[Report 1932] / Medical Officer of Health, Birmingham.

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1932

BIRMINGHAM:
TEMPLAR PRINTING WORKS, EDMUND STREET.
1933

City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1932

BIRMINGHAM:
TEMPLAR PRINTING WORKS, EDMUND STREET
1933

TABLE OF CONTENTS

(For index see page 142).

PUBLIC HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH AND MATERNITY AND CHILD WELFARE COMMITTEES.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

The pages of this report will sufficiently indicate that the health of the City maintained a satisfactorily high level during 1932. The death-rate was lower than in 1931, despite the onset of a wave of influenza in December; and was in fact the lowest among those of the great towns of the Kingdom. The infant mortality, another sensitive index of the communal health, was also low at its rate of 67 deaths below the age of 1 year per 1,000 births. On only two occasions, in 1928 and in 1930, has it been lower than this; and here again the infant mortality for Birmingham is among the lowest found in the great towns.

The year has been one on the whole of a relatively low prevalence of infectious disease. The only exceptions were in relation to scarlet fever, pneumonia, cerebro-spinal meningitis, and enteric fever, in each of which there was, in varying degree, a prevalence above the average for recent years. The work of immunisation of the child population against diphtheria has continued to make good progress, and some 12,000 children received full immunisation treatment during the year.

Steady progress continues to be made in dealing with the sanitary circumstances of the City. The provision of internal water supplies is proceeding apace, and some 5,300 dwellings were thus supplied during the year, at a cost to the City Council of some £14,300.

The reconditioning of dwelling houses capable of being rendered fit for habitation has been proceeded with on an extensive scale, under Section 17 of the Housing Act, 1930. Some 5,700 notices for such reconditioning were served during the year, while a total of over 15,000 dwelling houses have been or are in process of being re-conditioned under Section 17 since the Housing Act came into force. Of these, 930 houses have been reconditioned by the Public Health Department at the default of or at the request of the owners, involving an expenditure of £18,000, to be recovered, with interest, over periods up to five or six years.

In October the City Council approved the representation of the New Summer Street Area as an Improvement Area. This area was formally represented as an unhealthy area in 1926, but action had to be delayed owing to house shortage; and it is satisfactory to know that it is now being dealt with. Next year's report will contain reference to certain clearance areas represented after the end of 1932, as well as to other clearance and improvement areas which it is anticipated will be submitted to the City Council in the near future.

The City general hospitals, the sanatoria, the hospital for infectious diseases, and the several child welfare institutions have all continued to function with great energy throughout the year and the records of their work will be found set out in the following pages.

The many beneficent activities of the Maternity and Child Welfare Committee have been maintained, with growth in the direction of expansion of the number of clinic sessions and of the number of attendances; while particulars will be found in the report of arrangements made during the winter months of 1932, and carried on through the spring of 1933, to provide readily assimilated nourishment at a number of centres for young children felt to be in danger of suffering from malnutrition.

Throughout all the intricacies of the work of the Department and of its many sections, it has been a constant satisfaction to me to feel, on the one hand the keen and loyal response of each and every member of the staff; and, on the other, the kindly consideration and support so constantly received from you, Mr. Chairman, and from all the members of the Public Health and the Maternity and Child Welfare Committees.

I am,

Your obedient Servant,

H. P. NEWSHOLME.

July, 1933. *Medical Officer of Health.*

CITY OF BIRMINGHAM.

REPORT OF THE MEDICAL OFFICER OF HEALTH
For the year 1932.

SUMMARY OF STATISTICS.

Area (in acres), 51,147.

Population (Census, 1931), 1,002,603.

Estimated by Medical Officer, 1932, 1,017,500.

Estimated by Registrar-General, 1932, 1,009,300.

Total number of houses at April 1st, 1932, according to rate books, 248,689.

Rateable value, £6,311,681.

Sum represented by a penny rate, £24,600.

Extracts from vital statistics of the year 1932:—

Births—Males: 8,570 } Legitimate, 16,070 } Birth Rate, 16.3
Females: 8,046 } Illegitimate, 546 }

Still Births, 603. Rate per 1,000 total live and still births, 35.

Deaths, 11,508. Death Rate, 11.3.

Percentage of deaths occurring in public institutions—47 per cent.

Number of women dying in, or in consequence of childbirth—

	Deaths.	Rate per 1,000 live and still births.
From sepsis	28	1.63
From other causes	34	1.97
Total	62	3.60

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

Legitimate, 65; Illegitimate, 125; Total, 67.

Deaths from Measles (all ages), 52.

Deaths from Whooping Cough (all ages), 131.

Deaths from Diarrhœa (under two years of age), 128.

1. POPULATION AND MORTALITY STATISTICS.

POPULATION.

The Registrar General estimated the population of Birmingham to have been 1,009,300 on June 30th, 1932. The local estimate, based on the natural increase due to excess of births over deaths, with an allowance for migration, was 1,017,500.

Census Statistics.

During the year 1932 the Registrar General issued his report on the 1931 census of the County of Warwick, containing figures for Birmingham. As these statistics are not easily available, some of the more appropriate have been included in this report.

The Census Report shows that Birmingham contained a population of 1,002,603, about one fortieth of the entire population of England and Wales, and ranking, after London, as the second largest town in the country.

The rate of increase since the 1921 census was 8.7 per cent. as against an increase of 9.5 per cent. between 1911 and 1921. This rate of increase was one of the greatest among the large towns of the country.

The following statement shows how the population was distributed over certain age-periods, and the changes in distribution since the 1921 census:—

Age-period.	Population 1921*	Population 1931.	Increase or Decrease over 1921.*	1931 Proportion per 1,000 of total population	Increase or Decrease over proportion per 1,000 for 1921.*
0—4	84,774	79,535	— 5,239	79	—13
5—9	88,408	84,610	— 3,798	84	—12
10—14	89,639	82,650	— 6,989	82	—15
15—19	85,573	89,958	+ 4,385	90	— 3
20—24	80,423	92,005	+ 11,582	92	+ 4
25—34	144,608	168,103	+ 23,495	168	+11
35—44	132,973	136,633	+ 3,660	136	— 9
45—54	106,072	121,004	+ 14,932	121	+ 5
55—64	62,787	87,585	+ 24,798	87	+19
65—74	32,690	44,906	+ 12,216	45	+ 9
75 and over	11,497	15,614	+ 4,117	16	+ 4

* These figures relate to a slightly different area to that of the city in 1931. The population of the added area for 1921 was 2,723, but as the age constitution of this population is unknown, figures for the smaller area have been used for 1921. For all practical purposes these are comparable with those for 1931.

The decrease in the number of children up to 15 years old is related to the falling off in the birth-rate. The number of persons above 15 has increased in every age-period, so that our population is an older one than ten years ago.

In the next table will be found the population figures and other information relating to each ward in the city:—

Ward.	Area in Acres.	Population 1931	Persons per acre.	Private Families.	Population in Private Families.	Structurally Separate Dwellings occupied.	Rooms occupied.	Persons per room.
Acocks Green	2,269	58,516	25.8	14,972	58,119	14,472	73,113	0.79
All Saints'	514	38,593	75.1	9,369	36,888	8,940	38,736	0.95
Aston	538	35,612	66.2	8,797	35,019	8,298	38,129	0.92
Balsall Heath	448	34,805	77.7	9,375	34,122	8,713	42,744	0.80
Duddeston & Nechells	570	38,592	67.7	9,108	37,807	8,613	34,610	1.09
Edgbaston	2,657	35,539	13.4	8,598	31,681	7,876	49,146	0.64
Erdington North	2,706	41,091	15.2	10,081	40,231	9,729	49,464	0.81
Erdington South	2,551	29,671	11.6	6,829	26,659	6,497	36,459	0.73
Handsworth	1,405	26,980	19.2	7,478	26,433	6,984	40,706	0.65
Harborne	2,388	21,769	9.1	5,731	20,853	5,529	30,049	0.69
King's Norton	2,825	22,811	8.1	5,899	22,328	5,633	30,566	0.73
Ladywood	302	26,275	87.0	6,626	25,740	6,214	23,906	1.08
Lozells	364	30,343	83.4	8,069	29,505	7,529	37,120	0.79
Market Hall	342	15,712	45.9	3,476	13,223	3,379	12,195	1.08
Moseley & King's Hth.	3,009	39,728	13.2	10,275	37,334	9,770	57,401	0.65
Northfield	5,751	22,753	4.0	5,121	19,908	4,994	24,397	0.82
Perry Barr	3,085	20,214	6.6	5,169	20,107	5,072	22,948	0.88
Rotton Park	683	39,999	58.6	9,108	36,227	8,689	39,817	0.91
St. Bartholomew's	517	35,018	67.7	8,236	34,113	7,738	30,363	1.12
St. Martin's & Deritend	410	39,309	95.9	9,043	36,866	8,587	32,488	1.13
St. Mary's	353	30,657	86.8	6,654	28,245	6,298	23,665	1.19
St. Paul's	388	27,532	71.0	6,757	26,947	6,344	22,633	1.19
Saltley	1,585	39,930	25.2	9,682	38,567	9,157	45,569	0.85
Sandwell	1,538	20,228	13.2	5,618	19,976	5,228	30,029	0.67
Selly Oak	1,710	28,558	16.7	7,020	26,349	6,709	34,659	0.76
Small Heath	687	32,127	46.8	8,358	31,316	7,898	41,820	0.75
Soho	724	25,407	35.1	6,923	24,859	6,290	34,400	0.72
Sparkbrook	618	31,741	51.4	8,457	31,077	7,699	39,301	0.79
Sparkhill	2,644	42,703	16.2	11,518	42,015	11,015	59,087	0.71
Washwood Heath	1,990	38,923	19.6	9,688	38,407	9,218	46,834	0.82
Yardley	5,576	31,467	5.6	7,872	31,234	7,549	39,191	0.80
City	51,147	1,002,603	19.6	249,907	962,155	236,661	1,161,545	0.83

It is interesting to compare the figures relating to the number of persons per room at the 1931 census with those for the previous census. They are as follows :—

	Wards.	Persons per room. 1921.		Persons per room. 1931.		Increase or Decrease.	
Central	St. Paul's	1.30	Average 1.25	1.19	Average 1.13	—.11	Average —.12
	St. Mary's	1.31		1.19		—.12	
	Duddeston and Nechells	1.22		1.09		—.13	
	St. Bartholomew's	1.26		1.12		—.14	
	St. Martin's	1.27		1.13		—.14	
	Market Hall	1.18		1.08		—.10	
	Ladywood	1.21		1.08		—.13	
Middle Ring.	Lozells	0.93	Average 0.94	0.79	Average 0.82	—.14	Average —.12
	Aston	1.08		0.92		—.16	
	Washwood Heath	0.95		0.82		—.13	
	Saltley	0.93		0.85		—.08	
	Small Heath	0.86		0.75		—.11	
	Sparkbrook	0.90		0.79		—.11	
	Balsall Heath	0.90		0.80		—.10	
	Edgbaston	0.70		0.64		—.06	
	Rotton Park	1.03		0.91		—.12	
	All Saints'	1.13		0.95		—.18	
Outer Ring.	Soho	0.83	Average 0.80	0.72	Average 0.74	—.11	Average —0.07
	Sandwell	0.76		0.67		—.09	
	Handsworth	0.74		0.65		—.09	
	Perry Barr	—		0.88		—	
	Erdington North	0.80		0.81		+.01	
	Erdington South	0.78		0.73		—.05	
	Yardley	0.84		0.80		—.04	
	Acocks Green	0.79		0.79		—	
	Sparkhill	0.75		0.71		—.04	
	Moseley and King's Heath	0.68		0.65		—.03	
	Selly Oak	0.94		0.76		—.18	
	King's Norton	0.87		0.73		—.14	
	Northfield	0.88		0.82		—.06	
	Harborne	0.78		0.69		—.09	

In most of the wards a decrease is shown. This is no doubt in part a reflection of the growing accommodation provided in the suburban districts by the Corporation and by private owners.

At the census of 1931 there were 4,263 dwellings returned as "vacant on census night." This includes dwellings temporarily unoccupied as well as genuine voids. At the 1921 census the number was 3,147, and in 1911 there were 12,892.

The following table shows how Birmingham people were housed in 1931 :—

Families occupying	No. of Families.	Total No. of Persons.	
1 Room	4,423	9,040	222,203
2 Rooms	12,908	33,580	
3 ,,	45,700	179,583	
4 ,,	48,720	194,174	
5 ,,	69,314	275,616	
6—7 Rooms	59,427	228,160	
8—9 ,,	7,345	31,444	
10 or more rooms	2,070	10,558	
	249,907	962,155	

NOTE.—Lodgers, if boarding separately, are classed as separate families.

Thus, rather less than a quarter of the entire population of the City live in dwellings containing three rooms or less. In many cases the families were large as will be seen from the statement below :—

Families consisting of	No. of such families occupying 1 room.		2 rooms.		3 rooms.	
1 person	1,971		1,868		2,706	
2 persons	1,291		5,619		9,647	
3 ,,	617		3,170		10,118	
4 ,,	286		1,194		8,360	
5 ,,	128		564		5,821	
6 ,,	78		253		3,772	
7 ,,	38		138		2,476	
8 ,,	9	1,161	60	1,057	1,431	5,276
9 ,,	4		25		737	
10 ,,	1		11		410	
11 ,,	—		4		156	
12 and over	—		2		66	

These figures show that 3 or more persons occupied one room in 1,161 instances.

In the two-roomed houses there were 5 or more persons in 1,057 instances, while in the three-roomed houses there were no less than 5,276 cases where 7 or more persons were in occupation.

A striking feature of the statistics relating to the number of families is afforded by comparing the figures for the 1931 census with those for 1921. The following table shows this :—

Families of	1921.	1931.	Increase or Decrease.
1	6,688	11,209	+ 4,521
2	30,326	50,940	+20,614
3	41,985	61,148	+19,163
4	40,596	51,724	+11,128
5	31,732	33,540	+ 1,808
6	21,756	19,211	— 2,545
7	13,700	11,010	— 2,690
8	8,202	5,629	— 2,573
9	4,573	2,983	— 1,590
10 or more	4,255	2,513	— 1,742
Total	203,813*	249,907	+46,094

* Perry Barr not included.

NOTE.—" Any person or group of persons included in a separate return as being in separate occupation of any premises or part of premises is treated as a separate family for census purposes. Lodgers being so treated only when returned as boarding separately and not otherwise."

These figures do not give a correct idea of the actual position, as the increase in the number of families is to a very considerable extent due to the fact that at the 1921 census a large number of married couples and others were living with their parents or as boarded lodgers and so could not be counted as separate families, whereas at the 1931 census a considerable number of these would have been accommodated in separate houses and, therefore, recorded as additional families.

The following table gives details of the families in three groups of wards, together with the number of separate dwellings at the Census of 1931 compared with the figures for 1921.

	No of Private Families.		Increase or Decrease.		No of Structurally Separate Dwellings.		Increase or Decrease.	
	1921	1931	No.	%	1921	1931	No.	%
Central Wards	52,363	49,900	— 2,463	— 4.7	48,445	47,173	— 1,272	— 2.6
Middle Ring	83,748	89,501	+ 5,753	+ 6.9	78,799	84,017	+ 5,218	+ 6.6
Outer Ring	67,702*	110,506	+ 42,804	+63.2	63,215*	105,471	+ 42,256	+66.8

* Not including Perry Barr.

It will be seen that both the families and the separate dwellings decreased in number in the Central wards to a small extent; in the Middle Ring there was a slight increase; while in the Outer Ring the increase was more than 60 per cent.

The census showed that 17,201 people were living in institutions as follows:—

Institution.	No. of Institutions.	Total Population (including staff).	Inmates only.
Workhouses	1	1,828	1,767
Other Poor Law Institutions ...	8	1,669	1,537
Homes for Insane	8	5,730	5,138
Homes for Cripples	2	312	213
Homes for Blind	4	235	200
Homes for Deaf and Dumb	1	177	141
Hospitals	18	5,281	3,536
Convalescent and Nursing Homes ...	57	1,200	694
Prisons	1	439	419
Reformatory Schools, etc.	5	255	195
Naval and Military, etc., Barracks ...	2	75	—
	107	17,201	13,840

The population other than those living in dwellings occupied by private families and in ordinary institutions is classified as follows:—

In hotels, boarding houses, lodging houses, etc.	19,679
In schools, orphanages and other educational institutions	2,214
In civilian ships, boats and barges	216
All others (including vagrants)	1,138
	23,247

In addition to the preceding statistics further information has been obtained from the Registrar General with regard to differences of age and sex in the ward populations. This information helps to elucidate variations in the mortality and birth-rates in the wards.

The following table shows the proportion per cent. of persons in various age groups in the wards :—

PROPORTION PER CENT. OF TOTAL WARD POPULATION.

WARDS	AGES						
	0—4	5—14	15—24	25—44	45—64	65—74	75 up
CENTRAL.							
St. Paul's	10	20	20	26	19	4	1
St. Mary's	10	20	20	26	19	4	1
Duddeston and Nechells	9	20	20	27	19	4	1
St. Bartholomew's	9 } 9	20 } 19	20 } 20	26 } 27	19 } 20	4 } 4	1 } 1
St. Martin's	9	19	19	27	20	5	1
Market Hall	8	16	20	30	21	5	1
Ladywood	9	18	19	27	20	4	1
MIDDLE RING.							
Lozells	7	14	18	30	24	6	2
Aston	8	18	20	27	21	5	1
Washwood Heath	7	18	19	29	21	4	1
Saltley	7	18	19	31	20	3	1
Small Heath	7 } 7	16 } 16	18 } 19	31 } 29	23 } 22	4 } 5	2 } 2
Sparkbrook	6	14	20	29	24	5	2
Balsall Heath	6	14	19	29	24	6	2
Edgbaston	5	12	19	31	25	6	2
Rotton Park	7	16	19	27	22	6	2
All Saints'	7	17	19	29	21	4	1
OUTER RING.							
Soho	5	13	19	30	25	6	2
Sandwell	5	12	19	31	25	5	2
Handsworth	5	12	17	32	26	6	2
Perry Barr	18	18	14	40	8	1	0
Erdington North	9	21	15	34	16	3	1
Erdington South	7	17	17	32	21	5	2
Yardley	8 } 8	18 } 16	18 } 17	32 } 33	19 } 20	3 } 4	1 } 2
Acocks Green	10	18	15	35	17	3	1
Sparkhill	8	17	15	35	20	4	2
Moseley and King's Heath	7	14	17	33	22	5	2
Selly Oak	6	14	20	29	24	5	2
King's Norton	6	14	19	31	23	5	2
Northfield	11	17	15	36	17	3	1
Harborne	6	14	17	32	23	5	2
CITY	8	17	18	30	21	4	2

The figures indicate that the proportion of persons under 25 is highest in the Central Wards, while from 25-44 it is highest in the Outer wards, and above that age there is no marked difference.

In certain wards in the Outer Ring, notably Perry Barr, Acock's Green and Northfield, where Corporation Estates have been developed, a larger percentage at the earlier ages is noticeable.

In the Child Welfare Section of this report statistics will be found relating to the effect of the varying proportion of females of child-bearing age on the birth-rates in the wards.

BIRTHS.

(See page 94).

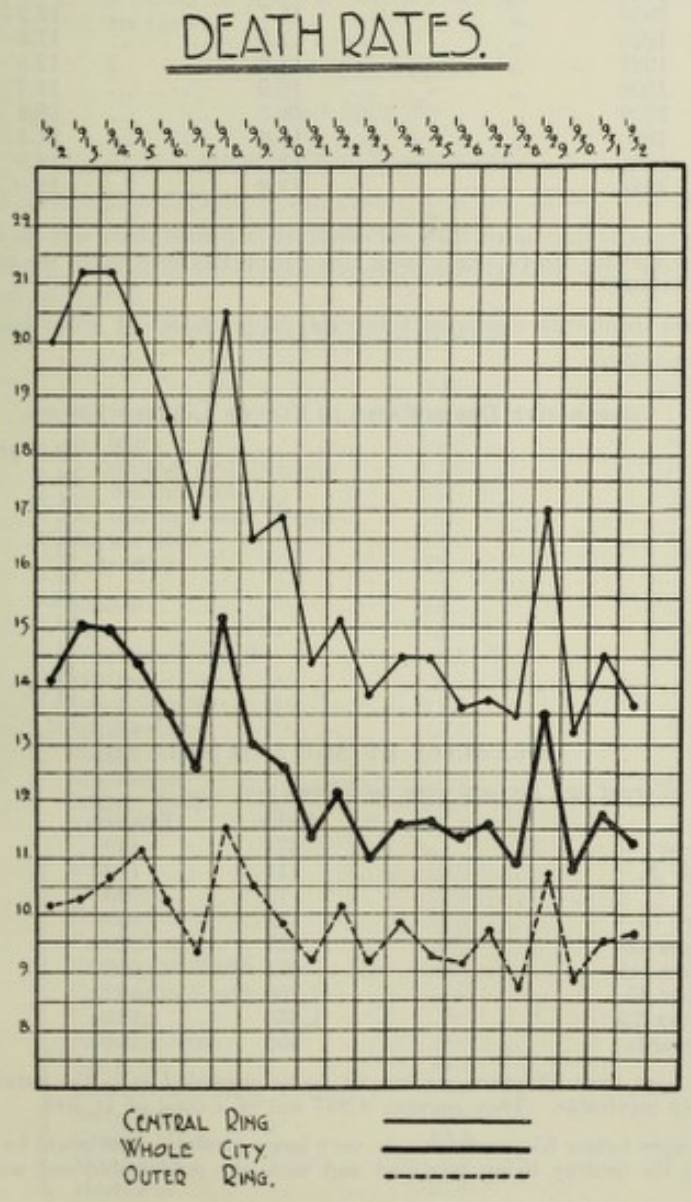
DEATHS.

The deaths belonging to Birmingham numbered 11,508 last year as compared with 11,789 in 1931 and 10,613 in 1930.

The death-rate for 1932 was 11.3 per 1,000. This is slightly below the average (11.6) for the previous 10 years, as well as below the rate (11.7) for the year 1931.

At the latter end of the fourth quarter a considerable rise in the death-rate occurred, caused by the onset of an influenza epidemic, no less than 117 deaths from the disease being registered in the last two weeks of the year.

The fluctuations in the death-rate during the past 21 years are shown on the diagram below, which also shows the rates in the Central and Outer groups of wards.



The great progress made in reducing the death-rate both in England and Wales and in Birmingham during the past 60 years can be seen from the figures below :—

DEATH-RATES IN BIRMINGHAM AND ENGLAND AND WALES.

	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
1916-1920 ,,	13.4	14.4
1921-1925 ,,	11.5	12.2
1926-1930 ,,	11.6	12.1
1923 ,,	11.0	11.6
1924 ,,	11.6	12.2
1925 ,,	11.7	12.2
1926 ,,	11.3	11.6
1927 ,,	11.6	12.3
1928 ,,	10.9	11.7
1929 ,,	13.5	13.4
1930 ,,	10.8	11.4
1931 ,,	11.7	12.3
1932 ,,	11.3	12.0

It is interesting to note that up to 1915 the mortality in Birmingham was above that of England and Wales, but that during the 17 years since that date it has been below the rate for the country as a whole, except in 1929.

The Birmingham death-rate compares favourably with those of other large towns in this country.

COMPARATIVE DEATH-RATES IN ELEVEN LARGEST TOWNS.

London	12.3 per 1,000
Glasgow	14.7
Birmingham	11.3
Liverpool	13.2
Manchester	13.0
Sheffield	11.6
Leeds	13.3
Edinburgh	13.5
Bristol	11.5
Bradford	14.0
Hull	11.9

MORTALITY BY AGE AND SEX.

The deaths at different age periods were as follows :—

	Males.	Females.	Persons.
Under 1 year	671	449	1,120
1 and under 2	111	112	223
2 and under 5	73	89	162
5 and under 15	142	130	272
15 and under 25	227	223	450
25 and under 45	671	605	1,276
45 and under 65	1,766	1,392	3,158
65 and under 75	1,256	1,211	2,467
75 and upwards	956	1,424	2,380

The deaths at ages over 65 years are largely to be regarded as in the natural order of things and to that extent as inevitable. They number 4,847 out of a total of 11,508.

The deaths at ages below 65 years contain very large groups which could be avoided were only the right conditions for healthy living provided and were the public able and willing to take their

share in living the healthy life. In 1932 such deaths numbered 6,661, or 58 per cent. of the total. It cannot be claimed that the limit of improvement has been reached when even now 58 per cent. of our deaths occur at ages under 65 years.

Included among these is the large number of 1,120 deaths under 1 year of age, and a further number of 385 deaths between 1 and 5 years. The causes of mortality in these groups are set out in detail in the section of this report on Maternity and Child Welfare (Section VII).

Among school children (5 to 15 years), the largest individual cause of death is accident, with 43 deaths, while tuberculosis and nervous diseases follow closely with 38 deaths each.

Among young people between 15 and 25 years, there were 450 deaths (9 per week on an average) of which 187 were due to tuberculosis.

In early adult life (25 to 45 years) no less than 1,276 deaths occurred. At this age period also tuberculosis heads the list of diseases with 367 deaths.

In later adult life (45 to 65 years), the largest number of deaths was caused by cancer (699 deaths); heart disease being second (568 deaths); and tuberculosis third with 279.

Fuller details as to the causes of death at different age periods and in the two sexes are given in Table II at the end of this report.

INFANT MORTALITY.

(See page 98).

MORTALITY IN WARDS.

There is still considerable disparity in the mortality in the various wards of the City although the differences are now much smaller than they used to be.

Last year the death-rates in the different wards were as follows. The figures for the two previous years are also given:—

DEATH-RATES IN WARDS.

		Death-rate.		
		1932.	1931.	1930.
Central Wards	St. Paul's	13.2	14.8	12.9
	St. Mary's	15.8	16.2	14.9
	Duddeston and Nechells	14.2	13.9	12.2
	St. Bartholomew's	13.7	13.5	12.5
	St. Martin's and Deritend	13.7	14.9	14.4
	Market Hall	12.6	15.1	14.0
	Ladywood	12.1	13.1	12.5
Middle Ring	Lozells	13.1	12.9	11.8
	Aston	13.4	13.9	12.2
	Washwood Heath	10.5	11.5	9.0
	Saltley	8.7	9.2	7.8
	Small Heath	11.4	11.4	9.0
	Sparkbrook	12.1	12.9	11.3
	Balsall Heath	13.2	12.4	12.6
	Edgbaston	11.7	12.1	12.7
	Rotton Park	11.5	13.9	11.1
	All Saints'	11.4	12.7	10.9
Outer Ring	Soho	13.0	14.0	11.2
	Sandwell	11.1	9.2	10.9
	Handsworth	11.1	11.1	10.4
	Perry Barr	6.7	7.2	5.0
	Erdington North	8.7	8.6	7.6
	Erdington South	9.2	9.7	9.1
	Yardley	9.0	7.9	8.8
	Acocks Green	8.5	9.1	8.0
	Sparkhill	10.1	9.4	8.9
	Moseley and King's Heath	10.7	9.2	10.6
	Selly Oak	10.8	11.1	8.3
	King's Norton	10.1	10.0	8.2
	Northfield	7.2	7.2	7.8
	Harborne	10.4	9.2	10.2

The mean death-rates in the three groups of wards have been as follows:—

	Central Wards.	Middle Ring.	Outer Ring.
1927	14.3	11.1	9.7
1928	14.0	10.8	8.7
1929	17.0	13.6	10.8
1930	13.3	10.8	8.9
1931	14.5	12.3	9.5
1932	13.6	11.7	9.8

The diagram on page 13 shows the death-rate during the past 20 years in the City as a whole contrasted with that of the Central Wards and of the Outer Ring. It will be noted that the mortality in the Central Wards is now much nearer to that of the whole City than it was 20 years ago. Nevertheless the difference is still serious. Last year there were 2,922 deaths in the Central Wards. If the death-rate in them had been as low as it was in the Outer Ring 881 of these deaths would have been avoided.

During the year the movement of the population from the Central areas to the suburbs continued. The population of the Central Wards is estimated to have been 220,900 in 1930 and 216,500 in 1931, 212,600 in 1932.

In certain wards the age distribution of the population is favourable to a low mortality. The extent to which this affects the death-rate may be seen in the following table compiled from figures supplied by the Registrar General as to the age distribution of the population in each ward:—

AVERAGE DEATH-RATES OVER THE THREE YEARS 1930—1932 FOR SUCCESSIVE AGE PERIODS, CALCULATED PER 1,000 OF POPULATION AT THE CORRESPONDING AGE PERIOD.

Ward.	0—	5—	15—	25—	45—	65—	75—	Total.
St. Paul's	28.7	1.62	2.41	5.50	19.9	68	179	14.0
St. Mary's	31.2	2.82	3.14	6.23	21.3	77	218	15.3
Duddeston & Nechells	27.2	2.07	3.65	6.35	20.3	70	172	13.9
St. Bartholomew's	24.5	1.87	2.46	5.81	20.6	66	174	13.6
St. Martin's & Deritend	28.7	1.90	2.82	5.44	22.3	65	158	14.7
Market Hall	25.6	1.62	3.20	5.14	18.5	69	174	13.8
Ladywood	24.1	1.86	3.35	4.87	17.7	60	155	12.8
Central Wards	**27.1**	**1.97**	**3.15**	**5.62**	**20.1**	**68**	**176**	**14.0**
Lozells	20.1	2.50	2.72	3.98	16.3	47	157	12.6
Aston	26.1	1.60	2.77	5.78	17.9	61	186	13.5
Washwood Heath	17.6	1.74	3.19	4.98	15.1	51	152	10.7
Saltley	14.5	1.36	2.59	3.60	13.5	47	140	8.6
Small Heath	16.5	1.57	2.40	3.94	14.7	48	142	10.8
Sparkbrook	20.1	2.18	2.58	4.27	14.2	57	154	12.4
Balsall Heath	18.7	1.40	2.31	4.75	14.4	57	142	12.9
Edgbaston	19.0	1.41	2.07	3.12	13.6	49	147	12.0
Rotton Park	19.7	1.25	2.24	4.49	15.3	43	100	11.5
All Saints'	23.3	1.66	2.80	4.48	16.0	53	157	11.7
Middle Ring	**19.6**	**1.67**	**2.57**	**4.34**	**15.1**	**51**	**148**	**11.7**
Soho	22.8	1.50	2.31	4.11	13.0	50	157	12.9
Sandwell	11.4	1.59	2.89	3.35	11.3	53	128	10.6
Handsworth	16.9	1.24	2.38	2.34	10.9	47	144	11.2
Perry Barr	13.2	1.12	1.72	3.79	11.7	58	140	6.4
Erdington North	13.7	1.29	2.40	3.34	13.2	46	152	8.4
Erdington South	15.9	1.62	2.38	4.05	12.2	30	83	8.9
Yardley	14.0	1.74	2.68	3.86	11.6	46	136	8.5
Acocks Green	14.1	1.49	1.80	3.28	13.4	49	148	8.6
Sparkhill	13.8	2.11	1.76	3.62	13.2	49	122	9.6
Moseley & King's Hth.	12.4	1.24	1.78	3.26	12.2	44	130	9.8
Selly Oak	15.8	1.78	2.50	3.02	13.0	43	85	9.9
King's Heath	17.4	1.24	1.37	3.44	11.6	40	144	9.7
Northfield	11.6	1.04	2.02	3.43	9.6	34	141	7.0
Harborne	11.3	0.98	2.18	2.31	12.1	41	116	9.6
Outer Ring	**14.6**	**1.43**	**2.15**	**3.37**	**12.1**	**45**	**130**	**9.4**
City	19.3	1.66	2.54	4.15	15.1	53	144	11.3

The following table shows the average for the three groups of wards :—

DEATH-RATE AT AGES FROM ALL CAUSES.

	0—	5—	15—	25—	45—	65—	75—	Total.
Central Wards	27.1	1.97	3.15	5.62	20.1	68	176	14.0
Middle Ring	19.6	1.67	2.57	4.34	15.1	51	148	11.7
Outer Ring	14.6	1.43	2.15	3.37	12.1	45	130	9.4
Difference between Outer and Central Wards	—12.5 or 46%	—0.54 or 27%	—1.00 or 32%	—2.25 or 40%	— 8.0 or 40%	— 23 or 34%	—46 or 26%	— 4.6 or 33%

It will be seen that the death-rates for every age period were very much lower in both the Middle and Outer Rings of wards than in the Central area, the largest differences being in the case of children under 5 years and of persons between 25 and 65 years, where the death-rates were 46 per cent. and 40 per cent. lower in the Outer Ring than in the Central Wards.

In the next table the mortality from some of the more prominent causes of death is shown for the three groups of wards.

DEATH-RATES IN GROUPS OF WARDS, 1932.

	Central Wards	Middle Ring	Outer Ring	City
Measles	.16	.03	.02	.05
Whooping Cough	.29	.08	.09	.13
Diphtheria	.06	.04	.02	.03
Influenza	.37	.40	.32	.36
Tuberculosis of Respiratory System	1.20	.88	.62	.83
Other forms of Tuberculosis	.13	.12	.08	.10
Cancer, Malignant Disease	1.52	1.53	1.32	1.45
Diseases of Nervous System and Sense Organs	.99	.94	.73	.87
Diseases of Heart	2.59	2.48	1.80	2.25
Other Diseases of Circulatory System	.51	.40	.52	.48
Bronchitis	.48	.44	.32	.40
Pneumonia (all forms)	1.50	.86	.68	.92
Other Diseases of Respiratory System	.16	.14	.15	.15
Diarrhoea and Enteritis	.29	.13	.11	.16
Other Diseases of Digestive System	.52	.44	.38	.43
Non-Venereal Disease of Genito-urinary System	.53	.44	.38	.45
Premature Birth and Diseases of Early Infancy	.71	.53	.52	.56
Old Age	.20	.30	.34	.31
Violence (all forms)	.64	.56	.47	.54
Other Causes	.91	.85	.75	.83

In almost every instance the mortality is higher in the Central Wards than in the Outer Ring. This excessive mortality is very noticeable in the case of pneumonia, tuberculosis and heart diseases. To take the case of pneumonia, the deaths last year in the Central Wards numbered 320. If the mortality had been no higher than in the Outer Ring they would have numbered 145, a saving of 175 lives.

Further investigation into the causes of death in the wards shows that the death-rates from certain diseases, notably Pulmonary Tuberculosis, Pneumonia and Heart Disease, are very much higher at nearly every age period in the Central Wards than in the Outer Ring of wards.

The following tables indicate this:—

1930—1932.

DEATH-RATE PER 1,000 AT AGES FROM PULMONARY TUBERCULOSIS.

	0—	15—	25—	45—	65—	Total.
Central Wards	.15	1.20	1.76	2.47	.86	1.28
Middle Ring	.10	1.03	1.19	1.39	.51	0.91
Outer Ring	.09	0.74	0.92	0.91	.47	0.66
Difference between Outer and Central Wards	—.06 or 40%	—.46 or 38%	—.84 or 48%	—1.56 or 63%	—.39 or 45%	—.62 or 48%

1930—1932.

DEATH-RATE PER 1,000 AT AGES FROM PNEUMONIA.

	0—	15—	25—	45—	65—	75—	Total.
Central Wards	2.14	.26	.72	2.04	4.36	4.92	1.50
Middle Ring	1.18	.18	.42	1.13	2.46	5.25	0.88
Outer Ring	0.72	.18	.32	0.86	2.38	5.37	0.67
Diff. between Outer & Central Wards	—1.42 or 66%	—.08 or 31%	—.42 or 58%	—1.18 or 58%	—1.98 or 45%	+0.45 or + 9%	—0.83 or 55%

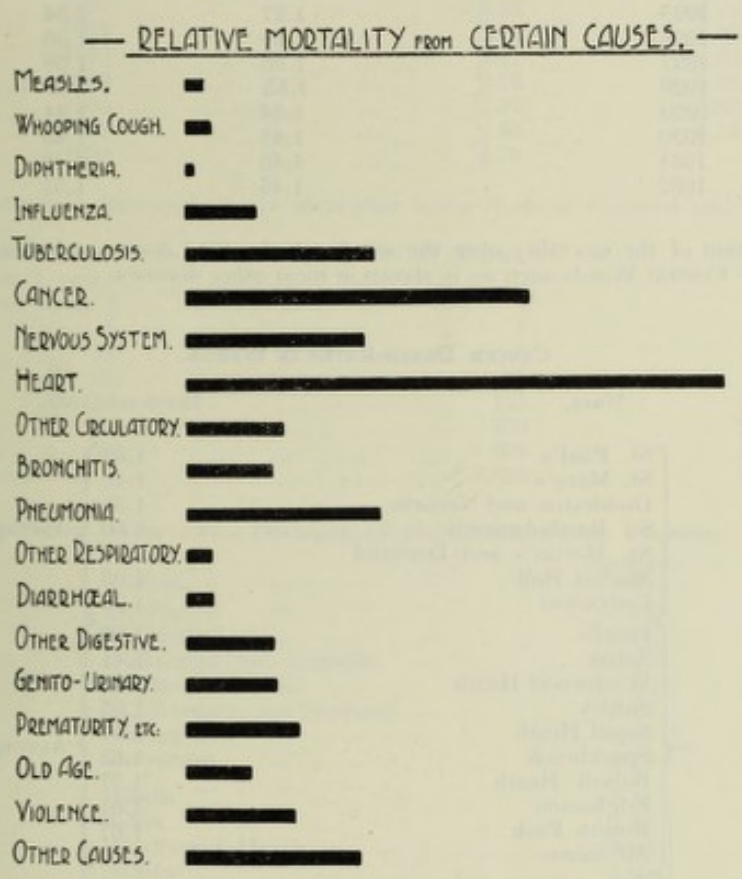
1930—1932.

DEATH-RATE PER 1,000 AT AGES FROM HEART DISEASE.

	0—	15—	25—	45—	65—	75—	Total.
Central Wards	.08	.26	.47	3.60	20.6	67	2.60
Middle Ring	.09	.15	.42	2.65	14.7	51	2.33
Outer Ring	.04	.13	.27	2.17	12.0	40	1.72
Diff. between Outer & Central Wards	—.04 or 50%	—.13 or 50%	—.20 or 43%	—1.43 or 40%	—8.6 or 42%	—27 or 40%	—.88 or 34%

PRINCIPAL CAUSES OF DEATH.

Particulars of the deaths from individual causes at different age periods and in the two sexes are set out in Table II at the end of this Report. The relative mortality attributable last year to some of the more important of these causes is shown in the diagram below.



The statistics relating to infectious diseases (including tuberculosis) are dealt with in detail in Section VI of this Report, and those relating to diarrhoea, prematurity and other infantile complaints in Section VII.

CANCER.

The deaths from cancer numbered 1,475 as compared with 1,476 in 1931. The part of the body primarily affected was as follows:—

	1932	1931
Lip, tongue, palate, jaw	81	87
Pharynx, œsophagus, stomach, liver	427	416
Peritoneum, intestine, rectum	367	340
Female organs of reproduction	145	143
Breast	163	176
Skin	16	18
Other parts	276	296

The death-rate in Birmingham and in England and Wales is shown in the table below :—

Death-Rate per 1,000 from Cancer.

	Birmingham.	England and Wales.
1923	1.17	1.27
1924	1.30	1.30
1925	1.27	1.34
1926	1.26	1.36
1927	1.36	1.38
1928	1.35	1.42
1929	1.34	1.44
1930	1.43	1.45
1931	1.46	1.48
1932	1.45	1.51

The distribution of the mortality over the wards of the City does not indicate any special prevalence in the Central Wards such as is shown in most other diseases.

Cancer Death-Rates in Wards.

	Ward.	Death-rate 1932.	
Central Wards ...	St. Paul's	1.62	
	St. Mary's	1.46	
	Duddeston and Nechells	1.53	
	St. Bartholomew's	1.60	Average 1.49
	St. Martin's and Deritend	1.44	
	Market Hall	1.05	
	Ladywood	1.76	
Middle Ring ...	Lozells	1.90	
	Aston	1.41	
	Washwood Heath	1.35	
	Saltley	1.35	
	Small Heath	1.57	Average 1.55
	Sparkbrook	1.63	
	Balsall Heath	1.77	
	Edgbaston	1.61	
	Rotton Park	1.67	
	All Saints	1.24	
Outer Ring ...	Soho	1.48	
	Sandwell	1.65	
	Handsworth	1.18	
	Perry Barr	0.32	
	Erdington North	1.21	
	Erdington South	1.70	
	Yardley	1.23	Average 1.33
	Acocks Green	1.07	
	Sparkhill	1.48	
	Moseley and King's Heath	1.91	
	Selly Oak	1.39	
	King's Norton	1.42	
	Northfield	0.78	
	Harborne	1.84	

In some of the newer parts of the town, such as Perry Barr and Northfield, the favourable death-rate in respect of cancer is no doubt attributable to the small number of people there who are at an age when they are likely to suffer from the disease. The number of deaths in individual wards is, however, so low as to make comparison between wards unjustifiable.

The Public Health Committee continue to pay an annual contribution of £250 to the Birmingham Branch of the British Empire Cancer Campaign in support of their work on cancer research.

DISEASES OF THE HEART AND BLOOD VESSELS.

There were 2,774 deaths from these diseases as compared with 2,927 in 1931. The death-rates during the past ten years have been as follows:—

	Birmingham.	England and Wales.
1923	1.71	1.95
1924	1.91	2.08
1925	2.12	2.19
1926	2.12	2.21
1927	2.28	2.52
1928	2.41	2.69
1929	2.76	3.06
1930	2.57	2.83
1931	2.90	3.14
1932	2.73	—

The death-rates in Birmingham are somewhat below those in England and Wales.

The age distribution of the deaths in 1932 was as follows:—

Under 1 year	2	0.1%
1 and under 2	1	0.0%
2 ,, 5	1	0.0%
5 ,, 15	9	0.3%
15 ,, 25	21	0.8%
25 ,, 45	121	4.4%
45 ,, 65	703	25.3%
65 ,, 75	894	32.2%
75 and over	1,022	36.9%

Death-Rates From Diseases of Heart and Blood Vessels.

	Ward.	Death-rate, 1932.	
Central Wards	St. Paul's	3.02	Average 3.09
	St. Mary's	3.36	
	Duddeston and Nechells	2.99	
	St. Bartholomew's	3.22	
	St. Martin's and Deritend	3.17	
	Market Hall	3.09	
	Ladywood	2.79	
Middle Ring	Lozells	3.15	Average 2.91
	Aston	3.56	
	Washwood Heath	2.12	
	Saltley	1.99	
	Small Heath	2.98	
	Sparkbrook	2.66	
	Balsall Heath	3.62	
	Edgbaston	3.38	
	Rotton Park	2.75	
	All Saints	2.92	
Outer Ring	Soho	3.36	Average 2.37
	Sandwell	2.96	
	Handsworth	3.16	
	Perry Barr	1.04	
	Erdington North	2.69	
	Erdington South	2.36	
	Yardley	2.01	
	Acocks Green	1.63	
	Sparkhill	2.41	
	Moseley and King's Heath	2.57	
	Selly Oak	3.21	
	King's Norton	1.94	
	Northfield	1.40	
	Harborne	2.51	

The mortality in the Central Wards was again considerably above that in the Middle or Outer Rings.

BRONCHITIS, PNEUMONIA AND OTHER RESPIRATORY DISEASES.

The mortality from these diseases varies greatly from year to year, being influenced markedly by weather conditions and by the prevalence of such diseases as influenza, measles or whooping-cough. In 1932 the mortality was comparatively low.

The mortality in recent years has been as follows:—

	Birmingham.	England & Wales.
1923	1.98	1.87
1924	2.15	2.13
1925	1.97	2.00
1926	1.88	1.74
1927	1.89	1.93
1928	1.56	1.51
1929	2.26	2.10
1930	1.32	1.30
1931	1.61	1.60
1932	1.47	—

Unlike heart disease, respiratory diseases cause a somewhat higher mortality in Birmingham than in England and Wales as a whole. A considerable part of the mortality occurs in early life, the deaths last year being distributed as follows:—

Under 1 year	217	or	14.5%
1 and under 2 years	75	,,	5.0%
2 ,, 5 ,, ...	23	,,	1.5%
5 ,, 15 ,, ...	21	,,	1.4%
15 ,, 25 ,, ...	46	,,	3.1%
25 ,, 45 ,, ...	183	,,	12.2%
45 ,, 65 ,, ...	351	,,	23.5%
65 ,, 75	257	,,	17.2%
75 and over	323	,,	21.6%
All Ages	1,496	,,	—

Death-Rate per 1,000 from Respiratory Diseases.

	Ward.	Death-rate 1932.	
Central Wards.	St. Paul's	2.05	Average 2.15
	St. Mary's	2.95	
	Duddeston and Nechells	2.30	
	St. Bartholomew's	1.80	
	St. Martin's and Deritend	2.02	
	Market Hall	2.30	
	Ladywood	1.60	
Middle Ring	Lozells	1.56	Average 1.46
	Aston	2.15	
	Washwood Heath	1.57	
	Saltley	1.11	
	Small Heath	1.25	
	Sparkbrook	1.63	
	Balsall Heath	1.59	
	Edgbaston	1.27	
	Rotton Park	1.05	
	All Saints'	1.39	

Outer Ring	Soho	1.64	Average 1.16
	Sandwell	1.26	
	Handsworth	1.32	
	Perry Barr	1.18	
	Erdington North	0.90	
	Erdington South	0.76	
	Yardley	1.17	
	Acocks Green	1.09	
	Sparkhill	1.05	
	Moseley and King's Heath	1.39	
	Selly Oak	1.24	
	King's Norton	1.55	
	Northfield	0.82	
	Harborne	0.90	

It will be seen that respiratory diseases are much more common as a cause of death in the Central Wards than elsewhere.

The highest death-rate was 2.95 per 1,000 in St. Mary's ward; the lowest, 0.76 in Erdington South. Only one ward in the Outer Ring was above 1.6, while only two of the Central Wards were below 2.0.

II. GENERAL PROVISION OF HEALTH SERVICES.

PUBLIC HEALTH OFFICERS.

General.	
Medical Officer of Health	1
Medical Staff, whole-time, for general purposes	2
General Clerical and Financial Staff	32
Sanitary Department	
Staff of Sanitary Inspectors	56
Disinfectors	10
Cleansing Staff	9
Clerical Staff	13
Maternity and Child Welfare Department	
Medical Staff (whole-time)	13
Medical Staff (part-time)	19
Health Visitors	103
Instructors	6
Caretakers and Cleaners	38
Porters and Gardeners	15
Nursing Staff (Hospitals & Homes)	90
Domestic and Laundry Staff	32
Clerical Staff	7
Others	10
Tuberculosis Department	
Medical Staff	10
Nursing Staff (Sanatoria)	109
Domestic Staff	69
Porters, Gardeners, Stokers, Drivers	48
Tuberculosis Visitors and Dispensary Nurses	15
Clerical Staff	13
Others	9
Infectious Diseases Hospital	
Medical Staff	6
Nursing Staff	145
Domestic Staff	80
Porters, Gardeners, Stokers, Drivers	46
Others	13
General Hospitals and Convalescent Homes	
Medical Staff	31
Nursing Staff	602
Domestic Staff	341
Porters, Gardeners, Stokers, Drivers	165
Clerical Staff	43
Workmen	53
Others	29
Works Department	
Manager, Workmen and Clerks	59
Bacteriological Department	
Medical Staff	2
Assistants and Staff	13
Analytical Department	
City Analyst and Deputy	2
Assistants and Staff	4
Public Vaccination	
Public Vaccinators (part-time)	21
Vaccination Officers (whole-time)	6

Inspection of Cowsheds and Dairies and of Meat and other Foods is carried out by the Veterinary Department on behalf of the Public Health Committee.

CONSULTATION WITH VOLUNTARY HOSPITALS.

There has not been occasion during the year for formal consultation with the representatives of the Voluntary Hospitals under the terms of the local Government Act, 1929.

POOR LAW MEDICAL OUT-RELIEF.

There continue to be 15 districts for Out-Relief Work. In 5 of these there are whole-time District Medical Officers, 4 of whom act also as Public Vaccinators. Of the 10 part-time Medical Officers 7 act also as Public Vaccinators. None of the District Medical Officers dispense their own medicines but issue prescriptions to chemists in the same way as is done under the National Health Insurance Regulations. There has been no noteworthy change in the administration of this service.

INSTITUTIONAL PROVISION FOR THE CARE OF MENTAL DEFECTIVES.

No new accommodation was provided during the year.

NURSING IN THE HOME.

The following cases were nursed during the year by the District Nursing Societies on behalf of the Public Health Department :—

Measles	36
Measles with Pneumonia	18
Whooping Cough	15
Whooping Cough with Pneumonia	24
Pneumonia	972
Puerperal Pyrexia	16
	1,081

The amount paid to the Societies on account of this work was £1,081 0s. 0d.

Cases of Ophthalmia Neonatorum are visited in their homes, as far as necessary, by nurses from the Eye Hospital, a grant of £200 per annum being paid to the hospital in respect of this service.

MIDWIVES.

(See page 121).

BACTERIOLOGICAL LABORATORY.

The work done at the City Bacteriological Laboratory is set out in the statement below :—

Diphtheria Swabs—	
(a) For Practitioners	4,575
(b) For Fever Hospitals	4,451
(c) For virulence tests	633
Fæces	772
Milk	429
Milk for Tuberculosis	1,226
Shell Fish	119
Sputum for Tuberculosis	2,551
Vaccines	14
Venereal Diseases—	
Blood for Wassermann Reaction	12,449
Cerebro-Spinal Fluid—	
(a) For Wassermann Reaction	579
(b) For Cell Count	105
Films for Gonorrhœa	8,944
Gonococcal Fixation Tests	2,573
Serum for Spirochætes	30
Urine Examinations—	
(a) Microscopic	218
(b) Chemical	7,192
Cultures prepared	7,233
Vaccines prepared	385
Van den Bergh's Tests	3,009
Water samples	456
Widal's Reaction	2,595
Miscellaneous	3,962
Total	64,500

ANALYTICAL LABORATORY.

The following statement shows the samples analysed :—

	1931.	1932.
Food and drug samples	5,003	5,029
Soot gauge samples	24	24
Fertilisers and feeding stuffs	18	24
Miscellaneous samples	964	959
	6,009	6,036

Food and Drugs Acts—

Samples adulterated with preservatives only	20	3
Samples adulterated in other ways	278	199
Unmarked or improperly marked margarine	1	—
False labels	18	19
Number of vendors of incorrect samples	155	125
Number of prosecutions	23	43
Number of fines	23	36
Amount of fines and costs	£80/2/0	£118/18/0
Number of cautions	164	72

Particulars relating to this work are given in the Report of the City Analyst.

LEGISLATION IN FORCE.

No new Local Acts, Special Orders, Adoptive Acts nor Bye-laws came into force during the year.

HOSPITALS.

No substantial alteration took place during the year in the amount and character of the hospital accommodation available.

The part which the hospitals—voluntary and municipal—play in the treatment of sickness may be inferred in some degree from the fact that last year 5,428 deaths out of a total 11,508 occurred in hospitals and kindred institutions. Details of these deaths are as follows :—

Dudley Road Hospital	1,110
Selly Oak Hospital	675
General Hospital	430
Queen's Hospital	211
Children's Hospital	189
Women's Hospital and Taylor Home	63
Maternity Hospital	64
City Fever Hospitals, Babies Hospital and Maternity Homes ...	169
City Mental Hospitals	160
City Sanatoria	267
Western Road House	545
Selly Oak House	417
Erdington House	527
Private Hospitals	222
Institutions outside the City	379

The extent to which hospitals are used for particular diseases can in some degree be estimated from the statement below :—

	No. of Deaths.	Percentage of Total Deaths from this cause
Measles	30	58%
Whooping Cough	67	51%
Diphtheria	32	91%
Influenza	50	14%
Tuberculosis of Respiratory System	391	46%
Other forms of Tuberculosis	84	80%
Cancer	630	43%
Diseases of Nervous System, etc.,	435	49%
Diseases of Heart and Circulatory System	1,100	40%
Bronchitis	78	19%
Pneumonia	548	58%
Other Respiratory Diseases	62	41%
Diseases of Digestive System	422	70%
Genito-urinary System	258	57%
Premature Birth, etc.	285	50%
Old Age	101	32%
Violence	300	54%
Other causes	555	66%
	Total 5,428	47%

CO-OPERATION WITH VOLUNTARY HOSPITALS.

There is large degree of co-operation between the Public Health Department and the Voluntary Hospitals, and grants are paid by the Public Health Committee or the Maternity and Child Welfare Committee to certain hospitals in respect of the activities named below :—

(1) Under the Venereal Diseases Scheme patients are treated at special clinics at the General Hospital and the Children's Hospital.

(2) Cases of Bone Tuberculosis are treated at the Royal Cripples' Hospital and to a smaller extent at a number of other institutions.

(3) Puerperal Fever cases are admitted to the Women's Hospital and difficult cases of confinement to the Maternity Hospital.

(4) For Out-patient Orthopaedic cases under 5 years of age the Royal Cripples' Hospital receives a *per capita* fee.

(5) Cases of tonsils and adenoids and of eye and ear defects discovered at the Maternity and Child Welfare Centres are referred to the Children's Hospital for operation or treatment.

(6) Cases of ophthalmia neonatorum are sent to the Eye Hospital, for out-patient or in-patient treatment as may be appropriate, while home visiting of cases is carried out by nurses on the Hospital staff.

CITY GENERAL HOSPITALS.

The statistics relating to the work of Dudley Road and Selly Oak Hospitals are given below :—

(*a*) In-patients.

	Dudley Road.	Selly Oak.
Total number of admissions (including infants born in hospital)	14,576	9,519
Number of women confined in hospital	1,443	728
Number of live births	1,393	692
Number of stillbirths	89	44
Number of deaths among the newly born (under 4 weeks) ...	91	23
Number of maternal deaths (confined in hospital)	11	4
Total number of deaths	1,303	692
Total number of discharges (including infants born in hospital)...	13,277	8,837

(*b*) Out-patients.

Number of persons seen in out-patient department	33,254	7,283
Total number of attendances	149,014	46,412
Number of women seen at ante-natal clinic	1,410	666
Total attendances	3,982	2,494

(*c*) Classification of In-patients Discharged or Died.

(*a*)	Acute infectious diseases	324	58
(*b*)	Influenza	177	63
(*c*)	Tuberculosis :		
	Pulmonary	150	51
	Non-pulmonary	89	36
(*d*)	Malignant disease	437	227
(*e*)	Rheumatism :		
	(1) Acute rheumatism (rheumatic fever), together with sub-acute rheumatism and chorea	343	164
	(2) Non-articular manifestations of so-called " rheumatism " (muscular rheumatism, fibrositis, lumbago, and sciatica)	39	33
	(3) Chronic arthritis	50	106
(*f*)	Venereal disease	61	10
(*g*)	Puerperal pyrexia	15	3
(*h*)	Puerperal fever	13	0
(*i*)	Other diseases and accidents connected with child-bearing	681	508
(*j*)	Mental diseases	59	32
(*k*)	Senile decay	9	50
(*l*)	Violence	1,520	938

In respect of cases not included above :—

(*m*)	Diseases of the nervous system and sense organs	312	327
(*n*)	,, ,, respiratory system	1,907	1,045
(*o*)	,, ,, circulatory ,, ...	549	505
(*p*)	,, ,, digestive ,, ...	2,905	2,466
(*q*)	,, ,, genito-urinary	952	551
(*r*)	,, ,, skin	524	319
(*s*)	Other diseases	575	633
(*t*)	Maternity cases (mothers and babies)	2,887	1,404

DUDLEY ROAD HOSPITAL.

Extract from Report by the Medical Superintendent, Dr. F. W. Ellis.

The work of the Hospital during the past year has more than maintained the high level of the last few years.

We appear to have been free from any serious epidemic in the City or of any long continued high incidence of illness, but in the month of December the Hospital was seriously overtaxed owing to an epidemic of Influenza.

The one side of the Hospital activities which shows a definite fall in numbers is the care of cases of infectious disease. In past years serious cases of measles and whooping cough were largely treated at the Hospital; now, however, that Little Bromwich Fever Hospital is undertaking a large proportion of this work, a very definite help has been given to the Children's Department of this Hospital and it is mainly by the substantial aid given in this way that this Department has been able to keep abreast of its responsibility.

The Nursing Staff have again acted as donors of blood for the serum immunisation of Measles and owing to the long continued prevalence of the disease in the Town, this treatment has again been extensively used.

Almost all Departments show a definite increase during the year which has been marked in the Maternity Department. Here the numbers of admissions rose to 1,552. The number of individual mothers attending the Ante-natal Clinic was 1,410 and the total number of attendances was 3,982. This Department was urgently scheduled for reconstruction in 1927 and was another of those urgent and necessary developments which has again and again been shelved owing to the still more clamorous demands for financial retrenchment. The coming year, however, will probably see this long desired necessity emerging towards fulfilment.

Working on such a small unit as the present Maternity Department greatly increases the difficulty and danger of negotiating the very irregular incidence of admissions to this Department. It is clear that none of these cases can ever be turned away when presenting themselves for urgent admission or if they have previously been booked for our Hospital, and are, therefore, depending on us for the necessary provision. A much higher number of beds than the present number of 34 must therefore be provided to allow for peak periods, the cleaning and painting of the wards, etc. Moreover the present period of ten days allowed to each mother would not become so inexorable in all cases if a greater latitude were possible. Though more marked in this Department perhaps than in any other, a similar state of affairs not uncommonly exists elsewhere, and I still look forward with anxious longing to the time when there will be a reasonable reserve of beds to allow for such essential features in administration as cleaning and painting of wards, high pressure periods, epidemics, quarantining, and prevention of overcrowding.

During the last year several of the works begun before the change over were finished, the first being the Pathological and Bio-chemical Department which was opened in December, 1931; it has, therefore, been in use now for the full year, and its lay-out and equipment have come up to all the high hopes we had entertained of them beforehand, and this very essential and key department of hospital work is now on a high plane of organization and efficiency which must be of incalculable benefit to all the types of work engaged in this great Hospital unit.

The addition to the Nurses' Home was the second big building operation to be completed.

This very essential addition to the Nurses' Home has not only removed the very pressing difficulties of housing our Nurses but has added materially to the amenities of the Hospital generally.

As well as adding the new building, the Committee have re-conditioned much of the old in a way so successful and efficient as to raise the standard of the whole Home to one uniform level, and the staff are greatly indebted also to the Committee for the atmosphere of quiet charm with which the furnishing of the Home has endowed it.

The sewing room has been occupied since October 3rd, and has proved quite efficient. The lighting and ventilating which at one time it was feared would be difficult has been found to be satisfactory.

The Contractors have finished their work in the Children's Block but much painting and decorating requires to be done before the wards can be used, again the inexorable demands of economy have prevented the full reward of the work undertaken.

The Casualty Department, for long strained in its capacity, has received some help by the provision of an outside shelter for the necessary trolleys, wheel chairs, etc. This department is one however which for some time has been scheduled for re-construction.

The addition to the Maids' Home has made an auspicious start and it is now easy to visualize the appearance which the building will present when completed.

The building will be finished during the coming year which will release accommodation for the X-ray, Massage and Sun-light Departments which are all in most urgent need of this additional accommodation and re-equipment.

SELLY OAK HOSPITAL.

(Extract from Report by the Medical Superintendent, Mr. R. P. Stanley Kelman, F.R.C.S.

The number of admissions for the past year were the highest yet recorded. This increased turnover has been obtained without any increase in accommodation, but by means of a further shortening of the average duration of stay of patients in the Hospital (viz., 18.5 days). This to some extent suggests an increased efficiency in the work done, but it also shows the result of the extremely heavy pressure on the accommodation especially during the winter months, when patients on occasions have had to be discharged earlier than has been desirable. It is felt that a point has been reached where any greater turnover without further accommodation is not desirable.

The returns for the Maternity Department show a decided increase and it is pleasing to note that, in spite of the fact that the Department sets out to deal with abnormal cases, the maternal deaths for the year number 4 only. The accommodation in this Department has been increased in order to deal with the tuberculous maternity work for the City.

The number of Nursing Staff remains the same and the training school is to be congratulated on the satisfactory examination results, viz :—

State Final Examination—

Candidates entered	30
Candidates passed	29

The lack of class and demonstration rooms causes considerable difficulty, but it is hoped that this will soon be remedied.

The Pathological and Biochemical Departments have been more than fully taxed. It is gratifying to know that the new Pathological building is well on the way to completion.

The Radiological Department statistics have continued to advance, but the facilities available will cause no difficulty in dealing with the increasing work.

The massage and Electro-therapeutic Department equipment has been improved somewhat during the year in order to cope with the greater volume of work caused partly by the larger number of accident cases being dealt with both as in-patients and out-patients and partly by the increasing number of cases requiring treatment from the neighbouring Selly Oak Infirmary.

The following figures show briefly the work of some of the special departments :—

Pathological Department		
	Examinations	8,662
	Autopsies	481
Bio-Chemical Department		
	Examinations	2,547
Radiological Department		
	Cases Screened	1,565
	Cases Radiographed	6,439
Ultra Violet Ray Department		
	Cases	668
Massage and Electro Therapeutic Department		
	Cases	3,533
Dental Department		
	Attendances	935

The adjoining institution, Selly Oak Infirmary, which deals with the chronic sick of all ages, has continued to develop and, like the Hospital, the admissions for the year (viz., 1,501) constitute a record.

Once the Main Block alterations at Selly Oak Infirmary have been completed, it is anticipated that the usefulness of this Institution will be still further increased and that the pressure on the chronic sick accommodation for the City will be further relieved. The demand on this class of accommodation is always greatest during the winter months.

GENERAL CONVALESCENT HOMES.

Wassell Grove. The work of this Home has followed closely the lines of the preceding years. Considerable improvement, however, has been made in the amenities in the grounds for the patients, a walk having been constructed through the fields and seats erected for resting at suitable spots.

Tower House. This has not long been added to the administration of Dudley Road Hospital, but it is felt that closer co-operation between the Hospital and Convalescent Home will very materially assist in popularizing among the Nurses one of the most important assets which a nursing unit could have placed at their disposal.

Already the figures show a marked improvement on anything hitherto obtained, and there is every hope that this auspicious start augurs future success.

"Oaklands" Convalescent Home. The admissions for the year reached the record figure of 632. Approximately 88 per cent. of these admissions were convalescent medical cases, of which the predominant diseases in order were pneumonia, debility and gastric ulcer.

Of the surgical admissions, as on previous occasions, cases following the operation of Appendicectomy predominated.

327 cases were discharged as fit; 256 as being improved; 22 as showing no improvement; 15 were transferred to Hospital.

In practically all cases, a gain in weight was recorded.

MATERNITY AND NURSING HOMES.

(See pages 118, 122).

UNMARRIED MOTHERS AND ILLEGITIMATE CHILDREN.

(See page 97).

MATERNAL MORTALITY.

(See page 124).

HEALTH VISITING.

(See page 104).

CHILDREN ACT, 1908.

(See page 98).

BLIND PERSONS ACT, 1920.

The City Council is responsible for the administration of the Blind Persons Act, 1920, and have made arrangements with the Birmingham Royal Institution for the Blind for the following services to be provided on their behalf:

(1) *Workshop employees.*

At the end of the year under review there were 202 workshop employees registered. The trades practised are, for men—basket making, brush making, bedding cane furniture, chair seating, etc. For women—hand knitting, round and flat machine knitting, chair seating, etc.

Although the weekly pay of these employees is at the Trade Union or other standard rate customary in the particular class of work on which the blind person is employed, the handicap of blindness prevents most blind persons from earning a livelihood if they are paid only what they earn on a strictly commercial basis. It is necessary, therefore, to augment their earnings, and during 1932-3 the City Council contributed £8,444 towards this augmentation.

(2) *Home Workers.*

There are 28 of these workers registered. Their ages vary from 16 to 66 years, and the occupations carried out are similar to those of the workshop employees, plus such work as wood-chopping, piano tuning and repairing, music teaching, netting, boot repairing, etc.

Each home worker is provided with the requisite tools and equipment for his particular trade, and where necessary worksheds are provided. Raw materials are supplied at cost price, and every assistance is given in helping him to dispose of his goods. Augmentation of earnings is provided for the home worker, and the amount paid by the City Council for this purpose was £1,215.

(3) *Unemployables.*

These constitute the largest category of the blind, and 1,121 were registered in 1932. The needs of these persons are two-fold—financial and social. Financial assistance is provided by the Local Authority making up their income to 20/- per week. The cost to the Corporation of this service was £10,173. As regards social assistance, the pivot of this service is the Home Teacher, whose duties include the teaching of Braille and Moon type, pastime occupation, home visiting and welfare work. The aim of the service is to secure that systematic home visiting should be provided for all blind persons needing it.

Cowley Home.

This Home provides accommodation for some 13 homeless blind women. The contribution to the cost by the Local Authority for 1932-3 was £327.

Other responsibilities in relation to the welfare of the blind undertaken by the City Council, include such matters as the maintenance of blind children at Sunshine Home.

The following table gives particulars relating to *all* blind persons resident in Birmingham, including those mentioned above as coming within the scope of the Public Health Committee's responsibilities.

	Males.	Females.	Total
Babies in Sunshine Home	1	4	5
Babies at home	2	3	5
Babies in Public Assistance Institutions	4	1	5
Children at School—Resident	15	19	34
Children at School—Day	6	8	14
Children of school age at home	5	1	6
Children of school age in Public Assistance Institutions	5	1	6
Adults in training—Resident	5	4	9
Adults in training—Day	16	9	25
Adults awaiting training	2	2	4
Workshop workers recognised	136	66	202
Other blind employees	14	7	21
Trained home workers	15	13	28
Unemployables at home	420	565	985
Unemployables in Public Assistance Institutions	54	69	123
Unemployables in Cowley Home	—	13	13
	700	785	1,485

REMOVAL OF INFIRM AND AGED PERSONS.

During the year, 40 cases were investigated under Section 38 of the Birmingham Corporation (General Powers) Act, 1929, as compared with 35 and 28 in 1931 and 1930 respectively. A feature of the working of this section is the marked degree of co-operation displayed by the Relieving Officers. Most of the cases were subsequently admitted to an institution, some died, others were found to be unsuitable for removal.

III. SANITARY CIRCUMSTANCES.

WATER SUPPLY.

I am informed by Mr. Broadley, Secretary to the Water Department, that continued progress has been made with the extension of the third line of pipes on the Elan Aqueduct, west of Frankley Waterworks.

Extensions have been made to the trunk mains on the City side of Frankley to supply the new housing estates at Weoley Castle and Kingstanding, which are being developed by the Corporation Housing Department.

The whole of the Parliamentary Area of Supply of the Corporation was supplied with Welsh water during the greater part of the year to 31st December last, and it was only necessary to bring the local sources into commission during the late summer months.

The water supplied was of excellent quality, and sufficient to meet all demands.

WELLS.

There are some 300 wells within the City area. Most of these are shallow wells on the outskirts of the City, while there are a few artesian wells in the Centre of the City. The shallow wells are in a large proportion of a character rendering them liable to sudden gross pollution, but many of the properties which they supply continue to be a considerable distance from the Corporation mains. Special attention has been given to shallow wells connected with dairies on farms, and 70 samples were taken of various wells for chemical and bacteriological analysis during the year.

RIVERS AND STREAMS.

The Annual Summary issued by the Tame Basin Joint Committee indicates that progress continues to be made in obtaining the removal of polluting liquid matter from the River Tame and its tributaries.

In a number of areas improvements have been made in the methods of sewage disposal and of disposal of liquid trade refuse which will render the effluents more suitable to discharge into a stream.

SEWERAGE.

Mr. Humphries, City Engineer and Surveyor, informs me that over 30 miles of sewers were constructed during the year. A large part of this work was in connection with new housing estates while there has been a large extension in the added areas on the east side of the city. The sewering of Old Perry village and of the Walsall Road area of Perry Barr has been completed, and dumbwells in the area have been closed.

In addition to the new sewers listed, good progress has been made with the reconstruction of the foul and surface water drainage systems in the Handsworth District.

With regard to the works authorised by the Birmingham Corporation (Rivers Improvement) Act, 1929, the widening and deepening of the River Tame has been completed from Sweetmoor Bridge near Coleshill Station up to Bromford Lane, and work is proceeding on the River Tame between Bromford Lane and the junction of the River Rea.

CLOSET ACCOMMODATION AND SCAVENGING AND REFUSE DISPOSAL.

I am indebted to Mr. Jackson, General Manager of the Salvage Department, for the following information. The Salvage Department is regularly emptying 520 sanitary pans. During the past year no pans were converted into W.Cs. There are now no sanitary pans serving premises in populous areas.

Disposal of Refuse.

The new Salvage Utilisation Works at Rotton Park Street, built at a cost of approximately £125,000 have now been in use for the past twelve months. As a result of these new works, it has been found possible to close two other disposal works, namely—Holliday Street and Handsworth; the whole of the refuse formerly treated by these two works now being dealt with at Rotton Park Street, and a reduction of expenditure has been effected.

The last and final scheme which will permit of the abolition of tipping crude house refuse both within and without the city, is the reconstruction of the existing Montague Street Works at a cost of approximately £200,000 These works are the principal works of the Department, all the workshops being centered there, together with the plant for the treatment of the offal, etc., from the various markets.

The new plant for dealing with the organic waste will contain all the latest machinery for the scientific and efficient treatment of this class of refuse, and will be the largest and most up-to-date municipally owned plant in this country.

Collection of Refuse.

The Salvage Department continue to develop their fleet of electrically propelled refuse collection vehicles, and during the past twelve months eighteen new vehicles have been purchased. All these vehicles are of the low loading type, and are fitted with special covers which very largely prevent the dissemination of dust during loading operations.

Cesspools.

The number of cesspools receiving regular attention in the city is 570. During the past twelve months 216 cesspools have been connected to the sewers, and 71 new cesspools serving premises in the outlying districts have been installed. Only two cesspools are serving premises in populous parts of the city, one of these being a sewage cesspool and the other waste water.

Privy Middens.

There are 182 privy middens in the city receiving regular attention, and of this number 10 are situated in populous areas. During the last twelve months 2 privy middens have been converted to the W.C. system.

Dry Pits.

Steady progress in the conversion of dry ash pits to the standard dustbin system continues to be made, and during the last year 106 dry ashpits were converted, and there now only remains 308 of this method of storage of refuse.

SANITARY INSPECTION.

The work of the general sanitary inspectors has been carried on steadily and vigorously throughout the year, the total number of visits and re-visits paid being 212,080 against 206,474 in 1931.

The statement below indicates the main headings under which these visits were paid.

For systematic house inspection	88,398
For housing complaints	55,447
For infectious diseases	6,797
For inspection of courts	5,843
For inspection of manure receptacles	303
For inspection of drainage (construction or repair)	8,387
For drain tests (smoke or water)	1,385
To common lodging houses	248
To houses let in lodgings	2,438
To tents, vans and sheds	354
To offensive trade premises	151
To workshops and factories, etc.	4,740
Under the Rats Order	2,614
To milkshops and stores	7,486
To ice cream vendors	1,893
For miscellaneous complaints	3,984
To see owners or agents	5,792
For other purposes	8,722
Unsuccessful visits	7,098
Total visits and re-visits	212,080

The total number of dwelling houses inspected was 18,357, of which 8,746 were examined in the course of the systematic house-to-house inspection of selected streets. The remaining houses inspected were largely those in respect of which a complaint had been received. Of the total of 18,357 examined, 16,627 were found to need repairs of some kind, and notices were served for the following work to be done:—

Houses to be disinfected	2,010
Repairs to houses	166,541
Houses to be cleansed by owner	6,736
Houses to be cleansed by tenant	44
Houses to have better ventilation	817
Houses to have separate water supply	5,280
Houses to be provided with damp course	884
Water or filth to be removed from cellars	232
Spouting to be put in order	4,525
Water closets to be repaired or re-constructed	7,107
Water closets to be cleansed	3,021
Additional water closets to be provided	142
Ashplaces to be repaired or limewashed	258
Soilpipes to be repaired or removed	201
Defective drains	2,196
Additional drains needed	4,380
Sanitary sinks to be provided	5,438
Sink bend pipes to be repaired or affixed	5,440
Yards to be paved or repaired	2,681
Wash houses to be repaired or limewashed	5,391
Accumulations of rubbish, manure, etc., to be removed	212

An important part of the work done has been the provision of an inside water supply to 5,280 houses which previously had to rely on a tap in the yard. This work has been carried out under the provisions of the Birmingham Corporation Act, 1929, under which the Corporation bears half the approved cost of the work. The amount expended in this way during 1932 was £14,286.

Closely connected with an adequate water supply inside the house is the provision of a suitable and efficient sink. Last year 5,438 sanitary sinks were provided and 5,440 sinks were put in order.

In 6,736 cases the notice related to the cleansing, and in 2,689 to the painting of premises, and in 817 to the improvement of ventilation.

A large amount of work was done in improving yards and outbuildings. Notices were issued for 142 additional water closets to be provided, for 3,021 closets to be cleansed and made free from obstruction, and for 7,107 to be repaired. Repairs or additions to the drainage were required in 6,576 cases, and the improvement of wash-houses in 5,391 instances.

A staff of 9 men is regularly engaged by the Public Health Department for the purpose of cleansing some of the worst courts in the City, together with the water closets and ashplaces situated in them, subject to an agreed charge being paid by the owners of the houses. The total number of cleansings effected last year was 11,691, over 200 courts being dealt with. In the course of this work a very large number of water closets and drain traps were cleared of obstructions.

The total number of notices served during the year was 22,452, of which 11,000 were preliminary informal notices, and over 11,000 were statutory notices.

The summonses taken out during the year were as follows:—

General Nuisances	20
Inside Water Supply	37
Houses let in lodgings	6
Black Smoke	6
Shops Acts	76
Milk and Dairies Order	5
Recovery of charges	1
	151

RATS AND MICE.

Throughout the year the provisions of the Rats and Mice Destruction Act have been systematically administered, special attention being paid to the matter during National Rat Week which was observed from November 7th to November 12th.

Rat Week in Birmingham was observed by a general campaign against these pests. About 2,000 handbills were distributed at Cafes, Food Stores, Warehouses, Corn Stores, and any other premises where rats were suspected, and the occupiers were requested to make a special effort to exterminate any rats and to keep a record of their activities.

The following is a summary of these reports together with information gathered by the Sanitary Inspectors.

Premises where Rat Catchers were employed	3
Premises "Rat proofed"	60
Drains tested	11
Rats known to have been destroyed	1,331

In addition efforts at the City Markets showed good results, over 200 poison baits being taken and 26 rats killed. A report from the Great Western Railway shows that about 750 poison baits were laid at their Birmingham Stations, depots and goods yards, about half of which were taken and 20 dead rats found.

FACTORIES AND WORKSHOPS.

The visits paid under the Factory and Workshops Acts numbered 4,740, 3,370 of these being visits of inspection. As a result of these visits notices were served as follows:—

Want of cleanliness	301
Want of ventilation	4
Overcrowding	1
Want of drainage of floors	0
Other nuisances	93
Insufficient sanitary accommodation	6
Unsuitable or defective sanitary accommodation	117
Sanitary accommodation not separate for the sexes	3
Illegal occupation of underground bakehouse	0

Arrangements are in force co-ordinating the work of the Public Health Department in some directions with that of the office of H.M. Superintending Inspector of Factories for the Midland area. This has related chiefly to insufficient or defective sanitary accommodation, or to the investigation of nuisances arising in factories and affecting neighbouring premises. This form of co-operation has continued to prove of great value, preventing overlapping, duplication of action or on the other hand failure to take action, and at the same time removing risks of misunderstanding between two public departments engaged on closely allied work.

The number of workshops on the register is 3,127 and the visits paid to them numbered 1,965. In addition to these visits 525 were made to factories, 880 to workplaces, etc.

SMOKE ABATEMENT.

Observations for excessive emissions of smoke from chimneys are carried out by two inspectors working under the various Acts dealing with this subject, viz:—

Public Health Act, 1875.
The Birmingham Corporation (Consolidation) Act, 1883.
Birmingham Corporation Act, 1922.
Public Health (Smoke Abatement) Act, 1926.

The following table sets out particulars of observations on chimneys other than those of private dwelling-houses. There are in the City some 1,036 such chimneys, 384 in connection with muffles.

	1932.	1931.	1930.	1929.
Total number of observations	5735	5597	4883	4668
Excessive Smoke—				
From Boiler Fires	79	116	102	95
From Boilers and Furnaces	8	11	14	13
From Metallurgical Furnaces	29	29	43	51
Total number of excessive emissions	116	156	159	159
Number of prosecutions	6	18	39	53
Convictions	6	18	38	51
Total amount of fines	£6.	£22.	£52. 10. 0.	£71.
Average per case	£1. 0. 0.	£1. 4. 6.	£1. 7. 8.	£1. 7. 10.
Cautions given	105	133	113	94

Additional observations are carried out each month on the atmospheric impurities carried down in the rainfall. These observations are carried out on lines comparable with those for a number of other towns. The records are obtained by means of two gauges, one in the centre of the City and one in the southern outskirts. The results obtained indicate that the soot deposit in the centre of the City is some 4½ times greater than in the outskirts. The results are fully recorded in the Annual Report of the City Analyst.

OFFENSIVE TRADES.

The offensive trades carried on in the City are as follows:—

Blood boiler	1
Bone boiler	1
Fellmonger	5
Tanner	1
Soap boiler	5
Fat extractor	2
Tripe boiler	43
Gut scraper	4
Rag and bone dealer	23
	85

These firms in general are conducting their business with the production of little or no nuisance. Many minor defects were remedied without notice after the new bye-laws came into force. The total number of visits paid by the sanitary inspectors to places where offensive trades were carried on was 151 and 37 informal notices and no statutory notices were served. No prosecutions were necessary. No firms were removed from the Register during the year; 1 rag and bone dealer and 3 tripe boilers were added.

COMMON LODGING HOUSES.

At the end of the year there were 28 registered Common Lodging Houses in the City, affording accommodation for 1,947 males and 71 females.

It is satisfactory to note that the unusually high standard of cleanliness and sanitation established in these premises in Birmingham continues to be maintained.

In no instances was it found necessary to resort to legal proceedings to remedy contraventions of the regulations governing the management of these houses.

No. of houses on register (for males only)	26
No. of houses on register (for females only)	2
No. of lodgers allowed	2,018
Houses registered during the year	1
Houses closed during year	—
No. of day visits	202
No. of night visits	43
No. of Special Visits	2
Defects found	54
No. of summonses	0

HOUSES LET IN LODGINGS.

These premises are among the most unsatisfactory in the City. The revised bye-laws which came into operation in the autumn of 1929 continue to be applied with strictness. While this has produced a marked change for the better, many of these premises continue to be of a very poor standard of housing.

One great difficulty affecting in particular this class of property, to which attention has frequently been drawn, is the grinding down of the poorest class of tenants by the exorbitant rents charged by landlords, who in many cases are themselves tenants earning a handsome income by the process of profiteering by sub-letting to their less fortunate fellows. That evil, with all its consequences of loss of heart and of carelessness in the use of property on the part of the sub-tenant, and of irresponsiblity on the part of the tenant who is also landlord, is a vital factor in the more urgent housing question of the slum dweller; and no more important steps could be taken nationally than to make such exorbitant rentals illegal.

During the year 36 houses were put on the register and 36 were removed, so that at the close of the year there were 306 of these houses on the register, containing 1,796 rooms.

They were let as follows:—

No. of rooms let as single rooms—920.
No. of lets of two or more rooms together—380.
Certified accommodation—4,436 persons.

The visits and re-visits paid during the year numbered 2,438, an average of 8 per house.
Notices were served for the following matters:—

Repairs ordered	1,707
Overcrowding	8
Cleansing required	177
Provision for cooking	121
Fire extinguishers needed	100
Lighting on stairs	77
Water supply	37
Other defects	265
Summonses issued for non-compliance with Bye-laws	6

TENTS, VANS, AND SHEDS.

The number of visits paid to these by the inspectors was 354. In a number of cases particulars were referred to the City Surveyor with a view to action under the Birmingham Corporation (General Powers) Act, 1929.

CANAL BOATS.

During the year 1932 the number of boats inspected on the canals within the City area was 1,147.

The 1,147 boats inspected were registered for the accommodation of 3,558 persons, and when inspected were found to be carrying 1,498 men, 766 women, and 655 children, a total of 2,919 persons, represented in terms of adults as 2591.5.

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
1928	1,194	3,906	1,420	970	1,132	3,522	2,956
1929	1,155	3,603	1,442	860	932	3,234	2,768
1930	1,189	3,787	1,446	895	850	3,191	2,766
1931	1,131	3,599	1,359	845	737	2,941	2,572·5
1932	1,147	3,558	1,498	766	655	2,919	2,591·5

Of the 1,147 boats inspected during the year it was found that 1,083, or 94.5 per cent., were in good condition and conforming with the Acts and Regulations, while in 64, or 5.5 per cent. of the total various contraventions were found. These are classified thus:—

Boats with one contravention each	...	20	making total contraventions	...	20
Boats with two contraventions each	...	12	making total contraventions	...	24
Boats with three contraventions each	...	14	making total contraventions	...	42
Boats with four contraventions each	...	17	making total contraventions	...	68
Boats with five contraventions each	...	1	making total contraventions	...	5
	Totals	64			159

Complaint Notes were duly served on the owners in all cases, 64 Complaint Notes were issued during 1932, and 21 were brought forward from 1931. 47 Notices were complied with during the year, leaving an outstanding balance of 38.

During the year certificates were returned by owners signed by the various Canal Boat Inspectors, showing that 122 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 1931	Found during 1932	Remedied during 1932	Carried forward to 1933
Cabins requiring repairs	4	34	24	14
Cabins requiring painting ...	12	38	30	20
Cabins leaking	4	17	18	3
Requiring lettering	10	41	29	22
Registration	7	14	11	10
Not producing certificates	1	1	1	1
Dirty cabins	—	1	1	—
Overcrowding	2	5	4	3
Separation of sexes	—	6	3	3
Water vessels	—	1	1	—
No Pumps	—	—	—	—
Ventilation	—	1	—	1
No certificate identifying owner of boat	—	—	—	—
Cabins not habitable	—	—	—	—
Totals	40	159	122	77

It has not been necessary during the year to take any court proceedings under the above Acts or the Canal Boat (Amendment) Regulations, 1925.

Infectious Disease.

One case of mumps occurred during the year on April 22nd, on a boat en route from Preston Brook. The patient was removed to hospital, thorough disinfection was carried out, and the owners and the local authorities concerned duly notified.

Registration of Boats.

There was a net decrease of 4 boats registered at Birmingham during the year, thus bringing the total down to 562.

The 562 boats on the register are classified as follows. It will be noticed that steam boats continue to remain at three:—

Ordinary boats	...	...	...	484
Motor boats	...	...	...	75
Steam boats	...	...	...	3
			Total	562

SHOPS ACTS 1912—1928.

The number of visits and investigations made during 1932 was 6,533. The following contraventions of the Acts were reported:—

1. In 165 shops notices giving day of closing for weekly half-holiday were not exhibited.
2. Notices declaring exempted goods were not displayed in 131 shops, which had remained open after closing hour on weekly half-holiday for the sale of such goods.
3. No provision of seating accommodation for female assistants had been arranged for in 8 cases.
4. In 120 instances the employers had failed to provide the prescribed form relating to the assistants' weekly half-holiday.
5. In 21 cases it was found that the assistants were not having such intervals for meals as are laid down in the Act.
6. In 55 shops, where young persons were employed, the employers had failed to exhibit the notice referring to the specific provisions of the Act.
7. In 149 cases shops were found not to be closing at the statutory time.

Proceedings were taken against 76 shopkeepers for contraventions of the Acts and Closing Orders with the following results:—

(*a*) *Under the Butchers Closing Order* 1921. (*Shops Act* 1912).

1 Defendant was fined 60/-
3 Defendants were fined 40/- each.
6 Defendants were fined 20/- each.

(*b*) *Under the Shops* (*Hours of Closing*) *Act* 1928.

1 Defendant was fined 40/-
16 Defendants were fined 20/- each.
1 Defendant was fined 15/-.
33 Defendants were fined 10/- each.
7 Defendants were fined 7/6 each.

(*c*) *Under the Shops Act* 1912.

5 Defendants were fined 20/- each.
2 Defendants were fined 10/- each.

(*d*) *Under the Hairdressers* (*and Barbers*) *Sunday Closing Act* 1930.

1 Defendant was fined 5/-.

Totals:—

		£	s.	d.
(a) 10 Cases—Fines	...	15	0	0
(b) 58 Cases—Fines	...	37	17	6
(c) 7 Cases—Fines	...	6	0	0
(d) 1 Case—Fine	...		5	0
76		£59	2	6

IV. HOUSING.

NEW HOUSES.

Data received from the City Engineer and Surveyor show that 1,737 houses were built by the Municipality and 2,159 by private enterprise during 1932. The houses built by the Corporation are for the working class, while those built privately have generally been of a larger type. The houses built year by year since 1920 are shown in the subjoined statement.

	No. of houses erected by private enterprise.	Corporation houses.	Total.
1920	244	553	797
1921	426	970	1,396
1922	382	810	1,192
1923	556	1,621	2,177
1924	1,201	1,992	3,193
1925	1,774	3,215	4,989
1926	1,775	5,159	6,934
1927	2,445	4,007	6,452
1928	1,487	3,505	4,992
1929	2,456	4,359	6,815
1930	1,738	6,715	8,453
1931	1,983	3,919	5,902
1932	2,159	1,737	3,896
Total ...	18,626	38,562	57,188

The wards in which new houses have been built since 1920 are indicated below :—

	Ward.	Houses erected by private enterprise.	Corporation Houses	Total
Central Wards.	St. Paul's	2	—	2
	St. Mary's	4	—	4
	Duddeston and Nechells	—	—	—
	St. Bartholomew's	2	196	198
	St. Martin's and Deritend	—	—	—
	Market Hall	—	—	—
	Ladywood	1	—	1
	Total Central Wards	9	196	205
Middle Ring.	Lozells	7	—	7
	Aston	101	—	101
	Washwood Heath	671	1,659	2,330
	Saltley	431	2,701	3,132
	Small Heath	126	1,260	1,386
	Sparkbrook	2	—	2
	Balsall Heath	9	—	9
	Edgbaston	611	—	611
	Rotton Park	143	—	143
	All Saints'	20	—	20
	Total Middle Ring	2,121	5,620	7,741
Outer Ring.	Soho	153	—	153
	Sandwell	872	277	1,149
	Handsworth	821	114	935
	Perry Barr	579	5,419	5,998
	Erdington North	1,491	4,812	6,303
	Erdington South	749	1,809	2,558
	Yardley	1,224	2,526	3,750
	Acocks Green	1,597	7,461	9,058
	Sparkhill	2,963	2,858	5,821
	Moseley and King's Heath	1,383	2,242	3,625
	Selly Oak	881	27	908
	King's Norton	457	560	1,017
	Northfield	1,904	3,886	5,790
	Harborne	1,422	755	2,177
	Total Outer Ring	16,496	32,746	49,242
	Grand Total	18,626	38,562	57,188

In some of the wards a large proportion of the houses are on Corporation estates. The birth-rates and death-rates in some of these were as follows:—

	Birth-rate.	Death-rate.	Infant Mortality.
Perry Barr	27.5	6.7	72
Northfield	21.1	7.2	43
Erdington North	13.6	8.7	56
Yardley	15.5	9.0	58
Saltley	14.5	8.7	61
Erdington South	13.6	9.2	56
Sparkhill	15.3	10.1	53

In contrast with these figures are the following rates for wards in which housing conditions are notoriously bad:—

	Birth-rate.	Death-rate.	Infant Mortality.
St. Paul's	21.5	13.2	92
Ladywood	19.4	12.1	69
St. Mary's	20.6	15.8	105
St. Martin's	18.6	13.7	87
Market Hall	15.5	12.6	76
St. Bartholomew's	20.2	13.7	77
Duddeston and Nechells	21.5	14.2	98

It has, of course, to be remembered that many factors other than housing also enter into consideration, including, for example, differences in the age distribution of the population in the two groups. Mortality statistics relating to this are given on page 16 of this Report. Nevertheless the housing conditions are an important factor in the contrast between the two sets of death-rates and infant mortality-rates shown above.

No. OF EXISTING HOUSES.

From a return prepared by the Rates Department of the City Treasurer's Department, it appears that on April 1st, 1933, there were 234,129 dwelling houses and 16,727 shops with dwelling houses attached in the City. Some idea of the relative size of the dwelling houses may be gathered from the assessments for rating purposes with were as follows:—

Assessment.	No. of dwelling houses.
Up to and including £5	5,146
Over £5 and up to £10	115,814
Over £10 and up to £15	49,003
Over £15 and up to £20	32,743
Over £20 and up to £50	27,554
Over £50 and up to £100	3,445
Over £100	424

INSPECTION AND REPAIR OF HOUSES.

Information has already been given (page 34) on this subject, but certain additional figures are set out in the statement below in the form required by the Ministry of Health.

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

(1)	(i) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	18,357
	(ii) Number of inspections made for the purpose	145,523
(2)	(i) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidation Regulations, 1925	8,746
	(ii) Number of inspections made for the purpose	88,398
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	393
(4)	Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	16,627

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

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	8,633

3. Action under Statutory Powers during the Year :—

A.—Proceedings under sections 17, 18 and 23 of the Housing Act, 1930 :	
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	5,757
(2) Number of dwelling-houses which were rendered fit after service of formal notices :	
(i) By owners	5,634
(ii) By local authority in default of owners	113
B.—Proceedings under Public Health Acts :	
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	4,180
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—	
(i) By owners	4,755
(ii) By local authority in default of owners	45
C.—Proceedings under sections 19 and 21 of the Housing Act, 1930 :	
(1) Number of dwelling-houses in respect of which Demolition Orders were made	149
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	28
D.—Proceedings under section 20 of the Housing Act, 1930 :	
(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made	none
(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	none
E.—Proceedings under section 3 of the Housing Act, 1925 :	
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	none
(2) Number of dwelling-houses which were rendered fit after service of formal notices :	
(i) By owners	59
(ii) By local authority in default of owners	none
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	none
F.—Proceedings under Sections 11, 14, and 15 of the Housing Act, 1925 :	
(1) Number of dwelling-houses in respect of which Closing Orders were made	none
(2) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	none
(3) Number of dwelling-houses in respect of which Demolition Orders were made	none
(4) Number of dwelling-houses demolished in pursuance of Demolition Orders	none

The New Summer Street Improvement Area of 509 houses was defined and confirmed in the autumn of the year. The area, situated in St. Mary's Ward, is one which has been under review from time to time since 1923, when it was first represented as an unhealthy area. It is satisfactory to know that it has now been dealt with. Out of the 509 dwelling houses in the area it is proposed to demolish 131, to purchase 14 in order to open up the area, and to recondition the remainder. The successive steps in relation to the service of notices, the interviewing of property owners by the Estates Committee, etc., were in process of application at the time of the preparation of this report.

Shortly after the end of the year, several small clearance areas were represented; but these, together with others, pending at the time of the preparation of this report, will be dealt with in the report for 1933.

OVERCROWDING.

Cases of overcrowding or of difficult housing are frequently brought to light by the inspectors and health visitors. During the year all cases of overcrowding coming to light in the routine enquiry into other matters have been investigated. An analysis of these cases shows but little change in the prevalence of overcrowding when compared with the similar analysis for 1931. Many of the overcrowded families are unwilling to remove; while many were not aware that the Estates Department could provide other than Municipal houses which they did not desire.

Of the total number of cases reported by the Health Visitors, Tuberculosis Visitors and Sanitary Inspectors (660), 566 were referred to the Estates Department as compared with 460 and 285 in 1931 and 1930 respectively.

Of the 566 cases thus referred, 357 received assistance as follows from the Estates Department:

CASES ASSISTED 357.

(1)	Corporation house or flat allocated	69
(2)	Corporation house or flat offered	65
(3)	Pre-war accommodation provided or to be provided	64
(4)	Privately owned occupation, do.	41
(5)	Exchange house arranged or being arranged	112
(6)	Alternative accommodation being provided...	6

In 186 cases the conditions were not such as to allow of assistance, while 23 were still under review at the end of the year.

A detailed analysis of the accommodation occupied by the 660 cases of overcrowding reported during the year is given in the following table:—

SLEEPING ACCOMMODATION OF OVERCROWDED HOUSEHOLDS.

1932.

Number of Occupants.	One Combined living and bedroom.	One bedroom.	Two bedrooms.	Three bedrooms.	Five bedrooms.
2	3	2	—	—	—
3	6	32	—	—	—
4	20	37	15	—	—
5	14	34	34	—	—
6	5	32	44	1	—
7	7	11	66	8	—
8	4	10	72	5	—
9	—	6	52	19	—
10	—	4	46	10	—
11	1	2	20	5	—
12	—	—	9	4	—
13	—	—	7	1	—
14	—	—	3	5	—
15	—	—	1	2	—
16	—	—	—	—	—
21	—	—	—	—	1
	—	—	—	—	—
	60	170	369	60	1
	—	—	—	—	—

It will be noted that in the houses consisting of a combined bedroom and sitting-room only, there were 31 cases where 5 or more persons slept in that room.

In the case of the one-bedroom houses, in 87 instances there were 5-8 persons sleeping in that bedroom, and in 12 of them as many as 9 to 11 persons.

In the two-bedroom houses there were 86 houses in which there was an average of 5 or more persons occupying each bedroom.

1931.

No. of occupants.	Combined bedroom and living room.	One bedroom.	Two bedrooms.	Three bedrooms.
2	2	4	—	1
3	11	20	9	1
4	13	49	4	2
5	9	23	8	3
6	14	28	22	2
7	6	16	36	4
8	2	11	34	6
9	1	5	43	4
10	–	1	19	10
11	—	—	22	4
12	—	—	6	—
13	—	—	2	2
14	—	—	—	—
15	—	—	—	—
16	—	—	1	—
	—	—	—	—
	58	157	206	39
	—	—	—	—

V. INSPECTION AND SUPERVISION OF FOOD.

FOOD SHOPS.

The supervision of the smaller retail food premises is carried out by the sanitary inspectors of the Public Health Department, while the larger wholesale premises are inspected by the Veterinary Department. Reference to the latter group will be found elsewhere in the Report. In regard to the smaller premises and foodshops each is reviewed in the light of section 72 of the Public Health Act, 1925, and particular attention is paid to general cleanliness and to immediate removal of refuse.

ICE CREAM.

In the early summer each year a special tour of inspection is made of all known ice-cream premises. National legislation has not yet enforced the registration of these premises, and in the absence of registration premises may readily escape inspection. While there has been a great improvement in the standard of general cleanliness, largely from the stimulus of competition between the increasing number of large firms, there is still far too much ice-cream manufactured in private houses. The latter trade is at present principally confined to the week-ends, and is difficult to supervise.

MILK SUPPLY.

The area from which the City milk supply is drawn remains approximately the same, although each year less milk is produced within the City boundary. The bulk of the milk supply comes from within 50 miles of Birmingham, but in times of winter shortage, accommodation milk may come from as far afield as Scotland and Ireland, but during most of the year, the shortage has been relatively less marked, and accommodation milk has not come from such a wide area as usual.

Bacteriological Examination.

The total number of samples taken for bacteriological examination during the year was 423 including 21 samples for the Ministry of Health, and the results, both with regard to raw and pasteurised milk, show that the improvement in recent years has been maintained.

83 samples of raw milk were taken during 1932, and of these 10 contained over 200,000 bacteria per c.c. and an additional 12 over 100,000 per c.c. The majority of these samples were taken from raw milk about to be submitted to the process of pasteurisation.

169 samples were taken of milk which had been pasteurised by the holder process, and of these 6 had a count of over 100,000 bacteria per c.c. and an additional 20 had a count of over 30,000 per c.c. These results were much the same as those obtained in 1931, and show the necessity for care that the limits of time and temperature are carefully observed. The relatively high counts are due to a high proportion of samples being taken from those plants which had not shown highly satisfactory results. In each case the firm concerned, where the pasteurisation was done within the City, was advised and the procedure inspected in detail. In no case during the year were tubercle bacilli found in pasteurised milk.

MILK (Special Designations) ORDER 1923.

The number of dealers in the City licensed to sell designated milks continues to increase. The number of licences for designated milks has risen from 116 in 1929 and 188 in 1930 to 246 in 1931, and 249 in 1932. Including these samples taken for the Ministry of Health, 171 samples of graded milk were taken, and the percentage of these found to be below the Ministry of Health standard was 20.0, 10.0 and 8.7 for certified, Grade A. (T.T.) and Grade A milks respectively. Practically all of this milk is produced outside the City area.

Producers of Certified Milk	1
Dealers in Certified Milk	9
Dealers in Grade A. (T.T.) Milk	43
Producers of Grade A. Milk	9
Dealers in Grade A. Milk	88
Producers of Grade A. Pasteurised Milk	2
Dealers in Grade A. Pasteurised Milk	9
Producers of Pasteurised Milk	18
Dealers in Pasteurised Milk	52
Supplementary Licences for Certified Milk	2
Supplementary for Grade A. (T.T.) Milk	3
Supplementary for Grade A. Milk	8
Supplementary for Pasteurised Milk	5

The bulk of the City milk supply is now subjected to some form of heat. Public demand is causing the number of retarder pasteurisation plants in the City gradually to be increased. There continues to be a large sale for sterilised milk.

MILK AND DAIRIES ORDER, 1926.

All matters referable to dairies come under the control of the Public Health Committee; matters relating to cows and cowsheds come under the Markets and Fairs Committee, acting through the City Veterinary Department.

The Order has been complied with in a satisfactory manner, and the standard of cleanliness in dairies calls for no observation. A certain amount of difficulty is being caused by the influx into the trade, owing to unemployment, of persons who have had no previous experience, and are ignorant of the statutory requirements. This, of course, applies almost entirely to retail purveyors.

There has been a large increase in the number of shops which sell bottled milk. The figures are as follows:—

	1931.	1932.
Number of wholesale purveyors on register	113	126
Number of retail purveyors on register	985	1,040
Number of milkshops on register	3,610	3,548
Number of bottled milkshops on register	1,903	2,209
Number of bottled-milk purveyors	3	29
Total number of new registrations issued	709	658
Total number of transfer registrations issued	408	573
Total number of deletions from register	167	317

INSPECTION OF COWS AND COWSHEDS WITHIN THE CITY.

(Summary of Report by Mr. Brennan DeVine, Chief Veterinary Officer).

At the end of the year there were 113 dairy farms housing 1,624 milch cows, in 232 registered sheds, and 94 milch cows in 10 sheds pending registration, within the City area.

Veterinary Inspectors visit each cowshed once a month and during the year paid 2,618 visits. Throughout the year the health and cleanliness of the cows were generally good.

Mastitis. There were 46 cases of cows affected with acute catarrhal mastitis. In all of these cases the affected cows were kept isolated and their milk was prohibited from sale for human consumption.

Undulant Fever. Two cases of Undulant Fever were reported and suspected to be caused by milk from City dairies. In each case samples of milk were taken, but on examination proved to be negative.

Tuberculosis. 25 suspected cases were reported under the Tuberculosis Order, and on examination all were found to be affected with Tuberculosis and were dealt with.

Herds Producing Grade "A" Milk. At the 31st December herds on nine farms within the city were producing Grade "A" milk, and special veterinary examination has been made of every milch cow in these herds, and the usual three-monthly certificates issued.

Herds Producing "Certified" Milk. One farm within the city is producing this milk.

Cowsheds. The cleanliness and general condition of the cowsheds were maintained at a high standard during the year. It was necessary in ten cases specially to draw the attention of the owners to the want of cleanliness in the cowsheds. Thirty-seven sheds have been altered to comply with requirements and added to the register, and fifteen sheds have been discontinued, the owners of the latter having given up keeping cows for the sale of milk.

Detection of Tuberculosis in Milk produced in City Dairies. Bulk samples of milk are taken from each City dairy from time to time as a check on the system of clinical examination of dairy cows and individual samples are taken in suspected cases. During the year 102 samples of milk were taken from City dairy herds, of which nine samples (seven bulk, two individual) were found to contain living tubercle bacilli. From the seven bulk samples taken at different farms we traced six infected cows at five of the farms; another of the farms was visited but no diseased animals were found and the subsequent mixed sample taken from the herd proved free; at the remaining farm two cows had been disposed of between the date the infected sample was taken and the result of the examination was received.

EXAMINATION OF MILK COMING INTO THE CITY FROM OUTSIDE SOURCES FOR THE PRESENCE OF TUBERCLE BACILLI.

In addition to the 102 samples of milk taken from City dairy herds, 1,074 samples of mixed milk were taken from churns, etc., sent in from outside sources, and in addition 12 samples of pasteurised milk were taken from various City depots, as follows:—

Source.	Bulk Samples.	Result of Exam. Free.	Result of Exam. Infected.	Percentage Infected
Cheshire	2	1	1	50.0
Derbyshire	5	1	4	80.0
Gloucestershire	54	53	1	1.8
Herefordshire	2	1	1	50.0
Leicestershire	20	16	4	20.0
Scotland	6	4	2	33.3
Shropshire	112	99	13	11.6
Somersetshire	1	1	—	—
Staffordshire	337	301	36	10.7
Warwickshire	392	367	25	6.4
Worcestershire	143	133	10	7.0
Pasteurised	12	12	—	—
	1,086	989	97	9.0

Milk and Dairies (Consolidation) Act, 1915: Section (4)—Following the detection of the 97 infected samples of milk coming into the City from outside sources, notification was sent in each case to the Medical Officer of Health of the County in which the dairies from which the infected milks came was situated, and a Veterinary Inspector from this Department attended at the time the inspection of each of the herds was made by the Local Authority concerned. Altogether 129 visits were paid to outside farms, the majority of which were in Staffordshire, Shropshire, Warwickshire and Worcestershire.

Four of the 97 infected bulk samples were taken from supplies sent to Birmingham by Farmers' Associations representing two or three hundred dairy herds. Eventually infection was traced to different farms as follows:—

Infected Bulk Sample.

No. 1.—In this case supplies are collected and sent to Birmingham from 90 herds. Up to the present infected milk has been traced to six of these herds which have been visited and 153 cows examined. One cow showed clinical signs of tuberculosis and was taken under the Tuberculosis Order. Individual and bulk samples of milk have been collected at each of the six farms and sent for examination.

No. 2.—This was collected from milk supplied from 45 herds, which have been visited and all cows examined by the local authority. One cow was found to have advanced Tuberculosis.

No. 3.—Notification has been received that all the dairy herds supplying the creamery were inspected by the local authority. Seven cows were found to be affected with Tuberculosis of the udder, and were dealt with under the Tuberculosis Order.

No. 4.—This sample was taken at a City depot which had received supplies out of a bulk tank containing 2,000 gallons, in which the milk of approximately 2,000 cows was involved. The source of infection is still under investigation.

The other 93 infected bulk samples were taken from milk produced by 95 herds, in connection with which 3,284 cows were examined and further milk samples were taken from each herd. Reports on infected samples have been received in 56 cases, in connection with which 77 cows were discovered to be affected with tuberculosis of the udder and giving milk containing living tubercle bacilli and subsequently slaughtered by the County Authorities concerned. In 23 of the 93 cases the cows responsible for giving tuberculous milk were not traced, although each farm was visited, but it was ascertained that cows had either gone "dry" or been sold out for various reasons for slaughter prior to the visit of the Veterinary Inspector who took control bulk samples which, on examination, were found to be free from tubercle bacilli, thus proving in each case the offending cow had not been kept in the herd.

In the remaining 14 cases the infected samples of milk were collected at the end of the year and the reports of the investigations made have not been received.

Comparative Return. The following table shows the number of samples taken of milk sent in from outside sources during the past ten years, and the percentage infected:—

Year.	Samples Taken.	Samples Infected.	Percentage Infected.
1923	258	19	7.3
1924	303	26	8.5
1925	622	46	7.4
1926	811	71	8.7
1927	835	60	7.2
1928	974	91	9.3
1929	958	64	6.7
1930	1,699	105	6.2
1931	1,657	133	8.0
1932	1,086	97	8.9
		Average for period	7.8

Note—Owing to the removal of the Laboratory from Lodge Road to Great Charles Street, no samples of milk were sent for examination for tubercle bacilli from the 27th April until 12th September.

ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS SUPPLYING MILK TO THE CITY.

Birmingham Corporation Scheme. Under the Birmingham Corporation Scheme for the eradication of Tuberculosis from herds supplying milk to the City, the necessary veterinary assistance is given free, subject to certain conditions being complied with. The primary object is that the milk supply of Birmingham shall be as free from infection of Tuberculosis as possible.

The double intradermal test has been used for all herds tested by us during the year. For the purposes of this scheme the Corporation send their Veterinary Inspectors to carry out the testing of herds for farmers who desire to be included in the scheme.

Eighteen herds, comprising 764 animals, were continuing in the scheme on the 31st December last. From twelve of these herds "Certified" or "Grade A (Tuberculin Tested)" milk is supplied to the City.

HERDS TESTED DURING 1932.

The testing of herds which come under the Scheme is carried out half-yearly, and the following return gives the number of animals tested during the year :—

		Tested.	Passed.	Failed.	Date of entering Scheme.
1	....	393	392	1	October 24th, 1907
2	....	127	110	17	October 3rd, 1908
3	....	60	60	—	September 23rd, 1913
4	....	113	98	15	June 8th, 1920
5	....	20	20	—	May 26th, 1928
6	....	59	55	4	November 22nd, 1907
7	....	9	9	—	January 6th, 1908
8	....	214	210	4	October 3rd, 1908
9	....	47	44	3	June 6th, 1913
10	....	66	60	6	October 4th, 1924
11	....	26	26	—	May 13th, 1929
12	....	73	70	3	September 26th, 1928
13	....	66	59	7	February 7th, 1929
14	....	66	58	8	September 12th, 1913
15	....	65	64	1	November 10th, 1931
16	....	50	23	27	October 1st, 1932
17	....	27	27	—	May 8th, 1932
18	....	83	77	6	November 10th, 1932
19	....	26	20	6	October 9th, 1928
20	....	61	59	2	November 2nd, 1913
21	....	78	48	30	Tested but not admitted to the Scheme.
		1,729	1,589	140	
			91.9%	8.1%	
Cows tested during 1931 :					
		1,895	1,706	189	
			90.1%	9.9%	

Note—During the year two new herds were brought into the scheme, and one herd which had temporarily discontinued the test, re-entered the scheme. Two herds discontinued the test.

INSPECTION OF SLAUGHTERHOUSES, ETC.

Public Abattoir.—Inspection of Meat. Three Veterinary Inspectors and two lay-Inspectors are engaged on meat inspection in the abattoir.

It is difficult with so small a staff to spread the work of the Inspectors equally over the whole of the slaughtering day, and the Inspector who remains on duty after 5 p.m. can only superficially inspect carcases and mark them for further inspection the following morning.

In order to meet the requirements of an increased number of growing districts, many new retail shops have been established during the past four or five years. Consequently there is an increasing number of animals slaughtered in the public abattoirs to meet the demand. If this rate of increase continues, the present slaughterhouse arrangements will soon prove inadequate for the supply of home killed meat required. The public slaughterhouses now are being worked to their fullest capacity. Any further material increase taking place will mean overcrowding of the lairs.

The Markets and Fairs Committee have paid the closest attention to the best method of slaughter of animals for food purposes and have carried out a great number of experiments with all known forms of mechanical stunners. These have been tried in the public abattoirs, but none in their opinion have yet been found to fulfil the conditions necessary for ideal slaughter. In 1931 an electrical stunning instrument was brought to the notice of the Markets and Fairs Committee, and this was immediately tried here on cattle, sheep and pigs. It was found useful in the case of pigs and an extended trial of the instrument was carried out at the public abattoir during 1932. The instrument has been found very successful during this extended trial. It was found that pigs

(1) were instantaneously rendered unconscious,
(2) the animals were silent, were easily bled, and
(3) the dressed carcases were as free from blood as they are in the carcases of those animals which are not rendered unconscious by the electrical stunning instrument, and the carcases set well.

Generally speaking, it has been found that the electical stunning instrument has no detrimental effect whatever on the carcase.

As a result of this trial the Markets and Fairs Committee have now decided to extend the system of stunning of pigs throughout the public slaughterhouses in Birmingham. Arrangements have now been completed to instal seventeen of the electrical instruments.

During the year the following animals were slaughtered in the Public Slaughterhouses :—

	Beasts.	Calves.	Sheep and Lambs.	Pigs.	Total
City Meat Market	38,354	62,443	302,160	87,994	490,951
Montague Street	5	7	545	8,620	9,177
	38,359	62,450	302,705	96,614	500,128

Private Slaughterhouses. There are 94 private slaughterhouses in the City area; 50 of these are registered slaughterhouses which have been in existence previous to 1875, and 44 are annually licensed slaughterhouses.

In 51 of the above slaughterhouses cattle, sheep and pigs are slaughtered; in 16 cattle and sheep only, and in 27 pigs only are slaughtered.

Inspection. Meat inspection is carried out at the meat market by three Veterinary Inspectors and two assistant Meat Inspectors, and for the private slaughterhouses and the meat shops the City area is divided into six separate districts and for this purpose the inspection is carried out by seven inspectors.

The following table shows the number of animals slaughtered in the private slaughterhouses :—

District.	Beasts.	Calves.	Sheep.	Pigs.	Total.
Central	3	—	920	226,332	227,255
No. 1	768	185	6,536	1,346	8,835
No. 2	1,169	810	7,746	7,229	16,954
No. 3	1,967	351	12,232	2,889	17,439
No. 4	1,330	552	14,186	2,531	18,599
No. 5	2,002	652	17,855	9,470	29,979
	7,239	2,550	59,475	249,797	319,061

Imported Meat, 1932.

	Tons.
Beef	11,841
Veal	5
Mutton	13,525
Pork	62
Offal	1,204
	26,637

Knackeries. There are two annually licensed knackeries in the City where horses are slaughtered. These knackeries are also used for the slaughter of some of the cattle taken under the Tuberculosis Order. None of the meat from the knackeries is sold for human consumption.

MONTAGUE STREET PIG MARKET.

Pigs.—This market is divided into two parts, one being for home-reared pigs and the other for imported pigs. On the imported side 6,273 pigs from Ireland passed through, and 94,918 pigs were passed through the home market. All of these animals were licensed from Montague Street to bacon factories and slaughterhouses. In addition to the animals which passed through Montague Street Market, 47,878 pigs ex Ireland were sent under licences of the Ministry of Agriculture, direct to various slaughterhouses and bacon factories in the City area.

During the year the following carcases of imported mutton were examined by us, of which four were found to be affected with Caseous Lymphadenitis :—

Origin	No. of carcases received.	No. condemned.
Australia ...	7,939	1
New Zealand ...	15,507	—
South Africa ...	101	—
Argentine ...	17,455	—
Brazil	2,106	—
Chili	4,411	3
Iceland	300	—
Patagonia ...	6,550	—
Uruguay ...	3,041	—
	57,410	4

WHOLESALE FRUIT, VEGETABLE AND FISH MARKETS.

One Food Inspector is wholly engaged in the Fruit and Vegetable Markets, Fish Market and Market Hall. The amount of foodstuff being sold is increasing. Damaged fruit and vegetables which pay for sorting are sold to hawkers and small shopkeepers, and the sorting room at Gloucester Street is constantly used. This sorting room has proved a great boon to the trade, and owing to the system of inspection now in vogue, the inspectors can see that only good foodstuff is allowed to be removed for sale.

FOOD PREPARATION PREMISES AND SHOPS.

On December 31st there were 252 Food Preparation premises on our register, as follows :—

Cooked Meats, etc., Manufacturers ...	159
Sausage and Pork Pie Manufacturers ...	91
Jam Manufacturers	2
	252

The following shops in which food is sold were regularly visited :—

Beef and Pork Butchers	1,109
Grocers	1,354
Green Grocers and Fishmongers ...	1,342
Hucksters	4,944
Fish Friers	667
	9,416

Visits of inspection were paid by the Inspectors as follows :—

Slaughterhouses	7,960
Food Preparation Premises ...	7,491
Fish Friers	5,926
Beef and Pork Butchers	29,183
Grocers	4,928
Green Grocers and Fishmongers ...	20,991
Hucksters	8,094
Ham and Bacon Curers	3,486
Street Hawkers	25,147
Horse Flesh	50
Cold Stores	19,368
	132,624

FISH FRIERS' PREMISES.

Bye-laws for regulating the trade of Fish Frier are in force in the City area, and it is necessary for any person desiring to establish the trade of a Fish Frier to obtain the prior consent, in writing, of the Corporation.

The following is a list of Fish Friers in the City at December 31st:—

Newly established during the year ...	32
Established previously	635
	667

MEAT AND OTHER FOODS CERTIFIED AS UNFIT FOR HUMAN CONSUMPTION.

No. of Surrenders.	Class of Foodstuffs.	Weight. Tons.	Cwts.	Qrs.	Lbs.
11,731	Meat	437	0	0	7
647	Fish	101	19	3	0
797	Poultry, Game, etc. ...	26	8	1	21
454	Fruit and Vegetables ...	237	13	2	8
170	Miscellaneous	4	10	0	19
13,799		807	11	3	27

Residual Value.—Compensation at the rate of 3/- per cwt. is paid to the owners of carcases and parts of carcases surrendered as unfit for human food, and also in respect of the carcases of pigs which died during transit.

During the year £936 13s. 6d. was paid in respect of the following Carcases, etc.

	Tons.	Cwts	Qrs.
Beef	133	10	1
Veal	8	7	2
Mutton	24	0	0
Pork	146	6	3
	312	4	2

PUBLIC HEALTH (MEAT) REGULATIONS.

These regulations apply to slaughterhouses, shops, stores, etc., and to the transport and handling of meat.

There is no difficulty in carrying out these regulations as regards slaughterhouses and the transport and handling of meat.

Prosecutions. There were prosecutions in 18 cases in connection with infringement of the Meat Regulations, and fines amounting to £21 were imposed.

SHELL-FISH, ETC.

Shell-fish.—The following summary shows the samples taken and submitted for bacteriological examination of shell-fish offered for sale on the City Market:—

Number of Samples.		Origin. Gt. Britain.	Ireland.	Other.
86	Oysters	16	2	68
32	Mussels	26	6	—
118		42	8	68

As a result of the bacteriological examination of Shell-fish ex-Brightlingsea, notice was given under the Public Health (Shell-fish) Regulations, 1915, to the Local Authority concerned. In addition the Ministry of Health were notified, and in consequence of our representations, special Brightlingsea (Shell-fish) Regulations have been issued by the Minstry of Health. These Regulations provide for the special cleansing of Brightlingsea oysters before being sent on to our market for sale.

MISCELLANEOUS.

Food Poisoning, etc. During the year we received and investigated a number of complaints respecting the condition of foodstuffs which were alleged to have been the cause of food poisoning.

Cysticercus Bovis. A calf, slaughtered at the Public Abattoir, was found to be affected with Cysticercus Bovis, and as, in our opinion, there was probably some source of infection at the farm from which the calf came, the information was passed on to the County Medical Officer of Health for Worcestershire.

Sugar Sweepings. 13 consignments, consisting of 456 bags of sugar sweepings, were forwarded to Birmingham from the Port of London. These were controlled by us until they had been submitted to a special refining and filtration process, when they were examined and passed as fit for human consumption.

DISEASES OF ANIMALS ACTS.

The Veterinary Department deals with the whole of the work under the Diseases of Animals Acts (including the issuing of licences) and all other Acts issued by the Ministry of Agriculture and Fisheries. In addition all sales of cattle, sheep and pigs held in the City are controlled under these Acts by the Department.

ANTHRAX.

Thirteen suspected cases of Anthrax were reported, but in twelve cases the microscopical examination of the blood of the animals proved negative. The confirmed case was a bull which died suddenly, 17th August, at Maypole Farm, King's Heath. The farm was placed under restrictions and the carcase of the bull was destroyed at Montague Street Destructor.

A consignment of hides suspected to be affected or to have been in contact with Anthrax was sent from Coventry to Birmingham between 24th and 31st March. These hides were traced as having been salted and then passed on to the tanners, but unfortunately no record was kept of the tanner to which individual hides were sent.

BOVINE TUBERCULOSIS.

Tuberculosis Order, 1925. The Order requires the slaughter of all bovine animals found to be suffering from tuberculosis of the udder or giving tuberculous milk or suffering from tuberculous emaciation or from a chronic cough accompanied by definite clinical signs of tuberculosis.

During the year 25 cases of tuberculosis in cattle were reported to us, and slaughtered under the Order, and compensation amounting to £67 10s. was paid to the owners. Three-fourths of this compensation is recoverable from the Ministry of Agriculture and Fisheries.

Since the Order was made the values of animal by-products have fallen considerably and the minimum amount of compensation payable in respect of animals slaughtered is now reduced from 45/- to 30/-, but without altering the basis of compensation for advanced cases, which remains at one quarter of the market value of the animal immediately before slaughter.

VI. PREVALENCE OF, AND CONTROL OVER, INFECTIOUS DISEASES.

GENERAL.

The mortality figures for 1932 are compared with the decennial averages in the statement below.

Disease.	Deaths in 1932.	Average 1922-1931.	Above or below the average.
Enteric Fever	2	4	— 2
Smallpox	0	0	—
Measles	52	113	— 61
Scarlet Fever	12	17	— 5
Whooping Cough	131	149	— 18
Diphtheria	35	91	— 56
Pulmonary Tuberculosis	849	896	— 47
Other Forms of Tuberculosis ...	105	138	— 33
Influenza	370	370	—

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

Disease.	Cases in 1932.	Average 1922-1931.	Above or below the average.
Enteric Fever	58	38	+ 20
Smallpox	1	6	— 5
Scarlet Fever	2,544	2,225	+319
Diphtheria	620	1,599	—979
Erysipelas	388	461	— 73
Puerperal Fever	82	122	— 40
Puerperal Pyrexia	139	Only notifiable since 1926.	
Ophthalmia Neonatorum	319	473	—154
Pulmonary Tuberculosis	1,266	1,476	—210
Other Forms of Tuberculosis ...	251	291	— 40
Acute Primary or Influenzal Pneumonia	2,728	2,524	+204
Cerebro-Spinal Fever	31	13	+ 18
Acute Poliomyelitis	17	17	—
Polioencephalitis	1	2	— 1
Encephalitis Lethargica	23	65	— 42
Malaria	4	7	— 3
Dysentery	6	10	— 4

The scarlet fever cases exceeded the average by 319, but on the other hand the diphtheria cases were 979 below the average number.

The action taken with regard to puerperal fever, puerperal pyrexia and ophthalmia neonatorum is recorded in the Maternity and Child Welfare section of this Report.

The following cases were reported through the Head Teachers of Elementary Schools and the Attendance Officers :—

	1932.	1931.	1930
Measles	5,033	9,745	6,512
German Measles	739	143	1,226
Whooping Cough	5,248	3,990	5,012
Chicken Pox	6,051	5,855	4,467
Mumps	4,745	1,959	2,730

The cases were all visited by the Health Visitors and steps were taken to exclude contacts from school where necessary.

ENTERIC FEVER.

During the year there were 68 cases notified as enteric fever; but further investigation showed that 10 of these were not suffering from the disease.

The 58 genuine cases were as follows:—

Typhoid fever	... ...	8 cases
Para-Typhoid A.	... ...	— ,,
Para-Typhoid B.	... ...	49 ,,
Para-Typhoid C.	... ...	1 ,,

The cases of para-typhoid B. fever formed a portion of the outbreak which commenced in November, 1931, and lasted until February, 1932, an account of which was included in the Annual Report for 1931.

ENTERIC FEVER.

	Number of Cases.	Case rate per 1,000	Number of deaths registered	Death rate per 1,000
1901-5 (Average)	544	.70	91	.12
1906-10 ...	242	.30	51	.06
1911-15 ...	90	.11	22	.03
1916-20 ...	22	.02	5	.01
1921-25 ...	30	.03	4	.00
1926-30 ...	41	.04	5	.00
1922 ...	11	.01	3	.00
1923 ...	32	.03	4	.00
1924 ...	48	.05	5	.01
1925 ...	31	.03	4	.00
1926 ...	52	.05	3	.00
1927 ...	40	.04	4	.00
1928 ...	20	.02	3	.00
1929 ...	31	.03	4	.00
1930 ...	62	.06	9	.01
1931 ...	54	.05	1	.00
1932 ...	58	.06	2	.00

UNDULANT FEVER.

The most important mode of spread of this disease in this country is through the milk or milk products of infected cattle.

Three cases of undulant fever were reported during 1932. The patients were two males aged 50 years and 31 years; and one female aged 6 years, and the disease was of mild type.

The milk supply was investigated and dealt with in each case.

GLANDULAR FEVER.

No cases of this disease came to the notice of the Department during 1932.

SMALLPOX.

One case of smallpox occurred in the City during the year, in the person of an unvaccinated child, aged 12 years, who became infected while on a visit to London. The case was a mild one; the necessary vaccination of contacts was carried out, and there were no further cases.

Apart from the above, some 20 persons who had come into contact with smallpox elsewhere were visited, vaccinated where desired and kept under daily supervision for a period covering the incubation period of the disease. In no instance did smallpox develop.

VACCINATION.

Since April 1st, 1930, when the Local Government Act, 1929, came into force, the administration of the Vaccination Acts has been carried out by the Public Health Committee.

Below are tabulated statistics relating to this work for the current year, together with similar figures relating to each year since 1927. It will be seen that the percentage of successful vaccinations has risen slightly, the proportion of "removals" has fallen, while the slight increase of conscientious objectors experienced during 1931 continued in 1932. Coupled with this latter fact, however, it is to be remembered that only four cases of smallpox have occurred in the City since 1928; so that there has been no strong incentive to have vaccination performed where parents are otherwise hesitant.

VACCINATION.

	1932	1931.	1930.	1929.	1928.	1927.
Births returned	17,832	17,866	17,590	17,786	17,954	18,291
Conscientious objectors, per cent.	28.0	26.8	25.2	20.4	18.7	18.4
Died unvaccinated	958	841	900	939	1,020	1,051
Successful Vaccinations (per cent of survivors)	54.8	54.3	53.7	62.0	65.0	65.0
Insusceptible ,, ,,	1.0	1.1	1.2	0.5	0.7	0.9
Postponed by Medical Certificate ,, ,,	0.4	0.5	0.6	0.7	0.4	0.8
Removed ,, ,,	3.5	4.5	5.1	4.1	3.9	3.6
Lost sight of ,, ,,	2.7	2.3	2.4	2.5	2.6	2.6
Still under notice ..... ,, ,,	7.9	9.2	10.5	9.1	7.7	7.6

MEASLES.

All cases notified to the Department through the schools have been systematically visited by health visitors, and advice as to nursing and general hygiene given where required.

During the year 358 cases were admitted to Little Bromwich Hospital for treatment.

Since the third quarter of 1930 immunisation methods, even though on a restricted scale, have been applied to the attenuation of infection or the prevention of the disease. It is known that the blood serum of a person who has previously suffered from measles, when given intramuscularly to contacts in suitable amount and at a suitable stage in the incubation period, will either prevent the disease occurring, or so modify it as to make the attack a mild one.

For a supply of serum the Department continued to be indebted during 1932 to members of the health visitors' and clerical staffs, who, with the greatest cheerfulness and willingness, offered their services as blood-donors.

It has happily been made possible considerably to augment the supply of serum by the very generous co-operation of the Birmingham Blood Transfusion Services, whose members have kindly come forward to act as donors.

This serum has been given to selected children under five years of age who had been in contact with measles and who were either also acutely ill with some other disease or were in a state of chronic ill-health. In most of the cases the aim was, not to prevent infection, but to attenuate it, thus obtaining life-long immunity without grave disturbance of health. Apart from cases referred by health visitors and general practitioners for such immunisation, some of the voluntary hospitals requested help with a view of *preventing* further cases occurring in their wards

where there were children suffering from acute illnesses. Immunisation has been carried out on some 200 children during the year, the results obtained being very satisfactory, as will be seen from the following tables:—

PREVENTION.

	No. inoculated.	No. successful.
Hospital cases	18	18
Private Cases	2	2

ATTENUATION.

No. inoculated.	Mild attack.	Sequel. Severe attack.	No attack.
181	134	5	42

Analysis of the five cases which developed severe attacks, showed that the serum had been administered too late in the incubation period to have any useful effect; viz., two cases received serum on the 9th day, while three cases who had serum administered on the 7th day from the appearance of rash in the infecting case developed the rash of measles on the day following the inoculation, indicating that the infecting case had been infectious for some days prior to the rash.

There were 52 deaths registered from the disease during the year. The figure is undoubtedly an under-estimate of the actual mortality, as children may succumb to the complications of measles without the nature of the disease being recognised.

The number of cases in past years, together with the mortality rate, are set out in the following table.

	Number of Cases*	Number of Deaths.	Death rate per 1,000 of population.
1901-5 (Average)	?	279	.36
1906-10 ...	?	294	.36
1911-15 ...	6,027 (1912-1915)	419	.48
1916-20 ...	10,773	168	.18
1921-25 ...	6,831	121	.13
1926-30 ...	7,464	100	.10
1922 ...	4,147	79	.09
1923 ...	7,787	186	.20
1924 ...	5,969	79	.08
1925 ...	11,636	109	.11
1926 ...	6,980	78	.08
1927 ...	9,032	129	.13
1928 ...	5,030	41	.04
1929 ...	9,764	196	.20
1930 ...	6,512	58	.06
1931 ...	9,745	177	.18
1932 ...	5,033	52	.05

*Partial notification only through schools, except for the years 1916-19.

From the following table it is evident that the death-rate from measles in the Central Wards is far in excess of that for the Middle or the Outer Ring of Wards, owing to the course of the disease and the liability to contract complications being directly influenced by overcrowding and insanitary conditions.

Measles death-rate per 1,000.

	1930.	1931.	1932.
Central Wards	.17	.29	.16
Middle Ring	.04	.17	.03
Outer Ring	.02	.12	.02

The age-distribution of the fatal cases of measles was as follows:—

	1930.	1931.	1932.
Under 1 year	11	45	9
1 and under 2 years	29	64	25
2 and under 5 years	12	46	15
5 years and over	6	22	3
	58	177	52

SCARLET FEVER.

The total number of notifications received during the year for this disease was 2,627. Of these 2,085 were treated in hospital and the remainder, 542, were treated at home.

After revision of diagnosis in those cases admitted to hospital, the total number of true cases of scarlet fever treated in hospital was 2,006, and those at home 538. Several cases admitted as diphtheria proved to be suffering from scarlet fever.

The death-rate of .01 per 1,000 for 1932, is slightly lower than the average death-rate for this disease for the past 10 years.

Scarlet Fever Cases and Deaths.

	Number of Cases.	Case-rate per 1,000 population	Number of Deaths	Death-rate per 1,000 population	Case mortality per. cent.
1901-05 (Average)	4,038	5.21	172	.22	4.26
1906-10 ...	3,956	4.83	116	.14	2.93
1911-15 ...	5,456	6.29	125	.14	2.29
1916-20 ...	2,472	2.73	41	.04	1.66
1921-25 ...	2,652	2.84	32	.03	1.21
1926-30 ...	1,910	1.96	9	.01	0.47
1922 ...	3,250	3.51	36	.04	1.11
1923 ...	2,619	2.81	39	.04	1.49
1924 ...	2,219	2.31	23	.02	1.04
1925 ...	1,852	1.95	22	.02	1.19
1926 ...	1,709	1.78	8	.01	0.47
1927 ...	1,510	1.56	8	.01	0.53
1928 ...	1,521	1.56	5	.01	0.33
1929 ...	2,413	2.46	9	.01	0.37
1930 ...	2,397	2.44	15	.02	0.63
1931 ...	2,761	2.73	10	.01	0.36
1932 ...	2,544	2.50	12	.01	0.47

The report on cases treated at the Infectious Diseases Hospital will be found on page 63.

WHOOPING COUGH.

Whooping cough caused 131 deaths during 1932. The following table gives the number of cases and deaths in previous years, and it will be seen that both the number of cases and the death-rate were at a higher level than in the most recent years.

	Number of Cases*	Number of Deaths	Death-rate per 1,000 Population.
1901-5 (Average)	?	316	.41
1906-10 ...	?	294	.36
1911-15 ...	3,264 (1912-1915)	213	.25
1916-20 ...	3,592	206	.23
1921-25 ...	4,463	180	.19
1926-30 ...	4,443	119	.12
1923 ...	1,772	44	.05
1924 ...	4,783	185	.19
1925 ...	6,138	222	.23
1926 ...	4,895	128	.13
1927 ...	2,496	69	.07
1928 ...	6,463	163	.17
1929 ...	3,347	123	.13
1930 ...	5,012	110	.11
1931 ...	3,990	89	.09
1932 ...	5,248	131	.13

*Partial Notification through Schools.

The ages at death were as follows:—

	1928.	1929.	1930.	1931.	1932.
Under 1 year	75	46	60	37	60
1 and under 2 years	54	46	27	35	41
2 and under 5 years	30	23	17	13	23
Over 5 years	4	8	6	4	7
Totals	163	123	110	89	131

Thus 101 out of the 131 deaths occurred among children under 2 years of age.

The death-rate for the three Rings of Wards is given below.

As in the previous year, the death-rate is highest in the Central areas:—

	Death-rate per 1,000.
Central Wards	.29
Middle Ring	.08
Outer Ring	.09

Every case of whooping cough reported to the Department is visited, and advice given on hygienic measures. Where necessary the services of a district nurse are supplied under an arrangement made with the District Nursing Association.

DIPHTHERIA.

The total number of cases notified was 1,188. Of these 1,124 were removed to the City Fever Hospital, the remainder (64) being nursed at home.

Revision of diagnosis took place in 564 of the hospital cases, while one case sent in as scarlet fever proved to be suffering from diphtheria.

After correction, the net number of cases of definite diphtheria belonging to the City was 620, of whom 561 were treated in hospital and 59 at home.

In addition, there were 32 cases treated in the City Hospital on behalf of other authorities.

From the following tables it will be noted that there was a marked decrease both in the number of cases as compared with those in previous years, and in the death-rate.

Diphtheria Cases and Deaths.

	Cases of Clinical Diphtheria.	Case-rate per 1,000 of Population.	Deaths.	Death-rate per 1,000 of Population	Case Mortality per cent.
1901-05 (Average)	991	1.28	159	.20	16.0
1906-10	1,210	1.48	149	.18	12.3
1911-15	1,125	1.30	155	.18	13.8
1916-20	1,065	1.19	143	.16	13.4
1921-25	1,651	1.76	109	.12	6.6
1926-30	1,642	1.69	84	.09	5.1
1923	1,537	1.65	139	.15	9.0
1924	1,887	1.97	100	.10	5.3
1925	1,896	2.00	95	.10	5.0
1926	1,804	1.88	116	.12	6.4
1927	1,543	1.60	61	.06	4.0
1928	1,552	1.59	70	.07	4.5
1929	1,611	1.64	86	.09	5.3
1930	1,701	1.73	88	.09	5.2
1931	1,171	1.16	62	.06	5.3
1932	620	0.61	35	.03	5.6

The distribution over the City is indicated in the table below. From this it will be seen that the cases were more numerous in the Central Wards than in the Middle and Outer Ring.

	Ward.	Diphtheria Case-rates per 1,000 population	
Central Wards	St. Paul's	1.12	Average 0.85
	St. Mary's	0.85	
	Duddeston and Nechells	1.23	
	St. Bartholomew's	0.66	
	St. Martin's and Deritend	0.76	
	Market Hall	0.20	
	Ladywood	1.11	
Middle Ring	Lozells	0.64	Average 0.53
	Aston	0.71	
	Washwood Heath	0.53	
	Saltley	0.64	
	Small Heath	0.50	
	Sparkbrook	0.75	
	Balsall Heath	0.52	
	Edgbaston	0.31	
	Rotton Park	0.27	
	All Saints'	0.45	
Outer Ring	Soho	0.39	Average 0.42
	Sandwell	0.19	
	Handsworth	0.48	
	Perry Barr	0.25	
	Erdington North	0.57	
	Erdington South	0.66	
	Yardley	0.99	
	Acocks Green	0.57	
	Sparkhill	0.25	
	Moseley and King's Heath	0.18	
	Selly Oak	0.47	
	King's Norton	0.22	
	Northfield	0.45	
	Harborne	0.27	
	Whole City	0.61	

A report on the cases treated at the Infectious Diseases Hospital will be found on page 63.

Diphtheria Anti-toxin.

Diphtheria anti-toxin is distributed free of charge to medical practitioners for the treatment of their patients and can be obtained from the Public Health Department, the Bacteriological Laboratory, and 19 Police Stations.

Immunisation against Diphtheria.

The work of immunisation continues to make steady progress. Some 12,000 children were immunised during the year. The work is carried out by one Medical Officer who devotes five half-days per week to diphtheria immunisation, the remaining sessions being allotted to Maternity and Child Welfare work.

From the table below it will be seen that the work of immunisation has been carried out during the year at 86 schools, 5 infant welfare centres, and 6 residential institutions, while one clinic per week is held at the Council House. In all 11,566 children have received the full immunisation dosage during the year (involving 34,698 injections), while 352 children have been partially immunised.

	Children Immunised.		
	Number	Completely immunised.	Incompletely immunised
Council House	1	220	18
Infant Welfare Centres	5	333	25
Day Schools	86	10,742	309
Residential Institutions and Residential Schools	6	271	—
Hospitals	—	—	—
Totals	**98**	**11,566**	**352**

Arrangements were made during 1930 for medical practitioners to be supplied on request with immunisation material for preventing diphtheria. Advantage was taken of this in 29 cases during 1932. At Little Bromwich Hospital a further total of 1,132 cases were fully immunised.

Below are given particulars relating to the work of immunisation since its commencement in 1925, and it is of some interest to note that adjustments of technical or of administrative procedure have enabled the numbers immunised to be increased ten-fold although the staff and the sessions devoted to the work has remained unaltered. The cost of immunisation was 5/- per child in 1930, falling to 2/3 per child in 1932.

Year.	Number immunised by Public Health Department.
1925	1,099
1926	1,500
1927	3,000
1928	2,500
1929	3,500
1930	4,168
1931	7,110
1932	11,566

DYSENTERY.

Six cases of bacillary dysentery were notified during the year, the diagnosis being confirmed by bacteriological examination in all cases. All were due to infection with Flexner's bacillus of dysentery. The cases had no relation to each other, except that two cases occurred in one home. One male patient, aged 46 years, died.

ACUTE FOOD POISONING.

Acute food poisoning is not a notifiable condition. Information was received of four cases of suspected food poisoning, all occurring in one household.

After detailed investigation of the circumstances and examination of blood and excreta of these notified cases no definite evidence was forthcoming that they were, in fact, suffering from food poisoning. The bacteriological examinations proved inconclusive. Investigation relating to suspected foodstuffs was carried out, and some 10 persons handling the suspected food were examined with a view of finding out if, in fact, they were carriers of infection. In each case a negative result was obtained. There were no deaths.

ACUTE ANTERIOR POLIOMYELITIS.

Seventeen cases of this disease were notified, six cases proving fatal. A review of the remaining 11 some six months after the onset showed that two had almost completely recovered; marked improvement was shown by six cases, while little improvement could be noticed in the remaining three cases. All are continuing to receive treatment. The ages of the fatal cases were 4, 5, 11, 19, 32, and 41 years.

POLIOMYELITIS.

Year.	Cases notified.	Died.	Complete recovery	Some paralysis.
1917	11	2	6	3
1918	4	—	2	2
1919	14	1	6	7
1920	1	—	—	—
1921	11	4	1	6
1922	6	—	1	5
1923	33	3	1	29
1924	39	5	5	29
1925	11	3	5	3
1926	38	3	3	32
1927	15	1	6	8*
1928	6	1	1	4
1929	6	—	1	5
1930	9	1	3	5
1931	3	—	1	2
1932	17	6	2	9

* One died later of intercurrent disease.

POLIO-ENCEPHALITIS.

One case of this disease was notified during the year in a boy aged 7 years. The patient survived.

ENCEPHALITIS LETHARGICA.

During the year 23 true cases of this disease came to light in the City, 19 proving fatal. The dates of onset were as follows:—

2	had a date of onset in	1924
1	,,	1925
2	,,	1926
2	,,	1927
2	,,	1928
4	,,	1931
10	,,	1932

Thus only 14 of the cases can be considered of recent origin.

The age, sex and duration of illness of the 19 fatal cases are shown below:—

Age.	Sex.	Duration of illness.
40	M.	7 years
45	F.	1 year
54	M.	3 months
25	M.	5 years
51	F.	6 years
41	M.	8 years (Suicide).
36	F.	5 years
60	F.	15 months
8	M.	2 months
28	M.	2 years (U.S.A.).
57	F.	4 months
60	M.	9 months
50	F.	7 days
49	F.	8 years
37	M.	4 days
50	F.	?
49	M.	4 years
38	M.	6 years
33	M.	4 years

The cases and deaths in previous years have been as follows:—

Year.	Cases.	Deaths,
1919	11	5
1920	18	7
1921	25	8
1922	12	4
1923	29	12
1924	282	44
1925	92	32
1926	89	36
1927	53	32
1928	41	22
1929	27	20
1930	10	7
1931	18	12
1932	23	19

The following table shows the age distribution of the 23 cases in which the diagnosis of encephalitis lethargica has been confirmed:—

Age distribution.	Cases.
Under 2 years	1
5 — 9 ,,	1
15 — 19 ,,	1
20 — 24 ,,	1
25 — 34 ,,	4
35 — 44 ,,	5
45 — 54 ,,	7
55 — 64 ,,	3

CEREBRO-SPINAL FEVER.

Thirty-three cases were notified as cerebro-spinal meningitis during the year. Of these, 26 were confirmed bacteriologically. In two cases the diagnosis was afterwards revised. Of the 31 actual cases, 22 succumbed to the attack, giving a case mortality rate of 71 per cent.

Age distribution.	Cases.
Under 1 year	13
1 — 2 years	4
2 — 4 ,,	3
5 — 9 ,,	2
15 — 19 ,,	1
20 — 24 ,,	3
25 — 34 ,,	2
35 — 44 ,,	1
45 — 54 ,,	2

The cases and deaths in previous years have been as follows:—

Year.	Cases notified.	Deaths.	Fatality per cent.
1920	**25**	**18**	**72**
1921	**9**	**7**	**78**
1922	**18**	**16**	**89**
1923	**4**	**2**	**50**
1924	**11**	**8**	**73**
1925	**7**	**6**	**86**
1926	**10**	**9**	**90**
1927	**12**	**10**	**83**
1928	**12**	**9**	**75**
1929	**15**	**15**	**100**
1930	**14**	**14**	**100**
1931	**25**	**21**	**84**
1932	31	22	71

REPORT ON THE CITY INFECTIOUS DISEASES HOSPITALS FOR THE YEAR 1932.

(By Dr. John McGarrity, Medical Superintendent).

During the year, 3,996 patients were admitted to the wards of the hospitals including one patient suffering from Smallpox who was admitted to Witton Hospital.

Statistics.

The following tables give the numbers of cases of the most important infectious diseases and miscellaneous cases notified during the year and admitted to the hospitals, and also the numbers who were discharged or died, as well as the numbers remaining in hospital at the end of the year. The figures in these tables have not been corrected as regards their true diagnosis. The revised diagnosis will be found under the report of the different diseases later in the report.

It will be noted that there has been a falling off in the numbers of notified cases of diphtheria as compared with 1931; that the numbers of notified cases of scarlet fever remain much the same as last year, but that the numbers of miscellaneous cases have considerably increased. While it was impossible—because of the lack of accommodation—to admit all the cases of measles and whooping cough which were notified, urgent cases were admitted whenever beds were available. As well as measles and whooping cough, increasing numbers of cases of enteric fever and erysipelas were admitted, as will be seen in subsequent tables.

(*a*) Diphtheria. (Uncorrected for diagnosis).

	Little Bromwich.	Witton.	Total.
In hospital on December 31st, 1931	166	—	166
Admitted during 1932	1,156	—	1,156
Transfers during 1932	—	1	1
Discharged during 1932	1,179	1	1,180
Transfers during 1932	1	—	1
Died during 1932	39	—	39
Remaining on December 31st, 1932	103	—	103

(*b*) SCARLET FEVER. (Uncorrected for diagnosis).

		Little Bromwich.	Witton.	Total
In hospital on December 31st,	1931	216	—	216
Admitted during	1932	2,105	—	2,105
Transfers during	1932	2	28	30
Discharged during	1932	2,120	26	2,146
Transfers during	1932	28	2	30
Died during	1932	10	—	10
Remaining on December 31st,	1032	165	—	165

(*c*) MISCELLANEOUS. (Uncorrected for diagnosis).

				Little Bromwich.	Witton.	Total.
In hospital on December 31st,	1931			46	—	46
Admitted during	1932	Measles	342	734	—	734
		Whooping Cough	211			
		Enteric Fever	52			
		Erysipelas	47			
		Other Diseases	82			
Discharged during	1932			598	—	598
Died during	1932			74	—	74
Remaining on December 31st,	1932			108	—	108

(*d*) SMALLPOX. (Admitted to Witton).

In hospital on December 31st,	1931	—	—	—
Admitted during	1932	—	1	1
Discharged during	1932	—	1	1
Remaining on December 31st	1932	—	—	—

DIPHTHERIA.

There were admitted to the wards—likely to be suffering from diphtheria—1,156 patients: of these, 609 patients—or over 50 per cent.—were finally diagnosed as follows:—

Revised diagnosis of 609 cases notified as diphtheria.

Scarlet fever	83
Measles	11
Whooping Cough	7
Erysipelas	1
Chickenpox	1
Mumps	2
Concurrent diphtheria and scarlet fever	7
Concurrent diphtheria and rubella	1
Concurrent diphtheria and whooping cough	1
Concurrent diphtheria and measles	1
Carriers	49
Tonsillitis	303
Quinsy	15
Vincent's Angina	1
Simple laryngitis	10
Pneumonia	9
Bronchitis	7
Common cold	20
Adenitis	4
Ulcerative stomatitis and glossitis	7
Syphilitic ulceration of throat	2
Enteritis	2
Sublingual abscess	1
No evidence of diphtheria	64
Total	609

It will be seen that 83 patients notified as diphtheria were really cases of scarlet fever, and that 11 were really cases of measles, while 49 were merely carriers of virulent diphtheria bacilli. 303 patients—or almost 50 per cent of the total revisions—were merely suffering from tonsillitis. Actually, 561 patients treated in the wards suffered from true diphtheria including 7 who also suffered from concurrent scarlet fever; one from concurrent rubella; one from concurrent whooping cough and one from concurrent measles, while one patient was notified as suffering from scarlet fever but was actually a case of nasal diphtheria, and another notified as measles suffered from concurrent diphtheria.

Types of Diphtheria and Mortality.

Types.	Number.	Died.	Mortality per cent.
Faucial	398	11	2.76
Faucial and nasal	41	11	26.83
Faucial and laryngeal	23	3	13.04
Faucial, nasal and laryngeal ...	2	1	50.00
Laryngeal	36	5	13.89
Nasal	57	—	—
Nasal and laryngeal	3	1	33.33
Conjuctival	1	—	—
Total	561	32	5.7

The above table shows, among other things, that there were 32 deaths during the year among true cases of diphtheria representing a hospital mortality rate of 5.7 per cent. as compared with 5.4 per cent. last year. Of the 32 deaths, 8 took place within 48 hours of admission to hospital, 5 being noted to be "hopeless" or moribund when examined. Included in the 32 deaths are the following :—

(1) A woman, 48 years of age, who suffered from ex-ophthalmic goitre.

(2) A child, 4½ years of age, notified whooping cough and moribund on admission.

Types of post-diphtheritic paralysis :—

Palatal	... ...	91
Ciliary	... ...	15
Strabismus	... ...	13
Lower limbs	... ...	12
Pharynx	... ...	11
Facial	... ...	11
Neck muscles	... ...	10
Diaphragm	... ...	3
		166 (occurring in a total of 98 patients).

98 patients in all suffered from paralysis. The paralysis rate was, therefore, 17.2 per cent. for all true cases of diphtheria.

Laryngeal Diphtheria.

Of all the true diphtheria patients, 64 had some degree of croup and, of these, 19 required interference in the shape of intubation or tracheotomy. 6 patients were subjected to intubation, of whom 5 were successful, while one required further interference and was subjected to tracheotomy later. 12 patients were subjected to tracheotomy including the one already mentioned; of these, 5 were successful, but 7 died from broncho-pneumonia. One other patient with laryngeal obstruction—a child suffering from whooping cough and concurrent diphtheria—was subjected to tracheotomy, and recovered.

In addition, one patient suffering from measles and who developed laryngeal diphtheria was subjected to tracheotomy, and died.

One other patient—a girl of 15——notified as laryngeal diphtheria was subjected to both intubation and later tracheotomy, but died. She was really a case of pneumonia with severe laryngitis.

Table showing the diphtheria death-rate according to the day of disease on which serum is given :—

Day of disease on which serum given.	Number of patients.	Number of deaths.	Number of deaths. per cent.
1st	20	—	—
2nd	114	5	4.39
3rd	124	9	7.26
4th	79	4	5.06
5th	49	1	2.04
Later than 5th	163	11	6.75
No serum	12	2	16.67

This table shows that a larger number of patients were admitted later than the fifth day of disease than on any other day; the day of disease, however, was not always very definitely known.

Table showing age and sex of diphtheria patients.

	0—5	5—10	10—15	15—25	25—45	Over 45	Totals.
RECOVERED.							
Males	72	94	31	24	10	1	232
Females	78	88	42	62	20	7	297
DIED.							
Males	*7	3	—	1	—	—	11
Females	8	9	3	—	1	—	21
TOTALS	165	194	76	87	31	8	561

* Includes one case notified whooping cough, revised to diphtheria. Hospital mortality 5.7 per cent.

It can be deduced from this table that 63.9 per cent. of the total cases of true diphtheria and 84.4 per cent. of the total deaths occurred among children under 10 years of age.

IMMUNISED CASES.

	Age (years).	Schick test on admission to hospital.	Diagnosis.	Immunisation course.
1.	8	Negative	Tonsillitis	6 months before admission.
2.	10½	Negative	Tonsillitis	2 years before admission.
3.	1½	Negative	No evidence of diphtheria	8 months before admission.
4.	6½	Positive	No evidence of diphtheria	18 months before admission.
5.	9	Negative	Scarlet fever	4 months before admission.
6.	6½	—	Bronchitis	3 weeks before admission.
7.	5½	Negative	No evidence of diphtheria	2 years before admission.
8.	10	Positive	Tonsillitis	2 years before admission.
9.	7	Negative	Common cold	1 year before admission.
10.	6½	Negative	Streptococcal tonsillitis	1 year before admission.
11.	6	Negative	Tonsillitis	Schick negative 1931. L.B.H (Not immunised).
12.	7	Positive Negative	Diphtheria	3 months before admission.
13.	9	Positive	Tonsillar diphtheria	3 weeks before admission.
14.	7	Negative	Common cold	4 months before admission.
15.	7	Negative	Mumps	6 weeks before admission.
16.	10	Negative	Tonsillitis	3 years before admission.
17.	6	Positive Negative	Tonsillar carrier	6 months before admission.
18.	6	Negative	Tonsillitis	Immunised at school.
19.	9	Negative	Nasal carrier	1 year before admission.
20.	6	Negative	Catarrhal laryngitis	Immunised at Council House.
21.	10	Negative	Tonsillar carrier	Immunised at school.
22.	12½	Positive	Tonsillitis	2 years before admission.
23.	6	Negative	Tonsillitis	3 years before admission.
24.	5	Positive	Tonsillitis	Three injections.
25.	10½	Positive Negative	Mild diphtheria	3 months before admission.
26.	4	—	Scarlet Fever	Immunised 1931.

The above list shows a number of patients—26 in all—notified as likely to be suffering from diphtheria. The final diagnosis was based on (1) the clinical evidence; (2) the Schick test and (3) the result of the bacteriological investigation.

Of the 26 possible cases, only three were finally diagnosed diphtheria; of these, one (No. 12) had been fully immunised only three months previously; one (No. 13) had been immunised only three weeks before admission to hospital, while one (No. 25) had received only two immunising injections three months previously. They were all mild to moderate cases of diphtheria.

Scarlet Fever.

There were admitted to the wards of the hospital 2,105 patients notified as possibly suffering from scarlet fever; of these, 185 cases were finally diagnosed as suffering from other complaints, as follows:—

Revised diagnosis of 185 cases notified as scarlet fever.

No evidence of scarlet fever	61
Rubella	31
Tonsillitis	29
Measles	13
Erythema	11
Scarlet fever and concurrent chickenpox	6
Scarlet fever and concurrent diphtheria	5
Scarlet fever and concurrent measles	3
Scarlet fever and concurrent rubella	3
Urticaria	3
Broncho-pneumonia	2
Lobar-pneumonia	2
Measles and whooping cough	2
Impetigo	2
Whooping cough	2
Tuberculous lungs	1
Scabies	1
Appendicitis	1
Erysipelas	1
Bronchitis	1
Scarlet fever and concurrent erysipelas	1
Nasal diphtheria	1
Cholecystitis	1
Purpura	1
Cerebro-spinal meningitis	1
	185

Actually 2,009 true cases of scarlet fever were treated in the wards, of whom 81 had been notified as likely cases of diphtheria and 8 as suffering from other infectious diseases. The type of scarlet fever was, on the whole mild or simple in character, only three being classed as subseptic, three as septic, while one was toxic in character. The number of deaths attributed to scarlet fever was 6, giving a hospital mortality of 0.29 per cent.

Details of the fatal cases are as follows:—

Scarlet Fever Deaths.

	Age, in years.	Cause of death.
1.	1	Scarlet fever and concurrent broncho-pneumonia.
2.	11	Scarlet fever (endocarditis).
3.	27	Septic scarlet fever and pneumonia.
4.	2	Scarlet fever and broncho-pneumonia.
5.	7	Scarlet fever (arthritis, nephritis, endocarditis).
6.	3	Scarlet fever and broncho-pneumonia.

All these patients received scarlet fever antitoxin.

Of the 2,009 cases admitted, 1,570 received from approximately 10 to 20 c.c's. of antistreptococcal antitoxin, only a few receiving larger doses. In practically every case, the serum was given intramuscularly.

The principal complications are noted below in two groups—(1) serum treated and (2) non-serum treated.

Complications.	1,570 serum treated cases.		439 non-serum treated cases.	
	Numbers.	Per cent.	Numbers.	Per cent
Arthritis	13	0.82	4	0.91
Nephritis	8	0.50	8	1.80
Otorrhoea	69	4.30	30	6.80
Late albuminuria	18	1.10	7	1.50
Late adenitis	96	6.10	25	5.00
Jaundice	3	0.19	—	—
Tonsillitis	21	1.30	4	0.90
Diphtheria	2	0.12	—	—
Relapse	14	0.89	5	1.10
Rhinitis	13	0.82	2	0.45
Mastoid	6	0.38	5	1.10
Endocarditis	3	0.18	—	—

It should be noted that the non-serum treated cases were not used as controls. They were not given serum as they were extremely mild cases: there were no deaths among the non-serum treated cases.

Table showing age and sex of scarlet fever patients:—

Age.	0—5	5—10	10—15	15—25	25—45	Over 45.	Totals.
RECOVERED.							
Males	302	352	161	60	38	3	916
Females	303	434	196	113	38	3	1,087
DIED.							
Males	2	1	—	—	1	—	4
Females	1	—	1	—	—	—	2
TOTALS	608	787	358	173	77	6	2,009

Hospital mortality 0.29 per cent.

MEASLES.

Of the patients notified as Measles, 342 in number, 30 cases were finally diagnosed as follows:

Rubella	7
Scarlet Fever	4
Bronchitis	1
Whooping cough	1
Enteritis	1
Pemphigus vegitans	1
Pneumonia	1
Measles and diphtheria	1
No evidence of measles	13
Total	30

Actually 340 true cases of measles were treated in the wards including 28 patients who were thought to be suffering from another infectious disease. There were 25 deaths among the measles patients, the cause of death being as follows:—

Deaths—

Broncho-pneumonia (Of these, 3 died within 24 hours of admission)	18
Broncho-pneumonia and enteritis	5
Broncho-pneumonia and convulsions	1
Laryngitis (tracheotomy) broncho-pneumonia and convulsions	1
Total	25

The hospital mortality was, therefore, 7.35 per cent.

The principal complications were as follows:—

Broncho-pneumonia	61
Broncho-pneumonia and enteritis	9
Enteritis	22
Nasal diphtheria	3
Laryngitis	9
Mastoiditis	1
Total	105

Whooping Cough.

Of the patients notified as whooping cough, 211 in number, 21 were found to show no evidence of the disease; one suffered from diphtheria as well as whooping cough and three were finally diagnosed as suffering from broncho-pneumonia.

Actually, 196 children were treated in the wards for whooping cough including 12 who were notified as other diseases.

Thirty-five deaths occurred among the whooping cough patients, as shown in the following table:—

Deaths—

Broncho-pneumonia	25
Broncho-pneumonia and measles	2
Acute pulmonary tuberculosis	2
Convulsions	1
Marasmus	1
Broncho-pneumonia and convulsions	4
Total	35

The hospital mortality was, therefore, 17.68 per cent.

The principal complications were, as follows:—

Broncho-pneumonia	39
Convulsions	2
Enteritis	16
Broncho-pneumonia and enteritis	14
Broncho-pneumonia and convulsions	2
Convulsions and enteritis	2
Total	75

Summary of Miscellaneous Diseases.

Notified Disease.	No. of cases notified.	Diagnosis revised.	Notified as another disease.	Actual No. of cases.	Died.	Case mortality.
Measles	342	30	28	340	25	7.35
Whooping cough	211	25	12	198	35	17.68
Enteric fever	52	26*	—	26	0	—
Chickenpox	32	6	—	26	0	—
Rubella	16	3	38	51	0	—
Mumps	12	2	2	12	0	—
Dysentery (incl. diarrhoea)	14	6	4	12	1	—
Cerebrospinal meningitis	3	2	1	2	0	—
Erysipelas	47	8	2	41	4	9.75
Encephalitis lethargica	1	1	—	—	0	—
Pemphigus	1	—	—	1	0	—
Pneumonia	1	1	15	15	5	33.33
Trichinosis	2	2	—	—	0	—
Total	734					

*This figure includes 12 cases admitted for observation as suspected carriers of B. paratyphosus B.

As already noted earlier in the report, this total of 734 is larger than in former years; the number for last year (1931) being 427.

Active Immunisation against Diphtheria and Scarlet Fever.

Nursing and Domestic Staff.

As in former years, the work of testing the members of the nursing and domestic staff for susceptibility to diphtheria and scarlet fever by means of the Schick and Dick tests, was continued. Those found susceptible were immunised against these diseases.

159 nurses and maids were tested on joining the staff. Of these, 56 or 35.2 per cent. were found to be Schick positive and 43 of them were actively immunised against diphtheria with diphtheria prophylactic, while 101 were found to be Schick negative.

Of the 159 members of the staff who were Dick tested, 32 or 20.1 per cent. were found to be positive reactors. Of these, two nurses developed scarlet fever before being immunised and three nurses and one maid while in the process of being immunised. 21 members of the staff were completely immunised against scarlet fever with scarlet fever prophylactic. 127 members of the staff were found to Dick negative reactors.

No member of the staff developed diphtheria during the year, and no one who was originally Dick negative contracted scarlet fever, nor did any one who was found to be negative after immunisation.

Patients immunised against diphtheria.

1,132 patients in the scarlet fever wards were completely immunised against diphtheria, having received three injections of diphtheria prophylactic. They were, however, not Schick tested before leaving hospital. 24 patients were found to be Schick negative on admission, while 67 patients were incompletely immunised.

Sickness of the nursing staff and maids:—

	Nurses.	Maids.	Total.
Scarlet fever	5	1	6
Rubella	5	—	5
Erysipelas	1	—	1
Tonsillitis	64	5	69
Pneumonia	1	1	2
Influenza	5	11	16
Sub-acute rheumatism	6	—	6
Carriers of infection	2	2	4
Catarrhal jaundice	3	—	3
Appendicitis	1	—	1

The above shows, among other things, that no fewer than 64 nurses developed tonsillitis during the year, probably due to the fact that during the earlier part of the year they were living in very crowded quarters. It is hoped that the new Nurses' Home will provide healthier conditions and so help to check the spread of sore throats.

DISINFECTION.

The following table gives details of the work done during 1932:—

Houses disinfected after smallpox	1
Houses disinfected after scarlet fever	62
Houses disinfected after diphtheria	1,465
Houses disinfected after enteric fever	65
Houses disinfected after tuberculosis	1,973
Houses disinfected after cancer (on request)	133
Houses disinfected after miscellaneous diseases (on request)	85
Beds disinfected	1,392
Miscellaneous articles of clothing and bedding	21,036
Library books disinfected	1,685
Public conveyances disinfected	7

TUBERCULOSIS.

(By Dr. G. B. Dixon, Chief Clinical Tuberculosis Officer).

The notified cases of Tuberculosis showed a decrease during the year 1932, the number being 1,517 as compared with 1,679 in the year 1931.

The number of cases and deaths occurring in past years is shown in the following table:—

Tuberculosis (All Forms).

	New Cases	Rate per 1,000	Deaths	Death-rate per 1,000
1901-1905 (Average)	—	—	1,384	1.78
1906-1910 ,,	—	—	1,235	1.51
1911-1915 ,,	—	—	1,307	1.51
1916-1920 ,,	3,343	3.73	1,261	1.40
1921-1925 ,,	2,060	2.20	1,046	1.12
1926-1930 ,,	1,588	1.63	1,016	1.04
1922	1,961	2.12	1,049	1.13
1923	2,166	2.32	1,006	1.08
1924	2,129	2.22	1,055	1.10
1925	1,797	1.89	1,083	1.14
1926	1,704	1.78	1,024	1.06
1927	1,607	1.66	1,017	1.05
1928	1,606	1.64	965	0.99
1929	1,538	1.57	1,066	1.09
1930	1,483	1.51	1,008	1.03
1931	1,679	1.66	1,070	1.06
1932	1,517	1.49	954	0.93

The number of cases (all forms) notified during the year 1932 was the smallest recorded between the years 1922 and 1931, with the exception of those for the year 1930. Figures in past years referring to the country as a whole, show that the death and notification rates for pulmonary tuberculosis have fallen considerably but neither of these rates has fallen so readily amongst young females between the ages 15 and 25.

In recent years the position in this direction is improving so far as Birmingham is concerned, and in the following table are shown the percentage decreases for notifications at age periods for males and females, comparing the period 1921-25 with 1926-30, from which it will be observed that there is a decrease in the notifications for both males and females of about 6 per cent. within the age period 15-25.

PERCENTAGE DECREASE IN CASES AT AGE PERIODS FROM 1926-30 AS COMPARED WITH 1921-25.

	All ages. %	0—5 %	5—15 %	15—25 %	25—35 %	35—45 %	45—55 %	55—65 %	65 up. %
Male	—23	—37	—44	—6	—32	—34	—6	—17	—13
Female ...	—24	—18	—34	—6	—35	—34	—6	—14	—35

The relative prevalence and mortality from pulmonary and other forms of tuberculosis shown separately is indicated in the two subsequent tables.

PULMONARY TUBERCULOSIS.

	New Cases	Rate per 1,000	Deaths.	Death-rate per 1,000
1901-1905 (Average)	—	—	1,039	1.34
1906-1910 ,,	—	—	947	1.16
1911-1915 ,,	—	—	1,057	1.22
1916-1920 ,,	2,936	3.27	1,062	1.18
1921-1925 ,,	1,739	1.86	903	.96
1926-1930 ,,	1,327	1.36	881	.91
1919	2,704	2.92	1,019	1.10
1920	2,609	2.87	843	.93
1921	1,969	2.15	890	.97
1922	1,669	1.80	899	.97
1923	1,785	1.91	860	.92
1924	1,780	1.85	934	.97
1925	1,491	1.57	930	.98
1926	1,421	1.48	905	.94
1927	1,343	1.39	857	.89
1928	1,361	1.39	840	.86
1929	1,270	1.30	918	.94
1930	1,242	1.26	884	.90
1931	1,397	1.38	932	.92
1932	1,266	1.24	849	.83

The death-rate for pulmonary tuberculosis is the lowest recorded for many years.

NON-PULMONARY TUBERCULOSIS.

	New Cases.	Rate per 1,000	Deaths	Death-rate per 1,000
1901-1905 (Average)	—	—	345	.45
1906-1910 ,,	—	—	289	.35
1911-1915 ,,	—	—	249	.29
1916-1920 ,,	407	.45	199	.22
1921-1925 ,,	321	.34	143	.15
1926-1930 ,,	260	.27	135	.14
1919	412	.45	169	.18
1920	365	.40	158	.17
1921	278	.30	145	.16
1922	292	.32	150	.16
1923	381	.41	146	.16
1924	349	.36	121	.13
1925	306	.32	153	.16
1926	283	.30	119	.12
1927	264	.27	160	.17
1928	245	.25	125	.13
1929	268	.27	148	.15
1930	241	.25	124	.13
1931	282	.28	138	.14
1932	251	.25	105	.10

The number of notifications for the non-pulmonary forms of tuberculosis was lower in 1932 than in 1931, and the death-rate was also lower.

The cases notified in 1932 comprised the varieties shown in the next table, which also indicates the number of cases in which information was obtained from the death certificate alone without previous notification. The total number of deaths is also shown.

	New Cases Notified in 1932.	Cases not Notified before Death.	Total Deaths.
Pulmonary Tuberculosis	1,266	43	849
Tubercular Meningitis	26	13	38
Tubercle of the Abdomen	38	6	12
Tubercle of the Spinal Column ...	25	4	11
Tubercle of the Joints	54	—	6
Disseminated Tuberculosis ...	10	15	23
Tubercle of the Glands and other parts	98	4	15

In the following table are shown the numbers of cases of some forms of tuberculosis notified during the year, with the sex and age period at which they occurred.

CASES OF TUBERCULOSIS NOTIFIED DURING THE YEAR 1932.

CLASSIFIED ACCORDING TO SEX AND AGE.

		0—	1—	2—4	5—9	10—14	15—19	20—24	25—34	35—44	45—54	55—64	65—74	75 up.	TOTALS.
Pulmonary Tuberculosis	M.	1	6	6	30	19	56	93	138	134	115	83	12	2	695
	F.	1	4	7	24	27	75	93	153	79	78	16	11	3	571
Tubercular Meningitis	M.	3	1	2	1	1	—	—	1	—	—	—	2	—	11
	F.	1	3	4	3	1	1	1	—	—	—	1	—	—	15
Tuberculosis of Peritoneum and Intestines	M.	—	—	3	4	1	2	—	3	2	1	—	—	—	16
	F.	—	2	—	1	2	6	2	5	1	3	—	—	—	22
Other forms of Tuberculosis	M.	3	—	14	17	12	9	4	12	6	3	3	3	—	86
	F.	2	2	12	20	6	15	16	12	6	3	3	3	1	101

In the subsequent table are shown the number of notifications and the number of deaths arranged for males and females according to the various age groups, relating to both pulmonary and non-pulmonary forms of tuberculosis.

TUBERCULOSIS—1932.

	M.		F.	
	Cases.	Deaths.	Cases.	Deaths.
PULMONARY.				
0—	1	2	1	1
1—	6	5	4	2
2—4	6	3	7	3
5—14	49	7	51	9
15—24	149	78	168	94
25—44	272	190	232	160
45—64	198	189	94	81
65—74	12	13	11	9
75 and upwards	2	2	3	1
	695	489	571	360

Cases, Total 1,266
Deaths, Total 849

NON-PULMONARY.

0—	6	4	3	1
1—	1	7	7	8
2—4	19	6	16	9
5—14	36	13	33	9
15—24	15	4	41	11
25—44	24	9	24	8
45—64	7	5	10	4
65—74	5	2	3	3
75 and upwards	—	1	1	1
	113	51	138	54

Cases, Total 251
Deaths, Total 105

GRAND TOTALS, Cases 1,517
Deaths 954

The tuberculosis case-rates and death-rates in other towns for all forms of tuberculosis, are given in the following table.

TUBERCULOSIS (All Forms).

Comparative Figures in 11 Largest Towns.

	Case-rate per 1,000.	Death-rate per 1,000.
London	1.7	0.9
Glasgow	2.4	1.1
Birmingham	1.5	0.9
Liverpool	3.2	1.3
Manchester	1.9	1.2
Sheffield	3.4	0.8
Leeds	1.5	1.0
Edinburgh	1.8	0.9
Bristol	1.1	0.7
Hull	2.0	1.0
Bradford	1.4	0.9

It will be seen that Birmingham compares well with the other great towns.

TUBERCULOSIS IN THE CITY WARDS.

The distribution of cases of tuberculosis over the Wards of the City is shown in the next table:—

DISTRIBUTION OF TUBERCULOSIS.

		Case-rate per 1,000 in 1932			
		Pulmonary	Non-Pulmonary	Total	
Central Wards	St. Paul's	1.69	.32	2.01	Average 2.23
	St. Mary's	1.76	.37	2.13	
	Duddeston and Nechells	2.97	.46	3.43	
	St. Bartholomew's	1.74	.17	1.91	
	St. Martin's and Deritend	1.54	.18	1.72	
	Market Hall	1.45	.39	1.84	
	Ladywood	2.21	.38	2.59	
Middle Ring	Lozells	1.19	.10	1.29	Average 1.52
	Aston	1.75	.40	2.15	
	Washwood Heath	1.11	.24	1.35	
	Saltley	1.33	.25	1.58	
	Small Heath	1.03	.19	1.22	
	Sparkbrook	1.19	.34	1.53	
	Balsall Heath	1.39	.09	1.48	
	Edgbaston	.79	.25	1.04	
	Rotton Park	1.43	.11	1.54	
	All Saints	1.58	.42	2.00	
Outer Ring	Soho	1.02	.35	1.37	Average 1.06
	Sandwell	.87	.19	1.06	
	Handsworth	.77	.22	.99	
	Perry Barr	.82	.21	1.03	
	Erdington North	.95	.24	1.19	
	Erdington South	.80	.14	.94	
	Yardley	1.11	.22	1.33	
	Acocks Green	.84	.13	.97	
	Sparkhill	.45	.20	.65	
	Moseley & King's Heath	.66	.20	.86	
	Selly Oak	1.09	.33	1.42	
	King's Norton	.73	.17	.90	
	Northfield	1.15	.21	1.36	
	Harborne	.49	.22	.71	

As usual the incidence of the disease has been much higher in the Central Wards than in the Outer Ring.

WORK OF THE TUBERCULOSIS VISITORS.

There are ten nurses engaged as Tuberculosis Visitors in the Department, each having charge of a definite part of the city. It is the duty of these visitors to make enquiry into every notified case of tuberculosis, and afterwards to keep in touch by periodical visiting and carry out any after-care, etc., that may be needed.

At the end of 1932 there were 7,202 cases of tuberculosis on the current register, all of which have to be visited at more or less regular intervals. The visits paid last year were as follows:—

Primary visits (to fresh cases) ...	1,630
Routine Visits (to old and new cases) ...	19,577
Special re-visits	7,961

At the first visit to fresh cases, it was found that 821 patients out of 1,652 were sharing a bed with some other person; while 469 others shared a bedroom but had a separate bed. Efforts are always made to get a separate bedroom, or if this is out of the question, at least a separate bed for every patient. Unfortunately owing to lack of accommodation or unwillingness on the part of patients, this is often impossible. In order to help in this direction, 113 persons received bedding from the Public Health Department, either on loan or hire purchase. In addition, 32 sleeping chalets were sent out to patients who were in a position to use them.

It is the duty of these visitors to bring to the notice of the department every case of overcrowding in relation to pulmonary tuberculosis, for representation to the Estates Committee for special treatment if considered advisable by the medical staff. During the year under review 111 cases were advised to the Estates Department and 69 families were given better accommodation as a result.

Action under Legal Enactments.

No action was necessary during the year under the Public Health (Prevention of Tuberculosis) Regulations, 1925, relating to tuberculous employees in the milk trade, nor was Section 62 of the Public Health Act, 1925 employed to remove any patient compulsorily to a sanatorium.

Disinfection.

The disinfection of 1,973 houses was undertaken during the year, where some member of the family had suffered or died from tuberculosis, or changed his or her address.

ANTI-TUBERCULOSIS CENTRE.

During the course of the past year, this department has been transferred from 44a Broad Street to the recently erected Public Health Building at 151 Great Charles Street, which, having been planned and built as a Tuberculosis Centre is more suitable for the work than was the building we originally occupied. It is centrally situated in the city, and is open for 5 days during the week, and on Saturdays for half the day. Seven sessions weekly are reserved for patients attending for treatment, supervision, and observation. Forty-four sessions and occasionally more are set apart weekly for consultations and examinations; many consultations and examinations are undertaken at the homes of patients by members of the medical staff. During the year these numbered 1,016.

Many of the patients attend at the Sanatorium at Yardley Green Road as out-patients for artificial light treatment. During the year under review the number of attendances was 16,376.

Admissions to the Sanatoria are decided upon only after examination at the Centre or at the patient's home, and the Sanatorium to which patients are sent depends upon the condition of the disease, etc. On returning from Sanatoria, patients are re-examined at the Centre, and many old patients who have discontinued treatment for various reasons, are re-examined from time to time.

The Anti-Tuberculosis Scheme includes 36 beds at Yardley Green Road for the purpose of observation—ten are reserved for boys, ten for adult males, eight for adult females and eight for female children. Their utilization allows a correct diagnosis to be made in many instances where this would be impossible without the facilities they offer.

The Scheme is also fortunate in having a large number of beds set apart for the care and treatment of the hospital type of case. Advanced male cases are admitted to Yardley Green Road Sanatorium, and advanced female cases to West Heath Sanatorium. Beds for the treatment of advanced types of tuberculosis are essential upon humanitarian grounds, and in addition, are a prophylactic asset in association with the public health work of the city, as from this point of view it is desirable that as large a percentage as possible of the annual deaths occurring in the city from pulmonary tubercle should take place in the pavilions provided for patients with advanced disease in the sanatorium. The risk of infection from this type of patient is usually increased during the last six months of life.

During the period under review there were 954 deaths in the city from all forms of tuberculosis, and of this number no less than 345 or 36 per cent. occurred in hospital beds in the sanatoria and institutions controlled by the Public Health Authority.

Attendances and Examinations.

During the year 1932, the total number of attendances made by patients for diagnosis, consultation, observation, advice and treatment, was 20,328; the total number of attendances for supervision, observation, advice and treatment, was 6,010, the number of examinations made was 8,701, and, in addition, there were 5,617 X-ray examinations.

During the year grants of extra nourishment were given to 123 patients. 75 patients were provided with clothing and other necessities through the After-Care Committee.

Attendances for supervision, observation and treatment ...	6,010
Attendances for consultation, and examination ...	8,701
Attendances for X-ray examination	5,617
	20,328

During the year 1932, 1,266 new cases of pulmonary tubercle were notified to the Medical Officer of Health, and of this number 1,038, or 82 per cent. were examined at the Centre. There were also 251 cases of non-pulmonary tuberculosis notified during the year, of which 90 or 35.8 per cent. were examined at the Centre.

Amongst the patients referred to us are a proportion suffering from pneumokoniosis, a condition of pulmonary fibrosis resulting from the inhalation of certain trade dusts. The condition is frequently found in association with pulmonary tubercle. When the trouble is caused by employment in certain scheduled occupations, compensation can be obtained when disablement or death occurs, but if the disease is contracted during employment in a non-scheduled occupation, compensation for disablement or death cannot be obtained. Such an arrangement presses hardly upon those in the latter category.

The number of persons on the dispensary register on January the first was 5,664, the number of patients transferred to other areas during the year, and the cases "lost sight of" numbered 158, the number transferred to us from other areas, and the "lost sight of" cases returned, was 52.

Dental treatment was given during the year to 386 patients attending the Centre.

At the end of the year 738 insured persons were receiving Domiciliary treatment at the recommendation of the medical staff.

There were 3,084 consultations with medical practitioners during the year, and the number of reports from medical practitioners during the year numbered nearly two thousand.

Reports on Forms G.P. 36 which were received quarterly showed that the numbers on domiciliary treatment who are working, varied between 25 and 30 per cent. of the total.

Treatment Recommended.

Some 6,967 old and new patients were examined at the Centre during the year. The following table shows the number of newly notified and suspect cases of all varieties of tuberculosis and the patients coming up for re-examination. It also shows the numbers recommended for the different forms of treatment. Some 1,016 patients were examined at their own homes.

	First Examinations.		Re-examinations.	
	Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Sanatorium Treatment	572	319	492	16
Dispensary Treatment	16	3	44	—
Supervision	17	11	1,180	9
Out-patient Light Treatment	10	16	20	—
Domiciliary Treatment	112	57	1,244	3
No Treatment required	262	1,868	313	383
	989	2,274	3,293	411

The table above shows that a large percentage of new cases notified during the year received a primary period of sanatorium treatment. This is an advantage to the patient inasmuch as his physical condition is benefited and he acquires practical experience of the treatment which it would be to his advantage to carry out in a modified form in his own home afterwards.

Classification of Patients According to Group of Disease.

The following tables show the classification of the patients examined according to Group of disease; adults and children are shown separately.

Adults.

	First Examinations.		Re-examinations.	
	Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Group I.	66	56	507	2
Group II.	306	178	1,536	8
Group III.	265	95	517	3
Group IV.	47	13	125	1
No Treatment Required	203	1,053	65	166
	887	1,395	2,750	180

CHILDREN.

	First Examinations.		Re-examinations.	
	Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Group I.	9	34	222	7
Group II.	11	9	133	3
Group III.	7	2	16	2
Group IV.	15	23	146	2
No Treatment Required	60	811	26	217
	102	879	543	231

In certain instances patients included in the various groups are suffering from other forms of tuberculosis in addition to pulmonary, but for convenience are classified as pulmonary cases when the type of the disease is present in association with other forms.

In the succeeding tables are set out briefly some details of those who were referred to us as contacts and suspects. Amongst those classified here as suspects are many who had been living in contact with known cases of tuberculosis, and who were, therefore, possibly referred to us mainly for this reason.

The contacts have been divided into various groups, and they have also been arranged to show the numbers in each group that came from homes where there had been contact with patients suffering from tuberculosis associated with a positive sputum.

Obviously, the proportion of suspects found to be definitely tuberculous far exceeds the proportion of definitely tuberculous cases amongst the contacts.

SUSPECTS EXAMINED DURING THE YEAR 1932. Total 1,684.

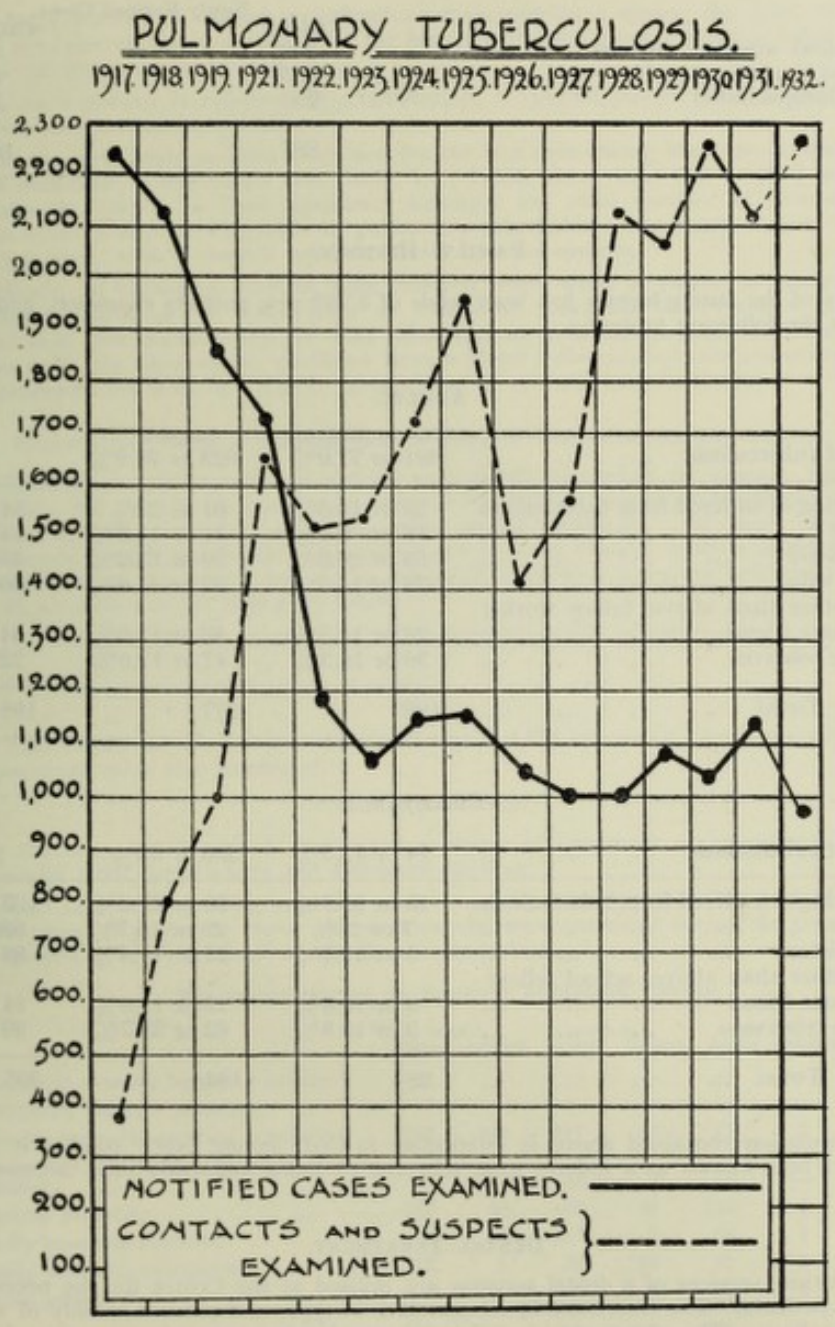
Definitely tuberculous	388—23%
No active signs of tuberculosis	1,296—77%

CONTACTS EXAMINED DURING THE YEAR 1932. Total 590.

AGES.	Total No. of Cases.	Found *to be* suffering from Tuberculosis.	Found *not to be* suffering from Tuberculosis.
1 *to* 4 *years.*			
Contacts to patients with sputum *containing* Tubercle Bacilli	58	2 — 3.4%	56 — 96.6%
Contacts to patients *with negative sputum* ...	39	1 — 2.6%	38 — 97.4%
	97	3	94
5 *to* 16 *years.*			
Contacts to patients with sputum *containing* Tubercle Bacilli	222	12 — 5.4%	210—94 6%
Contacts to patients *with negative sputum*	109	1 — 1%	108—99%
	331	13	318
17 *years and over.*			
Contacts to patients with sputum *containing* Tubercle Bacilli	98	4 — 4.1%	94 — 95.9%
Contacts to patients *with negative sputum* ...	64	2 — 3.1%	62 — 96.9%
	162	6	156

"Contacts," "Suspects," and "Notified" Cases.

In the graph below are shown the number of contacts, suspects, and notified cases, examined over a series of years.



The following table shows the working capacity of the newly notified cases when they were examined for the first time. It is interesting to note that among adults 23.3 per cent. were sent to us while their working capacity was still unimpaired, and 33.1 per cent. came to us when totally incapacitated. In the case of the children, this point is more emphasised; 55.2 per cent. had an unimpaired working capacity and 15.2 per cent. were totally incapacitated, the working capacity indicated here being ability or otherwise to attend school regularly.

	Newly Notified Cases.	
	Adults	Children
Unimpaired working capacity	206	58
Impaired working capacity	385	31
Totally incapacitated	296	13
	887	102

Family History.

A survey of the family history has been made of 3,263 new patients examined, and the results are shown in the following tables:—

Adults.

	Newly Notified.	Suspects.	Contacts.
No history of tuberculosis	691 or 77.9%	923 or 76.9%	—
Father suffering or suffered from tuberculosis	28 or 14.3%	61 or 22%	34 or 17.5%
Mother ditto	18 or 9.2%	31 or 11.2%	14 or 7.1%
Brother or Sister	58 or 29.6%	70 or 25.2%	45 or 23.1%
Husband or wife	28 or 14.3%	32 or 11.6%	46 or 23.5%
1 Relative other than above, fellow worker or intimate friend	28 or 14.3%	36 or 13.0%	34 or 17.5%
Two or more relatives	36 or 18.3%	47 or 17.0%	22 or 11.3%
Total	196	277	195

Children.

No history of tuberculosis	74 or 72.5%	300 or 62%	—
Father suffering or suffered from tuberculosis	10 or 35.7%	50 or 27.2%	166 or 42%
Mother ditto	7 or 25%	29 or 15.7%	88 or 22.3%
Brother or Sister	5 or 17.7%	21 or 11.4%	88 or 22.3%
1 Relative other than above, school fellow or intimate friend	3 or 10.8%	22 or 11.9%	14 or 3.5%
Two or more relatives	3 or 10.8%	62 or 33.7%	39 or 9.9%
Total	28	184	395

The information contained above is interesting in that, among other points, it shows the father to have been known as a sufferer from tuberculosis more frequently than the mother.

Dental Treatment.

The part-time services of a 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. Those patients who wish to provide their own dentures can do so under conditions advantageous to themselves by arrangement with the dentist. The dental surgeon informs me that there were 587 extractions, 8 fillings, and 10 scalings, and dentures were supplied in 6 instances during the year. The condition of the teeth and gums of most of our patients seen during the year, so far as dental caries, masticatory power, and the state of the gums were concerned, is shown in the following table.

Condition of Teeth and Gums.

Number of Teeth with infected pulp chambers.			Masticatory power in molars and bicuspids.			State of Gums.		
None.	1 to 4.	More than 4.	Six or More.	Less than 6.	None.	Healthy	Gingivitis	Pyorrhoea
1,760	2,303	828	2,969	1,013	433	3,331	604	433

Sputum Results.

A very large number of sputum examinations are undertaken during the year on behalf of persons who are referred for an opinion. If the first examination gives a negative result, subsequent and repeated specimens are examined.

As soon as a patient is referred for examination, a sputum out-fit, with instructions and a request for its early return, is posted.

Amongst the new adult patients examined for the first time during the year, in whom a definite diagnosis of pulmonary tuberculosis was made, i.e., 1,026, there were 536 or 52.2 per cent. who presented tubercle bacilli in their sputum. Amongst the total number of children primarily examined, in whom a definite diagnosis of pulmonary tuberculosis was made, i.e., 110, there were 12 or 10.9 per cent. who presented tubercle bacilli in their sputum.

The difficulty of obtaining sputum from children, even when it exists, is recognised, so all children, whether admitted for observation or treatment, have the faeces and a gastric lavage examined for acid fast bacilli, they are also submitted to a Mantoux tuberculin test. All adult patients who enter the observation pavilions have a blood sedimentation test undertaken, and have the faeces examined for acid fast bacilli, in addition to sputum examinations.

Laboratory Work—Yardley Green Road Sanatorium and the Centre.

At the Sanatorium 3,260 specimens of urine and 6,042 specimens of sputum were examined during the year. Of the sputum specimens examined 3,040 presented tubercle bacilli after the first staining alone, and the remaining specimens were tested repeatedly. Of these, 833 were found to contain tubercle bacilli; the bacilli were not found in every instance after a second examination, and in some instances the search had to be repeated on several occasions before a positive result was obtained, as shown in the following table:—

Tubercle	Bacilli	found	after	2nd	staining	in	732	instances.
,,	,,	,,	,,	3rd	,,	,,	53	,,
,,	,,	,,	,,	4th	,,	,,	40	,,
,,	,,	,,	,,	5th	,,	,,	8	,,

In the Laboratory at the Centre, during the year 5,774 specimens of sputum were examined; 32 other specimens were also examined.

Completed Cases.

During the year, 2,076 patients completed a course of treatment or supervision, etc., at the Centre, of whom 1,667 were adults and 409 were children.

In the next table the working capacity at the commencement and at the end of a completed period of treatment is given for those old patients who were examined during the year. The group of disease quoted was determined at the first examination.

Working Capacity of Patients Attending Centre.

	GROUP I.		GROUP II.		GROUP III.		GROUP IV.	
	Adults.	Children.	Adults	Children	Adults	Children	Adults	Children.
Unimpaired working capacity becoming impaired ...	4	1	—	—	—	—	2	43
Unimpaired capacity for work persisting	3	—	—	—	—	—	—	—
Impaired capacity for work becoming unimpaired ...	229	103	207	38	12	2	32	7
Impaired capacity for work becoming totally incapacitated	5	—	48	2	19	—	1	1
Impaired capacity persisting	123	86	483	35	116	1	26	37
Total incapacity becoming impaired ...	8	4	107	7	96	2	20	13
Total incapacity becoming unimpaired ...	17	1	30	10	12	2	9	11
Total incapacity persisting	—	—	13	1	42	1	3	1
	389	195	888	93	297	8	93	113

In the following tables are set out, as briefly as possible, the main points in connection with an investigation undertaken to ascertain the conditions of those past patients who received treatment at the Centre between the years 1913-1932 inclusive.

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS SHOWING CONDITION OF THOSE WHO WERE TREATED FOR NON-PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1926					1926					1927					1928				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total
Remaining on Dispensary Register on 31st December.	Disease Arrested	Adults M.	1	1	—	—	2	5	1	—	—	6	2	—	—	—	2	4	1	1	1	7
		Adults F.	3	—	—	2	5	1	1	1	—	3	5	2	—	—	7	1	—	—	3	4
		Children	2	5	—	12	19	3	3	1	6	13	4	2	—	3	9	6	3	2	9	20
	Disease not Arrested.	Adults M.	6	—	1	—	7	7	1	1	1	10	3	—	1	1	5	1	—	3	3	7
		Adults F.	10	1	3	1	15	3	1	4	1	9	2	1	3	4	10	1	—	1	—	2
		Children	6	3	5	10	24	7	—	1	7	15	1	3	1	5	10	—	5	1	7	13
	Condition not ascertained during the year		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total on Dispensary Register at 31st December		28	10	9	25	72	26	7	8	15	56	17	8	5	13	43	13	9	8	23	53
Transferred to Pulmonary			5	3	1	5	14	—	1	—	3	4	2	2	1	1	6	—	—	1	—	1
Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered	Adults M.	8	5	2	5	20	2	—	—	1	3	6	—	—	—	6	—	1	—	—	1
		Adults F.	5	2	2	7	16	—	—	1	2	3	1	6	2	—	9	2	—	1	—	3
		Children	8	15	5	53	81	3	—	—	12	15	3	1	1	3	8	2	2	—	2	6
	Lost sight of, or otherwise removed from Dispensary Register		6	12	6	14	38	6	2	—	4	12	4	1	1	1	7	1	2	—	6	9
	Dead	Adults M.	12	2	4	1	19	3	2	—	—	5	4	1	—	—	5	7	1	1	1	10
		Adults F.	10	2	1	3	16	2	—	—	1	3	1	1	1	1	4	—	—	1	1	2
		Children	6	5	1	2	14	—	2	—	1	3	—	3	—	—	3	1	1	—	—	2
	Total written off Dispensary Register		55	43	21	85	204	16	6	1	21	44	19	13	5	5	42	13	7	3	10	33
	GRAND TOTALS (excluding those transferred to Pulmonary).		83	53	30	110	276	42	13	9	36	100	36	21	10	18	85	26	16	11	33	86

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS SHOWING CONDITION OF THOSE WHO WERE TREATED FOR NON-PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the return relates			1929					1930					1931					1932.				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total
Remaining on Dispensary Register on 31st December	Disease Arrested	Adults M.	6	3	1	—	10	1	—	2	—	3	1	—	—	—	1	—	—	—	—	—
		Adults F.	—	1	1	1	3	—	3	—	—	3	—	—	—	1	1	—	—	—	—	—
		Children	8	2	—	7	17	4	3	—	1	8	—	—	—	1	1	—	—	—	—	—
	Disease not Arrested	Adults M.	8	—	3	2	13	9	2	5	7	23	16	3	5	6	30	15	7	8	4	34
		Adults F.	5	2	5	3	15	4	3	5	5	17	11	5	3	5	24	18	8	2	7	35
		Children	13	6	1	12	32	7	7	4	21	39	27	9	2	22	60	19	4	6	14	43
	Condition not ascertained during the year		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total on Dispensary Register on 31st December		40	14	11	25	90	25	18	16	34	93	55	17	10	35	117	52	19	16	25	112
Transferred to Pulmonary			1	2	2	2	7	—	—	—	1	1	3	1	—	—	4	—	—	—	—	—
Not now on Dispensary Register and reasons for removal therefrom	Discharged as recovered	Adults M.	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Adults F.	2	—	—	1	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Children	2	1	1	2	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Lost sight of, or otherwise removed from Dispensary Register		—	2	1	3	6	2	—	2	3	7	1	3	—	3	7	1	1	—	—	2
	Lead	Adults M.	4	2	2	—	8	3	1	—	—	4	—	—	—	—	—	3	1	1	—	5
		Adults F.	—	2	—	—	2	4	—	—	—	4	—	2	—	—	2	—	1	—	1	2
		Children	2	3	1	1	7	—	1	—	3	4	1	2	—	1	4	3	—	—	—	3
	Total written off Dispensary Register		11	10	5	7	33	9	2	2	6	19	2	7	—	4	13	7	3	1	1	12
GRAND TOTALS (excluding those transferred to Pulmonary)			51	24	16	32	123	34	20	18	40	112	57	24	10	39	130	59	22	17	26	124

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS SHOWING CONDITION OF THOSE WHO WERE TREATED FOR PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1926					1926					1927					1928				
			Class T.B. minus	Class T.B. plus				Class T.B. minus	Class T.B. plus				Class T.B. minus	Class T.B. plus				Class T.B. minus	Class T.B. plus			
				Group 1	Group 2	Group 3	Total (Class T.B. plus)		Group 1	Group 2	Group 3	Total (Class T.B. plus)		Group 1	Group 2	Group 3	Total (Class T.B. plus)		Group 1	Group 2	Group 3	Total (Class T.B. plus)
Remaining on Dispensary Register on 31st December.	Disease Arrested	Adults M.	221	31	67	23	121	21	1	3	1	5	20	5	4	2	11	17	4	4	—	8
		Adults F.	231	26	27	19	72	23	2	6	1	9	18	1	5	—	6	23	1	3	1	5
		Children	240	2	1	3	6	27	1	—	1	2	54	—	1	—	1	16	—	—	—	—
	Disease not Arrested	Adults M.	167	45	134	85	264	33	2	33	9	44	23	7	51	11	69	34	10	45	6	61
		Adults F.	219	28	79	62	169	36	6	21	7	34	27	3	29	3	35	31	10	38	10	58
		Children	125	2	6	6	14	25	—	—	—	—	39	1	1	—	2	43	1	2	—	3
	Condition not ascertained during the year		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total on Dispensary Register at 31st December		1,203	134	314	198	646	165	12	63	19	94	181	17	91	16	124	164	26	92	17	135
Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered	Adults M.	1,443	128	199	74	401	10	—	1	—	1	5	—	1	—	1	—	—	—	—	—
		Adults F.	1,575	77	117	40	234	19	—	2	—	2	1	—	—	—	—	—	—	—	—	—
		Children	1,835	30	22	13	65	12	—	—	—	—	6	—	—	—	—	—	—	—	—	—
	Lost sight of, or otherwise removed from Dispensary Register		1,841	179	253	197	629	49	1	13	9	23	35	5	11	—	16	36	6	14	10	30
	Dead	Adults M.	864	153	752	1,426	2,331	55	13	119	179	311	41	11	145	169	325	47	12	155	159	326
		Adults F.	632	59	297	710	1,066	72	7	86	123	216	59	4	73	117	194	29	6	93	96	195
		Children	167	9	10	43	62	11	1	2	7	10	9	2	1	6	9	6	—	1	8	9
	Total written off Dispensary Register		8,357	635	1,650	2,503	4,788	228	22	223	318	563	156	22	231	292	545	118	24	263	273	560
GRAND TOTALS			9,560	769	1,964	2,701	5,434	393	34	286	337	657	337	39	322	308	669	282	50	355	290	695

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS SHOWING CONDITION OF THOSE WHO WERE TREATED FOR PULMONARY TUBERCULOSIS.

Condition at the time of the last record made during the year to which the return relates			1929					1930					1931					1932				
				Class T.B. plus					Class T.B. plus					Class T.B. plus					Class T.B. plus			
			Class T.B. minus	Group 1	Group 2	Group 3	Total (Class T.B. plus)	Class T.B. minus	Group 1	Group 2	Group 3	Total (Class T.B. plus)	Class T.B. minus	Group 1	Group 2	Group 3	Total (Class T.B. plus)	Class T.B. minus	Group 1	Group 2	Group 3	Total (Class T.B. plus)
Remaining on Dispensary Register on 31st December.	Disease arrested	Adults M.	29	6	4	—	10	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Adults F.	17	3	1	1	5	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Children	29	2	—	—	2	5	1	—	—	1	—	—	—	—	—	—	—	—	—	—
	Disease not arrested	Adults M.	50	19	77	20	116	82	20	108	24	152	90	13	123	54	190	139	19	152	80	251
		Adults F.	53	17	46	13	76	73	9	56	13	78	98	21	84	31	136	133	16	108	59	183
		Children	64	1	1	—	2	53	1	3	—	4	87	6	7	1	14	44	24	4	—	28
	Condition not ascertained during the year		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total on Dispensary Register at 31st December		242	48	129	34	211	229	31	167	37	235	275	40	214	86	340	316	59	264	139	462
Not now on Dispensary Register and reasons for removal therefrom	Discharged as Recovered	Adults M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Adults F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Children	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Lost sight of, or otherwise removed from Dispensary Register.		28	6	21	6	33	23	5	12	5	22	20	1	18	8	27	5	3	11	6	20
	Dead	Adults M.	44	14	129	155	298	43	6	116	133	255	40	3	88	130	221	19	1	19	92	112
		Adults F.	26	7	91	102	200	42	5	71	100	176	40	2	46	101	149	17	1	13	53	67
		Children	5	1	2	5	8	5	—	2	6	8	10	—	4	4	8	4	—	—	6	6
	Total written off Dispensary Register		103	28	243	268	539	113	16	201	244	461	110	6	156	243	405	45	5	43	157	205
GRAND TOTALS			345	76	372	302	750	342	47	368	281	696	385	46	370	329	745	361	64	307	296	667

5,617 attendances were made for X-ray examination as follows:—

Screen examinations	4,092
Films taken	1,525
	5,617

Summary.

1. There was a slight decrease in the number of attendances of patients during the year 1932 as compared with 1931.
2. No less than 82 per cent. of the total number notified in the City as suffering from pulmonary tuberculosis were examined at the Centre.
3. 1,016 patients were visited and examined in their own homes by the Medical staff.
4. During the year 4,092 screen examinations were made in the radiological section, and films were taken in 1,525 cases.
5. Amongst new patients suffering from pulmonary tuberculosis 52.2 per cent. of the adults presented tubercle bacilli in their sputum, and 10.9 per cent. of the children.
6. Of the 1,038 primary cases suffering from pulmonary tuberculosis examined during the year 15.9 per cent. were classified as Group I, 48.6 per cent. as Group II, and 35.5 per cent. as Group III.
7. Of the patients treated during the periods 1913-1932, some 10,313 presented tubercle bacilli in their sputum. Of this number 28.6 are known to be still alive, 63.7 per cent. are known to be dead, and 7.7 per cent. have been lost sight of.
8. During the same periods, 12,005 patients whose sputum contained no tubercle bacilli were treated. Of this number 64.0 per cent. are known to be still alive, 19.0 per cent. are known to be dead and 17.0 per cent. have been lost sight of.
9. During this period (1913-1932) 1,036 patients suffering from non-pulmonary tuberculosis were treated. Of this number 78.9 per cent. are known to be still alive, 12.6 per cent, are known to be dead, and 8.5 per cent, have been lost sight of.

SANATORIA FOR TUBERCULOSIS.

Accommodation.

The Birmingham Public Health Committee has 601 beds available for the treatment and prevention of pulmonary, and other forms of tuberculosis, and for the observation of suspected cases of tubercle. These beds are distributed in four Sanatoria, as follows:—

			Beds	Total	
Yardley Green Road Sanatorium:—					
Adults: Male:	Observation		10		
	Treatment, intermediate and advanced cases		144		
				154	
Female:	Observation		8		
	Treatment, early and intermediate cases		44		
				52	
Children:	Observation		18		
	Treatment, all stages, pulmonary, bone, joint, glands, abdominal tuberculosis, etc.		101		
				119	
					325
West Heath Sanatorium:—					
Adults: Female:	Advanced			96	
Male:	All stages			24	
					120
Salterley Grange Sanatorium:—					
Adults: Males:	Early Cases			38	
Females:	Early Cases			30	
					68
Romsley Hill Sanatorium:—					
Adults: Males:	Early and intermediate			59	
Females:	Early and intermediate			29	
					88
					601

In addition to patients treated in the City Sanatoria, there were 16 adult males, 23 adult females and 82 children admitted to various Hospitals, including the Royal Cripples' Hospital, Moseley Hall Convalescent Home, Children's Hospitals, etc., all of these patients were suffering from the non-pulmonary forms of tuberculosis, and many required surgical treatment.

A grant towards the maintenance of these patients was made by the Public Health Committee.

Occupational Therapy in Sanatoria.

In all of the municipal sanatoria particular attention is paid to the question of occupational therapy with the object of interesting and employing suitably a certain number of the patients whose condition admits of it. The fitness of the patient to engage in occupational therapy is always judged by the medical officer, who has the patient under constant supervision. The occupation to be followed and the number of hours to be devoted to it are both decided upon by the doctor after careful consideration. At Salterley Grange Sanatorium, the physical condition of the patients is usually so good, and their disease so early that temporary employment suitable to their needs can be found in the gardens and upon the estate. At West Heath and Yardley Green Road Sanatoria, particularly in the latter, facilities for occupational therapy have existed for many years. At West Heath the patients are employed in basket making. Patients at Romsley Hill Sanatorium are instructed in basket and leather work.

At Yardley Green Road Sanatorium patients are engaged in basket making, leather work of different kinds, and in mat making, etc., and considerable development has taken place here during recent years.

In connection with the Occupational Therapy Department, a useful piece of after-care work amongst ex-patients was inaugurated more than two years ago, and in spite of an exceedingly unfavourable period of economic stress and unemployment, has so far proved a success.

Patients were selected for the experiment who were unfit to re-enter industry under the usual competitive conditions upon discharge from the Sanatorium. They were unfit to work for more than four, five, or six hours daily, and were only capable of working this period if allowed to go at their own pace, under favourable hygienic industrial conditions. In addition, none of them commence work before 9-30 in the morning, and if any do not feel fit to work, attendance is not compulsory.

These patients, like our residential patients, are under medical supervision.

Those selected for vacancies must be unfit for employment under the usual conditions of competitive industry, and they must have acquired a fair amount of proficiency in their work during their stay at the Sanatorium as in-patients.

The Sanatorium provides working accommodation, raw materials, tools, etc., and markets the produce. No wages are paid, but profits are shared amongst the patients.

We have been successful in obtaining some good contracts for our work, and the annual cash turnover has exceeded our anticipation. Most of the patients employed had not worked for some time prior to their admission to sanatorium, a number of them being largely dependent upon their total disablement allowance. In these cases, the effect of employment with its many advantages, has been beneficial.

The business of travelling and buying for the industry has been undertaken by an ex-patient, and excepting for official supervision and advice, the business is conducted by the patients themselves.

It is interesting to note that the children attending the Sanatorium School are taught various forms of handicraft work, including leather work, pewter work, raffia work, basket making, etc. The children who are confined to bed are also taught handicrafts, and in most cases they show great aptitude and eagerness.

Total Numbers Treated in Sanatoria and Duration of Stay.

During the year 1932 there were 1,655 patients discharged from all the Sanatoria. Included in this number are 92 patients suffering from surgical tuberculosis who have been treated in Institutions subsidised by the Health Department. Of the 1,655 patients, 826 were adult males, 543 were adult females, and 286 were children.

The average duration of stay, excluding those admitted for observation and who, proving negative, remained only for a short time, and excluding those "hospital" cases with advanced disease who died within a few days of their admission, was 107 days for adult males, 123 days for adult females, 209 days for male children, and 180 days for female children.

RESULTS OF TREATMENT OF PATIENTS DISCHARGED FROM RESIDENTIAL INSTITUTIONS DURING THE YEAR 1932.

Classification on admission to the Institution.		Condition at time of discharge.	Duration of Residential Treatment in the Institutions.												Totals.			Grand Totals
			Under 3 months.			3—6 months.			6—12 months.			More than 12 months.						
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Pulmonary Tuberculosis.	Class T.B. minus.	Quiescent ...	33	20	11	7	20	10	8	2	7	4	2	1	52	44	29	125
		Not quiescent	72	90	13	33	30	30	8	5	19	3	1	10	116	126	72	314
		Died in Institution	11	10	1	3	1	—	—	2	—	1	—	1	15	13	2	30
	Class T.B. plus. Group I.	Quiescent ...	—	1	—	1	4	—	1	1	—	—	—	—	2	6	—	8
		Not quiescent	12	5	—	3	3	—	24	2	—	—	—	—	39	10	—	49
		Died in Institution	—	—	—	—	1	—	6	—	—	—	—	—	6	1	—	7
	Class T.B. plus. Group II.	Quiescent ...	3	1	—	4	3	—	—	3	—	1	1	—	8	8	—	16
		Not quiescent	144	47	—	63	45	2	13	17	1	8	2	—	228	111	3	342
		Died in Institution	14	—	—	3	6	—	7	3	—	1	—	—	25	9	—	34
	Class T.B. plus. Group III.	Quiescent ...	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
		Not quiescent	102	50	1	44	29	—	—	14	1	3	4	—	149	97	2	248
		Died in Institution	91	52	3	16	10	—	—	4	1	1	2	—	108	68	4	180
Non-Pulmonary Tuberculosis.	Bones & Joints.	Quiescent ...	4	4	24	3	1	11	—	1	5	1	—	14	8	6	54	68
		Not quiescent	1	1	16	2	3	3	1	1	4	—	1	—	4	6	23	33
		Died in Institution	3	—	1	2	—	1	—	—	2	1	—	—	6	—	4	10
	Abdominal.	Quiescent ...	1	—	—	—	—	2	—	—	1	—	—	—	1	—	3	4
		Not quiescent	3	1	—	3	2	1	—	1	1	—	—	—	6	4	2	12
		Died in Institution	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1
	Other Organs.	Quiescent ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Not quiescent	4	1	1	—	—	—	—	—	—	—	—	—	4	1	1	6
		Died in Institution	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
	Peripheral Glands.	Quiescent ...	—	—	1	—	—	2	—	—	—	—	—	—	—	—	3	3
		Not quiescent	1	—	2	—	—	3	—	1	4	—	—	—	1	1	9	11
		Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note :—"Quiescent" cases are those which have no symptoms of tuberculosis and no signs of tuberculous disease except such as are compatible with a completely healed lesion, and in which sputum, if present, is free from tubercle bacilli.

Observation Patients.

The beds for the purpose of observation are at Yardley Green Road Sanatorium. 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 two to four weeks. Of the 1,563 patients discharged from the Sanatoria, 227 or 14.5 per cent. were admitted primarily for observation to Yardley Green Road Sanatorium. The medical findings are shown in the following table :—

Diagnosis on discharge from observation.	For Pulmonary Tuberculosis.						For Non-pulmonary Tuberculosis.						Totals.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous ...	6	5	27	8	4	20	1	—	2	1	—	1	16	9	50
Non-Tuberculous ...	27	18	38	16	7	24	5	2	4	—	—	2	48	27	68
Doubtful	—	—	1	—	4	4	—	—	—	—	—	—	—	4	5
Totals ...	33	23	66	24	15	48	6	2	6	1	—	3	64	40	123

Classification of Patients' Disease.

In this table the patients are scheduled according to the classification of the Ministry of Health, as follows :—

Group I. Cases with slight constitutional disturbance if any, e.g., there should not be marked acceleration of pulse nor elevation of temperature, except of very transient duration; gastro-intestinal disturbance or emaciation, if present, should not be excessive. The obvious physical signs should be of very limited extent, as follows :—Either present in one lobe only, and in the case of an apical lesion of one upper lobe not extending below the second rib in front and not exceeding an equivalent area in any one lobe; or where these physical signs are present in more than one lobe, they should be limited to the apices of the upper lobes and should not extend below the clavicle and the spine of the scapula.

No complication (tuberculous or otherwise) of prognostic gravity should be present. A small area of dry pleurisy should not exclude a case from this group.

Group III. Cases with profound systemic disturbance or constitutional deterioration; with marked impairment of function either local or general, and with little or no prospect of recovery. All cases with grave complications whether tuberculous or not, should be classified in this Group, e.g., diabetes, tuberculosis of larynx or intestines, etc.

Group II. All cases which cannot be placed in Group I and III.

Patients suffering from non-pulmonary tuberculosis are classified according to the site of the lesion and are placed under Group IV.

Sputum.

Of the 1,353 adult patients discharged from the Sanatoria suffering from pulmonary tuberculosis during the year, 884 or 65.4 per cent. presented tubercle bacilli in their sputum whilst in the Sanatoria.

Sanatoria	No sputum persisting	No sputum becoming T.B.—	No sputum becoming T.B.+	T.B.— persisting	T.B.— becoming T.B.+	T.B.— becoming no sputum	T.B.+ persisting	T.B.+ becoming T.B.—	T.B.+ becoming no sputum	Totals	
Yardley Green Road Sanatorium	2	1	1	78	2	12	311	4	4	415	Adult Males.
	15	1	—	12	1	9	44	3	4	89	Adult Females.
	70	5	—	10	—	18	6	—	2	111	Children.
										152	Negative diagnosis.
										58	Non-Pulmonary.
										825	
Romsley Hill Sanatorium	1	1	—	20	1	2	97	21	—	143	Adult Males.
	7	4	—	11	1	1	43	5	1	73	Adult Females.
										216	
Salterley Grange Sanatorium	22	—	—	6	—	10	44	6	16	104	Adult Males.
	31	—	—	3	—	10	17	5	15	81	Adult Females.
										185	
West Heath Sanatorium	2	1	—	22	—	1	36	21	1	84	Adult Males.
	23	1	—	35	1	21	126	30	15	252	Adult Females.
										1	Child.
										337	

Occupations.

In the following table the occupations of both male and female patients are shown :—

	Males.	Females
Out-door occupations	58	3
Domestic Occupations	25	255
Sedentary Occupations	65	50
Commercial Occupations	16	14
Engineering Occupations	177	71
Metal Trades	140	48
Building trade	44	—
Other trades	245	63
	770	504

Illnesses Prior to Admission.

In 130 or 10.2 per cent. instances adult patients had a history of having suffered from pleurisy varying from one to twelve years prior to their examination by us. In 81 or 6.3 per cent of the adult patients there was a history of pneumonia having occurred from one to twelve years previously. Large numbers of patients attributed the onset of their tuberculosis to an attack of influenza.

Gain or Loss in Weight.

Amongst a total of 1,153 patients discharged from Sanatoria after treatment, many of whom were advanced hospital cases, having been admitted for the purpose of prophylaxis, 104 or 9 per cent. remained stationary, and 957 or 83 per cent. gained weight in amounts varying from one to 40 lbs.

Working Capacity of Patients Treated in Sanatoria.

The working capacity of patients is shown in the following tables:—

	Adult Males.	Adult Females.	Children.	TOTALS
Unimpaired capacity for work becoming impaired ...	—	—	—	—
Impaired capacity for work becoming unimpaired ...	48	44	15	107
Impaired capacity for work becoming totally incapacitated	20	27	—	47
Impaired capacity for work persisting	400	215	94	709
Total incapacity for work becoming impaired	116	90	15	221
Total incapacity for work becoming unimpaired ...	—	4	—	4
Total incapacity for work persisting	26	34	4	64
Died in Sanatoria	160	90	9	259
No active signs	48	31	73	152
	818	535	210	1,563

Summary.

1. The average duration of patients' stay for all the Sanatoria was 107 days for adult males, 123 days for adult females, 209 days for male children and 180 days for female children.
2. Of the patients from all Sanatoria no less than 14.5 per cent. passed through the observation beds at Yardley Green Road Sanatorium.
3. Over 38.3 per cent. of the patients were in Group III. 44.5 per cent. were in Group II. 13.04 per cent. were in Group I, and 4.2 per cent. were in Group IV.
4. There were 65.4 per cent. of all patients discharged from Sanatoria who presented tubercle bacilli in their sputum whilst in the Sanatoria. The number who showed bacilliary loss, decided after three examinations, was 153 or 17.4 per cent.
5. Over 83 per cent. of all patients discharged from Sanatoria gained weight in amounts varying from 1 to 40 lbs., only 9 per cent. remained stationary.
6. Some 338 patients died in "hospital" beds in the various Sanatoria and Hospitals. This represents 35.4 per cent. of the total deaths from tuberculosis occurring in the city during the year.

TREATMENT IN THE LIGHT CLINIC, CITY SANATORIUM, YARDLEY GREEN ROAD.

Patients Completing Treatment During 1932.

The total number of patients completing a satisfactory course of treatment during the year 1932, was 56. This number includes 16 adult males, 10 adult females, 13 male children and 17 female children.

Of these completed cases, twelve were cases of bone and joint tuberculosis, 12 suffered from abdominal forms of tuberculosis, twenty-one were the subjects of peripheral adenitis, and eleven suffered from tuberculosis in other forms.

In a majority of instances our patients received their initial artificial light treatment and Sanatorium treatment concurrently, and the majority, after discharge from the Sanatorium continued to attend the Light Clinic as out-patients.

Length of Treatment and Number of Exposures.

The average length of time during which "completed" cases received artificial light treatment was approximately 146 weeks, the average number of exposures was 155.7, and the average gain in weight was 8½ lbs.

Patients Continuing Treatment.

On 31st December, 1932, one hundred and sixty-eight patients were continuing their treatment in the Light Clinic, and many showed an improvement in their condition.

After Care.

In the following table, the results of treatment are set out in a detailed way, the past patients being kept under supervision and examined from time to time to ascertain what is their condition.

Treatment by means of artificial light must not be regarded as a complete treatment in itself and should always be associated with other forms of treatment.

Patients who Satisfactorily Completed a Course of Light Treatment Previous to 1932

Condition at the time of the last record made during the year, 1932.			1925						1926						1927						1928						1929						1930						1931.					
			Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.	Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.	Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.	Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.	Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.	Other Organs	Lupus	Peripheral Glands	Larynx and P.T.	Abdominal	Bones and Joints	Other Organs.	Lupus.	Peripheral Glands.	Larynx and P.T.	Abdominal.	Bones and Joints.
Recovered.	Adults	M.	–	1	–	–	1	2	–	–	3	1	1	3	–	–	1	1	–	2	–	–	–	–	–	3	–	–	–	–	–	3	–	–	–	–	–	5	–	–	–	–	–	–
	,,	F.	–	–	1	–	–	–	–	–	–	1	–	2	–	1	2	2	1	1	–	2	–	1	3	–	–	–	2	–	–	4	–	–	1	–	–	2	–	–	–	–	–	–
	Children	M.	–	–	1	–	–	2	1	–	5	–	1	2	–	–	1	–	3	2	–	–	–	–	–	2	–	–	1	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–
	,,	F.	–	–	4	–	–	2	–	2	1	–	1	–	–	2	–	–	1	1	–	–	–	–	1	2	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–
Arrested.	Adults	M.	1	–	–	–	–	1	–	–	–	–	1	–	–	–	1	1	–	2	–	1	–	1	1	–	–	–	2	–	–	4	2	–	1	–	2	1	–	–	–	–	–	7
	,,	F.	–	–	–	–	–	2	–	–	1	1	–	–	–	–	1	–	–	3	–	–	1	–	1	3	–	1	1	–	1	1	1	–	2	–	3	3	–	–	2	–	–	–
	Children	M.	–	1	1	–	–	–	–	–	1	–	–	2	–	–	2	–	1	–	–	–	–	–	2	–	–	1	2	–	1	5	–	–	6	–	–	6	–	–	1	–	–	–
	,,	F.	–	–	1	–	–	3	–	–	2	–	–	–	–	–	–	–	1	–	–	–	–	–	1	1	–	–	2	–	1	–	–	–	2	–	1	1	–	–	–	–	–	3
Quiescent.	Adults	M.	–	–	–	–	–	–	–	1	–	1	–	2	–	–	–	1	–	2	–	–	–	–	–	–	1	–	–	–	3	1	–	1	–	–	3	5	1	5	–	1	3
	,,	F.	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	2	–	–	1	1	–	2	–	–	1	1	–	2	–	2	2
	Children	M.	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	1	–	2	–	1	–	–	–	–	–	–	2	–	–	1	–	–	1	–	3	2	–	1	2	–	3	2
	,,	F.	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	1	2	–	–	–	2	–	1	2	–	–	6	–	–	–	–
Not Quiescent.	Adults	M.	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	1	2	–	1	–	–	1	3	–	–	–	–	2
	,,	F.	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	1	–	1	1	2	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–
	Children	M.	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	2	–	–	–	2
	,,	F.	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	1	–	–	–	–	1	–	–	2	–	–	–
Dead.	Adults	M.	2	2	–	–	–	2	1	1	1	1	–	2	1	1	–	1	2	4	–	–	–	2	–	5	1	1	–	–	1	3	4	–	–	–	–	2	–	–	–	–	–	2
	,,	F.	1	–	1	–	–	1	–	1	–	5	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–
	Children	M.	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	1	–	1	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
	,,	F.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–
Lost Sight of, etc.	Adults	M.	–	–	–	1	–	1	1	–	1	1	–	–	1	–	–	–	–	2	–	–	1	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1
	,,	F.	–	–	1	–	–	–	–	–	–	1	1	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2	–	1	1	–	–	2	–	1	1	1	–	–	–	–	–
	Children	M.	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–	–	–	–	2
	,,	F.	–	–	–	–	–	–	–	1	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–
Totals	....	....	4	7	11	1	2	17	3	7	17	13	6	21	2	4	11	7	10	25	–	6	2	6	10	19	4	7	20	–	6	34	13	–	22	–	12	31	10	4	21	–	7	26

VENEREAL DISEASES.

The City Council maintain three centres for the treatment of venereal diseases, one for men, women and children at the Birmingham General Hospital, one for children at the Children's Hospital, and one for mothers and babies at the Maternity and Child Welfare Centre in Aston Street.

At these centres 554 new cases of syphilis, 11 of soft chancre, 1,128 of gonorrhoea and 1,109 cases suffering from conditions other than venereal disease were seen in 1932.

The centres at which they received treatment are shown below.—

	New Cases.			
	Syphilis.	Soft Chancre.	Gonorrhea.	Other Conditions.
General Hospital	476	11	958	795
Children's Hospital	19	—	6	25
Aston Street Centre	59	—	164	289
Total	554	11	1,128	1,109

The new cases coming under treatment in previous years have been as follows :—

	Syphilis.	Soft Chancre	Gonorrhea.	Other Conditions.
1926	563	2	909	729
1927	662	4	1,007	861
1928	631	10	1,193	920
1929	549	9	1,265	804
1930	604	14	1,340	1,076
1931	544	1	1,060	1,084
1932	554	11	1,128	1,109

The total attendances for the last six years were :—

1927	67,927
1928	78,261
1929	78,098
1930	88,589
1931	93,280
1932	100,313

Further particulars of the work done at the Centres last year will be found in the statement below :—

	Syphilis.	Soft Chancre.	Gonorrhea.	Other Conditions.
No. of cases under treatment, January 1st, 1932 ...	1,752	0	1,752	3
New cases under treatment during year	554	11	1,120	1,109
Total attendances	27,549	65	69,516	3,183
Number discharged after completion of treatment and observation	82	5	282	1,113
Number transferred to other centres	68	—	100	—
Number who ceased to attend :—				
Before completion of treatment	469	2	714	—
After completion of treatment, but before final tests as to cure	69	1	248	—

A grant of £420 was paid by the Public Health Committee towards the expenses of the Birmingham Branch of the British Social Hygiene Council. The report of this Branch shows that lectures and addresses were given during the year to approximately 20,000 persons, these talks including general addresses in factories and to social and religious organisations, and special instructional lectures to a large variety of special bodies. A large amount of personal work was also done by the officers of the Branch.

VII. MATERNITY AND CHILD WELFARE.

(Report by Dr. Ethel Cassie).

BIRTHS.

During 1932 there were 16,616 live births (8,570 males and 8,046 females) belonging to Birmingham, and 603 stillbirths, making a total of 17,219. The live births number 427 less than in the previous year, and were equal to a birth-rate of 16.3 against one of 16.9 in 1931. The birth-rates of the past 32 years are given in Table I in the Appendix. It will be seen that except for fluctuations during the war period, there has been a steady decline in the rate from 31.4 in 1901 to 16.3 in 1932.

The Birmingham birth-rate is above those of most of the other great towns as will be seen from the figures below:—

Birth-Rates in Largest Towns.

London	14.3 per 1,000
Glasgow	20.8 ,,
Birmingham	16.3 ,,
Liverpool	21.0 ,,
Manchester	15.4 ,,
Sheffield	14.4 ,,
Leeds	14.4 ,,
Edinburgh	15.6 ,,
Bristol	15.0 ,,
Hull	19.7 ,,
Bradford	13.7 ,,

The birth-rate varied greatly in different parts of the City, as shown in the following table:—

Birth-Rates in Wards.

	Ward	Birth rate	
Central Wards	St. Paul's	21.5	Average 19.6
	St. Mary's	20.6	
	Duddeston and Nechells	21.5	
	St. Bartholomew's	20.2	
	St. Martin's and Deritend	18.6	
	Market Hall	15.5	
	Ladywood	19.4	
Middle Ring	Lozells	16.3	Average 14.8
	Aston	17.8	
	Washwood Heath	14.6	
	Saltley	14.5	
	Small Heath	13.7	
	Sparkbrook	14.7	
	Balsall Heath	13.3	
	Edgbaston	10.7	
	Rotton Park	16.0	
	All Saints	16.6	
Outer Ring	Soho	10.7	Average 14.9
	Sandwell	11.7	
	Handsworth	10.4	
	Perry Barr	27.5	
	Erdington North	13.6	
	Erdington South	13.6	
	Yardley	15.5	
	Acock's Green	17.8	
	Sparkhill	15.3	
	Moseley and King's Heath	13.4	
	Selly Oak	13.2	
	King's Norton	11.9	
	Northfield	21.1	
	Harborne	12.4	

The age constitution of the population in the various wards has been obtained from the Registrar General for the Census taken in April, 1931, and it is of interest to give the following figures relating to the proportion of women of child bearing ages, viz., 15-45 years, together with birth-rates calculated on this number for each ward of the City :—

	Females 15—45 Number.	Proportion % of Total Population in Ward.		Birth rates per 1,000 Females 15—45 for 3 years, 1930—1932	
Central Wards.					
St. Paul's	6,643	24		93	
St. Mary's	7,478	24		91	
Duddeston & Nechells	9,212	24		92	
St. Bartholomew's	8,250	24	Average 25%	91	Average 85
St. Martin's & Deritend	9,034	23		89	
Market Hall	4,340	28		61	
Ladywood	6,440	25		78	
Middle Ring.					
Lozells	7,704	25		64	
Aston	8,848	25		77	
Washwood Heath	9,804	25		63	
Saltley	10,223	25		57	
Small Heath	8,118	25	Average 25%	59	Average 61
Sparkbrook	8,090	25		61	
Balsall Heath	8,668	25		58	
Edgbaston	10,676	30		36	
Rotton Park	9,904	25		62	
All Saints'	9,519	25		70	
Outer Ring.					
Soho	6,469	25		44	
Sandwell	5,453	27		41	
Handsworth	7,193	27		45	
Perry Barr	5,622	28		128	
Erdington North	10,630	26		65	
Erdington South	7,638	26		58	
Yardley	8,201	26	Average 27%	61	Average 60
Acocks Green	15,354	26		73	
Sparkhill	11,459	27		60	
Moseley & King's Heath	11,248	28		45	
Selly Oak	7,718	27		49	
King's Norton	6,128	27		47	
Northfield	6,077	27		82	
Harborne	5,845	27		45	
City	257,986	26		66	

It will be observed that the distribution of women of child-bearing age is fairly even throughout the Central and Middle Ring of Wards, constituting 25 per cent. of the total population, while in the Outer Ring the proportion is somewhat higher, viz., 27 per cent. In certain wards the figures are affected by the number of women employed as domestic servants or hospital nurses; for instance in Market Hall there is a considerable number of hotel servants, and nurses in institutions. Edgbaston also has a large proportion of domestic servants. The same also applies to some of the other suburban wards.

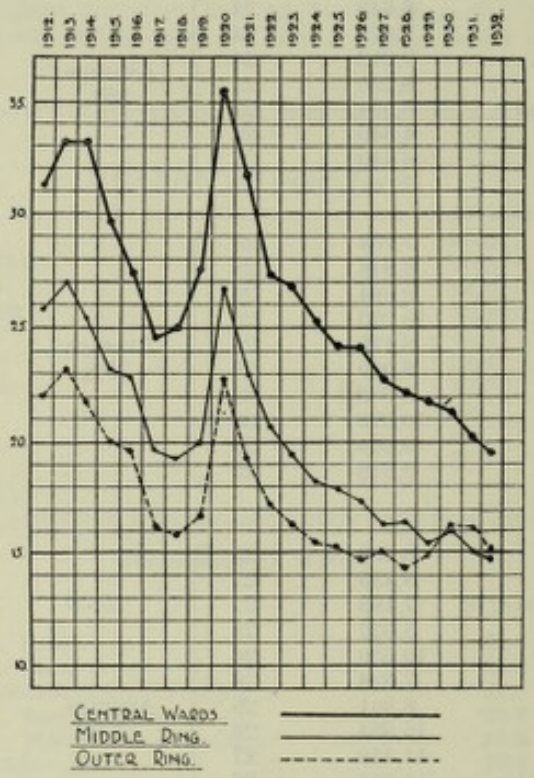
In certain wards where Corporation Estates have been developed there is shown to be a somewhat higher proportion of females, 15-45, notably in Perry Barr and Moseley and King's Heath.

The average birth-rates per 1,000 females, 15-45, in the Central Wards was 85 against 61 and 60 in the Middle and Outer Rings.

In certain individual wards the rates are disproportionate. In Edgbaston the rate of 36 is, no doubt, affected by the large number of domestic servants in residence, while in Perry Barr, Acocks Green and Northfield, with their large population of young married people it is natural to expect the higher rate indicated in the table.

The movements in the birth-rate in the three groups of wards are indicated in the diagram below.

BIRTH RATE IN GROUPS OF WARDS.



It will be seen that the rapid decrease during the war period was followed by an equally marked increase at the close of the war, and that each group of wards participated in this variation. From 1921 onwards there has been an almost steady decline in the Central Wards and the Middle Ring, and a decline with some fluctuations in the most recent years in the Outer Ring.

It may be of interest to compare the birth-rates in the three sections of the town during the first and last five years of the period covered by the diagram. The figures are as follows:—

	5 years. 1912-16.	5 years. 1928-32.	Decrease.
Central Wards ...	30.9	21.0	9.9
Middle Ring ...	24.9	15.5	9.4
Outer Ring ...	21.3	15.3	6.0

While, therefore, the birth-rate has dropped in each ring of wards over the period of 21 years, the decrease has been greatest in the Central Wards in which throughout the birth-rates have been at the highest level.

STILLBIRTHS.

The net number of stillbirths for the year was 603, equal to 4 per cent. of the live births.

Thirty-nine per cent. of the stillbirths, where information was obtained, occurred in primiparæ.

The percentage of illegitimate births among the stillbirths, where information was obtained, was 3.9 per cent. against 3.3 per cent. amongst live births.

A very high proportion of the stillbirths for which records are available were premature—227 out of 534 or 43 per cent.; 120 out of 603 (20 per cent.) stillbirths occurred in the practice of midwives; of these 19 or 16 per cent. were in breech presentations as far as can be ascertained.

Other particulars are as follows:—

Primiparæ	... ...	216 cases out of 557
Illegitimate	...	21 cases out of 536

Delivery by:—

Doctor	87	340
Midwife	120	
Doctor and Midwife	133	
In Hospital	263	

ILLEGITIMATE BIRTHS.

During 1932 there were 546 illegitimate births belonging to Birmingham. Of these 519 occurred in the City and 27 in other places. The illegitimate births were in the proportion of 32.9 per 1,000 of the total live births, as against 33.8 for 1931.

Of these babies 249 were born in institutions, 225 of them being born in Dudley Road or Selly Oak Hospitals.

The infant mortality among illegitimate children is high. In 1932 it was at the rate of 125 per 1,000 births, while among legitimate children the rate was 65.

CARE OF THE UNMARRIED MOTHER.

The method of dealing with the unmarried mother, and with married women and widows with illegitimate children, was detailed in the annual reports for 1930 and 1931.

During 1932 the same procedure was followed. A total of 291 unmarried mothers and 27 married women or widows with illegitimate children were dealt with during 1932 as compared with 221 and 18 respectively in 1931.

Of the total cases, 241 were first cases of illegitimacy.

Six left the City before their confinement, leaving a total of 312 within the city.

The cases were dealt with as follows:—

Dealt with at	First Cases.	Multiple Cases.	Married Women.
Hope Lodge	31	—	—
The Hawthorns (Salvation Army) ...	22	3	—
Woodville (Roman Catholic) ...	7	—	—
Cleveland House (Venereal Disease Cases)	9	—	—
The Hostel (Post-natal Only)	5	—	—
Western House	3	15	3
Selly Oak Infirmary	—	3	—
Own home, except for confinement ...	141	26	19
Own home entirely	17	3	5
	235	50	27

The number of cases with venereal disease was 30. All received systematic treatment.

The number of mentally defective women was:—

(1) First cases	10
(2) Multiple cases	15
(3) Married women	1
	26

These were dealt with as given below:—

First Cases (10)

In Woodville	1
In Hope Lodge	1
In Hope Lodge until baby 3 months old, then her parents demanded her discharge	1
In Western House	2
Suitable employment found	1
At home with parents	4

Multiple Cases (15)

In Western House (7 in Venereal Diseases Block)	9
Home with parents	5
In Erdington House	1

Married Women (1)

In Western Road	1

The occupations of the unmarried mothers are given below:—

Factory girls	145
Domestic Servants	123
Varied occupations	50
	318

Of the 239 cases with illegitimate children dealt with in 1931, five have had another child during 1932, and of the 222 cases dealt with in 1930, four have had another child during 1932.

INFANT LIFE PROTECTION.

At the end of 1932, 302 foster mothers were on the register and 326 foster children under supervision.

During the year:—

235 homes have been registered.
152 applications received for foster children.
236 applications received for homes for children.
130 visits paid to ascertain the suitability of homes offered.
7 visits paid to investigate complaints.
57 foster mothers were interviewed at the Council House re failure to comply with the Children Act, or on account of unsuitable home conditions.
16 children were legally adopted by the foster parents.
Prosecutions taken—Nil.
Deaths—1 (enteritis).

INFANT MORTALITY.

The deaths of infants under one year of age numbered 1,120, and were equal to an infant mortality rate of 67 per 1,000 births.

The infant mortality rates for a number of years are shown in the table below:—

Infant Mortality Rate.

	Birmingham.	England and Wales.
1901-05	157	138
1906-10	131	117
1911-15	126	110
1916-20	94	90
1921-25	80	76
1926-30	70	68
1923	72	69
1924	83	75
1925	78	75
1926	73	70
1927	75	70
1928	65	65
1929	79	74
1930	60	60
1931	71	66
1932	67	65

The infant mortality rates in Birmingham and ten of the largest British towns are shown in the subjoined table :—

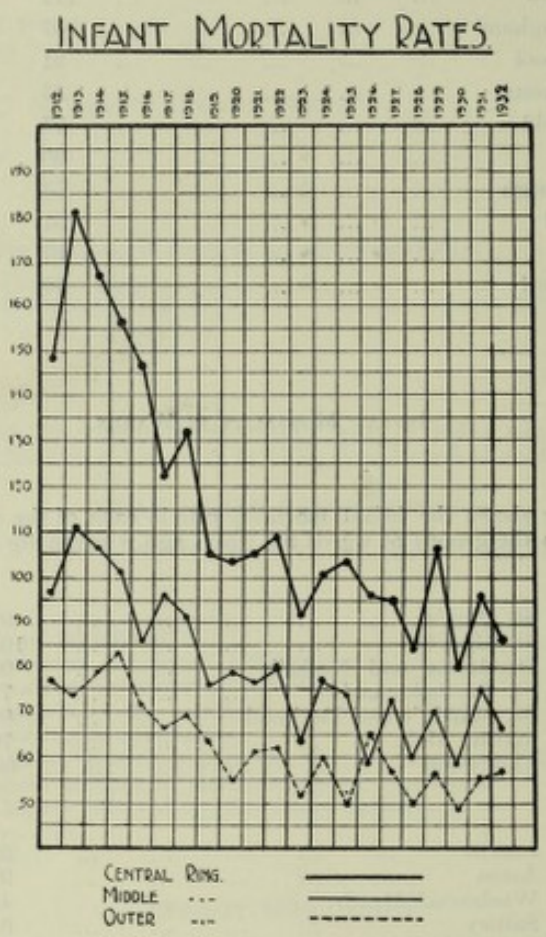
London	67	per 1,000
Glasgow	112	,,
Birmingham	67	,,
Liverpool	91	,,
Manchester	85	,,
Sheffield	73	,,
Leeds	88	,,
Edinburgh	73	,,
Bristol	51	,,
Hull	67	,,
Bradford	79	,,

Infant Mortality in Wards.

The appended table shows the infant mortality rate in each of the wards of the City in 1932. The average mortality in the groups of wards ten years ago is given for comparison.

Central Wards :	St. Paul's	92	Average : In 1932— 86. In 1922—109.
	St. Mary's	105	
	Duddeston and Nechells	98	
	St. Bartholomew's	77	
	St. Martin's and Deritend	87	
	Market Hall	76	
	Ladywood	69	
Middle Ring :	Lozells	52	Average : In 1932— 66. In 1922— 80.
	Aston	97	
	Washwood Heath	48	
	Saltley	61	
	Small Heath	73	
	Sparkbrook	87	
	Balsall Heath	46	
	Edgbaston	63	
	Rotton Park	62	
	All Saints	74	
Outer Ring :	Soho	95	Average : In 1932— 57. In 1922— 62.
	Sandwell	37	
	Handsworth	63	
	Perry Barr	72	
	Erdington North	56	
	Erdington South	56	
	Yardley	58	
	Acocks Green	59	
	Sparkhill	53	
	Moseley and King's Heath	45	
	Selly Oak	47	
	King's Norton	76	
	Northfield	43	
	Harborne	43	

The following diagram shows the striking fall in infantile mortality in each of the three groups of wards during the past 20 years. It will be noted that the decrease has been much more marked in the Central areas than in the other parts of the town, and that the range in the sectional rates last year was only from 57 to 86 whereas in 1913 it was from 74 to 181.



The infant mortality in the three groups of wards was distributed over various sections of the first year of life as shown in the figures below:—

Infant mortality per 1,000 Births.

	Central Wards.	Middle Ring.	Outer Ring.
First week of life	27.1	25.6	23.4
2nd, 3rd and 4th week	9.0	7.8	7.6
1 and under 3 months	9.7	10.2	7.8
3 and under 6 months	17.0	10.8	7.1
6 and under 9 months	13.7	7.0	6.2
9 and under 12 months	11.6	5.5	5.3

These figures indicate that at the commencement of its life a baby runs little more risk of death if living in the Central Wards than if living in the Outer Ring, but between the third and sixth month the effect of a bad environment becomes increasingly apparent, until at the age period 9—12 months the mortality is twice as high in the Central Wards as it is in the Outer Ring.

It is of some interest and may if repeated prove of some significance, that the adverse differentiation in the Central Wards began between the first and the third month of life in 1931, but not until between the third and the sixth month in 1932.

The infant mortality from individual causes of death is set out below:—

	Infant Mortality per 1,000 Births.		
	Central Wards.	Middle Ring.	Outer Ring.
Measles and Whooping Cough ...	7.6	3.0	3.1
Tuberculosis	0.2	0.8	0.4
Bronchitis and Pneumonia	22.2	12.3	8.1
Diarrhoea and Enteritis	12.5	6.4	5.1
Malformations	4.5	5.7	6.9
Premature Birth	22.9	21.6	16.3
Debility and Marasmus	1.9	1.3	2.2
Atelectasis	2.6	2.1	2.6
Injury at Birth	2.4	2.8	3.4

Here it will be seen that diseases such as bronchitis and pneumonia, diarrhoea and enteritis, measles and whooping cough, all of a preventable character, are among the main causes of the excessive mortality in the Central Wards, while premature birth is also somewhat higher there than in the Middle Ring, and much higher than in the Outer Ring.

INFANTILE MORTALITY DURING THE YEAR, 1932

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

Cause of Death.	Weeks.				Total under One Month.	Months.				Total Deaths under One Year
	0—	1—	2—	3—		1—	3—	6—	9—	
Measles	—	—	—	—	—	—	1	3	5	9
Scarlet Fever	—	—	—	—	—	—	—	—	1	1
Whooping Cough	—	—	—	—	—	9	21	11	19	60
Diphtheria and Croup ...	—	—	—	—	—	—	—	—	2	2
Influenza	—	—	—	—	—	2	6	2	1	11
Tuberculous Meningitis ...	—	—	—	—	—	—	1	3	—	4
Abdominal Tuberculosis ...	—	—	—	—	—	—	—	—	—	—
Other Tuberculous Diseases	—	1	—	—	1	—	1	1	1	4
Rickets	—	—	—	—	—	—	—	3	5	8
Syphilis	—	—	—	—	—	2	3	—	—	5
Cerebro-Spinal Fever ...	—	—	—	—	—	3	6	1	2	12
Meningitis (not Tuberculous)	—	—	—	—	—	—	1	2	1	4
Convulsions	6	—	—	—	6	4	2	3	2	17
Bronchitis	—	—	3	2	5	6	2	2	4	19
Pneumonia (all forms) ...	5	4	7	7	23	32	51	47	42	195
Gastritis	—	—	—	—	—	1	3	—	—	4
Diarrhoea, Enteritis, etc. ...	2	—	—	1	3	30	49	29	11	122
Congenital Malformations ...	45	9	2	8	64	19	8	5	—	96
Premature Birth	263	27	15	7	312	11	—	—	—	323
Atrophy, Debility and Marasmus	10	4	3	3	20	7	2	1	—	30
Atelectasis	32	3	1	1	37	3	—	—	—	40
Injury at Birth	39	3	1	1	44	1	1	2	—	48
Neglect (under 3 months) ...	1	—	—	—	1	—	—	—	—	1
Suffocation (overlying) ...	—	—	—	—	—	3	1	—	—	4
Other Causes	10	7	9	2	28	15	18	22	18	101
All Causes	413	58	41	32	544	148	177	137	114	1,120
Rate per 1,000 Births ...	24.8	3.5	2.5	1.9	32.7	8.9	10.7	8.2	6.9	67

The next table shows the number of infant deaths from the more prominent causes of death during the last three years.

INFANT DEATHS FROM DIFFERENT CAUSES.

	1932.	1931.	1930
Measles	9	45	11
Whooping Cough	60	37	60
Influenza	11	16	4
Tuberculosis	8	23	30
Convulsions	17	7	12
Bronchitis	19	41	23
Pneumonia	195	218	141
Diarrhoea and Enteritis	122	135	125
Suffocation (overlying)	4	12	9
Congenital malformation	96	98	100
Premature Birth	323	353	297
Injury at Birth	48	45	53
Atrophy, Debility and Marasmus ...	30	56	53
Other causes	178	131	128
Total	1,120	1,217	1,046

INFANT MORTALITY AND ILLEGITIMACY.

The following figures show the relative mortality among legitimate and illegitimate infants :—

	No. of Births.	Deaths under 1 year.	Infant mortality per 1,000.
Legitimate ...	16,070	1,052	65
Illegitimate ...	546	68	125

It seems obvious from the above figures that nearly half the deaths of the illegitimate babies would have been avoided if the conditions under which they lived had been as good as those which are available for legitimate infants.

DEATHS OF CHILDREN BETWEEN 1 AND 5 YEARS OLD.

These are set out in the table below, distinguishing those under 2 years from those over 2.

	1 to 2 years old			2 to 5 years old		
	1932.	1931.	1930.	1932.	1931.	1930.
Measles	25	64	29	15	46	12
Whooping Cough	41	35	27	23	13	17
Diphtheria	4	7	12	9	11	22
Scarlet Fever	2	0	0	2	2	4
Influenza	5	5	1	4	2	0
Tuberculosis	22	18	17	21	26	25
Nervous Diseases.....	8	5	5	10	11	14
Bronchitis and Pneumonia	71	91	45	22	53	24
Diarrhoea and Enteritis	6	13	7	5	5	5
Other Digestive Diseases	3	2	2	10	12	7
Accidental Deaths	8	7	7	18	18	15
All other Causes	28	13	18	23	27	32
Total	223	260	170	162	226	177

OPHTHALMIA NEONATORUM.

There were 319 cases of Ophthalmia Neonatorum notified during the year. These cases received treatment as given below.—

Treated at home	18
Eye Hospital (out-patient)	255
Eye Hospital (in-patient)	45
Queen's Hospital	1
	319

The majority (281) of the notified cases were very slightly affected, with no after-effects; 38 were moderately severe, though again with no permanent damage. In four cases scarring of the cornea resulted. In these cases the permanent result was as follows:—

	No. of cases.
Totally blind	1
One eye blind, one normal	1
One eye blind, one defective	1
Both eyes defective	1

The number of cases and the result of treatment since 1917 are indicated below:—

Year.	No. of cases reported.	No. of babies blind in one eye.	No. of babies blind in both eyes.	No. of babies with eyes otherwise impaired.
1917	237	3	0	6
1918	228	3	0	6
1919	282	4	0	5
1920	444	?	?	6
1921	427	1	0	0
1922	484	1	0	1
1923	433	0	0	10
1924	413	1	1	1
1925	335	0	2	3
1926	395	1	0	2
1927	409	2	0	0
1928	530	6	4	8
1929	522	1	1	4
1930	596	1	0	5
1931	617	0	0	3
1932	319	2	2	1

The decrease in numbers appears to be due to more exact notification.

PEMPHIGUS NEONATORUM.

Pemphigus neonatorum has not increased during 1932. The number of cases reported was 26, as compared with 25 in 1931.

Of these 26 cases 8 were born in Dudley Road Hospital, one in the Maternity Hospital, one with a doctor and handywoman in attendance, and 16 in the practice of various midwives.

INFANTILE DIARRHOEA.

The deaths from this cause numbered 128. This figure can be compared with previous records from the statement below, which also indicates the meteorological conditions.

The deaths in previous years are given below:—

	Deaths from Diarrhœa and Enteritis. Under 2 years.	Death-rate per 1,000 births.	Days with Temp. of 75° Fahr. or over.*	Days with 0.01 or more inches of Rain.*
1922	169	8.5	0	55
1923	207	10.9	15	49
1924	170	9.2	2	63
1925	201	11.3	12	46
1926	201	11.2	13	36
1927	198	11.5	3	50
1928	161	9.3	14	30
1929	234	13.9	14	33
1930	132	7.6	4	50
1931	148	8.7	0	49
1932	128	7.7	10	46

*In the third quarter of the year.

The diarrhoea rates in different parts of the City in 1932 were as follows:—

Central Wards	...	13.2 per 1,000 births.
Middle Ring	...	7.0 ,, ,, ,,
Outer Ring	...	5.1 ,, ,, ,,

HEALTH VISITING.

No. of Health Visitors—99 Total visits paid—363,981

The Health Visitors undertake home visiting for children under the age of five, ante-natal home visiting, and the visiting required for non-notifiable infectious disease and pneumonia. In order to cope with the outbreaks of infection in different localities, nine visitors are employed for specialised work in this connection, the general health visitors dealing with the sporadic cases in their locality.

TRAINING COURSE FOR HEALTH VISITORS.

A Course was commenced on January 4th, 1932, and was continued for six months ending June 30th, 1932.

25 students were entered for this Course. Six came from Birmingham and two from Staffordshire County Council; Norfolk County Council, Stoke-on-Trent C.B., West Bromwich C.B., Rowley Regis U.D., and the Worcestershire Nursing Association each sent one candidate, the remaining twelve being independent pupils.

Three were unable to continue the Course owing to ill-health.

Twenty-two sat for the examination in July, twenty being successful in gaining their certificate.

A second Course was commenced October 3rd, 1932. Twenty candidates applied for admission to this Course.

The work has been carried out on the same lines as hitherto.

Owing to the economic situation, there are not so many applications for the Course, candidates feeling that it may not be possible to obtain posts later on.

CHILD WELFARE CENTRES.

(a) Number of centres provided and maintained by the City Council—27 and 1 subsidiary.

(b) Number of centres provided and maintained by a Voluntary Association—1.

(c) Total number of attendances for consultation at all centres during the year:

(1) By children under 1 year of age—111,072.

(2) By children between the ages of 1 and 5 years—74,438.

(d) Total number of children who attended at the Centres for the first time during the year:

(1) Children under 1 year of age—11,574.

(2) Children between the ages of 1 and 5 years—3,860.

(e) Total number of children who were in attendance at the Centres throughout the year.

(1) Children under 1 year of age—11,574.

(2) Children between the age of 1 and 5 years—21,666.

(f) Percentage of notified live births represented by the number in (d) (1)—69 per cent.

The general statistics are given in the table on the next page.

The Child Welfare Centres have continued to function actively throughout the year.

The attendance of older children is still unsatisfactory, though it is improving. The Medical Inspection Clinics for children between one and a half and five years were well-attended.

The educational classes continue to be well attended.

The table showing individual attendance at the Centres is of interest as showing the relative child population under five in various districts.

Maternity and Child Welfare Centres—Year 1932.

	Acocks Green and Hall Green	Aston St.	Billesley.	Bloomsbury St.	Bromford	Carnegie Institute.	Erdington.	Floodgate St.	Greet.	Handsworth.	Harborne.	Hay Mills.	Hope St.	Irving St.	King's Heath.	Lansdowne St.	Northfield.	Perry Common.	St. Vincent St.	Selly Oak.	Smith St.	Stechford.	Stirchley	Strat:ord Rd.	Sutton St.	Trinity Road.	Washwood Heath.	Wright St.	Total.
Infants and Children :—																													
Births (and stillbirths) reported	738	612	422	745	391	788	401	476	741	420	183	549	860	440	338	727	467	848	686	330	716	282	467	562	590	529	609	846	15763
Primary visits ...	677	507	430	772	380	921	370	443	665	475	185	557	951	414	301	750	459	918	670	326	845	318	482	612	727	515	589	931	16190
Re-visits (infants and children)	14520	11005	7754	15537	8262	15748	7650	11549	11849	7562	3768	11907	14788	9763	4197	12666	10397	19273	12433	4400	16136	5557	8213	11572	16028	6522	9211	15779	304046
Total visits & revisits	15197	11512	8184	16309	8642	16669	8020	11992	12514	8037	3953	12464	15739	10177	4498	13416	10856	20191	13103	4726	16981	5875	8695	12184	16755	7037	9800	16710	320236
Mothers (Ante-Natal) :—																													
Primary visits ...	146	109	112	84	6	131	63	104	131	111	79	75	83	117	42	107	50	152	91	33	81	35	34	119	124	78	67	63	2427
Re-visits	378	379	299	833	376	777	303	448	624	105	239	368	691	422	135	461	439	871	533	124	544	204	249	563	773	285	460	658	12541
Total visits & re-visits	524	488	411	917	382	908	366	552	755	216	318	443	774	539	177	568	489	1023	624	157	625	239	283	682	897	363	527	721	14968
Children's Consultations :																													
Number held	145	98	95	98	98	244	104	98	96	98	96	148	146	98	98	98	98	192	98	98	145	73	98	98	192	98	93	148	3289
Fresh children attend'g	777	393	382	648	426	1709	338	356	512	361	208	486	582	375	384	522	433	1068	512	326	605	608	328	571	827	521	477	699	15434
Total attendances ...	8485	4725	4842	5938	5454	13851	5026	4542	5724	5001	3804	6459	6110	4463	5172	5301	5233	11108	5571	4820	6705	2944	4737	5517	10037	5285	4696	7758	169308
Number seen by Doctor	3245	2118	1965	2310	2391	6204	2410	2250	2746	2252	1725	3003	3254	2331	2256	2488	2399	4687	2272	2311	3096	1537	2091	2224	4475	2317	2017	4252	76626
Medical Inspections (1½—5 yrs.) :—																													
Number held ...	48	49	50	48	—	50	—	48	50	50	—	48	47	48	—	48	—	49	48	—	48	—	—	48	47	43	50	50	967
Total attendances ...	816	821	771	959	—	740	—	744	906	833	—	895	798	645	—	863	—	804	849	—	941	—	—	628	935	729	811	714	16202
Mothers' Consultations :																													
Number held	98	69	47	139	50	96	52	50	98	48	22	61	48	23	47	50	56	147	45	50	99	33	48	66	95	97	62	96	1892
Fresh mothers attend'g Ante-Natal ...	322	490	163	680	181	419	196	272	346	168	113	241	338	146	96	217	201	609	286	128	447	125	150	313	546	269	303	409	8174
Total attendances ...	1184	829	572	1981	786	1056	798	715	1336	519	360	781	1011	398	417	786	848	2449	523	546	1165	337	665	978	1514	1254	932	1243	25983
Attendance at :—																													
Sewing classes ...	927	490	—	675	583	559	357	346	717	496	90	849	577	409	783	616	693	515	209	649	895	—	696	457	185	456	125	516	13870
Cookery classes ...	170	649	126	—	—	530	—	—	—	—	73	99	—	—	40	—	—	—	—	—	718	—	233	98	—	—	—	—	2736
Health Talks	1953	1034	1405	1852	3813	4970	1759	1351	2463	4549	520	2206	1893	1838	2824	3711	1938	3063	2390	1195	738	1373	1971	2256	3361	1667	564	3146	61803

INDIVIDUAL CHILDREN ATTENDING CENTRES IN 1932.

Acocks Green	1,599	Perry Common	2,699
Aston Street	911	St. Vincent Street	1,160
Billesley	1,003	Selly Oak	594
Bloomsbury Street	1,371	Smith Street	1,303
Bromford	900	Stechford	648
Carnegie Institute	2,155	Stirchley	696
Erdington	974	Stratford Road	1,146
Floodgate Street	920	Sutton Street	1,770
Greet	1,343	Trinity Road	1,201
Handsworth	814	Washwood Heath	1,199
Harborne	525	Wright Street	1,585
Hay Mills	1,175		
Hope Street	1,322		33,240
Irving Street	1,246		
King's Heath	735		
Landsdowne Street	1,471	Under 1 year	11,574
Northfield	775	Over 1 year	21,666

TODDLERS' EDUCATIONAL CLASSES.

Special efforts have been continued towards developing the work amongst toddlers, and educational classes are held at seven additional Centres making a total of fourteen Centres as against seven last year.

A programme similar to that of previous years has been carried out at all the Centres. It varies according to the individual teacher and the facilities at the Centre, and also according to the amount of help obtainable. Voluntary help is most valuable, especially where the worker has had teaching experience.

It has been found that children under three years of age are too young to benefit materially by the class, and at most Centres the age limit is from 3-5 years. Special efforts are made to ensure the attendance of the "only" child and the "difficult" child; these usually show marked improvement in a very short time.

The class is very popular both with the children, who obviously enjoy their afternoon, and with the mothers, who are quick to see the beneficial results of regular attendance.

The numbers attending have to be limited, and they vary from 12 to 50 according to the Centre. At one Centre there is a long waiting list.

The programme is as follows:—

1. Handkerchief Drill.

2. Simple Handwork:—
   a. Modelling in plasticine.
   b. Bead threading.
   c. Paper folding.
   d. Matching colours.
   e. Raffia work.
   f. Wool work.

3. Simple drill:—
   Breathing exercises and exercises for knock-knee and flat foot.
   Skipping.
   Dancing.
   Singing Games.
   Story telling.

MEDICAL INSPECTION FOR PRE-SCHOOL CHILDREN ("TODDLERS.")

As a continuation and extension of the work initiated in 1930, 967 medical inspection clinics were held in 1932, with an attendance of 16,202 children, giving an average attendance of seventeen. The number of children attending was 5,914.

The children come by appointment and are recalled every three months.

In all districts the mothers have shown great appreciation of the clinics, though this has been somewhat more marked in the Middle and Outer Ring Centres.

PHYSICAL DEFECTS IN PRE-SCHOOL CHILDREN.

During the year, all medical officers were asked to mark the clinic sheets of children with "defects," and the health visitors were asked to follow up these cases with a view to obtaining treatment. The results are tabulated on the next page.

Number of Children examined by Doctor = 33,240.
Number of Children with Defects = 4,529 = 13.6%.

Defects.	Number.	Treated.	Percentage	Failed to obtain Treatment.	Percentage.	No Treatment Ordered.	Percentage.	Removed, lost trace, etc.	Percentage.
Squint	287	236	82.2	24	8.4	24	8.4	3	1
Other Eye Conditions	53	43	81.1	4	7.5	5	9.4	1	2
Eczema	80	79	98.7	1	1.3	....	....	....	....
Scabies	14	13	92.9	1	7.1	....	....	....	....
Psoriasis	3	3	100	....	....	....	....	....	....
Lupus	2	2	100	....	....	....	....	....	....
Chronic Otorrhoea	135	125	92.6	8	6	2	1.4	....	....
Deafness	14	13	92.9	1	7.1	....	....	....	....
Enl. Tonsils and Adenoids	1297	944	72.8	206	15.9	128	9.8	19	1.5
Enlarged Glands	134	108	80.6	18	13.5	7	5.2	1	.7
Congenital Heart	45	24	53.3	1	2.2	20	44.5	....	....
Rheumatic Heart	7	7	100	....	....	....	....	....	....
Mitral Sys. Murmur	25	16	64	....	....	9	36	....	....
Tuberculosis	29	29	100	....	....	....	....	....	....
Active Rickets	753	663	88	63	8.4	12	1.6	15	2
RICKETY DEFORMITIES MAINLY									
Bow Legs	121	97	80.2	13	10.7	9	7.4	2	1.7
Deformed Chest	114	93	81.5	17	15	4	3.5	....	....
Knock Knee and Flat Foot	781	623	79.8	116	14.9	38	4.8	4	.5
Scoliosis	17	12	70.6	4	23.5	1	5.9	....	....
Bad Posture	10	8	80	2	20	....	....	....	....
CONGENITAL DEFECTS.									
Talipes	44	38	86.4	2	4.5	4	9.1	....	....
Torticollis	22	17	77.3	2	9.1	3	13.6	....	....
Spinal Defect	10	8	80	....	....	1	10	1	10
Dislocation of Hip	8	7	87.5	....	....	1	12.5	....	....
Other Congenital Defects	39	36	92.3	2	5.1	1	2.6	....	....
Hare Lip and Cleft Palate	10	8	80	....	....	1	10	1	10
Hydrocephalus	5	3	60	....	....	2	40	....	....
Hernia	70	63	90	....	....	4	5.7	3	4.3
PARALYTIC CONDITIONS.									
Infantile Paralysis	5	5	100	....	....	....	....	....	....
Birth Injury	10	7	70	....	....	3	30	....	....
Cerebral Diplegia	4	3	75	....	....	1	25	....	....
MENTAL DEFECTS.									
Mongols	17	10	58.8	....	....	7	41.2	....	....
Cretins	3	3	100	....	....	....	....	....	....
Primary Amentia	15	9	60	1	6.7	5	33.3	....	....
LUNG DEFECTS.									
Chronic Lung Infections	125	111	88.8	10	8	3	2.4	1	.8
Asthma	25	22	88	1	4	2	8	....	....
Chronic Ailing Child	130	120	92.3	7	5.4	2	1.5	1	.8
Other Defects	66	60	90.9	2	3	4	6.1	....	....
TOTAL	4529	3668	81	506	11.2	303	6.7	52	1.1

The medical officers examined 33,240 children on this basis and defects were found in 4,529 or 13.6 per cent. The children were of all ages from a few weeks to five years, and the comparatively small percentage of defects is somewhat surprising, although the total is formidable. It will be noted that rickets and rickety deformities form the largest group of defects (39 per cent. of the total) and that enlarged tonsils and adenoids are second in number. It is, however, the less frequent conditions which entail the greatest suffering to the child and the highest cost to the community; among these may be mentioned the heart conditions, tuberculosis, congenital defects, the paralytic conditions, mental defects, and chronic lung infections. It is of interest to note the small percentage of chronic otorrhoea, a condition which is much more frequent in school children, in whom it is more difficult to treat, and more apt to cause deafness.

Treatment was obtained in 81 per cent. of the cases and in a further 6 per cent. it was not considered necessary by the doctor.

ANTE-NATAL CLINICS AT WELFARE CENTRES.

No. of clinics.	No. of sessions.	Total attendances.	No. of expectant mothers.
39	1,892	25,983	8,174

There has been an increase in the number of women attending the ante-natal clinics, and the percentage attending in relation to the total births and stillbirths is now 51.9 per cent. The midwives are using the clinics well and appreciate their value.

ULTRA-VIOLET LIGHT CLINICS.

Full details of these clinics have been given in previous reports. The results obtained continue to be satisfactory. The table shows the scope of the work.

ULTRA-VIOLET RAY CLINICS.*

	Cases.	Attendances.
Rickets	2,155	10,859
Catarrhal	886	4,172
General Debility ...	2,004	8,720
Nervous irritability ...	362	1,740
Bronchitis ...	544	2,453
Asthma	85	399
Skin conditions ...	79	369
Anaemia ...	72	337
Muscular Weakness ...	358	1,639
Malnutrition ...	334	1,786
Prophylaxis for Rickets	510	2,288
Other conditions ...	1,026	5,434
	8,415	40,196

* The clinics are situated at the following Centres:—

Aston St., Carnegie Institute, Floodgate St., Greet, Harborne, Hope St., Sutton St., Selly Oak, Smith St., Stirchley, Stratford Road, Wright St., and Kingstanding.

REMEDIAL EXERCISE CLINICS.

Centre.	No. of Prescribing Clinics Held.	No. attending.	No. of Remedial Exercise Clinics Held.	No. of Attendances.
Aston Street	6	63	37	501
Bloomsbury Street	1	8	—	—
Carnegie Institute	10	103	59	833
Kingstanding	5	42	32	497
Selly Oak	6	15	46	528
Stratford Road	9	87	49	635
Wright Street	9	85	56	938
	46	403	279	3,932

Type of Deformities :—

Postural defects	374	25.6%
Knock knees	352	24.0%
Chest deformities	271	18.0%
Flat Foot	270	18.0%
Constipation	49	3.5%
Hypotonicity	41	2.8%
Prominent abdomen	38	2.5%
Curved tibiae	32	2.1%
Lordosis	13	.9%
Scoliosis	12	.8%
Winged Scapulae	9	.6%

The attendances at the remedial exercise clinics for 1932 show an improvement, the figures of the total attendances for 1932 being 3,932, as compared with 3,089 for 1931.

This improvement is in a great measure due to the fact that the more intelligent mothers are beginning to appreciate the good results obtained with the exercises and are anxious to persevere with treatment.

It has been found that the less educated mothers find it hard to grasp the necessity for treatment of this kind; and they fail therefore to attend the clinic regularly or to see that exercises are carried out at home.

The quickest results are obtained with postural and chest deformities, but the knock-knee cases respond well to treatment, if given a sufficiently long time, less than six months being inadequate.

DENTAL TREATMENT.

	Stratford Road.	Carnegie Institute.	Total
Number of clinics held	195	292	487
Mothers attending	2,644	3,655	6,302
Children attending	1,190	2,346	3,536
Average attendance—Mothers	13.6	12.5	—
Average attendance—Children	8.7	12.6	—
Local Anaesthetics	71	133	204
Gas	1,974	3,283	5,257
Dentures supplied	198	260	458

Of these clinics, 439 were taken by Mr. Payton, the whole-time Dental Surgeon of the Department, and 48 by part-time dentists, whose services were required to deal with accumulated waiting lists.

In addition, 48 inspection clinics were held at the various child welfare centres in rotation, when the dentist examined 2,006 mothers and children, and gave on each occasion a lecture on dental hygiene.

During the year 1932 the dental clinics have been well attended, a marked increase being noted in the attendance of ante-natal patients.

Unfortunately little ground seems to have been won in persuading parents of the advisability of early reparative treatment for deciduous teeth. On the other hand, mothers are showing an appreciation of scaling and gum treatment, and a better standard of oral hygiene is very noticeable.

TREATMENT OF EAR, NOSE, THROAT AND EYE CONDITIONS.

Cases referred from Child Welfare Centres and examined during 1932 at the Children's Hospital for the treatment of the above conditions were as follows:—

Eyes, ear and throat cases	374
Tonsils and adenoids (operation required)	794
Tonsils and adenoids (examination only)	192

DINNERS FOR MOTHERS AND CHILDREN.

The numbers attending the Dinner Centres show a great increase, especially among toddlers. The attendances for the year were 50,116 (26,007 mothers, 24,109 toddlers), which, in comparison with last year, show an increase of almost 13,000.

Towards the end of June it was found necessary to open two additional dinner feeding centres in the Perry Common and Kingstanding areas as, owing to the long continued and widespread unemployment in the district, many children were not thriving through lack of proper nourishment. The Perry Common Centre proved suitable in position for one part of the district and a second feeding centre was opened in a school hall within reach of the families living in the northern area. Later the requirements of the children were met by the establishment of milk centres at which they were supplied with milk twice daily, so that the two feeding centres ceased to provide dinners after October 8th.

The St. Vincent Street Centre was re-opened as a dinner centre in October as there were a number of mothers as well as of toddlers known to be in need of extra nourishment. The attendances at this centre remained steady throughout the quarter, about 20 mothers and 20 toddlers attending daily.

The same careful attention to detail as in previous years has been exercised by the cook at the Municipal Kitchen, and as great variety of food as possible has been provided. The cooking has been of a high standard, the meals were appetising and were evidently appreciated by the mothers. The service for the transport of the meals to the dinner centres was as prompt and reliable as in previous years.

Attendances at Dinner Feeding Centres:

Newtown Row	9,214	
Smith Street	9,573	
Hope Street	5,994	
Floodgate Street	7,671	
Bloomsbury Street	6,358	50,116
Carnegie Institute	6,751	
Perry Common	1,350	
Kingsvale	1,314	
St. Vincent Street	1,891	

Numbers of individual mothers and children who received dinners at some period during 1932:—

	Mothers.	Toddlers	
Newtown Row	93	57	
Smith Street	125	124	
Hope Street	96	50	
Floodgate Street	91	100	
Bloomsbury Street	95	89	
Carnegie Institute	61	95	
Perry Common	15	48	
Kingsvale	9	27	
St. Vincent Street	42	54	(commenced Oct. 10th).
Total	627	644	

Cost—

	£	s.	d.
Cost of food	706	1	10
Cost of transport	110	4	0
	816	5	10
Receipts from Centres	340	7	1
	£475	18	9

Net cost per meal excluding overhead charges—2.3d.
Approximate total cost per meal—4.4d.

THE PROVISION OF MILK.

A considerable amount of anxiety has been felt as to the effect on the children's health of the wide-spread poverty and distress prevalent in the city during 1932, and efforts were made in several directions to combat the danger of malnutrition. The first line of defence was to increase educational efforts in relation to food, diets, and economical buying, and there can be no doubt that this has been helpful.

Toddlers from the poorest homes have been given meals at the dinner centres for several years, and it will be noted that there has been a great increase in the attendances during 1932.

Also, as in previous years, there were throughout 1932 large sales of dried milk through the Welfare Centres, at wholesale cost price, to children needing such provision on medical grounds.

In order to ascertain if there had been any fall in nutritional standards, comparisons were made with the average weights of children in 1928 and in 1932 in various age groups, and the results of these observations are set out below.

TABLE I.

Ages.	Nine Centres.		Two Poor Districts.		Two Better Areas.	
	1928	1932	1928	1932	1928	1932
	lbs. ozs.	lbs. ozs.	lbs. ozs.	lbs. ozs.	lbs. ozs.	lbs. ozs.
12 months and under 2	*(1512) 22 11	(1609) 22 7	(360) 22 11	(360) 22 11	(357) 23 3	(360) 23 0
2 years and under 3	(1030) 26 13	(1490) 27 2	(330) 26 10	(360) 27 11	(240) 27 8	(327) 27 11
3 years and under 4	(490) 31 5	(1321) 30 13	(120) 31 7	(360) 31 4	(152) 31 10	(259) 30 10
4 years up to 5 years	(237) 34 15	(1284) 34 8	(104) 34 14	(376) 34 10	(133) 35 1	(309) 34 1

* The number of children weighed in each case is shown in brackets.

It will be seen that in all areas the weights recorded in 1932 are lower than in 1928, except in the 2-3 year group. It is not clear why this definite exception should be found, and the only explanation that can be offered is that there are many more "youngest children" in this group than formerly, the fact that the youngest child is generally favoured from the nutritional standpoint being a well-known fact to health workers.

Enquiries were also made as to the average family income per head after deducting the rent. The particulars were obtained from 2,370 families living in all parts of the city, and this enquiry gave the following results.

TABLE II.

AVERAGE FAMILY INCOME PER HEAD PER WEEK AFTER DEDUCTING RENT.

2,370 *Families (all areas).*

Under 3/- per head.	3/- to 4/- per head.	4/- to 5/- per head.	5/- to 6/- per head.	6/- to 7/- per head.	Over 7/- per head.
104	383	390	287	240	966
4.4%	16.2%	16.5%	12.1%	10.1%	40.7%
487 or 20.6%					

It will be seen that in 20.6 per cent. of the families the income was under 4/- per head. Careful enquiries were made as to prices in the poorest areas and numerous family budgets obtained. These showed that young children were inevitably having defective diets. Finally a minimum diet sheet, barely sufficient in calories and the correct food constituents was prepared and priced at the lowest rates. Such a diet for a child under five must contain one pint of milk daily, and four eggs a week at least—preferably one daily. The diet sheet was prepared for a family of four persons with one child under five, and it was found that to obtain the correct calories and 5 per cent. of first class protein, at least 5/- per head was required. This made it obvious that many young children were not receiving a satisfactory diet.

After considering these returns, the Maternity and Child Welfare Committee decided not only to increase the number of dinners for toddlers, but to arrange for fresh milk to be given at the centres, twice daily, to necessitous children under five and over one year, showing signs of poor nutrition. No milk has been supplied in previous years below cost price.

The arrangements were as follows:—

From October, 1932, to March 31st, 1933, fresh milk, with slices of bread and butter, was supplied twice daily for five days a week, at 9 a.m. and 4 p.m., at 13 infant welfare centres in the poorest areas. In cases of illness, children were allowed to have the milk at home, instead of being brought to the centres.

During the Christmas holidays, when the centres were closed, the milk was delivered at the homes.

Whole-meal bread was substituted for white bread during the last two months and was as much liked by the children as the white bread.

The average attendance at each centre was 20 to 25 children per day.

Thanks to generous voluntary help, 14 other centres participated in the scheme on exactly the same lines.

During the six months a total of 1,057 children were given these "breakfast and tea" meals.

The more intelligent mothers were particularly grateful for this help and many spontaneous expressions of appreciation were received in the form of letters. In a number of cases the unemployed fathers brought the children up when the mother was unwell.

The general impression of the mothers was that the children slept better, were better tempered and were generally happier and more contented. This almost universal report was a surprise—the health visitors having expected a gain in weight only. The mothers themselves benefited in many cases from the daily walk, though there were cases where it was found a difficulty. There was a general expression of surprise at the way in which the children "took to" the milk, many having previously refused it.

The professional staff are unanimous as to the improvement effected in the children who attended regularly, both in weight and general well-being. The ease and rapidity with which the children responded to management, and the improvement obtained in manners and habits were remarkable.

The statistics of gains in weight have been affected by the widespread measles epidemic; such a high proportion of the children were victims of the epidemic that there was a good deal of disturbance in regular weighing. The following tables have been prepared, however, and show a general gain above the normal. This is definitely more marked in the poorer areas.

TABLE III.

MILK FEEDING CENTRES.

AVERAGE GAIN IN WEIGHT AT 19 CENTRES IN POORER AREAS.

		Attended for 12 weeks		Attended for 6 weeks			Attended for 4 weeks		
Age.	No.	Average Gain. lbs. ozs.	Standard Gain. lbs. ozs.	No.	Average Gain. lbs. ozs.	Standard Gain. lbs. ozs.	No.	Average Gain. lbs. ozs.	Standard Gain. lbs. ozs.
1 year	17	2 3	1 8	8	1 10	1 —	8	— 14	— 9
1—2 years	77	1 12	1 6	41	1 1¾	— 12	35	— 11½	— 8
2—3 years	76	1 9¼	1 2	47	— 15½	— 7	37	— 10	— 4
3—4 years	76	1 6½	1 —	29	1 2	— 7	29	— 10	— 4
4—5 years	47	1 6	1 8	32	— 12¼	— 12	26	— 11½	— 5

AVERAGE GAIN IN WEIGHT AT 9 CENTRES IN LESS POOR AREAS.

	Attended for 12 weeks.			Attended for 6 weeks.			Attended for 4 weeks.		
Age.	No.	Average Gain. lbs. ozs.	Standard Gain. lbs ozs	No.	Average Gain. lbs ozs	Standard Gain. lbs ozs	No.	Average Gain. lbs ozs	Standard Gain. lbs ozs
1 year	10	1 3⅓	1 8	—	— —	— —	4	— 11½	— 9
1—2 years	29	1 6	1 6	20	— 14	— 12	7	— 17	— 8
2—3 years	35	1 2¾	1 2	9	— 7	— 7	16	— 5½	— 4
3—4 years	31	1 ¼	1 —	10	— 13½	— 7	11	— 11	— 4
4—5 years	28	1 1½	1 8	11	— 8⅓	— 12	15	— 15	— 5

There can be little doubt that the help given has been of real value. The amount of rickets and scurvy among young children in the city had definitely increased during the spring months of 1932, as shown by cases reported from the Child Welfare Centres, Children's Hospital and Babies' Hospital. In 1933 no such increase has been remarked.

CARNEGIE INFANT WELFARE INSTITUTE.

The work of the Institute has continued on the usual lines, and the attendances have been very satisfactory.

The educational work remains an outstanding feature.

The Sewing, Cookery and Mothercraft Classes have continued as usual, and Health Talks were given to 4,435 mothers who attended the Infant Consultations, the Toddlers' Clinics and the Ante-natal Clinics.

The centre entered for the National Parentcraft Competition and came out sixth with a total of 463 marks out of a possible 500, obtaining Honours Certificates in five out of eight classes.

The Parents' League held six meetings during the winter, besides summer visits of observation and the Annual Outing. The sixth meeting took the form of a party and was held at Christmas.

Baby Week was held from June 20th to 24th. A Health Exhibition in the Waiting Hall had for its motive "Infant Mortality and its Prevention." At the foot of the Hall, connected by a floral arch, were two large canvases—on the left "What our Children Die from" showed a ruined temple, the broken columns of which were marked with the most common causes of death under five years (prematurity, pneumonia, infectious diseases and enteritis) the height of the columns being proportionate to the number of deaths. On the right was depicted the Temple of Health, its pillars being Sunlight, Right Feeding, Exercise and Rest, and Avoidance of Infection, with Ante-natal Care as a foundation. The stalls on each side of the Hall corresponded with the pillars.

There was also an exhibition of work done by the classes and a produce stall.

Two competitions were held during the week, an essay competition for school children and a Home Produce competition for parents.

A talk on "Empire Marketing" was given one afternoon, and there was an evening meeting when prizes for the competitions were given and films on Ante-natal Care and the Value of Cleanliness shown.

The X-ray clinic is doing valuable work, not only for the centres, but for the Babies' Hospital and the Carnegie Institute Ward.

The following radiographs were taken:—

Rickets	355
Chest Conditions	365
Pyloric Stenosis	16
Spinal Conditions	6
Stomach Conditions	1
Joint Conditions	28
Other Conditions	25
Total	796

The attendances at the Carnegie Institute are given below:—

	No. held.	Total attendances
General infant consultations	244	13,851
Medical inspections (18 months to 5 years)	50	740
Ante-natal clinics	96	1,056
X-ray clinics	49	796
Dental clinics (treatment)	294	6,083
Light clinics (treatment)	98	4,751
Remedial exercises (prescribing)	10	103
Remedial exercises (treatment)	59	833
Sewing classes	45	559
Cookery classes	43	530
Mothercraft classes	38	386
Health talks	324	4,970

THE OBSERVATION WARD.

During 1932, 145 cases were admitted to the Carnegie Ward and of that number 111 made good progress. The average length of stay was 26 days.

It has been necessary on occasion to admit a certain number of acute cases, chiefly of acute pneumonia or pyelitis. Consequently, the number of deaths (13) is higher than one would normally obtain from a ward used exclusively for observation and diagnosis.

There has been no epidemic of infectious disease in the Ward during 1932. One case only of whooping cough occurred and was sent home.

Many interesting and valuable investigations were made.

A test for tuberculosis continues to be done on practically all cases admitted to the Ward—the Von Pirquet re-action being replaced by the Mantoux intra-dermal test, as the latter seems to give more reliable results. Where a definitely positive result has been obtained combined with an irregular temperature and a suggestive radiograph, the resting gastric juice has been sent to the Laboratory for injection into a guinea pig. Twelve such tests have been carried out, but of that number, only two were positive—ten being negative.

Of the positive cases:—

(1) One was from a child of 16 months, whose mother had active pulmonary tuberculosis. The Mantoux and Von-Pirquet tests were positive and the child ran an irregular temperature. She also suffered from active rickets. X-ray of the chest suggests "early tuberculosis."

(2) One was from a child of 18 months admitted suffering from broncho-pneumonia. The Von-Pirquet test was positive and there was an irregular temperature. X-ray of the chest suggested "cavity formation in right lower lobe."

The positive cases were notified to the Anti-Tuberculosis Department.

The number of mothers and babies (six) admitted during 1932 for establishment of breast feeding is fewer than for 1931—the reason probably being that any difficult cases are first referred to the test-feeding clinic.

The arrangement made in 1931 of transferring chronic chest cases from the Carnegie Institute to the open air ward at Canwell Hospital is proving of great help in establishing the health of these children.

Bio-chemical investigations on the Ward cases continue to be done at the Children's Hospital and are invaluable in the diagnosis of certain conditions.

WALKER SHIELD COMPETITION.

It was decided to make this a triennial event and the Shield will be awarded in 1934.

HOME HELPS.

The Home Helps attended 577 homes in 1932, chiefly for maternity cases. There were 38 applications for their services under the extended scheme—i.e., any non-infectious illness of a mother whether she is nursed at home or in hospital, provided she has one or more children below five years of age.

Twenty-two Home Helps were supplied to the wives of Messrs. Cadbury's employees, arrangements being made on their behalf by the Workers' Secretary.

No application was made by any mother suffering from tuberculosis for a Home Help during her absence in a sanatorium.

The supervisory visits paid to these cases, and the reports received from Health Visitors and Midwives, as well as the appreciative letters sent from time to time by the parents, show that the Home Helps take an intelligent and enthusiastic interest in each of their cases, and that their work reaches a high standard of efficiency.

CITY BABIES' HOSPITAL.

Canwell Hall (84 beds).

The arrangements in the Hospital continue as in 1931. Further experience shows that the distance from the City offers no serious disadvantage for the type of case dealt with, except for the absence of an X-ray apparatus.

The demand for beds has been heavy, and there has always been a long waiting list.

Number of Admissions.		Number of Discharges—545.	
0—1 year	143	Cured	148
1—2 years	198	Improved	334
2—5 years	212	In status quo	63
Total	553		545

Number of deaths—12. Number remaining at end of year—80.

Average length of stay—53 days.

The cases were classified as follows:—

	0—1 yrs.	1—2 yrs.	2—5 yrs.
Debility, marasmus and prematurity	40	69	82
Rickets	14	52	25
Diseases of the digestive system	16	3	3
Acute and sub-acute diseases of the respiratory system	16	22	36
Chronic diseases of respiratory system	7	14	36
Naso-pharyngeal	4	4	11
Nervous conditions	4	5	8
Rheumatic Fever	—	—	5
Diseases of the Urinary System	7	8	8
Other Diseases	13	16	14
Hostel Cases (Babies under six months whose mothers were in hospital, etc.)	24	—	—
	145	193	228

There were two deaths over one year of age and ten deaths under one year of age. The causes of death were as follow:—

Broncho-pneumonia	4
Chronic gastro-enteritis	5
Syphilis	1
Atelectasis	1
Anaemia	1
	12

Occurrence of Infectious Disease.

	Admitted Incubating Disease.	Contact Cases.	Total.
Whooping Cough	4	5	9
Measles	4	25 children 2 nurses	31
German Measles	1	1 nurse	2
Chicken Pox	2	—	2
Diphtheria	3 (1 nasal, 2 carriers)	—	3
Dysentery (Flexner's)	2 (1 child, 1 nurse)	10	12

Sporadic cases of scarlet fever, mumps and erysipelas also occurred.

The amount of infectious disease was much greater in 1932 than in 1931. The majority of the cases were either of measles or of dysentery.

In the later months of the year there was an epidemic of measles in Birmingham, and several children were admitted incubating the disease. These spread the infection through the wards.

Contacts were inoculated when possible with 10 c.c's. of adult serum, and since Little Bromwich Hospital was unable after a time to take cases of uncomplicated measles, 12 of the contacts who had received serum too late to prevent infection and subsequently developed the disease were treated at Canwell Hall.

It was found that these post-serum cases ran a very mild course. In no case was there any deterioration of general health, the appetite was unimpaired and the weight did not fall. The rash was slight and lasted on an average for 59 hours. The average temperature recorded was 99.8°F. (limits 98.6°—102.2°) lasting one day before the rash appeared and 1.44 days after. There were no complications.

A small outbreak of Flexner's dysentery occurred in November and December. This was probably due to a nurse, who reported that she had had diarrhoea when further cases developed. Flexner's bacillus was found on culture and the blood gave positive agglutination re-actions. Three cases appeared afterwards in the admission wards. The staff were examined and three carriers were found, thus accounting for the further spread.

Cases Transferred to the Fever Hospital (Children).

Nine cases of whooping cough, seventeen cases of measles, one case of german measles, one case of mumps, two cases of chicken pox, three cases of diphtheria, one case of scarlet fever and one case of erysipelas were transferred to Little Bromwich Hospital.

Transferred to other Hospitals.

Three cases of otitis media, one case of spinal disease, one case of appendicitis, one case of severe stomatitis, one case of harelip and one case of mastoid abscess (superficial) were transferred to the Children's Hospital, one case of cleft palate was transferred to the Queen's Hospital, one case of empyema was transferred to the General Hospital, and one case of spinal disease and a case of tuberculosis of the lungs were transferred to Yardley Green Road Sanatorium.

Staff.

During the year there were among the staff :—

5 cases of jaundice	one transferred to General Hospital
2 cases of measles	transferred to Little Bromwich Hospital
1 case of german measles	transferred to Little Bromwich Hospital
1 case of mumps	transferred to Little Bromwich Hospital
1 case of Flexner's dysentery	transferred to Little Bromwich Hospital
3 carriers of Flexner's dysentery	
1 case of erysipelas	transferred to Selly Oak Hospital.

Massage and Remedial Exercises.

A masseuse was appointed in October to give remedial exercises and massage on three half days a week.

PYPE HAYES HALL CONVALESCENT HOME.

The Convalescent Home for Mothers and Babies continues to increase in usefulness, and the number of patients admitted during the past year has been even greater than in previous years.

Four hundred and forty mothers and 421 babies have been admitted. 13 of the infants were admitted without their mothers, whilst the latter were in hospital or confined to bed at home, usually with some puerperal complication.

One family of triplets (born in the City Maternity Home) and 21 mothers with twins were admitted. The triplets were all fine healthy babies.

Only a relatively small number (29) of ante-natal cases were admitted during the year, and the Home might well be used more widely for ante-natal patients, suffering from anaemia, debility, moderate heart disease, varicose veins, etc. Cases of pregnancy toxaemia are definitely unsuitable. The difficulty with the ante-natal mothers is to persuade them of the value of a period of rest, at a time when they do not consider themselves "convalescent," and do not wish to leave their families.

The majority of the post-natal cases suffer from general debilitating conditions, such as anaemia, malnutrition, convalescence from complications of labour or the puerperium, and so forth, but the routine medical examination, which each patient receives, reveals definite illness or disability in about one third of the cases. These receive simple treatment as far as is possible at the Home, and are subsequently referred to their private doctors or appropriate hospitals.

Considerably more than half the infants are breast-fed. Every effort is made to encourage the continuance of this, and to re-establish breast-feeding when it appears to be failing, by means of advice and instruction, and the addition of extra milk to the diet of the nursing mothers. Where the infant is artificially fed, the period at the Home is of value in establishing regularity and method in bottle-feeding, and in all cases the mothers have opportunities of benefiting from systematic and practical instruction in mothercraft.

THE LORDSWOOD NURSERY.

The Nursery has been full to its normal capacity of 44 children practically throughout the year, and with the exception of a few epidemic outbreaks in the spring, the health and progress of the children have been satisfactory.

One hundred and four children were admitted during the year, almost all from Public Assistance Institutions or the Municipal Hospitals, and 103 children were discharged. Of these latter, 38 were able to return home, 30 were transferred to other Public Assistance or charitable institutions, and 35 were sent to hospitals with various illnesses.

The hospital cases nearly all occurred in the early part of the year. In February and early March there was an epidemic of influenza affecting 24 of the children, and many of the more severe cases were transferred to hospital, including eight cases of pneumonia. In April there was a small outbreak of enteritis, for which several children were sent to hospital. In March and early April, 17 cases of german measles occurred, but this did not necessitate any removals.

Improvements have been effected in the building, and in the equipment of the Home during the last two years. The training of nursery nurses continues to be a successful feature of the work of the institution.

WAKE GREEN ROAD MATERNITY HOME.

During 1932 the Home has dealt with:—

512 maternity patients (booked cases)

255 ante-natal patients

131 premature infants and 46 mothers of premature infants.

The only alteration made in the arrangements reported last year is the removal of the shelters for women suffering from pulmonary tuberculosis. These cases are now dealt with at Selly Oak Hospital.

The results of the work in the Home have been extremely satisfactory. Attention is particularly called to the good results obtained in breech deliveries, the low forceps rate, the low pyrexia rate, and the almost complete absence of puerperal sepsis. The still-birth rate appears high owing to the inclusion of the toxaemia cases transferred from the ante natal ward, and for the same reason the number of infants artificially fed is somewhat high.

The first maternal death occurring in the maternity block since it was opened, after the safe delivery of 1,000 women, was in a patient suffering from a severe toxæmia and transferred from the ante-natal ward. It may be classed as "inevitable."

The results obtained in the premature baby ward continue to be very satisfactory.

Maternity Block.

No. of cases delivered during the year:—

Primipara	...	284
Multipara	...	225
Total		509

Presentations—522 infants.

Vertex	...	497
Breech	...	22
Face	...	3
Total		522

Breech Cases—22

Complications, if any.	No. of Cases.	Result to Child.
Macerated foetus	1	Stillborn
Extended legs	12	All good
One of twins	3	All good
Premature labour	4	All good
Delay of head	1	Stillborn
No complications	1	Good

Face Cases—3

All born alive, but one died later of prematurity.

Twins—11 *cases* *Triplets*—1 *case*

Complications of the Puerperium.

Maternal Morbidity.

1	*Puerperal Sepsis*		2	*Puerperal Pyrexia*	
	Mild sapraemia	1		Mastitis	4
	Septic vaginal laceration ...	1		Pyelitis	1
		2		Unknown	1
					6

=0.4 per cent. =1.2 per cent.

Maternal Mortality—1 *case.*

This was a case of severe toxaemia which failed to respond to treatment. Labour was induced and she had a normal delivery of twins. After the delivery the patient developed severe obstetric shock and died.

Babies Born in Maternity Block.

Alive	497
Dead	25
	522
Died after delivery	6
Discharged alive	491

Still-birth rate—5 per cent. of total births. Infant Mortality—1.2 per cent. of infants born.

Causes of Deaths.

Hæmorrhagic disease	1
Prematurity	4
Acute-anaemia	1
	6

Methods of Feeding on Discharge.

Breast-fed entirely	385
Breast-fed plus complement ...	67
Artificially fed	39
	491

Ante-natal Ward.

Cases admitted during 1932:—

Own cases booked for main block ...	190
Cases sent from outside sources ...	65
	255

The main causes for admission to the ante-natal ward were:--

Toxæmia of pregnancy	72
Ante-partum hæmorrhage	22
Heart disease	20
Pyelitis	17
For external version under anæsthetic ...	10
For drug induction	12
For observation	49

Deaths—2.

1 *Heart Case.*
Acute pulmonary œdema and heart failure at 38 weeks. Not in labour.
Post-mortem. Cæsarian section; infant failed to breathe.

2 *Toxaemia of Pregnancy.*
Acute pulmonary œdema at 36 weeks. Twin pregnancy. Not in labour.
Post-mortem. Cæsarian section. Cord still beating in one infant, but no attempts at respiration; other still-born.

Premature Infants' Ward.

No. of premature infants	116
No. of weakly infants	15
Total	131

No. of mothers admitted with their infants—46.

Feeble Infants.

Discharged well	12
Died	3
	15

Causes of Death:—

Pneumococcal peritonitis ...	1
Cranial injury	1
Hæmorrhagic disease ...	1
	3

Premature Infants.

Weight	No. Admitted.	No. Saved.	% saved in 1931.
Up to 2 lbs.	3	0= 0%	0%
2—3 lbs.	18	5= 28%	8%
3—4 lbs.	37	28= 72%	70%
4—5 lbs.	46	41= 89%	90%
Over 5 lbs.	12	12=100%	100%

After History of Premature Infants.

To get an idea of what happens to these infants after leaving hospital, an attempt has been made to follow up the first 90 premature infants admitted to the ward (oldest of these infants now being two years and the youngest six months).

No. of cases	90
Those not traced	12
No. investigated	78

Out of these 78 cases, 70 are alive—90 per cent.

And of these 70 living children, the following conditions were found:—

Normal (some are underweight) ...	63
Various congenital defects	5
Miniature child	1
Subject to slight fits	1
	70

SUPERVISION OF MIDWIVES.

During the year 1932, 209 midwives notified their intention to practise in the City. Of these, 17 resided outside the City, and therefore do not come under routine inspections. Of the remainder, 11 were temporarily employed and 11 were attached to various institutions.

It is interesting to note that no less than 73 of the midwives have received recognised general training, in addition to their midwifery certificate, and that only 13 of the so-called bonafide midwives remain on the Roll, the rest having obtained their Central Midwives Board Certificate.

During the year, 11 midwives gave up work owing to various reasons, such as old age, ill health, or from having sought work elsewhere.

There were 174 residing in the City and having private practices at the end of 1931, and 173 at the end of 1932.

The midwives attended 9,205 cases, that is 53 per cent. of the confinements of the City.

The midwives sent for medical help in 2,706 cases, for the mother in 2,023 instances and for the child in 683.

Reasons for sending for medical help :—

For Mother 2,023		For Child—683	
Delayed labour	592	Ophthalmia	379
Laceration of perineum	620	Prematurity	113
Hæmorrhage	186	Convulsions	13
Adherent placenta	71	Jaundice	15
Abnormal presentation	106	Deformity	49
Abortion or miscarriage	33	Skin eruptions	11
Rise of temperature	109	Other causes	103
Other causes	306		

Midwives were suspended temporarily on three occasions, the reasons for such suspension being as follow :—

(1) Septic finger ... 1

(2) Hæmolytic streptococci in the throat with repeated cases of puerperal pyrexia ... 2

Compensation was paid in the three cases.

There is no doubt a great improvement in the work of practising midwives, and only in one instance was it found necessary to report a midwife to the Central Midwives Board. In that case a caution was administered.

The following table shows the number of cases taken by individual midwives, and from this it will be seen that only about 19 per cent. of the practising midwives are making an independent living, and the rest require to supplement their earnings in other ways :

Midwives taking	under	50	cases	per annum	99
,, ,,	50-100	,,	,,	,,	46
,, ,,	100-150	,,	,,	,,	21
,, ,,	150-200	,,	,,	,,	6
,, ,,	over 200	,,	,,	,,	9

The midwives attended 9,205 cases (53 per cent. of the notified births), and in 2,294 cases they acted as maternity nurses (13 per cent. of the notified births) ; total, 66 per cent.

The following table is of interest :—

MIDWIVES' CASES—MEDICAL HELP CALLS.

	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.
Total cases attended	11,801	11,459	11,292	12,534	10,921	10,655	10,934	9,398	9,894	9,205
Total medical help calls	2,194	1,968	2,211	2,305	2,518	3,236	3,026	3,360	3,065	2,706
Percentage of calls	19	17	19	18	23	30	28	36	31	29
Reasons :—										
Delayed labour	566	507	580	575	628	902	806	913	758	592
Lacerated perineum	308	342	399	462	494	641	674	775	708	620
Haemorrhage	117	115	115	111	133	210	190	213	220	186
Adherent placenta	87	78	85	65	94	104	85	79	61	71
Abnormal presentation	115	77	97	103	83	91	102	131	114	106
Discharging eyes	220	198	210	287	313	374	380	461	427	379
Other causes	781	651	725	702	773	914	789	788	777	752

Attendance at Childbirth.

As far as can be ascertained, the births during the year were as follows :—

Births notified	16,838
Stillbirths notified	584
Failed to notify	375
	17,797

Attended by midwives :—

(a) As midwives	8,479
(b) As Nurses	1,973
At Dudley Road Hospital ...	1,443
,, Selly Oak Hospital	728
,, Wake Green Road Home ...	512
,, Maternity Hospital	1,618
,, Queen's Hospital	219
,, St. Chad's Hospital ...	64
,, Women's Hospital	35
,, General Hospital	12
,, Other Nursing Homes ...	759
	15,842

The balance of the cases (1,955 or 11 per cent. of the whole) were presumably attended by doctors, alone, with relations, or with handywomen.

The following visits were paid during the year by the Midwives Inspectors :—

Routine visits to midwives	532
Special visits to midwives	76
Visits to stillbirths	139
Visits to ophthalmia neonatorum cases	633
Visits to puerperal sepsis cases	200
Visits to nursing homes	182
Visits to handywomen	75
Other visits	136
Useless visits	236
The number of midwives interviewed was	385

NURSING HOMES.

Under the Nursing Homes Act three new applications were received and were accepted.

Three of the existing Homes were closed for the following reasons :—

1 Death of Keeper.
1 For health reasons.
1 Voluntary retirement.

There are now 45 homes in existence.

The Keepers of the Homes have carried out instructions in a satisfactory manner.

The number of maternity beds available is approximately 141.

PUERPERAL SEPSIS.

There were 82 cases of puerperal fever and 139 cases of puerperal pyrexia during the year, 17 being cases of persons residing outside the City but removed for confinement to Birmingham Institutions.

In 200 instances of Birmingham residents detailed information was obtained. 108 cases were removed to hospital for treatment as follows :—

Women's Hospital	69
Dudley Road Hospital	22
Selly Oak Hospital	9
General Hospital	1
Queen's Hospital	5
Other Hospitals	2
	108

In 132 cases where information was obtained the following associated conditions were found:

Induction	7
Version	4
Injury and internal lacerations	15
Torn Perineum	50
Manual removal of placenta	17
Retained products	23
Placenta prævia	4
Post partum hæmorrhage	13
Mastitis	14
Pyelitis	15
Eclampsia	3
Albuminuria	9
Gonococcal infection	1
Tuberculosis	1
Contact with infection	18
Intercurrent illness	21

The number of cases in primiparae was 90, in multiparae 92.
The parity was not known in 18 cases.

The attendant at delivery (excluding abortions) in 184 cases was as follows:—

Midwife	60	(3 with Medical Students)
Midwife and doctor	49	
Doctor and handywoman	11	
Maternity Hospital	27	
Dudley Road Hospital	10	
Selly Oak Hospital	5	
General Hospital	1	
Nursing Homes	13	
Born before arrival	7	
Confined in street	1	
	184	

The Period in Pregnancy was as follows:—

Premature	22
Full term	155
Post-mature	6
Unknown	1
Abortions	16
	200

The character of labour was as follows:—

Normal	136	(triplets—2 normal, 1 instrumental).
Instrumental	42	
Breech	2	
Cæsarian Section	4	
Hysterectomy	1	
Unknown	1	
	186	

Out of 200 cases of puerperal fever or pyrexia where information was obtained, 27 died, 5 following abortion.

Under the scheme arranged by the Maternity and Child Welfare Committee, a consultant was called in at home in 25 cases.

The ante-natal care in 184 cases was as follows:—

Doctor	35	
Doctor and Midwife	13	
Doctor and Hospital	1	
Midwife	16	
Midwife and Welfare Centre	11	55 or 30%
Doctor and Welfare Centre	6	
Welfare Centre and Hospital	4	
Welfare Centre	34	
Hospital	39	
Maternity Homes	9	
No ante-natal care	5	
Unknown	11	
	184	

The total percentage of pregnant women attending the ante-natal clinics is 51 per cent. so that proportionately fewer cases of pyrexia occur in those attending the ante-natal clinics.

Analysis of 13 cases in contact with infection:—

Midwife (contact with other cases)	11
Doctor ,, ,, ,, ...	2

The appended Table shows the case-rates and death-rates in the different Groups of Wards in the City during the year:—

	A.			B.		
	Cases of			Deaths from		
	Puerperal Fever per 1,000 births.	Puerperal Pyrexia per 1,000 births.	Total.	Puerperal Fever per 1,000 births.	Other Puerperal Causes per 1,000 births.	Total.
Central Wards	3.8	8.3	12.1	1.2	1.9	3.1
Middle Ring	5.9	7.2	13.1	2.1	2.3	4.4
Outer Ring	4.4	7.9	12.3	1.8	2.0	3.8
City	4.9	8.4	13.3	1.7	2.0	3.7

It is of interest to note the almost uniform distribution in Group A and a definite advantage in respect of the Central Wards in Group B.

MATERNAL MORTALITY IN CHILDBIRTH.

The deaths of women classed to pregnancy and child-bearing in Birmingham during 1932 numbered 62. The number of live births was 16,616, giving a maternal mortality rate per 1,000 births of 3.73.

The maternal mortality in previous years is shown in the table below:—

	Deaths from		Rate per 1,000 live Births (total).	
	Puerperal Fever.	Other Puerperal Causes.	Birmingham.	England and Wales.
1911	36	48	3.82	3.87
1912	27	45	3.25	3.98
1913	44	48	3.86	3.96
1914	33	41	3.19	4.17
1915	35	38	3.44	4.18
1916	31	40	3.44	4.12
1917	26	20	2.60	3.89
1918	29	22	3.03	3.79
1919	23	28	2.64	4.37
1920	51	39	3.59	4.33
1921	26	37	2.84	3.91
1922	25	35	3.02	3.81
1923	34	33	3.51	3.81
1924	37	35	3.91	3.90
1925	35	39	4.15	4.08
1926	41	33	4.13	4.12
1927	25	37	3.59	4.11
1928	32	34	3.83	4.42
1929	26	41	3.99	4.33
1930	27	32	3.39	4.40
1931	28	37	3.81	4.11
1932	28	34	3.73	4.24

The causes of deaths as given on the death certificates may be classified as follows:—

Puerperal sepsis (after confinement or abortion)	28
Puerperal haemorrhage	10
Albuminuria and convulsions	7
Accidents of pregnancy (abortion, ectopic gestation, etc.)	1
Embolism	5
Other causes	11

COMPARATIVE MATERNAL MORTALITY IN 11 LARGEST TOWNS.

	Deaths per 1,000 Births from Puerperal Sepsis.	Other Puerperal Causes.	Total.
London	1.33	1.66	2.99
Glasgow	3.61	4.26	7.87
Birmingham	1.68	2.05	3.73
Liverpool	0.84	1.85	2.69
Manchester	1.52	2.12	3.64
Sheffield	2.16	2.30	4.46
Leeds	1.14	1.86	3.00
Edinburgh	2.20	3.20	5.40
Bristol	0.66	1.98	2.64
Hull	1.10	3.10	4.20
Bradford	2.18	2.90	5.08

MATERNAL MORTALITY ENQUIRY.

At the request of the Ministry of Health a medical enquiry has been made in the case of every maternal death in childbirth during the year. This enquiry was purely medical and scientific, and the reports have been forwarded to the Ministry. The information obtained in these cases, relating mainly to social factors, has been tabulated below with brief comments.

It will be noted that the number of deaths from intercurrent disease is markedly fewer than last year (9 to 21), mainly due to fewer cases of pneumonia. On the other hand the number of deaths directly due to child-bearing has risen from 59 to 67, the most marked increase being in the deaths from puerperal sepsis.

TOTAL DEATHS OF WOMEN ASSOCIATED WITH PREGNANCY AND CHILDBIRTH.

1.	Deaths from intercurrent disease		9
2.	Deaths from child bearing		67
	(*a*) Deaths from abortion	9	
	(*b*) Deaths from puerperal sepsis	26	
	(*c*) Deaths from toxæmia	8	
	(*d*) Deaths from hæmorrhage	9	
	(*e*) Deaths from other causes	15	

A death not included in these figures was due to peritonitis and septicæmia following an attempt by the patient herself to procure an abortion. Post mortem examination showed that the woman was not pregnant.

GROUP 1. DEATHS FROM INTERCURRENT DISEASE. Total 9.

Parity. Primiparæ 2. Multiparæ 7. Illegitimate 0.

Ages. Under 20 years=0. 20-30 years=4. 30-40 years=5. Over 40 years=0.

Cause of death.

Pneumococcal Septicæmia—lobar pneumonia	1
Broncho pneumonia	2
Broncho pneumonia—status epilepticus	1
Influenzal pneumonia	1
Phthisis	2
Pernicious anæmia	1
Ulcerative colitis	1

Treated in hospital 7. Died in hospital 7.

Treated in Nursing Home 1.

Ante-natal Care. None 0. Some 4. Sufficient 5.

Home Conditions. Well-to-do 0. Good 4. Fair 3. Poor 2. Destitute 0.

Period of Pregnancy. Full term 1. 36-40 weeks 3. 32-36 weeks 0. 28-32 weeks 3. 24-28 weeks 2. Under 24 weeks 0.

Death was apparently inevitable in 8 cases.

More vigorous treatment and intelligent co-operation may have saved the patient's life in one case.

GROUP 2. DEATHS FROM CHILD-BEARING. Total 67.

(*a*) *Deaths from Abortion.* Total 9.

Parity. Primiparæ 2. Multiparæ 7. Illegitimate 1.

Ages. Under 20 years=0. 20-30 years=3. 30-40 years=5. Over 40 years=1.

Cause of death.

Septicæmia	5
Toxæmia and sapræmia	1
Heart failure during commencing abortion	2
Tubo-ovarian abscess and peritonitis	1

Natural Abortion	5
Interference	2
Probable interference	2

Home Conditions. Well-to-do 0. Comfortable 6. Poor 2. No information (illegimate) 1.

Period of Pregnancy. Under 12 weeks=5. 12-16 weeks=4.

(*b*) *Deaths from Puerperal Sepsis.* Total 26.

Method of delivery.

Normal	9	(Twins 1)
Normal with injury	4	
Normal—manual removal of placenta	2	(complicated by mitral disease 1).
Instrumental delivery without injury	0.	
Instrumental delivery with injury	7	(one patient under treatment for gonorrhoea).
Instrumental delivery with episiotomy	1	
Version	1	(forceps attempted and failed).
Cæsarian Section for threatened rupture of uterus ...	1	
Cæsarian Section for old Pott's Disease	1	

Contributory causes of death.

Defective nursing and asepsis	7
Poverty and poor resistance	4
Delay in treatment	3
Toxæmia predisposing to sepsis	1
Alcohol predisposing to sepsis	1
Failure of ante-natal care	1
Infection of cervix from previous trauma ...	1
Necrosing uterine fibroid	2
Influenza causing premature labour and predisposing to sepsis	1

(*c*) *Deaths from Toxæmia.* Total 8.

(1) Cases with convulsions. Total 7.

Type of case.

(*a*) Eclampsia	6

Period of occurrence.

Ante-partum	3
Intra-partum	2
Post-partum	1

(*b*) Uræmia ... ... 1 (post mortem showed chronic interstitial nephritis).

Period of occurrence.

Ante-partum 1

Method of delivery.

Normal	3 (Induction 1).
Forceps	2
Undelivered	2

The child was alive in 2 cases and macerated in 3 cases.

(2) Cases without convulsions. Total 1.

Type of case.

Acute oedema of lungs.

Patient was under treatment for toxæmia when she developed acute oedema of the lungs and died. Cæsarian Section was performed immediately after death and stillborn twins delivered.

(*d*) *Deaths from Hæmorrhage.* Total 9.

Cause of death.

(1) Ante-partum hæmorrhage 2.
(*a*) Accidental hæmorrhage 2.

(2) Post-partum hæmorrhage 6.
(*a*) Adherent placenta 3. (Severe shock in one case).

(3) Ante-partum and post-partum hæmorrhage 1.
(*a*) Central placenta praevia 1.

The child was born alive in four cases and stillborn in five cases.

There was delay or insufficiently energetic treatment in five cases, and insufficient ante-natal care in three cases.

Method of delivery.

Normal	4
Version	3
Instrumental	2 (persistent occipito posterior position 1. Prolonged labour 1).

(*e*) *Deaths from other causes.* Total 15.

Ruptured ectopic gestation	1
Ruptured uterus, obstructed labour, hydrocephalus	1
Inversion of uterus—adherent placenta	1
Cardiac disease	5

(*a*) Mitral and aortic stenosis—Cæsarian Section.
(*b*) Mitral stenosis, auricular fibrillation.
(*c*) Auricular fibrillation—Cæsarian Section.
(*d*) Myocarditis—Cæsarian Section for central placenta praevia.
(*e*) Acute pulmonary oedema, mitral regurgitation.

Shock	2

(*a*) Adherent placenta—toxæmia and rheumatic heart disease.
(*b*) Post operative shock—evacuation of uterus for hyperemesis gravidarum.

Pulmonary embolus	1
Cerebral embolus	1
Paralytic ileus following Cæsarian Hysterectomy (old disseminated sclerosis and mitral disease)	1
Mania	1
Septicæmia, empyema and lung abscess from mastitis occurring four weeks after delivery	1

The investigators were not in agreement with the causes of death as given in 3 cases.

(1)	Obstetric shock—air embolus ...	Death appeared to be due to hæmorrhage.
(2)	Broncho pneumonia	Death appeared to be due to septicæmia.
(3)	Acute nephritis, anæmia	Death appeared to be due to septicæmia.

In conclusion, after a scrutiny of the forms, the following may be noted.

Cases in which there was some definite lack of sufficient medical supervision or failure on the part of the midwife to carry out her rules, or failure on the part of the patient to follow advice ...	29
Cases where home conditions were greatly contributing causes	5
Cases in which induced abortion was undoubtedly the cause of death	2
Cases in which death was apparently unavoidable	13
Cases in which no definite contributing cause could be found	18

MATERNAL DEATHS.

(b) Deaths from Puerperal Sepsis 26
(c) Deaths from Toxaemia 8
(d) Deaths from Haemorrhage 9

	Puerperal Sepsis. (b)	Toxaemia		Haemorrhage. (d)	Total.
		Eclampsia with Convulsions. (c1)	No Convulsions. (c2)		
TOTAL	26	7	1	9	43
AGE GROUPS.					
Under 20 years	—	—	—	—	—
20—30 ,,	11	4	1	2	18
30—40 ,,	10	3	—	7	20
Over 40 ,,	5	—	—	—	5
PARITY.					
Primipara	13	5	—	5	23
Multipara	13	2	1	4	20
HOME CONDITIONS.					
Well-to-do	2	—	—	1	3
Good	7	6	1	3	17
Fair	11	1	—	3	15
Poor	6	—	—	1	7
Destitute	—	—	—	—	—
Illegitimate	—	—	—	1	1
PERIOD IN PREGNANCY.					
Full Term	21	2	—	5	28
Premature	5	5	1	4	15
ANTE-NATAL CARE.					
None	—	—	—	1	1
Some	10	5	—	5	20
Sufficient	16	2	1	3	22
ATTENDANCE AT DELIVERY					
Dr. and Handywoman	1	—	—	—	1
Midwife	5	1	—	3	9
Midwife and Dr. booked	6	—	—	3	9
Midwife and Dr. called	3	—	—	—	3
Hospital or Nursing Home	10	4	—	3	17
No attendance	1	—	—	—	1
Doctor alone	—	—	—	—	—
Undelivered	—	2	1	—	3
TREATED IN HOSPITAL	24	7	1	4	36

Table I. Vital Statistics during 1932 and Previous Years.

Year.	Population Estimated to middle of each year.	Birth-rate	Death-rate	Infant Mortality rate per 1,000 Births	Death-rates per 1,000 of Population from:—																Death-rates per 1,000 Births.			
					Enteric Fever	Smallpox	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Influenza	Tuberculosis: Respiratory	Tuberculosis: Other Forms	Cancer	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System.	Diseases of Genito-Urinary System	Suicides	Other Violence	Congenital Debility Premature Birth, Malformations, etc. (under 1)	Diarrhoea and Enteritis (under 2)	Puerperal Fever	Other Accidents of Child Birth.
1901	760,989	31.4	17.5	176	.18	—	.49	.23	.39	.16	.16	1.47	.52	.73	?	?	3.50	?	?	.11	.42	?	?	1.47	2.52
1902	768,757	31.2	16.3	144	.17	.01	.31	.43	.47	.24	.12	1.38	.37	.68	?	?	3.24	?	?	.08	.43	?	?	1.24	2.19
1903	776,604	30.9	15.8	147	.10	.02	.32	.25	.16	.23	.10	1.28	.48	.76	?	?	2.93	?	?	.11	.45	?	?	1.17	2.63
1904	784,532	31.0	17.7	179	.08	—	.31	.11	.75	.21	.13	1.30	.45	.74	?	?	3.36	?	?	.09	.49	?	?	1.40	1.98
1905	792,540	29.0	15.1	141	.06	.00	.38	.08	.26	.17	.14	1.26	.41	.81	?	?	2.92	?	?	.10	.44	?	?	1.31	2.22
	Average	**30.7**	**16.5**	**157**	**.12**	**.01**	**.36**	**.22**	**.41**	**.20**	**.13**	**1.34**	**.45**	**.74**	?	?	**3.19**	?	?	**.10**	**.45**	?	?	**1.32**	**2.31**
1906	800,631	29.4	15.9	157	.07	—	.34	.09	.44	.17	.15	1.14	.37	.83	?	?	2.80	?	?	.10	.44	?	?	1.11	2.98
1907	808,803	28.8	15.3	133	.09	—	.51	.15	.30	.20	.16	1.11	.43	.80	?	?	3.07	?	?	.09	.47	?	?	1.51	1.85
1908	817,060	29.1	15.3	130	.07	—	.08	.15	.49	.20	.31	1.24	.35	.85	?	?	2.82	?	?	.10	.44	?	?	0.50	2.29
1909	825,400	27.4	15.1	121	.04	—	.82	.18	.23	.20	.18	1.22	.30	.82	?	?	2.95	?	?	.10	.41	?	?	1.02	1.55
1910	833,826	26.8	13.2	115	.04	—	.05	.14	.34	.13	.11	1.08	.32	.89	?	?	2.48	?	?	.11	.45	?	?	1.48	2.11
	Average	**28.3**	**15.0**	**131**	**.06**	—	**.36**	**.14**	**.36**	**.18**	**.18**	**1.16**	**.35**	**.84**	?	?	**2.82**	?	?	**.10**	**.44**	?	?	**1.12**	**2.16**
1911	842,337	26.1	15.0	150	.04	.00	.47	.10	.17	.13	.09	1.14	.32	.89	?	?	2.51	?	?	.12	.41	?	?	1.64	2.18
1912	850,947	26.1	14.1	111	.04	—	.67	.18	.39	.12	.12	1.28	.24	.93	1.36	1.33	2.68	.95	.50	.07	.45	48.4	10.8	1.22	2.03
1913	859,644	27.3	14.9	129	.02	—	.46	.20	.19	.19	.13	1.19	.34	1.02	1.37	1.53	2.48	1.68	.56	.11	.45	48.2	35.5	1.85	2.01
1914	882,534	26.4	14.8	122	.02	—	.35	.17	.35	.30	.16	1.20	.27	.88	1.35	1.74	2.69	1.49	.51	.09	.43	47.2	27.6	1.42	1.77
1915	891,234	23.8	14.4	118	.01	—	.47	.07	.14	.15	.16	1.28	.27	1.00	1.36	1.82	2.82	1.31	.48	.05	.45	42.8	27.3	1.65	1.79
	Average	**25.9**	**14.6**	**126**	**.03**	**.00**	**.48**	**.14**	**.25**	**.18**	**.13**	**1.22**	**.29**	**.94**	**1.36**	**1.60**	**2.64**	**1.36**	**.51**	**.09**	**.44**	**46.6**	**25.3**	**1.56**	**1.96**
1916	895,678	23.1	13.5	104	.01	—	.11	.03	.42	.13	.16	1.24	.24	1.00	1.29	1.88	2.60	1.07	.45	.05	.40	39.5	18.4	1.50	1.94
1917	900,000	19.7	12.6	101	.01	—	.37	.01	.14	.13	.11	1.30	.26	1.02	1.23	1.87	2.10	.88	.44	.06	.38	43.8	15.0	1.47	1.13
1918	870,000	19.4	15.2	99	.01	—	.08	.01	.32	.18	2.50	1.35	.25	1.02	1.18	1.76	2.85	.96	.40	.07	.35	38.7	18.5	1.72	1.31
1919	910,000	20.9	13.0	84	.01	—	.20	.05	.06	.14	1.15	1.10	.18	1.01	1.07	1.73	2.67	.66	.35	.11	.34	40.0	9.9	1.19	1.45
1920	910,000	27.6	12.6	83	—	—	.16	.12	.20	.22	.46	.93	.17	1.12	1.06	1.72	2.46	.82	.32	.11	.34	35.2	9.5	2.03	1.56
	Average	**22.1**	**13.4**	**94**	**.01**	—	**.18**	**.04**	**.23**	**.16**	**.88**	**1.18**	**.22**	**1.03**	**1.17**	**1.79**	**2.54**	**.88**	**.39**	**.08**	**.36**	**39.4**	**14.3**	**1.58**	**1.48**
1921	919,683	24.1	11.3	83	.01	—	.17	.04	.10	.13	.15	.97	.16	1.12	0.98	1.64	2.02	.93	.38	.10	.26	36.6	16.6	1.17	1.67
1922	927,844	21.5	12.1	86	.00	—	.09	.04	.38	.10	.48	.97	.16	1.18	1.04	1.85	2.38	.66	.37	.12	.26	37.4	8.5	1.26	1.76
1923	936,079	20.4	11.0	72	.00	—	.20	.04	.05	.15	.28	.92	.16	1.17	1.00	1.71	1.98	.70	.39	.14	.35	31.3	10.9	1.78	1.73
1924	944,386	19.2	11.6	83	.01	—	.08	.02	.19	.10	.39	.97	.13	1.30	1.00	1.91	2.15	.70	.37	.10	.31	37.2	9.2	2.01	1.90
1925	952,766	18.8	11.7	78	.00	—	.11	.02	.23	.10	.39	.98	.16	1.27	0.98	2.12	1.97	.73	.37	.11	.33	34.0	11.3	1.96	2.19
	Average	**20.8**	**11.5**	**80**	**.00**	**.00**	**.13**	**.03**	**.19**	**.12**	**.34**	**.96**	**.15**	**1.21**	**1.00**	**1.85**	**2.10**	**.74**	**.38**	**.11**	**.30**	**35.3**	**11.3**	**1.64**	**1.85**
1926	961,222	18.7	11.3	73	.00	—	.08	.01	.13	.12	.27	.94	.12	1.26	1.07	2.12	1.88	.73	.40	.12	.32	32.2	11.2	2.29	1.84
1927	969,752	17.8	11.6	75	.00	—	.13	.01	.07	.06	.41	.89	.17	1.36	0.95	2.28	1.89	.70	.41	.15	.36	35.1	11.5	1.45	2.14
1928	976,500	17.6	10.9	65	.00	.00	.04	.01	.17	.07	.13	.86	.13	1.35	0.94	2.41	1.56	.67	.48	.16	.40	31.6	9.3	1.86	1.97
1929	981,000	17.1	13.5	79	.00	—	.20	.01	.13	.09	1.09	.94	.15	1.34	0.98	2.76	2.26	.76	.53	.16	.42	35.4	13.9	1.55	2.44
1930	982,000	17.7	10.8	60	.01	—	.06	.02	.11	.09	.13	.90	.13	1.43	0.88	2.57	1.32	.60	.44	.15	.40	30.6	7.6	1.55	1.84
	Average	**17.8**	**11.6**	**70**	**.00**	**.00**	**.10**	**.01**	**.12**	**.09**	**.41**	**.91**	**.14**	**1.35**	**0.96**	**2.43**	**1.78**	**.69**	**.45**	**.15**	**.38**	**33.0**	**10.7**	**1.74**	**2.05**
1931	1,011,300	16.9	11.7	71	.00	—	.18	.01	.09	.06	.27	.92	.14	1.46	0.77*	2.90	1.61	.62	.45	.15	.38	34.6	8.7	1.64	2.17
1932	1,017,500	16.3	11.3	67	.00	—	.05	.01	.13	.03	.36	.83	.10	1.45	0.87*	2.73	1.47	.59	.45	.19	.35	33.6	7.7	1.69	2.05

* Exclusive of General Paralysis.

TABLE II.

CAUSES OF DEATH AT DIFFERENT AGE PERIODS IN 1932.

No.	Causes of Death.	Sex	Ages at Death.									All Ages.
			0–	1–	2–	5–	15–	25–	45–	65–	75–	
1.	Typhoid and Para-typhoid Fevers ...	M.	—	—	—	—	—	1	—	—	—	1
		F.	—	—	—	1	—	—	—	—	—	1
1a.	Small Pox	M.	—	—	—	—	—	—	—	—	—	—
		F.	—	—	—	—	—	—	—	—	—	—
2.	Measles	M.	4	16	5	1	—	—	—	—	—	26
		F.	5	9	10	2	—	—	—	—	—	26
3.	Scarlet Fever ...	M.	1	1	2	2	1	1	—	—	—	8
		F.	—	1	—	2	1	—	—	—	—	4
4.	Whooping Cough ...	M.	28	16	9	3	—	—	—	—	—	56
		F.	32	25	14	4	—	—	—	—	—	75
5.	Diphtheria	M.	2	2	3	5	1	—	1	—	—	14
		F.	—	2	6	12	—	1	—	—	—	21
6.	Influenza	M.	3	2	2	2	5	22	71	35	21	163
		F.	8	3	2	2	10	34	64	32	52	207
6a.	Poliomyelitis	M.	—	—	—	2	1	1	1	—	1	6
		F.	—	—	1	—	—	1	—	—	—	2
7.	Encephalitis Lethargica	M.	—	—	—	1	2	6	3	—	—	12
		F.	—	—	—	1	2	2	8	—	—	13
8.	Cerebro-Spinal Fever	M.	4	—	—	—	1	—	1	—	—	6
		F.	8	3	—	1	1	1	1	—	—	15
9.	Tuberculosis of Respir. System	M.	2	5	3	7	78	190	189	13	2	489
		F.	1	2	3	9	94	160	81	9	1	360
10.	Other Tuberculous Dis.	M.	4	7	6	13	4	9	5	2	1	51
		F.	1	8	9	9	11	8	4	3	1	54
11.	Syphilis	M.	2	—	—	—	1	5	27	3	2	40
		F.	3	1	—	—	—	7	11	2	—	24
12.	Gen. Paralysis of Insane	M.	—	—	—	—	—	11	10	2	—	23
	Tabes Dorsalis ...	F.	—	—	—	—	—	1	3	—	—	4
13a.	Cancer of Buccal Cavity and Pharynx	M.	—	—	—	—	—	—	34	32	6	72
		F.	—	—	—	—	—	1	5	2	1	9
13b	Œsop., Stomach, Liver, Pancreas	M.	—	—	—	—	—	13	115	76	25	229
		F.	—	—	—	—	1	13	81	74	29	198
13c.	Peritoneum and Intestines ...	M.	—	—	—	—	—	12	90	75	19	196
		F.	—	—	—	—	1	13	57	68	32	171
13d.	Female Organs ...	M.	—	—	—	—	—	—	—	—	—	—
		F.	—	—	—	—	2	16	75	40	12	145
13e.	Breast	M.	—	—	—	—	—	—	—	—	—	—
		F.	—	—	—	—	—	13	79	40	31	163
13f.	Skin	M.	—	—	—	—	—	1	3	2	—	6
		F.	—	1	—	—	—	—	3	2	4	10
13g.	Other Organs ...	M.	1	—	—	1	4	16	112	50	13	197
		F.	—	—	1	—	—	11	45	13	9	79
14.	Diabetes	M.	—	1	—	2	2	—	8	17	4	34
		F.	—	—	—	1	1	10	24	27	9	72
14a.	Rheumatic Fever ...	M.	—	—	2	14	12	6	2	2	2	40
		F.	—	—	3	10	11	6	9	—	—	39
14b.	Chronic Rheumatism Osteo-Arthritis ...	M.	—	—	—	—	—	1	10	12	8	31
		F.	—	—	—	—	—	2	21	20	18	61
15.	Cerebral Haemorrhage, etc.	M.	—	1	—	1	—	7	72	90	65	236
		F.	—	1	1	—	1	3	79	106	116	307

TABLE II.—*continued.*

CAUSES OF DEATH AT DIFFERENT AGE PERIODS IN 1932.

No.	Causes of Death.	Sex.	AGES AT DEATH.									All Ages
			0–	1–	2–	5–	15–	25–	45–	65–	75–	
15a.	Other Nervous Diseases and Sense Organs ...	M.	25	—	3	22	16	25	44	33	18	186
		F.	15	6	6	15	12	23	34	24	21	156
16.	Heart Disease ...	M.	—	1	—	4	7	53	319	381	334	1099
		F.	1	—	1	5	12	57	249	342	519	1186
17.	Aneurysm	M.	—	—	—	—	1	8	13	2	—	24
		F.	—	—	—	—	1	1	10	2	1	15
18.	Arterio-Sclerosis and other Circ. Diseases	M.	—	—	—	—	—	2	59	89	73	223
		F.	1	—	—	—	—	—	53	78	95	227
19.	Bronchitis	M.	11	1	1	—	2	10	28	39	74	166
		F.	8	2	1	1	—	5	32	63	129	241
20.	Pneumonia (all forms)	M.	134	41	9	7	27	100	159	67	50	594
		F.	61	27	11	11	13	38	76	61	47	345
21.	Other Respir. Diseases	M.	2	1	—	—	2	16	34	12	10	77
		F.	1	3	1	2	2	14	22	15	13	73
22.	Peptic Ulcer	M.	—	—	—	—	5	20	47	16	4	92
		F.	1	—	—	—	1	2	26	7	6	43
23.	Diarrhoea and Enteritis	M.	77	3	2	—	—	3	4	—	2	91
		F.	45	3	3	2	1	5	3	2	4	68
24.	Appendicitis	M.	—	—	3	2	3	6	14	5	3	36
		F.	—	—	1	5	3	6	12	5	3	35
25.	Cirrhosis of Liver ...	M.	—	—	—	—	—	1	13	5	—	19
		F.	—	1	—	—	—	2	6	4	1	14
26.	Other Dis. of Liver, etc.	M.	—	—	—	—	1	1	4	7	1	14
		F.	—	—	1	1	—	3	10	8	10	33
27.	Other Digestive Diseases	M.	7	1	2	1	—	9	24	20	15	79
		F.	5	1	3	7	2	4	26	19	10	77
28.	Acute and Chronic Nephritis	M.	—	1	2	3	3	23	63	42	29	166
		F.	1	1	—	1	8	3	56	38	19	127
28a.	Other Genito-Urinary Diseases	M.	4	—	—	—	1	4	31	35	46	121
		F.	1	1	—	1	2	13	13	8	1	40
29.	Puerperal Sepsis ...	M.	—	—	—	—	—	—	—	—	—	—
		F.	—	—	—	—	2	25	1	—	—	28
30.	Other Puerperal Causes	M.	—	—	—	—	—	—	—	—	—	—
		F.	—	—	—	—	6	27	1	—	—	34
31.	Congenital Debility, Premature Birth, Malformations, etc.	M.	335	1	—	8	—	—	1	—	—	345
		F.	223	4	1	—	—	1	—	—	—	229
32.	Senility	M.	—	—	—	—	—	—	—	26	85	111
		F.	—	—	—	—	—	—	1	31	171	203
33.	Suicide	M.	—	—	—	—	—	23	56	20	8	107
		F.	—	—	—	—	4	26	40	9	5	84
34.	Other Violence ...	M.	11	6	13	30	37	36	51	29	23	236
		F.	13	2	5	13	7	6	19	23	37	125
35.	Other Causes	M.	14	4	6	11	10	29	48	17	12	151
		F.	15	5	5	12	11	41	52	34	17	192
	All Causes	M.	671	111	73	142	227	671	1766	1256	956	5873
		F.	449	112	89	130	223	605	1392	1211	1424	5635

TABLE III. *Births and Deaths Registered in, or belonging to, each Ward during the Year ending December 31st, 1932*

Causes of Death.	Sex.	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	Perry Barr	Rotton Park	St. Bartholomew's	St. Martin's & Deritend	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	Total of City
All Causes	M.	278	217	269	235	298	198	184	121	142	115	100	149	193	114	211	88	94	232	264	286	243	176	198	111	155	180	157	195	215	220	142	93	5,873
	F.	259	217	204	221	259	219	183	143	159	116	135	168	194	78	215	87	95	195	215	259	222	191	156	118	142	184	175	192	228	215	150	41	5,635
Typhoid and Paratyphoid Fevers	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Small Pox	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	M.	1	1	3	—	3	—	—	—	1	—	—	1	—	1	—	—	1	—	—	3	5	3	—	—	—	—	—	1	—	—	1	1	26
	F.	—	1	1	—	4	—	1	1	—	1	—	2	2	—	—	—	—	1	1	4	3	3	—	—	—	—	1	—	—	—	—	—	26
Scarlet Fever	M.	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	1	—	—	1	—	—	1	—	—	—	—	—	—	3	—	—	—	—	8
	F.	1	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Whooping Cough	M.	4	1	4	—	7	—	2	2	—	—	—	1	2	—	2	3	2	2	2	2	4	6	—	2	2	—	1	—	—	4	1	—	56
	F.	2	5	1	—	11	—	4	1	—	—	2	2	2	3	1	1	4	2	1	6	9	7	2	—	—	2	2	—	1	3	1	—	75
Diphtheria	M.	—	1	1	—	2	—	—	—	—	1	—	—	1	—	—	1	—	—	—	1	—	2	1	—	—	1	—	1	—	—	1	—	14
	F.	—	2	—	—	4	1	1	—	1	—	1	1	1	—	—	—	—	—	1	2	—	—	—	—	—	—	1	2	—	1	2	—	21
Influenza	M.	10	8	7	4	11	3	3	4	12	3	2	3	4	2	5	—	2	5	5	5	3	2	7	5	4	7	4	7	11	7	7	1	163
	F.	4	6	7	12	11	15	3	8	12	4	4	4	9	1	6	—	2	8	11	13	5	3	5	7	6	8	5	9	8	6	4	1	207
Poliomyelitis	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	1	2	—	—	—	—	—	1	—	6
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	2
Encephalitis Lethargica	M.	—	—	1	—	—	3	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2	1	2	—	—	1	—	—	—	—	—	—	12
	F.	—	1	—	1	2	1	—	—	—	—	—	—	—	—	—	2	—	—	—	2	—	—	—	—	—	—	—	1	2	1	—	—	13
Cerebro-Spinal Fever	M.	—	1	1	—	—	—	1	—	—	—	—	1	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	6
	F.	—	1	—	—	—	—	1	—	1	—	—	—	—	—	1	1	1	—	1	1	1	—	1	—	—	—	—	3	2	—	—	—	15
Tuberculosis of Respiratory System	M.	13	25	29	20	26	10	14	11	9	6	5	14	13	12	9	8	11	21	25	27	24	18	23	6	18	12	12	21	11	18	15	3	489
	F.	17	17	20	10	17	8	14	9	7	—	5	14	13	8	10	8	7	8	17	11	25	17	10	7	9	12	7	8	20	15	10	—	360
Other Tuberculous Diseases	M.	2	2	3	1	4	—	1	—	1	2	—	4	4	—	1	2	1	2	3	3	1	—	4	—	1	1	1	2	—	3	2	—	51
	F.	2	5	2	1	2	2	4	1	—	1	—	1	2	1	3	3	—	1	2	1	2	3	3	2	—	2	2	—	3	1	2	—	54
Syphilis	M.	2	4	—	2	3	—	—	3	1	1	2	—	—	1	—	—	—	2	4	3	1	2	1	—	—	4	1	1	1	1	—	—	40
	F.	1	1	1	1	1	—	—	—	—	1	2	—	—	1	—	—	—	1	3	2	—	2	—	—	2	1	1	1	—	1	1	—	24
Gen. Paralysis of Insane, Tabes Dorsalis	M.	—	2	1	—	1	—	—	—	1	—	1	—	1	1	1	1	1	—	—	1	—	3	—	1	—	1	3	1	—	1	—	1	23
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	1	—	—	4

TABLE III. (*Continued*).

Causes of Death.	Sex.	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	Perry Barr	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	Total of City
Cancer of																																		
Buccal Cavity and	M.	2	2	5	3	5	1	1	2	3	1	—	2	2	1	2	—	—	5	4	5	3	1	1	1	4	2	1	4	1	1	4	3	72
Pharynx	F.	—	1	—	1	—	—	—	—	1	—	—	—	—	1	1	—	—	2	1	—	—	—	1	—	—	—	—	—	—	—	—	—	9
Œsop., Stomach, Liver,	M.	7	3	14	13	9	7	4	10	4	5	5	5	5	4	16	4	1	14	10	13	5	6	12	2	7	5	5	9	8	8	7	2	229
Pancreas	F.	8	9	1	10	8	5	5	7	5	7	6	9	9	4	10	3	1	6	5	5	4	8	5	3	6	13	5	8	9	8	5	1	198
Peritoneum & Intest.	M.	12	6	6	8	8	7	8	4	5	7	4	7	11	2	11	2	1	8	8	6	3	6	8	7	3	5	5	6	11	5	3	3	196
	F.	7	11	8	7	12	5	9	5	6	7	3	3	6	—	8	—	1	2	6	5	9	5	4	5	5	5	3	5	7	9	3	—	171
Female Organs ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	5	1	5	5	3	7	7	9	2	4	2	4	7	—	10	1	1	6	8	2	6	5	7	4	2	6	3	3	5	9	6	—	145
Breast	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	8	9	4	3	2	7	9	8	3	3	8	6	10	2	8	5	1	6	3	6	3	7	3	5	1	4	5	4	12	4	3	1	163
Skin	M.	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	1	—	1	—	—	—	—	—	—	6
	F.	2	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	1	1	—	—	—	1	—	—	10
Other Organs	M.	13	4	4	7	9	13	3	2	2	6	4	6	4	2	6	3	1	11	7	13	7	5	9	4	4	4	9	11	8	7	7	2	197
	F.	4	1	2	3	4	5	5	2	—	1	1	4	1	—	3	1	2	2	4	2	1	2	3	2	5	4	2	2	4	4	2	1	79
Diabetes	M.	4	2	—	1	1	3	—	—	1	—	—	1	2	2	4	—	1	—	1	1	—	—	1	—	1	2	1	1	1	3	—	—	34
	F.	2	2	3	6	2	4	2	1	2	—	1	5	2	1	1	2	2	4	3	3	3	1	—	2	2	3	2	2	3	2	4	—	72
Rheumatic Fever ...	M.	—	1	3	1	2	1	1	2	1	5	—	—	2	—	1	1	—	—	5	5	2	—	1	—	1	2	—	—	—	1	2	—	40
	F.	1	1	3	—	2	3	—	—	—	—	4	—	—	—	2	1	1	2	2	2	2	—	—	—	1	3	2	1	2	3	1	—	39
Chronic Rheumatism	M.	—	2	—	2	2	3	2	—	—	—	—	—	3	—	3	—	—	1	1	—	2	—	—	2	—	1	2	4	—	1	—	—	31
Osteo-Arthritis... ...	F.	3	2	—	3	2	1	2	1	2	3	2	1	1	1	3	1	—	3	—	2	2	2	1	3	1	1	—	6	4	3	2	3	61
Cerebral Haemorrhage, etc	M.	13	12	8	10	5	8	4	2	7	4	2	5	11	4	8	4	5	13	7	11	9	6	12	4	6	10	5	6	11	14	5	5	236
	F.	19	10	10	12	10	11	5	5	11	5	6	13	12	1	20	3	4	16	10	16	11	11	5	7	7	12	12	10	10	16	6	1	307
Other Nervous Diseases	M.	11	6	4	14	13	3	5	—	2	4	2	3	2	8	7	3	1	11	11	8	7	6	9	1	2	6	3	7	7	11	5	4	186
and Sense Organs ...	F.	11	1	7	5	7	1	3	5	6	6	5	3	3	6	8	2	4	7	10	3	3	4	2	1	5	7	8	7	5	5	4	2	156
Heart Disease	M.	37	44	48	59	45	46	48	30	30	16	11	31	39	26	43	10	8	37	50	57	42	29	38	19	36	34	24	36	35	38	20	33	1099
	F.	40	53	62	46	50	59	51	29	34	28	20	31	38	17	40	15	15	51	42	48	41	41	32	24	35	43	36	38	45	41	31	10	1186
Aneurysm	M.	3	1	—	2	1	1	1	1	—	2	—	2	1	—	1	—	—	1	—	1	3	—	—	—	1	—	—	1	1	—	—	—	24
	F.	—	—	1	—	—	1	—	—	2	1	—	1	—	1	1	—	—	—	—	1	—	1	—	2	1	1	—	—	—	1	—	—	15
Arterio-Sclerosis and	M.	10	6	7	9	8	8	9	2	9	5	7	2	7	1	10	3	3	7	14	7	8	6	5	9	7	8	13	5	12	6	8	2	223
other Circ. Diseases ...	F.	13	7	8	9	13	5	4	6	11	4	7	6	8	2	7	6	3	6	7	12	5	7	6	7	8	9	13	5	13	2	6	2	227
Bronchitis...	M.	7	6	10	4	6	10	7	—	7	2	9	6	8	2	6	2	1	6	3	3	9	5	5	6	4	6	10	6	4	6	—	—	166
	F.	10	10	5	12	8	9	7	8	5	1	7	12	8	6	9	1	1	9	6	11	14	10	6	4	7	6	5	13	7	13	5	6	241
Pneumonia (all forms) ...	M.	25	17	41	20	48	11	14	8	11	9	8	11	15	15	22	7	21	18	36	34	36	23	15	7	12	17	9	16	19	29	15	5	594
	F.	13	18	9	15	20	11	7	3	10	4	6	11	12	8	13	6	8	3	16	22	25	15	12	5	6	7	15	11	11	11	12	—	345
Other Respir. Diseases ...	M.	6	1	4	—	6	2	2	2	—	1	2	1	2	2	3	3	—	2	2	6	—	4	4	3	2	2	3	3	3	3	3	—	77
	F.	8	1	7	4	2	2	1	1	3	3	4	1	1	2	2	1	2	1	—	4	3	—	3	1	3	2		3	2	3	3	—	73

TABLE III. *Continued.*

Causes of Death.	Sex.	Acock's Green.	All Saints'	Aston.	Bolsall Heath.	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Perry Barr	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	Total for City
Peptic Ulcer	M.	7	4	4	3	3	4	6	4	3	1	2	1	—	1	4	—	—	4	4	4	3	4	3	—	2	2	1	3	9	3	2	1	92
	F.	1	2	2	2	1	3	2	2	—	1	—	—	5	2	—	—	—	3	5	5	—	1	2	—	—	1	—	—	—	—	—	3	43
Diarrhoea and Enteritis...	M.	3	3	5	4	6	1	1	2	1	1	—	6	4	3	4	—	3	2	6	6	4	7	7	—	2	3	1	2	1	—	3	—	91
	F.	5	1	—	4	6	2	3	2	1	2	—	3	—	1	—	2	4	3	2	1	5	5	2	1	1	1	2	2	4	1	2	—	68
Appendicitis	M.	1	1	2	—	—	—	3	1	—	—	2	3	1	—	—	—	1	3	1	3	2	1	—	2	2	2	2	—	2	1	—	—	36
	F.	2	1	3	—	1	—	2	1	—	2	1	—	2	—	2	1	1	2	3	2	1	—	—	—	1	1	1	1	—	2	1	1	35
Cirrhosis of Liver ...	M.	2	2	—	—	1	1	—	—	—	—	—	1	—	—	3	—	—	1	1	2	1	1	—	—	—	—	—	1	1	1	—	—	19
	F.	2	—	2	1	—	—	—	—	1	—	1	—	1	1	—	—	—	—	2	1	—	—	—	—	—	—	—	1	—	—	1	—	14
Other Dis. of Liver, etc....	M.	1	—	1	1	—	2	—	—	—	—	2	1	—	2	—	—	—	—	—	2	—	—	—	—	1	—	—	—	1	—	—	—	14
	F.	2	—	2	—	1	5	3	—	1	1	—	—	2	—	3	—	—	3	1	2	—	—	1	1	—	1	2	1	—	—	1	—	33
Other Digestive Diseases	M.	6	3	2	2	2	5	—	4	4	2	2	3	2	1	3	3	—	1	6	3	3	1	3	1	1	3	3	2	1	2	5	—	79
	F.	1	5	2	2	7	—	1	1	2	1	1	2	3	—	3	4	1	5	2	3	4	2	2	2	7	1	2	1	—	8	2	—	77
Acute and Chronic Nephritis	M.	6	5	6	6	9	5	6	1	7	4	2	4	11	4	4	2	5	7	10	5	9	4	6	4	2	3	2	4	6	5	2	10	166
	F.	8	3	1	7	7	7	1	1	2	2	3	3	4	—	8	3	1	5	8	9	1	2	2	6	3	3	6	8	6	3	3	1	127
Other Genito-Urinary Dis.	M.	10	5	3	9	7	7	3	—	4	3	5	2	4	—	3	2	3	2	7	7	3	3	3	2	3	2	4	2	5	2	2	4	121
	F.	1	2	1	2	2	7	2	2	—	1	1	—	—	—	2	—	1	2	2	2	1	1	1	—	1	—	—	1	3	2	—	—	40
Puerperal Sepsis	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	2	1	1	1	2	1	1	2	—	—	—	1	1	—	1	1	—	2	1	1	—	—	1	—	—	—	—	1	3	2	2	—	28
Other Puerperal Causes ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	2	1	1	3	1	2	1	—	1	1	—	—	—	—	3	—	2	—	—	5	1	1	1	—	—	1	2	1	1	2	1	—	34
Congenital Debility, Premature Birth, Malformations, etc. ...	M.	22	17	24	8	24	15	13	10	8	6	6	11	8	3	7	7	10	15	13	15	11	10	5	4	8	8	8	11	18	10	8	2	345
	F.	15	7	10	3	14	2	8	7	3	4	7	6	5	3	5	7	11	7	12	10	8	10	13	4	4	6	9	10	8	5	5	1	229
Senility	M.	8	1	4	5	5	2	—	—	—	6	7	4	7	—	5	4	2	5	—	4	1	1	1	5	2	3	10	6	4	5	1	3	111
	F.	13	3	5	13	6	7	5	4	11	8	11	8	5	—	8	4	5	5	2	6	3	3	3	4	4	6	12	12	8	10	3	6	203
Suicide	M.	7	2	2	6	2	7	2	2	1	4	3	1	2	—	6	1	1	2	6	6	4	2	4	3	1	6	5	5	6	4	3	1	107
	F.	7	3	—	3	6	8	2	2	6	1	2	—	1	2	2	—	—	5	2	6	3	2	1	1	—	2	2	2	7	3	3	—	84
Other Violence	M.	14	10	6	8	7	6	12	7	4	4	2	4	5	6	9	8	5	17	9	10	16	3	6	6	8	9	6	3	8	9	5	4	236
	F.	5	9	2	6	4	5	3	1	—	3	2	6	9	3	3	—	1	3	7	5	11	4	3	3	5	3	1	5	2	6	4	1	125
Other Causes	M.	9	6	5	3	7	3	8	4	3	4	3	2	5	8	1	2	3	7	2	4	7	4	2	3	6	7	2	7	6	11	4	3	151
	F.	12	3	5	7	4	7	4	8	6	5	10	4	8	—	8	1	8	3	6	14	5	5	11	5	3	6	5	3	10	7	9	—	192
Deaths Under 1 Year		67	47	61	21	82	24	32	22	18	12	21	35	25	18	24	22	55	37	55	64	64	55	36	9	17	32	26	41	36	29	29	4	1,120
Births		1129	631	631	459	839	381	573	393	284	276	277	508	480	236	531	513	769	595	710	739	607	597	589	242	363	436	274	470	674	605	503	302	16,616

TABLE IV. DEATH-RATES FROM ALL CAUSES IN WARDS.

YEAR.	St. Paul's	St. Mary's	Duddeston and Nechells	St. Bartholomew's	St. Martin's	Market Hall	Ladywood	Central Wards	Lozells	Aston	Washwood Heath	Saltley	Small Heath	Sparkbrook	Balsall Heath	Edgbaston	Rotton Park	All Saints'	Middle Ring	Soho	Sandwell	Handsworth	Perry Barr	Erdington North	Erdington South	Yardley	Acock's Green	Sparkhill	Moseley and King's Heath	Selly Oak	King's Norton	Northfield	Harborne	Outer Ring
1912	19.6	26.0	22.0	20.2	18.2	16.6	17.1	20.0	13.7	14.4	13.4	11.3	10.5	11.9	12.3	10.8	13.4	14.9	12.7	11.0	8.3	10.4	?	9.8	9.8	11.4	11.0	9.5	9.9	11.0	10.5	8.8	10.2	10.1
1913	20.1	24.6	21.4	24.0	22.0	19.1	17.1	21.2	13.2	16.5	13.6	13.3	13.1	13.2	12.7	12.0	17.1	15.3	14.0	13.9	9.6	9.5	?	9.4	9.4	9.8	12.5	9.7	9.0	12.2	8.6	8.9	9.9	10.2
1914	21.4	24.9	21.2	20.2	21.2	20.1	19.6	21.2	14.3	16.6	12.9	11.7	11.2	13.4	12.6	12.3	15.8	15.1	13.6	12.5	10.6	11.2	?	11.7	9.7	11.1	11.8	8.8	9.7	11.3	9.8	10.0	10.3	10.7
1915	22.5	24.5	18.6	21.8	20.6	16.6	17.0	20.2	13.6	15.0	12.0	12.3	11.2	13.0	13.4	12.0	14.5	14.5	13.2	13.6	11.5	11.0	?	11.4	9.8	9.3	10.8	10.2	9.9	12.2	10.6	12.7	11.5	11.1
Average	**20.9**	**25.0**	**20.8**	**21.5**	**20.5**	**18.1**	**17.7**	**20.6**	**13.7**	**15.6**	**13.0**	**12.1**	**11.5**	**12.9**	**12.7**	**11.8**	**15.2**	**14.9**	**13.4**	**12.7**	**10.0**	**10.5**	?	**10.6**	**9.7**	**10.4**	**11.5**	**9.5**	**9.6**	**11.7**	**9.9**	**10.1**	**10.5**	**10.5**
1916	18.7	22.4	19.7	17.0	21.2	16.5	14.9	18.6	12.4	13.7	11.8	12.2	11.5	12.4	12.5	12.1	13.7	13.3	12.6	12.2	9.9	9.8	?	12.7	7.9	10.8	11.0	9.7	9.8	10.5	9.1	10.6	9.9	10.3
1917	18.2	19.7	17.2	16.8	17.2	15.0	14.4	16.9	12.9	12.6	10.2	11.0	11.3	11.8	12.2	11.5	12.7	12.7	11.9	10.6	9.5	10.3	?	9.1	8.8	9.3	10.9	9.1	10.6	8.6	8.0	7.5	10.1	9.4
1918	20.0	22.7	19.7	20.8	20.3	20.9	19.4	20.5	15.5	16.3	12.0	13.4	14.8	14.5	15.6	13.7	15.8	15.7	14.7	13.3	11.1	11.7	?	9.8	11.7	10.8	12.3	11.9	11.2	11.8	9.3	11.5	12.5	11.5
1919	16.8	17.9	15.8	16.5	18.6	14.0	16.1	16.5	13.1	13.4	11.8	10.7	11.1	13.1	13.3	12.8	13.2	12.5	12.5	11.1	10.6	11.4	?	11.1	10.7	10.3	9.5	10.0	11.6	11.1	9.3	8.0	11.3	10.5
1920	16.9	20.4	16.3	16.6	17.6	12.8	17.5	16.9	11.8	11.9	11.4	11.1	11.0	12.0	12.8	11.1	13.7	12.7	12.0	11.6	9.4	9.5	?	9.5	9.3	10.4	10.4	10.0	10.0	10.0	9.0	8.2	10.2	9.8
Average	**18.1**	**20.6**	**17.7**	**17.5**	**19.0**	**15.8**	**16.5**	**17.9**	**13.1**	**13.6**	**11.4**	**11.7**	**11.9**	**12.8**	**13.3**	**12.2**	**13.8**	**13.4**	**12.7**	**11.8**	**10.1**	**10.5**	?	**10.4**	**9.7**	**10.3**	**10.8**	**10.1**	**10.6**	**10.4**	**8.9**	**9.2**	**10.8**	**10.3**
1921	14.7	17.4	13.7	14.2	13.6	14.6	12.6	14.4	11.7	12.1	10.9	9.2	10.5	10.2	11.4	10.7	11.2	11.3	10.9	10.1	11.3	10.1	?	9.3	10.2	8.0	8.3	9.1	10.5	7.6	7.8	8.7	8.2	9.2
1922	15.1	15.5	13.2	15.9	16.7	15.1	14.8	15.2	12.3	12.6	10.4	10.1	10.9	12.2	12.8	11.8	11.8	11.8	11.7	12.2	9.1	9.6	?	10.7	10.1	9.2	9.6	10.6	12.3	10.4	7.8	9.5	10.1	10.1
1923	13.7	17.1	13.7	13.5	14.0	12.1	12.5	13.8	11.8	11.6	10.1	8.4	9.7	10.4	10.9	10.6	10.7	11.4	10.6	10.3	8.9	9.8	?	8.9	8.1	8.3	8.7	9.4	11.0	8.8	8.1	7.9	9.8	9.1
1924	14.1	15.5	13.4	14.9	15.4	14.9	13.1	14.5	12.3	12.2	8.9	10.1	10.8	10.8	13.0	10.8	11.4	11.8	11.2	11.8	8.9	9.8	?	10.6	8.9	9.5	10.0	10.0	10.1	9.0	10.0	8.9	10.4	9.8
1925	14.9	17.7	13.2	14.5	15.4	13.4	12.6	14.5	12.8	14.1	9.7	9.2	9.7	11.8	11.9	11.3	12.5	12.8	11.6	12.0	8.1	9.3	?	9.3	8.1	9.6	8.8	9.8	10.4	8.6	8.3	9.3	9.5	9.3
Average	**14.5**	**16.6**	**13.4**	**14.6**	**15.0**	**14.0**	**13.1**	**14.5**	**12.2**	**12.5**	**10.0**	**9.4**	**10.3**	**11.1**	**12.0**	**11.0**	**11.5**	**11.8**	**11.2**	**11.3**	**9.3**	**9.7**	?	**9.8**	**9.1**	**8.9**	**9.1**	**9.8**	**10.9**	**8.9**	**8.4**	**8.9**	**9.6**	**9.5**
1926	14.6	16.9	12.8	14.0	14.6	13.2	12.3	14.1	12.7	12.3	9.3	7.3	9.0	10.9	12.0	11.9	11.3	12.1	10.9	10.9	9.8	9.6	?	8.1	9.3	7.3	8.6	9.2	9.8	8.2	8.6	10.0	10.3	9.2
1927	16.2	16.6	13.1	13.4	14.8	12.5	13.2	14.3	11.5	12.1	9.7	8.8	8.6	11.2	13.2	11.2	12.4	12.5	11.1	11.7	9.7	10.6	?	9.4	7.9	8.8	8.8	10.0	10.6	9.7	8.9	9.2	10.7	9.7
1928	14.7	17.5	12.3	12.9	14.1	13.3	12.9	14.0	12.5	11.6	9.7	9.3	9.9	11.7	12.2	9.7	10.7	10.5	10.8	10.7	9.3	9.8	3.2	8.2	9.2	7.8	8.3	7.9	9.5	9.1	9.7	10.2	8.7	8.7
1929	17.3	18.1	16.8	16.0	18.7	16.7	15.3	17.0	15.7	15.4	12.1	10.3	10.5	14.0	15.1	13.9	15.1	14.4	13.6	14.8	11.8	13.0	6.8	10.0	10.2	9.7	9.5	10.6	11.8	10.8	9.8	10.3	11.8	10.8
1930	12.9	14.9	12.2	12.5	14.4	14.0	12.5	13.3	11.8	12.2	9.0	7.8	9.0	11.3	12.6	12.7	11.1	10.9	10.8	11.2	10.9	10.4	5.0	7.6	9.1	8.8	8.0	8.9	10.6	8.3	8.2	7.8	10.2	8.9
Average	**15.1**	**16.8**	**13.4**	**13.8**	**15.3**	**13.9**	**13.2**	**14.5**	**12.8**	**12.7**	**10.0**	**8.7**	**9.4**	**11.8**	**13.0**	**11.9**	**12.1**	**12.1**	**11.4**	**11.9**	**10.3**	**10.7**	?	**8.7**	**9.1**	**8.5**	**8.6**	**9.3**	**10.5**	**9.2**	**9.0**	**9.5**	**10.3**	**9.5**
1931	14.8	16.2	13.9	13.5	14.9	15.1	13.1	14.5	12.9	13.9	11.5	9.2	11.4	12.9	12.4	12.1	13.9	12.7	12.3	14.0	9.2	11.1	7.2	8.6	9.7	7.9	9.1	9.4	9.2	11.1	10.0	7.2	9.2	9.5
1932	13.2	15.8	14.2	13.7	13.7	12.6	12.1	13.6	13.1	13.4	10.5	8.7	11.4	12.1	13.2	11.7	11.5	11.4	11.7	13.0	11.1	11.1	6.7	8.7	9.2	9.0	8.5	10.1	10.7	10.8	10.1	7.2	10.4	9.8

TABLE V. DEATHS UNDER 1 PER 1,000 BIRTHS IN WARDS.

YEAR.	St. Paul's	St. Mary's	Duddeston and Nechells	St. Bartholomew's	St. Martin's	Market Hall	Ladywood	Central Wards	Lozells	Aston	Washwood Heath	Saltley	Small Heath	Sparkbrook	Balsall Heath	Edgbaston	Rotton Park	All Saints'	Middle Ring	Soho	Sandwell	Handsworth	Perry Barr	Erdington North	Erdington South	Yardley	Acock's Green	Sparkhill	Moseley and King's Heath	Selly Oak	King's Norton	Northfield	Harborne	Outer Ring
1912	134	194	180	134	136	138	123	148	102	105	97	109	85	90	81	87	112	98	97	76	87	78	?	62	97	109	79	61	74	57	80	60	87	77
1913	162	229	179	205	180	155	159	181	100	136	114	94	113	98	99	109	137	124	112	104	79	69	?	68	82	67	102	60	60	82	78	63	54	74
1914	153	195	173	167	148	166	166	167	115	138	87	109	89	102	80	72	134	135	106	89	64	94	?	104	74	83	95	75	54	70	78	90	53	79
1915	170	187	158	180	157	123	126	157	102	128	123	86	86	87	91	82	118	108	101	92	106	94	?	84	69	56	73	55	64	94	87	123	81	83
Average	**155**	**201**	**172**	**171**	**155**	**145**	**143**	**163**	**105**	**127**	**105**	**99**	**93**	**94**	**88**	**87**	**125**	**116**	**104**	**90**	**84**	**84**	?	**79**	**80**	**79**	**87**	**63**	**63**	**76**	**81**	**84**	**69**	**78**
1916	160	159	164	139	150	139	121	147	82	114	93	79	69	70	62	98	96	96	86	94	68	91	?	80	39	83	76	55	76	83	61	59	69	72
1917	115	168	136	132	112	89	112	123	93	105	96	97	94	110	83	73	93	122	97	74	37	71	?	74	80	95	75	90	41	66	77	50	44	67
1918	156	148	104	137	120	152	104	132	111	113	70	100	69	99	86	80	101	88	92	83	64	72	?	57	57	67	82	66	66	58	60	70	89	69
1919	109	103	105	102	95	120	100	105	79	93	90	64	67	60	64	61	97	88	76	97	71	63	?	39	79	83	47	36	44	76	69	43	79	64
1920	112	121	93	111	102	85	105	104	80	78	83	72	80	80	98	64	79	78	79	55	75	51	?	61	47	54	64	73	53	64	43	28	50	55
Average	**130**	**140**	**120**	**124**	**116**	**117**	**108**	**122**	**89**	**101**	**86**	**82**	**76**	**84**	**79**	**75**	**93**	**94**	**86**	**81**	**63**	**70**	?	**62**	**60**	**76**	**69**	**64**	**56**	**69**	**62**	**50**	**66**	**65**
1921	106	116	104	113	85	117	96	105	87	82	91	75	57	60	62	75	78	104	77	57	72	69	?	44	68	43	62	67	69	47	60	97	42	61
1922	105	117	102	115	107	113	102	109	58	84	69	82	68	92	81	75	101	90	80	66	68	51	?	54	69	55	79	56	81	69	41	58	58	62
1923	104	103	99	81	93	80	79	91	60	85	68	59	62	59	54	51	67	79	64	54	57	45	?	48	58	73	49	34	49	53	76	21	46	51
1924	87	123	103	119	110	81	86	101	68	87	62	95	85	64	83	67	85	80	77	63	67	49	?	70	52	62	50	58	69	74	59	54	57	60
1925	120	100	101	106	107	119	73	104	87	104	69	65	58	77	64	70	53	92	74	66	39	64	?	54	32	45	53	55	39	51	66	39	42	50
Average	**104**	**112**	**102**	**107**	**100**	**102**	**87**	**102**	**72**	**88**	**72**	**75**	**66**	**70**	**69**	**68**	**77**	**89**	**74**	**61**	**61**	**56**	?	**54**	**56**	**56**	**59**	**54**	**61**	**59**	**60**	**54**	**49**	**57**
1926	106	122	79	98	86	106	81	97	52	77	66	43	48	70	52	59	63	65	59	76	98	53	?	46	52	56	48	70	54	69	65	68	90	65
1927	115	116	104	81	89	85	78	95	78	80	73	64	34	73	87	66	89	82	73	81	44	47	?	59	49	66	36	71	42	61	44	45	78	56
1928	71	101	73	89	84	100	69	84	63	57	62	71	59	56	62	46	75	46	60	74	68	34	0	62	40	43	49	47	41	82	54	46	65	50
1929	120	111	125	98	108	73	108	106	80	86	92	69	50	45	51	84	82	72	71	92	46	43	0	56	49	65	68	74	38	76	54	60	58	56
1930	89	75	67	74	91	88	74	80	53	61	37	54	42	55	69	77	63	67	58	65	38	47	63	54	51	55	41	51	49	49	36	38	53	49
Average	**100**	**105**	**90**	**88**	**92**	**90**	**82**	**92**	**65**	**72**	**66**	**60**	**47**	**60**	**64**	**66**	**74**	**66**	**64**	**78**	**59**	**45**	?	**55**	**48**	**57**	**48**	**63**	**45**	**67**	**51**	**51**	**69**	**55**
1931	85	107	87	86	99	103	105	96	86	87	76	59	48	61	70	83	100	80	75	83	33	60	57	55	59	55	63	45	49	66	60	44	37	55
1932	92	105	98	77	87	76	69	86	52	97	48	61	73	87	46	63	62	74	66	95	37	63	72	56	56	58	59	53	45	47	76	43	43	57

Table VI. Birth-Rates in Wards.

Year.	St. Paul's	St. Mary's	Duddeston and Nechells	St. Bartholomew's	St. Martin's	Market Hall	Ladywood	Central Wards	Lozells	Aston	Washwood Heath	Saltley	Small Heath	Sparkbrook	Balsall Heath	Edgbaston	Rotton Park	All Saints'	Middle Ring	Soho	Sandwell	Handsworth	Perry Barr	Erdington North	Erdington South	Yardley	Acock's Green	Sparkhill	Moseley and King's Heath	Selly Oak	King's Norton	Northfield	Harborne	Outer Ring
1912	30.6	33.6	36.0	33.4	32.1	24.7	28.1	31.2	23.0	30.5	29.4	27.7	23.6	25.3	23.3	17.0	28.9	29.7	25.8	22.2	21.0	18.9	?	22.7	21.6	23.2	25.1	19.2	17.8	27.1	23.1	20.6	23.9	22.0
1913	32.1	35.9	38.4	35.9	33.5	25.8	30.6	33.2	24.0	32.5	30.9	31.6	24.3	25.7	23.4	15.9	30.2	31.1	27.0	22.7	22.9	20.1	?	23.7	22.5	26.0	29.6	18.2	18.4	27.4	24.3	22.8	23.3	23.2
1914	34.3	36.0	37.3	34.3	33.7	26.3	29.8	33.1	22.5	31.2	29.3	27.6	22.6	25.6	24.0	16.4	27.8	28.5	25.5	23.0	22.1	19.7	?	22.0	22.4	22.6	26.5	18.2	16.3	25.5	20.9	24.2	20.6	21.8
1915	31.8	32.8	34.6	31.0	30.0	22.2	25.7	29.7	21.6	27.7	23.3	26.1	20.8	24.3	21.8	16.2	24.7	26.4	23.3	19.8	19.7	18.0	?	21.6	19.4	20.2	24.0	15.7	15.4	23.5	21.5	20.7	20.1	20.0
Average	**32.2**	**34.6**	**36.6**	**33.6**	**32.3**	**24.7**	**28.5**	**31.8**	**22.8**	**30.5**	**28.2**	**28.2**	**22.8**	**25.2**	**23.1**	**16.4**	**27.9**	**28.9**	**25.4**	**21.9**	**21.4**	**19.2**	?	**22.5**	**21.5**	**23.0**	**26.3**	**17.8**	**17.0**	**25.9**	**22.4**	**22.1**	**22.0**	**21.7**
1916	28.9	29.3	30.9	28.8	28.0	19.8	25.8	27.4	20.8	28.8	23.8	26.0	21.8	23.0	19.5	15.3	23.8	26.6	22.9	19.3	19.3	18.0	?	19.4	19.8	19.4	22.7	17.6	15.7	24.0	21.3	19.1	19.0	19.6
1917	26.7	23.3	27.5	28.5	24.5	18.8	23.2	24.6	19.4	23.1	20.4	20.2	19.9	19.2	18.1	13.4	20.7	22.1	19.7	13.2	16.5	15.0	?	14.9	17.4	19.9	19.7	12.8	13.4	19.2	14.5	16.2	16.4	16.1
1918	24.7	24.1	29.2	27.3	24.3	21.6	23.9	25.0	19.2	21.3	20.0	20.1	18.6	18.0	18.2	13.8	21.0	22.4	19.3	14.7	12.5	14.4	?	16.2	15.9	18.8	18.7	13.0	13.5	18.1	16.3	20.9	14.0	15.9
1919	29.1	28.6	29.5	29.0	29.1	21.5	26.6	27.6	18.5	24.4	21.2	19.3	17.7	19.8	18.5	15.0	22.0	23.3	20.0	17.3	14.7	16.0	?	17.2	19.2	18.1	18.2	14.5	14.8	21.1	15.0	17.2	15.3	16.8
1920	37.6	37.2	39.6	35.9	34.9	30.2	33.5	35.6	25.2	32.0	27.9	28.6	23.4	25.9	25.1	18.8	30.2	31.3	26.8	23.8	21.7	21.4	?	24.7	22.8	26.4	24.4	19.3	19.9	26.7	21.3	22.9	19.6	22.7
Average	**29.4**	**28.5**	**31.3**	**29.9**	**28.2**	**22.4**	**26.6**	**28.0**	**20.6**	**25.9**	**22.7**	**22.8**	**20.3**	**21.2**	**19.9**	**15.3**	**23.5**	**25.1**	**21.7**	**17.7**	**16.9**	**17.0**	?	**18.5**	**19.0**	**20.5**	**20.7**	**15.4**	**15.5**	**21.8**	**17.7**	**19.3**	**16.9**	**18.2**
1921	31.8	35.7	32.9	32.3	30.8	28.0	30.8	31.8	21.8	28.7	23.8	23.9	20.5	23.8	22.5	15.2	24.8	25.0	23.0	20.1	16.4	17.7	?	21.1	20.0	20.5	21.0	19.3	14.8	20.8	18.0	19.6	20.2	19.2
1922	29.7	30.8	27.5	28.5	28.6	20.8	25.4	27.3	18.3	25.4	21.9	20.6	18.3	20.2	21.5	14.1	22.6	23.6	20.7	18.7	15.0	15.4	?	20.7	15.7	18.9	18.0	17.4	14.3	17.6	17.6	17.5	15.5	17.1
1923	28.2	30.3	27.5	29.0	27.0	20.7	25.8	26.9	18.4	23.1	22.1	21.6	15.5	18.5	18.6	13.5	21.7	21.9	19.5	16.0	14.1	14.2	?	18.1	16.8	17.4	17.0	17.1	13.2	17.7	17.1	20.8	13.0	16.3
1924	28.0	28.1	27.0	26.8	24.1	20.7	21.9	25.2	17.4	23.1	20.6	18.4	14.1	16.9	18.4	13.3	19.3	20.6	18.2	15.1	12.7	12.8	?	17.1	17.7	15.0	16.7	16.2	12.8	15.7	14.5	19.8	14.5	15.4
1925	23.5	28.3	25.3	25.1	24.6	19.5	22.2	24.1	16.7	22.5	19.7	19.7	14.6	16.4	17.0	12.0	19.9	20.1	17.9	16.3	12.4	12.6	?	20.3	14.9	16.3	16.7	17.1	11.5	16.0	14.2	17.7	11.0	15.2
Average	**28.2**	**30.6**	**28.0**	**28.3**	**27.0**	**21.9**	**25.2**	**27.1**	**18.5**	**24.6**	**21.6**	**20.8**	**16.6**	**19.2**	**19.6**	**13.6**	**21.7**	**22.2**	**19.9**	**17.2**	**14.1**	**14.5**	?	**19.5**	**17.0**	**17.6**	**17.9**	**17.4**	**13.3**	**17.6**	**16.3**	**19.1**	**14.8**	**16.6**
1926	25.4	27.8	24.8	24.8	23.8	18.9	22.9	24.1	17.6	20.4	18.8	19.8	15.3	15.4	17.0	12.1	18.0	19.4	17.4	14.2	12.6	11.0	?	20.8	14.8	16.5	14.3	17.1	12.5	14.1	14.1	16.5	11.5	14.6
1927	25.4	25.8	23.1	23.3	22.0	19.2	20.4	22.7	16.4	19.9	17.7	17.7	15.2	15.3	16.0	11.6	16.5	17.6	16.4	14.1	12.2	11.7	?	20.3	14.8	18.9	14.3	16.2	15.4	13.6	13.6	18.3	11.2	15.0
1928	24.0	27.3	22.4	21.5	22.2	18.4	18.9	22.1	16.1	19.8	17.5	17.7	15.2	15.3	16.5	11.4	17.1	18.2	16.5	13.1	11.5	10.2	8.4	18.5	15.2	19.9	18.8	17.7	12.6	13.2	13.3	15.3	12.5	14.3
1929	23.8	25.6	20.4	21.5	22.3	19.1	19.8	21.8	15.3	17.8	16.4	17.4	14.9	14.4	14.2	11.0	15.8	17.0	15.4	11.5	10.9	12.0	16.8	18.6	16.8	18.1	20.0	16.0	12.8	13.0	13.4	16.0	12.6	14.9
1930	22.5	25.3	21.6	20.9	21.8	17.6	19.5	21.3	16.4	18.8	15.6	14.4	15.6	15.4	15.2	12.3	18.4	18.4	16.0	11.8	10.5	11.7	27.7	18.9	18.1	17.5	21.1	16.7	13.1	13.1	12.6	21.3	12.5	16.2
Average	**24.2**	**26.4**	**22.5**	**22.4**	**22.4**	**18.6**	**20.3**	**22.4**	**16.4**	**19.3**	**17.2**	**17.4**	**15.2**	**15.2**	**15.8**	**11.7**	**17.2**	**18.1**	**16.3**	**12.9**	**11.5**	**11.3**	?	**19.4**	**15.9**	**18.2**	**17.7**	**16.7**	**13.3**	**13.4**	**13.4**	**17.5**	**12.1**	**15.0**
1931	21.4	22.2	20.5	21.2	19.9	17.6	17.7	20.1	15.7	19.4	15.9	14.3	14.7	15.2	14.4	9.7	14.3	16.4	15.0	10.7	10.1	12.6	34.8	17.4	15.9	15.2	18.7	15.7	13.4	13.6	12.2	22.9	12.4	16.1
1932	21.5	20.6	21.5	20.2	18.6	15.5	19.4	19.6	16.3	17.8	14.6	14.5	13.7	14.7	13.3	10.7	16.0	16.6	14.8	10.7	11.7	10.4	27.5	13.6	13.6	15.5	17.8	15.3	13.4	13.2	11.9	21.1	12.4	14.9

TABLE VII.

Cases of Infectious Disease notified during the Year 1932. *Classified according to sex and ages.*

DISEASE.	Sex.	AGES. 0-	1-	2-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75 up.	TOTALS.
Enteric Fever	M.	—	2	4	6	2	—	1	3	1	1	—	—	—	20
	F.	—	—	4	9	5	4	6	4	3	3	—	—	—	38
Scarlet Fever	M.	7	37	235	474	252	59	27	30	13	5	1	—	—	1,140
	F.	5	20	256	578	317	93	62	51	14	6	2	—	—	1,404
Diphtheria	M.	8	19	60	109	40	13	10	10	2	2	—	—	—	273
	F.	5	10	77	110	47	34	31	17	8	5	2	1	—	347
Erysipelas	M.	7	5	4	5	8	10	9	22	23	39	34	23	8	197
	F.	8	4	5	7	6	10	9	21	37	35	31	14	4	191
Pulmonary Tuberculosis	M.	1	6	6	30	19	56	93	138	134	115	83	12	2	695
	F.	1	4	7	24	27	75	93	153	79	78	16	11	3	571
Tubercular Meningitis	M.	3	1	2	1	1	—	—	1	—	—	—	2	—	11
	F.	1	3	4	3	1	1	1	—	—	—	1	—	—	15
Tuberculosis of Peritoneum and Intestines	M.	—	—	3	4	1	2	—	3	2	1	—	—	—	16
	F.	—	2	—	1	2	6	2	5	1	3	—	—	—	22
Other forms of Tuberculosis	M.	3	—	14	17	12	9	4	12	6	3	3	3	—	86
	F.	2	2	12	20	6	15	16	12	6	3	3	3	1	101
Encephalitis Lethargica	M.	—	1	—	1	—	1	—	3	4	2	1	—	—	13
	F.	—	—	—	—	—	—	1	1	1	5	2	—	—	10
Cerebro-Spinal Fever	M.	5	1	2	—	—	—	2	1	1	1	—	—	—	13
	F.	8	3	1	2	—	1	1	1	—	1	—	—	—	18
Pneumonia	M.	146	102	158	170	62	107	91	167	188	174	104	55	21	1,545
	F.	112	116	152	131	53	63	58	110	116	92	76	59	45	1,183
Puerperal Fever	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	7	11	43	20	1	—	—	—	82
Puerperal Pyrexia	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	F.	—	—	—	—	—	6	32	79	20	2	—	—	—	139
Ophthalmia Neonatorum	M. F.	319	—	—	—	—	—	—	—	—	—	—	—	—	319
TOTAL		641	338	1,006	1,702	861	572	560	887	679	577	359	183	84	8,449

Smallpox—Female 1 ; Malaria—2 Males, 2 Females ; Dysentery—3 Males, 3 Females ; Poliomyelitis—7 Males, 10 Females ; Polio-encephalitis—Male, 1.

TABLE VIII.

Cases of Infectious Disease notified during the Year 1932. *Classified according to Wards.*

Disease.	Acock's Green.	All Saints'	Aston.	Balsall Heath	Bordesley and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Perry Barr	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	13	—	—	2	—	3	3	1	1	—	2	—	—	—	2	1	—	2	—	—	—	1	5	—	—	9	—	4	1	4	1	3	58
Continued Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	2	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Trench Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Scarlet Fever	154	102	73	44	156	54	86	58	18	35	45	84	47	37	83	44	39	85	95	91	87	90	101	78	64	77	96	70	140	82	110	119	2544
Diphtheria	36	17	25	18	48	11	24	19	13	6	5	29	19	3	7	11	7	10	23	30	25	31	26	4	13	16	10	24	11	22	32	45	620
Dysentery	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	6
Erysipelas	17	17	11	15	49	8	15	12	5	6	3	9	6	11	12	4	15	10	14	16	11	5	23	6	5	15	6	10	10	10	8	24	388
Pulmonary Tuberculosis	53	60	62	48	116	28	40	23	21	11	17	58	35	22	26	28	23	53	61	61	52	47	54	18	30	33	26	38	20	46	36	20	1266
Tubercular Meningitis	—	3	3	—	1	—	1	—	2	—	—	2	—	1	1	1	—	1	1	—	—	2	2	1	1	2	1	—	—	—	—	—	26
Tuberculosis of Peritoneum and Intestines	2	1	1	1	—	1	3	1	1	1	—	—	1	—	1	—	—	—	—	2	3	—	1	2	3	—	2	1	3	3	3	1	38
Tuberculosis of Spinal Column	2	1	—	—	3	2	1	—	—	1	—	1	—	—	—	2	—	—	1	2	3	—	1	—	—	1	1	1	—	—	1	1	25
Tuberculosis of Joints	2	2	4	2	6	1	1	2	2	1	—	2	—	4	2	—	2	—	3	—	1	2	2	1	1	2	1	1	1	4	1	1	54
Tuberculosis of Other Organs	2	7	6	—	7	5	4	1	1	1	4	5	2	—	4	1	4	3	1	2	4	4	4	—	2	1	4	8	5	3	2	1	98
Disseminated Tuberculosis	—	2	—	—	1	—	—	—	—	1	—	—	—	1	—	1	—	—	—	1	—	1	—	—	2	—	—	—	—	—	—	—	10
Encephalitis Lethargica	2	—	1	—	2	4	—	—	—	—	—	—	1	—	—	1	—	—	—	1	2	—	2	1	—	1	—	—	2	2	—	1	23
Cerebro-Spinal Fever ...	3	—	1	—	—	1	1	1	1	—	—	2	2	—	1	2	1	1	1	1	1	1	2	—	—	—	1	5	2	—	—	—	31
Poliomyelitis	1	1	—	—	—	—	—	—	1	—	1	—	—	—	—	2	—	—	1	—	—	1	—	—	2	—	3	—	3	—	1	—	17
Polio-encephalitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Pneumonia	153	108	154	109	245	56	71	87	43	29	31	100	66	31	69	32	59	113	133	144	173	109	120	16	46	103	39	71	76	75	51	16	2728
Puerperal Fever ...	5	4	2	6	4	2	4	2	1	1	1	3	3	—	2	2	3	5	4	4	—	1	1	—	—	—	1	6	5	2	3	5	82
Puerperal Pyrexia ...	3	4	4	1	14	6	7	5	—	2	2	2	2	1	3	5	12	5	6	2	8	2	6	1	3	2	2	7	6	1	3	12	139
Ophthalmia Neonatorum	11	7	9	11	40	6	5	7	3	2	—	6	6	5	5	3	13	9	30	20	19	13	16	2	4	16	5	15	7	11	12	1	319
Total	460	336	356	257	694	188	266	220	113	97	111	303	191	116	219	140	178	297	374	381	389	310	366	130	177	278	199	261	292	265	264	250	8478

TABLE IX. PULMONARY TUBERCULOSIS. CASE-RATES IN WARDS.

YEAR.	St. Paul's	St. Mary's	Duddeston and Nechells	St. Bartholomew's	St. Martin's	Market Hall	Ladywood	Central Wards	Lozells	Aston	Washwood Heath	Saltley	Small Heath	Sparkbrook	Balsall Heath	Edgbaston	Rotton Park	All Saints'	Middle Ring	Soho	Sandwell	Handsworth	Perry Barr	Erdington North	Erdington South	Yardley	Acock's Green	Sparkhill	Moseley and King's Heath	Selly Oak	King's Norton	Northfield	Harborne	Outer Ring
1912	7.64	7.63	6.70	9.76	7.22	6.92	7.47	7.62	4.53	4.92	4.18	5.87	6.14	4.28	5.82	3.94	4.75	6.30	5.07	2.53	2.37	3.46	?	1.61	3.08	3.49	5.08	4.84	3.32	3.24	3.24	1.78	3.63	3.21
1913	5.13	7.14	6.44	10.63	8.49	7.29	6.05	7.31	3.22	4.85	3.79	5.35	4.85	4.97	5.84	3.91	4.81	5.18	4.68	2.70	1.70	2.79	?	1.23	2.43	3.66	4.37	3.87	2.86	2.95	2.90	1.18	2.89	2.73
1914	4.53	5.74	5.13	6.88	6.16	4.21	5.42	5.44	2.59	3.52	3.64	2.87	4.06	4.28	4.12	2.71	4.72	4.56	3.71	2.76	2.32	2.17	?	2.29	2.05	2.18	2.67	2.56	1.73	1.42	2.74	1.93	2.36	2.24
1915	5.25	5.44	4.94	4.89	6.07	3.92	4.14	4.95	3.22	3.02	3.19	3.48	3.86	3.67	3.82	2.40	3.24	4.34	3.42	2.11	1.68	2.30	?	1.81	1.56	2.82	2.22	2.27	1.43	2.24	2.70	1.65	2.13	2.07
Average	**5.64**	**6.49**	**5.80**	**8.04**	**6.98**	**5.58**	**5.77**	**6.33**	**3.39**	**4.08**	**3.70**	**4.39**	**4.73**	**4.30**	**4.90**	**3.24**	**4.38**	**5.09**	**4.22**	**2.52**	**2.02**	**2.68**	?	**1.73**	**2.28**	**3.04**	**3.59**	**3.38**	**2.33**	**2.46**	**2.89**	**1.63**	**2.75**	**2.56**
1916	5.11	6.75	6.64	6.66	5.66	4.33	4.30	5.64	3.87	3.53	3.99	4.19	4.44	3.67	3.15	2.81	4.05	3.94	3.76	2.86	2.35	2.78	?	1.66	2.17	2.50	2.65	2.53	1.64	2.27	2.14	1.87	1.19	2.20
1917	5.26	5.67	4.52	6.32	4.36	6.13	4.12	5.20	3.47	3.03	3.42	2.29	3.34	2.85	3.12	2.16	3.62	3.77	3.11	2.17	2.61	2.59	?	2.25	2.21	2.31	3.58	2.81	1.33	2.79	1.97	1.82	1.85	2.33
1918	5.46	4.42	4.34	5.33	5.32	5.66	6.80	5.33	3.13	3.09	2.72	2.08	3.40	3.56	2.97	2.81	4.04	3.35	3.12	1.38	1.98	3.48	?	2.24	2.46	2.15	2.66	2.49	2.12	2.53	1.35	3.33	1.80	2.31
1919	4.30	4.94	4.13	4.00	4.45	3.99	4.14	4.28	3.30	3.22	2.05	1.99	2.30	2.62	2.79	2.22	4.02	2.89	2.74	2.55	1.35	2.89	?	2.14	2.36	1.80	2.70	2.23	1.22	2.34	1.66	1.90	1.81	2.08
1920	3.63	4.91	4.09	4.23	4.13	2.62	4.12	3.96	2.56	2.95	2.39	2.48	2.11	2.61	2.75	1.50	4.16	3.20	2.67	2.81	1.48	2.84	?	2.41	2.19	2.18	2.13	2.03	1.83	2.43	1.65	2.04	1.78	2.14
Average	**4.75**	**5.34**	**4.74**	**5.31**	**4.78**	**4.55**	**4.70**	**4.88**	**3.27**	**3.16**	**2.91**	**2.61**	**3.12**	**3.06**	**2.96**	**2.30**	**3.98**	**3.43**	**3.08**	**2.35**	**1.95**	**2.92**	?	**2.14**	**2.28**	**2.21**	**2.74**	**2.42**	**1.63**	**2.47**	**1.75**	**2.19**	**1.69**	**2.21**
1921	3.13	3.49	3.41	2.51	3.01	2.80	2.55	2.99	2.20	2.65	2.11	1.76	1.58	2.21	2.00	1.28	2.33	2.26	2.04	1.54	1.08	2.09	?	1.44	1.46	1.81	1.47	2.05	1.62	1.41	0.77	0.83	1.39	1.46
1922	2.23	3.20	2.80	2.47	3.42	2.40	2.21	2.68	1.59	1.74	1.81	1.17	1.44	1.41	2.17	1.21	1.63	1.81	1.60	1.15	0.62	1.17	?	1.71	1.40	1.45	1.20	1.88	0.84	1.74	0.67	1.81	1.44	1.31
1923	2.13	3.14	3.20	2.51	3.88	2.46	1.97	2.76	1.90	1.95	1.79	1.41	1.69	1.88	2.22	1.40	2.28	1.60	1.81	1.40	0.61	1.31	?	1.52	1.39	1.39	1.35	1.57	1.31	1.04	1.09	1.22	1.08	1.25
1924	2.16	3.02	2.69	2.40	4.39	2.11	2.10	2.70	1.65	2.43	1.88	1.62	1.54	1.32	2.09	1.01	2.20	1.62	1.74	1.38	0.76	1.31	?	0.92	1.52	1.27	1.34	1.25	1.11	0.93	1.34	1.28	1.53	1.23
1925	1.54	2.37	2.22	2.44	3.41	1.90	1.85	2.25	1.59	2.05	1.37	1.34	1.44	1.09	1.58	1.09	1.62	1.10	1.43	1.19	0.97	1.47	?	1.49	0.92	0.99	1.06	1.34	0.75	1.14	1.01	1.47	0.81	1.12
Average	**2.24**	**3.04**	**2.86**	**2.47**	**3.62**	**2.33**	**2.14**	**2.68**	**1.79**	**2.16**	**1.79**	**1.46**	**1.54**	**1.58**	**2.01**	**1.20**	**2.01**	**1.68**	**1.72**	**1.33**	**0.81**	**1.47**	?	**1.42**	**1.34**	**1.38**	**1.28**	**1.62**	**1.13**	**1.25**	**0.98**	**1.32**	**1.25**	**1.27**
1926	2.28	2.50	2.21	1.89	2.52	1.46	1.62	2.07	1.62	1.98	1.86	1.30	0.83	1.22	1.85	0.97	1.33	1.13	1.41	0.64	0.96	1.27	?	0.95	1.03	0.78	0.88	1.02	0.67	1.21	0.83	2.06	1.32	1.05
1927	2.01	2.87	2.14	1.97	2.24	1.90	1.90	2.15	1.36	1.69	1.05	1.45	0.95	1.14	1.53	1.02	1.52	1.35	1.30	1.43	0.87	0.61	?	0.63	0.72	0.87	0.53	0.91	0.87	1.33	1.16	1.30	0.70	0.92
1928	1.90	2.52	2.28	1.80	2.52	1.55	1.89	2.07	1.48	1.82	1.06	0.98	1.12	1.29	1.10	0.92	1.34	1.56	1.27	1.23	1.08	1.25	0.00	0.92	1.17	1.25	0.73	0.93	0.71	1.32	1.00	1.33	0.81	0.98
1929	2.08	1.90	2.45	1.50	1.98	2.07	1.46	1.92	1.27	1.92	0.95	0.97	0.92	1.17	1.27	0.75	1.54	1.55	1.23	1.09	0.90	0.97	2.50	1.09	0.83	1.47	1.00	0.78	0.60	0.70	0.56	1.30	0.96	1.05
1930	2.05	1.66	1.74	1.41	1.76	1.55	2.06	1.75	1.72	1.89	1.16	0.93	1.15	0.87	1.53	0.65	1.30	1.39	1.26	0.92	1.03	1.01	0.49	1.24	1.10	1.19	1.17	0.80	0.58	1.01	0.58	0.91	0.46	0.89
Average	**2.06**	**2.29**	**2.16**	**1.71**	**2.20**	**1.71**	**1.79**	**1.99**	**1.49**	**1.86**	**1.22**	**1.13**	**0.99**	**1.14**	**1.46**	**0.86**	**1.41**	**1.40**	**1.29**	**1.06**	**0.97**	**1.02**	?	**0.97**	**0.97**	**1.11**	**0.86**	**0.89**	**0.69**	**1.11**	**0.83**	**1.38**	**0.85**	**0.98**
1931	1.71	2.49	2.38	1.68	1.94	2.26	1.90	2.05	1.55	1.59	1.18	1.20	1.48	1.35	1.40	0.92	1.38	2.12	1.42	1.19	0.82	0.65	1.30	1.29	1.15	0.78	1.10	0.94	0.74	0.87	0.56	1.20	0.82	0.96
1932	1.69	1.76	2.97	1.74	1.54	1.45	2.21	1.91	1.19	1.75	1.11	1.33	1.03	1.19	1.39	0.79	1.43	1.58	1.28	1.02	0.87	0.77	0.82	0.95	0.80	1.11	0.84	0.45	0.66	1.09	0.73	1.15	0.49	0.84

TABLE X.

Meteorology and Mortality in each week of the year 1932.

Week.		Total Deaths.	Deaths under 1 year.	Deaths from						Temperature of the Air.			Temperature of Ground	Horizontal Movement of Air in Miles.	Hours of Sunshine.	Rainfall in Inches.
No.	Ending. 1932.			Measles.	Whooping Cough.	Diarrhoea 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. 9	328	42	—	6	2	16	5	73	54	31	44.9	46.3	2283	9.9	1.06
2	,, 16	321	52	—	10	7	18	4	71	52	35	44.1	46.3	2659	21.1	1.22
3	,, 23	276	32	—	5	1	17	2	50	52	37	45.9	46.6	1241	14.7	—
4	,, 30	292	35	—	8	3	27	1	44	46	29	36.2	46.6	741	1.7	0.03
5	Feb. 6	286	37	1	4	5	25	2	41	47	29	40.0	45.9	507	0.7	0.04
6	,, 13	276	29	—	4	4	19	2	50	41	25	33.8	45.6	1400	8.1	0.21
7	,, 20	288	36	—	14	3	22	4	49	46	25	37.5	44.5	979	7.1	0.01
8	,, 27	297	39	—	7	4	14	4	50	47	29	39.9	44.2	1753	5.5	0.03
9	Mar. 5	277	32	—	5	3	21	1	61	45	29	35.5	44.1	2135	31.3	0.05
10	,, 12	287	37	—	5	1	15	4	63	46	25	36.4	43.6	1449	32.8	0.32
11	,, 19	293	19	—	7	2	24	1	39	51	27	39.4	43.4	804	23.4	—
12	,, 26	232	29	—	8	5	22	2	39	52	33	44.3	43.8	1000	17.3	0.38
13	April 2	257	35	—	5	4	19	—	30	52	33	44.0	44.4	1790	17.7	1.24
14	,, 9	244	27	1	4	2	25	3	41	57	32	41.4	44.4	2374	29.9	1.17
15	,, 16	226	24	—	5	3	15	3	28	54	32	42.1	44.2	2255	29.2	0.52
16	,, 23	214	20	1	4	—	20	2	24	54	34	43.3	44.3	1664	26.3	0.42
17	,, 30	216	19	—	1	4	16	4	21	58	37	47.9	44.8	1289	17.6	0.90
18	May 7	180	13	—	5	—	7	2	15	57	34	44.6	45.5	1632	14.1	1.54
19	,, 14	193	23	1	2	5	27	1	22	64	34	49.8	45.5	1287	26.9	0.42
20	,, 21	177	12	—	3	2	18	1	13	65	47	56.1	47.2	1364	16.2	3.28
21	,, 28	201	23	—	2	1	14	4	22	63	38	49.1	47.9	1346	12.3	1.35
22	June 4	175	10	—	3	—	17	1	7	66	42	52.6	48.1	1095	21.0	0.27
23	,, 11	165	18	—	—	4	15	2	17	71	39	53.7	48.3	963	31.8	0.24
24	,, 18	170	12	—	1	3	15	1	17	73	45	59.3	49.7	1563	70.7	—
25	,, 25	187	13	—	2	1	23	1	11	70	47	56.9	50.6	887	26.4	0.11
26	July 2	198	20	—	2	1	14	3	21	75	54	62.2	51.4	1503	35.4	1.27
27	,, 9	185	18	2	—	4	10	3	15	78	49	61.0	52.0	1266	30.7	0.01
28	,, 16	197	12	—	1	2	9	1	12	79	52	63.6	53.1	884	21.0	1.04
29	,, 23	155	16	1	—	1	16	1	9	69	47	56.8	53.4	1368	21.6	0.21
30	,, 30	193	12	1	1	5	12	2	13	72	50	60.0	53.2	1649	23.5	0.51
31	Aug. 6	141	14	3	—	—	14	1	9	74	52	61.8	53.7	1209	27.2	0.94
32	,, 13	181	23	—	1	5	11	3	11	85	55	66.2	54.7	828	66.1	0.01
33	,, 20	168	10	—	—	—	11	2	18	91	57	67.4	55.6	959	36.5	0.81
34	,, 27	143	14	2	2	—	15	1	10	72	50	58.6	56.1	1510	15.0	0.22
35	Sept 3	153	15	—	—	2	11	—	9	73	50	61.1	55.6	1742	21.6	1.46
36	,, 10	167	12	1	1	1	12	1	17	68	47	56.4	55.5	1619	26.0	1.27
37	,, 17	168	20	1	—	4	10	3	6	75	49	61.9	55.2	1251	28.4	0.13
38	,, 24	172	13	2	—	1	12	2	9	60	41	50.1	55.2	1237	22.6	0.79
39	Oct. 1	168	17	1	—	7	15	1	11	63	38	50.4	54.2	1773	36.8	0.70
40	,, 8	193	17	—	—	1	19	1	14	60	36	48.1	53.3	1803	24.1	0.84
41	,, 15	190	13	—	—	5	17	2	10	56	37	47.1	52.2	1695	33.7	0.80
42	,, 22	204	14	1	—	2	12	2	21	58	41	50.3	51.6	2033	17.8	1.06
43	,, 29	221	17	1	—	3	17	2	15	55	33	44.6	51.4	1737	10.9	0.51
44	Nov. 5	203	16	5	—	2	13	1	24	58	38	46.9	50.8	2098	15.3	0.69
45	,, 12	189	13	3	1	—	11	1	23	50	35	43.4	50.2	1161	11.9	0.05
46	,, 19	179	11	2	—	3	13	2	11	45	35	40.0	49.4	1442	—	0.22
47	,, 26	215	22	1	1	1	16	5	17	54	35	44.2	48.7	2080	14.1	0.88
48	Dec. 3	221	19	2	—	2	12	—	31	48	33	41.8	48.1	2160	15.9	0.58
49	, 10	202	21	3	—	1	18	1	23	44	32	36.9	47.8	1778	14.6	—
50	,, 17	241	11	2	—	1	22	3	32	52	32	41.4	46.5	2266	6.5	0.13
51	,, 24	275	18	4	—	1	9	3	56	52	40	46.8	47.0	1982	8.8	0.17
52	,, 31	407	31	8	—	3	17	4	91	47	31	41.3	47.1	1505	6.4	0.58

INDEX.