27	186	24	54	2	9	6	15	4	40	80	49	64	48·0	1,566	61·9	0·23
22	June 3	182	29	54	2	6	3	16	2	45	83	45	64	50·1	1,422	56·6	—
23	„ 10	179	33	39	3	5	5	22	3	21	77	45	60	51·6	1,522	65·5	0·07
24	„ 17	172	31	50	1	9	1	19	3	27	77	42	56	52·0	2,177	63·7	0·16
25	„ 24	147	18	57	1	1	3	14	2	23	73	46	57	52·3	2,189	20·1	0·1 8
26	July 1	149	18	52	2	4	1	16	4	20	63	45	53	52·2	2,593	15·8	0·56
27	„ 8	150	24	46	3	3	1	8	4	21	65	45	54	51·8	2,449	19·5	2·50
28	„ 15	170	26	56	4	4	1	17	2	20	71	45	56	51·7	1,582	34·2	0·34
29	„ 22	137	15	46	2	2	—	6	1	28	67	46	57	51·8	2,138	25·9	1·27
30	„ 29	147	22	51	6	2	—	16	4	11	71	46	57	52·0	1,730	31·3	1·43
31	Aug. 5	138	18	46	2	2	2	6	—	19	67	46	56	52·4	1,593	30·9	0·34
32	„ 12	167	18	54	1	—	—	12	2	22	66	44	54	52·6	1,630	15·3	3·27
33	„ 19	160	17	58	5	2	4	7	4	20	68	44	56	52·7	1,962	26·9	0·23
34	„ 26	163	18	49	3	5	—	19	1	22	72	42	56	52·8	2,004	26·4	0·45
35	Sept. 2	171	22	45	5	4	2	19	2	15	62	46	55	52·7	1,454	18·3	1·03
36	„ 9	153	22	48	2	1	3	14	1	12	68	44	56	52·6	1,270	15·6	0·01
37	„ 16	165	24	53	—	2	5	12	1	12	63	38	51	52·5	2,138	21·6	1·05
38	„ 23	159	18	50	1	3	2	12	4	18	69	42	55	52·2	2,506	27·2	0·53
39	„ 30	177	23	62	1	1	3	16	4	22	62	39	53	52·2	1,924	16·1	0·78
40	Oct. 7	151	18	51	—	1	1	10	1	23	62	42	53	52·0	1,641	18·9	0·16
41	„ 14	167	13	54	1	—	—	21	3	21	63	34	48	51·9	1,430	25·9	0·03
42	„ 21	182	30	47	5	2	6	14	3	19	60	38	47	51·2	2,771	33·4	0·05
43	„ 28	173	32	56	1	—	6	10	2	27	50	30	42	50·5	1,947	14·8	0·10
44	Nov. 4	170	19	57	1	—	5	11	4	21	51	31	39	49·4	2,601	13·1	0·45
45	„ 11	200	29	72	2	1	4	10	4	31	52	31	44	48·9	2,281	12·4	0·72
46	„ 18	232	27	88	1	1	3	25	3	41	50	33	43	47·7	1,667	5·1	0·02
47	„ 25	195	28	58	2	—	9	17	3	41	50	28	42	47·4	1,319	6·3	—
48	Dec. 2	198	27	79	2	—	6	13	1	35	51	31	42	47·3	2,518	3·5	0·30
49	„ 9	202	32	66	—	1	4	21	2	36	51	35	44	46·8	2,068	3·6	0·05
50	„ 16	191	23	62	1	—	4	14	4	27	52	34	43	46·8	2,207	0·1	0·51
51	„ 23	184	27	70	—	—	5	19	1	33	47	32	40	46·5	3,177	13·6	2·20
52	„ 30	196	27	57	1	—	6	12	4	32	46	33	39	46·0	2,692	16·8	1·21