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CORPORATION OF GLASGOW.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

CITY OF GLASGOW.

1914-1919.

ORDERED BY THE COMMITTEE ON HEALTH TO BE PRINTED.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEARS

1914-1919.

PART I.—SECTION I.

POPULATION, &c.

No Annual Report was issued for the war years.

In previous years it was customary to treat the vital statistics of the City as a whole, and to utilise corresponding data for each of the separate wards, in order to compare their sanitary conditions with that of the City generally.

In the present Report less reliance can be placed on the ward rates owing to an element of uncertainty in estimating the ward populations. But as the reconstructed wards become effective for representative purposes in November next, the statement which follows has been prepared to indicate the relationship of the existing to the new wards, and to show the different death-rates prevailing among the populations as they will be re-grouped within the new ward boundaries. In this way the rates may serve to show the portion of the ward area most urgently requiring attention.

	New Ward.	Old Wards entering into New Wards.
1.	Shettleston and Tollcross,	Mile end (17·6), Dennistoun (11·2), Shettleston and Tollcross (13·6).
2.	Parkhead,	Dalmarnock (16·7), Mile-end (17·6), Whitevale (18·3), Shettleston and Tollcross (13·6).
3.	Dalmarnock,	Dalmarnock (16·7).
4.	Calton,	Calton (19·3).
5.	Mile-end,	Mile-end (17·6).
6.	Whitevale,	Whitevale (18·3), Shettleston and Tollcross (13·6).
7.	Dennistoun,	Dennistoun (11·2).
8.	Provan,	Dennistoun (11·2), Springburn (15·6).
9.	Cowlairs,	Springburn (15·6), Cowlairs (13·7).
10.	Springburn,	Springburn (15·6), Cowlairs (13·7).
11.	Townhead,	Dennistoun (11·2), Townhead (16·7), Exchange (15·0).
12.	Exchange,	Whitevale (18·3), Dennistoun (11·2), Blackfriars (19·8), Exchange (15·0).
13.	Blythswood,	Exchange (15·0), Blythswood (11·5), Broomielaw (21·5), Park (12·8), Cowcaddens (20·1).
14.	Anderston,	Broomielaw (21·5), Anderston (18·0).
15.	Sandyford,	Sandyford (17·4).
16.	Park,	Park (12·8).
17.	Cowcaddens,	Cowlairs (13·7), Townhead (16·7), Cowcaddens (20·1).
18.	Woodside,	Cowcaddens (20·1), Woodside (14·5).

The figures in brackets show the average deaths of the old wards during 1914-1919.

	New Ward.	Old Wards entering into New Wards.
19.	Ruchill,	Cowlairs (13·7), Woodside (14·5), Maryhill (13·5).
20.	North Kelvin,	Woodside (14·5), Maryhill (13·5).
21.	Maryhill,	Maryhill (13·5).
22.	Kelvinside,	Kelvinside (9·3), Partick East (14·4), Partick West (12·8), Partick Central (14·1), Jordanhill (10·5).
23.	Partick (East),	Park (12·8), Partick East (14·4), Partick Central (14·1).
24.	Partick (West),	Partick Central (14·1), Partick West (12·8).
25.	Whiteinch,	Kelvinside (9·3), Partick West (12·8), Jordanhill (10·5).
26.	Hutchesontown,	Hutchesontown (18·4), Govanhill (13·0).
27.	Gorbals,	Blackfriars (19·8), Hutchesontown (18·4), Gorbals (15·6).
28.	Kingston,	Kingston (17·5), Kinning Park (18·4).
29.	Kinning Park,	Kingston (17·5), Kinning Park (18·4), Plantation (16·4).
30.	Govan,	Plantation (16·4), Ibrox (17·6), Govan Central (17·5).
31.	Fairfield,	Govan Central (17·5), Fairfield (13·6).
32.	Pollokshields,	Kingston (17·5), Pollokshields (11·1), Kinning Park (18·4).
33.	Camphill,	Kingston (17·5), Govanhill (13·0), Langside (10·1), Pollokshields (11·1), Pollokshaws (13·9).
34.	Pollokshaws,	Langside (10·1), Pollokshields (11·1), Pollokshaws (13·9).
35.	Govanhill,	Gorbals (15·6), Govanhill (13·0), Langside (10·1).
36.	Langside,	Govanhill (13·0), Langside (10·1).
37.	Cathcart,	Cathcart (10·1).

The figures in brackets show the average deaths of the old wards during 1914-19.

Estimates of the population during the war years, and of that which followed and witnessed mass-demobilsation in active progress, must be accepted tentatively, and rates based on them held subject to revision should the Census of 1921 disclose a wide divergence from the figures obtained by assuming that the number of occupants per inhabited house remained fairly constant throughout a decade which included nearly five years of continuous warfare.

The demand for housing accommodation which arose acutely in 1915, when munition and other workers in war industries were concentrating on factory zones, tended at first and naturally towards the hitherto unoccupied houses. But the number of houses occupied ceased for the time at least to be a reliable index to the increase of population, as was shown by a special enumeration in 1916 in certain areas selected, as fairly representing the average condition of individual wards, where a combined population of 57,297 at the Census of 1911 was reduced to 55,288 in 1916, while the number of houses occupied in these areas had increased from 12,207 to 13,280. The following report was submitted to the Committee on Health:—

REPORT OF AN ENQUIRY INTO HOUSE PRESSURE.

Is the Return of Population to the Central Districts of the City associated with an Increase in the Number of Persons per House?

This enquiry was undertaken with the object of making a sample test of the movement of population in representative areas since the Census.

The enquiry originated in a doubt as to the accuracy of recent estimates of population, especially since annexation, and the desirability of ascertaining whether the numerical relationship between houses and population was being maintained.

For the added districts, which represent the growing fringe of the population, data in sufficient detail for comparison are not available prior to annexation.

But within the former area, notwithstanding the comparative immobility in the number of births occurring annually, the increase in population suggested by the increased number of occupied houses would, in ordinary circumstances, have amounted to about 63,000 since 1912.

The area of the increase was even more remarkable than its volume, for it indicated a reflux of population to districts which for years had shown an uninterrupted decrease. Becoming first apparent in 1913, it ultimately affected every ward within the present municipal boundary, so that the number of unoccupied houses fell from 22,637 in 1912 to 4,505 in 1916, while the number of houses returned as occupied increased in the same years from 213,256 to 230,614.

At first it seemed as if error might lie in some change in the application of the term "house," but the outbreak of war raised the further question whether the outgoing of men on service had been on a scale large enough to affect the average number of persons occupying the increased number of households.

As the Water Department had for its own purposes a desire for approximately precise information regarding the population, a sample enquiry was agreed upon and carried out by the officers of both departments during the months of May and June, 1916.

The method adopted was to select certain groups of Census enumeration areas, which severally could be regarded as fairly representative of individual wards, and collect, by house-to-house visitation, information which, in respect of age, sex, and civil conditions, would be fairly comparable with that obtained at the Census. Thirty-two areas were selected in thirty separate wards. The occupied houses in these areas at the Census numbered 12,207 and the occupants 57,297, or between 5 and 6 per cent. of houses and population. The recent enumeration has shown that in these areas the occupied houses have increased to 13,280, while the population inhabiting them has fallen to 55,288. The occupied houses had increased by 1,073, while the population decreased by 2,009.

3,760 members of the families now occupying these areas are on service (6·8 per cent.), while 3,519 (or 6·3 per cent.) of the inhabitants are lodgers.

Although the number of lodgers almost balances the number on service, it does not affect the increase in the number of houses, or explain the decrease in the total number of occupants.

The combined result of the changes is that, while more houses are now occupied, the number of persons per house is reduced, so that, instead of an average of 4·7 persons per house in these areas at the Census, we have now only 4·2, which would only be raised to 4·45 if we add the men on service. This reduction suggests that the estimate of total population of the City in the middle of 1916 may be 50,000 in excess of the actual.

Changes in Age and Sex.—The changes, however, have been much more profound than is indicated by the decrease of 2,000 persons. Males are fewer by 2,477, females by 468.

All but 181 of the reduction in males occurs at the ages 10-45, while the increase in females has chiefly been at the ages under 10, and again between 15-25. At most ages over this a reduction has occurred.

Taking both sexes together, the reduction affects all ages over 10 years.

Marriages. — The married males in residence are reduced by 352, but the unmarried by 2,044; while married females under 45 have increased by over 900—the increase at ages 20-25 accounting for fully half (539) of this difference. Between the ages 20 and 35 the wives in residence exceed the husbands by 1,792, and it seems probable that, in war marriages and the formation of independent households, we have part at least of the explanation, both of the increase in the number of houses occupied and of the reduced population in them. The number of infants under one year in these areas has increased by 400.

Arrest of Natural Growth of Population. — A point of importance to which attention may be drawn illustrates one of the results of the shortage of housing accommodation. It has often been stated that a stationary population increases by the number by which its births exceed

its deaths annually. Apart from the effect of migration from or to the City, this would become the actual increase. But the final result is determined by the difference between births and deaths and the difference between the numbers leaving and those coming to the City to live. This, again, will be influenced by many factors, especially opportunities of work and house accommodation. For the first time since the extension of boundaries in 1912, much of the natural increase of 1919 was lost, the excess of births being 7,496 and the estimated increase only 1,952. The differences for several years are given in Table on page 6, and the rapid re-occupation of houses during the period is shown in the following table. The number of unoccupied houses in 1919 represents an available margin of only ·27 per cent., the lowest recorded since the Census of 1871.

GLASGOW.—INHABITED HOUSES WITHIN THE OLD AREA OF GLASGOW AND IN THE ADDED AREA.

YEAR.	AREA BEFORE 1912 EXTENSION.			AREA ADDED IN 1912.		
		Increase +	Decrease −		Increase +	Decrease −
1911	164,528	...	...	47,530	...	...
1912	164,541	13	...	48,715	1,185	...
1913	166,612	2,071	...	50,340	1,625	...
1914	170,665	4,053	...	51,439	1,099	...
1915	174,078	3,413	...	52,002	563	...
1916	178,042	3,964	...	52,572	570	...
1917	180,040	1,998	...	52,657	85	...
1918	181,491	1,451	...	52,731	74	...
1919	181,895	404	...	52,754	23	...

NUMBER OF UNOCCUPIED HOUSES CLASSIFIED ACCORDING TO NUMBER OF APARTMENTS.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.
One apartment, ...	4,169	3,566	2,943	1,884	957	587	319
Two apartments, ...	9,762	7,399	4,791	1,892	807	344	181
Three ,, ...	2,731	1,429	768	179	64	30	21
Four ,, ...	954	404	239	55	23	16	13
Five ,, and up,	1,094	678	536	495	283	132	103
	18,710	13,476	9,277	4,505	2,134	1,109	637

Appendix Tables I, II, and III contain the detailed ward figures of population, occupied and unoccupied houses, for the years 1914-1919.

LININGS GRANTED BY DEAN OF GUILD COURT.

Table IV in the Appendix contains the statement of linings for new houses granted by the Dean of Guild during the years ending 31st August, 1914 to 1919.

TEMPERATURE AND RAINFALL.

Table V in the Appendix gives an abstract of the meteorological observations taken at Glasgow University during the year 1919, together with the records of rainfall for the five preceding years, 1914-1918.

SECTION II.

VITAL STATISTICS.

SUMMARY.

	1914	1915	1916	1917	1918	1919
Population,*	1,055,930	1,074,577	1,095,171	1,105,529	1,112,704	1,114,656
Acreage, ...	19,183	19183	19,183	19,183	19,183	19,183
Persons per acre, ...	55	56	57	58	58	58
Number of Inhabited Houses, ...	222,104	226,080	230,614	232,697	234,222	234,649
Deaths—Number registered, ...	17,719	20,351	16,875	17,079	18,821	18,613
„ After correction for Institutions, &c.,	17,518	20,158	16,601	16,691	18,362	18,237
Births—Number registered, ...	29,618	28,090	27,348	24,293	23,733	26,109
„ After correction for Institutions, &c., ...	29,455	27,941	27,087	24,026	23,515	25,832
Death-rate per 1,000 living—All causes, ...	16·59	18·76	15·16	15·10	16·50	16·36
Birth-rate per 1,000 living, ...	27·90	26·00	24·73	21·73	21·13	23·18
Deaths under One Year—Registered, ...	3,904	4,007	2,994	3,081	2,649	2,933
„ „ „ After correction, ...	3,913	4,007	2,996	3,091	2,660	2,937
„ „ „ Per 1,000 births, ...	133	143	111	129	113	114

* Estimated to middle of year.

BIRTHS.

The number of births during the several years fluctuated markedly. In 1914 they numbered 29,455; in 1918, 23,515; increasing in 1919 to 25,832. These represent rates of 27·9, 21·1, and 23·2 per 1,000 of the population.

The following table shows birth-rates for Glasgow and Scotland for fifty years:—

	Glasgow.	Scotland.
1871-80, ...	36·6	34·9
1881-90, ...	36·5	32·4
1891-1900, ...	33·7	30·3
1901-1910, ...	31·2	28·4
1911, ...	27·7	25·6
1912, ...	28·1	25·9
1913, ...	27·9	25·5
1914, ...	27·9	26·1
1915, ...	26·0	23·9
1916, ...	24·7	22·8
1917, ...	21·7	20·1
1918, ...	21·1	20·2
1919, ...	23·2	21·7

On the basis of the Registrar-General's Returns, the following comparison is made of the rates for several periods in Glasgow and other towns:—

	1914.	1915.	1916.	1917.	1918.	1919.
Glasgow, ...	**28·0**	**26·0**	**24·8**	**21·8**	**21·2**	**23·2**
Edinburgh, ...	19·9	17·9	17·5	14·8	14·5	16·6
Dundee, ...	25·2	21·8	20·5	15·6	16·0	18·7
Aberdeen, ...	24·6	23·0	21·5	17·4	16·3	20·2
London, ...	24·3	22·6	21·5	17·9	16·0	18·2
Liverpool, ...	30·3	28·3	26·0	22·4	21·7	23·2
Manchester, ...	25·7	22·8	21·0	17·6	17·6	17·7
Birmingham, ...	27·1	24·8	22·4	18·8	17·9	19·9

The numbers and rates for the several wards are given in Appendix Table VI, while Table VII gives details as to illegitimate births.

Reference has already been made to the failure to retain all the natural increase in population in 1919, and the following table shows the difference between this and the estimated increase of population for several years:—

Year.	Births Registered.	Deaths Registered.	Difference being Natural Increase.	Estimated Increase.
1913, ...	28,688	17,777	10,911	14,313
1914, ...	29,618	17,719	11,899	26,452
1915, ...	28,090	20,351	7,739	18,647
1916, ...	27,348	16,875	10,473	20,594
1917, ...	24,293	17,079	7,214	10,358
1918, ...	23,733	18,821	4,912	7,175
1919, ...	26,109	18,613	7,496	1,952

MARRIAGES.

GLASGOW.—MARRIAGES PER 1,000 PERSONS LIVING.

1871-1880, ...	9·1	1914, ...	9·8
1881-1890, ...	9·3	1915, ...	10·3
1891-1900, ...	9·4	1916, ...	8·6
1901-1910, ...	8·8	1917, ...	8·3
1911, ...	9·5	1918, ...	9·4
1912, ...	9·9	1919, ...	9·0
1913, ...	9·5		

DEATHS.

The rates for Glasgow and for several of the large towns in England and Scotland are:—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890, ...	24·22	1914, ...	16·59
1891-1900, ...	21·53	1915, ...	18·76
1901-1910, ...	19·56	1916, ...	15·16
1911, ...	16·44	1917, ...	15·10
1912, ...	16·26	1918, ...	16·50
1913, ...	17·14	1919, ...	16·36

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1914.	1915.	1916.	1917.	1918.	1919.
Glasgow, ...	**16·6**	**18·8**	**15·2**	**15·1**	**16·5**	**16·4**
Edinburgh, ...	15·5	16·6	14·6	14·9	15·2	16·5
Dundee, ...	16·9	21·1	16·1	14·7	17·4	14·7
Aberdeen, ...	16·9	18·7	14·3	14·5	15·4	14·8
London, ...	14·6	16·8	14·7	15·7	19·2	13·6
Liverpool, ...	19·8	19·6	19·1	18·4	21·9	17·1
Manchester, ...	17·0	17·5	16·2	15·6	18·4	14·4
Birmingham, ...	15·2	14·9	14·3	13·0	15·2	13·7

Despite the strain on the civil population during the period and the pandemic of influenza towards its close, which increased the rates of the fourth and first quarter of 1918-19 to quite unusual ranges, the average health of the population was fairly maintained, and the rates on the whole were lower than during any previous period of like duration.

Transfer Deaths.—The death-rate of the resident population includes the deaths of persons formerly resident in Glasgow, but dying in institutions or elsewhere beyond the City boundary. During the period the annual additions from these sources varied from 758 in 1914 to 994 in 1918, representing an increase in the death-rate from 15·9 and 15·6 to 16·6 and 16·5 in the years named. (See Appendix Table XII.)

The principal causes of death are summarised in the table which follows:—

SUMMARY OF DEATH-RATES PER 1,000 FROM PRINCIPAL CAUSES.

	1914.	1915.	1916.	1917.	1918.	1919.
General Diseases—						
(*a*) Infectious, ...	1·54	2·52	1·11	1·65	1·02	1·11
(*b*) Septic, ...	·10	·06	·07	·06	·06	·07
(*c*) Tuberculous—						
(1) Phthisis, ...	1·31	1·39	1·32	1·27	1·24	1·06
(2) Others, ...	·67	·55	·63	·56	·56	·45
(*d*) Malignant (cancer, &c.),	1·01	·96	·95	1·00	1·05	1·09
(*e*) Other General diseases,	.20	·25	·20	·14	1·85	1·63
Diseases of the nervous system, ...	1·73	1·89	1·67	1·59	1·61	1·56
Diseases of the circulatory system, ...	1·72	1·80	1·54	1·56	1·50	1·59
Diseases of respiration, ...	2·80	3·79	2·59	2·53	3·22	3·27
Do. digestion, ...	1·43	1·25	1·33	1·05	1·03	·98
Congenital defects and malformations (including premature births), ...	1·17	1·13	·99	·93	·88	·96
Violence, ...	·64	·66	·63	·55	·50	·51
All other causes, ...	2·27	2·51	2·13	2·21	1·98	2·12
All causes, ...	16·59	18·76	15·16	15·10	16·50	16·40

Infectious diseases were less prevalent; the death-rate among infants in 1916 is the lowest yet recorded, and but for the pandemic of influenza and concurrent pneumonia which swept over the country in the closing years of the period, and is indicated in the increased death-rate from diseases of the respiratory organs in 1918-19, still lower rates would have prevailed.

As specific illustration of the effect of influenza, the deaths occurring in the fourth quarter of 1918 and first quarter of 1919 may be quoted. The total deaths registered in the former quarter numbered 6,964, and in the latter 7,606. The death-rate in the fourth quarter of 1919 was only 13·4, as against 24 in 1918, and 27·1 in the first quarter of 1919, as against 14·6 in 1918, and if we apply these normal rates to the influenzal quarters the total number of deaths in these years would have been reduced approximately by 3,065 and 3,483, and the yearly rate would have been 14·2 and 13·5 per 1,000.

How much of this improved health was due to the more orderly lives of the civilian population, to the better feeding of children, and to the reduced drunkenness may be matter of opinion, and not readily demonstrable, but it was the uniform experience of the visiting nurses and others whose daily work took them into the houses of the poorest of the population that food and furnishings and habits were all improved.

Quarterly Death-Rates. — For comparative purposes a table, based on the Quarterly Returns of the Registrar-General, is here introduced, showing the quarterly death-rates for each year since 1914:—

GLASGOW.—QUARTERLY DEATH-RATE, 1914-1919.

	1914.	1915.	1916.	1917.	1918.	1919.
First Quarter, - - -	18·1	22·2	16·7	18·0	14·6	27·1
Second ,, - - -	16·1	19·8	15·6	17·2	14·6	14·3
Third ,, - - -	15·1	14·2	13·1	12·1	12·7	10·6
Fourth ,, - - -	17·7	18·6	15·5	12·6	24·0	13·4
Year, - - -	16·6	18·8	15·2	15·1	16·5	16·4

In Appendix Table X the death-rates of several groups of diseases are given.

The principal zymotic diseases show a decrease from 2·2 to 2·9 per 1,000 in 1914-15 to 1·4 and 1·6 in 1918-19.

Deaths from all forms of tuberculosis fell from 19 in 1914 to 15 per 10,000 in 1919; pulmonary tuberculosis from 13 to 11; the other forms from 7 to 4.

Deaths from other diseases of the respiratory organs rose in 1918-19 owing to the influenza prevalence. (See also special report, page 56.)

Age and Sex Distribution.—Details of these are contained in Appendix Table XI, which also shows the distribution at several age periods per 1,000 deaths. The most striking feature of the latter is the reduction in the proportion of infant deaths, but in this connection the reduction in the birth-rate must be remembered.

Ward Rates.—Appendix Table VIII gives the deaths and death-rates for each ward, but, bearing in mind the element of uncertainty regarding the accuracy of the estimate of ward population, these must be regarded as possibly subject to revision. Table IX gives the numbers and rates for several classes of disease.

Deaths in Hospitals, Nursing Homes, and Other Institutions. — It may be useful at the moment, when the need for providing extended facilities for the adequate institutional treatment of disease is receiving attention, to note the very considerable proportion of deaths which occur in institutions for the adequate institutional treatment of disease is receiving attention, to or fully 28 per cent., occurred in such institutions. (See Appendix Table XIII.)

Uncertified Deaths.—The numbers of uncertified deaths during the six years, 1914-19, are given in the following table under three groups—at ages under 1, 1 to 5, and over 5 years. The number of deaths of illegitimate persons during the same period is added, together with those uncertified. A comparison of the percentages of uncertified deaths under 1 and from 1 to 5 years shows that those occurring among illegitimate children are uniformly higher than among legitimate children, although the difference is becoming less marked.

Year		1914.	1915.	1916.	1917.	1918.	1919.
Not Certified,	– 1 year,	50	47	25	34	35	31
	– 5 years,	10	9	4	4	3	1
	5 + years,	59	127	45	84	44	67
No Medical Attendance,	– 1 year,	87	77	46	33	23	22
	– 5 years,	1	1	...	...	...	...
	5 + years,	16	15	5	1	2	...
Dispensary,	– 1 year,	18	11	4	7	4	3
	– 5 years,	8	6	6	3	2	...
	5 + years,	1	1	...	...	1	...
Deaths of Illegitimate Children,	– 1 year,	398	338	321	300	322	317
	– 5 years,	135	153	107	85	130	124

	Year	1914.	1915.	1916.	1917.	1918.	1919.
Of these not Certified, - - -	- 1 year,	32	21	8	9	12	10
	- 5 years,	7	1	3	2	...	1
Percentage not Certified, - - -	- 1 year,	8·0	6·2	2 5	3·0	2·7	3·2
	- 5 years,	5·2	0·7	2·8	2·4	—	0·8
Death of Legitimate Children—							
Percentage not Certified, - - -	- 1 year,	3·5	3·1	2·5	2·3	2·1	1·8
	- 5 years,	0·6	0·5	0·4	0·2	0·2	...

LEGISLATION.

During the period under review the work of Local Authorities in the mitigation and treatment of disease and allied subjects was considerably extended by the passing of new Acts of Parliament or the issue of Regulations under the Public Health Act.

The more important of these are as follows:—

Midwives (Scotland) Act, 1915.
Notification of Births (Extension) Act, 1915.
Public Health (Ophthalmia Neonatorum) Regulations, 1918.
Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations (Scotland), 1919.
Public Health (Tuberculosis) Regulations (Scotland), 1914.
Venereal Diseases Act, 1917.
Public Health (Venereal Diseases) Regulations (Scotland), 1916.
Housing of the Working Classes Acts, 1914 and 1919.
Aliens Restriction (Amendment) Act, 1919.
Rats and Mice (Destruction) Act, 1919.

SECTION III.

MATERNITY AND CHILD WELFARE.

The heavy casualties of the war and the employment of large numbers of women in industrial occupations led to increased attention being paid to the conditions on which the welfare of mothers and infants depend. Much work that hitherto had been undertaken voluntarily by many Local Authorities became obligatory by the passing of the Notification of Births (Extension) Act, 1915. It enabled Local Authorities to make provision for expectant and nursing mothers and children under five years of age. A Treasury grant to the extent of 50 per cent. of any expenditure on schemes approved by the Local Government Board was also provided.

These extended powers, which may include the provision of day nurseries, schools for mothers, hospital and home treatment, midwifery service and home helps, convalescent homes, and food in selected cases, either by the Local Authority or by arrangement with voluntary institutions or associations, were dealt with in the following reports to the committee:—

REPORT ON MATERNITY SERVICE AND CHILD WELFARE SCHEME.

In former Memos. of September 3rd and November 29th, 1915, and of March 3rd, 1916, I described—

(1) The work of the Infant Consultations, and of the medical and nursing staffs attached to them; and of the Glasgow Infant Health Visitors' Association (Memo. I, p. 15);

(2) The development of these in relation to existing voluntary organisations, so as to form units in a Local Authority scheme under Section 3 (1) (*b*) of the Notification of Births Act, 1915 (Memo. II, p. 16); and

(3) The development of special functions by the Royal Maternity Hospital, the Nurses' Training Home, Govan, and the Royal Hospital for Sick Children, to form units in a Local Authority scheme for the care of mother and child in the ante-natal period, and until the nursing period is over (Memo. III, p. 18).

Subsequently a formal exchange of views took place between representatives of the Infant Welfare Committee of the Corporation and of both hospitals, and the Medical Officer has had an opportunity of conferring with the President and Secretary of the Nurses' Training Home, Govan.

The committee is thus in a position to take such steps for the introduction of a scheme of maternity service and infant welfare as will form a prelude to the development of others which, equally with them, will fall within the scope of Section 3 (1) (*b*) of the 1915 Act.

It is well to remember that the Act lays on Local Authorities obligations to take action in furthering the welfare of infancy much in advance of any previous legislation, and that an adequate realisation of its purpose will require not only much and repeated consideration, but from time to time expansion of its area of action much beyond what is here indicated. In the words of the Act, the Local Authority may arrange "for attending to the health of the expectant mother and nursing mother, and of children under five years of age."

Current opinion has already crystallised round the earlier and more urgent needs. Some of these may be met by a new or extended use of existing organisations. Others will require the operation of machinery devised for the purpose.

Dispensaries.—For the expectant mother who can seek advice, dispensaries or pre-natal consultations are required, at convenient centres, supplemented by a

system of home visitation in cases where attendance at a dispensary is impossible, and residence in a hospital unnecessary. Corresponding facilities are required for children, and our existing infant consultations may readily become expanded where new provision is necessary.

Hospital Accommodation.—But by whatever way we propose to discover the adult patient in whom the disorders of pregnancy may lead to graver peril unless efficiently dealt with, or the nursling whose disordered digestion is preparing the way for some form of adult inefficiency should he survive, cases are bound to occur not infrequently where circumstances will combine to render the provision of hospital beds necessary. In the case of the child at least the full utility of the bed will only be obtained when it is associated with ready access to a laboratory fully equipped to enquire into the physical and chemical defects of food and digestion, and prepared to construct synthetically the form of food adapted to physiological needs; or, alternatively, so to influence by treatment the health of the mother when the child is still being nursed.

For ante-natal conditions generally the Maternity Hospital and the Nurses' Training Home, Govan, should prove most suitable centres for advice or treatment, and the interviews already referred to had this, among other, objects in view.

In a similar way for the nursling alone, or accompanied by its mother, one looks to the Sick Children's Hospital as the natural place for bed accommodation, while its dispensary may act as a unit in the scheme for outdoor treatment. But to yield their full value, beds should be available on demand; there should be no waiting list; and, in consequence, it would seem that here at least the problem of dovetailing rate-aided machinery into the administration of institutions conducted on a voluntary basis will require careful adjustment if the full benefit of voluntary contributions is to be maintained.

Beds of this character will, however, receive only the graver forms of ante-natal and defective nutrition cases—those cases, indeed, which cannot be efficiently dealt with in dispensaries or in their own homes.

Home Visitation.—For both groups also—ante- and post-natal—some system of domestic visitation will be required for such cases as cannot attend a dispensary and may be treated at home. The simpler form of this may be supplied by Health Visitors, but medical advice will occasionally at least be necessary. Where these are the wives or children of insured persons, this might be secured by the extension of medical benefit to dependants were the approved societies able to meet the cost, while for the dependants of the non-insured the option at the moment would seem to be between a whole-time municipal medical service and an arrangement with local practitioners on the parallel of the existing panel. Local conditions will probably in the first case determine the initial arrangement, but here, as in the case of the voluntary hospitals, circumstances would appear to be demonstrating the necessity for recasting to some degree the form under which medical service is to be provided.

The Elements in a Welfare Centre.—Even an elementary conception of a maternity and child-welfare centre, however, would include more than is here indicated. There is abundant evidence that much of the life lost in infancy is avoidable only by adequate antecedent attention to the health of the mother, and the new Act is a frank acknowledgment that hitherto provision for this has not been adequate.

In like manner, save for tentative efforts made to combat mortality during the first year of life, the widespread neglect of children during the period which intervenes until the school age is reached has only become clearly demonstrated since medical inspection of school children disclosed the prevalence of defects acquired before the school period begins. The Act provides for the filling of these gaps, and public opinion, once it fairly grasps the importance and scope of the provisions which the Act enables a Local Authority to make, is not likely to remain satisfied with any scheme which tries to find expression only through adjuncts to existing institutions. Indeed, it seems a reasonable anticipation that the Act will supply the means for creating a new objective for public sentiment and activity, and the child-welfare

institute of a district may in time become a centre both of sentiment and effort to prevent children becoming permanently handicapped by defects which may be avoided. The number of such centres must be determined by the requirements of the population. For Glasgow, one is required in each of the industrial districts; but to be successful it must be on a scale commensurate with its purpose and attractive enough to arrest attention. If this is kept in view valuable results are likely to follow.

It is, however, probably necessary to enter a word of caution. There is some danger that the Act may be regarded as capable of successfully combating all the defects in our child population, and producing a healthy and vigorous race amidst surroundings which have so notably failed in the past. I gravely doubt this. The Act is an auxiliary measure, and, given an adequate basis in substantial reform of environment, is capable, I believe, of enormously benefiting the children who will come under its operation. But it would be a mistake of the first magnitude to hope that the best results may be obtained unless it is associated with reform in the conditions of housing on a scale very much wider than has hitherto been attempted, and with a continued insistence on all the other factors in sanitary reform which experience has shown to be of value. As an adjunct to these it is possible, I believe, to anticipate a time when physical deterioration will cease to be a necessary feature of city life.

In a child welfare centre of the character I have indicated there would be included an ante-natal clinic and an infant consultation, a crèche or day nursery, an ample playground, and a kindergarten, all of them constituting a school of instruction both for students and mothers. Diets would be held for the periodic inspection of children during the whole pre-school age.

The centre should be on a scale sufficient to supply all the requirements of the district, and ample enough in its scope to stimulate civic sentiment round what is fitted to become a new factor in corporate life. Crèches or day nurseries hitherto have been available only for the children of mothers who are compelled to seek work away from their homes. In my Memorandum of April 9th, 1915 (Memo. IV, p. 20), on an experimental crèche in one of the parks, emphasis was laid on the need for similar provision for all children in the poorer districts, and the need for this must be obvious to anyone who observes the swarms of children who try to find healthy exercise in the streets and back courts of these areas. An open-air crèche of this character is one of the most urgent needs.

Fresh-air fortnight schemes and country homes for the more definitely invalid children are extensions essential to the development of the scheme, and existing organisations for these purposes should be invited to co-operate.

The Board's Memorandum of March, 1916, outlines schemes under the Act in the following manner :—

1. *Submission of Scheme.*—In submitting a scheme for approval, the Local Authorities should give, in the form prescribed by the Board, full information regarding—

(*a*) The duties, special qualifications, and salaries (if any) of medical practitioners, nurses, midwives, health visitors, and other officers to be employed;

(*b*) The institutions to be provided or utilised.

2. *General Provisions.*—In its scheme the Local Authority should provide for—

(*a*) The best practicable utilisation of such voluntary institutions or agencies as may be available in its district;

(*b*) The keeping of such records as the Board may require;

(*c*) Teaching facilities at any institutions included in the scheme, and approved for that purpose by any Government Department or other authority concerned.

3. *Health of Expectant and Nursing Mothers.*—In such part of its scheme as concerns expectant mothers and nursing mothers, the Local Authority should,

as far as practicable in its district, provide, secure, or arrange for the following :—

(*a*) Maternity centres, where expectant mothers and nursing mothers may come for medical advice and treatment;

(*b*) A system of home-visitation of expectant mothers and nursing mothers;

(*c*) Such assistance, when confinement takes place at home, as to ensure that the mother shall have skilled and prompt attention;

(*d*) Hospital accommodation when the woman to be confined suffers from illness or any deformity, or when other conditions exist involving danger to mother or child;

(*e*) Hospital accommodation for treatment of complications following the birth of the child;

(*f*) Co-operation with the School Board, or Secondary Education Committees, in the organisation and conducting of schools for mothers or young women.

4. *Health of Children under Five Years of Age.*—In such part of its scheme as concerns children under five years of age, the Local Authority should, as far as practicable within its district, provide, secure, or arrange for the following :—

(*a*) Clinics or consultation centres (which may be conducted at a maternity centre), where the children may be brought for medical advice and treatment;

(*b*) Hospital accommodation for sick children when satisfactory treatment is impossible at home;

(*c*) Convalescent homes for children in impaired health;

(*d*) Day nurseries or nursery schools for children of suitable age;

(*e*) Such records as may enable the Local Authority, through the Medical Officer of Health, to furnish any child of school age with a certified health schedule for presentation on admission to school.

NOTE.—In regard to day nurseries the scheme should contain a specific provision fixing the payment to be made by mothers (*a*) towards the cost of food necessarily provided there for infants, (*b*) generally for the care of their children during the day.

One outstanding element in this outline for which no provision has been made in the present Memorandum has reference to assistance during the mother's confinement at home, but I have purposely deferred considering this until the Midwives Act comes into operation.

For many years an outdoor maternity service has been conducted from the Maternity Hospital, and more recently the Nurses' Training Home has rendered like work in Govan.

Appended to the Local Government Board's Circular are regulations defining the conditions under which grant is to be obtained.

Although the Act was passed as a war measure, the cost of residential treatment in hospitals is at the moment precluded from participating in the grant, but this difficulty is likely to be temporary only, and in any case the Corporation is more likely to consider the requirements of the population than the proportion of any contribution to the cost which the Treasury may ultimately make. Hospital beds for mothers and children are essential to further progress. At the conference with the Maternity Hospital Directors, the cost of opening a ward for ante-natal conditions was tentatively put at £1,000 annually, and the Directors of the Sick Children's Hospital indicated willingness to consider the erection, by the Health Committee, of 25 or 50 nursling beds in their grounds at Yorkhill.

Both suggestions should now be placed on a definite basis. It is also very probable that the Elder Hospital, Govan, may be able to establish a clinic or consultation centre for children under 5, provided a suitable annexe is built adjoining the hospital, and that the Cottage Nurses' Training Home could open a pre-natal consultation, provided the committee authorised our own medical and nursing staff to conduct the consultations.

These several proposals are now sufficiently definite to be brought to a formal conclusion, and included within the extended scheme under the Act. The scheme as already in operation, and the cost for the year 1915-16, was submitted to the Board in my Memorandum of 8th June last. The proposed addition would, therefore, include—

(1) The opening of ante-natal dispensaries at the Maternity Hospital and the Nurses' Training Home, Govan, and at such of the existing 14 infant consultations or tuberculosis dispensaries as may be suitable.

(2) The opening of a ward at the Maternity Hospital for the treatment of ante-natal conditions requiring aid.

(3) The holding of special diets for infant consultations at the dispensary of the Sick Children's Hospital in West Graham Street, and at the Maternity Hospital, and of diets for children up to five years of age at the Elder Hospital, Govan, and at such of our infant consultations as seem necessary.

(4) The provision of beds for nurslings, with or without their mothers, on the grounds of the Sick Children's Hospital at Yorkhill.

(5) The provision of an open-air crèche.

The Training and Qualifications of Health Visitors.

In few fields of administration, I think, has the work of the voluntary Health Visitor been more useful and productive of good than in that of infant visiting. Apart from the actual presence of disease, the reform in household management which they accomplish is not only striking, but must frequently be preventive. Their functions are complementary to those which are based on a technical knowledge of disease, and for the supply of which we must, I think, continue to look to the technically-trained midwife and nurse. Either or both of these qualifications will not of themselves produce a competent staff visitor, but a midwifery qualification is essential if the supervision of midwives is in the future to become part of their work, and a complete training as a nurse produces a certain deftness in handling disease which is not always acquired by a training in midwifery alone.

Voluntary assistance in the work of the Infant Mortality Committee has been a feature in the development of the movement in Glasgow since its inauguration now twelve years ago. In one form or another the several independent committees which amalgamated to form the Glasgow Infant Health Visitors' Association undertook the voluntary visitation of households in a manner which grew increasingly effective, and did much to consolidate the movement.

In the development of work under the Act, which now for the first time bestows legislative sanction on what has already been done, the Corporation will be brought into touch with almost every form of social effort which has the welfare of younger children as its objective.

No good purpose will be served by replacing them by other organisations, but there is much need to have their several fields of activity correlated.

This would appear to be the intention of Section 2 of the Notification of Births Act, which empowers a Local Authority to co-opt, as members of any committee it may appoint, persons—of whom some must be women—from outside its own membership.

In any case, the addition to the committee of representatives from the several organisations already mentioned herein would tend to consolidate and strengthen effort. The Glasgow Infant Health Visitors' Association and Day Nurseries, the Maternity and Sick Children's Hospitals, and the Training Home for Nurses in Govan are all concerned in the present extension of work, but questions are bound to emerge in which the School Board, the Parish Council, and the Fresh-Air Fortnight Committee will require to be consulted.

A. K. CHALMERS,
Medical Officer of Health.

22nd July, 1916.

MEMORANDUM I.

INFANT MORTALITY.

NOTIFICATION OF BIRTHS ACTS, 1907 AND 1915.

The Notification of Births (Extension) Act, 1915, makes compulsory in all districts the principal Act of 1907, and gives important powers for the care of mothers and young children.

In the application to Scotland these are contained in Section III (1) (*b*) (1) and read as follows:—"Any Local Authority within the meaning of the principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of expectant mothers and nursing mothers, and of young children under five years of age within the meaning of Section VII of the Education (Scotland) Act, 1908."

In the circular to Local Authorities on August 18th, 1915, the Local Government Board state that in order to assist in carrying out these and other provisions of the of the Act, Parliament will be asked by the Treasury to make grants to an amount not exceeding one-half of the expenditure incurred by Local Authorities under any scheme sanctioned by the Local Government Board.

Under Section II of the present Act the Local Authority may exercise their powers through a committee or committees which must include women, and may comprise persons who are not members of the Local Authority. Such committee or committees may be empowered to incur expenditure up to the limit fixed for the time being by the Local Authority.

When the principal Act was passed in 1907 Glasgow adopted it, and the scheme for the reduction of infant mortality at present in operation may be summarised as follows:—

(1) The infant mortality staff consists of two lady doctors and ten Health Visitors, all of whom have had maternity training, six of them in addition have hospital training, either in general or fever hospitals, and four others hold certificates in sanitary science. The clerical staff consists of one male and five female clerks, and there are two dispensary attendants.

Births not medically attended are visited at least once, and as these form fully 50 per cent. of the total (numbering last year 15,951), the assistance of the female sanitary inspectors has hitherto been necessary to overtake the primary visits. From the information thus obtained the lady doctors select those requiring further attention by the Health Visitors, who retain them on their visitation lists until they have reached the age of one year, or the home conditions in certain cases so far improve that they may be taken up by the voluntary visitors. The Health Visitors also attend children suffering from ophthalmia neonatorum who are not receiving medical attention, and visit in every instance where puerperal fever has occurred. In 1914 the nurses made 13,308 first visits and 19,114 re-visits.

(2) The Glasgow Infant Health Visitors' Association, formed in 1908, have 20 branches, and about 350 members who continue to visit the children above referred to, who have been passed on to them by the Health Nurses, and report on their condition twice a month until the end of the first year. These ladies made visits in 27 wards of the city last year, and completed reports on 2,735 children.

(3) The Corporation has also established 14 dispensaries in selected districts throughout the city in each of which an infant consultation is held weekly by the lady doctors. Both the Infant Health Visitors and the voluntary visitors advise the mothers to attend those consultations where the children are examined by a lady doctor and weighed, but no medicine or material help is given. These consultations have hitherto only been made use of by children under one year of age. The diets which are shown in the enclosed list are held in premises rented for the consultation hour only from various associations, &c. Most of those premises are unsuitable for further extension of the work.

The further powers now given for infant mortality work, *i.e.*, health of expectant mothers, nursing mothers, and children under five years of age, are to a limited extent provided for by the various voluntary associations, such as the Maternity Hospital and Midwifery Training Schools, and the Day Nursery Association, &c., so that in the first instance members of these bodies might be co-opted with the Infant Mortality Committee to correlate their work with the Health Department, the Voluntary Visitors' Association, and the Poor Law.

The principal requirements at present may be stated as :—

(1) There is no provision for encouraging expectant mothers to come for medical advice;

(2) There is inadequate provision for children between 1 and 5 years; and

(3) There is no supervision of midwives.

The provisions of Section III of the Act would appear to enable a Local Authority to undertake all three, and before the committee submit a description of the work, already being done, for the approval of the Local Government Board in order that they may claim a contribution from the Treasury, they may consider whether at the same time it would not be desirable to ask also the Board's approval of a scheme under the Act for establishing a Municipal Register of Midwives, on which would be entered only those whose qualifications were indisputable, and whose practice conformed to certain well-defined requirements.

It would be impossible, of course, to ask power to prevent from practice those who are not on the Register, but the prestige which soon, one would hope, would be acquired by the municipal midwives would be bound to react in improving the others, and the general standard thereby be raised.*

A. K. CHALMERS,
Medical Officer of Health.

3rd September, 1915.

WEEKLY MATERNITY AND CHILD WELFARE CONSULTATIONS
(as revised and extended in 1919).

DAY.	11 A.M.	2-30 P.M.
Monday, ...	*Adelphi Street, ...	Brown Street.
	Port Street (1-5), ...	*Cosy Corner.
	Weir Street.	
Tuesday, ...	*Shettleston, ...	Port Street.
	High Street, ...	Govan (Ante-natal).
		*Campbellfield Street
Wednesday, ...	Port Street (Ante-natal),	*Brown Street.
	Maryhill, ...	Merryland Street.
	*Merryland Street.	
Thursday, ...	*High Street, ...	Adelphi Street.
	Partick, ...	*Partick.
	Shettleston, ...	Campbellfield Street.
Friday, ...	Adelphi Street (1-5), ...	Cosy Corner.
	*Port Street, ...	Elder Hospital.
	Garngadhill.	

* Denotes the new Consultations.

MEMORANDUM II.

NOTIFICATION OF BIRTHS (EXTENSION) ACT.

The extended powers conferred on Local Authorities by the Act were indicated in the Medical Officer's Memorandum of September 2nd, 1915. The purpose of the present Memorandum is to consider whether these powers may be developed in

* The subsequent passing of the Midwives (Scotland) Act, 1915, renders this unnecessary.

relation to existing institutions, so as to constitute a scheme for giving effect to the provisions of Section 3 (1) (*b*) of the Act. This section reads :—

"Any Local Authority within the meaning of the principal Act may make such arrangements as they think fit, and as may be sanctioned by the Local Government Board for Scotland, for attending to the health of expectant mothers and nursing mothers, and of children under five years of age within the meaning of Section seven of the Education (Scotland) Act, 1908."

For the first time, therefore, a definite administrative function has been attached to the Notification of Births Act, which in its original form was passed in 1907.

Hitherto the work of the Infant Mortality Committee and of the voluntary organisation of health visitors now known as the Glasgow Infant Health Visitors' Association, which has so ably co-operated with the committee, has been tentative and experimental, and confined almost of necessity to the first year of infant life.

The Extension Act enables this work to be approved and consolidated, and extended, not only to children under five years of age, but to expectant and nursing mothers. It completes, indeed, the legislative provision for the welfare of children, by enabling Local Authorities to make special provision for the health of children up to the period when they pass under the supervision of the School Board.

It may be suggested that in one form or another much of the work which may be included within any scheme of child welfare is already being undertaken by the Corporation scheme or other agencies. There are, *e.g.*, in addition to the committee's schemes of infant consultations and domiciliary visiting, a maternity hospital, a hospital for sick children, day nurseries, the East Park Home for Infirm Children, and the Children's Fresh Air Fortnight Scheme. But an infant clinic is almost unknown in a children's hospital, and until lately, if not indeed until now, the work of a maternity hospital was strictly confined to provision for women in labour. Expectant mothers, save among the affluent classes, are still guided by the traditions of folk-lore.* So also with regard to the East Park Home and the Sick Children's Hospital, their function in the past has been exclusively that of dealing with disease after it has become established. The object of the Act, on the other hand, is to get at disease in the process of making; to provide means, indeed, whereby early departures from a physiological standard of healthy living may be recognised, and dealt with before they have become confirmed and established as diseased functions.

It therefore begins by enabling provision to be made for the health of the mother before her child is born, and for continuing this throughout the period of nursing. When this period is over the health of the child may still be supervised until the fifth year, *i.e.*, during the period in which perverted nutrition and defective personal hygiene lay the beginnings of future inefficiency.

In place of the continuous attention implied in any such scheme, the action of all the measures now in operation can only be regarded as occasional and intermittent, and this provision of the Act enables these defects to be remedied.

A complete scheme will of necessity be a matter of development. Mainly it would require—

(1) Effective control of midwives.

(2) The formation of one or more infant clinics, which are essentially for children who are ill, in intimate association with the existing infant consultations and home visiting by the nurses and visitors of the G.I.H.V.A.

(3) The association of all these with hospitals for acute and chronic illnesses, convalescent and fresh-air homes, and open-air crèches.

For this section of the work the Sick Children's Hospital, the East Park Home, and the Fresh-Air Fortnight Schemes might be expected to afford much of the bed accommodation required, but to be effective it should be available on demand.

(4) The provision of consultations for expectant and nursing mothers. These might most conveniently be associated with the Maternity Hospital, the Training Homes for Nurses in Govan, and the consultations for infants.

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* About 10 to 15 per cent. of admissions to Maternity Hospital are for pre-maternity reasons—persistent sickness, kidney, heart, &c., &c.

(5) The association of the day crèches with the infant and children consultations. These crèches might in suitable premises form admirable nuclei of schools for mothers.

These would supply the main elements in the scheme; but to give them cohesion it will probably be desirable, and I believe the Executive Committee of the Infant Health Visitors' Association will be willing, to recast the working arrangements of the visiting scheme, so as to bring the voluntary visitors and the nurses into closer co-operation.

Details of this rearrangement are not required here, but its main feature would endeavour to divide the visitors into groups of 30 or 40, and attach a nurse to each group. To each group thus composed would be allocated information regarding the children born within its special area, so that each would become responsible for passing on such children as required it to the other elements in the scheme.

Already, of course, the committee has broken ground in some of the directions indicated, and the work only requires expansion.

There are already 14 consultations for infants held weekly, at which, during 1914, 5,742 attendances were registered, 2,247 being first attendances and 3,495 revisits; 10 nurses made collectively 32,422 visits, 13,308 of which were first visits and 19,114 revisits; and 2,935 children were visited by the G.I.H.V.A.

In addition, a certain number of children are under treatment at Baird Street Reception House for ophthalmia neonatorum, syphilis, and gonorrhœa, and some of the mothers of the first group are also treated there.

To give effect to the more urgent of the foregoing suggestions, the committee should, I think, ask the approval of the Local Government Board for the formation by the Corporation of a Register of Midwives under the conditions already agreed upon, for insertion in the Provisional Order,* and referred to in the closing paragraph of the Medical Officer's Memorandum of September 2nd.

The next most important of the suggestions has reference to the formation of consultations for expectant and nursing mothers, and the Maternity Hospital and Training Home for Nurses, Govan, should be asked to form such in addition to those which will be established at the infant consultations.

A third urgent need is a dispensary or clinic for infants who are markedly not thriving, and the provision of beds for some of these children, which might be found either in the Maternity Hospital, the Sick Children's Hospital, or Baird Street Reception House.

Were the premises of the Day Nurseries all suitable for the purpose, they would form the most useful centres for the infant consultations.

Many of them are not suitable, but to this the Adelphi Street Nursery is an exception, and the South-Side infant consultation, at present held in C.O.S. premises in Hospital Street, might be transferred there.

With these objects, and having in view the power to include members on the committee other than those representing the Corporation (Section 2 of the Act), an interview might, in the first instance, be asked with representatives of the Maternity Hospital, the Day Nurseries, and Infant Health Visitors. This might be arranged either separately or collectively, but were a working arrangement established with the Maternity Hospital, the realisation of the other parts of the scheme would probably be facilitated.

A. K. CHALMERS.

29th November, 1915.

MEMORANDUM III.

NOTIFICATION OF BIRTHS (EXTENSION) ACT, 1915.

In developing the work outlined in my former Memorandum of 29th November, 1915, attention would, in the first place, be devoted to the following points, which were verbally described at a recent meeting of the special sub-committee:—(*a*) the

* Since this was written the reintroduction by the Secretary for Scotland of the Midwives (Scotland) Bill may render this proposal unnecessary.

difficulties more immediately affecting the mother and child before birth, and (*b*) until at least the nursing period is over.

Taking each separately, the ante-natal period may be said to require some means by which mothers can obtain advice, and if necessary, admission to an hospital. The former may be accomplished by the establishment of district clinics, and in some cases by home visitation. In both cases hospital beds should be available, so that rest and continued treatment may be supplied where necessary. The Maternity Hospital would appear to be the natural place for the provision of beds, and although they may also establish a clinic, it could at most only become one of several such, in order to be readily available to the several districts into which the city might be divided for the purpose. The Cottage Nurses' Training Home, Govan, might be able to establish a second district clinic, but they could scarcely be expected to send their patients who require confinement to bed to the Maternity Hospital, and I doubt at the moment if they themselves have accommodation for this purpose. In any case Rottenrow, which is the site of the Maternity Hospital, and South Avenue, Govan, of the Cottage Nurses' Training Home, might become units in a system of clinics, and the others might for the moment be supplied in places where our present infant consultations are held.

These clinics, however, obviously would only be available for women who are well enough to attend them, and would require to be supplemented by some provision for visiting expectant mothers who are unable to attend, and who could not otherwise obtain medical advice. This could be arranged on the basis of our present infant mortality areas for nurses.

The three elements of the ante-natal scheme would, therefore, be (*a*) weekly clinics in several areas; (*b*) home visitation for those unable to attend; and (*c*) beds to be made available to both groups where necessary. The provision by the municipality of beds for this purpose may be assumed not to require consideration until it has been ascertained to what extent, if at all, the beds in voluntary hospitals fall short of the need. Associated with these, in time, one would hope to see a rescue home established for the mothers of illegitimate children.

Middle Period.—Between the ante-natal and post-natal period there lies the period of confinement, which is, at the moment, probably sufficiently provided for by existing accommodation in the Maternity Hospital, but in any case can only properly be considered when the Midwives Act has come into operation and more is known of the ability of the 400 or more midwives at present in practice.

Post-natal Period.—Here again the work can be grouped in sections—clinics for nursing mothers and children, beds for both, and a system of home visitation where ill-health prevents the mother's attendance at a dispensary. One here again looks to the possibility of the Maternity Hospital, Sick Children's Hospital, and Cottage Nurses' Home, Govan, forming units in a system of clinics, the others being developed alongside our existing consultations. In all cases, however, it is desirable that beds should be provided which would admit two groups of patients—(*a*) nurslings with their mothers, and (*b*) infants who are artificially fed, and might be separated from their mothers. As a considerable number, however, of both groups might have suitable home accommodation, the system of visitation already indicated for the ante-natal period might be organised for infants during the post-natal period, until the children were past the period of nursing. After this they will come under the machinery which will require to be devised for the ages 1-5, in connection with which it may be hoped that the existing Day Nurseries and the Fresh Air Fortnight Association will become centres in a more fully developed scheme.

A. K. CHALMERS.

3rd March, 1916.

MEMORANDUM IV.

THE PURPOSE, STRUCTURE, AND STAFFING OF AN EXPERIMENTAL CRECHE IN THE PARK.

The experimental character of the movement being borne in mind, the following points are suggested for consideration :—

I. The prevalence of rickets among the children of the poorer districts of Glasgow has frequently been made the subject of local inquiry, as well as the object of much criticism from visitors familiar with towns elsewhere.

II. No single cause of this prevalence can be stated with precision, but there is unmistakable evidence that defects in food and housing are largely contributory.

III. For the younger children of the tenements in the poorer districts there is no adequate provision of facilities for sleep or play in fresh air.

IV. For their mothers there is a similar lack of facilities for reasonable leisure and recreation under conditions which can be regarded as health-giving, and which might be made educative.

V. For many years the Day Nurseries' Association has, under considerable financial handicap, provided crèches for the children of mothers who must find employment away from their own homes.

VI. For the mother of the poor districts, whose home duties are equally strenuous and quite as continuous, there is no such provision, nor indeed any by which she may obtain some relaxation from the demands which motherhood entails among the very poor.

VII. A crèche in the parks should, during its experimental stage at least, be devoted to providing for these alone.

VIII. Its structure should be of the simplest character, and, with the necessary additions, might well follow the lines adopted in the Nursery at Ardgoil in connection with the summer excursions for mothers and children.

IX. It should contain a good-sized playroom with open verandahs, two open sleeping-rooms with cots (one for infants, the other for older children under five), a cloak-room, a kitchen and scullery with a milk cupboard, a lavatory, a store-room, and a small room as office for the Matron.

X. *Staff.*—The Matron should be a trained nurse, with a knowledge of children's diseases. For every unit of 25 children she should have a trained maid and two grown-up girls in training for nursery-maids.

XI. It might be open from 9 a.m. till 5 or 6 p.m., or later in summer, and the mothers should be encouraged to bring the children themselves.

XII. Milk and milk puddings would form the staple diet, and a fee should be charged, as is the case with the Day Nurseries, with modifications probably for half-days and weekly attendances.

XIII. The G.I.H.V.A. might be invited to appoint a committee to work in association with Dr. Sutherland and guide the development of the work, so that the interest of the mothers might be encouraged.

XIV. Should experience demonstrate the value of the crèche, a suitable and useful extension of the work would be to make it the infant consultation centre of the district.

A. K. CHALMERS.

9th April, 1915.

MEMORANDUM V.

NOTIFICATION OF BIRTHS (EXTENSION) ACT, 1915.

MATERNITY AND CHILD WELFARE CENTRES.

THE FOLLOWING TABULATIONS REPRESENT, ON THE LEFT-HAND COLUMN, THE WORK FOR THE REDUCTION OF INFANT MORTALITY NOW BEING CARRIED ON BY THE CORPORATION, AND, ON THE RIGHT-HAND COLUMN, THE PROPOSED EXTENSIONS UNDER THE RECENT ACT. IT SHOULD BE READ TOGETHER WITH THE MEDICAL OFFICER'S MEMORANDUM OF 22ND JULY, 1916.

I. HEALTH OF EXPECTANT AND NURSING MOTHERS.

Already in operation under the Local Authority Scheme.

A *Dispensaries*—

No special provision for expectant mothers, but, incidental to the work of the 14 Infant Consultations, some expectant and many nursing mothers are advised.

B *Ante-Natal Ward*—

None.

C *Home Visitation*—

No special provision, but see Memorandum already referred to.

Incidental to the attendance of infants at the Consultations, and of nurslings at their own homes by the Nursing Staff of the Department or the Visitors of the G.I.H.V.A., much visitation is conducted, but it has not had special reference to the health of the mother unless this was reflected in the condition of the infant.

D *Attendance during Confinement*—

No provision.

Annual grant to Maternity Hospital.

Proposed Extensions and Additions.

A *An Ante-Natal Dispensary will be opened at the following places:*—

(1) Maternity Hospital, Rottenrow.

(2) Nurses' Training Home, Govan.

(3) At such of the infant consultations or Tuberculosis Dispensaries as may be found necessary.

NOTE.—The Directors of the Maternity Hospital will supply the medical and nursing staff for their own dispensary.

The dispensary at the Nurses' Training Home, Govan, will be attended by the medical and nursing staff of the Corporation.

All cases requiring institutional indoor treatment will be referred to the Maternity Hospital Dispensary.

B *Ante-Natal Ward*—

The directors of the Maternity Hospital will open a ward for the indoor treatment of ante-natal conditions, and the Corporation will contribute towards the cost of maintenance.

C *Home Visitation*—

See Memorandum already referred to, paragraph "Home Visitation." It is not proposed at present to organise home medical attendance, but to "feel outwards" from the Ante-natal Dispensaries and Infant Consultations in directions where this may be most needed, and to ascertain how it can best be provided. A rearrangement of the method by which maternity benefit is administered might be utilised to the advantage of the mother by bringing her into touch with medical advice before her confinement.

D *Attendance during confinement*—

Provision for this already exists at the Indoor and Outdoor Clinics of the Maternity Hospital and Nurses' Training Home, Govan, and it is not at the moment proposed to make any addition to this until it is ascertained whether any extension is necessary, and the effect of the Midwives Act has been disclosed.

II. Health of Children under 5 Years of Age.

Already in operation under the Local Authority Scheme.

E *Dispensaries—Infant Consultations—*

Medical consultations for infants were begun in 1906, and now number 14, located throughout the city. One consultation per week is held in each.

The city is mapped out into 14 districts, corresponding to the areas in which the infant consultations are held, and 10 nurses are distributed among them.

Home Visitation—

Connected with this work there is a Voluntary Visitors' Association, numbering about 400. The executive units of the Association are formed for the several wards, and the annual number of babies visited by them averages 3,000. They work in close association with the medical and nursing staff.

Home visiting is not continued after the child is one year old, and in many cases is stopped before that age. During 1915 the total number of births not attended by doctors in practice was 16,700, and during that year the total visits made by the nurses was 44,101.

The several portions of the work may be grouped in the following manner :—

I. Registration of Births and Notification of Births Act—

(*a*) Clerk's salary.

(*b*) Cost of Registrar's Return.

(*c*) Other incidental expenditure.

II. Infant consultations and visiting—

(*a*) Medical staff (2).
(*b*) Nursing staff (10).
(*c*) Clerical staff (7).
(*d*) Other incidental expenditure.

III. Ophthalmia Neonatorum—Treatment—

(1) At home by doctors and nurses.
(2) At Baird Street.

IV. Venereal Disease—

Cost of treatment of cases in Baird Street—

F *Hospital Accommodation—*

None for nurslings as such, but, apart from provision for the usual infectious diseases of childhood, the Corporation have beds for ophthalmia neonatorum at Baird Street, and also for a certain number of children suffering from venereal diseases. (See also under "E.")

Grant to Sick Children's Hospital.

Proposed Extensions and Additions.

E *Dispensaries—*

(1) The present consultations for infants will be continued, and their work extended, if, and as required, to include children up to 5 years.

It is proposed, also, that they should to some extent take on the function of dispensaries for treatment.

One of the Consultations has been transferred to the Adelphi Street Crèche of the Glasgow Day Nurseries Association.

(2) The Directors of the Royal Hospital for Sick Children will institute special consultations for infants at their dispensary in West Graham Street.

(3) Subject to financial assistance for such an annexe, the Elder Hospital, Govan, will open a Clinic or Consultation Centre for children under 5 years.

(4) The Directors of the Maternity Hospital will open a dispensary at Rottenrow, primarily for the infants born under their Indoor and Outdoor Clinics.

(5) Every child not medically attended at birth should be visited periodically—at least six times—during the first year. Thereafter the child should be visited at least four times annually, until it is 5 years old.

To accomplish this, the following additions to the staff are proposed :—

(*a*) Extension of visiting work by addition of 10 nurses;

(*b*) Additional services, clerks, and material, &c.

(6) It is proposed to extend the Register of Births to include information obtained during the first five years of life.

F—The Corporation propose to erect an annexe to the hospital, on the grounds of the Royal Hospital for Sick Children at Yorkhill, for 25 beds for nurslings only (breast or artificially fed), and assist in equipping a food laboratory in rooms already provided at the hospital, but not furnished. The medical and nursing attendance will be provided by the Directors of the Hospital.

(1) Cost of erection of ward.
(2) Contribution towards equipping laboratory.
(3) Cost of maintenance of added beds.

Already in operation under the Local Authority Scheme.

G *Crèches—*

None owned by Corporation, but an annual contribution of £50 is made by them to the Glasgow Day Nurseries Association, which conducts 6 day nurseries for the children of working mothers at selected parts of the city.

H *Schools for Mothers—*

(1) None—save occasional addresses to mothers by medical staff.

(2) For several winters before the war a course of lectures to the visitors of the G.I.H.V.A. was arranged, and well attended.

I *Dinners to Expectant and Nursing Mothers—*

An annual grant is at present given to the Cowcaddens Dinner Table for Nursing Mothers for this purpose.

22nd August, 1916.

Proposed Extensions and Additions.

G *Crèches—*

(1) The Nursery at Adelphi Street, conducted by the Association referred to on opposite page, required reconstruction during the past year, and by arrangement provision was made for transferring one of the Infant Consultations to them. A contribution will be made to the cost of reconstruction.

(2) Pending the provision of the Welfare Centres outlined on page 11 of the Medical Officer's Memorandum referred to, the committee hope to be able to move in the direction of providing an open-air crèche in one of the parks. The probable cost of management is indicated in Appendix IV to that Memorandum.

H *Schools for Mothers—*

It is proposed to expand the courses of instruction in questions affecting the health of mothers and infants when the medical staff has regained its elasticity.

A. K. CHALMERS.

The following supplementary report includes the further development of the child welfare scheme and the extension then in contemplation:—

MATERNITY AND CHILD WELFARE.

SUPPLEMENTARY REPORT ON EXTENSION OF SCHEME.

In compliance with the instruction of the committee, I beg to submit the following supplement to former observations on the development of the Maternity and Child Welfare Scheme in Glasgow.

In previous reports* existing provisions were described and the more urgent of the further steps indicated. Since the last of these the opening of an Ante-natal Ward (containing 25 beds) at the Maternity Hospital; of an Ante-natal Dispensary there, and also at the Training Home for Nurses, Govan; of an Infant Consultation at the Maternity Hospital and at the Elder Dispensary, Govan; and of a Dispensary for Children aged one to five, at the latter Dispensary, have been added to the provisions formerly existing.

Further, during the current year the whole work of the Glasgow Day Nurseries Association and the Phœnix Park Kindergarten, together with the adjacent Crèche, Consultation, and Mothers' Dinner Table, has been transferred to the Corporation Welfare Committee.† This addition to the Corporation scheme has significance for two reasons.

* September 23 and November 29, 1915, March 3 and July 22, 1916.

† A site in Sister Street, Bridgeton, containing approximately 1,199 square yards, for the erection of a centre, is a conditional asset of the Day Nurseries Association.

The Nurseries Association was formed in 1883, and the number of children in attendance daily at its six crèches averages about 200. The Sick Children's Hospital had been opened in the previous year, while the Maternity Hospital dates back to 1792. All three are essential to the establishment of a Maternity and Child Welfare Scheme, and each had origin in the philanthropy of the citizens many years before the Legislature regarded child welfare as a fitting objective of Local Authority effort. It may be useful to emphasise this, for the present tendency to measure local effort by the number of its municipal activities is apt to overlook the importance of the work already accomplished by institutions on a voluntary basis. There is a second reason also for regarding the transference of the nurseries to the Corporation as significant. According to the Deed of Transfer each nursery will continue to be administered by a committee of voluntary workers, acting under the direction of an Advisory Committee, on which the Welfare Committee is represented. The recommendations of the Advisory Committee will require the approval of the Corporation Welfare Committee. This principle of co-ordinating voluntary with statutory administrative work is likely to attain pretty large dimensions in the future.

*Ante-natal Clinics.**—Note here may be made of the numbers who have attended the ante-natal clinic at the Maternity Hospital. * * * *

Ante-natal Cases (Home Visitation).—As has been stated, such cases as require indoor treatment are accommodated in the Hospital, but no provision for the regular visitation of cases requiring treatment at their own homes has been attempted.

Effort was made to establish a card system by which the Visiting Nurses would pass on to the Dispensary or Hospital ante-natal cases requiring advice, but it obtained no considerable success, the larger number of cases requiring such advice usually presenting themselves because they had been so advised by friends who had previously discovered the advantage of Dispensary advice.

It is clear, however, that some form of organisation will require to be provided by which patients suffering from symptoms which are known to predispose to dangerous complications in childbed may be discovered and treated. At present one-seventh at least of the deaths occurring during childbed are caused by convulsions which are the result of antecedent kidney disease.

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* The following are the completed figures for the period till 31st December, 1919:—

	Aug. to Dec. 1918.	1919.
ANTE-NATAL DISPENSARY—		
Number attending for first time,	430	1,749
Total Attendances,	1,134	3,960
Number treated in a termination in delivery,	234	663
Number sent to Hospital from Dispensary—		
(*a*) for confinement,	147	465
(*b*) ,, treatment,	23	117
(*c*) ,, miscarriage,	—	40
ANTE-NATAL WARDS—		
Average No. under treatment,	11	25
Number admitted,	162	703
Total Days, (14th May to 31st Dec.),	2,660	10,318
Condition on dismissal:—		
(1) Recovered,	70	191
(2) Improved,	41	158
(3) Confinement completed,	53	338
(4) Died,	7	8
(5) Left against order,	1	—
INFANT CONSULTATION—		
First Attendances,	223	530
Subsequent Attendances,	868	2,059
Total,	1,091	2,589

Early treatment here is known to be effective in preventing the graver complications which may arise—by some, indeed, it is claimed to be completely preventive—but in any case, to have a chance, it must be undertaken during pregnancy and not postponed until convulsions have developed. To accomplish this implies access to medical advice and treatment during the period of pregnancy, and this is one of the objects of ante-natal provision. In this connection it may be noted that we are still without any effort to utilise the Maternity Benefit of the Insurance Act for the purpose of combining it with ante-natal treatment—which, indeed, can only be accomplished with the help of the Approved Societies under the National Health Insurance Scheme.

Attendance during Confinement.—The outdoor clinic of the Maternity Hospital is well known, and their staff attended 1,729 cases at home during the twelve months ending 31st March last. Recently, by arrangement with the Adelphi Terrace Nursery, a call office has been opened on the South Side.*

In the Govan District this is one of the special duties of the Nurses' Training Home, and 799 outdoor cases were attended by them during the year ending 31st March last, while 161 cases were admitted to the Training Home. Within the area of the City prior to extension the percentage of births medically attended averaged 46·1 in the two years preceding the war and 40·5 in the years 1916-17. In the added area this proportion was 62·2 in 1913-14 and 55·4 in 1916-17.

Extension of Work. — In considering the further steps to be taken by the committee, the obvious defects in the existing provision will serve to indicate the direction which these should take. The unsuitability of most of the existing infant consultation premises, both for their present purpose and to meet the requirements of medical inspection of all children during pre-school ages, and the structural limitations imposed on the day nurseries by their situation, suggest the need for recasting both, and combining with them the added accommodation which a fully-developed maternity and child welfare centre requires. . . . The essential elements may here be repeated :—

(*a*) An ante-natal clinic for outdoor cases, with beds available when required. For the present the ante-natal ward of the Maternity Hospital supplies this provision, but its adequacy has not yet been tested, and additional provision of a similar character may be required elsewhere.

(*b*) A consultation centre for infants under one and nursing mothers, with special provision at the Children's Hospital for such as require institutional treatment.

(*c*) A centre for the inspection of children of one to five, with rooms for dental, nasal, and aural treatment.

(*d*) A kindergarten, such as now exists at Phœnix Park, with adequate space attached to form an outdoor play centre.

(*e*) A crèche for such families as need home relief in this form.

These are the principal structural requirements of a welfare centre, and broadly raise the question whether the committee should not now adopt a policy of acquiring ground in each district of the City for their erection. Space is the first requisite, and this in areas already built up can only be obtained by clearing sites. The buildings themselves should be of the simplest character, and rarely of more than one storey in height.

It is desirable to interpret the space requirements in a liberal manner. To be completely useful, they must be situated in the centre of populous districts—Anderston, Hutchesontown, Tradeston, Gorbals, Bridgeton, Springburn, and Cowcaddens will readily occur to the committee as the most urgent within the limits of the older city. Shettleston, Maryhill, and Cathcart have also separate claims

* This will form one of a number of call offices which the Maternity Hospital Directors are opening in several districts. At the present time an experiment is being made with the West-end Branch, St. Vincent Street, and a Nurse's residence, Apsley Place, as transmission stations.

for consideration. Provided adequate surrounding space is acquired, the buildings should provide accommodation for the following purposes :—

DETAILS OF ACCOMMODATION IN MATERNITY AND CHILD WELFARE CENTRE.

Ante-natal—

(1) Waiting-room for patients, with wall-cases for exhibits of suitable clothing for mother and baby.

(2) Consulting-room, with two cubicles attached for dressing and undressing.

Infant Consultation Room—

The same room used on different days would be adequate, but a separate and well-heated weighing-room, entering off waiting-room and giving direct access to consultation room, is required.

Inspections, 1 to 5—

Same consultation room as above.

Dental, Nasal, and Aural Room—

One room (with special fittings).

Kindergarten.—One room.

Crèche.—Two sleeping-rooms, one for infants separate from older children.

Separate water-closet and lavatory for patients and staff, and adequate provision for bathing the children brought to the crèche.

The disposition of the several rooms might with advantage follow the butterfly arrangement designed for some of the buildings at Southfield :—

Kitchen, with hot-water installation.

Creche, with sleeping rooms (ages 1-3).

Kindergarten and playing rooms (ages 3-5).

Ante-natal and other clinics.

Playground.

Current Questions.—Many questions arise during the currency of work which can only be dealt with tentatively here. For example, comparatively little is known regarding the average duration of breast feeding as the sole means of nourishment. Enquiry some years ago created the impression that some form of artificial food was used to supplement breast milk from about the third month. Again, the effect of industrial occupation of the mother — especially at the present time — will naturally tend to the use of artificial foods at an earlier period. Questions also of the adequacy of the supply of milk, flour, fats, meats, &c., require constant consideration, and in common with this is the usual question of the weight, physique, and vitality of newly-born children before and since the beginning of the war. To these points, and to the methods by which inadequacy in food might be met—such as by subsidies to nursing and working mothers, dinner-tables for expectant and nursing mothers, and a municipal milk supply for mothers and children—a good deal of attention has been devoted, and Dr. Sutherland summarises this in the following notes :—

Duration of Breast Feeding.—Among the poorer of our mothers, breast feeding is still the usual mode of feeding. Among the less poor it is common to find supplementary feeding started from the third to sixth months. Frequently the mother begins this, not on account of failure of breast feeding, but because she believes that it is better for her and the child.

Effect of Occupation and Illegitimacy.—Among unmarried mothers who intend to return to work as soon as possible, the custom is to start artificial feeding from birth. Among married women, it is usually found that the mother does not return to work so early and breast-feeds until she does return.

Adequacy of Food.—At present there appears to be no scarcity of food or milk for mothers and infants beyond that caused by high prices. During last winter there was great difficulty in obtaining milk for children, especially in certain

districts. It appears as if rationing of milk would remove this difficulty to a large extent.

Weight and Physique.—There is no appreciable difference in the weight of children attending consultations during 1913-14 and 1917-18. The nurses still think that, on the whole, babies are larger at birth than in pre-war days, but there is little to justify this impression by an appeal to actual weighing.

Subsidies to Nursing and Working Mothers. — There are practically no cases where this seems necessary, except in the case of soldiers' wives who have nothing but their separation allowance. The increase in the allowance for children which begins in October should help to meet this difficulty.

Dinner Tables.—The need for dinner tables is not much felt at present. The Cosy Corner Dinner Table has an attendance of about 24 mothers, of whom 10 are expectant. Most of them are soldiers' wives with one or two children. A few are the wives of labourers who are still poorly paid.

Utility of any General Scheme for Municipal Supply of Milk to Mothers and Children. — The rationing of milk (with preference for infants and mothers, expectant and nursing) has been already referred to. When difficulty was experienced, the committee authorised the purchase of dried milk, and each mother supplied must bring her child to see the doctor.

Country Homes for Mothers and Children.—The provision of these is among the urgent requirements. There is serious objection, in the risk of infectious disease, to these being of large size. Already there is a scheme under consideration by ladies interested in the movement to provide one for two wards of the City (Govan and Townhead),* and the principle of associating these Homes with particular wards would tend to stimulate local interest in their success. Dr. Sutherland observes :—" Homes are required where mothers with an infant and other children under five can be accommodated. The Shandon Home takes only the mother and infant, and frequently mothers who are much in need of change of air after confinement cannot go because they cannot leave other young children. There is also great need for Homes for children unaccompanied by their mothers, where the children might remain for an indefinite period. Rachitic children and delicate children generally should be admitted, but children with definite acute disease should be excluded."

Illegitimate Children.—The relative stability of the birth-rate of illegitimate children compared with those born in wedlock is worth noting. (See Appendix Table VII.)

* * * * * * * * * *

Many questions arise here which require consideration. In suitable cases, for example, it has been suggested that a subsidy to the mother would induce her to carefully tend her child, but the proportion where this would be desirable is very obscure.* Where it is not desirable, the option lies between boarding out with foster parents and setting up an institution. The complexity of the problem is well illustrated in the following analysis of 95 cases specially investigated :—

95 Cases investigated in Wards 12-14.

(1) Parents living together as husband and wife, but not married, ...				7
	First pregnancy.	Second.	Others.	
	3	—	4	
(2) Mother married : husband not father of child, ...				22
	First pregnancy.	Second.	Others.	
	3	—	19	
(3) Mothers widowed, ...				9
	First pregnancy.	Second.	Others.	
	1	1	7	
(4) Mother unmarried, ...				57
	First pregnancy.	Second.	Others.	
	39	17	1	
				95

* Each case practically should have individual consideration and in many cases it is to the advantage both of the mother and child to separate them.

The figures are limited, but the facts are suggestive, and if confirmed on a wider basis would supply a definite indication of action.

For example, of the mothers of illegitimate children, 60 per cent. are unmarried, 23 per cent. are married, 10 per cent. are widowed, and 7 per cent. keep house together with the father and the children. Moreover, the figures also suggest that rather less than half the illegitimate children born are first children, and that fully 50 per cent. are second or subsequent children. Thus the percentage proportion of the children is as follows:—First child, 48 per cent.; second child, 19 per cent.; third and subsequent child, 33 per cent. It would thus appear that treating the mothers of illegitimate children on a uniform basis, which takes no account of these differences, does not seem a hopeful way of approaching the question, and that efforts in this direction should be concentrated primarily on the mother at the time her first child is born. Were there no repeats, the number of illegitimate children born would fall by one-half.

General.—Before concluding, it is desirable to make some observations on the assistance which the Welfare Committee have had from voluntary agencies ever since the movement for the reduction of infant mortality began, and which took definite form in the amalgamation of several independent committees to form the G.I.H.V.A., which has 18 Ward Committees and a corps of lady visitors numbering 400 before the war, but reduced since, owing to many of them undertaking some other form of national service more directly connected with the war, to about 300.

Reference has already been made to a voluntary committee interested in the provision of a country home for mothers and children of the Govan and Townhead Wards. In addition, the West Govan Branch of the G.I.H.V.A. have adopted the suggestion of providing a Welfare Centre in the Elder Park, opposite the Elder Dispensary, to replace the present nursery in the Pearce Institute. Their proposal in detail is as follows:—

(1) That an open-air nursery be built, large enough to accommodate at least fifty children.

(2) That for this a staff of two trained nurses, one kindergarten nurse, and at least six probationer nurses, paying fees for their training, would be necessary.

(3) That a building consisting of a large dining and recreation room, two sleeping rooms for toddlers, one for infants, two large open-air verandahs (one for infants, one for toddlers), kitchen, dressing-room, and lavatories be built, and that a sufficiently large space be railed off as a playground for the children.

(4) That to the cost of such a building the West Govan Committee would be prepared to raise in Govan itself at least £500, if the Child Welfare Committee were prepared to find the rest of the sum for building, and to pay the staff and maintenance of the building afterwards.

(5) On getting the assurance of the Child Welfare Committee that they would be prepared to help in this way, the West Govan Committee would make an effort to raise this sum in the autumn, at the same time that they are making an appeal for funds for a Country Home for Toddlers, which they are hoping actually to start this autumn, in conjunction with Townhead, as soon as they have found a suitable house.

(6) The West Govan Branch would be prepared to form a House Committee to run such a day nursery, if it were so desired, or to send representatives to the committee of such a day nursery.

It may be added that, in connection with the Country Home for Toddlers, it is suggested that Girl Guide officers would be glad to help with the staffing, in return for the training, for the period of the war. If nurse-probationers were not available, they might possibly be willing to help in this crèche also.

* * * * * * * * * *

This proposal embodies the view expressed to the Welfare Committee when the provision of the Elder Dispensary was under consideration, but it obviously requires the approval and co-operation of the Parks Committee. Indeed, the time seems opportune to invite the Parks Committee to consider the whole question of setting apart for mothers and children some portion of the public parks, just as they at present provide bowling greens for adult males.

Were the Parks Committee willing, in the first instance, to set aside a portion of Elder Park for the purposes indicated, all the other elements of a Welfare Centre not already existing in the clinics at the Elder Dispensary and at the Training Home for Nurses in Govan would be provided for that portion of the City.

Procedure.—For immediate consideration I would therefore suggest that the Welfare Committee—

(1) Submit the proposal of the West Govan Committee to the Parks Committee with special reference to Elder Park, but generally also to ask them to consider whether some space in all the parks may be set apart for the purposes of an outdoor crèche and playground.

(2) Proceed to consider in which of the districts mentioned at foot of p. 25 sites may be obtained on which to erect Welfare Centres containing all the essential elements indicated on p. 26. One such Centre, on well-considered lines, would afford experience which could be turned to account in later provision.

(3) Bring the negotiations with the Directors of the Royal Hospital for Sick Children for the provision of beds for infants and the organisation of an Infant and Child Consultation to a completion.

(4) Authorise the provision of medical treatment as well as advice at the various consultations.

As the problem of the effective supervision of child life develops, it is becoming abundantly clear that an organisation may fail in accomplishing its object unless the active interest of the mothers is enlisted in the movement. How is this to be secured? It has been suggested that an active propaganda implies the services of an official visitor for every 400 or 500 babies.

The following is a rough calculation indicating what is possible in the actual work of visiting by one nurse, subject to the explanation that no allowance has been made for deaths and that the number of new babies might be added to by one-fourth to cover this :—

LIMIT OF NURSES' WORK.

VISITS REQUIRED—

1st Year.	Visits.
Fortnightly till end of 4th month, ...	8
Monthly, ...	2
Every 2nd month from 6th to 12th, ...	3—13
1 to 5 years, every 2nd month, ...	—24
Total visits to each child, ...	—37

VISITS POSSIBLE PER NURSE—

Visits per Nurse per day = 14 = 70 per week, or 3,360 in a year (48 weeks).
Number of first year babies who could be seen, say 260.

SCHEME OF VISITATION PER NURSE.

	New Babies.	No. of Visits. (13)	Old.	No. of Visits. (6)	Total Visits.
1st Year, ...	260	3,360	—	—	3,360
2nd ,, ...	139	1,800	260	1,560	3,360
3rd ,, ...	75	966	399	2,394	3,360
4th ,, ...	40	520	474	2,844	3,360
5th ,, ...	21	276	515	3,084	3,360
	535	6,922	1,647	9,882	16,800

The duty of the nurse would be to urge on the mothers the advantage of supervision. The importance of propaganda work of this character is considerable, but its ultimate value will have a definite relation to the adequacy of the facilities provided in the consultation and treatment centres. There is an educational and also a purely technical or medical side to the question, and the methods by which each is to be accomplished should not be confused. Hitherto in Glasgow much of the propaganda work has been carried out on a voluntary basis, and this should be encouraged. The section of the work which the Corporation can most adequately

supply, at the moment at least, is the structural provision for its technical or medical part. This will be provided in the Welfare Centres, which would, in the first instance, if conveniently situated, attract the mothers, and we should probably find, as with the ante-natal dispensaries in the experience already acquired, that the true missionary is she who has herself benefited by the advice she recommends her neighbour to seek.

Through the generosity of the American Red Cross, a grant of £1,000 has been paid over to a voluntary committee for the purpose of providing and equipping an Infant Welfare and Maternity Centre in Tradeston, but the scheme is still under consideration, and its description may be postponed.

A. K. CHALMERS.

2nd October, 1918.

Day Nurseries, Kindergarten, &c. — As reported in the foregoing memorandum, the crèches (six in number) under the administration of the Day Nurseries Association, which was formed in 1883, were transferred to the Corporation in June of 1918, together with a nursery in Cowcaddens and the Phœnix Park Kindergarten from another association. Owing to the increasing expenditure, these associations would have been compelled to close some at least of the nurseries because of lack of funds. The matter was reported to the Corporation, who, after consideration of the following report, undertook the administration of them:—

REPORT ON CRECHE ACCOMMODATION.

From several points the question of the adequacy of existing crèche accommodation has been raised, and it will be convenient to consider them in one report.

The following requests have been before the committee:—

(1) By the Directors of the Cowcaddens Child Welfare Association for a grant in aid of their work;

(2) By the Glasgow Day Nurseries Association for the purpose of ascertaining to what extent the Corporation are prepared to relieve them of the function voluntarily assumed by them, or of affording them financial aid; and

(3) By the Glasgow Advisory Committee on Women's War Employment, and others, on the inadequacy of existing accommodation, and particularly accommodation in the East-End.

(*a*) Glasgow Day Nurseries.

As the Glasgow Day Nurseries Association covers most of the ground indicated, it may be well to consider their application first. The Association has been in existence since 1883, and there are now six separate crèches carried on under its supervision. These are named in the table accompanying this memorandum, and certain details of the accommodation, staff, and attendances are given.

The accommodation varies a good deal in the several houses, from 20 in Partick to double this in Bridgeton. The total admissions for the year ending 31st July, 1917, exceeded 33,000. Most of the children are accepted for the day only, but there are some weekly boarders, or at least boarders from Monday to Friday, in Adelphi Street, most of them being children of munition workers. Incidentally, a difficulty exists here, in that no provision is made at the moment for taking them out daily, and if a grant is given this should be made a condition of it.

Adelphi Street and Bridgeton conduct kindergarten classes, but only three of the nurseries—Bridgeton, Adelphi Street, and Milton (Windsor Terrace)—have any playground. The Maryhill, Partick, and Anderston Crèches are in tenement houses, that in Partick being one stair up. Milton and Adelphi Street are in terrace houses, while Bridgeton is in a small cottage building with a back yard.

In considering the adequacy of existing Day Nurseries to meet, or form part of, the requirements of a Welfare Scheme under the Notification of Births (Extension) Act, it is only right that their antecedent history should be kept in view. They

were begun at a time when no provision whatever was made for children whose mothers had to work during the day, and their simple objective was to provide a nursery for them. It is not their fault if legislation has suddenly surpassed in its intention their original objective.

Infant Consultations, Maternity and Child Welfare Centres, Kindergarten Nursery Schools, and Schools for Mothers are mostly new terms; they are also new administrative concepts. The crèche would form only part of a scheme of this sort, and the present organisation might with advantage be brought alongside the statutory work of the Child Welfare Committee.

The buildings, however, are for the most part unsuitable, and none of them have playgrounds of an extent which one would desire in connection with a Welfare Centre. None of them has accommodation for an Infant Consultation, although the Adelphi Crèche provides such in an adjacent house.

The separate arrangements for sleep and play are inadequate for any well-devised scheme of a Child Welfare Centre, and for this and other reasons they are not well adapted to act as such. At the same time they bring together a considerable volume of voluntary workers which might be diverted elsewhere were the Corporation to undertake the whole management of these crèches at the moment, and my own opinion is—and in this Dr. Sutherland agrees—that until the committee are in a position to supply sites sufficient in number and adequate in extent on which to erect definite Welfare Centres the best help the committee can give the Day Nurseries is to make a substantial annual subsidy, to the extent probably of one-half of the present annual deficit, which is over £1,000.

It may be added that in some towns Day Nurseries are viewed with suspicion. It has been suggested that they tend to lessen the mother's sense of maternal responsibility, to discourage breast-feeding, and, like all institutions where children are assembled, to increase the risk of exposure to various infections. These do not seem to me insuperable difficulties, but they strengthen the argument for effective supervision, both medical and social, and suggest that a condition of financial aid should be the introduction of effective medical supervision, the recording of growth and especially of the weight of young children in frequent attendance, and the visiting of homes in order to ensure that the need for nursery relief is a real one. It might be a further condition that the advantages of the crèche should be available for families where the mother's health is unequal to the combined strain of domestic and maternal duties.

In towns where views adverse to the establishment of crèches prevail, the tendency would appear to be boarding out in approved homes.

(*b*) Cowcaddens Association.

The activities of this Association are best described in Dr. Sutherland's report:—

"(1) The Kindergarten School has accommodation for 35 children, from 2½ to 5 years old. The children have dinner in the school, and for this they pay 1s. 3d. per week. The dinners are supplied by the Cosy Corner Restaurant.

"(2) The Cosy Corner is partly a public restaurant, but one section is reserved for the dinners of expectant and nursing mothers. From 20 to 30 mothers attend daily, and many are accompanied by their children. Each mother pays 3d. for her dinner, while the price for children varies from 1d. to 3d., according to age. The grant of £50 is for the mothers' dinner table.

"(3) When the Cosy Corner, with the mothers' dinner table, was first opened, the Infant Consultation was transferred to it from Maitland Street (the old Milk Depot). Recently a shop adjoining Cosy Corner was taken over by the committee, and the weekly Infant Consultation is now held there on Friday afternoon.

"Also once weekly there is an Ante-natal Consultation and a Consultation for children from one to five years, when lady doctors attend. Arrangements for these were made by the committee of the Cosy Corner.

"(4) The Day Nursery, situated in a shop in Garscube Road, has accommodation for 14 children, from early infancy to 2½ years. It is open daily from 7.30 a.m. until 5 p.m. Most of the mothers are said to be charwomen, for the

hours are unsuitable for the children of factory workers. Many of the children who attend the nursery regularly belong to the same families as children in the kindergarten.

"The great defect of the nursery is its situation, but to give the children the benefits of fresh air voluntary workers take some of them across to Phœnix Park.

"For bottle-fed infants the charge is 5d. per day, while for other children it is 4d.

"Undoubtedly much good work is being done by these various agencies, and they are worthy of financial support. It would be necessary for the Child Welfare Committee, in considering a grant, to have the various activities of the Cosy Corner stated in detail."

In the Cowcaddens Committee's letter of application reference is made to an extension of premises by the inclusion of a building adjacent, but I suggest that the Welfare Committee should consider whether they are to make a grant in aid of the work at present being conducted alone, or one which may be used for current work and for extension of premises. The former seems to me the more reasonable, as the principle of making grants to independent committees for work which now properly comes within the scope of the Corporation introduces a policy which requires careful consideration. The extension of the dinner table may be useful locally, but for the purpose of a Welfare Centre it should be restricted to children and mothers, which is all that it was originally intended for. It would be well also, in making a contribution to the funds, to make it a stipulation that Dr. Sutherland be more intimately associated with the working of the various Contultations and that regular returns be made to me.

* * * * * * * * * *

A. K. CHALMERS.

21st December, 1917.

GLASGOW DAY NURSERIES.

SUMMARY OF PARTICULARS REGARDING ACCOMMODATION, STAFF, &c.

Nursery.	Number of Apartments.	Accommodation for	Staff.	Home Visiting.	Number of Children on Day of Visit.
Adelphi Street -	9 apartments, dispensary room, lavatory, and bathroom	38	1 matron 1 staff nurse 7 paid probationers 1 cook 1 nursery maid	Only if children don't turn up	50 including 15 weekly boarders, 19 below 1 year, 1 over 5
Bridgeton - -	6 apartments, lavatory, and hut	50	1 matron 3 assistants 3 voluntary, once a week	In needful cases	47 1 under 1 year 18 school children for meals,
Milton - - -	9 apartments, kitchen, pantry, store	40	1 matron 1 housemaid 1 laundry maid 1 cook 4 probationers	Matron visits	47 4 under 1 year, 4 over 5
*Maryhill - -	2 apartments, kitchen, 1 admission room	10	1 matron 1 assistant 1 domestic	None	19 1 under 1 year, 13 under 5, 5 over 5. 5 over 5 for meals
Partick - -	3 apartments, sitting-room, nursery, kitchen	20	1 matron 1 maid	None	10 1 over 5 years
Anderston - -	4 apartments, kitchen, cloak-room, larder	30	1 matron 2 assistants 1 voluntary, occasionally	If any child sick	19 2 at school, 4 over 5 years

* Since their transfer, Maryhill Nursery which was situated in a tenement house was closed as unsuitable. The premises in Bridgeton district having been sold by the proprietor, the Corporation acquired from the Y.M.C.A., the large wooden hut near Bridgeton Cross, to be used as a Day Nursery and Child Welfare Centre, including Kindergarten, Clinic and Treatment Centre, &c.

DISPENSARY AND VISITING STAFF.

Before the war there were two lady doctors and eight health nurses, who attended Infant Consultations and visited the homes, but with the large increase in the numbers attending the Infant Centres, the greater amount of visiting work, and the treatment of ophthalmia neonatorum, it was found necessary to increase the medical staff to four lady doctors and twenty health nurses.

MATERNITY AND CHILD WELFARE CONFERENCE.

A Maternity and Child Welfare Conference was held in Glasgow on 13th and 14th March, 1917, of which the proceedings were duly published.

INFANT MORTALITY.

The deaths under one year in each ward of the City during the years 1914-18 and the relative rates per 1,000 born are contained in Appendix Table XV. The number of deaths of infants decreased from 3,913 in 1914 and 4,007 in 1915 to 2,660 in 1918, while the rates per 1,000 births for these years fell from 133 and 143 to 113. The lowest rate recorded during the period—and, indeed, the lowest rate on record for the City—is 111 in 1916, after adjusting for transfer deaths. The following tables give (1) the death-rate in Glasgow since 1891; (2) corresponding rates in other large towns; and (3) the death-rate among legitimate and illegitimate children per 1,000 births in each category:—

(1) Infant Death-Rate during several periods (Glasgow).

Average of 10 years,	1891-1900,	149 per 1,000.	1915, ...	143 per 1,000.	
,,	1901-1910,	135 ,,	1916, ...	111 ,,	
	1911,	136 ,,	1917, ...	129 ,,	
	1912,	122 ,,	1918, ...	113 ,,	
	1913,	129 ,,	1919, ...	114 ,,	
	1914,	133 ,,			

(2) Comparision with several large Towns.*

	1914.	1915.	1916.	1917.	1918.	1919.
Glasgow. ...	**133**	**143**	**111**	**129**	**113**	**114**
Edinburgh, ...	110	132	100	123	94	117
Dundee, ...	135	210	126	137	126	126
Aberdeen, ...	121	172	113	139	143	118
London, ...	104	112	89	104	108	85
Liverpool, ...	140	133	118	116	126	109
Manchester, ...	129	128	111	111	107	97
Birmingham, ...	122	118	104	98	97	89

(3) Comparision of Death-Rate among Legitimate and Illegitimate Children.

Glasgow.—Death-rate per 1,000 Births.

	Legitimate.	Illegitimate.		Legitimate.	Illegitimate.
1899-1900, ...	144	286	1915, ...	140	206
1901-1910, ...	126	257	1916, ...	105	194
1911, ...	127	260	1917, ...	125	169
1912, ...	118	185	1918, ...	108	168
1913, ...	121	227	1919, ...	110	164
1914, ...	127	211			

*From the Registrar General's Report.

Illegitimate children have always had a much higher infant mortality rate than legitimate children, but in recent years a quite appreciable improvement has taken place—greater, indeed, than among legitimate children—and suggests that some at least of the efforts now being made to obtain for them a reasonable chance of survival are not being misdirected.

INFANT MORTALITY IN THE WARDS.

In a table (Appendix XVII) of the Report for 1913 a statement of the infant death-rate in wards from 1903 onwards was introduced. In a few only was this rate below 10 per cent. In the older City, Dennistoun, Park, Langside, Pollokshields, Kelvinside, and Maryhill alone were in this group. If reference is made to Appendix Table XV of this Report, it will be seen that in Dalmarnock, Mile-end, Whitevale, Cowlairs, and Govanhill also a lower rate than 10 per cent. has been reached for one or more years of the present period. There is in this, I think, a suggestion of hope that effort to reduce our infant mortality is beginning to show some useful result.

Of special interest, indeed, in this connection is the record in the two tables which follow, where the rates for disease of physiological systems are separately given for each sex. Corresponding tables in page 15 of the 1913 Report enable the comparisons to be carried back to 1903, and for the first time in 1918 the number of female infants dying in the first year of life fell below 10 per cent. for the whole City. And, if we look among the various groups of disease for explanation, we find a quite striking diminution in the deaths from diseases of the digestive organs among female children. The rate for male infants does not show an equal reduction, but this must be taken in association with the total male death-rate of 125 per 1,000, compared with 94 for females, as illustrating a problem in sex biology which for the present has no explanation.

Details of the causes of death among infants during 1914-19 are contained in Appendix Table XVI, but for convenience of reference the group death-rates per 1,000 births have been summarised in that which follows:—

Causes of Death.	1914.	1915.	1916.	1917.	1918.	1919.
Males—						
I. Immaturity, ...	47·6	48·0	43·2	48·5	47·1	47·8
II. Diseases of Respiratory System, ...	27·2	36·4	23·0	28·7	31·6	27·9
III. Diseases of Digestive System,	26·4	18·5	22·3	20·3	17·2	15·7
IV. Diseases of Nervous System,	10·9	9·3	7·1	8·6	8·3	7·6
V. Tuberculous Diseases, ...	7·0	3·6	3·9	4·8	2·7	2·8
VI. Infectious Diseases, ...	13·9	26·0	8·0	19·7	10·8	12·2
VII. Suffocation, ...	·8	·6	·3	·8	·5	·4
VIII. All other Causes, ...	11·4	11·7	8·3	11·6	7·2	11·9
All Causes, ...	145·2	154·1	116·1	143·0	125·4	126·2
Females—						
I. Immaturity, ...	36·3	38·4	36·5	36·5	35·2	36·0
II. Diseases of Respiratory System, ...	23·8	26·3	19·2	22·3	24·3	18·9
III. Diseases of Digestive System,	21·0	17·0	18·6	14·4	11·1	12·0
IV. Diseases of Nervous System,	7·8	7·7	6·9	5·9	5·2	5·4
V. Tuberculous Diseases, ...	3·3	3·3	3·3	4·3	2·4	1·9
VI. Infectious Diseases, ...	14·5	27·4	10·0	19·2	9·8	11·6
VII. Suffocation, ...	·8	·9	·6	·4	·5	·3
VIII. All other Causes, ...	9·9	9·2	7·4	8·6	6·0	11·2
All Causes, ...	117·4	130·2	102·5	111·6	94·5	97·3

NOTIFICATION OF BIRTHS.

The number of notifications of births received during the six years, 1914-19, is shown in Appendix Table XVII. As these include still-births as well as some duplicates, the notifications always exceeded the births registered. In about $2\frac{1}{2}$ per cent. of the cases, notification was omitted until attention was directed to it.

Nature of Attendance at Birth. — The proportion of births medically attended underwent diminution in consequence of the large number of doctors absorbed for war purposes. In 1914, 48·6 per cent. were so attended, and in 1918 only 37·8 per cent.

Still-Births.—The still-births notified fell from 1,336 in 1914 to 904 in 1919, and the proportion to total births from 4·3 to 3·7 per cent. (Appendix Table XVIII).

Enquiry into the Causes of Still-Births.—Consequent on the passing of the Midwives (Scotland) Act, 1915, it was possible to begin an enquiry into the condition of children born dead, and the following report was submitted to the committee and forwarded to the Board of Health:—

ENQUIRY INTO CAUSES OF STILL-BIRTHS.

The precise period of intra-uterine life at which syphilis proves fatal to the offspring has a practical bearing on the provision which should be made for the systematic treatment of syphilitic mothers.

It is frequently stated, and commonly accepted, that syphilis is a dominant factor among the causes of fœtal deaths, and, as explained by Dr. Buchanan, this enquiry was instituted with the double purpose of ascertaining how far this was actually the case in children still-born at full time, and also to learn what gross physical lesions were present in the still-born chidren, and whether they were of a character which made preventive treatment of the mother reasonably possible.

It was not intended to report until a much larger number had been examined, and the present statement has been prepared in response to a request of the Board of Health, who had learned that the enquiry was on foot. No emphasis is, therefore, placed on the proportion referable to the several causes named, save to observe that as a cause of death at full time syphilis does not appear to be a predominant factor. There is some indication, however, that it is more frequently operative at earlier stages of pregnancy, as illustrated by the relatively large number of fœtuses in which its presence could be demonstrated in miscarriages occurring between the sixth and eighth month of pregnancy. It seems likely, therefore, that, were a larger number of miscarriages at still earlier dates available, the proportion associated with syphilis might be increased.

In Dr. Buchanan's tables of the causes of death, 8 are ascribed to injury and 24 to ill-health of the mother, and a scrutiny of the causes indicates that some at least of the latter group would have been amenable to ante-natal treatment. In this connection it is subject for regret that little advantage seems to be taken of the opportunity afforded by the Health Insurance Act of associating ante-natal supervision with Maternity Benefit.

A. K. CHALMERS.

17th May, 1920.

EXAMINATION OF STILL-BIRTHS.

16th February, 1917—19th April, 1920.

The examination of still-births was begun in February, 1917, with a view to ascertaining the causes of death, and especially to determining the part played by syphilis in contributing to the death of the fœtus.

During the three years in which the examination has now been systematically carried on, 255 still-births have been submitted for dissection at the laboratroy, and (1) apparent age, (2) cause of death, and (3) presence of syphilis are shown in the following tabulated statement:—

1. Apparent Age—

8½ to 9 months, ...	144
7½ to 8 months, ...	41
6½ to 7 months, ...	48
5½ to 6 months, ...	14
5 months, ...	6
4 months, ...	2
	255

2. Cause of Death—

Syphilis, ...		13
Meningeal Hæmorrhage, ...		49
Epicranial Hæmorrhage.		4
Fœtal Deformity, ...		24
Accidents of Birth—		
Delayed labour, ...	1	
Precipitate labour, ...	3	
Asphyxia, ...	7	
Injury to head, ...	13	
Transverse presentation, ...	1	
Cord, ...	6	
Foot, ...	1	
Hydramnios, ...	1	
		33
No obvious cause of death—		
Full time, ...	20	
Premature, ...	52	
Injury to mother, ...	8	
Ill-health of mother, ...	24	
Advanced in decomposition, ...	28	
		132
		255

3. Syphilis—

Full time, ...	4
7½ to 8 months, ...	4
6½ to 7 months, ...	4
6 months, ...	1
	13

It will be observed that the number of cases in which syphilis was detected appears relatively small, being 13 in 255, or 5 per cent.

It is to be noted, however, that dark-ground examination for *spirochæta pallida* was not in use in about the first 49 cases, and, further, that an estimation of the positive percentages on the cases (200) which followed, and which were all subjected to this method of examination, whether decomposed or not, increases the percentage of positive results to 6·5.

The following table shows (1) the ages of all the still-births examined, and

alongside are placed for comparison (2) all the ages of the first 49; and (3) the remaining 206:—

	1. The ages of all the still-births examined (255).	2. The ages of the first 49 of the still-births examined.	3. The ages of the remaining 206 still-births examined.
8 to 9 months, ...	144	25	119
7½ to 8 „ ...	41	9	32
6½ to 7 „ ...	48	9	39
5½ to 6 „ ...	14	3	11
5 „ ...	6	2	4
4 „ ...	2	1	1
	255	49	206

Injury to the Mother and Ill-health of the Mother. — It will be observed in the tabulation of the causes of death of the still-births that of the 132 in which "No Obvious Cause" was found *Injury to Mother* is noted in 8, and *Ill-health of Mother* in 24.

The nature of the injury and the ill-health was stated to be as follows:—

INJURY TO THE MOTHER.

Fall before birth of child, ...	4
Knock by box at work, ...	1
Severe burn caused by fall of kettle, ...	1
"Hurt" before birth of child, ...	1
Traumatism, ...	1
	8

ILL-HEALTH OF MOTHER.

Endometritis, ...	1
Pelvic deformity, ...	1
Eclampsia, ...	1
Hæmorrhage before birth, ...	3
Influenza, ...	7
Pneumonia, ...	1
Kidney disease, ...	2
Tuberculosis, ...	1
Mother subject to fits, ...	1
Malnutrition and anæmia, ...	2
Congenital debility (triplets and twins), ...	2
"Ill-health,"	2
	24

R. M. BUCHANAN.

13th May, 1920.

INFANT VISITATION.

Under the scheme of infant visitation, every birth is visited if the notification does not state that a medical practitioner has been in attendance, and the following table shows the record of those visited, together with certain information obtained:—

	1914.	1915.	1916.	1917.	1918.	1919.
Enquiry cards returned, ...	17,381	16,700	16,834	16,456	16,650	19,044
Full information obtained, ...	16,077	15,917	15,947	15,592	15,656	17,632
Doctor found in attendance, ...	221	189	154	281	240	163
Duplicates, ...	28	16	22	11	10	1
Wrong addresses, ...	145	20	60	11	2	5
Others, ...	910	558	651	561	742	1,243

	1914.	1915.	1916.	1917.	1918.	1919.
Of those for whom full information was obtained—						
Legitimate, ...	15,227	15,014	15,081	14,099	13,995	15,976
Illegitimate, ...	850	903	866	1,493	1,661	1,656
Born at full term, ...	15,392	15,227	15,289	14,938	14,962	16,778
Premature births, ...	685	690	658	654	694	854
Condition of Infant at Birth—						
Well nourished, ...	13,755	13,233	13,792	12,875	13,100	14,864
Fairly nourished, ...	1,147	1,612	1,073	1,559	1,377	1,433
Badly nourished, ...	565	497	531	552	553	629
Still-born, ...	610	575	551	606	626	706
Nature of Feeding at First Visit—						
Breast, ...	14,414	14,128	14,189	13,579	13,413	15,140
Artificial, ...	513	659	640	760	863	927
Breast and Artificial, ...	88	124	126	183	285	338
Still-born, ...	610	575	551	606	626	706
Dead at First Visit, ...	378	357	376	433	448	509
Adopted, ...	74	74	65	31	21	12

As already indicated, the number of Infant Health Nurses has been considerably increased during the war, as, in addition to home visitation, the nurses in their districts attend at the respective Infant or Child Welfare Consultations. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment, and of following up the case afterwards to see that the treatment recommended is carried out.

The following series of summaries indicates the number of first and revisits overtaken, together with records of results:—

First Visits.

	1914.	1915.	1916.	1917.	1918.	1919.
Infants visited under one year of age, ...	10,652	14,419	13,845	14,953	14,332	15,572
Infants visited over one year of age, ...	48	10	14	14	6	1
	10,700	14,429	13,859	14,967	14,338	15,573
Removed and new address not traced, ...	338	195	124	100	202	183
Not found at address given,	100	92	92	30	2	3
Out at time of visit, ...	1,759	34	—	—	—	—
In hospital or nursery, ...	25	11	2	4	13	15
Dead, ...	203	333	348	494	506	533
Nurse still attending, ...	30	1	—	—	—	—
Refused admittance, ...	20	3	2	5	12	—
Doctor in attendance, ...	24	43	100	280	276	181
Information refused, ...	—	—	—	3	—	—
No information, ...	—	—	—	—	6	—
Unable to gain admission,	12	3	1	—	—	—
Still-born, ...	45	223	381	656	643	730
Visits unnecessary, ...	50	43	138	272	419	651
Visits resented, ...	2	—	3	—	—	57
Adopted, ...	—	1	31	23	41	56
Foreigners, ...	—	—	—	3	—	—
Nursed out, ...	—	—	—	—	—	11
	13,308	15,411	15,081	16,837	16,458	17,993

Revisits.

	1914.	1915.	1916.	1917.	1918.	1919.
Infants visited under one year of age, ...	13,409	3,693	2,570	2,825	2,864	3,271
Infants visited over one year of age, ...	128	149	289	378	420	935
	13,537	3,842	2,859	3,203	3,284	4,206
Removed and new address not traced, ...	1,227	1,119	685	594	597	608
Not found at address given,	113	28	—	—	—	—
Out at time of visit, ...	3,463	364	154	133	65	105
In hospital or nursery, ...	161	18	21	16	16	31
In prison, ...	—	2	—	—	—	—
Dead, ...	431	682	493	562	559	672
Adopted, ...	—	2	8	30	15	29
Nurse still attending, ...	2	—	—	—	—	—
Refused admittance, ...	21	3	5	—	2	—
Doctor in attendane, ...	—	—	—	1	—	—
Visits to mothers, ...	121	8	8	19	2	5
Unable to gain admission,	32	3	—	—	—	—
Visits unnecessary, ...	2	—	2	—	—	—
Visits resented, ...	4	1	—	3	1	3
Nursed out, ...	—	—	—	—	—	2
	19,114	6,072	4,235	4,561	4,541	5,661
Total visits, ...	32,422	44,101	41,214	46,487	45,655	50,553
Infants visited, ...	13,308	21,483	19,316	21,398	20,997	23,649

After 1914 a change was made in the method of analysis of the records, and the detailed figures in the foregoing and the two following summaries refer to infants for the years 1915-19, as compared with visits for 1914.

The children found alive on the occasion of the first visit by the Health Visitor are classified in the following table under three groups:—

	Well.	Fair.	Bad.	Total.
1914, ...	5,610	4,201	889	10,700
1915, ...	8,552	5,047	830	14,429
1916, ...	9,067	3,892	900	13,859
1917, ...	12,668	2,135	164	14,967
1918, ...	12,727	1,499	112	14,338
1919, ...	13,919	1,548	106	15,573

Generally speaking, of those classified as "well" on the occasion of the first only a proportion were revisited, but those tabulated as "fair" and "bad" were kept under observation by the nurses, and the following table is a summary of results:—

Revisits.

	Still Good.	Much Improved.	Slightly Improved.	No Improvement.	Worse.	Total.
1914, ...	—	5,922	3,960	3,142	513	13,537
1915, ...	—	3,081	598	121	42	3,842
1916, ...	—	2,574	255	30	—	2,859
1917, ...	613	2,443	135	12	—	3,203
1918, ...	1,487	1,771	22	4	—	3,284
1919, ...	2,893	1,257	56	—	—	4,206

GLASGOW INFANT HEALTH VISITORS' ASSOCIATION.

Working in association with the Public Health Department is the Glasgow Infant Health Visitors' Association, to whom are reported children whom it is desirable to keep under obesrvation during a longer period than is possible by the official visitors. The number of visitors fluctuates between 300 and

400, and, although a number of them took up other work of national importance during the war, the visitation has been carried on satisfactorily during the period under review.

As this period generally extends to the first twelve months of life, a complete year must elapse before the results of the visitation can be summarised.

The following is a summary of the results for the years 1913 to 1917:—

Year.	Year old.	Removed.	Dead.	Ceased to be Visited.	Visits Unnecessary.	No Information.	Visits Resented.	No Visitor.	Total.
1913	1,712	682	299	125	84	17	9	7	2,935
1914	2,116	664	380	184	92	15	16	23	3,490
1915	1,860	542	220	150	46	19	8	15	2,860
1916	1,757	438	283	125	31	12	6	18	2,670
1917	1,661	291	207	82	40	7	7	19	2,314

The feeding of the infants is indicated in the following table:—

	1913.	1914.	1915.	1916.	1917.
Year old—					
Breast only, ...	414	559	404	377	404
Breast and Artificial Food, ...	722	850	747	663	677
Artificial Food only, ...	576	707	709	717	580
Removed—					
Breast only, ...	334	364	283	202	132
Breast and Artificial Food, ...	82	84	55	53	41
Artificial Food only, ...	69	80	72	62	31
No Information, ...	197	136	132	121	87
Dead—					
Breast only, ...	121	163	72	111	69
Breast and Artificial Food, ...	44	56	43	45	36
Artificial Food only, ...	84	89	62	82	44
No Information, ...	50	72	43	45	58
Ceased to be visited—					
Breast only, ...	78	94	72	59	52
Breast and Artificial Food, ...	19	47	47	45	12
Artificial Food only, ...	28	43	31	21	18
Visits unnecessary—					
Breast only, ...	56	64	31	20	16
Breast and Artificial Food, ...	8	11	9	6	8
Artificial Food only, ...	9	10	5	5	8
No Information, ...	11	7	1	—	8
No Information, ...	17	15	19	12	7
Visits resented—					
Breast only, ...	4	6	6	4	5
Breast and Artificial Food, ...	2	5	—	1	—
Artificial Food only, ...	1	1	2	1	2
No Information, ...	2	4	—	—	—
No Visitors, ...	7	23	15	18	19
	2,935	3,490	2,860	2,670	2,314

INFANT MORTALITY IN RELATION TO THE INDUSTRIAL OCCUPATION OF WOMEN.

The practice, which has been in operation since the adoption of the Notification Act, of reporting to H.M. Inspector of Factories and Workshops all births notified in which information is obtained that the mother was employed, was continued during the years 1914-19.

INFANT AND CHILD WELFARE CONSULTATIONS.

With the extension of the scheme and the large numbers attending, the number of Centres and diets have been increased. The changes that have occurred in the respective years are shown in the footnotes appended:—

ATTENDANCE AT INFANT CONSULTATIONS, 1914-1919 INCLUSIVE.

Year	1914.		1915.		1916.		1917.		1918.		1919.	
	First.	Subsequent.	First.	Subsequent.	First.	Subsequent.	First.	Subsequent.	First.	Subsequent.	First.	Subsequent
West Scotland Street,	72	126	[1]60	[1]153	114	288	95	407	102	368	[8]58	[8]144
Franklin Street, -	206	337	178	363	121	354	210	637	[7]338	[7]844	582	1,913
Pollokshaws, - -	14	15	...	...	...	...	...	...	...	...	...	...
High Street, - -	253	548	398	464	431	989	520	1,237	543	856	776	1,798
Washington Street,	190	278	[2]232	[2]594	227	643	242	1,022	264	874	431	2,229
Claythorn Street, -	93	180	160	281	165	349	192	356	Closed.	Transferred to Brown Street.		
Maryhill, - -	111	[3]243	87	203	104	245	159	494	162	450	204	756
Merryland Street, -	310	265	155	194	123	276	205	567	190	467	315	1,703
Garngad, - -	126	250	114	247	138	267	89	445	171	317	222	1,282
Shettleston, - -	81	186	132	295	136	320	147	332	168	433	319	1,480
Soho Street, - -	180	297	[3]214	[3]330	213	382	374	922	326	1,023	512	2,295
Hospital Street, -	348	305	312	453	[5]192	[5]347	395	663	374	1,038	551	2,268
Partick, - - -	121	182	82	209	205	642	172	511	147	634	268	1,586
Maitland Street, -	142	283	[4]206	[4]423	183	327	232	450	277	797	376	1,149
Pearce Institute, -	...	...	172	625	211	544	[6]251	[6]834	262	892	309	1,107
TOTALS, - -	2,247	3,495	2,502	4,834	2,563	5,973	3,283	8,877	3,324	8,989	4,923	19,710
Ratio, 1st to Total Visits,	5,742		7,336		8,536		12,160		12,313		24,633	
	10 to 26.		10 to 29.		10 to 33.		10 to 37.		10 to 37.		10 to 50.	

[1] Kinning Park; [2] Port Street; [3] Campbellfield Street; [4] Cowcaddens; [5] Adelphi Street; [6] Elder Hospital; [7] Brown Street; [8] Weir Street.

The illnesses, etc., recorded at the Consultations are here summarised:—

INFANT CONSULTATIONS.—ILLNESSES, &C., RECORDED.

Year	1914.	1915.	1916.	1917.	1918.	1919.
Birth Debility, - - -	28	44	29	22	43	48
Prematurity, - - - -	6	...	...	...	...	4
Marasmus, - - - -	88	44	49	100	51	103
Congenital Defects—						
Spina Bifida, - - -	...	5	2	1	1	...
Heart Disease, - - -	1	...	...	...	...	...
Phinosis, - - - -	6	...	...	...	...	...
Hare-lip, - - - -	...	1	1	3	1	...
Digestive Disorders—						
Improper Feeding, - -	8	...	...	...	...	...
Diarrhœa, - - - -	...	4	4	3	1	8
Enteritis, - - - -	20	...	4	7	...	4
Gastritis, - - - -	22	...	...	...	...	2
Respiratory Diseases—						
Bronchitis, - - - -	19	13	14	37	17	58
Pneumonia, - - -	6	1	3	8	3	18
Tuberculosis, - - - -	...	3	1	1	1	...
Syphilis, - - - -	45	2	22	21	12	2
Ophthalmia Neonatorum, -	37	2	4	19	6	...
Measles, - - - -	2	2	1	2	1	...
Whooping Cough, - - -	4	4	4	24	8	9
Chickenpox, - - - -	...	...	2	4	1	...
Scabies, - - - -	4	2	9	32	43	22
Rickets, - - - -	7	...	9	7	5	65
Impetigo, - - - -	..	...	4	12	...	1
Eczema, - - - -	3	...	5	3	6	3
Meningitis, - - - -	1	...	...	...	3	...
Imbecile, - - - -	...	1	2	...	...	...
Others, - - - -	4	...	...	...	...	...
TOTAL, - - -	311	128	169	306	203	347

OPHTHALMIA NEONATORUM CASES AND CASE-RATES PER 1,000 BIRTHS, ACCORDING TO NATURE OF ATTENDANCE AT BIRTH.

Nature of Attendance at Birth.	Cases.						Rates.*					
Year	1914	1915	1916	1917	1918	1919	1914	1915	1916	1917	1918	1919
Doctors,	105	68	80	71	50	87	8·0	5·6	7·2	8·4	6·5	10·7
Institutions,	10	8	14	10	37	35	9·5	7·6	12·5	8·5	28·0	21·1
Inst. Nurses,	52	69	77	61	69	83	17·2	26·0	30·7	25·1	31·9	31·3
Midwives, &c.,	262	270	389	520	406	523	21·1	22·3	31·1	43·6	33·2	27·9
Regd. by P.H.D. Staff,	429	415	560	662	562	728	—	—	—	—	—	—
Doctor in Attendance,	10	6	6	—	—	—	—	—	—	—	—	—
Treated in Hospital,	4	7	5	4	8	2	—	—	—	—	—	—
Treatment refused,	—	—	—	—	—	1	—	—	—	—	—	—
Removed,	1	1	—	—	—	—	—	—	—	—	—	—
Dead,	2	—	—	1	—	—	—	—	—	—	—	—
Total cases of Ophthalmia Neonatorum,	446	429	571	667	570	731	15·0	15·3	20·9	27·7	24·3	27·9
Not Ophth. Neon., but notified as such,	2	44	42	51	91	7	—	—	—	—	—	—
Notifications received,	448	473	613	718	661	738	15·1	16·2	22·5	29·9	28·2	28·1

* Calculated on Live Births notified, less duplicates. *N.B.*—"Doctors found in attendance" are included in "Doctor in attendance," and deducted from "Midwives," &c.

Period at which symptoms appear:—

Cases occurring at Age—	1914	1915	1916	1917	1918	1919
– 12 hours,	73	54	74	70	32	53
– 4 days,	222	221	286	327	293	351
– 8 „	97	97	154	183	171	215
+ 8 „	37	42	46	82	66	109
	429	414	560	662	562	728

Association with Syphilis.—Swabs of the discharge from eyes are being taken in an increasing number of the cases, and the association of the disease with syphilis observed, as shown in the following tables:—

	Gonococcal.			Non-Gonococcal.			Unclassified.			Total.		
	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.	Total Cases.	Syphilis present.	Per Cent. with Syphilis.
1914,	139	13	9·3	184	12	6·5	106	2	1·9	429	27	6·3
1915,	203	20	9·9	146	5	3·4	66	3	4·5	415	28	6·7
1916,	199	12	6·0	272	7	2·6	89	—	—	560	19	3·4
1917,	183	44	24·0	328	14	4·3	151	9	6·0	662	67	10·1
1918,	138	14	10·1	269	4	1·5	155	—	—	562	18	3·2
1919,	182	6	3·3	314	2	·6	232	—	—	728	8	1·1

In considering the following numbers, it is essential to remember that "Ophthalmia Neonatorum," for notification purposes, includes "any inflammation" that occurs in the eyes of an infant within twenty-one days from the date of its birth and is accompanied by discharge.

Taken collectively, the cases coming within this description numbered 2,557 in the past six years, and represent 1·6 per cent. of the total live births.

Of the 2,557, 1,044 (or 41 per cent.) were associated with the presence of gonococcus, and 10 per cent. of these were also syphilitic, whereas of the 1,513 non-gonococcal cases barely 3 per cent. (2·9) were syphilitic also. Of the non-gonococcal cases not also infected with syphilis, 96 per cent. recovered without eye defect, but 77 per cent. only where syphilis was present. Of the gonococcal cases (935) which were without syphilis, 85 per cent. recovered without eye defect, but where syphilis also was present only 69 per cent. had no defect of vision remaining.

Result.	No Syphilis.						Syphilis Present.					
Year	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
Gonococcal.												
Cured,	104	157	169	127	104	134	7	14	8	39	4	3
Corneal Defects—												
One eye good,	7	2	4	5	6	14	1	1	—	1	3	—
„ „ fair,	2	4	1	—	3	3	2	—	—	1	2	—
„ „ blind,	3	2	2	1	1	2	—	1	—	—	1	—
Both eyes good,	2	—	—	2	2	1	—	—	1	—	2	1
„ „ fair,	2	4	—	—	—	4	—	1	1	—	1	—
„ „ blind,	—	1	—	—	2	1	—	—	—	—	—	—
Removed,	3	1	2	2	—	—	—	—	—	—	—	—
Dead,	3	12	9	2	6	17	3	3	2	3	1	2
	126	183	187	139	124	176	13	20	12	44	14	6
Non-Gonococcal.												
Cured,	163	132	249	301	256	304	10	3	4	14	2	1
Corneal Defects—												
One eye good,	—	—	—	1	—	—	—	—	—	—	1	—
„ „ fair,	—	—	—	—	—	—	—	—	—	—	—	—
„ „ blind,	2	—	—	—	1	1	1	—	—	—	—	—
Both eyes good,	1	—	1	—	—	—	—	—	—	—	—	—
„ „ fair,	—	—	—	—	1	—	—	1	2	—	—	—
„ „ blind,	—	—	—	—	—	—	—	—	—	—	—	—
Removed,	4	3	4	5	2	2	—	—	—	—	—	—
Dead,	2	6	11	7	5	5	1	1	1	—	1	1
	172	141	265	314	265	312	12	5	7	14	4	2
Unclassified.												
Cured,	99	63	89	142	155	232	—	3	—	7	—	—
Removed,	3	—	—	—	—	—	—	—	—	—	—	—
Dead,	2	—	—	—	—	—	2	—	—	2	—	—
	104	63	89	142	155	232	2	3	—	9	—	—
Total,	402	387	541	595	544	720	27	28	19	67	18	8

Treatment of Mothers. — The former practice of offering treatment to mothers has been continued. Those who desire to return home because of household duties are urged to attend for treatment at such convenient times as may be arranged.

MIDWIVES (SCOTLAND) ACT, 1915.

The need for a Midwives Act has been commented upon in previous Reports, but it was not until 1915 that an Act was passed for Scotland, and the following summaries indicate the work that has been done in administering it during 1917, 1918, and 1919:—

Year	1917.	1918.	1919.
Midwives in Practice during year, ...	312	310	365
Qualification for Certification under Act—			
In Practice, December, 1914, ...	200	209	210
C.M.B. (Scotland) Examination, ...	52	65	95
Other recognised qualifications, ...	60	36	60

In the following table the extent of the practices is indicated by the insertion in the last column of the number of midwives. It would seem

that of the 13,000 births attended by midwives 10,000 occurred in the practice of midwives with 50 confinements or more in the year:—

BIRTHS NOTIFIED BY MIDWIVES.

	Births Notified.			
	1917.	1918.	1919.	Midwives.
Under 50 Notifications.	2,995	3,021	3,201	282
50-100 ,, ...	3,286	3,649	2,860	39
100-200 ,, ...	3,800	4,360	4,308	34
200-300 ,, ...	1,144	1,323	1,512	6
300-400 ,, ...	309	—	947	3
400-500 ,, ...	481	435	495	1

STILL-BIRTHS NOTIFIED BY MIDWIVES.

Notification.	Midwives.			Still-Births notified.		
	1917.	1918.	1919.	1917.	1918.	1919.
1-5, - - - - -	125	109	118	244	215	258
6-10, - - - - -	9	13	9	62	96	71
11-15, - - - - -	2	2	1	22	25	15
Over 15, - - - -	1	1	1	16	17	19
	312	310	365	344	353	373

The figures in the two following summaries contain records of the intimations only, so that the numbers are not the same as the actual cases referred to in other sections of this Report:—

CASES OF OPHTHALMIA NEONATORUM NOTIFIED BY MIDWIVES.

Notifications.	Midwives.			Cases notified.		
	1917.	1918.	1919.	1917.	1918.	1919.
1-5, - - - - -	96	100	95	204	199	198
6-10, - - - - -	20	13	19	148	97	143
11-15, - - - - -	5	2	4	57	25	53
16-20, - - - - -	3	1	4	56	18	67
21-25, - - - - -	1	—	1	23	—	25
Over 25, - - - -	1	2	—	26	58	—
	312	310	123	514	397	486

CASES OF PUERPERAL FEVER OCCURRING IN PRACTICE OF MIDWIVES.

	Midwives.			Cases.		
	1917.	1918.	1919.	1917.	1918.	1919.
1 Case, - - - -	39	38	51	39	38	51
2 ,, - - - -	8	8	9	16	16	18
3 ,, - - - -	3	3	5	9	9	15
4 ,, - - - -	—	—	2	—	—	8
	50	49	67	64	63	92

NUMBER OF REQUESTS FOR ASSISTANCE TO MEDICAL PRACTITIONERS IN CASES OF EMERGENCY UNDER RULE.

Notifications.	Midwives.			Requests made.		
	1917.	1918.	1919.	1917.	1918.	1919.
Under 10, - - - -	138	119	322	479	424	489
11-20, - - - - -	20	31	24	296	463	345
21-30, - - - - -	6	6	13	144	147	325
31-40, - - - - -	3	1	3	100	31	104
41-50, - - - - -	—	—	2	—	—	98
Over 50, - - - -	1	3	1	54	178	84
	312	310	365	1,073	1,243	1,445

The *Nature of Emergencies* is given in the following statement:—

Nature of Emergency.	1917.	1918.	1919.
(1) In all cases in which a woman during pregnancy, labour, or lying in appears to be dying or is dead,	—	—	—
Pregnancy—			
(2) In cases of a pregnant woman, where there is any abnormality or complication, such as—			
(*a*) Deformity or stunted growth, ...	13	28	22
(*b*) Loss of blood, ...	6	9	14
(*c*) Abortion or threatened abortion, ...	12	13	21
(*d*) Excessive sickness, ...	—	1	—
(*e*) Puffiness of hands or face, ...	1	2	5
(*f*) Fits or convulsions, ...	—	1	1
(*g*) Dangerous varicose veins, ...	3	2	1
(*h*) Purulent discharge, ...	—	—	1
(*i*) Sores of the genitals, ...	2	—	—
Labour—			
(3) In the case of a woman in labour at or near term, when there is any abnormality or complication, such as—			
(*a*) Fits or convulsions, ...	4	15	9
(*b*) A purulent discharge, ...	—	3	1
(*c*) Sores of the genitals, ...	5	3	9
(*d*) A malpresentation, ...	34	43	67
(*e*) Presentation other than the uncomplicated head or breech, ...	114	111	109
(*f*) Where no presentation can be made out, ...	3	5	7
(*g*) Where there is excessive bleeding, ...	46	41	46
(*h*) Where two hours after the birth of the child the placenta and membranes have not been completely expelled, ...	65	54	64
(*i*) In cases of serious rupture of the perinæum, or of other injuries of the soft parts, ...	222	229	237
(*j*) Prolonged labour, ...	280	321	468
Lying-in—			
(4) In the case of a lying-in woman, when there is any abnormality or complication, such as—			
(*a*) Fits or convulsions, ...	5	2	4
(*b*) Abdominal swelling and tenderness, ...	10	14	15
(*c*) Offensive lochia, if persistent, ...	10	3	12
(*d*) Rigor, with raised temperature, ...	6	11	13
(*e*) Rise of temperature above 100° F., with quickening of the pulse for more than twenty-four hours, ...	41	52	68
(*f*) Unusual swelling of the breasts with local tenderness or pain, ...	9	11	14
(*g*) Secondary post-partum hæmorrhage, ...	7	7	1
(*h*) White leg, ...	4	6	4
The Child—			
(5) In the Child, when there is any abnormality or complication, such as—			
(*a*) Injuries received during birth, ...	3	4	—
(*b*) Any malformation or deformity endangering the child's life, ...	11	22	15
(*c*) Dangerous feebleness, ...	76	128	124
(*d*) Inflamation of, or discharge from, the eyes, however slight, ...	6	2	6
(*e*) Serious skin eruptions, especially those marked by the formation of watery blisters, ...	4	25	4
(*f*) Inflammation about, or hæmorrhage from, the navel, ...	3	3	5
Unclassified, ...	68	72	77
	1,073	1,243	1,444

DEATHS (NOTIFIED BY MIDWIVES) BEFORE A DOCTOR WAS CALLED.

1917, ...	4 mothers	10 infants.
1918, ...	8 „	37 „
1919, ...	7 „	35 „

LAYING OUT THE DEAD.

1917, ...	2 mothers	6 infants.
1918, ...	2 „	6 „
1919, ...	5 „	6 „

ARTIFICIAL FEEDING.

1917, ...	Not notified.
1918, ...	21 Notifications.
1919, ...	60 „

INTIMATION OF EXPOSURE TO INFECTION.

Diseases.	1917.	1918.	1919.
Puerperal Fever, ...	21	13	42
Measles, ...	12	7	8
Whooping Cough, ...	3	1	—
Scarlet Fever, ...	1	—	3
Diphtheria, ...	—	—	3
Pemphigus, ...	—	—	2
Influenza, ...	—	—	1
Meningitis, ...	2	—	—
Pneumonia, ...	-	1	—
Erysipelas, ...	—	1	—
Enteric, ...	—	—	1
Itch.	—	—	1
Others, ...	—	—	5
	39	23	66

The question of fees for medical assistance in cases of emergency, under Section 22 of the Act, came up for consideration early in 1917, and a memorandum was prepared for the committee and forwarded to the Midwives Board for Scotland, who subsequently issued regulations regarding payment, etc., on 23rd July, 1917.

PUERPERAL FEVER.

Appendix Table XIX shows the number of cases occurring in each of the years 1914-1919 and the number removed to hospital.

The number varied from 218 in 1914 to 159 in 1918. The proportion per 1,000 births in each of the years was as follows:—

1914, ...	7·4 per 1,000 births.
1915, ...	6·7 „
1916, ...	7·2 „
1917, ...	6·8 „
1918, ...	7·1 „
1919, ...	7·0 „

During the five years from 1915 to 1919 special records of cases were kept, from which the following percentages of attendances at births have been calculated:—

PERCENTAGE OF CASES ATTENDED BY DOCTORS, MIDWIVES, &C., DURING THE YEARS 1915-1919.

ATTENDANCE AT BIRTH.

Year.	Doctor.	Midwife.	Nurse and Doctor.	Institutional Nurse.	Institution.	Others.
1915,	27	36	17	11	9	...
1916,	16	41	22	8	9	4
1917,	33	36	18	5	5	3
1918,	20	34	13	15	8	10
1919,	24	42	19	4	7	4

"Others" includes cases outwith the city.

SECTION IV.

INFECTIOUS DISEASE.

In the later years of the period, several forms of infectious disease not formerly notifiable were made so by order of the Local Government Board (now Scottish Board of Health). These included ophthalmia neonatorum, pneumonia (acute, primary, and influenzal), malaria, dysentery, &c. Tables XIX and XX (Appendix) show the number of each registered and treated at home or in hospital, and the rate per million of the population for the several years.

The highest yearly number (39,401) occurred in 1915; the lowest (25,098) in 1918. In 1915, 10,776 were treated in hospital; in 1918, 6,772 (Appendix Table XIX).

In 1915 fully half (5,923) the cases treated in hospital were scarlet fever; in 1918 this disease contributed 1,239 only out of 6,772.

Excluding tuberculosis, the attack-rate from all others in 1914 was equal to 29 per 1,000 of the population; in 1918 it was 19.

Typhus fever displayed considerable fluctuation; enteric fever fell considerably in the same period.

GLASGOW.—CASE-RATE PER MILLION OF THE POPULATION FOR CERTAIN ZYMOTICS AND FOR ALL CASES OF INFECTIOUS DISEASES REGISTERED, SINCE 1910.

YEAR	Typhus Fever.	Enteric Fever.	Continued and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Croup	Cerebro-Spinal Fever.	Phthisis.	Non-Pulmonary Tuberculosis.	All Others.	TOTAL.
1910,	19	427	29	142	1	5,277	2,435	58	[1]4,508	...	25,586	38,482
1911,	9	489	14	170	3	4,020	2,418	64	2,973	...	25,732	35,892
1912,	43	311	14	181	...	3,687	2,211	24	2,983	...	29,307	38,761
1913,	39	232	7	144	...	4,005	1,934	35	2,552	...	26.247	35,195
1914,	18	340	7	206	...	5,337	1,440	45	2,284	[2]1,088	21,675	32,440
1915,	9	248	5	175	...	5,973	1,257	167	2,169	1,375	25,389	36,667
1916,	17	158	8	178	...	3,719	1,220	131	2,285	1,270	17,001	25,987
1917,	1	82	4	148	...	1,634	1,146	75	2,435	1,433	27,005	33,963
1918,	49	128	12	151	1	1,193	1,379	67	2,258	1,273	16,045	22,556
1919,	30	103	8	163	5	2,443	1,626	72	1,834	1,083	21,359	28,726

[1] Pulmonary tuberculosis made compulsorily notifiable, Jan., 1910.
[2] Non-pulmonary tuberculosis made compulsorily notifiable, July, 1914.

While the common forms of infectious disease — and more especially enteric fever — tended towards a lessened prevalence, there was a marked increase of those types which primarily affect the central nervous system, and are named after the several structures of the brain and cord which they affect, such as cerebro-spinal fever, poliomyelitis, polio-encephalitis, encephalitis lethargica, and influenza.

PRINCIPAL ZYMOTIC DISEASES.

The case rates for several periods have been:—

1881-90,	...	3·600 per 1,000 living.	1914,	...	2·218 per 1,000 living.
1891-1900,	...	3·282 ,,	1915,	...	2·993 ,,
1901-1905,	...	2·660 ,,	1916,	...	1·733 ,,
1906-1910,	...	2·450 ,,	1917,	...	2·063 ,,
1911, ...	...	2·544 ,,	1918,	...	1·434 ,,
1912, ...	...	1·883 ,,	1919,	...	1·583 ,,
1913, ...	...	2·484 ,,			

SMALLPOX AND VACCINATION.

Cases of smallpox were introduced or occurred in 1918 and 1919 under the following circumstances:—

In 1918 a ship arrived at the Boarding Station with one case on board, which was transferred to hospital at Greenock. The rest of the crew came on to Glasgow, and were placed under observation for the period of incubation, during which one of them also sickened. (See Section IX, Port Local Authority.)

In 1919 a seaman arrived in Dundee suffering from smallpox, and was the cause of several other cases of the disease, as is described in the following report:—

SMALLPOX IN GLASGOW.

An outbreak of smallpox in Glasgow has occurred under circumstances which give rise to considerable apprehension as to the immediate future. The history, so far as at present known, is as follows:—

A seaman who had been on holiday in Dundee from 26th April, on demobilisation from the Navy, returned to his home in Govan on 23rd May with an eruption on his face and elsewhere, which was not then recognised as due to smallpox, owing to the mildness of the symptoms and the innocent-looking character of the rash. He had sickened on 17th May—that is, twenty-one days after reaching Dundee—and travelled by train to Govan with the eruption on him. Since his return home, his mother sickened on 4th June and his sister on 8th June. All three cases came to the knowledge of the Sanitary Department yesterday afternoon, as some doubt as to the nature of the illness had arisen, and they were removed to hospital the same evening. The household consists of eight members, and the remaining five were removed to the Reception House, where a fourth sickened this morning. The gravity of the condition is aggravated by the very considerable section of the population which is now unvaccinated, under the conscientious objection clause of the Vaccination Act.

The lad was employed in a shipbuilding yard, and was regularly at work from 4th to 10th June, while the other members of the family were employed in various works and warehouses in Govan and two were at school. For a fortnight, therefore, unrecognised smallpox has been present in the daily life of this part of Govan, and the risk is that cases may occur and be passed over under the guise of chickenpox. Vaccination is being offered freely to all who are known to have been in contact with the household, but it is obvious that this cannot hope to reach the whole circle of persons who have been exposed to infection.

11th June, 1919.

Formerly free vaccination was performed at the Public Health Office, but owing to the small number attending this service was undertaken at all the Infant Consultations, with the result that a marked increase in the number of children vaccinated has taken place.

STATEMENT SHOWING NUMBER OF INFANTS VACCINATED AT THE CHILD WELFARE CONSULTATIONS DURING THE YEARS 1914-1919.

	1914.	1915.	1916.	1917.	1918.	1919.
Public Health Office, ...	85	88	*154	78	39	49
Garngad, ...	45	18	22	11	69	84
Franklin Street, ...	81	60	48	64	29	‡—
Port Street, ...	65	43	52	48	31	62
Ruchill.	25	26	21	36	44	68
Merryland Street, ...	58	†10	41	60	48	45
Adelphi Street, ...	72	75	69	59	78	123
Partick, ...	40	13	19	51	56	85
Claythorn Street,... ...	—	—	—	1	10	‡—
Kinning Park, ...	—	—	—	13	39	—
Brown Street, ...	—	—	—	—	24	117
Shettleston, ...	—	—	—	26	35	95
Campbellfield Street. ...	—	—	—	62	64	81
Cowcaddens.	—	—	—	2	57	104
Elder Hospital, ...	—	—	—	—	—	27
	471	333	426	511	623	940

* Greater number explained by Belgian children who had not been previously vaccinated being sent here.

† For a considerable time there was no Doctor available for the Infant Consultation here, and consequently there were fewer attendances.

‡ Transferred to Brown Street, June, 1918.

VACCINATION (SCOTLAND) ACT, 1907.

The following shows the number of declarations of conscientious objection to vaccination made each year since the Act came into operation:—

1907,	...	...	407	1914,	...	...	7,580
1908,	...	...	2,183	1915,	...	...	7,062
1909,	...	...	2,653	1916,	...	...	7,013
1910,	...	...	3,231	1917,	...	...	7,017
1911,	...	...	3,791	1918,	...	...	6,049
1912,	...	...	4,371	1919,	...	...	6,489
1913,	...	...	6,804				

GLASGOW.—TABLE SHOWING RESULTS OF PRIMARY VACCINATION OF CHILDREN DURING SEVERAL YEARS.

(*From the Detailed Annual Reports of the Registrar-General.*)

Year.	Successfully Vaccinated.	Insusceptible of Vaccine Disease.	Died before Vaccination.	Conscientious objection to Vaccination.	Vaccination postponed.	Unaccounted for.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
1902,	84·2	0·9	10·6	—	0·8	3·5
1903,	84·6	0·6	10·8	—	0·7	3·3
1904,	83·4	0·7	11·0	—	1·2	3·7
1905,	84·5	0·6	10·0	—	1·3	3·6
1906,	82·9	0·5	10·6	0·2	0·8	5·0
1907,	75·0	0·7	10·7	4·9	1·5	7·2
1908,	69·5	0·8	10·8	9·2	1·7	8·0
1909,	67·2	0·8	10·6	12·6	1·7	7·1
1910,	64·8	0·5	9·8	16·0	1·6	7·3
1911,	65·2	1·2	12·0	11·8	1·5	8·3
1912,	57·3	0·6	10·4	22·0	1·8	7·9
1913,	54·7	0·6	10·6	24·9	1·6	7·6
1914,	51·7	0·9	12·1	25·1	1·8	8·4
1915,	56·2	0·6	10·0	24·9	1·8	6·5
1916,	55·2	0·7	9·7	26·6	2·1	5·7
1917,	55·2	0·9	9·7	27·3	2·2	4·7
1918,	54·4	1·0	10·0	26·6	2·5	5·5

NOTE.—1917 and 1918 figures are based on the number of births in the whole City, and the figures for previous years on the births for the whole Registration Districts within it.

Until 1907 the percentage of successfully vaccinated children remained fairly constant. The average was about 84 per cent. This percentage has rapidly decreased, so that in 1918 it was about 54·4 per cent., the difference being mainly due to the increase in the proportion of declarations of statutory objection to vaccination, which in that year reached 26·6 per cent. Those postponed or otherwise unaccounted for also show an increase, and indicate the existence of a degree of laxity regarding vaccination which extends beyond those who take the trouble to make a formal declaration of conscientious objection.

TYPHUS FEVER.

The distribution of typhus fever was as follows:—

1914—Cowlairs, Blackfriars, Gorbals, Calton, Dennistoun, and Kinning Park.

1915—Mile-end, Hutchesontown, Sandyford, and Park.

1916—Partick (Central), Ibrox, Cowcaddens, and Partick (West).

1917—One case in Anderston.

1918—55 cases in all were registered, with a wide distribution, the cases occurring in Anderston, Whitevale, Bridgeton, Hutchesontown, and Mile-end.

1919—Anderston, 8; Kingston, 7; Calton, Broomielaw, and Sandyford, 2 each; six other wards had 1 each; and 6 occurred in institutions.

The death-rate for several periods has been as follows:—

1881-90, ...	·040 per 1,000	1914, ...	·002 per 1,000
1891-1900,	·016 ,,	1915, ...	·000 ,,
1901-10, ...	·006 ,,	1916, ...	·005 ,,
1911, ...	·004 ,,	1917, ...	·001 ,,
1912, ...	·003 ,,	1918, ...	·009 ,,
1913, ...	·036 ,,	1919, ...	·007 ,,

ENTERIC FEVER.

The lessened prevalence of enteric fever, which was noted in the Report for 1913, became further marked during the war years. In 1917 only 91 cases were recorded, which represents an attack-rate of 82 per million of the population.

Several local groupings were reported to the committee at the time of their occurrence, and Dr. Picken made an extensive study of two illustrations drawn from recognised and "missed" cases, from which he concluded that "the problem of enteric fever in large cities remains not so much that of 'carriers' or insect conveyance, as of 'missed' cases, arising partly from neglect and ignorance and partly from the anomalous forms which the disease is apt to assume in young children." (See "Public Health," October, 1915, for complete report.)

For several periods the death-rate from enteric fever in Glasgow has been—

1881-1890,	·230 per 1,000	1914,	·077 per 1,000
1891-1900,	·215 ,,	1915,	·050 ,,
1901-1910,	·127 ,,	1916,	·036 ,,
1911,	·075 ,,	1917,	·013 ,,
1912,	·051 ,,	1918,	·025 ,,
1913,	·036 ,,	1919,	·014 ,,

The following table gives the case-mortality for each year since 1914, together with the mortality:—

	1914	1915	1916	1917	1918	1919
Per cent. treated in hospital,	96	93	97	96	92	92
Case-mortality per cent.,	23	20	23	15	20	14
,, in hospital,	21	20	21	16	18	13
,, at home,	54	21	80	—	46	22

Sex Incidence.—The decreased incidence of enteric fever during the war years was not confined to males, although it occurred to a relatively greater degree among them. The male cases in 1913 numbered 135; in 1914, 210; in 1917, only 45. The corresponding figures for females were 104, 149, and 46. The ratio of male to female cases reckoned as 100 was 130, 141, and 98 in the years quoted. The absence of men on service and the practice of anti-typhoid inoculation in the Army would both operate in producing the change in sex ratio, for the protective value of inoculation in the Army was marked, and some women serving in France and elsewhere as members of Women Auxiliary Corps were also inoculated. But among the civil population the fact remains that during the period enteric fever in Glasgow fell to lower levels than any hitherto recorded.

SCARLET FEVER.

In 1914, 5,636, and in 1915, 6,418 cases of scarlet fever were registered; in 1917-18 they fell to 1,806 and 1,327.

This lessened prevalence was associated with a decrease in virulence, although to a lesser degree.

The decrease in the death-rate from the disease since 1881 has been as follows:—

1881-90,...	·490 per 1,000	1914, ...	·215 per 1,000
1891-1900,	·295 „	1915, ...	·261 „
1901-10,...	·116 „	1916, ...	·147 „
1911, ...	·116 „	1917, ...	·033 „
1912, ...	·093 „	1918, ...	·022 „
1913, ...	·131 „	1919, ...	·044 „

The percentage treated in hospital and mortality of cases treated in hospital and at home were as follows:—

	1914.	1915.	1916.	1917.	1918.	1919.
Per cent. treated in hospital,	93	92	94	93	93	95
Case-mortality per cent.,	4·0	4·4	3·9	2·0	1·9	1·8
„ „ in hospital,	4·1	4·2	4·1	2·0	1·9	1·8
„ „ at home,	3·1	5·8	1·5	1·6	—	—

GLASGOW, 1914-1919.—SCARLET FEVER.—RETURN CASES.—TIME ELAPSING BETWEEN RETURN OF EARLIER AND SICKENING OF SUBSEQUENT CASES.

Year.	–1 week.	–2 weeks.	–3 weeks and over.	Total.	Percentage of total Dismissals.
1914, ...	69	52	48	169	3
1915, ...	82	64	67	213	4
1916, ...	62	77	86	225	6
1917, ...	13	22	21	56	3
1918, ...	5	14	10	29	2
1919, ...	16	21	7	44	2

GLASGOW, 1914-1919.—SCARLET FEVER.—SECONDARY CASES OCCURRING IN HOUSEHOLD AFTER DISINFECTION.

Year.	–1 week.	–2 weeks.	3 weeks and over.	Total.	Percentage of cases removed to hospital.
1914, ...	37	8	5	50	1
1915, ...	125	55	32	212	4
1916, ...	57	24	18	99	3
1917, ...	39	9	9	57	3
1918, ...	23	8	8	39	3
1919, ...	42	15	15	72	3

DIPHTHERIA AND MEMBRANOUS CROUP.

In the Report for 1913 attention was drawn to two aspects of this disease which were deemed worthy of notice. It was shown that an increased prevalence of diphtheria had begun in Scotland about the middle of last decade, and was associated with a transference of mortality from ages under 5 to ages 5-10.

It was also shown that it tended to greater prevalence in wards which, by reason of their general death-rates, might be considered healthier than the City as a whole. Two explanations may be considered. A higher attack-rate might be explained on the assumption that more attention was paid to slight illnesses in the healthier districts. But the difference is not confined to attack-rates. It extends also to the death-rates, and a death-rate based on the total ward population may mislead in the case of a disease which has a special incidence on younger ages. A rapid comparison on this basis shows that the group of districts with the higher attack- and death-rates have also a larger number of wards with the proportion of children at susceptible ages greater than those in which the attack- and death-rates are lower. The true

explanation can only be reached by ascertaining the rates of attack and death at the ages under five and under ten, and with the object of further enquiry the following table is inserted:—

AGE DISTRIBUTION UNDER 10, IN WARDS WITH HIGH AND LOW RATES OF ATTACK AND DEATH.

	Attack Rate.	DEATH-RATE.		PERCENTAGE AGE-DISTRIBUTION (1911).		
		G. D. R.	Diph.	0-5	5-10	6-10
Pollokshaws, ...	6,094,	14·8	809	12·439	12·000	24·439
Jordanhill, ...	4,020,	11·2	210	11·687	12·020	23·707
Cowlairs, ...	3,838,	15·3	431	13·463	11·748	25·211
Cathcart, ...	3,625,	10·2	205	10·218	9·776	19·994
Woodside, ...	3,576,	17·1	364	10·859	10·709	21·568
Park, ...	3,545,	11·8	135	4·321	5·339	9·660
City, ...	1,934,	17·1	181	11·420	10·570	21·990
Calton, ...	1,146,	22·8	289	11·443	10·305	21·748
Cowcaddens, ...	1,649,	21·8	391	11·178	10·585	21·763
Broomielaw, ...	1,667,	23·8	166	10·871	9·849	20·720
Hutchesontown, ...	1,123,	17·7	153	14·110	12·286	26·396
Gorbals, ...	1,589,	16·3	91	10·003	10·180	20·183
Kingston, ...	1,592,	18·3	155	10·616	9·903	20·519

To a considerable extent the increased prevalence of the disease has been masked by the reduced morbidity rate. The following table shows the death-rates per 1,000 living since 1881:—

1881-90, ...	·280 per 1,000 living.		1914, ...	·145 per 1,000 living.	
1891-1900, ...	·231	,,	1915, ...	·155	,,
1901-05, ...	·134	,,	1916, ...	·126	,,
1906-10, ...	·205	,,	1917, ...	·138	,,
1911, ...	·221	,,	1918, ...	·164	,,
1912, ...	·232	,	1919, ...	·144	,,
1913, ...	·181	,,			

The case-rate is shown in Appendix Table XX. Occasional groupings of cases occurring in institutions, usually in association with "carrier" cases, were made the subject of special enquiry.

In the following table the percentages treated in hospital and mortality of hospital and home cases are given:—

	1914	1915	1916	1917	1918	1919
Percentage treated in hospital, ...	92	92	93	94	96	90
Case-mortality per cent., ...	10·1	12·4	10·3	12·1	11·9	8·9
,, in hospital, ...	9·6	11·9	9·6	11·5	11·2	9·1
,, at home, ...	15·4	17·3	20·2	21·0	31·0	4·4

ERYSIPELAS.

In 1914, 1,541 cases of erysipelas were notified; in 1918 the number fell to 717. This reduction is associated with the restriction on the sale of liquor and the decrease in drunkenness. In 1919 the number of cases increased to 1,916.

CEREBRO-SPINAL FEVER.

No exceptional prevalence of this disease occurred. The highest number recorded was in 1915, when 179 cases were registered. Forty-seven cases occurred in 1914.

MEASLES.

The number of cases occurring and the number treated in hospital are given in Appendix Table XIX, and the death-rates in Appendix Table IX.

Of recent years the biennial recurrence of the disease has tended to change its time of maximum incidence and to fall a few months later—*i.e.*, the spring months in place of midwinter. A further opportunity will be taken to consider this question.

In 1917 a wave of German measles was associated with the spring increase of the other form.

For several periods the death-rate has been as follows:—

1881-90,...	... ·680 per 1,000	1914, ...	... ·465 per 1,000
1891-1900,	... ·784 „	1915, ...	... ·866 „
1901-10,...	... ·573 „	1916, ...	... ·471 „
1911, ...	... ·375 „	1917, ...	... ·569 „
1912, ...	... ·664 „	1918, ...	... ·332 „
1913, ...	... ·560 „	1919, ...	... ·294 „

The following report was submitted to the Health Committee in 1918, who made a recommendation in terms thereof—which, however, was remitted back by the Corporation for further consideration:—

SHOULD MEASLES OR WHOOPING-COUGH BE MADE NOTIFIABLE?

Prior to 1914 this question was frequently asked, especially with regard to measles, and so long ago as 1894-95 the prevailing customs of Local Authorities in dealing with the disease were reviewed in a report published by Dr. Theodore Thomson, of the English Local Government Board.

In 1914 an outbreak of measles in a military camp directed further attention to the question, and in 1915 the English Local Government Board issued an Order making the disease compulsorily notifiable. In the same year the Local Government Board for Scotland invited the opinion of Medical Officers of Health as to the utility of a similar Order for Scotland, and since then the question of notification has possibly been more prominent than formerly. The outstanding facts which suggest notification as a useful measure are, of course, the recurring prevalence and the high death-rate caused by both diseases among young children.

It has been urged, for example, that notification would enable precautions to be taken against the spread of infection, but measles is so highly infectious in the catarrhal stages and before the appearance of the rash that the value of notification is reduced when it is only obtainable after its appearance. Again, it has been suggested that notification would supply information with regard to the attendance of cases at school; but it is possible, as our experience shows, to establish an interchange of information with the School Boards which brings absentees to knowledge quite as soon as they would be under a system of notification. It is further suggested that compulsory notification would gradually impress the gravity of measles on the public mind, and displace the present tendency to regard it as a trivial disease of childhood, which must be encountered and is likely to be got over without serious injury.

It is possible to compare the results of the two different methods of obtaining information by taking the figures for Aberdeen and Glasgow, because Aberdeen for a period practised compulsory notification, while Glasgow has for many years relied upon following up by domiciliary visits information obtained from the School Boards. The results of the two methods are strikingly uniform, and may be stated in the following way:—

Premising that fully 60 per cent. of the cases of measles occurring in a city population occur among children under 5 and 36 per cent. at ages 5-15 (these rates are calculated on fully 22,000 cases during an epidemic period), it was found

that by notification the cases under 5 formed 58 per cent. of the total, while by following up without notification this proportion was 59 per cent.

The difference is negligible, and does not suggest that we should be more fully equipped to deal practically with measles by substituting for our present method one of notification.

Whooping-cough stands in a somewhat different position. Its infective period is much longer than measles. There is some reason to think that it is infectious even before the development of the characteristic whoop, and for several weeks after its development the infectivity continues. The practical difficulty attendant on notification would be the disposal of the cases, because we could not undertake to provide hospital accommodation for them, and the comparative activity of many children between the whoops would render rigid confinement to the house prejudicial to their condition. Nevertheless, the present attitude of limited responsibility for the movements of the disease is scarcely defensible, and a practical experiment of limited duration—such as by including it within the Notification Act for, say, three years — has much to commend it, besides yielding opportunities for supplying nursing or other attendance for patients who are badly housed and may need such help. This step, at least, I think the committee would be justified in taking.

It may be useful to close this memorandum with a statement of the number of cases (*a*) dealt with administratively; (*b*) treated in hospital; and (*c*) the death-rate of each for several periods.

DECENNIAL DEATH RATE, &c. (PER MILLION).—MEASLES AND WHOOPING-COUGH.

	Measles.	Whooping-Cough.
1885-1894,	777	1,066
1895-1904,	617	825
1905-1908,	679	757
1906-1910,	634	699
1911-1915,	590	657
1916,	480	151
1917,	568	775

MEASLES.

	Average Annual Number of Cases.	Number Treated in Hospital.	Percentage Treated in Hospital.
1891-1895,	5,781	716	12
1896-1900,	8,536	986	12
1901-1905,	9,258	1,042	11
1906-1910,	12,117	1,303	10
1911-1915,	12,183	1,047	9
1916,	10,435	770	7
1917,	12,967	1,084	8

WHOOPING-COUGH.

	Average Annual Number of Cases.	Number Treated in Hospital.	Percentage Treated in Hospital.
1891-1895,	1,142	324	28
1896-1900,	1,924	374	19
1901-1905,	1,843	444	24
1906-1910,	3,445	796	23
1911-1915,	6,465	690	10
1916,	1,682	135	8
1917,	11,072	862	8

A. K. CHALMERS.

25th June, 1918.

WHOOPING-COUGH.

The death-rate from the disease for several periods has been as follows:—

1881-90,	...	1·150 per 1,000 living.		1914	...	·496 per 1,000 living.	
1891-1900,	...	·879	,,	1915	...	·943	,,
1901-10,	...	·750	,,	1916	...	·148	,,
1911, ...	...	·625	,,	1917	...	·775	,,
1912, ...	...	·307	,,	1918	...	·371	,,
1913, ...	...	·729	,,	1919	...	·565	,,

The number of cases and deaths registered and the death-rate per million living during the six years 1914-1919 are as follows:—

	Cases.	Deaths.	Death-rate per Million.
1914,	6,411	524	496
1915,	7,305	1,013	943
1916,	1,682	162	148
1917,	11,027	857	773
1918,	4,038	413	371
1919,	6,709	630	565

The disease was most fatal in 1915, although most prevalent in 1917. The fatality of 1915 was associated with the climatic conditions favourable to lung complications prevailing during the early part of the year.

The number removed to hospital is shown in Appendix Table XIX. The question of notification is dealt with under "Measles."

CHICKENPOX.

Cases of this diseases are removed to hospital where the home conditions are unsuitable and to prevent the spread of infection. The highest number recorded during the period was 4,264 in 1916.

OTHER INFECTIOUS DISEASES.

In Appendix Table XIX. note is made of the number of various other infectious diseases dealt with. Of these the more important are influenza, anthrax, and trachoma.

POLIOMYELITIS AND POLIO-ENCEPHALITIS.

The occurrence of these diseases (20 poliomyelitis and 11 polio-encephalitis) in 1918 attracted attention, and the Health Committee, after consideration of a report thereon, decided to add them to the list of notifiable diseases as from 3rd September, 1918.

INFLUENZA.

The outbreak which developed great intensity in the autumn of 1918 and early months of 1919 began in a series of apparently dissociated groups of disease in May, 1918. Its activities were mainly noticeable in factories employing large numbers and in residential institutions, but isolated cases were also known.

Some presented symptoms and post-mortem appearances associated with polio-encephalitis and encephalitis lethargica; others were regarded simply as influenza. Their occurrence was reported to the committee at the time, and the results of the enquiry ultimately published.*

* See Glasgow Medical Journal, August, 1918: "Some Unusual Forms of Nervous Disease," by Drs. Chalmers, Picken, and Maclean.

In September it returned, and its course is described in the following reports of the period:—

Outbreak of Influenza.

In the week ending 21st September, several schools in the Shettleston area had their attendance disorganised by a rapidly developing prevalence of influenza, and this was followed, after a short interval, by the invasion of schools elsewhere, first in Govanhill and then pretty generally throughout the City. Incidentally the death-rate rose from 13·5 to 18·6 and 28·6 in the weeks ending respectively 21st and 28th September and 5th October. This last rate has not been approached in any week since 1909, when it was associated with intense frost and fog.

In the three weeks under review the total deaths registered were respectively 257, 374, and 549, of which 16, 65, and 165 respectively were attributed to influenza, and 30, 65, and 107 to pneumonia, leaving 66 only to the other forms of respiratory diseases. In the same period only 29 deaths were attributed to the ordinary infectious diseases—measles (3), scarlet fever (2), whooping-cough (12), and diphtheria (12).

The dislocation of school attendance cannot be regarded as due to any special incidence at school ages; it is rather a part of a general distribution of the disease throughout all ages, although the proportion of deaths at ages below 5 is strikingly in excess of the proportion of children living at these ages. Thus:—

Proportion of Population.		Proportion of Deaths. Week Ending.	
		Sept. 28.	Oct. 5.
0-5	11·6	20	24
5-15	20·8	20	19
15 and Up	67·6	60	57

Effect on School Attendance.—Confirming this suggestion of a special incidence on young children, it may be noted that the decrease in school attendance has been fairly uniform throughout all the standards, and in this way is in striking contrast to the effect produced by an outbreak of measles, which is chiefly experienced in the infant classes. This fact alone, which pointed to a general prevalence rather than to a special spread in individual classes, raised doubt as to the utility of school closure; but, acting on the view that the risk of infection is always intensified when susceptible persons are collected together under cover, experimental closure was adopted in the Shettleston schools and in certain others where the absenteeism considerably exceeded the average. Till the date of reporting, 14 schools have thus been closed and certified, in conformity with Article 30 of the Education Code. The effect of this on the attendance at the date of reopening is being noted.

* * * * * * * * * *

During the week ending Saturday, 12th October, the deaths registered in Glasgow numbered 750, in place of 549 in the week preceding, and the death-rate rose to 38, in place of 29. Of the total deaths, 310 were attributed to influenza and 139 to pneumonia, in place of 165 and 107 in the previous week. The proportion of fatal cases under five was again greatly in excess of that at other ages.

The disorganisation of school attendance shows no abatement, nor is there any evidence that closure is effective in preventing spread. In several schools where the movement has been closely watched, the number of children absent reaches a maximum about the end of the second week after invasion, after which there is a gradual return to the normal attendance.

The Education Authorities are materially assisting in efforts to reduce the risks of attendance. It should be understood, however, that there is no agent so far discovered which can be called a specific either for prevention or cure. All that can be aimed at is to place the tract by which infection reaches the individual in a healthy condition. In influenza, as in ordinary colds, this tract lies in the

nostrils and its associated air passages. When the membranes lining these passages are in a healthy condition and discharging their functions in a normal manner, resistance to infection may be said to be at its maximum. If they become inflamed or congested, as in an ordinary cold, this resistance is impaired or broken down. Preventive methods, therefore, aim at restoring normal functions, and it is with this object that advantage is taken of the antiseptic actions of some of the essential oils and other volatile bodies, such as menthol, eucalyptus, and wild thyme, among others.

There is danger, however, in their indiscriminate use—danger in the sense that when used in excess they may increase the congestion, which in moderate doses they were capable of alleviating. In the City hopsitals and other places were nurses and attendants are exposed to risks, we are at present using an inhalation consisting of 40 grains of menthol, 20 minims of oil of pine, 10 of lavender and of cinnamon oil, 18 of oil of wild thyme, 15 of eucalyptus oil, in an ounce of rectified spirit, to which 5 or 6 drops of formalin are added. A few drops of the mixture may be used on occasion as a spray, or, when continuous action is required, applied in an oily basis to the nostrils. But, whatever agent may be employed for prevention or relief, the person attacked with influenza should go to bed at once, and place himself under medical supervision. The organism associated with pneumonia is normally present in the nostrils and air passages.

It scarcely requires to be stated that concert halls and picture theatres, from which sunlight must be excluded, supply ideal conditions for aerial transference of infection.

The deaths registered in Glasgow during the week ending 19th October numbered 802, in place of 751 in the week preceding, and the death-rate was 41, in place of 38. Of the total deaths, 336 were attributed to influenza, in place of 310, and 174 in place of 139 to pneumonia, leaving 32 to other forms of respiratory diseases, in place of 40 during the preceding week.

There is an increase in the proportion of deaths of children under school age, and again over school age, with a proportionate reduction in children at school age.

In all, since the beginning of the outbreak, 32 schools have been closed, 23 being Roman Catholic, 4 under Shettleston School Board, 1 Episcopalian, and 1 each under the School Boards of Renfrew, New Kilpatrick, Renfrew Combination, and Govan. Save the solitary exception last named, no schools have been closed either under Glasgow or Govan Boards.

Of these 32, 28 were opened on 21st October, one more on the 22nd, while the other three are not due to open until 28th October.

There is some ground for thinking that, so far as the schools in the Govan Parish are concerned, the period of maximum incidence has been passed. This belief is based on the numbers in attendance on three succeeding Mondays in October — viz., 7th, 14th, and 21st — which were 24,876, 24,375, and 24,839. Monday, however, is not a reliable day for comparing school attendance, but a similar impression would seem to be suggested by a comparison of the figures for 9th and 16th October, which are 24,078 and 24,265 respectively.

The decline in influenza deaths which set in during the week ending 26th October continues. The total deaths registered during the week ending 9th November numbered 429, but under correction for transference the deaths properly belonging to Glasgow are 388, as compared with 543, 715, and 802 in the three preceding weeks. The death-rate was 20 per 1,000, in place of 28, 35, and 41 in the three weeks preceding.

The deaths attributed to influenza numbered 110, and to pneumonia 66, as compared with 336 and 174 in the week of greatest prevalence — namely, that ending 19th October.

The age incidence has become even more emphatically one of early childhood, so that, while 12 per cent. of the population are children under five, the proportion of deaths during last week was 26, while at school age only 6 per cent. of the deaths occurred among 21 per cent. of the population.

The school attendance has considerably improved.

It has an important bearing on the relationship between influenza and pneumonia to note that the rate of decline in both is similar, the number of deaths from influenza and pneumonia being each about one-third of the numbers occurring in the maximum week.

A recrudescence of the disease of marked severity again occurred in February, 1919, when the death-rate for the weeks ending 15th and 22nd February rose to 33 and 43 per 1,000.

In reply to a Questionaire issued through the Scottish Board of Health on behalf of the Directors of the Office International d'Hygiene Publique, Paris, the whole course of the outbreak during 1918 and the early part of 1919 was reviewed, and the following report submitted:—

INFLUENZA.

ANSWERS TO QUERIES.

General.

1. Did Scotland suffer from an outbreak of benign primary influenza (Spanish influenza) in the spring and summer of 1918?

Ans.—Glasgow did. There was a continuous succession of cases from April to September, reaching two maxima in May and July. In a chart of the deaths this is particularly obvious, especially when influenza and all respiratory diseases, including pneumonia, are taken together. It is equally marked in pneumonia alone, and indicated in influenza, although the May rise in this case is limited. Care was taken to eliminate phthisis from these deaths. Copy of paper published in the *Medical Journal* at the time described the incidents which marked the beginning of this period.

2. Did it suffer from an outbreak of secondary or severe influenza, with pulmonary symptoms (pnuemonic influenza), between August and December, 1918?

3. Did it suffer from a recurrent outbreak in the earlier part of 1919?

Ans.—Yes; quite definite in September, October, November, 1918, and again in February, March, April, 1919. With reference to the presence of pulmonary symptoms, while none were observed in the Glasgow cases in the spring of 1918, eight deaths with marked pulmonary symptoms occurred in associated cases in Lanarkshire at the same time. Moreover, deaths ascribed to pnuemonia alone were increased in Glasgow, and reached two definite maxima in May and July, but were not then regarded as influenza by the practitioners in attendance.

(*A*) EPIDEMIOLOGY.

I.

Note. — Each of the following questions to be answered separately for each of the three outbreaks above mentioned, where such distinction seems required.

4. State as precisely as you can the date—

(*a*) of the occurrence of the first cases;

Ans. — May, 1918, first week; September, 1918, second week; February, 1919, second week.

(*b*) of the time when the outbreak attained epidemic proportions;

Ans.—In the spring (1918) outbreak, two definite but limited maxima were shown in May and July (taking all respiratory deaths), but marked epidemic prevalence began towards the end of September, and again in the folowing February.

(c) of the end of the epidemic;

Ans.—The combined movements in spring, 1918, extended over 24 weeks. The autumn epidemic extended over 14 weeks, beginning second week in September; the spring (1919) outbreak also lasted 14 weeks—*i.e.*, from second week in February to third week in May.

5. In what week did the epidemic attain its maximum?

Ans.—Absolute maximum in first week of March, 1919; *i.e.*, in fifth from beginning of this recurrence. The autumn epidemic (1918) had a maximum in third week of October (five weeks); the limited maxima in spring, 1918, occurred also roughly in fifth week after increase began.

6. Was the onset of fulminating or rapid type?

Ans.—First epidemic mild; two subsequent outbreaks had rapid mortality, chiefly from pulmonary symptoms (see also answer to Q. 3). Fulminating cases occurred also in the autumn and spring (1919) outbreaks.

7. Describe the geographical path of the outbreak in Scotland, showing the differences in the progress of the disease in the successive outbreaks. Did any areas escape?

Ans.—Not known for Scotland, but cases were known to be occurring in Glasgow earlier than in areas in Lanarkshire, which were probably infected from Glasgow. (Cases in Smyllum Orphanage, Lanarkshire, were associated with earlier Glasgow cases.)

8. Was it possible to locate or to suspect the source of the malady? Was it known to have been imported—by sea, by land, whence?

Ans.—Source of infection in spring, 1918, not known, but cases ascribed to "Botulism" had been reported in England, and the earlier Glasgow cases had been hypothetically so described.

9. Quote any opinions of epidemiologists regarding the origin of the pandemic.

Ans.—See published report on "Some Unusual Forms of Nervous Diseases."

10. Were the epidemics of 1918-19 on the same geographical lines as previous outbreaks, which came from Asia and traversed Europe from east to west?

Ans.—Cannot be answered on local evidence.

11. Did the spread of the epidemic follow the chief lines of communication (by land, river, and sea)? Quote cases where transmission of the epidemic was occasioned by special grouping or special scattering of the population—as, for instance, public gatherings, such as markets or fairs or pilgrimages, migration to watering-places and to the seaside, migration for agricultural purposes (*e.g.*, of vintage labourers and others), military migration (associated with the raising of recruits, disbandment of troops, &c.), naval migration (the epidemic being carried by passengers or crew). Indicate the importance of any such "migration" influences that existed.

Ans.—By lines of human contact, but with a simultaneity of onset when, *e.g.*, a school or work was invaded, in marked contrast to what occurs, say, in measles. For illustration of individual contacts the following are quoted:—

(1) Influenza in Industrial School (Oak Street) in first week of May. Boy left for Smyllum Orphanage on 10th May, and stayed till 15th. First case occurred in Smyllum Orphanage on 14th May.

(2) Boy from Stoneyetts (an Epileptic Colony) spent week-end at home in Mile-end, Glasgow, where three cases of influenza were sick. Boy returned to Stoneyetts on 1st October, and on 5th Ostober this boy and another who had not been away from Stoneyetts sickened, and began an epidemic of 59 cases.

12. Mention specially any connection between the outbreak in the Army and that which occurred among the civilian population. In what order did these two outbreaks occur? How did each affect the other? Note any difference in their intensity and any other distinguishing features.

Ans.—No information.

13. Indicate, in so far as it has been possible to define these, the effect of the war, of the massing of troops, of the intermingling of soldiers from all parts of the world, of military operations in the war zone, &c. Is it known to what extent the epidemic hampered war operations among the belligerents?

Ans.—Have only general knowledge that cases were occurring in military hospitals and troopships. Personal view that the assembling of men from different countries was creating a new staging for epidemic disease, but no local facts to illustrate this.

14. Under "maritime" modes of infection, note outbreaks in the Navy and at naval depots, in addition to transmission through the seaports themselves.

Ans.—No information available.

II.

15. Are there reasons — epidemiological, etiological, or other — for regarding pandemic influenza as distinct from ordinary endo-epidemic influenza? Was any local connection discovered between the latter and the first epidemic outbreak (spring-summer, 1918)?

Ans.—It is questionable whether pandemic and sporadic cases present different clinical symptoms, although unquestionably the mass of cases during pandemic periods arrests attention. But, in view of epidemiological experience obtained during these recent prevalences it is now possible to take a more definite view as to the nature of apparently isolated epidemics of earlier years, especially of those in industrial schools, of which the most clearly marked illustration here was in Abercromby Street Reformatory School in 1888.

16. State the difference that existed in the rapidity, the extent, and the intensity of the successive outbreaks.

Ans.—Spring outbreak, 1918—the recrudescence here carried this outbreak over five months; autumn, 1918, three months; spring, 1919, two to three months.

17. When the first outbreak had subsided, did the disease persist in the form of sporadic cases, forming a real or an apparent link with the second outbreak, or was there a well-marked interval between the two?

Ans.—Yes; the intervals between the several maxima had recognisable cases.

18. Did cases appear simultaneously over a wide area, or did the disease spread from place to place from original or "re-infection" centres?

Ans. — Apparently simultaneously in districts of the City widely apart. In a city, however, it may be said that car services, picture-houses, and other places of business, feeding, and entertainment may create a widespread and simultaneous exposure.

19. Is there reason to believe that in the various parts of Scotland the second outbreak was a local recurrence or aggravation of the first infection? Or, on the other hand, is there reason to believe rather that the second emanated from centres of infection outside the district or outside of the country itself? Give particulars in either case.

Ans.—See answer to Question 17. "Trailers" carried on the story in the apparent intervals.

III.

20. Give the number, known or estimated, of cases of influenza, and the number of deaths. Enumerate separately cases of, and deaths from, *influenzal pneumonia*, whatever form the pulmonary seizures may have taken. A separate table should be made for each epidemic for the *second* in particular.

Ans. — Unless the deaths attributed to "Influenza" alone are taken—which would be misleading and much short of the total, as many would be classified as "Pneumonia" — it has been decided to take all deaths from respiratory diseases (excluding phthisis), and base an estimate thereon; *e.g.*:—

All "respiratory" deaths in 15 months from 1st April, 1918, to 30th June, 1919, ...	8,898
Average for 12 months, ...	7,118
Average of same group for 5 years, 1913-17, ...	3,136
Difference due to influenza in 12 months, ...	3,982

No estimate has been made of "cases." The death-rate in hospital cases was over 40 per cent., but as only the graver cases were sent (many were moribund on admission) it would be erroneous to accept this rate for the general population.

21. In particular, give fullest possible information regarding cases and deaths in hospitals, asylums, prisons, &c.

Ans. — Between July, 1918, and May, 1919, 798 cases were removed to Belvidere Hospital. Of these 351 were uncomplicated influenza, and the morbidity-rate only 2·5 per cent. Of 447 complicated with pneumonia, the morbidity-rate was 42·5 per cent. On the other hand, among 140 cases in a small industrial school (Maryhill) there were no deaths.

22. State the proportion of the population that remained immune in the country as a whole and in each separate area of infection.

Ans. — As is common in all respiratory diseases and in most infectious diseases, the number of cases occurring in the smaller-sized houses greatly exceeded those among the better-housed population.

23. Indicate the relative importance of the outbreaks according to—(*a*) nature of population (urban, rural, &c.); (*b*) social class; (*c*) age and sex.

Ans.—(See answer to 22.) Cases occurred among all classes, but the Jewish section of the population seemed to suffer less. This opinion is based on the recorded absenteeism of school children (see chart).* The R.C. school on the chart had an absentee rate of 30 per cent. In a Protestant school, with 30 per cent. Jews, this rate was 25 per cent.; in another school, with 68 per cent. Jews, the absentee rate never exceeded 20 per cent. It appeared also that females were attacked in greater number than males. For both sexes the attack-rate was greatest at ages 25-35, and the female morbidity-rate at these ages greater that the male rate.

24. Mention any regional and local difference in severity, and, if known, the causes of these.

Ans. — See again answer to Question 22 regarding effect of the varied conditions expressed by size of house on fatality.

25. Was the outbreak specially severe in particular neighbourhoods, houses, or families? On the other hand, did any of these remain more or less immune?

Ans.—Only information bearing on this is that, whereas the first outbreak in institutions in Glasgow was mild in character, that which occurred almost simultaneously in Smyllum Orphanage was severe.

26. Give separate statistics regarding troops on service.

Ans.—Information not available here.

27. Give the relative death-rate as regards age, class, profession, previous condition (tuberculosis, pregnancy, malaria, alcoholism, &c.).

Note.—The best method of determining the extent, &c., of epidemic disease is to collate the facts with those referring to the total general mortality, which may be readily ascertained from the Registrar-General. The number of deaths from the beginning of May to the end of December, 1918, grouped in weeks and compared with the number for the preceding year, constitutes one of the chief means of estimating the ravages of the epidemic.

Ans.—See answer to Questions 20 and 23. Group death-rates not based on sufficiently large number to be reliable.

(*B*) PATHOLOGY.

I.

28. During the first pandemic of 1918, did the simple, fugitive, slight type predominate?

Ans.—*Yes.*

29. Were the respiratory symptoms limited, as a general rule, to catarrh of the upper respiratory passages? As early as in this first phase of the epidemic, were the lower respiratory passages and, in particular, the pulmonary region affected? Were the cases of broncho-pneumonia, pneumonia, pulmonary congestion, pulmonary hæmorrhage and œdema, and of pleurisy? Were such cases rare? Were they slight or were they very severe?

Ans.—Spring outbreak, 1918, non-pulmonary as a rule. Autumn, 1918, and spring, 1919, much pulmonary complication, varying from catarrh of upper respiratory passages to broncho-pneumonia.

30. State generally, and with reference to each of the outbreaks, the clinical form and the relative degree of frequency. Did cases of severe type, hypertoxic or pneumonic, predominate in the second epidmic?

Ans.—Usual symptoms of influenza in all three epidemics; pulmonary involvement prominent in second and third.

* Chart not reproduced.

31. Were there cases in which pulmonary symptoms of various sorts appeared at the first onset? Did the early or the later pneumonic symptoms show differences in nature or in severity?

Ans. — Catarrhal symptoms—upper respiratory passages—marked from beginning. Pneumonia always definitely secondary, and mainly of bronchial type.

32. Was the influenzal pneumonia found to be distinct from endemic and epidemic pneumonias, and distinct in particular from the pneumonia that prevailed amongst "coloured" troops in France?

Ans.—The type of pneumonia was bronchial rather than lobar. In one hospital (Belvidere) it was invariably regarded as broncho-pneumonia.

33. Were the severity and the course (evolution) of the disease affected by age, constitution, state of pregnancy, existing tuberculosis, alcoholism, or malaria, or by the condition of the heart, kidneys, &c.?

Ans. — Advanced pregnancy, tuberculosis, and alcoholism adversely influenced the cases of influenza. It has already been stated that the ages 25-35, and especially among females of robust health, seemed prone to fatal attack.

34. State any important clinical peculiarities and any sequelæ noted (hæmorrhage, exanthemata, albuminaria, nephritis, peritonitis, neuritis, psychosis, cardiac-vascular troubles, &c.).

Ans.—Epistaxis fairly common among early symptoms. Scarlatiniform rashes were markedly prevalent in first attack, and morbiliform rashes in second and third.

35. Were there cases of abdominal influenza, with diarrhœa-like, cholera-like, or pseudo-dysentery-like symptoms? Did such cases constitute an epidemic centre of more or less wide extent?

Ans.—Not observed.

(*C*) ETIOLOGY.

36. Give a *resumé* of the bacteriological researches made in Scotland, with the results and the conclusions, definite or otherwise, that may be drawn.

Ans. — Dr. Buchanan, City Bacteriologist, says: — "Examination of sputum from hospital cases, September till December, 1918, numbered 37, and yielded microscopically B. influenzæ in 92 per cent. and pneumococcus in 100 per cent.

Swabs from the naso-pharynx during the same period numbered 25, also examined microscopically, yielded B. influenzæ in 88 per cent. and pneumococcus in 92 per cent.

The results of culture tests were greatly influenced by the nutrient media used, as the following table shows:—

	Blood-smeared Agar, Sept. 26–Oct. 23, 1918.		Trypsin Agar, Oct. 23–Dec. 6, 1918.	
	Examinations.	Per cent. Positive.	Examinations.	Per cent. Positive.
B. Influenzae, ...		25		73
Sputum, ...	15		22*	
Pneumococcus, ...		33		95
B. Influenzae, ...		7		70
Sputum, ...	15		10	
Pneumococcus, ...		47		90

(8 of the 15 swabs were delayed in transit).

* 9 of the 22 cases were clinically influenza; 6 influenza and pneumonia; 2 influenza and broncho-pneumonia; 2 influenza and bronchitis; and 3 influenza and phthisis.

37. What relation has influenza to the various maladies of the respiratory system—so-called *a frigore* maladies—such as coryza, bronchitis, &c., which reappear as seasonal epidemics?

Ans.—The view was entertained that climatic conditions favourable to the development of catarrhs induced susceptibilty to attack, but this could only be considered in relation to influenzal prevalence under widely different local conditions tending to produce catarrh.

38. Has evidence been collected towards showing that influenza exists among animals (monkeys, horses, cats, dogs), and that this epizootic influenza plays a part in the spread of the epidemic amongst men?

Ans.—No evidence—during recent outbreaks.

II.

39. Has the transformation of simple influenza into pneumonic influenza been explained, also the fact of the virulence increasing while the degree of infectivity remains almost unchanged?

Ans.—No. Dr. Buchanan adds:—"The expulsion of pneumococci along with B. influenzæ is indicated by the plate-culture experiments in No. 40. If both organisms, coexisting as they do in so many cases, can thus be expelled together, the probability is that the two diseases are transmitted and instigated at one and the same time—more especially in view of the fact that they are likely to be possessed of exalted virulence."

40. Have facts been collected to show any frequent or special mode of contagion?

Ans.—Dr. Buchanan reports:—"Culture plates held in front of patients whilst coughing yielded abundant growths of B. influenzæ and pneumococcus. Blood-smeared plates were used, and the results may be considered unrepresentative in the light of the experience with sputum and naso-pharyngeal swabs above noted. Nine examinations showed the presence of B. influenzæ in four plates, associated in two and unassociated in two with pneumococcus. The pneumococcus was present also in four plates, being associated in two with B. influenzæ, as above stated.

41. Did the various forms of the disease differ in contagiousness, that of the simple form differing especially from that of the pneumonic? If so, which form appeared to be the most contagious or more easily transmitted from one person to another? Was it noted that the pneumonic form was transmissible from the first onset, and that, too, in exactly the same form?

Ans.—All varieties seemed equally infectious. The specific infectivity of the different forms of pneumonia requires elucidation.

III.

42. As a general rule, did those who suffered during the spring-summer epidemic escape during the summer-autumn outbreak? Can the proportion of people be estimated who were attacked during the first epidemic and took the disease again in the second?

Ans.—Only facts within knowledge bearing on this are that school children—judged by absenteeism—were not attacked in spring (1918) epidemic, but were largely implicated in the autumn epidemic, while they escaped in large measure the spring epidemic of 1919.

43. Did the return cases seem to be of an especially mild type?

Ans.—Return cases—in mass, at least—not observed. (See also No. 42 with regard to school children.)

44. Can it be said that the first attack of influenza tends to render a person immune? If so, what may be taken as the significance and the duration of the immunity? Can you explain the relative resistance of old people to influenza?

Ans.—See Nos. 42 and 43. In individual cases two definite attacks have occurred under six months, but not under four.

45. Did those people escape who happened to be undergoing treatment by quinine, arsenic, or salvarsan?

Ans.—The medical staff at Belvidere put faith in quinine as a prophylactic, with seemingly good results.

(*D*) PROPHYLACTIC.

I.

46. Was the compulsory notification adopted? Was any system of prophylactic instituted, whether public or private?

Ans.—Notification not adopted. Much recourse was had to inhalation of essential oils.

47. If so, was it reliable? Give details regarding its efficiency.

Ans.—No evidence as to its value.

48. Did the closing of public meeting-places, disinfection, and other administrative measures stem the advance of the epidemic? Did measures restricting the movements of the population, applied to land and sea frontiers, prove of practical use?

Ans.—Places of public entertainment were not closed, but essential oils were periodically sprayed into the air-ducts.

49. Does such "quarantine" afford absolute protection against the disease, or were cases found in which it had been of no avail? In the latter case, could the infection be attributed to germ-carriers or to influenza in animals?

Ans.—"Quarantine" applied to the general population does not seem practicable. Prisons and lighthouses may have had a lessened incidence at corresponding ages. Stoneyetts, an epileptic colony, already mentioned, escaped infection till September, 1918.

II.

50. Were good results obtained from the use of masks of so-called "preventative" drugs?

Ans.—Not used in Glasgow.

51. Were prophylactic and therapeutic measures in the shape of vaccines and serums instituted? Indicate the nature and the preparation of them, and the results obtained from their use.

Ans. — The nursing staffs at the hospitals were offered vaccination for prophylactic purposes, and some availed themselves of it. Although in these cases the results suggested a degree of protection, the cases themselves were too few to base reliable conclusions on.

52. Describe, if possible, those methods of treatment which, in the opinion of the medical profession, seemed to be worthy of special recommendation.

Ans.—The impression quite definitely was that influenza spread under somewhat similar conditions to typhus fever—free ventilation being the first essential. Clinically, many cases required stimulation.

III.

53. Give all information that may be of use regarding—

(*a*) the organisation and the practice of the sanitary service and sanitary regulations;

Ans.—The practice of the Sanitary Department was to accommodate in hospital as many cases as were badly housed, or could only receive inadequate medical and nursing attention at home.

(*b*) the pharmaceutical and medical services;

Ans.—During the autumn outbreak particularly, the general practitioners available were reduced to a minimum owing to war conditions.

(*c*) hospital accommodation, &c.;

Ans.—All the hospitals—Local Authority and others—admitted cases.

(*d*) distribution of help to necessitous cases;

Ans.—Special arrangements were made with the Food Controller to put on sale alcohol for therapeutic purposes, and also to add to the meat ration in cases medically requiring it.

(*e*) any exceptional measures or arrangements that were adopted.

Ans.—See answer to No. 48, regarding spraying of air-ducts in places of public entertainment.

Sanitary Chambers,
Glasgow, 15th April, 1920.

PNEUMONIA, MALARIA, DYSENTERY, &c.

Under the Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations (Scotland), 1919, malaria, dysentery and trench fever, acute primary pneumonia, and acute influenzal pneumonia became compulsorily notifiable as from 1st August, 1919. This regulation also included paratyphoid in the expression of enteric fever.

Pneumonia and influenza were formerly admitted to the general Poor Law hospitals, but during the epidemic of influenza and pneumonia in 1918 admissions to Local Authority hospitals numbered 535, to which outbreak reference has already been made in the preceding pages of this Report. The prevalence of these diseases was again very marked in the spring of 1919. In the latter year 930 cases of influenza were admitted to hospital, and 230 patients suffering from pneumonia, while 778 of the latter notified were treated at home.

MALARIA.

In 1919 the number of cases of malaria notified was 1,428, of which 87 were treated in hospital, while 13 out of 117 cases of dysentery were admitted to hospital.

The following memorandum indicates the provision made for treatment either at the dispensaries or in the hospitals:—

ARRANGEMENTS FOR THE TREATMENT OF MALARIA BY THE PUBLIC HEALTH DEPARTMENT.

Before malaria became a notifiable disease, arrangements had already been made between the Glasgow War Pensions Committee and the Public Health Department for the hospital treatment of discharged or demobilised soldiers suffering from that disease. Such patients were examined either at the Sanitary Chambers or in their own homes by a medical officer of this department, those who required hospital treatment were admitted to Belvidere Hospital, whilst the milder cases were referred to their panel or private doctors or to one of the general hospitals for outdoor treatment.

Prior to the date when the disease became compulsorily notifiable, the number of cases thus referred to this department was 43, and of these 25 were admitted to Belvidere Hospital.

When malaria became notifiable on 1st August, it became the duty of this department to undertake the treatment of all cases, hospital and otherwise. It was obvious that the numbers would be too great to permit of these cases being examined at the Public Health Office, where there are no facilities for such a purpose nor for the supply of necessary medicines. The use of the tuberculosis dispensaries offered the best solution, for various reasons:—

(1) The patients have less distance to travel to reach them.

(2) They will be treated throughout by the same doctor.

(3) Facilities for thorough examination are available.

(4) There will be no difficulty about the supply of quinine or other drugs.

(5) As there are six tuberculosis dispensaries, the number of malaria patients attending each will not be so great as to interfere with the tuberculosis work.

It might be objected that these patients will be exposed to the risk of infection from tuberculous patients; this may be regarded as negligible. It has been arranged that these cases will have precedence in seeing the doctor; they will require to attend only once a week; the duration of treatment will not be prolonged, as it is in tuberculosis.

The following is the routine at present adopted:—On receipt of a notification an inspector visits the house, obtains information on certain points, and advises the patient as to the dispensary at which he can obtain treatment. If the patient is confined to the house, a medical officer visits him and arranges for the necessary treatment. Patients who have received hospital treatment are, on discharge, instructed to attend a dispensary for any necessary further treatment. Patients who are receiving neither dispensary nor hospital treatment will be visited every three months by an inspector, who will obtain information as to the occurrence of relapses and what treatment is being received.

Suggested Routine Treatment of Malaria.

(1) Initial purge.

(2) (*a*) Quin. Sulph. in solution, grs. 10 thrice daily during a relapse, and for seven days thereafter.

(*b*) Grs. 10 twice daily for a further seven days.

(*c*) Grs. 10 once a day for a further seven days.

(3) A tonic (Mist. Ferri et Arsenid) should be commenced with 2 (*b*), and continued for several weeks.

(4) Cases requiring hospital treatment will be admitted to Belvidere Hospital.

The following report of an indigenous case of malaria is interesting, as it is the first and only one that has been reported:—

CASE OF MALARIA CONTRACTED IN SCOTLAND.

Mrs. H. D., Eveline Street, 0/1.

History of Illness.—On 22nd August, 1919, patient had an attack of shivering, followed by a condition of warmth and then of sweating; vomiting occurred during the attack; the total duration was about four hours.

Subsequent to this, attacks occurred regularly every second day, always commencing between 9 and 10 a.m. and finishing about 1 p.m. They all presented the same features, the cold and hot stages being well marked, the sweating stage less so. Vomiting was usual, and sometimes aching in the limbs. Headache and pain in the splenic region were not complained of.

On 25th August, 1919, patient was admitted to the Samaritan Hospital for a uterine condition which required operation. She states that a rigor occurred the

day before the operation, but she persuaded the surgeon not to postpone the operation, explaining that the attack would be brief, and that she would be all right next day.

Another attack occurred on the day after the operation. Apparently the diagnosis was not suspected, but on one occasion she was given a quinine powder, and felt so much better that she asked for more. On her return home the family physician, Dr. Anderson, was again called in. He apparently suspected malaria, but was put off by the fact that the patient had never been abroad. Finally Dr. Harrington was consulted, a blood film taken, and abundant benign tertian parasites found about 18th October, 1919.

Patient was immediately put on a course of quinine—30 grs. daily for ten days, followed by 20 grs. daily for ten days, followed by 10 grs. daily for ten days —and since then she has had no further relapse.

Possible Source of Infection.—Patient's son was demobilised in February, 1919, and has lived at above address since. In Salonica he suffered from malignant malaria, and received prolonged quinine treatment. Since his return in February he has taken no quinine, and has had no relapse. On 17th July, 1919, the family, with the exception of this son, went to reside in a farm near Kirriemuir; they returned to Glasgow on 9th August. As mentioned above, the patient states that her first attack occurred on 22nd August; *i.e.*, thirteen days after her return. As she was suffering at the time from a uterine lesion, it is likely that the malaria commenced before the 22nd, the initial attack or attacks being probably mild and passing unrecognised.

She gives the information that no one suffered from malaria, either in the farm or in any house which she visited; but on 19th July troops were present in the town in connection with the Peace celebrations. During her stay at Kirriemuir she was troubled by flies and midges, but cannot give any information regarding mosquitoes.

Thus the history points to infection having occurred at Kirriemuir. If infection had taken place in Glasgow, one must suppose an incubation period of 32 to 36 days at least, which, whilst possible, is unlikely.

Assumed Chronology.—Backward from sickening. Incubation period, 10-12 days; *i.e.*, from 22nd August, or 10th or 12th August, as the latest period of inoculation. Period of development in mosquito, 12 days; *i.e.*, from 29th or 31st July. This leaves a period of 10 or 12 days between the assumed period of the mosquito becoming infective and the date at which it bit the patient. This assumes, of course, that the troops brought in in connection with the Peace celebrations were the only infected persons in Kirriemuir.

(Sgd.) W. GILMOUR.

MUMPS.

Cases included in Appendix Table XIX were mostly from military hospitals or from American transports during the last two years.

DIARRHŒAL DISEASES.

Deaths from this disease were most numerous in 1914, when 831 deaths occurred, and least prevalent in 1918. Its volume is usually determined by the occurrence of the disease among infants during the late summer or early autumn, especially if the weather is warm and dry. This is shown in the following table:—

	Death rate per Million.	Deaths.			Death-rate per Million.	Deaths.	
		– 1 year.	– 2 year.			– 1 year.	– 2 year.
1914, —	787	574	257	1917, —	491	320	223
1915, —	605	378	272	1918, —	477	282	249
1916, —	721	458	332	1919, —	476	292	239

The diseases included within this group since 1906 are: — Epidemic diarrhœa, epidemic enteritis, infective enteritis, zymotic enteritis, summer diarrhœa, choleraic diarrhœa, cholera (other than Asiatic), gastro-enteritis, gastro-intestinal catarrh, mucocolitis.

For several periods the death-rate has been—

1881-90, ...	·700 per 1,000	1914, ...	·787 per 1,000
1891-1900, ...	·843 „	1915, ...	·605 „
1900-10, ...	·792 „	1916, ...	721 „
1911, ...	·897 „	1917, ...	·491 „
1912, ...	·506 „	1918, ...	·477 „
1913, ...	·807 „	1919, ...	·476 „

DIARRHŒAL DEATHS IN RELATION TO TEMPERATURE.

(*From the Registrar-General's Reports.*)

	1914		1915		1916		1917		1918		1919	
	Mean Temp. in shade.	Deaths –1 year.	Mean Temp. in shade.	Deaths –1 year.	Mean Temp. in shade.	Deaths –1 year.	Mean Temp. in shade.	Deaths –1 year.	Mean Temp. in shade.	Deaths –1 year.	Mean Temp. in shade.	Deaths –1 year.
June, - - -	56·8	20	56·8	18	53·7	19	55·6	13	54·8	15	54·9	11
July, - - -	58·2	34	57·1	27	58·2	25	59·7	16	57·9	27	57·7	14
August, - - -	58·9	100	58·4	54	60·2	113	59·3	115	58·3	94	56·8	77
September. - -	53·9	206	54·8	88	54·0	189	55·2	65	49·5	65	52·6	75

TRACHOMA.

REPORT ON THE PREVALENCE AND TREATMENT OF TRACHOMA IN GLASGOW.

In 1904 I submitted to the Corporation a report on the occurrence of trachoma among certain classes of aliens, but was without the information necessary to discuss its distribution among the general population.

Subsequently, but more especially after school medical inspection was introduced, a good deal of information became available, but until 1914 there was no ascertained grouping of cases to suggest that active spread of the disease was occurring in any institution or area. In that year, however, such did occur among the children attending Rose Street Industrial School, and towards the close of the year the Corporation resolved to include the disease within the provisions of the Infectious Disease (Notification) Act. In consequence of this, trachoma became notifiable in October, 1914, and the information thus obtained makes it now possible to consider what further steps are desirable in the interests of the affected children and of the population generally.

At the end of September, 1915, 137 cases had been reported, and certain details regarding them may be tabulated. Of the total, 71 were ascertained to be scholars, and 50 were above school age. The scholars were drawn from 29 schools in all, but the numbers in them varied greatly. 39 were from five Day Industrial Schools, 14 from six Day Elementary Schools, having more than one case each, and 18 from a like number of Day Elementary Schools, with not more than one case each. More than half the school cases were, therefore, from the Day Industrial Schools. The numbers occurring in the several schools, and the years in which the attacks are believed to have begun, are as follows:—

School.	1915	-14	-13	-12	-11	-10	Previous to 1910.	Total.
Queen Mary Street, ...	1	—	—	—	—	—	—	1
Cranstonhill Cripple, ...	—	—	—	—	—	—	1	1
Greenside Street, ...	—	—	—	1	—	—	—	1
Harmony Row.	—	—	—	1	—	—	—	1
Rose Street Industrial,	2	20	5	1	—	—	2*	30
Hayfield, ...	—	—	—	—	1	—	—	1
St. George's Road, ...	1	—	—	—	—	—	1	2
William Street Industrial,	—	1	—	—	—	—	—	1
Cranstonhill Industrial,	1	2	—	—	—	—	—	3
Catherine Street, ...	—	1	—	—	—	—	—	1
Haghill.	—	—	—	—	—	1	—	1
St. Joseph's, ...	—	—	—	—	—	1	—	1
Milton Street, ...	1	—	—	—	1	—	—	2
St. John's	—	1	—	—	—	—	—	1
Maryhill Industrial, ...	—	—	1	—	—	—	—	1
St. Roch's, ...	—	—	—	—	—	—	1	1
Sacred Heart, ...	—	1	—	—	1	—	—	2
Martyrs', ...	—	—	—	—	—	1	—	1
Lambhill, ...	—	1	—	—	—	—	—	1
Centre Street, ...	1	—	—	—	—	—	—	1
Rutland Crescent, ...	1	—	—	—	—	—	—	1
St. James'.	—	—	—	—	—	—	1	1
Oakbank, ...	1	—	—	—	—	1	1	3
Bluevale, ...	—	1	—	—	—	—	2	3
St. Mary's Industrial, ...	—	1	—	—	—	—	3	4
Broomloan, ...	1	—	—	—	—	—	—	1
St. Aloysius', ...	—	1	—	—	—	—	—	1
St. Mary's, ...	1	1	—	—	—	—	—	2
London Road, ...	—	—	—	—	—	—	1	1
	11	31	6	3	3	4	13	71

* Not known.

In a similar way the date of onset among 50 persons, other than scholars, can be stated :—

		1915	-14	-13	-12	-11	-10	Previous to 1910.	Total.
Non-scholars	Under school age,	2	2	—	—	—	—	—	4
	Over „ „	8	6	7	3	—	6	16*	46
Scholars, ...		11	31	6	3	3	4	13	71
Together, ...		21	39	13	6	3	10	29	121

* Three not known.

Particulars of 16 cases have not been obtained.

Occupation.—No class of occupation can be said to be affected in a special manner. Six persons in this group are engaged in domestic duties at home, 3 are labourers, and 30 are engaged in an equal number of separate occupations.

It is, I think, open to question whether these figures accurately represent the volume of trachoma present in Glasgow. It has been stated, for example, that the average number of cases of trachoma presenting themselves for treatment at the Glasgow Eye Infirmary, but coming from a wider area than the City, in the years 1850-94, averaged 35 annually, compared with 72 in the years 1895-1903,* 99 in the years 1904-10, and 47 in the years 1911-14; figures which are all in excess of those disclosed by notification, save for the year 1914. It is probable, however, that they represent the total cases of granular ophthalmia presenting themselves for treatment, and include a large number of cases of follicular conjunctivitis, which is not properly trachoma in the restricted sense in which the term is now used, but covers a condition of the eyelids not only grave in itself, but only with great difficulty and after repeated observation separable from true trachoma. On the other hand, the comparison may suggest that the disease is now less prevalent than formerly.

Birthplace.—The birthplace of 128 of these cases was as follows :—

102 were born in Glasgow;
18 were born elsewhere in the U.K.; and
8 were of alien birth.

Action taken in Autumn, 1914.—Consequent on the recognition of the cases in Rose Street last autumn, the Health Committee set apart a ward in Ruchill for the reception of trachoma, and 24 cases were admitted for treatment between 21st September and 26th November, 1914, when pressure on the accommodation otherwise made it necessary to vacate the ward.

Provision for outdoor treatment was then made at Granville Street Dispensary, and now Adelphi Street Dispensary has been opened for the same purpose.

Certain beds at Baird Street Reception House are now set apart for the indoor treatment of cases at certain stages of the disease.

These provisions, however, only partially meet the requirements, and cannot be regarded as adequate in the circumstances now disclosed.

Difficulty in Recognition.—It is scarcely germane to the object of this report to discuss the clinical difficulties in recognising trachoma, or in separating it out from other forms of chronic disease of the eyelids which resemble it. Of these follicular conjunctivitis is, as has been stated, probably the most common.

This difficulty, indeed, had already found expression in the administrative procedure taken in London, for in 1897 the Local Government Board issued an Order, "imposing on the Metropolitan Asylums Board (who had signified their willingness to undertake the work) amongst other duties that of providing accommodation for children suffering from ophthalmia or other contagious disease of the eye in the Poor Law schools of the Metropolis"; and I have recently been informed by Mr. Cuff, P.M.O. of the Ophthalmic Schools there, that 45 per cent. or so of the children in residence for ophthalmia suffer from trachoma. Trachoma, however, forms only about 25 per cent. of admissions, and the larger proportion in residence at a given time is due, I believe, to the longer time (about two years) these cases remain under treatment.

Further steps suggested.—At the present time dispensary treatment may be obtained at several centres, which are mostly independent of each other, and make it difficult to ensure regular attendance. These are :—

(1) The Hospital for Diseases of the Eye, Berkeley Street.
(2) Charlotte Street Dispensary.
(3) Ophthalmic Institute.
(4) The Dispensary of the School Board, Elmbank Crescent.
(5) Granville Street and Adelphi Street Dispensaries of the Corporation.

* See Introduction to Dr. J. Boldt's Monograph on Trachoma, p. xxiii., compiled from information supplied to Dr. Treacher Collins by Drs. Freeland Fergus and Leslie Buchanan.

Apart from accommodation provided by the Poor Law Authorities, Baird Street Reception House supplies the only provision for indoor treatment at present existing.

Although much is thus being accomplished in the form of individual treatment, there is almost a complete lack of preventive provisions, and these, it seems to me, can only be begun when the chronic nature of the disease and the extent to which it may interfere with the education of children is kept fully in view. This is amply illustrated by the London experience, and has probably never been more clearly expressed than in the report of Mr. Nettleship, written in 1874, when the movement which ended in the Local Government Order, already quoted, was issued. Mr. Nettleship says :—"There can be no doubt that the best of all ways for getting quit of the present deadweight of actual ophthalmia and of cases of bad granular lids would be to separate them from all the other children, and to keep them separate for an indefinite time until it is quite certain that all tendency to relapse has ceased."

We have seen from the present-day experience of the Metropolitan Asylums Board Schools for Ophthalmia that the average duration of residence of cases of trachoma is about two years.

Legislative provision already existing.—That some provision of a like sort is required for the Glasgow area is now, I think, evident, and it will be useful to consider how this may be provided under existing Acts.

Local Authority.—Trachoma being an infectious disease, it has been suggested that the first step lies with the Local Authority, who under the Public Health Act are enabled to provide isolation hospitals, and that these being provided the Educational Authority may supply the machinery for education. This does not, however, cover all the requirements. The ordinary infectious disease hospitals were provided and equipped for the treatment of short-lived acute infections, coming under the general designation of fevers. Trachoma has nothing in common with this class of diseases save that it is infectious, and it is open to serious question whether confinement to hospital for the whole period in which they may be regarded as infective affords the most suitable provision for those children.

During certain stages of the disease, as, *e.g.*, in the acute stage, when there is much discharge from the eyelids and shrinking from light, and again in the chronic stage, when some operative treatment may be required, hospital treatment is imperative; but these do not cover the whole, or even the greater part, of the time during which the disease may continue. Relapses are common, and, as we have seen, the experience of the Metropolitan Asylums Board Schools shows that a residence of two years on the average is required for the eradication of the disease.

All this implies a very wide departure from the Public Health Act conception of a hospital for the treatment of infectious diseases.

It means for each child suffering from the disease that he should be clothed and fed and educated, so far as this is possible, and housed in an institution specially provided for the purpose, for no inconsiderable portion of his school life.

I doubt whether the spirit of the Public Health Act would enable a Local Authority to recover any portion of the cost of this from the parents of the children, but the Education Authority would appear to have this power (Section 6, Act of 1908). They would also appear to be able to provide buildings.

Education Authority.—Under Section 1 of the Education of Defective Children (Scotland) Act, 1906, a School Board may make special provision for the education of cripple or defective children between the ages of 5 and 16, and Section 2 defines as defective, "children who by reason of physical defect are incapable of receiving proper benefit by instruction in the ordinary school." Section 5 of the Education (Scotland) Act, 1908, compels the parents of such children to avail themselves of such facilities when they are provided.

Section 6 of the Education Act enables a School Board to clothe and feed children coming within the purview of the section, and Section 3 of the Education Scotland (Amendment) Act, 1913, extends this clause to include medical treatment. The power of the School Board to make complete provision for the treatment of trachoma would, therefore, seem to be complete.

The present position of trachoma among school children requires the provision of what primarily would be regarded as a Trachoma School, in which education and treatment can be combined with residence. The difficulty of separating out trachoma from certain other forms of chronic ophthalmia suggests that this accommodation should not be restricted to frankly declared cases of trachoma only, but provide also for the other forms of ophthalmia which for some time at least may appear to be the true disease.

The provision of these buildings and treatment may be undertaken by the Local Authority under the Public Health Act, but if I have read aright the several clauses of the Education Acts, the School Board is the only Authority which at the moment is authorised to completely supply all the requirements for school children. At the same time, the Local Authority cannot absolve themselves from responsibility, if only for the reason that cases occur at other than the school ages. A more cogent reason is their general responsibility for the control of infectious diseases among the community.

Poor Law Authority — As the treatment of trachoma among school children involves questions of housing and clothing, of subsistence and education for a considerable period, similar questions arise when the disease occurs among persons entitled to receive Poor Law relief. The following are illustrations. All are inmates of the Eastern District Hospital, Duke Street, and the Local Authority has been asked to relieve the Parish Council of the cost of their maintenance because they suffer from a "notifiable disease":—

1. E. S., aged 11. Would appear to have been deserted by her mother, whose husband is dead, and the child has been under the care of the Parochial Board since 1906.

2. C. C., aged 15. Appears to have been removed to Stobhill in 1913 from Maryhill Industrial School, to which she was committed by the Justices of the Peace Court in 1910.

3. A. J., aged 19. Was admitted to the Eastern District Hospital from the City Orphan Home in November, 1911. Her father is dead, and the address of the mother is unknown.

4. M. M., aged 20. Removed from Dalbeth Convent to the Eastern District Hospital in 1914.

In these cases the occurrence of trachoma is but an incident in the problem of Poor Law relief. The primary question for them is one of housing and subsistence, and there is nothing in the Public Health Act which would enable the Local Authority to supersede the Poor Law in this respect.

It is in the last degree unfortunate that questions of administrative liability should project themselves into the arena of disease prevention, but it may be permissible to suggest that confused legislation is in some degree responsible. Moreover, the increasing tendency to suggest that the Local Authority alone is responsible for the maintenance and treatment of persons suffering from any disease which may be described as infectious, however logical and ultimately correct in theory, will require some reform in legislation before it can be applied with effect.

The problem of administrative control has become complicated because of the multiplication of Authorities having responsibility in connection with disease, and the limitations of the Public Health Act in the new conditions to which it may be applied. It would be strange, however, if a conference convened with the object of finding a simple and satisfactory method of dealing with it did not arrive at a conclusion, despite the confused responsibility which legislation has created. Subject to the paramount responsibility of the Local Authority for controlling the methods adopted to prevent the spread of infection, such conference may usefully consider the provision and maintenance of a Trachoma School, and of the feeding, clothing, and education of the children during a residence which may average two years.

A. K. CHALMERS.

8th October, 1915.

After considering the foregoing report, the Corporation appointed an Ophthalmic Surgeon, who holds a consultation every Thursday afternoon in the dispensary at 132 Adelphi Street, and visits the hospital for such cases as cannot be properly dealt with at the dispensary. The nurse attached to the ophthalmic ward also attends the dispensary, and visits the homes of those children who fail to attend regularly at the dispensary, as well as others notified. The experience is that when the eye condition improves, patients begin to absent themselves before the cicatricial stage is reached, or fail to return should granulations reappear.

SUMMARY OF CASES OF TRACHOMA, 1914-1919.

The following is a summary of the cases treated since notification was introduced:—

	1914	1915	1916	1917	1918	1919	Total.
Notifications received,	39	118	71	93	51	90	462
Duplicate Notifications.	—	6	2	3	4	5	20
Cases,	39	112	69	90	47	85	442

Age and Sex Distribution.

Ages,	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	65+	Total.
Males,	1	1	1	35	45	26	32	61	33	10	4	4	253
Females,	1	1	1	28	66	27	18	21	11	12	2	1	189
Total.	2	2	2	63	111	53	50	82	44	22	6	5	442

Of the total cases registered, 57 per cent. were males; 174 (39 per cent.) were of school age (5-14); less than 2 per cent. were under 5 years. Among males, 119 occurred at ages 20-25, and included aliens and children of alien parentage born in the United Kingdom.

Nationality.—The following table shows the nationality of cases notified; fully 82 per cent. were born in the United Kingdom:—

Place of Birth.	1914	1915	1916	1917	1918	1919	Total.
Scotland,	38	91	39	53	19	68	308
England,	—	3	4	3	6	—	16
Ireland,	—	3	11	9	11	7	41
Wales,	—	—	—	1	—	—	1
Russia,	—	9	8	20	6	8	51
Turkey,	1	—	—	—	—	—	1
India,	—	2	—	—	2	—	4
Belgium,	—	2	1	—	—	—	3
Austria,	—	1	—	—	—	—	1
Palestine,	—	1	—	—	—	1	2
Malta,	—	—	1	—	—	—	1
Egypt,	—	—	—	—	—	1	1
Unknown,	—	—	5	4	3	—	12
	39	112	69	90	47	85	442

Trachoma in Schools.—During 1914, 23 cases occurred in Rose Street Day Industrial School, and 5 in 1915. Six cases were registered in this latter year from St. Mary's Industrial School, and 6 in 1917 from Church Street School.

Hospital Treatment.—Immediately notification became compulsory, it was found necessary to provide hospital treatment, and accommodation was provided in a ward at Ruchill Hospital. Owing to pressure of other diseases, they were transferred in 1915 to Baird Street Reception House. The following is a note of the numbers dealt with in hospital:—

1914, ...	24	1917, ...	33
1915, ...	24	1918, ...	19
1916, ...	43	1919, ...	27

Dispensary Treatment.—The following is a record of the cases treated and the conditions on ceasing treatment:—

1. *Still under Treatment*—		
Corporation Dispensary and Baird Street, ...	71	
Other Dispensaries, ...	6	
Treated by Private Practitioner, ...	13	
Institutions (other than Corporation), ...	4	
	—	94
2. *Not under Treatment*—		
Eyes stated to be well, ...	17	
Refused treatment or unable to attend, ...	14	
	—	31
3. *Discharged from Corporation Dispensary*—		
Eyes good, ...	94	
Not Trachoma, ...	95	
Dead, ...	5	
	—	194
4. *Others*—		
Left City, ...	45	
Removed before treatment or completion of treatment and not found, ...	60	
Beyond Boundary, ...	18	
	—	123

ANTHRAX.

The following summaries give briefly the main facts in connection with the occurrence of the disease in man and in animals or carcases brought to Glasgow:—

Record of Anthrax in Man for Years 1914-19.

Date.	Sex and Age, Occupation and Address.	History.
1916. March	Male, 58 years, Engraver, Glasgow, S.S.	Pustule on neck. Purchased shaving-brush, Chinese horse-hair, end of February, and used it on 5th March. Pustule appeared 11th; died 15th March. Shaving-brush found infected.
August	Male, 48 years, Soldier, Maryhill Barracks.	Pustule on left cheek. Onset, 1st August. Admitted to hospital, 7th August. Recovered. Shaving-brush found infected.
August	Male, 56 years, Brushmaker, Glasgow.	Died of internal anthrax. Chinese horse-hair in work-place found infected; also dust from work-bench.
August	Male, 35 years, Plumber's labourer, Glasgow, Central.	Pustule under chin appeared 24th August. Died 26th August. Patient never shaved himself. Shaving-brushes from four shops, which he was known to attend, examined with negative results.
1917. October	Male, 50 years, Carter, Dunbartonshire.	Visited Royal Infirmary, 1st October. Two pustules present; one on the back of left hand, another on right arm. Admitted to hospital same day. Patient assisted at killing of a bullock and dressing the carcase, which was consigned to the City, infected with anthrax. Recovered. (See report under record of animals.)
1918. January	Male, Draper, Stirlingshire.	Admitted to hospital at request of the County M.O.H.; died four hours after admission. Pustule on chin. Patient purchased shaving-brush in Glasgow at New-Year time. Brush (infected) was from a parcel of 132 dozen imported from Japan.
1919. April	Male, 19 years, Wool-teasing machine attendant, Glasgow, E.	Employed in removing dust from a wool-teasing machine. Visited Health Office on 12th April, with a sore situated in centre of forehead; first noticed by him on 10th. Inoculation of guinea-pigs with (1) dust from dust-extractor, and (2) portions from six bales of East Indian skin wool put through teaser and willow on 8th and 9th April gave positive results.

Note.—Infected Shaving-brushes or part of same consignments destroyed or returned to wholesale firms.

Record of Anthrax in Animals for Years 1914-19.

Date.	Carcase: where discovered and consigned from.	History.
1914.		
Feb. 21	Cow, Hill Street S.H., Armagh.	M.O.H. in County Armagh could not trace the farm from which the animal came.
March 11	Portion of Veal, Hill Street S.H., Armagh.	Same sender as carcase of cow reported on 21st Feb. Reported to L.G.B. Dublin, who were unable to obtain information as to primary source of infection.
March 18	Ayrshire Bull, Hill Street S.H., Dunbartonshire.	Farmer and Veterinary Inspector were of opinion that the infection might possibly have been carried by the moss litter, imported probably from Holland.
April 10	Cow, Hill Street S.H., Lanarkshire.	County M.O.H. reported animal seen by veterinary surgeon, whose wrong diagnosis was based on erroneous information *re* duration of illness.

Date.	Carcase : where discovered and consigned from.	History.
1914.		
May 8	Bullock, Cattle Market, Aberdeen.	Source of infection not discovered.
May 21	Sow, So. Suburban Area Aberdeen.	Bred by farmer. One of a stock of about 300 pigs.
May 25	Ewe, Hill Street, S.H., Perth or Thornton.	Found dead in railway truck at Bellgrove Station.
Dec. 14	Bullock, Eastern District Lairage, Kincardineshire.	County M.O.H. unable to identify bullock from particulars given.
1915.		
Jan. 22	Bull, Moore Street S.H., Dunbartonshire.	Stall-fed animal, bled by farmer at farm, and carcase sent to Glasgow by float.
1916.		
Feb. 2	Bullock, Moore Street S.H., Forfarshire.	Arrived at Bellgrove Station in dying condition, and removed to slaughter-house.
April 24	Horse, Central District Stables, Forfarshire.	Owner had horse since August, 1915. Ill on 7th April and died 25th.
April 25	Horse, Central District Stables, Forfarshire.	Another horse in same stable died, sick on 24th. Feeding stuff suspected, but inoculations failed to confirm this.
May 3	Cow, Industrial School, Northern District, Dunbartonshire.	Purchased 21st April, ill 1st May, and died the following day.
May 8	Bull, Merklands, Coleraine.	Coleraine M.O.H. could not trace source of infection.
June 9	Cow, Hill Street S.H., Renfrewshire.	County M.O.H. reported that veterinary surgeon had advised farmer carcase could be sent to Glasgow to save hide. It was learned that a cow died on 4th June, in a field on the opposite side of the highway; but death was stated not due to anthrax, and carcase removed to artificial manure works in Renfrewshire.
June 30	Cow, Hill Street S.H., Lanarkshire.	Animal thought to be suffering from staggers and brother of the farmer bled and partially opened carcase. Reported to a local veterinary surgeon, who does not seem to have thought cow died of anthrax and allowed its removal to Glasgow.
1916.		
Sept. 7	Cow, Industrial School, Northern District, Dunbartonshire.	Purchased 25th Aug. Ill 2nd September and died 4th Sept.
1917.		
April 2	Cow, North-Western District Farm, Dunbartonshire.	3 years old. Reared by farmer.
Sept. 25	Bullock (dressed carcase) Meat salesman, Dunbartonshire.	Consigned by rail to a meat salesman, and hide sent to another firm in City. Man, 50 years, who dressed carcase, removed hospital on 1st October suffering from anthrax.
1919.		
Dec. 23	Sheep, Moore Street S.H., Lanarkshire.	Bought in Biggar; original owner not traced; carcase and skin destroyed.

RABIES.

The following table records the number of persons bitten by dogs, and reported by the Police for enquiry:—

1914, ...	169
1915, ...	165
1916, ...	91
1917, ...	69
1918, ...	77
1919, ...	449

In most instances the injury was slight. For instance, only 28 of the cases in 1919 were classified as serious.

COST OF NOTIFICATION OF DISEASE.

Certain diseases are now notifiable under the original Act of 1889; the Tuberculosis Order, 1914; and the Pneumonia Order, 1919.

The combined cost for the several years was as follows:—

Year.	Private.	Public.	Total.	£	s.	d.
1914, - - -	11,608	1,677	13,285	1,534	17	0
1915, - - - -	11,655	1,995	13,650	1,560	14	6
1916, - - - -	4,219	6,136	10,355	834	3	6
1917, - - - -	—	—	7,629	381	9	0
1918, - - - -	—	—	8,768	438	8	0
1919, - - - -	—	—	10,062	502	2	0

The War Emergency (Provision) Act, which came into force in May, 1916, helped, along with the reduced remuneration of certain of the notifiable diseases, in the reduction in cost shown in the table.

Stated per 1,000 of the population, the cost of notification since the Act was adopted is as follows:—

GLASGOW.—AMOUNT PER 1,000 OF POPULATION OF FEES FOR NOTIFICATIONS UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889, AND SUBSEQUENT ORDER, FOR SEVERAL PERIODS SINCE 1891.

Period.	Amount. £	s.	d.	Period.	Amount. £	s.	d.
1891-1900, -	1	2	4·3	1915, - - -	1	9	0·6
1901-1910, -	0	17	7·3	1916, - - -	0	15	2·8
1911, - -	1	6	5	1917, - - -	0	6	10·8
1912, - -	1	7	8	1918, - - -	0	7	10·6
1913, - -	1	6	0·3	1919, - - -	0	9	0
1914, - -	1	9	0·8				

HOSPITAL ACCOMMODATION AND COST OF TREATMENT.

In Appendix XXII the hospital and sanatorium accommodation is stated, and in Table XXIII the average daily number of patients under treatment and the cost per bed per year.

SECTION V.

RESPIRATORY DISEASES.

PHTHISIS.

Tuberculosis of the lungs, or pulmonary tuberculosis, was included by Glasgow under the Infectious Disease (Notification) Act in 1910, which was superseded by Regulations issued by the Local Government Board in 1914. Those Regulations were revoked by the Public Health (Tuberculosis) (Scotland) Regulations of 1916, which made all forms of tuberculosis compulsorily notifiable.

The reduction which has taken place in the phthisis death-rate in Glasgow during the whole period of registration is shown in the following table:—

1881-90, -	2·680 per 1,000 living.	1914, -	1·310 per 1,000 living.
1891-1900,	2·015 „	1915, -	1·386 „
1901-1910,	1·533 „	1916, -	1·319 „
1911, -	1·305 „	1917, -	1·271 „
1912, -	1·318 „	1918, -	1·245 „
1913, -	1·412 „	1919, -	1·057 „

In several large towns the death-rate for the years 1914-1919 has been:—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN TOWNS.

	1914.	1915.	1916.	1917.	1918.	1919.
Glasgow, ...	**130**	**137**	**132**	**127**	**124**	**104**
Edinburgh, ...	117	114	108	118	96	95
Dundee, ...	144	154	143	120	141	89
Aberdeen, ...	105	131	115	112	111	86
London, ...	143	160	153	171	178	122
Liverpool, ...	163	186	181	197	208	145
Manchester, ...	177	192	184	186	180	133
Birmingham, ...	123	133	131	136	135	116

During the past five years, 1914-18, the reduction in the death-rate has been maintained, although in some of the years a larger number of cases were notified, owing to the medical inspection of the very large section of the male population of military age — 18-51 years — and the number who broke down as the result of war service. The marked reduction in notifications during 1919 is in marked contrast with the preceding years.

SUMMARY OF CASES AS AT 1ST JANUARY, 1920.

Total cases registered from 1st January, 1910, to 31st December, 1919, ...		25,593
Less—Died, ...	13,891	
(1) Verified on notification, but subsequently—		
Removed and not traced, ...	1,689	
Removed from Glasgow, ...	1,429	
(2) Not discovered on notification:—		
Not found at address given, ...	996	
Notified from Poor Law Institution (with no fixed abode) still remaining, ...	432	
(3) Subsequently taken off records as not suffering from pulmonary tuberculosis, ...	799	
		19,236
Total cases under observation at 31st December, 1919, ...		6357

Altogether there have been registered during the ten years ending 31st December, 1919, 25,593 cases, of which 13,891, or over 54 per cent., are known to have died during the same period, while 1,689 had removed from the addresses given and could not be traced; 1,429 left the City, and 981 were not found at the addresses given. The total number of cases remaining under observation at the end of the year was 6,357.

The following table gives the number of cases registered in each year since the beginning of notification in 1910:—

Year.	Cases Registered.	Year.	Cases Registered.
1910, ...	3,506	1915, ...	2,332
1911, ...	2,326	1916	2,516
1912, ...	2,340	1917, ...	2,682
From added area, ...	335	1918, ...	2,513
1913, ...	2,534	1919, ...	2,099
1914, ...	2,410		
	Total—25,593		

Cases registered during 1919. — As shown above, the number of cases registered during the year 1919 was 2,099. Of these, 1,873 were notified in terms of the Tuberculosis Regulations, 1914, 97 were sent by military authorities, while 129 were ascertained from other sources, as shown below:—

1. *Source of Notified Cases:*—			
1. Occurring in private practice, ...			1,038
2. Occurring in public practice:—			
(*a*) Poor Law cases at home addresses, ...	76		
Poor Law cases from hospitals and poorhouses,	121		
Poor Law cases at dispensaries, ...	42		
		239	
(*b*) Charitable dispensaries and infirmaries, ...	149		
Corporation dispensaries, ...	447		
		596	
			835
Total cases notified, ...			1,873
2. *Source of Information in Cases not notified:*—			
(*a*) From admission and dismissal sheets of Poor Law Institutions, ...		1	
(*b*) School Medical Officers, ...		20	
(*c*) Port Local Authority, ...		1	
(*d*) County Medical Officer, ...		29	
(*e*) From death cards only, ...		78	
			129
3. *From Military Authorities,*			97
Total cases registered,...			2,099

Tuberculosis Dispensaries. — The following table gives the hours of meeting of the various dispensaries throughout the City:—

Dispensary.	Evening, at 6 p.m. Males and Females.	Males.	Females.
Brown Street ...	Monday	Monday, 10 a.m. Wednesday, 10 a.m. Thursday, 10 a.m.	Tuesday, 1.30 p.m. Friday, 10 a.m.
Adelphi Street ...	Wednesday	Wednesday, 10 a.m.	Monday, 1.30 p.m. Friday, 10 a.m.
Black Street ...	Tuesday	Monday, 1.30 p.m. Tuesday, 10 a.m.	Thursday, 1.30 p.m. Friday, 1.30 p.m.
Do. ...	——	Wednesday, 10 a.m. (Males and Females)	——
Granville Street ...	Tuesday	Monday, 1.30 p.m. Tuesday, 10 a.m.	Thursday, 10 a.m.
Elmbank Crescent ...	——	Wednesday, 1.30 p.m. (*Partick*)	Friday, 10 a.m. (*Anderston*)
Govan	Thursday	Monday, 1.30 p.m.	Tuesday, 1.30 p.m.

Hospitals.

(1) *Local Authority.*—The eight pavilions at Ruchill, accommodating 272 patients, have been in continuous use for the treatment of tuberculosis since their completion in 1913. Practically the whole accommodation of Knightswood Hospital, with the exception of one ward, has been devoted to the treatment of tuberculosis since 1916, providing accommodation for 70 patients. At Shieldhall and Darnley Hospitals there are beds for 24 and 18 patients respectively.

(2) *Poor Law.*—By an agreement between the Local Authority and the Parish Councils of Glasgow and Govan, come to in 1915, the former became responsible for the expense of the treatment of tuberculosis patients admitted to the institutions of the latter Authority.

Sanatoria.

Bellefield Sanatorium, Lanark (52 beds), was transferred by purchase to the Corporation in 1914. Plans for its extension provisionally to 102 beds, and ultimately to 132 beds,* have recently been approved by the Corporation.

The sanatorium at Ochil Hills, Milnathort (103 beds), was leased by the Corporation in 1918.

In addition to the above accommodation, Robroyston Hospital (448 beds) is now in full operation* for the treatment of tuberculosis in all its forms. The extension of Knightswood Hospital now begun will further add to the facilities for the treatment of this disease, when not required for other purposes.

* Evacuated in July, 1920, to accommodate smallpox.

The existing accommodation available for Glasgow patients suffering from tuberculosis is set forth as follows:—

	Males.	Females.	Total.
(1) Sanatoria—			
(*a*) Local Authority, Ochil Hills, ...	103	—	103
,, Bellefield, ...	—	52	52
(*b*) Others, Bridge of Weir, ...	—	22	22
(*c*) Through Insurance Committee,			
Bridge of Weir, ...	17 average.	26 average.	43 average.*
Dunblane, ...	4	4	8
Total beds in Sanatoria,	124	104	228
(2) Hospitals—			
(*a*) Local Authority, Ruchill, ...	136	136	272
,, Knightwood,	80	—	80
,, Shieldhall, ...	24	—	24
,, Darnley, ...	9	9	18
(*b*) Through Insurance Committee,			
Lanfine Home, ...	14 average.	11 average.	25 average.*
Total beds in Hospital, ...	263	156	419
(3) Poor Law Institutions, ...	148 average.	60 average.	208 average.*
Total Institutional accommodation, ...	535	320	855

* The number is not fixed, these figures are based on an average experience of 12 months.

Deaths among Registered Cases.—In cases were the first information regarding the occurrence of the disease was obtained from the death registers, enquiry was made at the medical practitioner certifying the death regarding

the omission to notify, and the explanation given in the majority of cases was that the doctor certifying the death had only seen the patient a day or two before death, and had reason to believe that notification had already been made by some other party. The omissions to notify during 1910 numbered 198, but fell to 80 during 1911, and to 35 during 1912. In 1913 they numbered 44, and 78 in 1919, which is less than 4 per cent. of the total deaths occurring in the latter year.

Place of Residence at Time of Registration.—When a patient is notified from a home address, this is visited, and if the case can be definitely located the patient is regarded as a "home" case, even although at the time of notification he is under treatment in an institution. The results of these enquiries may be summarised as follows:—

Cases traced to home addresses, ...	1,785
Cases at home but not visited at request of medical attendant, ...	89
Cases where only known address was an institution, ...	157
Cases not found at address given (mostly from Poor Law institutions and common lodging-houses), ...	68
	2,099

Private and Public Notifications.—The figures given in the foregoing summary refer to the total number of cases registered during the year, while the following table refers only to notifications received:—

Notifications.	Private.	Public.	Total.	Percentage Public.
Primary, ...	1,038	835	1,873	45·5
Multiple, ...	302	248	550	45·1
	1,340	1,083	2,423	44·7
Percentage multiple to primary notifications in each group, ...	28·1	22 9	22·7	

Age-Distribution of Cases Registered.—This information is given, for each of the six years ending 1919, in the following table:—

Age. Year	1914.		1915.		1916.		1917.		1918.		1919.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
– 5 years, -	44	32	54	30	54	50	62	45	57	43	36	25
– 10 „	59	62	69	67	100	112	76	97	69	77	62	70
– 15 „	40	69	65	92	89	103	102	125	70	102	72	83
– 20 „	123	124	125	114	119	139	133	126	137	127	82	91
– 25 „	174	139	153	143	164	135	166	133	171	116	137	128
– 35 „	297	268	272	255	280	265	369	267	395	235	290	217
– 45 „	298	198	250	202	259	203	358	168	298	151	252	142
– 55 „	209	97	194	100	184	81	188	84	216	87	171	88
– 65 „	98	29	87	31	91	35	116	31	87	35	74	30
Over 65 years,	36	14	15	14	38	15	23	13	30	10	34	15
Totals, - -	1,378	1,032	1,284	1,048	1,378	1,138	1,593	1,089	1,530	983	1,210	889
Grand Total,	2,410		2,332		2,516		2,682		2,513		2,099	

The year 1917 marks the highest recorded number of cases registered since the commencement of notification. It should, however, be pointed out that the year 1919 shows that a considerable reduction in notifications is taking place, the lowest number of cases being recorded since notification began.

Housing Accommodation of Patients.—The following table gives the house accommodation at the date of registration of such patients as had home

addresses. Patients who were in institutions (mostly Poor Law) at the time of notification are included along with those who could not be traced at the addresses given:—

Year	1914.		1915.		1916.		1917.		1918.		1919.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1 Apartment,	159	214	162	192	159	221	187	180	203	187	197	163
2 ,,	566	476	549	516	603	560	668	576	621	519	562	462
3 ,,	212	150	196	176	197	181	253	158	233	133	180	142
4 ,, and up,	124	102	114	95	113	73	162	80	136	59	89	73
In Institutions and not traced,	317	90	263	69	306	104	323	95	337	85	182	49
Total, ...	1,378	1,032	1,284	1,048	1,378	1,138	1,593	1,089	1,530	983	1,210	889

Institutional Treatment. — The following table shows admissions to institutions of patients suffering from pulmonary tuberculosis during the years 1914-1919:—

Year.	Local Authority Hospitals.	Sanatoria.	Poor Law Institutions.	Total.
1914, ...	645	370	675	1,690
1915, ...	1,250	562	880	2,692
1916, ...	1,233	667	892	2,792
1917, ...	1,144	616	809	2,569
1918, ...	986	561	671	2,218
1919, ...	948	501	609	2,058
	6,206	3,277	4,536	14,019

The annual admissions to institutions for treatment exceed the new cases registered in each year, but if reference is made to Appendix Table XIX it will be seen that fully 800 of the cases registered annually received institutional treatment within the year of registration, when the total admissions exceed 2,000, so that a large proportion of the cases are readmissions.

PULMONARY TUBERCULOSIS.—Cases at Home, in Hospital, and Sanatoria on 31st December, 1919.

	Insured.		Dependent of Insured.		Not Insured.		Deposit Contributors.		Not Known.		Total.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Home Cases.													
1 apartment, ...	309	97	140	306	21	30	...	...	...	...	470	433	903
2 do., ...	1,049	309	490	991	86	70	2	2	...	...	1,627	1,372	2,999
3 do., ...	386	124	96	197	60	37	5	1	...	...	547	359	906
4 do. and up,	244	86	30	79	67	32	1	1	...	...	342	198	540
Common Lodging-houses, ...	99	20	11	31	44	25	...	...	1	2	155	78	233
Total, ...	**2,087**	**636**	**767**	**1,604**	**278**	**194**	**8**	**4**	**1**	**2**	**3,141**	**2,440**	**5,581**
Poor-law Hospitals,	49	10	31	28	35	7	1	...	...	4	116	49	165
Local Authority Hospitals, ...	189	49	57	85	9	7	1	...	...	...	256	141	397
Sanatoria, including Lanfine Home,	114	45	9	35	6	5	...	...	...	...	129	85	214
Grand Total, ...	**2,439**	**740**	**864**	**1,752**	**328**	**213**	**10**	**4**	**1**	**6**	**3,642**	**2,715**	**6,357**

The following shows in tabular form the attendances and consultations at the various tuberculosis dispensaries in each year from 1915 to 1919; all forms of tuberculosis are included:—

Dispensary.	Number of Consultations.	Primary Attendance. Males.	Females.	Subsequent Attendances. Males.	Females.
1915.					
Brown Street, ...	199	320	419	4,849	5,490
Black Street, ...	298	322	397	7,479	8,603
Elmbank Crescent, ...	101	93	114	1,510	2,323
Granville Street, ...	148	162	213	2,923	3,222
Adelphi Street, ...	153	222	235	3,292	5,351
Govan, ...	148	150	244	1,668	2,110
Total, ...	1,047	1,269	1,622	21,721	27,099
		2,891		48,820	
1916.					
Brown Street, ...	199	338	400	5,225	6,754
Black Street, ...	298	345	431	7,516	8,643
Elmbank Crescent, ...	101	112	132	1,489	2,236
Granville Street, ...	148	230	234	3,673	4,032
Adelphi Street, ...	153	234	259	4,206	3,591
Govan, ...	148	179	216	1,931	2,409
Total, ...	1,047	1,438	1,672	24,040	27,665
		3,110		51,705	
1917.					
Brown Street, ...	198	431	482	7,608	7,727
Black Street, ...	289	429	392	9,781	10,241
Elmbank Crescent, ...	103	155	131	2,378	3,215
Granville Street, ...	150	281	245	6,100	6,102
Adelphi Street, ...	173	423	347	5,210	5,448
Govan, ...	147	235	224	2,924	3,515
Total, ...	1,060	1,954	1,821	34,001	36,248
		3,775		70,249	
1918.					
Brown Street, ...	194	417	427	8,439	9,811
Black Street, ...	287	226	245	9,728	10,204
Elmbank Crescent, ...	142	139	116	3,444	3,830
Granville Street, ...	147	217	225	6,346	6,327
Adelphi Street, ...	166	333	361	6,712	6,359
Govan, ...	151	147	241	2,858	4,168
Total, ...	1,087	1,479	1,615	37,527	40,699
		3,094		78,226	
1919.					
Brown Street, ...	203	130	143	6,634	7,129
Black Street, ...	298	323	314	8,362	8,067
Elmbank Crescent, ...	118	132	122	2,330	2,842
Granville Street, ...	212	262	231	5,162	4,228
Adelphi Street, ...	196	241	285	4,730	4,753
Govan, ...	146	127	244	3,032	3,163
Total, ...	1,173	1,215	1,339	30,250	30,182
		2,554		60,432	

Domiciliary Treatment.

Home Visitation by Nurses. — As will be observed from the following table, the work of the department on its domiciliary side has greatly increased:—

Number of Visits made.

Year	1914.	1915.	1916.	1917.	1918.	1919.
	25,481	39,440	45,835	53,025	52,352	56,266

The principal cause of the increase has been due to the adoption of notification of other forms of tuberculosis in the middle of 1914, when the nursing staff was increased to 21, and to the fact that it has now been found feasible to transfer to them the duties formerly carried out by the male epidemic staff of making the first visit to notified cases.

Issue of Medical Extras, Beds and Bedding, &c., to Patients under Treatment at Home.—In 1916 the Local Authority was granted power to provide assistance in the domiciliary treatment of patients in the form of extra nourishment; bed and bedding in necessitous cases. The following table shows the number in each year since 1916 in respect of whom such assistance was given. Extra nourishment takes the form of two pints of milk and one egg per day:—

Year.	Medical Extras.	Bed and Bedding.
1916, ...	100	61
1917, ...	180	30
1918, ...	202	40
1919, ...	153	45

Issues of this nature are only granted after full enquiry and in cases where the home circumstances are reasonably satisfactory. They are not regarded in any sense as a measure of out-relief, which is always readily granted by the Poor Law Authorities when required.

Issue of Clothing to Patients.—In 1916 the National Association for the Prevention of Consumption agreed to make the interest on the purchase price of Bellefield Sanatorium the basis of a fund out of which to provide clothing for patients going to sanatoria. This amounts to about £400 per annum, and has enabled the tuberculosis department to meet a very real want, as many patients are poorly clad and unable to make the journey to sanatoria, especially in winter. In 1916, 148 patients; in 1917, 138 patients; in 1918, 161 patients; and in 1919, 225 patients were provided with various articles of clothing, in accordance with the above scheme. During 1917 and 1918 a considerable expenditure was incurred in clothing discharged disabled ex-Service men. Since then, however, the Ministry of Pensions have adopted a scheme whereby a pensioner may be advanced a sum not exceeding £5 towards providing himself with any outfit required before proceeding to an institution for treatment.

Home Treatment.—The problems arising in connection with the treatment at home of patients suffering from pulmonary tuberculosis were dealt with at length in a report of 25th October, 1916, from which the following extracts may be quoted:—

In June last I submitted to the Committee a letter (5th June 1916), which I had addressed to the Board, in reply to enquiries regarding the home conditions amidst which certain cases of pulmonary tuberculosis were treated in Glasgow.

Inter alia the letter pointed out that whatever objection might be urged regarding the unsuitability of individual houses for the treatment of pulmonary tuberculosis, or the method of their occupancy otherwise in consequence thereof, it would entail considerable hardship on patients resident therein were medical extras disallowed, and the Board on 15th June, intimated their agreement generally with the views expressed in the letter, and added that "meantime exception will not be taken to the giving of medical extras in the cases in question." At the same time they expressed the hope that "as far as the institutional accommodation at the disposal of the Local Authority will permit, every endeavour will be made to secure institutional treatment for cases where the home conditions are not satisfactory."

In the light of this opinion and of the views expressed by the Board in their circular on domiciliary treatment, of 27th April last, it is now proposed to consider the conditions under which pulmonary consumption occurs and must be dealt with in Glasgow.

Extent of Local Authority Powers.—As stated in the circular the powers of a Local Authority with regard to home treatment are contained in Section 66 (1) (d) of the Public Health (Scotland) Act, 1897, and include medical and nursing attendance and medicines and shelters. The opinion is expressed that "medicines" include such medical comforts as special foods for patients and shelters, and, where the latter are supplied, beds and bedding.

As the provision of shelters is inoperative in Glasgow under the conditions in which most patients who may require such help live, the Local Authority has authorised the provision of beds and bedding, irrespective of compliance with the antecedent provision of shelters.

Medical comforts in the present connection almost invariably mean the addition of certain readily assimilable foods, such as milk and eggs, to the ordinary, or what might be regarded as the subsistence, diet of the patients. It has sometimes been impossible to keep within the tentative limit of five shillings per week for special foods, in view of the present price of milk and eggs.

* * * * * * * *

With regard to medical attendance on home cases, the circular points out (Section IV., p. 2) that even when the sanatorium benefit of the Insurance Committee has become exhausted insured persons suffering from phthisis are still entitled to medical Benefit from their panel doctors, *i.e.*, medical attendance and medicines, but not to medical comforts, although to simplify procedure the Insurance Commissioners have recommended Insurance Committees to set apart at the beginning of each year a sum regarded as sufficient to defray the cost of necessary medicines and medical comforts required for domiciliary treatment throughout the year. Owing, however, to a constant shortage in the Sanatorium Benefit Fund to meet the cost of treatment of insured patients, an arrangement was recently arrived as between the Local Authority and the local Insurance Committee, by which the medical comforts required by certain of the insured and non-insured alike are now being primarily provided by the Local Authority.

In order to illustrate the source of medical attendance on cases residing at home, information has been tabulated for over 2,400 cases who are regularly visited by the nursing staff of the department. 1,297 are insured, and 1,117 non-insured, the latter being mainly the wives and children of insured persons. Of the total, 1,169 have already had institutional treatment. The details of this tabulation are here summarised only:—

NATURE OF MEDICAL ATTENDANCE ON 2,414 HOME CASES.

PERCENTAGE RECEIVING MEDICAL ATTENDANCE FROM THE FOLLOWING SOURCES:—

	Attending Dispensaries.		Attended at Home by Tuberculosis Officer.		Attending Panel Doctor or Private Practitioner.	No Medical Treatment.	
	No other Medical Attendance.	Also attending Panel Doctor.	No other Medical Attendance.	Also attending Panel Doctor.			
Insured, ...	26	32	·2	1	32	9	100
Non-Insured, ...	63	10	2	1	15	9	100
Both Groups, ...	43	22	1	1	24	9	100

Considering the relatively short period during which the dispensaries have been in operation, it may be taken as evidence of their growing popularity that 43 per cent. of the phthisis patients seek medical advice at them alone, while if one includes those who also attend their panel doctor as well, this proportion is increased to 65 per cent. On the other hand one-fourth approximately of these cases, who are being supervised at home, attend a panel doctor or private practitioner; approximately one-third of the insured persons being thus attended. The value of the dispensary to the non-insured portion is well shown by the proportion (63 per cent.) attending them, compared with 15 who are able to obtain advice from private practitioners. It should be stated, however, that this analysis does not include about 1,000 other cases (practically the difference between the supervised and all cases registered), who for the most part have requested not to be visited as they receive such medical treatment as they require from their panel or private doctor.

* * * * * * * *

The Conditions under which Home Treatment is carried out.—No difficulty arises so far as that part of domiciliary treatment is concerned, which requires the provision of medical and nursing attendance, medicines, and special food, all of which can be supplied as it were *ab extra*. The true difficulty begins inside the house with its size and design, its mode of occupancy, and the income and habits, which means the standard

of training, of its occupants. In an earlier paragraph the allocation of medical attendance between the private medical attendant, the panel doctor, and the Tuberculosis Dispensary staff has been described. A consideration of the structural conditions of the house and its occupancy will take longer time.

Isolation.—Among the conditions implied in the Board's approval of domiciliary treatment is one affecting the house itself, and its mode of occupancy. The house must be "suitable for the purpose," and "any change in the patient's condition or in his surroundings that may render the house in which the treatment is being carried out unsatisfactory for the purpose," is to be brought under notice.

Taking literally, and keeping in view the phrasing of Section 54 (1) of the Public Health Act, which empowers a Local Authority to remove by warrant to a place of isolation any person suffering from an infectious disease who is in "a room occupied by others besides those necessarily on attendance" on him, the standard here suggested is frequently unattainable in Glasgow under existing conditions of housing. For example, 624 cases of phthisis were on 31st July last being treated at home in single apartments, and 1,920 in two-apartment houses. Among single persons only of the former, and in a few only of the latter, is a separate room for the patient possible during hours of sleep. Again, with regard to the persons occupying the same room with the patient during night, we find that of the new cases registered during the month (167 in all) 75 other persons occupied single-apartment houses, together with 27 suffering from phthisis, and 36 of them slept in the same bed as the patient. Of 69 cases occurring in two-apartment houses, 17 only had a separate room, while with the remaining 52 there were associated 93 other persons sleeping in the same room, of whom 55 slept in the same bed as the patient.

Of the 167 patients, 38 only (22·7 per cent.) had a separate room, while 186 other persons occupied the same room as the patient, and 105 occupied the same bed.

Those figures, it is true, represent the home conditions on notification and before any continuous effort has been made to readjust the method of occupancy to the requirements of home treatment.

Even when this has been done, however, and after the patient has had the advantage of a period of institutional treatment, either in a hospital or sanatorium or both, the conditions fall short of the standard indicated.

Sleeping Accommodation of Phthisis Patients.—For example, of 1,228 cases registered between 1st January and 30th June, 1916, 24 per cent. only had a separate room for sleeping purposes, while with 50 per cent. 894 persons occupied the same bed, and with 26 per cent. 787 occupied the same room, but a separate bed.

This may be accepted as fairly representing the average condition of pressure on sleeping accommodation before sustained effort is made to recast the arrangement after a period of institutional treatment, and may be compared with the arrangements of 753 households to which patients had returned from hospitals or Sanatoria.

SLEEPING ACCOMMODATION PER 100 PATIENTS BEFORE AND AFTER INSTITUTIONAL TREATMENT.

	Patient had Room to Self, per 100 Cases in	Number of Persons occupying same room as Patient for Sleeping Purposes per 100 Cases.	
		In Same Bed.	In Separate Bed.
Before, ...	24	96	84
After, ...	33	70	115

One obvious improvement here is an increase of 9 per cent. in the proportion of patients, for whom it has been possible to recast the sleeping accommodation so that a separate room was made available for the patient; but it still leaves 67 per cent. in rooms also occupied by others "who are not in attendance" upon him, as the Public Health Act phrases it.

Again there is a marked reduction in the number of persons occupying the same bed as the patient—70 per 100 patients after treatment in place of 96 before. This result has been obtained by removing others from the patient's bed, but the room conditions have not improved, because the increase in the proportion occupying other beds therein practically absorbs all those displaced from the patient's bed. The pressure on the cubic space of the room has not improved, although the patient has been provided with a separate bed.

* * * * * * * *

Houses unsatisfactory by Reason of Defective Ventilation.—It would seem to be unnecessary here to consider at length the physical conditions implied in effective ventilation. In ordinary language it means "through-and-through."

In the present case, however, the question for the Committee is independent of the intricacies of legal interpretation. It concerns the design of the house as a suitable place, not primarily for healthy occupancy, but for the home treatment of pulmonary tuberculosis.

Keeping in view the recognised risk of spray infection of the atmosphere during urgent and sometimes uncontrollable coughing of a consumptive, efficient ventilation requires that the whole atmosphere of the house can be renewed at will by flushing from the external air. This will exclude at once from the category of houses satisfactory for the home treatment of consumption, a very large proportion—practically all indeed—of the older type of one-apartment houses, and every two-apartment house where the room and kitchen windows are in the same wall, and a dividing wall separates it from other houses on the outer wall of the opposite side of the tenement.

The question of the unsuitability of such houses for ordinary occupancy by healthy persons is not here under consideration. It is dealt with in my Report on Housing (October, 1911). But the Committee may reasonably represent to the Executive Committee on Housing the undesirability of closing houses of this type, and thereafter, recalling the closing order on the completion of repairs which do not affect or remove the principal defect in them. In a list which I have had prepared of the houses closed under representations during 1913-1915, where the closing order was subsequently recalled after certain repairs, 59 one-apartment houses out of 67, and 44 two-apartment houses out of 98, are of this back-to-back type, and cannot be regarded either as suitable for the home treatment of phthisis or healthy from the point of view of ordinary occupation, for the sole reason that in the original design of the house no provision was made for effective through ventilation.

The Committee are fully aware of the prevalence of this defect in the older tenement houses in Glasgow.

Its present importance is that it interposes a barrier which may become operative to prevent the Local Authority participating in the tuberculosis maintenance grant.

It raises from an entirely new point of view, and with the added stimulus of a probable penalty, the whole question of the unsatisfactory character of so much of our tenement accommodation.

The relative immobility of this barrier to the suitable provision for treatment of cases at home is shown by comparing the proportion who could remove to a house with through-and-through ventilation after return from institutional treatment:—

PERCENTAGE OF CASES LIVING IN HOUSES WITH THROUGH-AND-THROUGH VENTILATION, BEFORE AND AFTER INSTITUTIONAL TREATMENT.

Before,	...	...	...	...	...	64 per cent.
After,	...	...	...	...	...	67 „ „

Taken generally such cases as we have been considering cannot be dealt with otherwise at present.

As a rule when a patient leaves hospital or sanatorium he must return to the antecedent house conditions, and effort made to readjust the sleeping accommodation in order that he may have a separate room is exposed to the risk of grossly overcrowding the other apartment, if there is one, or result in a mixing of the sexes, which is eminently undesirable. The cases in which it has been possible for a family to remove to a larger house in order that patient may be provided with a separate room are few in number, and do not affect the general question.*

The result is that the standard of home treatment in many cases is not what is desirable and requisite, but simply what is reasonably possible under existing conditions.

*One extreme illustration may be quoted. Patient (J.D.) in Ruchill for 11 months after 4 months at Bellefield, was reported in May last to Poor Law Authorities as suitable for home treatment, if family could be assisted to remove from 2-apartment telescope house to one of 2 rooms and kitchen. The Poor Law Authorities reported in October that it was impossible to get a suitable house of this size in the East-End. In addition to this the Nurse had also made enquiry at 15 house factors in this part of the City (Whitevale), and could only find three possible houses, two of which were in low-lying districts and otherwise unsuitable, while the third house had not through-and-through ventilation.

A. K. CHALMERS.

25th October, 1916.

TREATMENT AND MAINTENANCE OF TUBERCULOSIS PAUPERS.

Early in 1916 the case of a particular patient raised acutely the responsibility of the Corporation on the one hand, and of the Poor Law Authority on the other, for patients who had already derived the maximum of benefit from institutional treatment, but who, by reason of poverty or inadequate housing, required maintenance. The question was referred to the Board, who convened a meeting of representatives from the Corporation and the several

Poor Law Authorities of the City on 6th April, 1916. The following extract from the Board's minute of that date conveyed their decision:—

After hearing the views of the members present, the Board explained generally their views of the respective obligations of Local Authorities and Parish Councils in regard to the treatment of tubercular pauper cases. The Board are requiring as a condition of approval of tuberculosis schemes that the treatment of Poor Law cases of tuberculosis shall be undertaken by the Local Authority. It was in the interests of the ratepayers that this work should be performed by the Local Authorities, as no share of the tuberculosis maintenance grant could be given to a Parish Council. The Local Authority, however, are responsible only for *treatment*. If the treatment is in a sanatorium or tuberculosis hospital, it necessarily includes entire maintenance; but if treatment is in the pauper's own home, it covers only medical and nursing attendance, and such medicines and special foods as are exclusively necessary for the treatment of tuberculosis. Lodging, clothing, and ordinary sustentation will fall to be provided by the Parish Council.

The Board suggested that, as regards the special type of case under discussion, where the resources of the Local Authority's hospital were exhausted and the case was without a proper home, the Parish Council should receive the case into the poorhouse, and that an arrangement should be come to with the Local Authority whereby the latter would be responsible for any necessary treatment in the poorhouse, the Parish Council providing the ordinary maintenance. In answer to the objection that such an arrangement would mean overlapping in the work of the two Authorities, the Board stated that such a result did not necessarily follow, and that in their view arrangements could easily be made to avoid this.

The Board's suggestion was favourably received, and Mr. Motion advised that the parties should give the proposal a three months' trial, and that they should meet in Glasgow to discuss the arrangements. At the end of the three months the Board would be informed how the suggestion was working out.

After the Board's decision, the following memorandum by the Medical Officer of Health and the Clerks of Glasgow and Govan Parish Councils was submitted to the respective Authorities, and approved:—

The Board's minute was the outcome of representations made by the Tuberculosis Committee of the Local Authority of Glasgow, in which it was pointed out (1) that the institutional accommodation for cases of tuberculosis proposed by the Local Authority had been restricted by the action of the Treasury; and (2) that a proportion of the available beds was occupied by a class of patient who would not benefit by further institutional treatment, and whose limited resources and unsuitable housing conditions prevented the department from treating them at home. The Local Authority admitted their responsibility for medical treatment of all cases of tuberculosis, but the special problem in the type of case considered was mainly one of accommodation or maintenance, or both, and so fell properly within the province of the Poor Law Authority.

The Board's minute expressed agreement generally with the argument advanced by the Local Authority, and suggested a period of trial, during which the Local Authority should act in conjunction with the Poor Law Authority in an effort to obtain adequate maintenance and accommodation for cases of the type specified.

The interval since the conference with the Board has been occupied in arranging the details, and a list of 33 patients drawn up where the arrangements agreed upon may serve as a basis for future agreements.

Taken generally, it may be said that the experience gained in the negotiations has been useful to both Authorities, and that the results obtained illustrate the value of combined action by both in such circumstances as at present exist. It is true that the ultimate disposal of a few of the cases leaves something to be desired — chiefly, it should be stated, through unwillingness on the part of an occasional patient to adopt any line of action which did not completely square with his own desires; but this class of patient is likely to decrease in frequency as the object of administrative interference becomes more widely appreciated.

The policy of the Public Health Department throughout the negotiations has been to approve of domiciliary treatment for those patients only who could obtain a room and bed to themselves in a through-and-through house. Although this last condition is regarded as of fundamental importance, it has been a fruitful source of delay in arriving at a settlement, on account of the structural unsuitability of so many houses for the home treatment of tuberculosis. The greatest administrative difficulty, however, arose in cases who were practically homeless, or where the home conditions were hopelessly unsuitable. Transference from Local Authority hospitals or admission direct to Poor Law hospitals, in terms of the Board's minute, was offered to 11 patients so situated, but 4 only were ultimately dealt with in this way. Four preferred to leave hospital to take up work, although their fitness for this was questionable. Three others delayed their decision on the matter, and incidentally became so ill that their transference had to be delayed or abandoned. One of the four patients transferred left the Poor Law hospital within a fortnight of transference, and another after about seven weeks.

In 12 cases combined action resulted in adding to the household income or in enabling the family to readjust their housing arrangements so that the patient could return home. In 5 cases help was refused, and in 4 it proved to be unnecessary.

In the following table the numbers referable to Glasgow and Govan Parishes, respectively, are given under the several groups as they were finally disposed of :—

	Glasgow.	Govan.	Total.
Poor Relief and Domiciliary Treatment, ...	9*	3	12
Transferred to Parish Hospital, ...	3	1	4
Parish assistance refused, or not required, ...	6	3	9
Delayed on account of administrative difficulties, ...	2†	—	2
Retained in Local Authority Hospital for reasons of health, ...	2	2	4
Died, ...	2	—	2
	24	9	33

* One case is receiving Parish Relief outwith the City, and is therefore not under the medical care of this Department.

† In one instance, on account of difficulty in getting a suitable house ; in the other, because of difference in the points of view of patient and his mother.

An effort has been made to estimate the extent of the benefit derived by the home cases and their families from the combined efforts of the Authorities. The criterion adopted has been the amount of income available for each family for all purposes save rent, and the households have been standardised by assigning a physiological value to each member according to Atwood's scale, so that the household requirements are stated in figures representing adult men. In distributing the household income before negotiations were completed, the patient has been included, whether he was actually resident therein or was in hospital.

The following figures represent the average income thus available per unit of the household standardised as adult males, and is based on the changes produced in 11 families to whom this form of relief was agreed upon. Before negotiations the smallest sum available for all purposes, save rent, per adult male, was 3s. 5½d. per week, compared with 6s. 3d. after negotiations, while in the latter case the patients received also medical extras, in the form of milk and eggs, amounting to 4s. 8d. weekly :—

Sum available for all Purposes (save Rent) per Adult Male per Week.

	Before Negotiation.	After Negotiation.	
Glasgow Parish Cases.			
Average income, ...	5s. 5d.	7s. 8¼d.	*Med. Ex. for Patient.
Average increase of income, ...	=42 per cent.		
Govan Parish Cases.			
Average income, ...	5s. 7d.	8s. 4d. *	Do.
Average increase of income, ...	=51 per cent.		
Average income of total Glasgow and Govan cases, ...	5s. 5½d.	7s. 10¼d.*	Do.
Average increase of income, ...	=44 per cent.		

* At present prices this amounts to 4s. 8d. per week.

These changes suggest that the Local Authority and the Parish Councils are in a fair way to solving a problem which neither could do alone. The intractable patient, however, who cannot obtain a suitable home, and who refuses treatment in a Parish Hospital, remains a stumbling block, but it seems preferable at the moment to await the wearing down of this prejudices by the example of others, to embarking on a method of compulsory segregation which would entail a stringent disciplinary system utterly foreign to the whole spirit of Public Health administration.

Subject to the approval of the Public Health Committee and the Parish Councils, it has been arranged that the Local Authority will pay to the Parish Authority 5s. per week to defray the cost of medical treatment and such medical extras (food, drugs, &c.), required for the phthisis patients transferred to Parish Hospitals under the foregoing arrangement.

19th October, 1916.

The arrangement come to therein has remained in force since then, the Local Authority providing treatment and maintenance in hospital or sana-

torium, if necessary, in cases likely to derive benefit therefrom, but confining itself to the provision of treatment and the special foods necessarily associated therewith ("medical extras" in the case of out-patients) for such patients as will not improve with further institutional treatment. The staffs of the several departments have worked together harmoniously in providing for the needs of such patients, but the scheme has been limited in its sphere of usefulness by the shortage of houses and by the extent to which the Pensions Authorities have supplanted the Poor Law Authority in relieving distress associated with ex-Service men or their dependants.

TRAINING IN COLONIES AND OTHERWISE OF PATIENTS SUFFERING FROM TUBERCULOSIS.

In May, 1919, evidence was prepared for the Inter-Departmental Committee on Tuberculosis, under the following headings:—

1. Extent of accommodation necessary to meet local requirements, apportioned between early, middle, and advanced cases.
2. Is the existing accommodation satisfactory in character?
3. To what extent have discharged service men received the residential treatment which they really need? If it has been insufficient, what are the contributing causes?
4. What proportion of discharged Tuberculous men at the present time is suitable for training in colonies?
5. Is the accommodation for hopeless cases adequate?
6. Generally, what is the view of the Tuberculosis Officer as to the most suitable form of treatment for early, middle, and advanced cases?

Questions 1 to 5 are dealt with directly or indirectly elsewhere in this report, so far as they are associated with problems of more than temporary interest, but the answer to Question 6 may be quoted *in extenso*, as it has a bearing on the future development of tuberculosis schemes.

(6) Most Suitable Form of Treatment for Early, Middle, and Advanced Cases.

(*a*) *Early Cases.*—The present form of treatment in sanatorium is satisfactory so far as it goes, but it requires extension in the direction both of institutional training and of facilities for obtaining healthy and remunerative employment subsequently. The development of training colonies, especially in farming and afforestation or selected trades, for arrested or very much improved cases, is a possible solution, but this must be coupled with adequate maintenance for dependants during training and an efficient organisation for finding work for the patients when they have completed their term. Unless there is a prospect of permanent employment at a fair wage in the line of work to which the patients have been trained, many will refuse to accept training, and even if it is accepted its value will be lost if the patients have to return to work under unhealthy conditions. It is suggested that Labour Bureaus might be utilised for the purpose of finding work, if they were supplied with a schedule of suitable types of employment drawn up by an authoritative body. Ex-patients would then be specifically referred to them, as belonging to the category for whom such employment was desirable, and the local bureau might also keep the training colonies posted with information as to vacancies of the type scheduled. It is essential for practical purposes that the patients so recommended should not have tubercle bacilli in the sputum. Questions will arise here both as to the effect of the Workmen's Compensation Act and Trade Union rate of wages.

Some indication has been given under heading 5 of the difficulty in estimating the exact number of men who will accept such training, and for this and other reasons (*e.g.*, because a breach in the continuity of treatment in one institution is often the occasion for a voluntary cessation of treatment altogether, and because the graduated exercise in sanatoria should more and more be replaced by practical be adjuncts of existing sanatoria, where these have the natural facilities for such development.

(*b*) *Middle Cases.*—Two groups of chronic cases exist—(1) the skilled and decently housed; and (2) the unskilled occupant of a model lodging, or who is indifferently housed. This distribution should be projected into the provision

made for each group. These groups may be taken to include all the ambulatory chronic cases whose prospect of life amounts to several years, but whose working capacity is definitely and permanently impaired, and who must be regarded as, potentially at least, infectious persons. Hitherto they have received such institutional treatment as they required in hospital wards along with advanced, bedridden patients. The hospitals, however, are constructed, administered, and staffed for the bedridden case. They are usually annexes of fever hospitals, where there is a lack of scope and interesting occupation.

An intermediate institution between the hospital and the sanatorium is required for each section of this group, but in the case of the trained worker who is adequately housed it should, if possible, be in the form of a hygienically-constructed factory; in other words, in a factory in which he could carry on his own trade under the best hygienic conditions while living at home. (I understand some such to be the object of the boot factory recommended as the result of the Medical Research Committee's enquiry at Leicester and Northampton.) Here also might be found room for others not trained in a particular factory, but who might be put to light work requiring little skill, such as attending to macninery or turning out standardised material (the production of munitions affording some illustrations).

For the second or badly-housed section of the chronic group, an employment centre in which the patient could both live and work seems desirable. The occupations of this centre would require to be pretty diverse, and include such things, for example, as are undertaken in many orthopædic centres, where carpentry or ornamental brass and metal work might occupy the more intellectual, although it could not be hoped to train them, or would they be fit for training. The variety of occupations in Glasgow renders this subject particularly difficult of solution, no trade, save shipbuilding, occupying the same proportion of population as does bootmaking in the area dealt with in the enquiry of the Medical Research Committee.

It is probably desirable to have a colony with varied employment in close proximity to the homes of the patients, rather than a series of colonies for specialised work serving a large area and involving long distances from home for many occupants. It is the experience that ambulatory cases only tolerate institutional life if there is a fair amount of freedom to visit their homes and their friends outside.

The question of remuneration for work done, along with State or local assistance of the families, would require to be considered. The chances of success for such a colony would be reduced if patients received no return for their labour, but such return would not be sufficient to maintain dependants. The rules of the Friendly Societies at present prevent the assistance of families if the wage-earner is employed. This would properly be a subject for consideration in any revision of the administration of financial aid through the State Insurance and the Poor Law Authorities.

(*c*) *Advanced Cases.*—The present type of hospital is suitable for such cases, and when built on modern lines could hardly be improved upon. The question arises whether they should remain, as at present, annexes of fever hospitals or be attached to the employment colonies for chronic cases. The latter, perhaps, is preferable, as many of the patients would gravitate from the colony to the hospital, where they would receive intermittent periods of bed treatment before they were finally and totally bedridden. But, as the colonies should in any case be in the neighbourhood of the homes of the patients, where the fever hospital is also, there is no urgent reason for ceasing to utilise the latter where it has already been developed for the purpose.

Generally, on the co-ordination of the treatment of civilian and ex-service patients, it would be an unnecessary and undesirable duplication of effort to provide separate organisation for dealing with the latter. Such difficulties as have arisen in providing accommodation for them have been the result of war-time restrictions on the development of the schemes of Local Authorities and the commandeering for military uses of institutions intended for the treatment of tuberculosis.

The proportion of all male applicants for treatment who have served in the forces is already large (226 out of a total of 378 male applicants, between 1st January and 30th April, in Glasgow, or 59·8 per cent.). In the course of time the interests and associations of ex-service men will become mainly civilian, as their term of service becomes more and more remote, and, further, decision as to attributability of the disease to war service will become increasingly difficult. Moreover, the Health Department is, and will continue to be, responsible for the supervision of the homes and contacts of all patients, irrespective of army service, and for the provision of nursing and of dispensary and domiciliary treatment. It would, therefore, give rise to confusion to extend the policy which is already reflected in the power conferred upon Local War Pensions Committees to grant payments to tuberculous patients for "medical comforts," a provision already existing in the administration of "medical extras" through the Tuberculosis Section of the Health Department. Appreciating the weakness of such duplication, the Corporation of Glasgow, by agreement with the Burgh Insurance Committee,

in July, 1916, took over the whole administration of medical extras for both insured and non-insured persons, and has recently approached the Local War Pensions Committee with a similar proposal for ex-service men.

It may be contended that the relatively small number of patients eligible for colony training is an argument for a central institution for this purpose, serving areas wider than those under Local Authority administration. If this is admitted, the same argument implies the provision of a common institution for army and civilian cases. The case against the inauguration of training colonies, apart from sanatoria, has already been mentioned.

28th May, 1919.

NON-PULMONARY TUBERCULOSIS.

Tuberculosis in all its forms became compulsorily notifiable on 1st July, 1914. The extent of the increased work which this entailed is shown in the subjoined table, which gives the number of cases of non-pulmonary tuberculosis registered during the subsequent years:—

Year.	Cases Registered.	Year.	Cases Registered.
1914, ...	1,142	1917, ...	1,493
1915, ...	1,464	1918, ...	1,412
1916, ...	1,502	1919, ...	1,207

The following tables show (1) the distribution of the cases registered in each year, in accordance with the location of the disease and sex of patient; and (2) distribution according to certain age-periods in each year:—

TABLE SHOWING NON-PULMONARY TUBERCULOSIS CASES REGISTERED DURING 1914-1919, WITH LOCATION OF DISEASE AND SEX.

Year.	Glands.		Bones & Joints.		Abdomen.		Meninges.		Multiple.		Other.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female
1914,* ...	159	153	239	186	79	45	73	47	11	18	70	62	631	511
1915, ...	176	232	192	156	135	104	137	123	52	27	71	59	763	701
1916, ...	199	216	185	138	155	136	136	140	40	18	75	64	790	712
1917, ...	203	266	196	170	155	113	93	95	41	34	70	57	758	735
1918, ...	186	265	158	143	119	128	92	107	34	30	78	72	667	745
1919, ...	138	178	164	127	126	123	93	86	40	29	56	47	617	590
	1,061	1,310	1,134	920	769	649	624	598	218	156	420	361	4,226	3,994
TOTAL ...	2,371		2,054		1,418		1,222		374		781		8,220	

* Figures for six months ending 31st December, 1914.

AGE DISTRIBUTION OF NON-PULMONARY TUBERCULOSIS CASES REGISTERED DURING EACH YEAR. SINCE COMMENCEMENT OF NOTIFICATION ON JULY 1ST, 1914.

Cases registered in	Under 1 year.		1-5 years.		5-10 years.		10-15 years.		Over 15 years.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1914, ...	60	21	132	90	140	102	134	115	165	183	631	511
1915, ...	59	49	236	161	164	140	112	108	192	243	763	701
1916, ...	64	45	244	152	149	123	108	164	224	228	789	712
1917, ...	52	48	190	134	157	156	117	149	243	248	759	735
1918, ...	30	33	163	169	137	125	129	142	208	276	667	745
1919, ...	45	28	151	109	142	123	78	136	201	194	617	590
	310	224	1,116	815	889	769	678	814	1,233	1,372	4,226	3,994
TOTAL, ...	534		1,931		1,658		1,492		2,605		8,220	

The following table shows admission to institutions of patients suffering from *non-pulmonary tuberculosis* during the years 1915-1919:—

Year.	Local Authority Hospitals.	Sanatoria.	Poor Law Institutions.	Total.
1915, ...	10	7	—	17
1916, ...	26	16	87	129
1917, ...	76	35	187	298
1918, ...	150	69	171	390
1919, ...	264	88	186	538
	526	215	631	1,372

As the table shows, an increased number of patients with non-pulmonary or surgical tuberculosis was treated during 1919, but the accommodation available is still considerably short of the numbers requiring treatment, who are now dealt with by general hospitals and Poor Law institutions.

OTHER RESPIRATORY DISEASES.

The deaths and death-rate from respiratory diseases — including croup, but excluding pneumonia—during the six years, 1914-1919, are as follows: —

Year.	Deaths.	Death-rate per million.	Year.	Deaths.	Death-rate per million.
1914, ...	1,416	1,341	1917, ...	1,285	1,163
1915, ...	2,056	1,914	1918, ...	1,312	1,178
1916, ...	1,346	1,230	1919, ...	1,506	1,351

In 1915 the heavy death-rate from respiratory diseases occurred in the first half of the year, when the general death-rate from all causes was also heavy.

PNEUMONIA.

Pneumonia was also prevalent during the same period in 1915, and again in the last quarter of 1918 and the first of 1919, concurrently with the prevalence of influenza.

	Pneumonia.		Influenza.	
Year.	Death-rate.	Death-rate per million.	Death-rate.	Death-rate per million.
1914, ...	1,551	1,470	69	65
1915, ...	2,023	1,880	123	114
1916, ...	1,493	1,363	99	90
1917, ...	1,511	1,368	73	66
1918, ...	2,275	2,046	2,015	1,812
1919, ...	2,137	1,918	1,761	1,580

SECTION VI.

VENEREAL DISEASES.

Subsequent to the issue by the Local Government Board of the Public Health (Venereal Diseases) Regulations (Scotland), 1916, the following scheme for the diagnosis and treatment of venereal disease was submitted to the Corporation, and approved:—

THE PUBLIC HEALTH (VENEREAL DISEASES) REGULATIONS.

PROPOSED SCHEME FOR DIAGNOSIS AND TREATMENT.

The following is not intended as a complete Scheme for Glasgow, but is submitted for the purpose of getting existing provision systematised and brought within the purpose of the Venereal Disease Regulations.

No reliable information is available regarding the extent to which venereal diseases prevail in Glasgow. One outstanding feature, however, is that about one-half the bed accommodation at present existing for females in the Lock Hospital is not occupied. It is not, however, contemplated to include these beds at the moment in the ordinary provision for females.

Purpose of Regulations.—The object of the Regulations is to provide means for the diagnosis and efficient treatment of the early and more readily communicable stages of syphilis, gonorrhœa, and soft chancre. To accomplish this, every Local Authority is authorised to prepare and submit for approval a scheme—

(*a*) Enabling any medical practitioner practising in the area of the Local Authority to obtain, at the cost of the Local Authority, a scientific report on any material obtained from a patient suspected to be suffering from venereal disease (Art. I (1) (*a*));

(*b*) For the treatment at and in hospitals or other institutions, or, where the circumstances demand it, in their own homes, of persons suffering from venereal disease (Art. I (1) (*b*));

(*c*) For placing at the disposal of medical practitioners such skilled assistance in the treatment of venereal disease as may be required (Art. I (1) (*c*)); and

(*d*) For supplying medical practitioners with Salvarsan or its substitutes, or, in certain circumstances, other drugs for the treatment and prevention of venereal disease.

Further, any Local Authority may make such provision as it thinks desirable or necessary for giving instructional lectures, and for the publication of information on questions relating to venereal disease.

Conditions of Approval.—The Memo. accompanying the Regulations should be referred to for a complete statement of the conditions of approval of such schemes, but the following require special attention at the moment:—

(1) The scheme must provide facilities for diagnosis and treatment for all classes of the community free of cost. (Memo. III (7) (*a*).)

(2) Hospital accommodation for cases that cannot be properly treated at an out-patient department, or dispensary, or other clinic. (Memo. IV (10) (*a*).)

(3) Accommodation for treatment at out-patient departments of hospitals or dispensaries or other clinics. (Memo. IV (10) (4) (*b*).)

(4) Arrangements for enabling medical practitioners to obtain skilled assistance in the treatment of the disease. (Reg. Art. I (1) (*c*).)

(5) For supplying medical practitioners with Salvarsan or its substitutes. (Reg. Art. I (1) (*a*).)

(6) The Medical Officer of Health, in framing a scheme for submission to his Local Authority, shall take the best available means to confer with the medical opinion of his district. (Memo. III (7) (*d*).)

(7) In order to secure the support and co-operation of the medical profession, the Local Authority shall, through their Medical Officer of Health, submit their proposed scheme for the observation of the Medical Schools and Colleges, the Local Medical Committee under the National Insurance Act, and any other medical organisations operative in the district, . . . and in submitting their scheme for the Board's approval the Local Authority should also submit any suggestions and criticisms made by the medical authorities concerned. (Memo. III (7) (*o*).)

(8) The Medical Officer of Health shall be responsible for the distribution of Salvarsan and its substitutes. (Memo. III (8) (*a*).)

(9) The Medical Officer of Health should be responsible for keeping a register of all cases treated under the scheme. (Memo. III (8) (*b*).)

(10) All registers and records of cases dealt with under the scheme, and all institutions with which the Local Authority may make arrangements, must be accessible to authorised officers of the Local Government Board for Scotland. (Memo. III (8) (*c*).)

(11) In submitting a scheme for approval, the Local Authority shall give information regarding—

(*a*) The duties, special qualifications, and salaries of medical practitioners and other officers to be employed;

(*b*) The equipment of the institutions provided or to be utilised. (Memo. IV (10) (1).)

(12) The keeping of adequate records with due regard to the confidential nature of the information recorded. (Memo. IV (10) (1) (*b*).)

(13) The provision of teaching facilities to the largest practicable extent at any institutions included in the scheme. (Memo. IV (10) (1) (*c*).)

(14) The provision of skilled assistance to any medical practitioner in the taking of materials and in examining the patient with a view to diagnosis. (Memo. IV (10) (3) (*c*).)

(15) Instruction of medical practitioners at the laboratories or elsewhere in the technical methods of diagnosis. (Memo. IV (10) (3) (*d*).)

(16) Co-operation with the Medical Schools in the training of medical practitioners and others in the method of treatment. (Memo. IV (10) (4) (*d*).)

A supplementary circular was issued on 1st June, 1917, and was accompanied by a Memorandum outlining, *inter alia*, the nature of the records to be kept.

Residence no Restriction on Institutional Treatment.—Although it is not stated in the above Memorandum, it may be well to keep in recollection that institutional treatment is to be given irrespective of the place of residence of individual patients. It was indeed on this understanding that the Treasury contribution of 75 per cent. of the approved cost was recommended. (Roy. Com. on V.D., para. 154; and Circular of L.G.B. (England), para. 3.)

Existing Provisions to aid Diagnosis.—Apart from the ordinary facilities provided at general hospitals and dispensaries, the Health Committee, on 17th April, 1913, authorised me to acquaint medical practitioners in Glasgow that arrangements had been made in the laboratory of the Public Health Department whereby they could obtain information afforded by the Wassermann test for syphilis applied to such samples as they might send for the purpose. The object at that time was not to confirm obvious symptoms, but to elucidate obscure ones. It was to assist diagnosis in cases not obviously syphilitic, and the advantage taken of the opportunity is shown in the following statement of the number of samples sent, and the result of this or other test:—

From Practitioners and Institutions.

Year.	No. of Samples sent.	No. Positive.	Per Cent. Positive.
1913, ...	146 ...	49 ...	34
1914, ...	987 ...	357 ...	36
1915, ...	737 ...	198 ...	27
1916, ...	584 ...	173 ...	30

This dislocation resulting from the war has reduced both the number sent and the percentage positive.

Prevalence of the Disease, and Existing Provision for Treatment.—Regarding the prevalence of venereal diseases in Glasgow, there is at present little reliable information, and what is available is not definite. Some observations on a limited scale have shown that 8 per cent. of the children examined responded to the Wassermann test. The Royal Commission, while unable to arrive at positive figures, regarded the evidence submitted to them as leading to the conclusion that "the number of persons who have been infected with syphilis, acquired or congenital, cannot fall below 10 per cent. of the whole population in the large cities, and the percentage affected with gonorrhœa must greatly exceed this proportion." If we accept the suggestion that 8 per cent. are congenitally affected, the balance of those who have themselves contracted syphilis would, in a population of a million, number 20,000.

In view of this, the existing provision for systematic treatment must be regarded as inadequate. Indeed, the only provision for residential treatment of these diseases in their earlier stages hitherto has been that of a male ward of 15 beds in the Royal Infirmary, and in the Lock Hospital for women of 80 beds, although all the Dispensaries undertook outdoor treatment in one form or another.

Action of Committee on Health.—For the purposes of the Regulations, the Committee on Health of the Corporation invited representatives of all the hospitals (including Poor Law Hospitals) to an interview on 19th January. At this meeting a smaller committee was appointed, and members of the Health Committee thereafter had interviews with representatives of each of the hospitals separately. Contemporaneously a circular was issued to each of these institutions asking, *inter alia*,

(1) whether they could provide dispensary facilities for advice and treatment for either or both sexes; and

(2) make any provision, and, if so, to what extent for indoor treatment. As a result of these and other negotiations, the following provisional scheme for the diagnosis and institutional treatment may be stated, subject to the general explanation that it is hoped thereby to acquire the information necessary to indicate the probable average accommodation required. Meanwhile the Royal Infirmary will continue to set apart the ward now used for treatment, and the Victoria Infirmary have submitted plans for the provision of at least six beds for females in a proposed alteration of certain buildings already owned at their Bellahouston Dispensary in Morrison Street.

The Proposed Scheme.—Subject to these general observations, the following outline of a scheme for approval under the Regulations is now submitted :—

PROVISION FOR DIAGNOSIS.

(1) *General.*—For the convenience of the general practitioner who is consulted by a patient in the course of his private practice the facilities for diagnosis already provided in the Public Health Laboratory will be continued, and an outfit for taking samples of exudates added to that already provided for taking samples of blood and C.S. fluid. Each outfit will be accompanied by—

(1) A leaflet of instruction for taking the sample appropriate to the disease. This will include directions for taking—

(*a*) blood for a Wassermann test;

(*b*) C.S. fluid for this test, or for the microscopic examination of its cellular contents;

(*c*) specimens of exudates for the detection of the spirochaeta pallida;

(*d*) specimens for the detection of gonococci.

(2) A form for clinical details; and

(3) An envelope addressed to the laboratory.

Specialist assistance will be available when this is required for the taking of samples.

In order to facilitate work at the laboratory it will be suggested that, so far as possible, the samples should be taken on Mondays and Thursdays, so that they may reach the laboratory on the Tuesdays and Fridays.

It is not proposed at the moment that the Public Health Laboratory should become also a Treatment Centre or directly associated with one, but Salvarsan or its substitutes will be supplied to medical practitioners for home treatment by the Medical Officer of Health under the conditions prescribed in the Board's original memorandum and circular of 1st June.

Applications for pathological outfits and Salvarsan, or its substitutes, will only be accepted on a form similar to that suggested by the Board in V1 and V2. Each outfit will be accompanied by leaflet for clinical details to be returned with the sample (V4), and the Pathologist's report will be based on V5. The leaflet V3, 6 or 7, will be issued in the circumstances appropriate to each.

Home Treatment.—When the circumstances are such as to render attendance by the patient at a Treatment Centre impossible, skilled assistance in the administration of Salvarsan or its substitutes will be supplied by the staff of the department.

Pathological and Clinical Record of Home Cases.—A record of samples sent to the laboratory for examination will be kept in a form similar to that adopted by the Pathologist of the Treatment Centres, and the case sheets suggested for clinical records for these centres will, as far as possible, be followed in home cases.

Treatment Centres.

General.—In considering the provision of Treatment Centres it is well to keep in view that the Glasgow hospitals draw the clientele of their Out- and Indoor Departments from many districts considerably beyond the municipal area.

The terms of the Treasury Grant are conditioned by the provision that the means of diagnosis and treatment will be open to all comers. The hospitals may elect to carry on a separate accounting with the several Local Authorities from whose areas patients come, but there are obviously simpler methods of adjusting their respective liabilities. (See also page 9.)

The scheme as here considered applies only to patients whose home address is in Glasgow.

Royal Infirmary. Diagnosis and Outdoor Treatment.

For the purposes of diagnosis and outdoor treatment accommodation will be provided in association with the work of the Dispensary.

Staff.—Dr. will act as Clinical Officer, and direct the details of the work. He will also take charge of the private register of names (Form 4), and assign the distinguishing number for the identity card (Form 5). One (or more if necessary) male orderlies will assist him with male patients. A clerk will be provided.

The Clinical Officer will be responsible for keeping the appropriate record of each case (Form 6), and make quarterly returns to the Medical Officer of Health on the prescribed forms (Form 3).

When the condition of the patient admits of any part of the treatment being carried out at home, he will communicate such information and suggestions as to treatment as may be necessary to the private medical attendant of the patient—if there is one, and the patient's consent has been obtained.

At certain of the clinics on two or more days he will organise demonstrations for medical practitioners and students of the methods of taking and transmitting material for laboratory diagnosis, and of the best known methods for the systematic treatment of venereal disease.

Indoor Treatment.—For such cases among male patients who require indoor treatment 15 beds will be provided in a special ward of the infirmary. The Clinical Officer of the indoor section will direct the treatment of the indoor cases.

With the assistance of a clerk he will keep the appropriate record of cases (Form 6), and make quarterly returns to the Medical Officer of Health on Form 3. The nursing provision will be undertaken by male orderlies.

Laboratory Provision.—The Pathological and Bacteriological Departments of the infirmary will undertake the requisite laboratory investigations.

For the purposes of the scheme arrangements will be made for undertaking all laboratory investigations required for patients attending the Outdoor Treatment Centre, and those being treated in the ward. It will undertake—

(1) Microscopic examination of discharges for the detection of gonococci, and confirm where necessary by cultural methods;

(2) Microscopic examination of the discharges from sores, mucous patches, condylomata, &c., for the detection of spirochaetes, or other organisms;

(3) Wassermann tests on the blood serum of patients (*a*) for the diagnosis of syphilis, and (*b*) as a control in treatment; and

(4) Examination of cerebro-spinal fluid by Wassermann tests or otherwise if necessary, and such other tests as may be directly concerned with the diagnosis and treatment of V.D.

Staff.—Drs. will be appointed Pathologists under the scheme, and will sign all the reports in connection therewith issuing from the laboratory (? salary), with such clerical assistance (wages) as may be required. The clerk of the Outdoor Treatment Centre will keep the Pathological Record (Form 1), and prepare for the Pathologist such quarterly returns as he must make to the Medical Officer of Health (Form 2).

Dr. Thom informs me (July 16, 1917) that 5s. 8d. has been suggested as the charge per day for indoor patients, and 1s. 4d. for those attending the Dispensary, and this was confirmed at a meeting of the Managers on 3rd October last.

It is intended that, both in connection with the Dispensary and the wards, classes for clinical instruction will be arranged, and that practitioners will be invited to make ample use of them.

The closest touch should be maintained between the Clinical Officer and the Pathologist, in order that the results of treatment may be stated in definite relationship to a laboratory standard.

Irrigation Provision.—It is understood that either in connection with the Dispensary or the ward for indoor patients a fully-equipped installation of stalls for urethral and vesical douching will be equipped, and be available for both groups of patients. Arrangements as to the number of Dispensary attendances per week—three at least will be required—and the hours thereof, are still pending, and the need for evening attendances is being kept in view, although depletion of the Medical Staff interposes some difficulty at present.

Victoria Infirmary.—Provision will be made at the Bellahouston Dispensary for—

(1) Outdoor treatment; and

(2) Residential treatment of females.

Hitherto there has been no provision of beds at the Dispensary, but after conference with representatives of the Health Committee, the Directors of the Infirmary, with ready appreciation of the need for providing bed accommodation for females, undertook to adapt two terrace houses owned by them in connection with the Bellahouston Dispensary for the residential treatment of skin and venereal diseases in women, at a total cost of £1,800.*

It is proposed at the moment to set apart 8 only of these beds, and in view of the number of beds available for females at the Lock Hospital (80 in all, but only about half of which are occupied), but not at the moment included within the scheme, the demand made on the Bellahouston beds will serve to bring out more clearly the actual requirements.

The functions of the several officers will be as already described for the Royal Infirmary. The Clinical Officer will, when possible, be of the same sex as the patient, and the laboratory investigations will be conducted at the laboratory of the Victoria Infirmary by Dr.

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* A subsequent proposal was submitted by the Directors of the Victoria Infirmary. Instead of the alteration in the two terrace houses indicated above, the new proposal is to remove both, and cover the whole area now occupied by them, as well as the free ground between them and Maxwellton Place, with a new building capable of providing 25 beds, 18 of which would be for venereal disease. This proposal is not considered in this Memorandum, as it seems necessary for the committee to consider, in the first place, the general policy of making large subsidies for new buildings.

The details of arrangements generally will follow those indicated for the Royal Infirmary, the primary purpose being to develop this as a centre of treatment for females.

Lock Hospital.—The number of unoccupied beds here is an inducement to extend the use of this hospital beyond its present purpose, but its past association with patients of a particular class interposes a difficulty which will require time to remove. It might either be affiliated with the Royal Infirmary, or transferred to the Corporation.

According to the last Annual Report, it has an income of £474 from investment, and subscriptions amounting to £1,200, which includes, however, contributions from the Parish Councils as payment for treatment.

Other Institutions.—The replies for the other institutions may be dealt with more briefly.

Sick Children's Hospital.—Primary infections in childhood are comparatively uncommon, but the Directors can provide dispensary facilities for the treatment of children of both sexes up to 12 years of age, also indoor treatment, with some limitations based solely on urgency.

Western Infirmary.—Owing to the depletion of the Dispensary Staff no special provision can be made for the treatment of venereal diseases meantime, and no beds can be set aside for this purpose.

Some laboratory and teaching provision is offered, but without clinical material the value of the latter must be gravely handicapped.

Royal Samaritan Hospital.—Cannot at the moment make any provision.

Royal Maternity Hospital.—Dispensary facilities are offered in connection with the ante-natal dispensary, but no provision can be made for indoor treatment.

Glasgow Eye Infirmary.—The Directors express their willingness to undertake the treatment of outdoor cases and of indoor cases when certain alterations at Charlotte Street Dispensary, which are under contemplation, are undertaken.

Parish Councils—

A. (1) *Glasgow.*—Can give advice only at Eastern and Western Dispensaries;

(2) Indoor treatment for males only (24 beds) at Barnhill.

It would appear that indoor treatment for a certain number of females is obtained in the Lock Hospital at a cost of 15s. per head per week.

B. *Govan.*—Has indoor accommodation at Merryflats for 6-9 males and for 5 females.

Experience will demonstrate the extent to which these facilities meet or fall short of the requirements. In the absence of reliable information as to the volume of the diseases which require to be dealt with, it is of some use to recall the circumstance that the Samaritan Hospital, which deals, probably to the extent of one-third or one-half of its patients with the late results of venereal disease, has 94 beds, and annual admissions averaging 1,500, while the outdoor attendance falls only short of 2,000.

The actual extent of the provision is important, because several adjacent Local Authorities have asked that the facilities for diagnosis, and in some cases for treatment, in Glasgow, be made available for cases from their areas. The request is an attractive one, besides being in a sense the development in a special direction of the practice of existing general hospitals which draw their patients from a wide area round Glasgow.

The question is definitely raised in the letter of the Local Government Board to the Town-Clerk of 4th October, and in replying to him on 9th October I observed :—

> " One condition of the occupancy by the Military Authorities of Robroyston Hospital is that one ward should be left at the disposal of the Corporation. Were this carried through the bed accommodation should, in co-operation with existing dispensaries, enable the Health Committee to consider a wide scheme

for the West of Scotland as the Board indicates. Such an arrangement would establish for venereal diseases a relationship between the West of Scotland and Glasgow similar to that already existing for general (specialised) medical treatment."

The suggestion has, I think, much to commend it, and if the committee approve the suggestion, the working basis of a scheme could be readily arranged.

Additional Dispensaries.—In the development of the scheme one looks to the existing Tuberculosis Dispensaries as probably affording a ready means of extending the facilities for outdoor treatment. They are excellently situated for the purpose, although the immediate provision of a specially-trained medical staff is attended with some difficulty.

Cost.—The total cost of the scheme can only be approximately stated on the basis of population.

The London scheme extends to populations beyond the area of the London County Council, and provides treatment for nearly $7\frac{2}{3}$ millions, at an estimated cost for £49,000, allocated as follows :—

		Per Million.
Hospital treatment (in- and outdoor), ...	£16,000	£2,089
Pathological examination of specimens sent by general practitioners, ...	4,000	504
Cost of Salvarsan or its substitutes to practitioners, including Poor Law, ...	27,500	3,591
Publicity arrangements, ...	1,500	196
	£49,000	£6,380

or, approximately, £638 per 100,000 of population.*

In Liverpool, with a large sea-faring element and a population of 733,000, the estimate exceeds £8,000, or, approximately, £1,100 per 100,000.

On the London scale the annual cost of the scheme in Glasgow would be about £6,500, but on the Liverpool scale £12,000. Some figure between these two will probably fairly indicate the total cost for Glasgow, as it is possible that the cost of certain structural alterations in existing buildings are included in the Liverpool figures.**

The charges for specific items of work are more readily detailed, and will afford a basis for calculating claim to be made against Grant.

In considering the payments to be made to voluntary institutions two alternate methods may be suggested. The simpler, and as a provisional way probably the better, would be to adopt the cost per bed per day of indoor and per attendance of (dispensary or outdoor) patients, as shown by the experience of the last completed financial year of the several institutions, as the basis of an overhead payment per patient per day or per week, exclusive of any outlay on Salvarsan or its substitutes. Alternately a scale might be fixed for the several categories under which the work to be accommplished would fall, and I suggest the following for consideration, subject to the explanation that if this method is adopted it should be reconsidered after six or twelve months' experience :—

(*a*) Institutional Treatment.

I.—*Indoor.*

An overhead charge per night to cover working cost, calculated on the ordinary cost of a bed per day, less drugs and dressings, ...	say,	£0	5 8

II.—*Outdoor.*

An overhead charge per attendance to cover working cost, calculated on the average cost of dispensary work, less drugs, ...	say,	0	1 4

* Since this was written certain changes have occurred which have reduced the estimated cost per 100,000 of population to about £600.

** In a subsequent letter Dr. Hope says :—"This, however, is for the first year, and includes certain structural alterations which will not again appear; furthermore, in view of arrangements with outside bodies, we have, I think, a margin of beds which may be found to be too large, notwithstanding that we are a seaport"

III.—*Specific Treatment.*

(*a*) For each intra-venous injection in hospital or dispensary,	£0	10	6
(*b*) Cost of Salvarsan or substitutes per dose, say, ...	0	4	0
(*c*) Fee for administering mercury by injection, ...	0	5	0
(*d*) Cost of mercurial preparation for injection, say per injection, ...	0	0	6
(*e*) A fee to cover period of observation after specific treatment completed (per visit or per week), say, ...			
(*f*) Irrigation or douching per head per day, ...	0	2	6
(*g*) Preparations of silver at cost price, ...			
(*h*) Special vaccines (cost price), ...			
(*i*) Inoculating with special vaccines, each dose (say), ...	0	5	0

Soft Sores.

Daily charge as above to cover ordinary expenditure, plus cost of dressings, say per week, ...	0	5	0

(*b*) Laboratory Charges.

(*a*) Wassermann tests, each, ...	0	7	6
(*b*) Detection of spirochaeta pallida by direct examination, ...	0	5	0
(*c*) Microscopic examination (gonococci, &c.), ...	0	3	6

(*c*) Home Cases.

Diagnosis.

(*a*) Taking sample of blood for Wassermann test, plus hire, ...	0	10	6
(*b*) Taking material from sore or discharge for microscopic examination, ...	0	2	6

Treatment.

(*c*) Clinical Officer's fees for home administration of Salvarsan, plus hire, ...	1	1	0

A. K. CHALMERS.

16th November, 1917.

Negotiations were thereafter entered into with several of the institutions referred to, and the scheme, as outlined in the following circular to medical practitioners, was begun at the Royal Infirmary and the Women's Hospital, Rottenrow, on 1st December, 1917, and at the Western and Victoria Infirmaries as from 1st October, 1918:—

PUBLIC HEALTH (VENEREAL DISEASES) REGULATIONS (SCOTLAND), 1916, AND VENEREAL DISEASE ACT, 1917.

28th April, 1919.

Dear Sir or Madam,

I beg to enclose for your information copies of:—

(1) Public Health (Venereal Diseases) Regulations (Scotland), 1916;

(2) Order of the Local Government Board for Scotland applying Section 1 of the Venereal Disease Act, 1917, to the Area of the City and Royal Burgh of Glasgow as from 1st May, 1919;

(3) Requisition Forms V.1 for diagnostic outfits and V.2 for supplies of Salvarsan or its substitutes.

I also desire to direct your attention to Appendix II., pages 11-17, of the Memorandum accompanying the foregoing Regulations, and to the facilities which have been arranged by the Corporation for assisting in the recognition and treatment of venereal disease, free of cost to the patient.

DIAGNOSIS.

When a patient is not in attendance at a Treatment Centre specimens of blood or of cerebro-spinal fluid for Wassermann Reaction or for microscopic examination, and of exudates, discharges, &c., for detection of spirochaetes or gonococci may be forwarded by a medical practitioner to the Public Health Laboratory for examination. In such cases requests for outfits for taking and transmitting specimens should be made to the Bacteriologist on Form V.1 enclosed.

As Wassermann Tests are performed on Tuesdays and Fridays, fluids to be submitted thereto should be taken on Mondays and Thursdays and forwarded on the same day.

When practitioners do not wish to take specimens themselves, it will be convenient if they direct the patient to attend at the Laboratory for the purpose, preferably on Mondays and Thursdays, between the hours of 10 and 12 noon, or between 3 and 4 p.m. There is no attendance, however, at the Laboratory on Saturday afternoon or Sunday, save by special arrangement.

With a view to the recognition and treatment of Syphilis in the parents, practitioners are urged to utilise the Laboratory for the examination of still-births and the products of miscarriage at any stage.

TREATMENT.

Treatment Centres.

(A) *Out-Patients.*

The following Treatment Centres are now in operation :—

Males.

Royal Infirmary Dispensary.—Monday, Wednesday, and Friday, at 1.30 p.m.

Western Infirmary Dispensary.—Wednesday and Saturday, at 11 a.m. (Syphilis only).

Victoria Infirmary Dispensary.—Wednesday and Saturday, at 9.30 a.m. (Syphilis only).

Females.

Hospital for Women (formerly called Lock Hospital).—Daily, except Sunday, at 2 p.m.

Western Infirmary Dispensary.—Friday, at 11 a.m. (Syphilis only).

Victoria Infirmary—Wednesday and Saturday, at 9.30 a.m. (Syphilis only).

Baird Street Reception House.—(See subsequent note).

Both Sexes will be advised as to Treatment at :—

Bellahouston Dispensary, Morrison Street, S.S., on Monday, Tuesday, Thursday, and Friday, at 2 p.m.

It is expected that a Treatment Centre will also be opened shortly in premises at 186 Broomielaw.

Evening Dispensaries.

Owing to the absence of so many practitioners on Service, the General Hospitals have found it impossible hitherto to open Evening Dispensaries, but it is expected that this difficulty will soon be met.

(B) *In-Patients*

(1) For such patients as cannot be properly treated out-door, bed accommodation is provided at the Royal Infirmary (males only), and at the Hospital for Women, Rottenrow.

(2) *Baird Street Reception House.*—Young children suffering from venereal disease, infants with Ophthalmia Neonatorum, and the mothers of such infants are treated indoor at Baird Street Reception House, where also an out-patient Dispensary for females is conducted at the following hours :—Tuesday and Saturday, at 9.30 a.m.

The provision of further Centres for Treatment is under consideration, and due intimation will be sent of their opening.

(C) *Home Treatment.*

When circumstances render attendance by a patient at a Treatment Centre impossible, skilled assistance in the taking of specimens and in the administration of Salvarsan or its substitutes, will be supplied on application to the Medical Officer of Health.

Subject to the conditions defined in Section III (8), pages 8-9 of the Memorandum accompanying the Regulations enclosed herewith, Salvarsan or its substitutes may be obtained, free of charge, from the Medical Officer of Health by any practitioner in order to treat a patient in his own practice. Applications must in this case be made on Form V.2, a specimen of which is enclosed. Such supplies will not, however, be available for insured patients undergoing treatment in the ordinary course of panel practice.

INSTRUCTION IN DIAGNOSTIC AND CURATIVE METHODS.

By arrangement with the Managers of the Hospitals concerned, post-graduate classes will be held from time to time at the various Treatment Centres, to which practitioners will be admitted free of charge. Such courses will be advertised in the Press.

Yours truly,

A. K. CHALMERS,

The establishment of the several centres was intimated to midwives, pharmacists, and others at the same time.

Since the circular was issued, certain alterations have been made. The Centre at 186 Broomielaw (see section on "Aliens and Seafaring Men") is now open, clinics being held on two evenings and one afternoon each week.

The occurrence of smallpox has necessitated the transfer of in-patients at Baird Street Reception House to the Lock Hospital, and of the out-patient clinic to Black Street Dispensary, where the hours have been altered to Monday and Friday mornings at 10.30.

Plans for an extension of Bellahouston Dispensary for the treatment of all forms of venereal disease have been submitted by the Directors of the Victoria Infirmary, and approved by the Corporation and the Board. It is hoped that this centre will be opened at an early date.

Efforts to obtain increased accommodation and facilities for patients at the Royal Infirmary and to provide for the treatment of gonorrhœa at the Western Infirmary have so far been unsuccessful.

The out-patient clinic at the Lock Hospital will shortly be transferred to premises rented at the Central Dispensary, Portland Street. Negotiations with the Managers of the Glasgow Eye Infirmary and the Royal Hospital for Sick Children for the opening of centres there are now at an advanced stage.

The following is a summary of returns submitted by the several centres, showing the work done during the year 1919:—

GLASGOW—VENEREAL DISEASE SCHEME.

PATIENTS TREATED AT THE SEVERAL CENTRES DURING THE YEAR 1919.

NEW CASES—	Royal Infirmary.	Western Infirmary.	Victoria Infirmary.	Lock Hospital.	Broomielaw (10 weeks).	Baird St. Reception House.	Total.
In-Patients suffering from—							
Syphilis, ...	95	—	31	80	—	33	239
Soft Chancre, ...	10	—	—	13	—	—	23
Gonorrhœa, ...	86	—	—	102	—	22	210
Syphilis and Soft Chancre, ...	—	—	—	1	—	—	1
Syphilis and Gonorrhœa, ...	10	—	—	227	—	—	237
Gonorrhœa and Soft Chancre, ...	—	—	—	13	—	—	13
Syphilis, Gonorrhœa, and Soft Chancre, ...	—	—	—	—	—	—	—
Conditions other than Venereal,	23	—	—	—	—	2	25
Total, ...	224	—	31	436	—	57	748
Days' Residence of In-patients,	4,478	—	711	15,490	—	3,787	24,465

New Cases—	Royal Infirmary.	Western Infirmary.	Victoria Infirmary.	Lock Hospital.	Broomielaw (10 weeks.)	Baird St. Reception House.	Total.
Out-Patients suffering from—							
Syphilis, ...	1,102	279	212	148	26	38	1,805
Soft Chancre, ...	136	23	—	14	6	—	179
Gonorrhœa, ...	1,860	83	—	157	65	10	2,175
Syphilis and Soft Chancre, ...	16	1	—	—	2	—	19
Syphilis and Gonorrhœa, ...	37	15	—	481	4	—	537
Gonorrhœa and Soft Chancre, ...	8	—	—	10	1	—	19
Syphilis, Soft Chancre and Gonorrhœa, ...	—	—	—	—	—	—	—
Conditions other than Venereal,	166	49	—	24	3	—	242
Total, ...	3,325	450	212	834	107	48	4,976
Aggregate Attendances of Out-Patients, ...	27,151	3,098	395	14,713	1,522	248	47,127
Pathological Examinations.							
Wassermann Reactions.	2,627	891	251	844*	55*	59*	4,727
Spirochætes, ...	150	62	9	69	33	—	323
Gonococci, ...	101	106	46	2,578	86	177*	3,094
Total, ...	2,878	1,059	306	3,491	174	236	8,144

*At Public Health Laboratory.

VENEREAL DISEASE IN ALIEN AND OTHER SEAFARING MEN.

During the war alien seamen were segregated in the Anchor Boarding House, under the supervision of the Military Control Office, and their examination (for other than medical purposes) revealed the fact that many were suffering from venereal disease. The Military Control Officer had no power to provide treatment, and referred the men to the Venereal Disease Dispensary of the Royal Infirmary. Some of these cases, although suitable for outdoor treatment, continued to have infectious discharges while under treatment, and administrative difficulty arose from the refusal of the female attendants at the boarding-house to handle their soiled bed clothing.

An arrangement was therefore made on 5th September, 1918, with the approval of the Local Government Board for Scotland, whereby a medical officer of this department would examine, where possible, any alien seamen reporting sick with venereal disease, and decide, on the ground of infectivity, whether they should be treated outdoor or indoor. In the latter case, patients would be admitted to Barnhill Hospital, the Corporation paying for their treatment.

From that date until January, 1919, when the Anchor Boarding House ceased to be used for alien seamen, the following cases were dealt with:—

	Recommended to— Royal Infirmary Dispensary.	Barnhill.	Total.
Syphilis, ...	3	—	3
Gonorrhœa, ...	2	—	2
Chancroid, ...	—	1	1
Syphilis and Chancroid, ...	—	1	1
Not examined before reference for treatment, ...	3	—	3
Total, ...	8	2	10

The experience with alien seamen directed attention to the weakness of a scheme which made no provision for the treatment of both British and alien seamen in the neighbourhood of the docks. The question of venereal disease

among aliens other than seamen also arose, and these problems were briefly discussed in a memorandum of 13th November, 1918, from which the following passages may be quoted:—

The definition of an immigrant is strictly limited to an alien steerage passenger who is to be landed in the United Kingdom. The Master and those working on the ship are explicitly excluded from the definition.

So far, the occurrence of venereal disease in immigrants has not come prominently before this department, but this may be due to the fact that venereal disease schemes have come into being during a period when immigration has practically ceased. On the other hand, Major Maxwell, of the Military Control Office, has been much concerned about the presence of venereal disease among alien seamen.

On the general question, it is probable that the immigrant, as defined in the Aliens Act, is likely to constitute a less serious problem than the merchant seaman, whether alien or British. Compulsory segregation and treatment of these men would seriously interfere with transport by sea, and it would appear more practicable to include in venereal disease schemes a dispensary within easy access to any port where treatment could be given to men while they are in that port, and a report could be forwarded with them to the clinical officer of the dispensary or to the Port Medical Officer at their next destination. Similar facilities might be available for immigrants when immigration commences again, but it would probably be premature to devise any special scheme with reference to them until the magnitude of the problem is shown by experience.

It was therefore decided at meetings of the Sub-Committee on Venereal Disease on 19th March, 1919, to proceed with a Venereal Disease Dispensary at 186 Broomielaw. This dispensary was opened for patients on 16th December, 1919. The number of cases treated and their attendances are recorded in the summary of work done at all centres.

Experience has confirmed the conjecture that seafaring men would have difficulty in completing a full course of treatment in view of their transitory stay in port. The majority are faced with the economic difficulty of maintaining themselves on shore for a sufficient period, however anxious they may be to continue treatment. The solution may be found in an increase of in-patient accommodation under the scheme, or by advising the patient to present himself for treatment at the Port Local Authority of his next port of destination and obtaining his consent to forward information as to his treatment to the Medical Officer.

Baird Street Reception House.—The ward in Baird Street Reception House utilised for the treatment of young children suffering from venereal disease was approved under this scheme, and an out-patient clinic for women and children was inaugurated here on 1st June, 1919.

Up to 31st December, 1919, 48 out-patients have been treated, 248 attendances being recorded.

The following tables show the work of the in-patient department for the years 1914-1919:—

VENEREAL DISEASE.—Treatment in Baird Street.

Statement showing by whom the Children were referred for Treatment.

	1914.		1915.		1916.		1917.		1918.		1919.	
	Admission.	Re-admission.	Admission.	Re-admission.	Admission.	Re-admission.	Admission.	Re-admission.	Admission.	Re-admission.	Admission.	Re-admission.
Sick Children's Hospital, ...	5	—	8	—	11	5	19	2	28	3	10	—
Medical Mission, ...	13	2	12	1	13	—	7	1	6	1	—	—
National Vigilance Association, ...	4	—	1	—	—	—	—	—	—	—	—	—
Royal Infirmary, ...	3	1	1	—	—	1	—	1	—	—	—	—
Lock Hospital, ...	1	—	1	—	2	—	—	—	—	1	—	—
Police Authorities, ...	—	—	—	—	6	—	3	—	3	2	9	—
Private Practitioners, ...	6	—	3	—	1	—	3	1	2	—	6	—
School Board Clinic, ...	2	—	—	—	—	—	—	—	1	—	—	—
Public Health Staff, ...	16	2	14	—	14	—	19	2	22	2	25	3
Maternity Hospital, ...	—	—	—	—	—	—	—	—	—	—	3	—
Central Dispensary, ...	2	—	—	—	—	—	—	—	—	—	—	—
Parish Authorities, ...	1	—	—	—	—	—	—	—	—	—	1	—
	53	5	40	1	47	6	51	7	62	9	54	3

SUMMARY OF CASES ADMITTED TO BAIRD STREET RECEPTION HOUSE DURING THE YEARS 1914-19 AS SUFFERING FROM VENEREAL DISEASE.

Year	1914		1915		1916		1917		1918		1919	
Congenital Syphilis, ...	—	28	—	18	—	20	—	24	—	34	—	31
Acquired ,, (Primary),	—	—	—	—	—	—	—	—	—	1	—	—
,, ,, (Secondary),	—	4	—	2	—	4	—	3	—	1	—	1
,, ,, (Tertiary),	—	—	—	—	—	—	—	—	—	1	—	—
Gonorrhoea, ...	—	20	—	16	—	19	—	26	—	23	—	20
Urethra, ...	15	—	8	—	19	—	26	—	23	—	17	—
Cervix, ...	20	—	16	—	18	—	26	—	21	—	16	—
Tubes, ...	—	—	—	—	1	—	—	—	—	—	—	—
Congenital Syph. and Gon.—												
Urethra and Cervix, ...	—	—	—	—	—	1	—	—	—	—	—	—
Tubes, ...	—	—	—	—	—	1	—	—	—	—	—	—
Eyes, ...	—	—	—	—	—	—	—	—	—	—	—	1
Acquired Syph. and Gon.—												
Urethra, ...	—	—	—	1	—	—	—	—	—	—	—	—
Cervix, ...	—	1	—	—	—	1	—	—	—	—	—	—
Urethra and Cervix, ...	—	—	—	—	—	2	—	2	—	1	—	—
Non-Specific, ...	—	5	—	4	—	3	—	1	—	9	—	4
Vulvitis, ...	1	—	1	—	—	—	—	—	2	—	—	—
Marasmus, ...	2	—	—	—	—	—	—	—	—	—	—	—
Vaginitis.	—	—	1	—	3	—	—	—	1	—	—	—
Scabies, ...	—	—	—	—	—	—	1	—	—	—	—	—
Vaginal Discharge, ...	—	—	—	—	—	—	—	—	1	—	—	—
Warts, ...	1	—	—	—	—	—	—	—	—	—	—	—
Others, ...	1	—	2	—	—	—	—	—	5	—	4	—
Not Classified, ...	—	—	—	—	—	2	—	2	—	1	—	—
		58		41		53		58		71		57

VENEREAL DISEASE—BAIRD STREET RECEPTION HOUSE.

RECORD OF ADMISSIONS AND DISMISSALS.

Year	1914	1915	1916	1917	1918	1919
Under treatment at 31st Dec. of previous year,	10	16	8	13	12	15
Admissions during year, ...	58	41	53	58	71	57
Dismissed during year, ...	41	44	44	49	62	42
Died during year, ...	11	5	4	10	6	7
Remaining at 31st December of year, ...	16	8	13	12	15	23
Average days' residence of patients who were dismissed or died during year.	91	98	83	115	74	64

Wassermann Tests.—The arrangement begun in 1913, affording laboratory assistance to general practitioners in the diagnosis of syphilis, has been continued, payment of a fee of 2s. 6d. being made for each schedule of information sent with specimens. The number of specimens submitted during the five years, and the results of the tests, are stated in the section of this Report dealing with the Bacteriological Laboratory.

SECTION VII.

HOSPITALS, &c.

The extension of Ruchill Hospital, described in the Report of 1912, was completed during the war, and the last of the eight pavilions for tuberculosis occupied in 1915. This extension increased the accommodation there by 272 beds.

Robroyston Smallpox Hospital. — The erection of Robroyston Hospital, which was begun in 1914, was suspended for a period of the war, but was latterly completed by the military authorities, and utilised by them for the treatment of patients suffering from venereal disease among soldiers and navymen. Owing to the urgent need for additional accommodation for tuberculosis, the Corporation made representations to the Government for its return, and in June, 1919, it was evacuated by the military authorities. In August the admission of phthisis cases began.

The wards now erected, eight in all (for thirty beds each), form about one-third of the total accommodation of 600 beds to be provided there, and each of the eight pavilions has been approved by the Board of Health for occupation by 56 phthisis patients, or 448 in the present section. The superficial area per bed for cases of smallpox varies from 187 to 192 square feet in the sections of the wards to 96 to 104 square feet for tuberculous patients. The cubic feet per bed for smallpox is over 2,500, and for treatment of phthisis patients 1,300 to 1,400.

HOSPITAL ACCOMMODATION FOR INFECTIOUS DISEASES.

The need of further accommodation for acute infectious diseases for the population of the extended City is indicated in the following memorandum: —

THE EXTENSION OF SHIELDHALL AND KNIGHTSWOOD HOSPITALS.

This question was first raised in a letter which I addressed to the Clerk on 19th October, 1912, pointing out that Sections 40 and 48 of the Boundaries Act of that year, while making provision at Lightburn and Darnley Hospitals for certain areas in Tollcross and Shettleston on the one hand, and Pollokshaws on the other, left without any hospital provision the added areas of Scotstoun and Jordanhill to the west of the City, Newlands and Cathcart on the south, and the district of Temple in Dumbartonshire, which was then served by Duntocher Hospital.

The suggestion of the letter was that the matter should be brought to the knowledge of the Health Committee, in order that they might consider the extension of existing accommodation; leaving aside for the moment the question of the wider scheme which had been dealt with in my former Report of 5th April, 1910, on the hospital accommodation in the City generally.

This letter was submitted to the Hospital Committee on 21st October, 1912, when it was remitted to the City Engineer to prepare plans and estimates for an extension to Knightswood Hospital. In the following January a sub-committee of eight members was appointed to consider and report on any additions and alterations which may be required at Knightswood and Shieldhall Hospitals. Since the Committee was appointed much consideration has been given to the subject, and the following observations contain a summary of the views which have been informally discussed on several occasions.

As these hospitals now form part of the hospital accommodation for the City as a whole, a summary of the existing accommodation (leaving aside purposely the added provision which is now being made for tuberculosis, but including that now existing for smallpox) may here be presented.

The existing accommodation consists of :—

	Number of Beds.
Belvidere Hospital, ...	390
,, ,, (Smallpox), ...	220
Ruchill Hospital, ...	542
Shieldhall ,, ...	120
Knightswood Hospital, ...	90
Total number of Beds, ...	1,362

which is equivalent to 13 beds per 10,000 of the estimated population. For the reasons which were set out at some length in the 1910 Report, already referred to, this is, I think, lower than is consistent with safety.

In that Report it was shown that our minimum provision of beds for fever purposes alone—exclusive that is of smallpox accommodation—should be at the rate of 15 per 10,000 of the population. This requires an addition to our provision of about 260 for the existing population, but it makes no provision for future increase Whether the additional beds should be provided in a separate hospital, or added to the existing units at Knightswood and Shieldhall Hospitals, will fall to be determined principally by a comparison of the running cost of a separate hospital with the increased cost of extending the hospitals just named.

My opinion is that economy lies in the direction of expanding these two hospitals, leaving the further question of an additional hospital, more conveniently situated with respect to the southern and south-eastern districts, for future consideration. If it is agreed that the addition of 260 beds to the existing accommodation is desirable, there would be obvious advantage in bringing both Knightswood and Shieldhall to the same standard of 250 beds each. On its present area, however, Shieldhall could carry only a few more beds, whereas without adding to the area at Knightswood the accomodation might be increased to about 220 beds. We must therefore consider each hospital separately.

Shieldhall Hospital.—The area of this hospital extends to 8·5 acres, which at present carry seven separate pavilions, four of which are placed along the western boundary, and contain 16, 16, 20, and 16 beds respectively, from north to south ; a fifth is adjacent to the southern blocks of this row on their eastern side ; while two are at the south-eastern corner and contain 20 and 24 beds respectively. The total accommodation is thus 120 beds or 14·1 beds per acre.

This is fully one bed per acre less than the provision in the Fever Hospital at Belvidere, and two per acre less than in the original area (Fever Hospital) at Ruchill.

To raise the accommodation at Shieldhall to 250 beds would require an addition of something like 7 acres to the present site, and the ground to the east of the hospital is best adapted for this purpose.

To a certain extent the buildings already on the site will determine the location of the new buildings, and the adaptability of the present administrative block can only be considered in relation to the accommodation of the extended staff, which the 250 beds will require. On the present scale of nurses per bed bedroom accommodation will be required for 80 nurses and 40 female servants, and might be found by adapting and extending the existing administrative block. The kitchen accommodation will have to be doubled, and the new kitchen block—associated with stores in maids' dormitory and dining-room for nurses and maids—may form a central feature of the new arrangement, and occupy a site to the east and south of the present administrative block.

Knightswood Hospital.—The site on which Knightswood Hospital stands extends to 13¼ acres and the present beds number 90, which is equal to rather less than 7 per acre. Were the accommodation increased by 130 beds, we shall have a bed-ratio per acre of 16, and a working unit of 220 adult beds ; which, together with the added accommodation of 130 beds at Shieldhall, would yield the extra accommodation of 260 beds required at the moment.

The plans already prepared show this accommodation at Knightswood to consist of 4 pavilions with 24 beds each—96 in all ; and 2 pavilions 18 beds each—36 in all ; or 132 beds, making, with these 92 already existing, a grand total of 224.

Dormitory for Nurses and Cleaners.—The provision of nurses on the ratio of 1 to 3 will require a total of 79 rooms for nurses and half this amount for cleaners and other female servants, say 40, so that 119 rooms in all are required for both sections of the staff.

Nurses' and Cleaners' Blocks.—In the plans which have been prepared for the Nurses' Block 12 w.c.'s are provided, which is equal to 1 to 6½, and there are also 12 baths. In the cleaners' section there are 6 w.c.'s and 6 baths, so that here also the provision is equal to 1 to 6.

With regard to the location of the Nurses' Block it may serve to provide them with a better outlook, were the buildings moved somewhat northwards to the line of Knightswood Burn, and the cross portions of the present plan recast in the form of the flank buildings opening outwards, so that the main exposure would be towards the south.

The following statement shows the population of the areas from which cases of infectious disease are removed to the various hospitals, and the number of beds per 10,000 of the estimated population in each of these areas:—

	Population.	No. of Beds.	Beds per 10,000 Persons.
Belvidere Hospital, ...	421,307	610	14·5
Ruchill ,, ...	386,563	542	14·0
Shieldhall ,, ...	96,010	120	12·5
Knightswood ,, ...	86,877	90	10·4
Total Population served by Glasgow Hospitals,	990,757	1,362	13·7
Darnley Hospital (Pollokshaws), ...	13,621		
Lightburn Hospital (Tollcross and Shettleston),	27,850		
Total Population—Glasgow, ...	1,032,228		

At the moment the population of Rutherglen (25,000) is served by Shieldhall Hospital, but this agreement terminates in 1916.

9th February, 1914.

KNIGHTSWOOD FEVER HOSPITAL.

After consideration of the foregoing memorandum, the Committee approved of the extension of Knightswood Hospital, which is described in the following report:—

REPORT BY MEDICAL OFFICER ON ADDITIONAL WARDS TO COMPLETE EXTENSION AT KNIGHTSWOOD HOSPITAL.

In Reports on hospital accommodation presented to the Health Committee on 5th April, 1910, and 9th February, 1914, the standard of bed accommodation adopted was based on the past experience of the fever hospitals, and fixed at 15 beds per 10,000 of the population. Part of the scheme of extension there indicated contemplated increasing the number of beds at Knightswood to 220 and at Shieldhall to 250.

In view of the fact that no extension of the accommodation has been made at Shieldhall, the completion of the Knightswood scheme is essential, and the present plans provide for this. The suggestion of the Treasury regarding economy in capital expenditure has been kept in view, and every effort has been made to reduce the cost consistent with providing a building which will have a reasonable durability. How far the architect has succeeded in this finds its most striking illustration in Pavilion D of the present plan, of which the cost at present prices is estimated not to exceed £70 per bed for a structure which should have many years of life.

The wards now to be added are situated one to the west and three to the south of the wards at present in course of erection, which were described in my Report of 25th June, 1914.

The new wards are lettered C, D, E, and F on the plan, and are also coloured red, in order to distinguish them from the buildings now being erected, which are coloured blue, and those which have been in existence for some time which are hatched.

The existing accommodation and that now proposed will be as follows:—

In existing wards less the present wooden ward, which will be removed, ...	85	beds.
Pavilions A and B in course of erection (24 beds each), ...	48	,,
Pavilions C and F now proposed (28 beds each), ...	56	,,
Pavilion E, ...	24	,,
Pavilion D, ...	30	,,
Total Accommodation,	223	,,

The wards differ somewhat in their internal arrangement. Pavilion E is of the same design as A and B; while C and F are adapted to accommodate 28 beds each; and D presents an entirely new pattern of ward, which has been adopted with the object of reducing the cost per bed to a minimum, and giving freer scope to the conception of fresh-air treatment than has hitherto found expression in any Scottish hospital. Modification

in the material of construction as well as in design has led to a considerable reduction in the estimated cost, a reduction which amounts in the aggregate to about £8,000, and is 45 per cent. below the estimated cost of similar buildings in brick.

The buildings are substantial in character and well finished.

In Pavilion D which, as has been said, represents a wide departure from the ordinarily accepted type of ward, the cost will probably not exceed £70 per bed at present prices, which for most of the materials are about 25 per cent. above pre-war rates.

It has already been stated that the wards differ in design, and a separate description of some of them will be necessary. Pavilion E, however, corresponds in design and measurement to Pavilion A and B of the formerly approved extension and need not be detailed.

C and F Pavilions contain 4 wards each, each half being composed of one ward of 8 beds and one ward of 6 beds or 28 per pavilion.

The sanitary annexes are situated on the east side of the pavilion, opposite partitions which divide the smaller from the larger ward of each half, and a ward kitchen common to both sections is introduced into the middle of the building, together with a larder and linen closet. The lavatory and bathroom annexes—two in number—are at opposite ends of a verandah, situated on the east side of the pavilions.

Ward Measurements.—The wards have a uniform width, 24 feet, and the beds are arranged with 12-foot centres, while the wall head is 10 feet 6 inches. Continuous ridge ventilation has been provided, the bottom part of the louvre which supports the ridge being 15 feet 6 inches above the floor level.

The windows are on the scale of 24 square feet per bed.

Pavilion D had been designed to give frank expression to the open-air treatment of disease, and in this erection the value of the work done at the Cambridge Eastern Hospital has been kept in view. The beds are arranged in two rows along the centre of the ward, separated from each other by a continuous bulkhead of about 5 feet.

The lower portion of the side walls is solid for a height of 3 feet 6 inches above the floor level. Above this to a height of 8 feet 9 inches from the floor the side consists of a row of windows opening outwards in sections of 1 foot 9 inches, providing clear openings of 3 feet 6 inches while the interval between the top of these windows and the eaves consists of hopper windows hinged above. The intention of the middle or window portion of the wall is to afford protection against driving wind and rain, but it is to be closed only when the weather conditions demand it.

Lavatory and W.C. Accommodation.—In Pavilion E the lavatory and sink accommodation is on the scale already provided for Pavilions A and B.

In C and F there is one bath, two lavatory basins, and one w.c. to 14 patients; while in D there is one bath, and one w.c. to 15 patients, and one lavatory basin to 10 patients.

30th July, 1915.

This extension is now in progress.

BELLEFIELD SANATORIUM.

Towards the end of 1914, Bellefield Sanatorium, Lanark, was transferred to the Corporation from the Glasgow and District Branch of the National Association for the Prevention of Consumption. The sanatorium was erected by that Association twenty years ago, with funds publicly subscribed, and the sum paid by the Corporation was £10,000 for the building, including the furniture, furnishings, fittings, plant, and machinery, on condition that the revenue accruing from this fund be applied for the provision to tuberculous persons of assistance not covered by the statutory powers of the Local Authority. This included at that time assistance in domiciliary treatment by (1) the provision of extra rooms, beds, shelters, food supplies, &c.; (2) the provision of necessary clothing for patients requiring institutional treatment; (3) the education of the public; and (4) such other methods as might from time to time be agreed upon. Later, however, the Association agreed to place the whole purchase sum at the disposal of the Corporation for any or all of these services.

The accommodation provided is 46 beds in two large pavilions, and 6 in chalets erected on the grounds, the extent of which is about 32 acres. It is intended to extend the accommodation.

OCHIL HILLS SANATORIUM.

Additional sanatorium accommodation was obtained in Ochil Hills Sanatorium, Fifeshire, at a fixed rate per week per patient, but it was latterly decided to lease the sanatorium. The institution stands on the southern slope of the Ochil Hills, about five miles from Lochleven, and has accommodation for 103 adults, including the annexe known as Coppins' Green Sanatorium.

RECEPTION HOUSES.

CONTACTS &C. ADMITTED TO RECEPTION HOUSES.

South York Street. Years	1914	1915	1916	1917	1918	1919
Smallpox, ...	—	—	—	—	37	18
Typhus Fever, ...	51	51	43	14	171	107
Enteric ,, ...	60	47	14	5	14	7
Scarlet ,, ...	24	11	11	4	5	—
Diphtheria, ...	—	17	11	17	8	3
Cerebro-Spinal Fever, ...	—	49	18	16	1	—
Measles, ...	5	14	10	6	22	6
Others, ...	31	26	38	27	13	10
Scabies treated, ...	7	25	56	74	101	71
Verminous Persons treated, ...	1	3	—	5	12	18
Total, ...	179	243	201	168	384	240

Baird Street Reception House has been occupied as an auxiliary hospital (see page 102), but in 1915 1 contact was admitted, 27 in 1918, and 20 in 1919.

DISINFECTING STATIONS.—BELVIDERE AND RUCHILL.

NUMBER OF WASHINGS, ARTICLES DISINFECTED, &C., FOR YEARS 1915-19 INCLUSIVE.

	Washings.	Articles.	Sprayings.	Whitewashings.
1915, ...	28,527	985,001	9,833	321
1916, ...	27,860	884,844	8,023	116
1917, ...	26,222	855,844	12,300	74
1918, ...	20,553	875,226	13,446	190
1919, ...	23,150	896,801	14,675	132

SECTION VIII.

OFFENSIVE TRADES.

February, 1914—*Slaughterer of Horses.*—The license to a firm for the slaughter of horses for human food has been renewed annually, although I have reported that the sanctioning of private slaughter-houses in Glasgow is open to grave objection.

February, 1914—*Glue and Size Business.*—Application was made by a firm in Camlachie district to carry on the manufacture of glue and size, in conjunction with that of tallow melting. The method adopted was that of steam digestion, the vapours being discharged under the furnace bars, and the liquor drawn off and converted into the products named. The application was granted.

In reporting, it was pointed out that this firm had made an extension of their existing premises without sanction, which, however, was granted in 1915.

July, 1915—*Knackers and Horse Slaughterers.* — Renewal and transfer to new premises of license as knackers and horse slaughterers was asked by a firm in the Northern District of the City. In reporting, attention was directed to the condition of the existing premises, and illustrations of lax management were given. Permission to carry on this business in other premises in the same district was subsequently sought, and in a joint report by the Sanitary Inspector and the Veterinary Surgeon it was stated that "in view of the immediate proximity of the proposed buildings to the knackery the work of supervision by the Inspectors, in order to detect transfer of material from one set of premises to another, would be exceedingly difficult, and that we think the Town-Clerk's opinion should be obtained as to whether under the Act of Parliament this proximity and the difficulty of detection referred to would be sufficiently good reason for declining to grant the license asked for."

The following is a supplementary note on this application:—

Supplementary Note by Medical Officer on the foregoing Application.

This is the first application which has been made since 1898 for permission to establish anew the business of a slaughterer of horses for human food. As such, therefore, it is I believe worthy of special consideration, because its approval *simpliciter* will confirm the Local Authority in a policy regarding the preparation of horse-flesh for human food which may weaken their position ultimately with regard to the slaughter of cattle for like purposes.

Although the terms of the Public Health Act, and the existing practice of sanctioning private slaughter-houses for the preparation of horse-flesh for human food seem alike to require that the present application should be dealt with on its merits, I am distinctly of opinion that the principle which compels the slaughter of certain food animals in public abattoirs should be extended to those which are included within the trade of a slaughterer of horses. It is illegal in Glasgow to slaughter cattle anywhere save in the public abattoirs, and I believe that an expansion of the principle to cover the slaughter of horses for food purposes would ultimately be to the public advantage. I therefore suggest that the question be considered with a view to enquiring whether the Markets Commissioners, during their present alterations, have facilities for setting apart a place for the slaughter of horses within the premises now being constructed at Moore Street. Were this accomplished in the first place an alteration in the existing legislation might in time decide the transference of existing businesses towards the centre there provided.

The license was granted.

May, 1916—*Soap Boilers.*—The application for permission to establish the business of soap boilers in Calton Ward was adversely reported on, in

view of the proximity to tenement property. Permission, however, was granted, in view of the opinion expressed by the Clerk, that the Local Authority are not entitled to refuse sanction, providing the necessary improvements are carried out.

February, 1917 — *Bone Boiling and Tallow Melting.* — Permission to establish a business of bone boiling and tallow melting and making glue and size in the South-Eastern District of the City was refused, as part of the premises were already in use for the preparation of food.

May, 1917.—Application for the transfer of the business of soap boiler from the Northern to the Eastern District was granted.

October, 1917.—Sanction to carry on a business as bone boiler and edible-fat maker in premises in the Eastern District was refused. An appeal to the Board of Health was dismissed by them.

October, 1917.—Application to establish in new premises in the Eastern District the business of skinner and hide factor was granted.

May, 1919.—The extension of a tan-yard business in the Eastern District was not objected to.

May, 1919.—Sanction to establish the business of gut cleaner and skinner in premises in the Central District of the City was taken exception to, as a part of the premises was already utilised for processes associated with the manufacture of human food.

SECTION IX.

GLASGOW PORT LOCAL AUTHORITY.

Summary of Work during Six Years, 1914-19.

During the war the staff at the boarding station was reduced to one Inspector, and portion of the office accommodation was occupied by the naval authorities towards the end of the war. Such medical examinations as were required were made on arrival of the vessels in harbour.

The number of arrivals from foreign ports varied throughout the period, and fell off during the later years of the war. In 1914 they numbered 1,878; in 1915, 2,011; in 1918, 1,106; in 1919, 1,166.

Details of arrivals are contained in the following table:—

TABLE A.—Number of SHIPS ARRIVING from Foreign Ports—Years 1914-19.

Year.	(A)	From Infected Ports. (B) With Foreign Cargo.			(C) Light, or with Outward Cargo.			Total of B and C.			(D) From Non-Infected Ports, with or without Cargo.			Total.		
		Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships.	Crew.	Pass.	Ships.	Crew.	Pass.
1914,	1,222	152	10,447	51	259	14,441	131	411	24,888	182	1,467	60,026	29,431	1,878	84,914	29,613
1915,	1,510	177	10,229	14	266	13,811	103	443	24,040	117	1,568	50,940	10,818	2,011	74,980	10,935
1916,	1,579	190	11,737	15	218	11,949	27	408	23,686	42	1,656	53,642	10,274	2,064	77,328	10,316
1917,	1,041	92	5,803	106	110	5,769	1	202	11,572	107	1,115	38,724	13,826	1,317	50,332	13,933
1918,	945	94	5,482	214	95	5,252	5	189	10,734	219	917	42,579	55,137	1,106	53,313	55,356
1919,	884	117	7,172	104	155	10,401	14	272	17,573	118	894	36,411	14,127	1,166	53,984	14,245

(A) From foreign. (B) From infected ports with cargo.
(C) From infected ports light or with outgoing cargo. (D) From foreign non-infected ports.

The cases of infectious disease dealt with are given in the following table. The numbers occurring in 1917-18 were mainly on board transports from America. In 1918, 207 cases of influenza and 75 of pneumonia were removed to hospital, most of them being American soldiers. Measles and mumps were also prevalent among them:—

TABLE B.—Return of INFECTIOUS DISEASES on Board Ships Bound for the Port of Glasgow during the Years 1914-19.

Diseases.	Year	Cases Found on Arrival. 1914	1915	1916	1917	1918	1919	Cases Sent to Hospital. 1914	1915	1916	1917	1918	1919
Cholera,		—	—	—	—	—	—	—	—	—	—	—	—
Plague or Suspected,		—	—	—	—	—	—	—	—	—	—	—	—
Smallpox,		—	—	—	—	1	—	—	—	—	—	1	—
Enteric Fever,		4	5	3	4	4	2	3	5	2	4	2	2
Measles,		10	14	4	14	91	5	10	14	2	12	91	4
Chickenpox,		4	2	—	2	2	—	4	2	—	2	2	—
Scarlet Fever,		4	1	3	1	6	5	3	1	3	1	6	5
Diphtheria,		2	1	—	4	3	—	1	1	—	4	3	—
Cerebro-spinal Fever,		—	1	—	9	—	1	—	1	—	8	—	1
Erysipelas,		3	—	1	—	1	—	3	—	1	—	1	—
Phthisis,		27	11	10	1	6	7	4	3	2	—	5	2
Trachoma,		4	—	—	1	—	2	—	—	—	—	—	—
Dysentery,		3	—	—	—	1	—	—	—	—	—	—	—
Diarrhœa, with temp.,		3	—	6	3	2	1	—	—	—	—	—	—
Pneumonia,		1	3	—	—	75	—	1	3	—	—	75	—
Glandular Swelling or Abscesses, with Fever,		8	—	1	1	2	—	—	—	—	—	2	—
Parotitis,		2	—	1	100	56	—	—	—	1	100	56	—
Observation or Surveillance,		2	7	9	4	8	5	2	2	—	—	—	1
Beri-beri,		3	8	—	—	—	—	2	8	—	—	—	—
Pertussis,		3	—	3	—	—	6	2	—	2	—	—	3
Malaria,		—	—	1	18	—	11	—	—	—	—	—	11
Tonsillitis,		2	—	—	—	—	—	—	—	—	—	—	—
Influenza,		—	—	—	—	207	21	—	—	—	—	207	19
Bubos (Venereal),		2	—	—	—	—	—	—	—	—	—	—	—
Scabies,		—	—	—	—	3	—	—	—	—	—	1	—
Venereal Disease,		—	—	—	—	—	4	—	—	—	—	—	—
Totals,		87	53	42	162	468	70	35	40	13	131	452	48

Cholera and Plague.—No cases of cholera or plague were imported, but contacts arriving on vessels from other ports were kept under observation. In one arrival an infected rat had been found on board the ship at Liverpool, and disclosed certain defects in the provisions for dealing with such cases, which were reported at the time to the Board, and are likely to be removed by the forthcoming Port Regulations.

Cholera Order, 1917.

Shortly before 5 p.m. on 3rd November, the following wire was received from the Port Medical Officer, Liverpool:—

"S.S. Lime Branch under weigh for Glasgow this afternoon. Bacteriologist reports suspicious rat from amongst catchings on board during stay here. Will communicate later."

This was followed on the 6th by a letter enclosing the following report from the Bacteriologist:—"Bag 240, containing five rats from "Lime Branch." One of these rats is extremely suspicious of plague. The bacteria are present in enormous numbers, and although I feel very certain that the case is a positive one, I shall confirm it by cultures and inoculation, and report again. All other rats received that day are negative as regards *pestis*. The suspicious rat has been sent to the Local Government Board."

And later the same day by another wire:—"Steamer Lime Branch. suspicion has been confirmed bacteriologically." Meanwhile, the ship, which in ordinary circumstances would have arrived in the Clyde on the morning of 4th November did not arrive, owing to heavy weather, until Sunday, the 5th shortly after noon.

On receipt of the first telegram, however, communications were opened up with the Customs Officers at Greenock, and the Pilot Station there, but the former declined to board the vessel on the plea that it was neither an infected nor suspected ship within the definition of the Order, and that it had been given pratique at Liverpool, while the pilot advanced Article III as a reason why they should not board. As all the departments concerned, however, were quite at one as to the necessity for detaining the ship at Greenock until further enquiry into the condition of rats on board, the pilots agreed to go alongside and direct the master to a safe anchorage. In the final issue this was done, and the ship cast anchor at the Tail of the Bank for 21 hours, until a Clayton machine was used on board for fumigating the holds, and some supplementary fumigating was done in the store-rooms, &c.

Article XXIV seems to be that which is defective, in respect that it makes no provision for detaining a ship on which there are infected rats until steps have been taken for their destruction.

What seems to be requisite, under the conditions obtaining in the Clyde area at least, is a clause which would place a ship on which there is reason to believe there are infected rats under the Mooring Provisions of Article II, by including with those already mentioned therein—"Any ship, direct or coastwise, suspected to have plague-infected rats on board."

8th November, 1916.

Smallpox. — With the increasing speed of transport, the danger of imported smallpox from infected foreign ports has frequently been referred to. A record kept during the year 1914 showed that 130 vessels arrived in the Clyde from infected ports in Europe within the incubation period with 2,786 persons on board, while 39 vessels with 8,496 persons on board arrived from Montreal, where smallpox was prevalent. One case of smallpox was found on board a vessel which arrived from Lisbon on 23rd December, 1918, the particulars of which are given in the following report submitted to the Committee:—

Submitted to Committee on Health, 7th January, 1920.

Smallpox has been introduced into the River Clyde under the following circumstances:—

On 23rd December, at 3.40 a.m., the S.S. "Figueira" arrived in the Clyde from Lisbon. On being questioned by the Customs Officer on arrival, no sickness was declared, but during the early forenoon, at 11 a.m. (as the ship was a foreigner she could not continue up the river during the night, and the tide prevented her moving until approaching midday), a surgeon was summoned by signal, and a visit resulted in the recognition of an attack of smallpox in one of the crew who had sickened on 21st current while the rash had only appeared at 9.30 on the 23rd. He was removed to hospital at

Greenock at 5 p.m., the same afternoon, in terms of the agreement between the Local Authorities, dated 1st February, 1912. On the removal of the patient at Greenock, the ship was then permitted to come up to Glasgow, but by arrangement with the Harbour Master it was arranged to moor her at Mavisbank buoys' until disinfection could be carried out and the contacts disposed of. It had been ascertained that these numbered 37 in all, including officers and crew, that all had been revaccinated at Lisbon on 17th December, but that in 10 of them the revaccination had failed. It was therefore decided to have them removed to South York Street Reception House, and this was done on the evening of the ship's arrival.

On the following day, 24th, one of the crew (who had two successful revaccination marks) developed a febrile temperature and was removed to Belvidere. This was followed on 26th by an eruption consisting of about three dozen discreet spots with the usual distribution, none of which, however, advanced to maturation, drying from the late vesicular stage.

The movements of the vessels were as follows:—Left Glasgow, 21st November; arrived Lisbon, 28th November; left Lisbon, 17th December, 1918.

Meanwhile one of the crew had sickened on 9th December (11 days' incubation); but remained on board ship until 15th December before removal to hospital, while two days more were allowed to elapse before the crew were revaccinated. The sickness of the seamen at Greenock on 21st December was therefore the result of an infection caught antecedently to the 17th, and similarly the sickening on 24th December at Glasgow of a man successfully vaccinated illustrates, in the first place, the view which has been entertained here for many years that vaccination later than the third day after exposure cannot be relied upon to protect against the disease, but may still have a value as modifying its course. Indeed the protective value of late vaccination has been strikingly shown by the very discreet character of the rash and the imperfect maturation of the vesicles in the present case. In this man's case he sickened on the seventh day after his vaccination, on the ninth day after the removal of the man at Lisbon, and fifteen days after the sickening of the first patient there.

Phthisis.—The reduction in the number of cases of phthisis reported is due to the cessation of emigration, as most of them in former years were deportees or immigrants refused admission to America. Only 7 cases were recorded during 1919, compared with 27 in 1914.

INSPECTION OF SHIPS IN HARBOUR.

The following table shows the number of oversea and coastwise ships inspected in the Harbour during the years 1914-1919:—

	1914.	1915.	1916.	1917.	1918.	1919.
Inspections—						
Oversea Steam, ...	1,830	2,010	2,007	1,294	1,091	1,162
„ Sail, ...	37	44	66	23	5	12
Coast Steam, ...	70	78	133	189	79	268
„ Sail, ...	23	45	45	31	13	26
Re-inspections—						
Oversea Steam, ...	198	300	384	461	324	364
„ Sail, ...	27	29	29	26	5	9
Coast Steam, ...	7	6	2	6	1	71
„ Sail.	2	3	1	6	—	6
Intimations, ...	126	117	85	104	83	132
Warnings, ...	127	142	194	152	104	242
Notices, ...	4	4	1	5	2	3
L. A.'s Letters, ...	1	2	3	—	2	8
Nuisances—						
Functional, ...	417	587	702	737	597	1,054
Structural, ...	308	189	228	298	270	374
General, ...	96	89	71	110	133	150

Sanitary Defects and Nuisances.—The following table shows the sanitary defects or nuisances found on board vessels arriving in the Harbour:—

NUISANCES FOUND WITHIN THE GLASGOW AREA DURING THE YEARS 1914-1919

ARISING FROM MISUSE.	1914.	1915.	1916.	1917.	1918.	1919.
Forecastles, Rooms, &c.,—						
Alleyways and companionways dirty.	11	27	33	51	58	87
Floors, mat coverings, ceilings, woodwork, &c., dirty, ...	175	146	195	207	161	276
Interior of ships' sides or woodwork dirty (to be limewashed or repainted), ...	30	97	112	127	89	132
Galleys dirty, ...	2	8	5	2	2	4
Tables and benches dirty, ...	18	66	93	80	40	179
Scuppers choked (water lying stagnant), ...	6	3	2	—	1	10
Bathroom full of refuse, ...	1	2	—	—	1	—
Cattlemen's quarters dirty, ...	2	2	5	—	2	—
Passengers' rooms amidships dirty, ...	—	3	—	—	—	—
Mess-room dirty, ...	—	1	—	—	—	—
Stairs to forecastle dirty, ...	—	—	2	1	—	—
Donkeyman's quarters dirty, ...	—	—	—	3	—	—
Holds and between decks dirty and verminous, ...	—	—	—	4	—	—
Stagnant water under floors, ...	—	—	—	4	—	—
	245	355	447	479	354	688
Water-closets, Wash-houses, &c.—						
Floors, ceilings, and woodwork dirty (to be cleansed or limewashed).	88	115	141	147	153	232
Basins, hoppers, or troughs fouled, corroded, or choked,	81	106	106	102	89	130
Scuppers choked.	3	10	8	9	1	4
Wash-house dirty, ...	—	1	—	—	—	—
	172	232	255	258	243	366
GENERAL NUISANCES.						
Food lockers dirty, ...	—	2	6	—	29	—
Bilges (hold) dirty, ...	23	20	21	32	27	20
Gear and food-stuffs stored in sleeping compartments, ...	7	—	—	2	7	5
Drinking-water tanks dirty and in need of re-cementing, ...	27	24	27	59	54	93
Do. out of repair or uncovered, ...	3	1	2	5	4	3
Accumulation of rubbish in forecastle or on deck, ...	28	29	4	4	2	13
Forecastle infested with vermin, ...	6	10	10	6	10	16
Paint locker unventilated, ...	1	—	—	—	—	—
Forepeak unventilated, ...	1	—	—	—	—	—
Forecastles overcrowded, ...	—	2	—	2	—	—
Galley range defective, ...	—	1	1	—	—	—
	96	89	71	110	133	150
ARISING FROM STRUCTURAL DEFECTS.						
Forecastles, Rooms, &c.—						
Overhead decks leaking, ...	48	30	42	79	60	88
Ports defective, ...	151	62	101	124	87	170
Skylights out of repair, ...	1	1	1	1	1	—
Without scupper-pipe or same cemented, ...	2	7	2	—	2	1
Ventilators plugged, out of repair or unshipped, ...	5	4	3	5	5	1
Without bogies or funnels, or such out of repair, ...	23	19	26	25	8	38
Inadequately lighted, ...	3	2	—	--	1	6
Radiators or steam-pipes defective, ...	4	7	3	7	4	11
Doors to forepeak and forecastle broken, ...	2	5	1	7	1	1
Ships' sides leaking, ...	4	1	1	3	6	4
Anchor chain exposed by sheathing being out of repair,	1	2	3	5	4	2
Doors of food lockers and gear store defective, ...	9	1	4	—	22	6
Requiring wood-sheathing or cork-spraying for "sweat,"	4	2	1	6	9	2
Carry forward, ...	257	143	188	262	210	330

Nuisances found within the Glasgow Area (*Continued*)— Arising from Structural Defects (*Continued*)—	1914.	1915.	1916.	1917.	1918.	1919.
Forecastles, Rooms, &c. (continued)—						
Brought forward, ...	257	143	188	262	210	330
Tables and fittings out of repair, ...	4	2	—	2	2	—
Hawse-pipes defective, ...	6	6	1	2	2	—
Companionways, stairs, &c., out of repair, ...	2	2	1	2	2	—
Floors broken and out of repair, ...	3	2	4	5	3	2
Bulkhead between forecastle and w.c. compartment broken, ...	1	1	3	—	2	2
Officers' room damp, ...	—	1	—	—	—	—
Fittings at hawse-pipe defective, ...	—	2	—	—	2	—
Ash-shoots out of repair, ...	—	2	—	—	—	—
Inadequately ventilated, ...	—	—	—	2	8	19
Scuppers required, ...	—	—	—	—	3	—
Bunks in a decaying condition, ...	—	—	—	—	3	—
	273	161	197	275	237	353
Water-closets, Urinals, Wash-houses, &c.—						
Flushing apparatus, basins or discharge pipes defective,	8	3	8	5	5	2
New water-closet required, ...	1	—	3	2	2	7
Ports defective, ...	6	2	6	3	6	—
Floor and woodwork out of repair, ...	1	4	—	—	1	4
Doors broken and new locks required (w.c.'s must be locked while ship is in harbour), ...	16	19	7	2	14	6
Ventilators plugged, ...	3	—	—	—	3	—
Woodwork of w.c. basin broken, ...	—	—	7	9	2	—
Compartments defective in light and ventilation, ...	—	—	—	—	—	2
Inadequately lighted, ...	—	—	—	2	—	—
	35	28	31	23	33	21

The following table shows the nationality of over-sea vessels which arrived within the Glasgow area during 1914-1919:—

Nationality.	Number of Vessels. 1914.	1915.	1916.	1917.	1918.	1919.
American, ...	—	—	1	2	59	32
Argentine, ...	1	—	—	—	—	—
Austria-Hungary, ...	10	—	—	—	—	—
Belgian, ...	4	5	3	4	2	—
Brazilian, ...	—	—	—	—	5	—
British, ...	1,425	1,231	1,198	928	754	893
Chilian, ...	—	2	—	—	—	—
Danish, ...	32	28	56	12	21	24
Dutch, ...	10	19	13	2	—	12
Finnish, ...	—	16	22	1	—	—
French, ...	32	33	80	42	26	13
German, ...	8	—	—	—	—	—
Greek, ...	16	37	33	10	8	8
Italian, ...	12	17	111	40	20	19
Japanese, ...	—	1	4	1	—	9
Norwegian, ...	180	386	387	224	146	97
Peruvian, ...	—	—	—	—	—	1
Portuguese, ...	—	—	1	2	6	—
Roumanian, ...	—	—	—	—	—	—
Russian, ...	11	13	11	9	4	1
Siamese, ...	—	—	—	—	—	—
Spanish, ...	107	252	141	22	18	31
Swedish, ...	46	48	46	29	32	36
Uruguayan, ...	—	4	1	1	—	—
Total.	1,894	2,092	2,108	1,329	1,099	1,176

UNSOUND FOOD REGULATIONS.

TABLE SHOWING THE AMOUNT OF FOODSTUFFS INSPECTED AND CONDEMNED DURING THE YEARS, 1914-1919.

	1914.			1915.			1916.			1917.			1918.			1919.		
	No. of Packages.	Tons.	Exmd.	No. of Packages.	Tons.	Exmd.	No. of Packages.	Tons.	Exmd.	No. of Packages.	Tons.	Exmd.	No. of Packages.	Tons.	Exmd.	No. of Packages.	Tons.	Exmd.
MEAT—																		
Fresh and Frozen,	186	483	4	6,155	1,019	48	1,797	35	13	1	⅛	1	44,066	871	4	765	15	20
Preserved,	53,351	1,772	2,200	44,174	1,747	465	66,237	1,564	643	55,956	2,888	659	88,507	1,945	269	97,808	2,148	270
Sundries,	314	15	42	110	4	16	179	7	17	234	11	6	5,455	127	8	303	7	32
FRUIT—																		
Fresh,	1,023,760	51,788	6,092	2,081,962	59,525	5,235	1,134,397	59,507	6,187	577,798½	24,202	3,672	458,752	19,630	3,912	1,168,320	48,681	6,032
Preserved—Dried,	61,118	843	462	88,678	1,089	436	88,312	1,036	377	17,859	240	307	60,559	1,182	40	184,059	3,608	540
Preserved — Tinned and Bottled,	99,633	3,302	1,617	143,950	3,801	680	141,581	2,942	555	81,629	2,018	770	58,487	1,914	255	136,989	4,419	520
Nuts,	64,454	5,050	353	17,589	1,036	458	18,455	950	249	15,232	883	2,359	6,325	195	100	125,940	3,846	419
VEGETABLES—																		
Fresh,	225,242	10,638	1,955	275,610	33,891	3,662	204,236	9,612	1,697	254,559	10,876	1,870	99,422	6,530	515	351,902	10,107	1,932
Preserved — Tinned and Dried,	104,939	7,411	744	184,486	15,352	286	119,634	9,745	248	26,306½	659	169	132,083	5,550	184	87,939	3,694	614
PROVISIONS—																		
Meal, Flour, &c,	9,649,673	380,775	General.	9,001,254	381,565	General.	13,114,658	551,924	General.	15,825,876	595,123	General.	13,790,412	543,598	General.	15,736,347	621,990	General.
Butter, Cheese, Eggs,	141,045	7,907	1,387	441,249	18,482	1,815	471,703	14,149	1,848	479,243	16,635	1,565	596,486	31,534	1,546	391,471	18,574	1,534
Ham and Bacon,	57,441	14,877	3,568	90,586	22,554	1,878	101,970	26,628	2,907	96,111	25,179	3,352	198,163	51,997	2,148	188,048	47,012	4,530
FISH—																		
Preserved and Tinned,	17,532	371	341	12,842	483	136	79,333	2,407	380	69,668	3,742	204	48,634	2,177	650	30,843	1,341	101
SUNDRIES—																		
Milk, Oleo Oil, &c.,	193,635	17,435	1,870	135,165	17,403	829	193,875	17,608	853	128,997	12,817	448	468,007	20,769	1,057	725,282	31,534	1,594
	11,692,293	502,667	20,635	12,523,810	557,951	15,944	15,736,367	698,114	45,974	17,629,470	695,273	15,382	16,055,358	688,019	10,688	19,226,016	796,976	18,138

FOODSTUFFS FOUND UNFIT AND DISPOSED OF TO THE SATISFACTION OF THE MEDICAL OFFICER OF HEALTH.

	Cwts.		Cwts.		Cwts.		Cwts.		Cwts.		Cwts.		Cwts.		Cwts.
Apples,	168	Fruits Cd.,	12	Apples,	155	Maize,	95	Flour,	151	Pears,	581	Apples,	36	Onions,	1,263
Cocoa Beans,	37	Nuts,	105	Almonds,	19	Meal,	1	Grapes,	52	Pomegranates,	12	Apricot Pulp,	32½	Oranges,	965
Fish,	116½	Rabbits,	80	Cheese,	280	Onions,	504	Lemons,	288	Potatoes,	92	Ham & Bacon,	57½	Potatoes,	10½
Flour,	40	Vegetables Cd.	440	Grapes,	9	Pears,	32½	Onions,	45	Salmon,	35	Herrings,	280	Wheat,	3,081
Ham & Bacon,	1,194	Sundries,	53½	Herrings,	15	Sundries,	40	Oranges,	380	Sundries,	65	Lemons,	5	Raisins,	8½
												Meats Cd.,	83½	Sundries,	1½
												Nuts,	229		

	Cwts.		Cwts.		Cwts.
Bacon,	3,102	Cond. Milk,	858	Apples,	679
Bananas,	6,000	Oranges,	843	,, Cd.,	326½
Flour,	775			Apricot Pulp,	15
Herrings,	1,657			Biscuits,	3
Lemons,	202			Dates,	26½
				Flour,	20
				Lard,	15

	Cwts.
Maize,	400
Cond. Milk,	2,659½
Mussels,	56
Oranges,	425
Pears Cd.,	15
Sundries,	19½

DISPOSAL OF CONDEMNED FOOD.

In March, 1917, the Board issued a circular on the importance of utilising waste food, and the following notes indicate the action taken with foodstuffs found unfit for human consumption:—

Ham and Bacon.—The residue (bones and fibre) is utilised, the bones for manure, the fibre for meat-meal for poultry-feeding.

Tinned Meats are boiled down for fat, the residue for manure or poultry-feeding. If there is no demand the condemned meats go to the destructor.

Canned Milks.—"Blown" tins are used for pig-feeding. If rusty or corroded only, the milk may be used for confectionery, but is kept under supervision unless the contents go bad.

Flour, Maize, Wheat, &c.—Cereals and flour are sold for animal or poultry-feeding. Flour condemned "ex-S.S." was disposed of to jute manufacturers for conversion into paste or size.

Herrings.—Condemned fish usually sold to manure manufacturers. Fish oil may be used commercially, and the residue for animal food.

Eggs invariably go to the destructor. Said also to be used in leather dressing. If not spotted may be boiled hard and used for poultry-feeding.

Onions have been used for pig-feeding. If no demand they go to the destructor.

Oranges, Lemons.—Consigned to the destructor. Pears and apples have been disposed of for pig-feeding. If fruit is very bad it is destroyed.

Canned Apples and Apricot Pulp.—Last parcels condemned were used for pig-feeding.

Dates.—42 cases of dates recently condemned were removed for pig-feeding.

When any particular article of food is condemned at port or in store, the consignee or owner sells the same to the highest purchaser. A written guarantee is obtained under the Unsound Food Regulations, that the purchaser shall utilise the condemned material for the specific purpose for which permission is granted. Periodical visits are made to see that the instructions given are carried out.

If the goods are sold outwith the jurisdiction of Port Local Authority, the Local Authority of the place of destination is advised.

Toward the end of 1916 it came to notice that several brands of sterilised meat were being imported in quantity, and steps were at once taken to stop the sale thereof. The following table shows the quantities re-exported:—

RE-EXPORTATION OF SECOND GRADE STERILISED MEAT.

Brand.	Imported from and returned to U.S.A.					Date of Exportations.
	6lb. tins.	Weight. Tons.	Cwts.	Qrs.	Lbs.	
A, ...	59,124	158	7	1	12	7th February, 1917.
B, } ...	18,792	50	6	2	24	21st October, 1916.
C, } ...						
D, ...	2,436	6	10	2	0	1st December, 1916.
E, ...	339	0	18	0	18	6th November, 1916.
F, ...	990	2	13	0	4	27th April, 1917.
	81,681	218	15	3	2	

Foreign Meat Regulations.—The following table gives the total quantities of food material landed in the Port of Glasgow during the years 1914-1919, a percentage of which was examined under the Foreign Meat Regulations:—

	1914.	1915.	1916.	1917.	1918.	1919.
BEEF.						
rs, ...	12,928	2,949	1,168	95,176	77,365	54,524
... ...	22,477	14,572	3,418	22,076	9,778	1,095
(tierces), ...	1,183	1,996	3,179	2,852	355	4,930
"	1,435	2,209	2,856	1,372	250	720
barrels), ...	201	3,368	3,883	795	—	1,151
boxes), ...	—	—	—	—	—	1,700
s (boxes), ...	—	20,639	25,707	10,540	—	25,545
(bags), ...	31,401	2,051	1,155	2,427	—	—
(cuts), ...	20,711	—	2,066	6,146	—	42,593

	Year 1914	1915	1916	1917	1918	191
Veal.						
Carcases,	1,045	700	—	—	735	70
Sides,	1,256	22	1,128	589	26	665
Quarters,	406	—	—	—	—	—
Bags,	91	329	—	41	—	—
Cuts,	—	—	—	—	—	1,049
Mutton.						
Carcases,	83,010	5,727	—	64,734	77,478	294,539
Cuts (bags),	256	20	—	—	297	3,086
Pork.						
Mess (barrels),	2,033	1,507	2,030	1,170	—	1,412
,, (carcases),	—	1,435	—	3,051	—	300
Tongues, &c. (bags or boxes),	—	*2,809	454	3,186	17	440
Kidneys ,, ,,	11	501	—	2,394	2,121	1,911
Hearts ,, ,,	163	209	369	950	2,116	1,077
Livers ,, ,,	1	1,325	2,538	6,767	4,408	2,895
Runners ,, ,,	608	200	—	—	—	—
Casings ,, ,,	312	184	46	103	—	335
Pigs' Feet and Heads ,,	1,510	150	42	114	—	—
Cheeks (boxes),	—	—	—	—	—	206
Ham and Bacon (bags or boxes),	913	108	30	1	—	—
Ham (tierces),	—	—	—	—	—	147
Sundries (tierces or bags),	26	1,918	1,748	5,916	62,094	18,208
Total Packages,	181,977	64,928	51,817	230,400	237,040	458,598
DESTROYED.						
Beef (bags),	—	310	—	—	—	—
Boneless Beef (boxes),	26 qrs.	482	27	—	—	—
,, (bags),	468	—	—	—	—	—
Mutton (cuts),	—	1	—	—	—	—
Livers (box),	—	1	—	—	—	—
Hams,	15	—	—	1	—	—
Beef Rumps (tierces),	1	1	34	19 (3 exported)	—	2

Expenditure and Revenue. — This is summarised in the table which follows. The expenditure on upkeep was reduced considerably during the period, because the medical inspection at the Tail of the Bank was suspended during the war, and has not been begun again. Owing to the great increase in the cost of treatment of cases of infectious disease in hospital, it became necessary to increase the charges which had formerly been made:—

Expenditure and Revenue for the Years Ending 31st May.

Year	1915	1916	1917	1918	1919	1920
Expenditure.	£	£	£	£	£	£
Boarding Station, Greenock,	1,350	232	227	258	316	445
Glasgow Harbour,	1,039	1,005	871	1,012	2,416	2,243
General and Administrative,	569	525	501	570	839	750
Total,	2,957	1,762	1,599	1,840	3,571	3,438
Revenue.						
From other Authorities, etc.,	154	128	137	147	269	157
Glasgow Expenditure,	2,803	1,634	1,462	1,693	3,302	3,281

SECTION X.

HOUSING.

The following table summarises briefly the operations under the Housing of the Working Classes Acts, 1890-1919.

In the latter years the number of houses closed or demolished is much reduced, because of the need for accommodation, consequent on the restrictions on building operations during the war. This is shown in Appendix Table IV.

Almost all linings granted during the years 1918 and 1919 were in respect of the houses erected by the Corporation under the several Housing Schemes. The marked reduction in the number of empty houses in recent years is indicated in Appendix Table III.

STATEMENT OF WORK DONE UNDER THE HOUSING OF THE WORKING CLASSES ACTS, 1890 TO 1919.

	1913.	1914.	1915.	1916.	1917.	1918.	1919.	Totals.
Sections 17 and 18.								
Number of Houses inspected, ...	1,073	4,172	2,780	2,619	1,273	1,769	1,383	15,069
" " Representations made,	90	82	119	69	16	55	45	476
" " Closing Orders issued,	89*	57†	119	69	16	55	45	450
" " Dwelling-houses affected by above representations, ...	591	600	496	329	77	347	328	2,768
" " Dwelling-houses closed,	222	127	393	264	44	49	10	1,109
" " Dwelling-houses remedied and Closing Orders determined, ...	30	73	47	27	57	1	14	249
" " Demolition Orders issued,	—	10	13	48	26	11	—	108
" " Properties demolished,	3	12	18	21	47	4	17	122
" " Dwelling-houses contained in demolished properties, ...	25	135	158	163	169	22	75	747
" " Appeals against Closing Orders, ...	31	39	22	25	4	21	25	167
" " Appeals disposed of, ...	5	8	16	9	5	—	1	44
" " " pending, ...	9	30	15	21	3	20	25	123
" " Properties converted into Business Premises, ...	—	1	2	3	—	—	—	6
Sections 14 and 15.								
Number of Houses inspected, ...	—	722	4,532	5,487	6,378	5,266	5,020	27,405
" " Complaints registered under Section 15, ...	—	779	1,086	834	931	773	1,055	5,458
" " Complaints removed, ...	—	105	882	1,091	823	736	969	4,606
" " Houses rendered reasonably fit for habitation,	—	91	646	697	546	538	662	3,180
" " Intimation Notices served,	—	88	220	210	230	283	406	1,437
" " Statutory Notices issued,	—	36	108	118	163	194	264	883

* 1 Representation remedied without closing order being made.

† At a Meeting of the Executive Committee on Housing, held on 18th June, 1914, 25 representations under Section 17 of the Housing, Town Planning, &c., Act, 1909, were presented, when it was decided not to issue closing orders in connection with said representations, pending a decision by the Court of Session on a point raised as to the serving of such closing orders.

SECTION XI.

BACTERIOLOGICAL LABORATORY.

The following tables summarise the work of the Laboratory during the years 1914 to 1919:—

Specimens of Sputum.

	1914		1915		1916		1917		1918		1919	
	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.
Adelphi Street, ...	166	11	156	10	164	18	380	7	329	19	209	16
Black Street, ...	228	12	260	18	328	17	301	13	229	14	351	12
Brown Street, ...	260	16	156	13	255	9	350	9	290	9	275	12
Elmbank Crescent,	202	22	95	13	89	13	132	14	150	12	168	18
Govan, ...	280	18	157	16	187	14	322	11	218	10	227	8
Granville Street,	52	17	148	15	195	11	348	18	412	23	406	17
Sanitary Chambers,	92	15	23	26	228	7	894	7	692	7	104	15
Total, ...	1,280	17	995	15	1,446	13	2,727	10	2,320	13	1,740	14

Wassermann Tests.

	Original.				Duplicate.					
	Blood.		Cerebro-spinal Fluid.		Blood.		Cerebro-spinal Fluid.		Total.	
Year.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.	Number.	Per cent. Positive.
1914, ...	1,025	36·3	10	50	60	40	—	—	1,095	36·6
1915, ...	847	29	4	25	43	35	—	—	894	29
1916, ...	622	29·9	7	14·3	35	45·7	3	66·6	667	30·7
1917, ...	934	33	5	20	56	45	3	—	998	34
1918, ...	1,577	34	15	13	63	52	1	—	1,656	34
1919, ...	2,604	19	12	8	117	22	2	100	2,735	19

Specimens from Suspected Cases of Diphtheria, Enteric Fever, and Tuberculosis annually sent by Medical Practitioners.

Year	1914	1915	1916	1917	1918	1919
Diphtheria, ...	3,217	2,275	1,660	1,584	1,375	2,405
Per cent. Positive,	21	23	24	24	26	25
Enteric Fever, ...	699	494	339	248	263	224
Per cent. Positive,	28	27	17	17	29	31
Tuberculosis, ...	3,291	3,021	2,351	2,421	2,387	2,627
Per cent. Positive,	26	29	30	25	24	20

Year.	Diphtheria Contacts Examined.	Per cent. Positive.
1914, ...	715	7·6
1915, ...	962	9·7
1916, ...	747	12
1917, ...	1,165	8
1918, ...	979	8
1919, ...	959	5

Ophthalmia Neonatorum.

Year	1914	1915	1916	1917	1918	1919
From Medical Officer of Health, ...	750	574	665	778	712	918
Per cent. Positive,	47	52	39	36	39	46
From Medical Practitioners, ...	65	59	21	21	14	19
Per cent. Positive,	32	42	29	29	57	26
Total, ...	815	633	686	799	726	937
Per cent. Positive,	46	52	38	35	39	45

EXAMINATION OF RATS IN RELATION TO PLAGUE.

Year.	From the City.	From Shipboard.	From Docks.	Total.	Plague Infected.
1914, ...	493	868	174	1,535	—
1915, ...	247	419 *	182	848	—
1916, ...	256	202	116	574	—
1917, ...	155	86	69	310	—
1918, ...	149	25	308	482	—
1919, ...	120	46	278	444	—

* Includes 4 mice.

NUMBER OF OTHER SAMPLES, SPECIMENS, &C., EXAMINED.

	1914.	1915.	1916.	1917.	1918.	1919.
Public Health Department, ...	1,055	1,589	1,383	1,414	1,693	1,536
Fever Hospitals, ...	15	284	246	759	848	684
Sanitary Department, ...	31	34	11	21	33	25
Veterinary „	283	74	679	749	615	533
Baths „	50	41	48	59	54	64
Water „	528	995	750	465	280	137
Military Services, ...	59	882	191	156	68	19
Medical Practitioners, ...	177	183	196	191	1,143	2,793

PART II.

SECTION XII.

GENERAL SANITATION, 1914-1919.

The last Report of the Sanitary Department dealt with the year 1914. In Appendix Table XXIV the work of the department is summarised for the years 1915 to 1919, and certain features of these operations are referred to in the following pages.

The District Inspectors have prepared reports for the period on the several areas, and, apart from their general interest as reflecting the efforts made to maintain a reasonable degree of efficiency during the absence on service of many members of the permanent staff, these contain observations on several subjects of more than passing importance.

Among the more important of them are the following:—

Absence of Washing-House Accommodation. — On this question the Central District Inspector writes:—

> A complaint which is general is the lack of wash-house accommodation in connection with tenements. In many cases no such accommodation is provided, and in others the wash houses in existence are in a very unsatisfactory state of repair. Public wash-houses are supposed to supply this want, but these are so few in number that they do not to any extent satisfy requirements. There are only two public wash-houses in the Calton Ward, with its 8,349 houses and a population of 37,989. There is only one in Blackfriars, with 4,401 houses and a population of 21,212. Anderston with a population of 29,701 has only two wash-houses, and in Broomielaw and Sandyford there are none.

Dirty Stairs, &c.—Another subject closely allied with the cleanliness of persons and dwellings is thus dealt with by the Northern District Inspector:—

> Much of the time of the Inspectors was, as formerly, devoted to dealing with dirty stairs, &c. There are, unfortunately, still a great many tenants who are careless regarding the duty of taking their regular turn of keeping the common stair, &c., clean. As will be seen from the figures submitted, hundreds of rotation cards were issued each year for the purpose of regulating the cleansing of closes and stairs, but, as one careless tenant in a flat can upset the arrangement, great difficulty in establishing a smooth-working rotation is often experienced. It may be noted that the stairs, lobbies, &c., in tenements let out on the "farmed-out house" system are generally better "kept" than those in tenements of the same class let in the ordinary way. As the house-farmer usually employs a caretaker or deputy who resides in or near the property and is personally responsible for the condition of the stairs, &c., it is an easy matter to regulate any neglect that may arise in this class of property, but in the ordinary tenement it is often difficult to get at the defaulter. It appears to me that if some such system as that of employing resident caretakers could be adopted generally a much higher standard of cleanliness would be attained.
>
> In connection with the question of dirty stairs I append a table prepared in 1918 to show approximately the number of workers it would be necessary to employ in a ward of the City, if the Corporation became directly responsible for the carrying out of this work.

In the table referred to the Inspector enumerates the common stairs, closes, lobbies, and water-closets in 793 separate buildings, containing in all 8,135 separate house "occupancies" and 1,017 shops, and adds:—

> Assuming that a charwoman would take 1½ hours to sweep and wash the stairs, &c., of an average building as stated in the table, she would in a 48-hour week be able to overtake the cleansing of the stairs of 16 buildings twice per week. So that to accomplish the necessary work a staff of 50 charwomen would be necessary, making no allowance, however, for the daily sweeping.

Trapping of Waste-water Drains.—The utility of the many traps which enter into the drainage system of a building is frequently questioned, and on this point the Eastern District Inspector writes:—

> The most prolific forms of nuisance are "choked drains" and "choked water-closets, sinks, &c.," and it is to be regretted that there is no sign of abatement of this class of nuisance.

The principal cause of the frequent chokeages in the drains is the placing of "intercepting" traps on the branch "waste" drains, thereby disconnecting them from the main drain, which in turn is trapped before entering the sewer. There is no doubt that these intercepting traps do obstruct and seriously impede the flow of the sewage in the drain on its way to the sewer, causing precipitation of the solid matters in the traps, which eventually choke up and flood the surrounding surfaces.

I am of opinion that this method of trapping is bad and cannot be defended, although it is made compulsory under the Glasgow Building Regulations Act, 1900 (which up till now has been rigidly enforced). I think the Act referred to might with advantage be so amended that only *one* intercepting trap would be necessary on the *main* drain before connecting it to the common sewer. If this method were adopted, precautions would have to be taken that all ventilating pipes would have to be carried up to a sufficient height and clear of all windows.

In regard to the large number of "choked water-closets and sinks" discovered by the Inspectors, it is only fair to say that, while in many instances this may be due to some "structural" defect, there is no doubt that much of this form of nuisance is caused through carelessness and indifference on the part of the tenants in the use of the conveniences.

In this connection the Inspector of the Northern District, referring to the large proportion of nuisances arising from choked or defective drains, says:—

In a very large number of cases these nuisances are caused by chokage of the subsidiary traps in our drainage system, *i.e.*, the traps disconnecting the waste drains from the soil drains.

The result of such chokages is the overflowing of foot-pavements and back-courts with sewage, which, while objectionable under any conditions, becomes more serious when it occurs in properties where the courts are unpaved, as in these cases the sewage sinks into and pollutes the surrounding ground. A rearrangement of our drainage system which would eliminate these traps is desirable, and would result in a large reduction of this kind of nuisance.

Air Purification.

The work of the Smoke Inspectors during the five years, 1914 to 1919, is indicated in Appendix Table XXIV. The Senior Smoke Inspector adds the following observations:—

In consequence of war conditions, less structural improvements to furnace plant were made than would otherwise have been the case. 144 were recorded during the five years, most of which were of a substantial nature. Eleven new boilers were installed which, by increasing the capacity for steam generation, permitted the furnaces to be worked at lower rates of coal consumption, enabling the firemen to reduce considerably the smoke emissions.

Nothing is so productive of smoke as an overloaded steam boiler, and the substitution of a larger steam boiler for a smaller one effects a marked improvement. Mechanical stokers introduced in 25 instances invariably reduced considerably the density of smoke from the chimneys.

The fault with most unsatisfactory chimneys lies in the fact that the boiler power is not sufficient to enable the load fluctuations to be met without forced firing. The maximum load should determine the size and capacities of steam boilers and not the average.

In 23 instances smoke-preventers of the supplementary-air-admission type were fitted. These, while generally less effective than mechanical stokers in the maintenance of clear chimneys, reduce the smoke when properly handled by the firemen.

During 1916, with advancing coal prices, coke-breeze was suggested as a cheap non-smoky fuel with a special type of forced-draught grate, and a number of manufacturers introduced it. The chimneys of these special furnaces reduced smoke for a short time, but it was found that flue-dust rapidly accumulated, making it impracticable to carry on to the usual half-yearly flue-cleaning time. This difficulty was overcome by leading live steam-pipes into the flues, with nozzles so spaced that on opening a valve a series of high-pressure jets stirred up the dust and propelled it forward into the chimney, when it was caught by the rush of gases and carried into the atmosphere, thus causing a nuisance in the immediate vicinity.

On representations by the Inspector of the Department a more satisfactory arrangement was introduced by the construction of special chambers with a suitable system of dampers, whereby at convenient times, with the dampers closing the connection to the chimney, the flue dust was forced into these chambers, allowed to settle, and afterwards removed. Where space was limited a mixture of bituminous fuel and coke-breeze was used, and the flue-dust so reduced to quantities capable of being dealt with in the usual way.

The ultimate solution of the industrial smoke problem will be found in the utilisation of electricity for all power purposes, with the irreducible number of steam boilers mechanically stoked. Much progress towards the purification of the atmosphere has been made in this direction within the last ten years. Some of the largest works in

Glasgow, which formerly produced all their own power, now obtain it from the Corporation Electricity Department, while others are receiving part of it from the same source.

On the other hand, many manufacturing furnaces, especially those which deal with metals and chemicals, are still coal-fired. The extended use of gas may to some extent solve this part of the problem.

An increasing source of smoke production is the steam tractor and the asphalte melter, as the number of these in the streets is rapidly increasing. This form of nuisance can only be removed by prohibiting the burning of raw bituminous coal in their boiler fires. The use of coke in both instances would reduce the smoke produced.

Rag Flock Act, 1911.

Operations under this Act are given in Appendix Table XXIV.

Two of the worst samples were found to contain 250 and 238 parts of chlorine per 100,000 parts of rag flock, whereas only 30 parts are allowed.

In one case where proceedings were taken the respondent pleaded not guilty, in respect that the material was known in the trade as "croppings," which did not come within the scope of the Act, but on the expert evidence for the prosecution the Sheriff held that the sample taken was rag flock. The firm was convicted, and a fine imposed.

Operations under the Sale of Food and Drugs Acts, &c., for Years 1915-1919.

During the above years there was an increasing scarcity of foodstuffs generally, which, together with the effects of rationing, limited the scope of operations in enforcing the provisions of the Sale of Food and Drugs Acts. Details of these and other operations carried on by the Food Inspectors are contained in Appendix Table XXIV.

The following notes by the Senior Food Inspector are submitted as of interest in the interpretation of the statutes:—

1915.—A Lesmahagow farmer was charged with having forwarded warm and cold sweet milk containing 8 and 9 per cent. respectively of added water. Proof of non-tampering was led for the defence, and the Stipendiary Magistrate, in finding the charge "not proven," said he must have regard to human evidence as against a legal presumption.

In a charge against a Thorntonhall farmer, in which the sweet and skimmed milk were alleged to contain 3 and 13 per cent. of added water, the defence was on similar lines. The Stipendiary Magistrate said that, having regard to decisions of the High Court, he felt it his duty to accept the evidence as repelling the presumption raised by the analysis and to find the charge "not proven."

1916.—A Howwood farmer denied having forwarded sweet and skimmed milk certified to contain 6 and 4 per cent. respectively of added water. The Stipendiary Magistrate, in finding the charge "not proven," said he was unable to challenge the *bona fides* of respondent's witnesses, and the presumption of adulteration raised by the analysis was, in his opinion, rebutted.

In a prosecution in respect of white pepper containing 10 per cent. wheat starch, it was averred in defence that the word "table" on the packet denoted a special preparation, and was sufficient disclosure of admixture to preclude prejudice to the purchaser. The charge was upheld by the Stipendiary Magistrate, who stated that a manufacturer could not establish a custom of trade confined to himself.

1917.—A Hurlford farmer was charged with forwarding milk alleged to contain 9 per cent. of added water. In defence he pleaded that the milk was genuine, but the failure in quality was due to the herd having suffered from contagious abortion. The charge was found "not proven."

A conviction was obtained in connection with a sale of "cooking butter," which was found to consist of margarine. The defence averred that the term denoted a substance that was recognised as a substitute for butter, so that a purchaser was not prejudiced. The Stipendiary Magistrate said that the name of butter must not be profaned to commercial uses by being applied to anything but what was truly butter.

1918.—In a prosecution against a farmer for forwarding milk containing 9 per cent. of added water, the defence was that the milk was pure and genuine when put on rail, and the alleged adulteration due to circumstances outwith respondent's control. The Stipendiary Magistrate, in convicting, held that if respondent was to be relieved from responsibility on these grounds, a wide door would be opened for evading the beneficial provisions of these Acts.

1919. — In a charge of selling ground cinnamon containing 6·31 per cent. silicious matter or sand, whereas genuine cinnamon should not contain more than 3 per cent., the Stipendiary Magistrate held that, while the proportion of sand was indubitably large, he was unable, in view of the practical evidence adduced in defence, to find the charge proven.

TABLE SHOWING NATURE AND NUMBER OF STATUTORY SAMPLES PROCURED AND EXAMINED, 1915-19.

	1915.		1916.		1917.		1918.		1919.	
	No. Examined.	No. not Genuine.	No. Examined.	No. not Genuine.	No. Examined.	No. not Genuine.	No. Examined.	No. not Genuine.	No. Examined.	No. not Genuine
Arrowroot,	1	...	...	...	...	...	1	...	...	...
Barley,	6	...	...	...	3	...	3	...	...	...
Brandy,	...	...	1	...	...	...	...	...	2	...
Beer,	...	..	...	...	...	...	4	...	12	..
Butter,	191	57	133	54	35	14	5	3	38	3
Cheese,	3	...	11	...	...	...	1	...	...	...
Cinnamon, Ground,	16	...	14	...	14	...	11	...	16	6
Cocoa,	...	...	...	...	...	...	...	...	1	...
Coffee,	24	...	5	...	20	...	16	...	15	...
Cooking Fat,	...	...	...	...	...	...	...	...	1	...
Cream,	18	2	38	7	47	4	1	...	...	...
Cream of Tartar,	25	1	14	1	33	17	15	...	18	5
Dried Eggs,	...	...	...	...	...	...	...	...	2	...
Dripping,	...	...	...	...	...	...	3	...	5	...
Flour,	...	...	...	...	3	...	2	...	3	...
Flour (Self-raising),	6	...	6	...	...	...	3	...	10	1
Gin,	...	...	...	...	...	...	1	...	...	...
Ginger, Ground,	14	...	12	...	13	...	16	...	16	...
Honey,	...	...	...	...	4	1	1	...	...	...
Linseed, crushed,	11	...	9	...	...	...	2	...	...	...
Lard,	21	...	...	...	15	5	23	...	18	...
Lime Juice,	...	...	7	...	...	...	...	...	...	...
Margarine,	17	...	11	...	7	...	4	...	10	...
Milk, Condensed,	...	...	...	...	...	...	2	...	...	...
,, Skimmed,	31	7	22	7	22	9	3	1	1	...
,, Sweet,	448	149	370	96	618	145	783	146	876	122
Milk of Sulphur,	...	...	...	...	12	...	...	...	...	...
Mince,	...	...	...	...	2	1	...	...	...	...
Mustard,	6	...	4	...	...	...	5	...	2	...
Oatmeal,	...	...	...	...	15	...	1	...	6	...
Oil, Camphorated,	17	2	15	3	10	...	6	1	6	...
,, Olive,	12	...	8	...	...	...	...	...	4	...
Pea Meal,	...	...	...	...	...	...	1	...	...	...
Pepper, Black and White,	29	...	21	6	26	...	33	...	27	...
Rice, Ground and Whole,	18	...	...	...	...	...	11	...	10	...
Rum,	...	...	...	...	...	...	1	...	8	2
Saccharine Tablets,	...	...	1	1	...	...	...	...	...	...
Sausages,	...	...	1	...	2	1	...	...	...	...
Sucrene,	...	...	...	...	1	...	...	...	...	...
Sugar,	...	...	...	...	1	...	...	...	...	...
Sweet Spirit of Nitre,	...	...	1	...	...	...	...	...	...	...
Tapioca,	12	...	7	...	4	...	5	...	6	...
Tartaric Acid,	18	1	2	...	...	...	2	...	4	...
Vinegar,	...	...	1	1	...	...	...	...	...	...
Whisky,	...	...	1	...	...	...	35	8	127	17
Miscellaneous Food,	...	...	2	...	...	...	...	...	...	...
Totals,	944	219	717	176	907	197	1,000	159	1,244	156

AVERAGE PERCENTAGE COMPOSITION OF STATUTORY SAMPLES OF SWEET MILK ANALYSED, 1915-19.

1915.		1916.		1917.		1918.		1919.	
Fat.	Non-fat.	Fat.	Non-fat.	Fat.	Non-fat.	Fat.	Non-fat.	Fat.	Non-fat.
3·17	8·70	3·32	8·57	3·32	8·65	3·33	8·63	3·33	8·67

FERTILISERS AND FEEDING-STUFFS ACT, 1906.
SAMPLES PROCURED AND EXAMINED, 1915-19.

	1915.	1916.	1917.	1918.	1919.
Feeding-Stuffs, ...	19	9	10	—	6
Fertilisers, ...	—	—	—	—	1

All the above samples were found satisfactory and free from alien ingredients. In the case of those of a composite nature, they were found to conform to prescribed parts of invoice.

NUMBER OF PREMISES ON REGISTER KEPT UNDER THE BUTTER AND MARGARINE ACTS, 1915-19.

	1915.	1916.	1917.	1918.	1919.
Manufacturers of Margarine, ...	1	1	1	1	1
Wholesale dealers in Margarine, ...	225	233	194	196	201
Manufacturers of milk-blended Butter,	—	—	—	—	—
Wholesale dealers in Butter, ...	9	9	9	9	9
Butter Factories, ...	16	16	16	16	16

Operations in "butter factories"—*i.e.*, any place in which butter is reworked by way of trade—were practically suspended during 1915-1919 owing to the effects of the Butter (Distribution) Order. The usual supervision and periodic sampling of the products of these premises were therefore in abeyance.

Food Control. — In terms of the Food Control Committee (Scotland) Powers Order, a considerable number of statutory Rules and Orders were issued during the war by the Ministry of Food, and the administration of these was, by arrangement, undertaken by the Food Inspectors of the department. Since the cessation of hostilities most of these Orders have been revoked, and on 22nd November, 1919, at the request of the Western Divisional Food Commissioner, the administration of the few remaining Orders was undertaken by officers of his department.

During the period under review, 6,898 special inspections were made, and 161 contraventions reported to the Procurator-Fiscal. Convictions to the number of 129 were obtained, and fines amounting to £439 8s. imposed.

A. K. CHALMERS, M.D.,
Medical Officer of Health.

Public Health Department,
Sanitary Chambers,
Glasgow, 25th August, 1920.

APPENDIX.

TABLE I.—GLASGOW.—ESTIMATED POPULATION IN MUNICIPAL WARDS, FOR THE YEARS 1914-1919.

MUNICIPAL WARDS.	Census, 1911.	1914.	1915.	1916.	1917.	1918.	1919.	Persons per Acre.
. Dalmarnock, -	51,161	52,963	54,995	56,334	56,964	57,211	57,182	105
. Calton, - -	35,140	34,790	35,382	36,524	37,372	37,566	37,989	129
. Mile-end, - -	45,652	47,834	48,917	49,789	50,204	50,006	50,010	98
. Whitevale, - -	31,931	32,461	33,254	33,975	34,218	34,375	34,242	114
. Dennistoun, -	36,214	39,753	40,017	40,270	40,387	40,455	40,432	58
. Springburn, -	44,813	46,742	48,499	49,661	50,018	50,475	50,561	34
. Cowlairs, - -	29,444	31,019	32,128	33,045	33,648	34,072	34,101	36
. Townhead, - -	36,469	35,596	36,720	38,024	38,536	39,308	39,347	158
. Blackfriars, -	19,953	19,300	19,534	20,161	20,956	21,325	21,212	178
. Exchange, - -	1,672	1,448	1,495	1,589	1,584	1,615	1,599	18
. Blythswood, -	2,795	2,337	2,379	2,401	2,438	2,438	2,487	36
. Broomielaw, -	6,752	6,049	6,294	6,752	6,870	7,016	7,005	91
. Anderston, - -	27,723	28,264	28,572	29,341	29,456	29,631	29,701	71
. Sandyford, -	23,596	23,499	23,799	24,452	24,741	24,895	24,976	191
. Park, - - -	22,307	23,377	23,643	23,866	24,051	24,294	24,375	77
. Cowcaddens, -	33,898	33,969	33,614	35,674	36,584	37,820	38,211	251
. Woodside, - -	41,198	42,515	43,717	44,564	44,996	45,375	45,518	160
. Hutchesontown, -	39,931	40,119	41,066	42,560	43,052	43,380	43,393	204
. Gorbals, - -	33,192	34,156	34,737	35,765	36,312	36,588	36,676	164
. Kingston, - -	32,676	32,696	33,226	34,282	34,864	35,190	35,343	89
. Govanhill, - -	35,082	38,534	38,897	39,065	39,236	39,309	39,355	88
. Langside, - -	38,888	43,114	43,346	43,354	43,404	43,483	43,587	52
. Pollokshields, -	17,124	18,677	18,735	18,818	19,008	19,121	19,177	12
. Kelvinside, - -	19,803	22,354	22,470	22,203	22,364	22,664	22,615	26
. Maryhill, - -	39 359	42,349	43,701	44,523	44,864	45,299	45,475	39
. Kinning Park, -	12,841	12,587	13,092	13,507	13,577	13,478	13,683	127
Institutions, -	23,818	23,652	23,690	23,472	24,103	24,031	24,862	—
Shipping, -	1,064	1,064	1,064	1,064	1,064	1,064	1,064	—
Old City, -	784,496	811,218	826,893	845,035	854,871	861,484	864,178	67
. Plantation, -	27,708	29,501	29,707	30,660	30,698	30,837	30,661	95
. Ibrox, - -	19,321	20,766	21,562	21,930	21,993	21,998	22,028	69
. Govan (Central),	21,774	23,305	23,667	23,781	23,788	23,764	23,819	82
. Fairfield, - -	19,388	21,482	21,723	21,770	21,761	21,814	21,795	21
. Partick (East). -	21,510	23,180	23,283	23,502	23,559	23,641	23,749	157
. ,, (Central).	25,948	28,932	28,690	28,859	28,941	29,023	29,123	103
. ,, (West). -	18,810	22,239	22,845	23,132	23,176	23,206	23,201	41
. Jordanhill, -	13,211	14,695	14,798	15,039	15,095	15,056	14,974	14
. Pollokshaws, -	12,967	13,763	13,819	13,989	14,086	14,064	14,123	59
. Cathcart, - -	12,766	14,904	15,035	15,049	15,054	15,076	15,076	20
. Shettleston and Tollcross, -	25,490	27,190	27,454	27,527	27,488	27,504	27,542	26
Institutions, -	4,455	4,112	4,368	4,255	4,376	4,594	3,744	—
Shipping, - -	643	643	643	643	643	643	643	—
tal, Annexed Areas,	223,991	244,712	247,594	250,136	250,658	251,220	250,478	40
, Old Glasgow,	784,496	811,218	826,983	845,035	854,871	861,484	864,178	67
, Greater Glasgow,	1,008,487	1,055,930	1,074,577	1,095,171	1,105,529	1,112,704	1,114,656	58

TABLE II.—Glasgow.—Number of Inhabited Houses in Municipal Wards as at Whitsunday, 1914-1919.

Municipal Wards.	Inhabited Houses.						
	Census 1911.	1914.	1915.	1916.	1917.	1918.	1919.
1. Dalmarnock, ...	10,820	11,308	11,747	12,035	12,173	12,226	12,221
2. Calton, ...	7,643	7,639	7,770	8,024	8,212	8,255	8,349
3. Mile-end, ...	9,649	10,207	10,442	10,631	10,715	10,680	10,681
4. Whitevale, ...	6,757	6,934	7,105	7,262	7,315	7,350	7,321
5. Dennistoun, ...	8,253	9,146	9,209	9,270	9,293	9,316	9,311
6. Springburn, ...	9,394	9,893	10,267	10.517	10,595	10,693	10,711
7. Cowlairs, ...	6,184	6,578	6,814	7,011	7,141	7,232	7,238
8. Townhead, ...	7,650	7,539	7,778	8,057	8,168	8,332	8,340
9. Blackfriars, ...	4,097	4,001	4,050	4,182	4,348	4,424	4,401
10. Exchange, ...	318	278	287	305	304	310	307
11. Blythswood, ...	515	435	443	447	454	454	463
12. Broomielaw, ...	1,292	1,169	1,216	1,305	1,328	1,357	1,355
13. Anderston, ...	5,942	6,116	6,183	6,352	6,378	6,417	6,432
14. Sandyford, ...	4,965	4,993	5,057	5,198	5,260	5,294	5,311
15. Park, ...	4,712	4,985	5,043	5,093	5,133	5,186	5,203
16. Cowcaddens, ...	7,207	7,292	7,217	7,662	7,859	8,126	8,210
17. Woodside, ...	9,132	9,515	9,786	9,979	10,079	10,164	10,196
18. Hutchesontown, ...	8,630	8,754	8,962	9,292	9,401	9,474	9,477
19. Gorbals, ...	6,836	7,101	7,223	7,440	7,555	7,614	7,632
20. Kingston, ...	6,828	6,897	7,010	7,236	7,360	7,430	7,462
21. Govanhill, ...	7,670	8,505	8,587	8,629	8,667	8,684	8,694
22. Langside, ...	9,361	10,477	10,537	10,540	10,557	10,577	10,603
23. Pollokshields, ...	3,614	3,980	3,993	4,012	4,053	4,078	4,090
24. Kelvinside, ...	4,441	5,062	5,089	5.030	5,067	5.136	5,125
25. Maryhill, ...	8,514	9.248	9,545	9,728	9,805	9,882	9,929
26. Kinning Park, ...	2,640	2,613	2,718	2,805	2,820	2,800	2,842
27. Plantation, ...	5,971	6.425	6,472	6,679	6,687	6,715	6,679
28. Ibrox, ...	4,001	4,346	4,513	4,589	4,603	4,606	4,610
29. Govan (Central) ...	4,336	4,693	4,766	4,788	4,790	4,785	4,796
30. Fairfield, ...	4,111	4,600	4,652	4,662	4,661	4,672	4,668
31. Partick (East), ...	4,588	4,997	5,020	5.066	5,078	5,097	5,129
32. ,, (Central), ...	5,732	6,457	6,406	6,452	6,461	6,479	6,501
33. ,, (West), ...	3,934	4,700	4,830	4,889	4,900	4,906	4,903
34. Jordanhill, ...	2,724	3,062	3,084	3,134	3,146	3,138	3,129
35. Pollokshaws, ...	2,867	3,075	3,088	3,126	3,148	3,143	3,156
36. Cathcart, ...	2,859	3,373	3,403	3,405	3,408	3,413	3,411
37. Shettleston and Tollcross,	5,298	5,711	5,768	5,782	5,775	5,777	5,786
Total, Greater Glasgow, ...	209,485	222,104	226,080	230,614	232,697	234,222	234,649

TABLE V.—ABSTRACT of Meteorological Observations taken at Glasgow University.

Months, 1919.	Temperature.				Rainfall.		
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature for Month.	Departure from Average of 51 Years.	No. of Days it fell	Amount Collected, in inches.	Departure from average of 51 Years.
January, ...	46°·0	25°·0	38°·1	−0°·6	23	3·51	−0·12
February, ...	45°·7	21°·1	34°·9	−4°·2	9	0·91	−2·15
March, ...	50°·0	23°·2	36°·3	−4°·0	14	3·21	+0·60
April, ...	59°·8	30°·9	44°·5	−0°·1	22	1·67	−0·40
May, ...	75°·2	35°·2	53°·6	+4°·0	8	0·66	−1·89
June, ...	71°·2	42°·1	54°·3	−0°·8	21	4·53	+1·90
July, ...	75°·2	45°·4	56°·7	−0°·8	8	0·98	−2·10
August, ...	74°·0	41°·1	56°·0	−0°·8	18	2·67	−1·15
September, ...	66°·8	34°·2	52°·2	−0°·8	19	2·59	−0·72
October, ...	62°·0	34°·1	47°·2	0°·0	12	1·01	−2·75
November, ...	54°·1	12°·4	36°·4	−5°·8	21	3·98	+0·30
December, ...	49°·9	26°·0	40°·1	+1°·0	27	5·42	+1·30
Total, ...	...	...	...	...	202	31·14	−7·18
1914, ...	...	...	...	...	214	36·24	−4·16
1915, ...	...	...	...	...	192	30·49	−7·85
1916, ...	...	...	...	...	236	44·61	+6·27
1917, ...	...	...	...	...	215	36·67	−1·67
1918, ...	...	...	...	...	234	41·18	+2·32

TABLE III.—Glasgow.—Number of Unoccupied Houses in Municipal Wards as at Whitsunday 1914-19.

Municipal Wards.	Unoccupied Houses.					
	1914.	1915.	1916.	1917.	1918.	1919.
1. Dalmarnock, ...	1,011	556	188	55	34	23
2. Calton, ...	753	583	301	88	41	26
3. Mile-end, ...	707	446	226	86	88	72
4. Whitevale, ...	500	300	132	22	23	21
5. Dennistoun, ...	169	91	42	25	14	15
6. Springburn, ...	973	601	283	169	92	49
7. Cowlairs, ...	626	404	196	62	20	10
8. Townhead, ...	910	675	355	187	69	43
9. Blackfriars, ...	470	412	249	106	54	29
10. Exchange, ...	36	31	11	2	—	2
11. Blythswood, ...	18	21	8	2	4	1
12. Broomielaw, ...	189	148	48	23	5	6
13. Anderston, ...	375	273	131	57	26	16
14. Sandyford, ...	362	275	136	76	45	22
15. Park, ...	211	157	103	53	20	23
16. Cowcaddens, ...	1,291	1,097	617	389	160	81
17. Woodside, ...	659	412	204	87	41	15
18. Hutchesontown, ...	690	521	182	58	19	8
19. Gorbals, ...	558	405	231	108	86	40
20. Kingston, ...	581	448	163	84	28	11
21. Govanhill, ...	204	123	56	20	10	4
22. Langside, ...	62	33	38	19	14	8
23. Pollokshields, ...	54	42	34	19	10	2
24. Kelvinside, ...	109	102	110	98	53	34
25. Maryhill, ...	688	376	190	102	54	15
26. Kinning Park, ...	230	126	41	21	7	4
27. Plantation, ...	365	232	35	16	7	2
28. Ibrox, ...	248	95	30	12	11	7
29. Govan (Central), ...	90	26	9	5	3	3
30. Fairfield, ...	57	13	8	4	—	1
31. Partick (East), ...	71	77	36	26	9	8
32. ,, (Central), ...	73	74	37	26	29	18
33. ,, (West), ...	30	15	9	2	4	4
34. Jordanhill, ...	11	13	11	6	7	6
35. Pollokshaws, ...	35	38	29	11	15	3
36. Cathcart, ...	9	6	4	1	2	2
37. Shettleston & Tollcross	51	30	22	7	2	3
Total, Greater Glasgow,	13,476	9,277	4,505	2,134	1,109	637
Size of House—						
1 Apartment, ...	3,566	2,943	1,884	957	587	319
2 Apartments, ...	7,399	4,791	1,892	807	344	181
3 ,, ...	1,429	768	179	64	30	21
4 ,, ...	404	239	55	23	16	13
5 ,, and over, ...	678	536	495	283	132	103

TABLE IV.—Glasgow.—Linings granted by Dean of Guild Court in Years from 1914 to 1919 in respect of Houses.

Year ending 31st August.	No. of Apartments.						Total.
	1.	2.	3.	4.	5.	6.	
1914, ...	15	108	116	25	46	63	373
1915, ...	63	156	120	32	35	48	454
1916, ...	1	...	2	...	12	1	16
1917, ...	...	...	...	...	...	...	...
1918, ...	...	64	28	...	...	...	92
1919, ...	...	...	144	78	...	...	222

TABLE VI.—Glasgow.—BIRTHS and Birth-rates *per Million* in each Ward, exclusive of Institutions and Harbour, for the Years 1914-1919.

Municipal Wards.	Births.						Rate per Million.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
1. Dalmarnock, -	1,883	1,848	1,741	1,619	1,539	1,690	34,979	33,046	30,536	28,113	26,664	29,555
2. Calton, - -	1,130	1,016	947	900	867	1,088	33,611	27,010	24,615	22,923	21,929	28,640
3. Mile-end, -	1,700	1,633	1,556	1,335	1,354	1,397	35,540	33,254	31,170	26,515	26,976	27,934
4. Whitevale, -	1,000	958	898	818	763	912	30,806	27,981	25,580	23,223	21,571	26,634
5. Dennistoun, -	922	901	910	724	668	640	24,954	21,380	21,459	17,082	15,768	15,829
6. Springburn, -	1,572	1,595	1,536	1,360	1,375	1,305	33,631	30,323	28,541	24,983	25,012	25,810
7. Cowlairs, -	987	898	890	819	755	899	31,819	27,946	26,929	24,337	22,156	26,363
8. Townhead, -	991	932	890	819	808	946	27,840	25,294	23,328	21,180	20,487	24,042
9. Blackfriars, -	601	521	503	437	445	538	31,140	25,461	23,857	20,016	20,000	24,825
10. Exchange, -	25	27	28	18	18	23	12,920	13,018	13,295	8,772	8,588	14,384
11. Blythswood, -	25	24	34	33	31	37	10,697	8,599	12,341	11,657	10,719	14,877
12. Broomielaw, -	163	172	175	168	170	187	26,947	21,676	21,105	19,645	19,667	26,695
13. Anderston, -	901	852	857	789	754	837	31,878	28,366	27,533	25,259	24,154	28,181
14. Sandyford, -	550	496	508	501	486	526	23,405	20,459	20,402	19,932	19,216	21,060
15. Park, - -	195	217	245	260	289	294	8,342	8,772	9,910	10,349	11,403	12,061
16. Cowcaddens, -	1,035	945	935	779	817	983	30,495	27,143	25,366	20,638	21,033	25,726
17. Woodside, -	1,183	1,092	1,067	863	954	1,010	27,825	24,942	23,836	19,111	20,921	22,189
18. Hutchesontown,	1,392	1,431	1,318	1,205	1,067	1,240	34,697	34,846	30,968	27,980	24,591	28,576
19. Gorbals, - -	893	839	876	728	740	806	26,145	23,569	23,947	19,666	19,723	21,976
20. Kingston, -	951	814	776	780	769	845	29,086	23,789	22,017	21,774	21,520	23,909
21. Govanhill, -	1,148	1,061	1,004	868	811	931	29,792	27,277	25,701	22,123	20,631	23,656
22. Langside, -	771	764	722	606	539	597	17,883	17,370	16,425	13,765	12,227	13,697
23. Pollokshields, -	182	166	155	121	157	166	9,745	8,860	8,237	6,098	7,769	8,656
24. Kelvinside, -	270	299	264	221	260	239	11,974	12,790	11,422	9,498	10,997	10,568
25. Maryhill, -	1,316	1,277	1,189	987	965	1,094	31,099	27,455	24,959	20,737	20,071	24,057
26. Kinning Park,-	435	444	412	363	350	406	34,559	33,914	30,503	26,736	25,968	29,673
— Inst. and Harbour, - -	62	47	41	37	41	32	—	—	—	—	—	—
Old City,- -	22,283	21,269	20,477	18,158	17,792	19,668	27,469	25,720	24,232	21,241	20,653	22,758
27 Plantation, -	915	861	836	815	777	795	31,016	27,867	26,321	25,711	24,319	25,92
28. Ibrox, - -	709	622	702	581	592	638	34,142	28,253	31,363	25,880	26,383	28,96
29. Govan (Central),	837	798	825	695	667	769	35,915	33,718	34,692	29,258	28,068	32,28
30. Fairfield,- -	676	631	665	560	553	605	31,468	26,899	28,161	23,583	23,227	27,75
31. Partick (East),	496	503	437	430	458	500	21,398	21,406	18,481	18,072	19,175	21,05
32. ,, (Central),	910	883	834	794	728	768	31,453	30,765	28,888	27,425	25,074	26,37
33. ,, (West),	662	626	594	511	544	547	29,768	26,965	25,290	21,721	23,108	23,57
34. Jordanhill, -	358	335	301	306	251	235	24,362	22,426	19,877	20,105	16,545	15,6
35. Pollokshaws, -	398	358	312	256	277	309	28,918	25,906	22,303	18,174	18,967	21,8
36. Cathcart,- -	305	269	315	216	212	229	20,464	17,892	20,932	14,348	14,062	15,1
37. Shettleston and Tollcross, -	906	786	789	704	664	769	33,321	27,724	27,771	24,839	23,310	27,9
Total, Annexed Areas, - -	7,172	6,672	6,610	5,868	5,723	6,164	29,308	26,947	26,426	23,410	22,781	24,6
,, Greater Glasgow, - -	29,455	27,941	27,087	24,026	23,515	25,832	27,895	26,002	24,733	21,733	21,133	23,1

TABLE VII.—Glasgow.—ILLEGITIMATE BIRTHS and PERCENTAGE of TOTAL BIRTHS in each Municipal Ward, 1914-1919.

Municipal Wards.	Illegitimate Births.						Percentage of Total Births.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
1. Dalmarnock, ...	113	83	87	115	104	127	6·0	4·5	5·0	7·1	6·7	6·7
2. Calton, ...	100	79	71	96	97	110	8·8	7·8	7·5	10·7	11·2	10·1
3. Mile-end, ...	100	94	88	96	102	96	5·9	5·8	5·7	7·2	7·5	6·9
4. Whitevale, ...	76	54	77	54	72	75	7·6	5·6	8·6	6·6	9·4	8·2
5. Dennistoun, ...	51	35	34	42	33	35	5·5	3·9	3·7	5·8	4·9	5·5
6. Springburn, ...	62	57	61	84	83	80	3·9	3·6	4·0	6·2	6·0	6·1
7. Cowlairs, ...	49	35	35	40	41	43	5·0	3·9	3·9	4·9	5·4	4·8
8. Townhead, ...	78	60	104	97	108	104	7·9	6·4	11·7	11.8	13·4	11·0
9. Blackfriars, ...	95	81	66	57	66	75	15·8	15·3	13·1	13·0	14·8	13·9
10. Exchange, ...	4	5	3	4	5	7	16·0	17·5	10·7	22·2	27·7	30·4
11. Blythswood, ...	10	4	7	7	13	9	40·0	16·7	20·6	21·2	42·0	24·3
12. Broomielaw, ...	17	24	17	20	17	32	10·4	14·0	9·7	12·0	10·0	17·1
13. Anderston, ...	55	47	39	61	65	71	6·1	5·5	4·6	7·7	8·6	8·5
14. Sandyford, ...	48	45	43	33	58	60	8·7	9·1	8·5	6·6	12·0	11·4
15. Park, ...	23	18	29	48	37	27	11·8	8·3	11·8	17·1	12·8	9·2
16. Cowcaddens, ...	134	108	107	106	123	118	12·9	11·4	11·4	13·6	15·1	12·0
17. Woodside, ...	76	88	77	92	89	69	6·4	8·1	7·2	10·7	9·3	6·8
18. Hutchesontown, ...	89	85	79	81	75	80	6·4	5·9	6·0	6·7	7·0	6·4
19. Gorbals, ...	77	92	82	78	79	69	8·6	11·0	9·4	10·7	10·7	8·6
20. Kingston, ...	73	78	72	76	85	92	7·7	9·6	9·3	9·8	11·1	10·9
21. Govanhill, ...	44	37	41	54	51	54	3·8	3·5	4·1	6·2	6·3	5·8
22. Langside, ...	19	19	18	19	22	28	2·5	2·5	2·5	3·1	4·1	4·7
23. Pollokshields, ...	12	11	6	3	7	11	6·6	6·6	3·9	2·5	4·4	6·6
24. Kelvinside, ...	8	11	9	9	10	13	3·0	3·7	3·4	4·1	3·8	5·4
25. Maryhill, ...	68	56	58	53	86	74	5·2	4·4	4·9	5·4	8·9	6·8
26. Kinning Park, ...	27	28	27	31	29	31	6·2	6·3	6·5	8·5	8·3	7·6
Institutions and Harbour, ...	50	34	36	29	32	21	...	...	...	...	...	...
Old City, ...	1,558	1,368	1,373	1,485	1,589	1,611	7·0	6·4	6·7	8·2	8·9	5·9
27. Plantation, ...	73	63	51	91	65	65	8·0	7·3	6·1	11·2	8·4	8·2
28. Ibrox, ...	29	30	34	18	37	26	4·1	4·8	4·8	3·1	6·3	4·1
29. Govan (Central), ...	47	38	19	24	39	28	5·6	4·7	2·3	3·4	5·9	3·6
30. Fairfield, ...	31	15	24	24	20	28	4·6	2·4	3·6	4·3	3·6	4·6
31. Partick (East), ...	31	24	29	20	33	34	6·3	4·7	6·6	4·6	7·2	6·8
32. Partick (Central), ...	32	34	29	37	35	43	3·5	3·8	3·5	4·6	4·8	5·6
33. Partick (West), ...	16	19	23	17	25	26	2·4	3·0	3·9	3·3	4·6	4·8
34. Jordanhill, ...	7	8	6	13	13	7	2·0	2·4	2·0	4·2	5·2	3·0
35. Pollokshaws, ...	26	19	23	18	17	21	6·5	5·3	7·4	7·0	6·1	6·8
36. Cathcart, ...	9	6	11	6	11	4	2·7	2·2	3·5	2·8	5·2	1·7
37. Shettleston and Tollcross, ...	32	19	34	18	28	37	3·5	2·4	4·3	2·6	4·2	4·8
Institutions and Harbour, ...	...	...	...	...	...	...	...	...	...	...	...	...
Total, Annexed Areas,	333	275	283	286	323	319	4·6	4·1	4·3	4·9	5·6	5·2
Total, Greater Glasgow,	1,891	1,643	1,656	1,771	1,912	1,930	6·8	5·9	6·1	7·4	8·1	7·5

TABLE VIII.—Glasgow.—DEATHS and Death-rates *per Million* in each Municipal Ward, for the Years 1914-19.

Municipal Wards.	Deaths.						Rate per Million.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919
1. Dalmarnock,	906	1,027	905	875	990	866	17,106	18,674	16,065	15,361	17,304	15,5
2. Calton,	702	852	675	589	710	685	20,880	24,080	18,413	15,761	18,900	18,0
3. Mile-end,	905	1,073	771	817	865	801	18,920	21,935	15,485	16,274	17,298	16,0
4. Whitevale,	639	767	575	553	593	565	19,685	23,065	16,924	16,161	17,251	16,5
5. Dennistoun,	432	461	431	456	466	474	10,867	11,522	10,702	11,291	11,519	11,7
6. Springburn,	807	877	724	713	823	655	17,265	18,083	14,579	14,255	16,305	12,9
7. Cowlairs,	434	526	443	446	444	496	13,991	16,372	13,406	13,255	13,031	14,5
8. Townhead,	602	687	611	568	682	642	16,912	18,709	16,069	14,739	17,350	16,3
9. Blackfriars,	390	467	341	406	380	440	20,207	23,907	16,914	19,374	17,819	20,7
10. Exchange,	27	22	20	21	26	30	18,646	14,716	12,587	13,258	16,099	18,7
11. Blythswood,	26	28	19	30	38	24	11,125	11,770	8,768	12,305	15,587	9,0
12. Broomielaw,	147	169	130	127	133	149	24,302	26,850	19,254	18,486	18,957	21,1
13. Anderston,	518	605	461	487	534	546	18,327	21,175	15,712	16,533	18,022	18,7
14. Sandyford,	396	457	404	398	403	486	16,852	19,202	16,522	16,087	16,188	19,9
15. Park,	263	333	275	274	291	403	11,250	14,085	11,522	11,392	11,978	16,5
16. Cowcaddens,	701	799	686	708	668	762	20,636	23,767	19,230	19,353	17,663	19,2
17. Woodside,	610	765	514	620	649	716	14,348	17,499	11,549	13,779	14,303	15,6
18. Hutchesontown,	800	873	682	718	794	795	19,941	21,258	16,024	16,631	18,303	18,1
19. Gorbals,	528	591	512	543	573	598	15,458	17,014	14,316	14,951	15,661	16,5
20. Kingston,	590	669	603	570	601	566	18,045	20,133	17,589	16,349	17,079	16,4
21. Govanhill,	497	554	476	498	520	504	12,898	14,243	12,185	12,692	13,229	12,7
22. Langside,	429	492	410	401	414	487	9,950	11,350	9,457	9,239	9,521	11,3
23. Pollokshields,	185	238	207	189	191	248	9,905	12,703	11,000	9,943	9,989	12,9
24. Kelvinside,	194	198	215	184	249	236	8,678	8,812	9,614	8,227	10,987	10,4
25. Maryhill,	575	689	546	557	592	640	13,578	15,766	12,263	12,415	13,069	14,4
26. Kinning Park,	237	319	233	237	207	232	18,829	24,366	17,250	17,456	15,358	16,8
— Institutions and Harbour,	644	700	585	617	842	666	—	—	—	—	—	
Old City,	13,184	15,238	12,454	12,602	13,678	13,712	16,252	18,426	14,738	14,741	15,877	15,8
27. Plantation,	464	575	434	498	473	547	15,728	19,356	14,155	16,223	15,339	17,4
28. Ibrox,	407	415	399	351	376	341	19,599	19,247	18,194	15,960	17,092	15,8
29. Govan (Central),	447	454	407	343	435	400	19,180	19,183	17,114	14,419	18,305	16,8
30. Fairfield,	313	329	251	246	364	268	14,570	15,145	11,530	11,305	16,687	12,3
31. Partick (East),	324	403	310	314	328	355	13,977	17,309	13,190	13,320	13,874	14,8
32. ,, (Central),	388	509	348	373	398	435	13,410	17,741	12,059	12,880	13,713	14,3
33. ,, (West),	269	312	261	292	285	319	12,096	13,657	11,283	12,599	12,481	13,4
34. Jordanhill,	155	161	146	158	169	154	10,547	10,880	9,708	10,467	11,225	10,8
35. Pollokshaws,	221	203	188	171	195	191	16,057	14,686	13,439	12,140	13,352	13,2
36. Cathcart,	128	183	153	139	147	165	8,588	12,170	10,167	9,233	9,750	10,9
37. Shettleston and Tollcross,	388	428	326	329	393	374	14,270	15,590	11,843	11,969	14,289	13,7
— Institutions and Harbour,	72	55	55	53	127	44	—	—	—	—	—	
Totals— Annexed Areas,	3,576	4,027	3,278	3,267	3,690	3,593	14,613	16,265	13,105	13,034	14,688	13,4
Greater Glasgow,	16,760	19,265	15,732	15,869	17,368	17,305	15,872	17,926	14,365	14,354	15,609	15,2
+ Inward Transfer Deaths,	17,518	20,158	16,601	16,691	18,362	18,237	16,590	18,758	15,158	15,098	16,502	15,6

TABLE IX.—GLASGOW.—DEATHS (ADJUSTED FOR TRANSFERS) AND DEATH-RATES *per Million* FROM DIFFERENT DISEASES, FOR THE YEARS 1914-1919.

DISEASE.	DEATHS.						RATE PER MILLION.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
Enteric Fever, ...	81	54	39	14	28	16	77	50	36	13	25	14
Typhus Fever, ...	2	...	6	1	10	7	2	...	5	1	9	6
Smallpox, ...	...	...	...	...	...	...	...	...	...	...	...	...
Measles, ...	491	931	516	629	369	328	465	866	471	569	332	294
Scarlet Fever, ...	227	281	161	36	25	49	215	261	147	33	22	44
Whooping-cough,... ...	524	1,013	162	857	413	630	496	943	148	775	371	565
Diphtheria & Mem. Croup,	153	167	138	153	183	161	145	155	126	138	164	144
Croup, ...	9	5	3	3	6	3	9	5	3	3	5	3
Influenza,...	69	123	99	73	2,015	1,761	65	114	90	66	1,812	1,580
Erysipelas, ...	39	65	34	27	23	37	37	60	31	24	21	33
Septicæmia, ...	58	36	42	38	42	25	55	34	38	34	38	22
Other Septic Diseases, ...	43	30	32	22	22	21	41	28	29	20	20	19
Pulmonary Tuberculosis,...	1,383	1,489	1,445	1,405	1,385	1,178	1,310	1,386	1,319	1,271	1,245	1,057
Tuberculous Meningitis, ...	311	263	283	247	233	176	295	245	258	223	209	158
Abdominal Tuberculosis,	212	184	210	188	193	157	201	171	192	170	173	141
Other Tuberculous Diseases,	186	142	198	187	203	167	176	132	181	169	182	150
Cancer (Malignant Disease),	1,067	1,034	1,046	1,107	1,164	1,215	1,010	962	955	1,001	1,046	1,090
Rheumatic Fever, ...	88	80	77	50	30	35	83	74	70	45	27	31
Alcoholism, ...	48	58	39	31	6	21	45	54	36	28	5	19
Cerebro-Spinal Fever, ...	33	121	87	48	38	45	31	113	79	43	34	40
Meningitis (not Tuberculous), ...	226	251	165	174	194	154	214	234	151	157	174	138
Cerebral Hæmorrhage (Apoplexy), ...	813	887	863	827	842	851	770	825	788	748	757	763
Other Nervous Diseases,...	786	897	807	760	755	739	744	835	737	687	679	663
Organic Heart Diseases,...	1,330	1,471	1,318	1,331	1,283	1,350	1,260	1,369	1,203	1,204	1,153	1,211
Other Circulatory Diseases,	480	462	370	389	389	417	456	430	338	352	350	374
Bronchitis, ...	1,109	1,684	1,052	1,030	1,053	1,223	1,050	1,567	961	932	946	1,097
Pneumonia (all forms), ...	1,551	2,022	1,493	1,511	2,275	2,137	1,470	1,882	1,363	1,368	2,046	1,918
Other Respiratory Diseases,	298	367	291	252	253	280	282	342	266	228	227	251
Diarrhœa and Enteritis, ...	831	650	790	543	531	531	787	605	721	491	477	476
Appendicitis and Typhlitis,	89	102	85	102	104	97	84	95	78	92	93	87
Cirrhosis of the Liver, ...	57	40	52	37	29	32	54	37	48	32	26	29
Other Digestive Diseases,	528	558	530	480	484	433	500	519	484	434	435	388
Nephritis and Bright's Disease, ...	562	642	593	637	575	520	532	597	542	576	517	467
Puerperal Fever, ...	81	73	69	61	45	53	77	68	63	55	40	48
Other Accidents and Diseases of Pregnancy and Parturition, ...	80	100	98	78	112	97	76	93	89	71	101	87
Congenital Debility and Malformation, including Premature Birth, ...	1,239	1,212	1,082	1,031	981	1,064	1,173	1,128	988	933	882	955
Violence, ...	672	705	685	608	558	567	636	656	626	550	501	509
Unknown, ...	52	64	33	33	33	23	49	60	30	30	30	21
All other Causes,... ...	1,709	1,895	1,608	1,691	1,478	1,637	1,618	1,763	1,468	1,531	1,328	1,469
Total, ...	17,518	20,158	16,601	16,691	18,362	18,237	16,590	18,758	15,158	15,098	16,502	16,361

TABLE X.—Glasgow.—DEATH-RATES per 1,000, from "All" and "Specified" Causes, for the Years 1914-1919.

	1914.		1915.		1916.		1917.		1918.		1919.	
I. Principal Zymotic Diseases, ...	...	2·218	...	2·993	...	1·733	...	2·063	...	1·434	...	1·58
Smallpox, ...	...	...	...	...	...	...	...	...	...	...	...	..
Diphtheria, ...	·145	...	·155	...	·126	...	·138	...	·164	...	·144	..
Scarlet Fever, ...	·215	...	·261	...	·147	...	·033	...	·022	...	·044	..
Typhus Fever, ...	·002	...	...	...	·005	...	·001	...	·009	...	·006	..
Enteric Fever, ...	·077	...	·050	...	·036	...	·013	...	·025	...	·014	..
Cerebro-Spinal Fever, ...	·031	...	·113	...	·079	...	043	...	·034	...	·040	..
Measles, ...	·465	...	·866	...	·471	...	·569	...	·332	...	·294	..
Whooping-cough, ...	·496	...	·943	...	·148	...	·775	...	·371	...	·565	..
Diarrhœa and Enteritis, ...	·787	...	·605	...	·721	...	·491	...	·477	...	·476	..
II. Septic Diseases, ...	...	·133	...	·122	...	·098	...	·078	...	·079	...	·07
III. Tuberculous Diseases, ...	...	1·982	...	1·934	...	1·950	...	1·833	...	1·809	...	1·8
Phthisis, ...	1·310	...	1·386	...	1·319	...	1·271	...	1·245	...	1·057	..
Other Tuberculous Diseases, ...	·672	...	·548	...	·631	...	·562	...	·564	...	·449	..
IV. Cancer (Malignant Disease), ...	...	1·010	...	·962	...	·955	...	1 001	...	1·046	...	1·0
V. Diseases of Nervous System, ...	...	1·728	...	1·894	...	1·676	...	1.592	...	1·610	...	1·5
VI. ,, Circulatory System,	...	1·716	...	1·799	...	1·541	...	1·556	...	1·503	...	1·5
VII. ,, Respiratory ,,	...	2·802	...	3·791	...	2·590	...	2·528	...	3·219	...	3·2
Pneumonia, ...	1·470	...	1·882	...	1·363	...	1·368	...	2 046	...	1·918	..
Other Respiratory Diseases, ...	1·332	...	1·909	...	1·227	...	1·160	...	1·173	...	1 348	..
VIII. Other Causes, ...	...	5·001	...	5 263	...	4·615	...	4·447	...	5·802	...	5·6
All Causes, ...	...	16·590	..	18·758	...	15·158	...	15·098	...	16·502	...	16·3
Birth-rate, ...	...	27·895	...	26·002	...	24·733	...	21·735	...	21·133	...	23·1
Deaths under 1 year per 1,000 Births,	...	133	...	143	...	111	...	129	...	113	...	

TABLE XI.—Glasgow.—SEX and AGE DISTRIBUTION of DEATHS, also Number per 1,000 Deaths, for the Years 1914-1919.

	AGE.													Total.
	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+	
1914.—Males, ...	2,177	716	487	246	146	200	217	541	694	913	1,153	1,022	502	9,014
Females, ...	1,736	620	457	223	158	192	204	568	630	771	973	1.089	883	8,504
Total, ...	**3.913**	**1.336**	**944**	**469**	**304**	**392**	**421**	**1.109**	**1.324**	**1.684**	**2.126**	**2.111**	**1.385**	**17,518**
1915.—Males, ...	2,197	922	702	291	169	217	193	516	753	1,162	1,383	1,222	651	10,378
Females, ...	1,810	882	644	285	179	200	233	550	724	798	1,132	1,217	1,126	9,780
Total, ...	**4.007**	**1.804**	**1.346**	**576**	**348**	**417**	**426**	**1.066**	**1.477**	**1.960**	**2.515**	**2.439**	**1.777**	**20.158**
1916.—Males, ...	1,625	624	476	246	154	198	182	450	635	959	1,221	1.142	604	8,516
Females, ...	1,371	560	449	265	168	195	238	499	592	719	931	1,127	971	8,087
Total, ...	**2.996**	**1.184**	**925**	**511**	**322**	**393**	**420**	**949**	**1.227**	**1.678**	**2,152**	**2.269**	**1.575**	**16,603**
1917.—Males, ...	1,704	684	531	243	137	199	142	377	624	981	1,267	1.194	602	8,685
Females, ...	1,387	648	515	255	166	198	212	476	608	722	880	1,044	895	8,006
Total, ...	**3.091**	**1.332**	**1.046**	**498**	**303**	**397**	**354**	**853**	**1.232**	**1.703**	**2.147**	**2.238**	**1.497**	**16.691**
1918.—Males, ...	1.531	662	655	313	223	253	260	635	681	1,052	1.227	1.165	614	9,272
Females, ...	1,129	601	651	315	236	327	380	904	751	820	984	1,084	909	9,091
Total, ...	**2.660**	**1.263**	**1.306**	**628**	**459**	**580**	**640**	**1.539**	**1.432**	**1.872**	**2.211**	**2.249**	**1.523**	**18.363**
1919.—Males, ...	1,687	587	505	281	132	235	212	544	690	1.013	1 397	1,235	649	9,161
Females, ...	1,250	583	588	255	181	222	303	715	616	836	1,112	1,221	1,188	9,070
Total, ...	**2,937**	**1.170**	**1,093**	**536**	**313**	**457**	**515**	**1.259**	**1.306**	**1.849**	**2.509**	**2.456**	**1.837**	**18,231**
Number per 1,000 Dying in several Age-Periods, 1914,	224	76	54	27	17	22	24	63	76	96	121	121	79	1,0
1915,	199	89	67	29	17	21	21	53	73	97	125	121	88	1,0
1916,	180	71	56	31	19	24	25	57	74	101	130	137	95	1,0
1917,	186	80	63	30	18	24	21	51	74	102	128	134	89	1,0
1918,	145	69	71	34	25	32	35	84	78	102	120	122	83	1,0
1919,	160	64	60	29	17	25	28	69	71	100	143	134	100	1,0

TABLE XII.—Glasgow.—Number of Outward and Inward Transfer Deaths for the Years 1914-1919.

Cause of Death.	Outward Transfers.						Inward Transfers.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
Enteric Fever, ...	2	1	5	1	1	...	3	1	2	...	3	.
Typhus Fever, ...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox, ...	...	...	...	...	...	...	...	...	...	...	...	...
Measles, ...	1	1	3	2	...	...	...	1	...	1	...	...
Scarlet Fever, ...	8	4	1	...	1	...	...	...	...	...	...	...
Whooping-cough, ...	...	...	1	1	...	...	2	3	3	3	1	2
Diphtheria and M. Croup, ...	5	2	6	3	3	...	1	...	2	...	...	...
Croup, ...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza, ...	4	3	...	3	115	71	3	7	4	6	96	31
Erysipelas, ...	3	1	4	1	1	...	...	...	2	...	...	...
Septicæmia, ...	14	9	14	7	5	6	6	1	2	1	6	...
Other Septic Diseases, ...	4	4	3	4	7	4	...	3	1	...	...	1
Pulmonary Tuberculosis, ...	21	30	28	46	96	41	115	120	103	77	111	116
Tuberculous Meningitis, ...	6	11	5	7	13	6	9	2	10	5	9	3
Abdominal Tuberculosis, ...	9	11	18	16	12	13	6	8	7	12	19	15
Other Tuberculous Diseases,	13	14	17	14	14	24	13	11	17	10	15	20
Cancer (Malignant Disease),	109	153	128	164	162	183	21	31	33	28	34	33
Rheumatic Fever, ...	6	3	2	3	2	3	4	3	4	2	1	...
Alcoholism, ...	3	1	...	2	...	...	4	1	1	2	...	...
Cerebro-Spinal Fever, ...	...	3	7	6	8	...	...	1	...	3	...	...
Meningitis (not Tuberculous),	5	8	12	12	4	13	8	6	4	5	4	3
Cerebral Hæmorrhage (Apopl.)	20	13	11	25	18	24	38	57	65	47	62	78
Other Nervous Diseases, ...	33	54	37	38	37	41	140	206	184	217	216	157
Organic Heart Diseases, ...	43	47	52	42	45	69	92	76	96	96	83	96
Other Circulatory Diseases,	19	31	17	21	23	29	28	26	19	19	13	20
Bronchitis, ...	12	19	16	21	18	20	23	34	39	24	18	35
Pneumonia (all forms), ...	42	70	52	45	188	106	43	57	47	36	61	56
Other Respiratory Diseases,	13	16	21	12	20	20	10	23	8	10	6	7
Diarrhœa and Enteritis, ...	7	7	11	15	22	26	17	17	24	17	38	31
Appendicitis and Typhlitis,	58	54	67	70	76	69	4	...	2	3	5	...
Cirrhosis of the Liver, ...	5	6	5	9	4	5	1	1	2	2	24	1
Other Digestive Diseases, ...	134	124	123	104	106	103	17	19	20	20	16	21
Nephritis and Bright's Disease,	31	37	40	37	35	28	25	22	23	13	...	18
Puerperal Fever, ...	6	7	8	7	8	4	...	...	...	...	...	1
Other Accidents and Diseases of Pregnancy and Parturition,	18	13	26	18	17	18	1	3	3	3	1	1
Congenital Debility and Malformation, including Premature Birth, ...	22	25	22	41	22	47	3	8	6	11	19	8
Violence, ...	135	166	212	205	215	176	49	59	56	76	43	61
Unknown, ...	...	...	...	...	...	...	2	2	...	1	...	...
All other causes, ...	148	138	169	208	155	159	70	84	80	72	90	117
Totals, ...	959	1,086	1,143	1,210	1,453	1,308	758	893	869	822	994	932

TABLE XIII.—Glasgow, 1914-1919.—Deaths occurring in Institutions, Nursing Homes, &c.

1914.	1915.	1916.	1917.	1918.	1919.	DISEASE.
74	50	34	14	21	14	1. Enteric Fever, ...
2	...	6	1	9	6	2. Typhus Fever, ...
...	...	...	...	...	...	3. Smallpox, ...
161	138	98	148	76	87	4. Measles, ...
214	252	156	34	25	44	5. Scarlet Fever, ...
131	204	33	169	88	120	6. Whooping-cough, ...
131	147	118	137	164	154	7. Diphtheria and Membranous Croup, ...
...	...	...	...	...	1	8. Croup, ...
...	8	8	5	359	414	9. Influenza, ...
27	43	23	22	13	31	10. Erysipelas, ...
34	23	27	18	25	19	11. Septicæmia, ...
29	24	25	16	10	12	11A Other Septic Diseases, ...
744	642	682	627	579	506	12. Pulmonary Tuberculosis, ...
75	81	80	83	84	65	13. Tuberculous Meningitis, ...
47	31	40	43	49	50	14. Abdominal Tuberculosis, ...
84	60	70	87	109	82	15. Other Tuberculous Diseases, ...
352	361	400	391	383	370	16. Cancer (Malignant Disease), ...
14	17	13	10	11	3	17. Rheumatic Fever, ...
15	14	8	10	...	2	18. Alcoholism, ...
14	96	64	26	22	44	19. Cerebro-spinal Fever, ...
31	35	35	34	47	32	20. Meningitis (not Tubercular), ...
215	200	193	216	197	192	21. Cerebral Hæmorrhage (Apoplexy)
150	173	165	177	170	203	22. Other Nervous Diseases, ...
370	360	337	361	306	306	23. Organic Heart Disease, ...
220	141	102	127	123	124	24. Other Circulatory Diseases, ...
134	271	157	170	149	198	25. Bronchitis, ...
383	499	373	341	628	512	26. Pneumonia (all forms), ...
58	62	61	29	36	52	27. Other Respiratory Diseases, ...
107	57	85	64	70	90	28. Diarrhœa and Enteritis, ...
74	92	76	86	89	88	29. Appendicitis and Typhlitis, ...
17	16	20	13	11	12	30. Cirrhosis of the Liver, ...
188	203	201	178	181	187	31. Other Digestive Diseases, ...
229	271	271	345	270	262	32. Nephritis and Bright's Disease,
72	57	62	53	37	47	33. Puerperal Fever, ...
46	45	40	40	62	66	34. Other Accidents and Diseases of Pregnancy and Parturition, ...
155	157	145	176	162	222	35. Congenital Debility and Malformation, including prematurebirth,
299	335	333	267	274	245	36. Violence, ...
5	5	2	2	2	...	37. Unknown, ...

TABLE XIV.—Glasgow, 1914-1919.—Deaths in Several Classes of Institutions of Persons formerly Resident in the City but with no Home Address.

Poor Law Institutions.	Model Lodging-houses.	General Hospitals.	Infectious Diseases Hospitals.	Homes for Old Men, Women, and Orphans, Barracks, Asylums, Prisons, and Harbour.	Total.
2	...	3	4	8	17
...	...	...	...	...	...
...	...	...	...	...	...
17	2	4	4	1	28
...	...	...	11	1	12
5	3	...	6	...	14
1	1	3	5	...	10
...	...	...	...	...	...
4	56	31	10	38	139
3	1	1	7	1	13
3	2	2	...	...	7
2	10	1	...	1	14
99	479	7	20	48	653
3	2	1	1	4	11
3	1	1	1	6	12
21	27	4	2	31	85
38	158	31	...	27	254
...	3	...	1	...	4
...	14	...	...	1	15
...	3	4	5	2	14
1	2	2	...	2	7
45	158	6	...	18	227
50	43	4	1	48	146
65	198	7	...	82	352
41	64	8	2	62	177
47	272	8	1	37	365
72	297	41	2	52	464
7	20	5	1	21	54
20	10	3	...	6	39
1	2	4	...	5	12
3	4	...	...	...	7
10	21	13	...	15	59
73	267	13	1	16	370
...	...	1	1	...	2
1	1	4	...	...	6
60	9	14	5	9	97
5	104	35	1	91	236
...	59	...	...	4	63
78	281	26	4	91	475

TABLE XV.—Glasgow.—DEATHS under 1 Year, and Death-Rate per 1,000 Births in each Municipal Ward, for the Years 1914-1919.

Municipal Wards.	Deaths under 1 Year.						Rate per 1,000 Births.					
	1914.	1915.	1916.	1917.	1918.	1919.	1914.	1915.	1916.	1917.	1918.	1919.
. Dalmarnock, ...	308	285	227	199	190	163	164	154	130	123	123	96
. Calton, ...	186	194	138	119	112	115	165	191	146	132	129	106
. Mile-end, ...	257	287	188	202	159	177	151	176	121	151	118	79
. Whitevale, ...	169	170	117	119	89	94	169	177	130	145	117	97
. Dennistoun, ...	82	77	59	58	46	54	89	85	65	80	69	84
. Springburn, ...	223	223	151	170	160	150	142	140	98	125	116	115
. Cowlairs, ...	107	141	98	88	70	89	108	157	110	107	93	99
. Townhead, ...	138	144	101	122	90	112	139	155	113	149	111	118
. Blackfriars, ...	97	108	80	101	54	75	161	207	159	231	121	139
. Exchange, ...	3	7	2	2	5	5	120	259	71	111	278	217
. Blythswood. ...	6	—	3	5	4	2	240	—	88	152	129	54
. Broomielaw, ...	34	34	20	27	21	25	209	198	114	160	124	134
. Anderston, ...	141	133	113	105	101	103	156	156	132	133	147	123
. Sandyford, ...	81	87	69	61	47	72	147	175	136	122	97	137
Park, ...	13	23	17	23	20	31	67	106	69	88	69	105
. Cowcaddens, ...	162	141	139	148	111	150	157	149	149	190	136	153
. Woodside, ...	137	176	86	119	86	110	116	161	81	138	90	109
. Hutchesontown, ...	219	224	167	174	149	138	157	157	127	144	140	111
. Gorbals, ...	124	113	95	105	113	101	139	135	108	130	153	125
. Kingstston, ...	129	116	107	115	86	104	136	143	138	147	112	123
. Govanhill, ...	137	120	96	93	67	85	119	113	96	107	83	91
Langside, ...	41	51	31	26	34	46	53	67	43	43	63	77
. Pollokshields, ...	10	8	3	6	8	12	55	48	19	50	51	72
. Kelvinside, ...	16	13	9	9	12	9	59	43	34	41	46	38
. Maryhill, ...	146	147	107	112	98	107	111	115	90	113	102	97
. Kinning Park, ...	61	63	53	76	33	48	140	142	129	209	94	106
Institutions and Harbour, ...	48	21	22	30	31	43	—	—	—	—	—	—
Old City. ..	3,075	3,106	2,298	2,414	1,996	2,220	138	146	112	133	112	113
. Plantation, ...	109	121	80	114	82	106	119	141	96	140	106	133
. Ibrox.	104	83	91	79	66	72	147	133	130	136	111	113
. Govan Central, ...	118	114	109	75	97	95	141	143	132	108	145	124
. Fairfield, ...	73	74	58	46	56	61	108	117	87	82	101	101
. Partick East, ...	56	72	57	38	54	52	113	143	130	88	118	104
. ,, Central, ...	103	125	79	88	77	84	113	142	95	111	106	109
,, West, ...	67	74	56	59	40	55	101	118	94	115	74	100
. Jordanhill, ...	34	27	19	24	19	29	95	81	63	78	76	123
. Pollokshaws, ...	42	36	39	24	27	22	108	101	125	94	97	71
. Cathcart, ...	16	25	19	8	10	19	52	93	60	37	47	83
. Shettleston and Tollcross, ...	102	119	60	81	66	80	113	151	76	115	99	104
Institutions and Harbour, ...	—	—	—	—	—	—	—	—	—	—	—	—
Added Area, ...	824	870	667	636	594	675	115	130	101	108	104	110
Greater Glasgow, ...	3,899	3,976	2,965	3,050	2,590	2,895	132	142	109	127	110	112
Inward Transfer Deaths,	3,913	4,007	2,996	3,091	2,660	2,937	133	143	111	129	113	114

TABLE XVI.—GLASGOW.—DEATHS UNDER 4 WEEKS AND 1 YEAR, IN SEXES, FROM SEVERAL CAUSES FOR YEARS 1914-1919.

CAUSE OF DEATH.	MALES.												FEMALES.											
	1914.		1915.		1916.		1917.		1918.		1919.		1914.		1915.		1916.		1917.		1918.		1919.	
	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.	–4 weeks.	Total –1 year.
I. IMMATURITY—																								
(*a*) Premature Birth, ...	339	370	297	320	269	292	185	226	279	298	280	307	262	282	226	244	199	216	174	194	163	181	228	245
(*b*) Congenital Malformations, ...	37	59	29	48	27	48	30	44	29	47	34	46	28	45	31	50	26	35	26	40	17	25	27	34
(*c*) Atelectasis, ...	18	22	24	25	15	18	8	8	7	8	24	29	14	14	8	8	10	15	6	7	14	18	13	17
(*d*) Atrophy and Debility, ...	169	262	153	284	130	239	212	291	130	211	156	249	105	193	124	228	125	218	116	208	114	182	97	158
II. DISEASES OF RESPIRATORY SYSTEM,	46	406	52	514	28	318	32	337	31	378	36	368	45	350	42	363	26	254	28	274	16	281	18	239
III. DISEASES OF DIGESTIVE SYSTEM—																								
(*a*) Diarrhœal, ...	22	311	16	196	5	255	12	174	11	175	12	169	14	263	9	182	8	203	5	146	9	107	5	123
(*b*) Others, ...	8	83	12	66	3	53	11	64	2	31	4	38	9	46	10	53	9	44	4	31	3	21	4	28
IV. DISEASES OF NERVOUS SYSTEM, ...	38	163	30	132	23	98	12	101	10	99	26	101	16	114	18	107	20	91	7	73	11	60	12	68
V. TUBERCULOUS DISEASES—																								
(*a*) Abdominal Tuberculosis, ...	...	24	...	19	1	20	1	19	...	9	1	9	1	16	1	10	...	10	...	9	...	9	...	5
(*b*) Tubercular Meningitis, ...	...	69	...	21	...	21	...	20	...	14	...	20	1	26	...	30	...	25	1	35	...	15	...	14
(*c*) Other Forms, ...	...	12	1	11	1	13	...	17	...	9	...	8	1	6	...	6	...	9	...	9	...	4	...	5
VI. ACCIDENTS OF BIRTH—																								
(*a*) Injury, ...	13	13	7	8	13	13	11	11	11	11	7	7	12	12	3	3	8	8	9	9	6	6	6	6
(*b*) Umbilical Hæmorrhage, ...	1	1	2	2	...	...	1	1	3	4	3	3	1	1	...	...	1	1	2	2	2	2	1	2
VII. INFECTIOUS DISEASES—																								
(*a*) Whooping-cough, ...	2	118	1	186	...	19	2	140	1	71	...	96	2	117	3	209	...	33	5	155	2	69	3	97
(*b*) Measles, ...	...	61	...	138	1	61	...	75	...	34	...	38	...	59	...	134	5	68	...	65	...	34	1	34
(*c*) Scarlet Fever, ...	...	6	1	5	...	2	...	3	...	1	...	1	...	12	...	4	...	3	...	1	...	...	...	2
(*d*) Cerebro-Spinal Fever, ...	...	2	1	12	...	12	...	7	...	7	...	10	1	4	...	17	...	15	...	2	...	2	...	5
(*e*) Erysipelas, ...	1	3	1	8	1	4	...	...	...	4	2	5	...	3	1	6	1	3	1	4	...	1	1	5
(*f*) Diphtheria and Memb. Croup,	1	15	...	18	...	12	...	4	...	12	...	9	...	12	...	7	...	8	...	9	...	7	1	4
(*g*) Enteric Fever, ...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
(*h*) Chicken-pox, ...	...	2	...	1	...	1	...	2	...	...	...	2	...	6	...	1	...	2	...	...	...	...	...	...
VIII. SYPHILIS, ...	7	29	2	16	6	20	3	27	5	21	8	24	4	25	6	21	3	16	4	21	4	15	3	22
IX. SUFFOCATION, ...	5	12	4	9	2	4	...	9	4	6	3	5	4	12	2	12	2	8	3	5	3	6	3	4
X. OTHER VIOLENCE, ...	5	15	5	15	2	12	1	9	2	8	5	10	3	10	5	9	1	3	1	9	3	9	1	2
XI. ALL OTHER CAUSES, ...	47	114	50	124	30	71	43	88	18	41	25	113	39	97	40	94	30	71	31	65	11	37	13	109
	...	...	...	...	...	1,606	564	1,677	543	1,499	626	1,667	562	1,726	529	1,798	474	1,359	423	1,373	378	1,091	437	1,228

ABLE XVII.—Glasgow, 1914-1919.—Abstract of Notifications under Notification of Births Act, 1907, and Results of Visits.

	1914.	1915.	1916.	1917.	1918.	1919.
Total Number of Notifications, ...	31,055	29,159	23.338	24,948	24,327	27,328
Doctor at Home, ...	13,579	12,459	11,504	8,492	7,677	8,284
Doctor in Institution, ...	1,276	1,268	1,237	1,373	1,523	1,963
Maternity Hospital (Outdoor) Nurse, ...	3,181	1,881	1,716	1,707	1,555	2,143
Other Institutional Nurse, ...		923	901	842	702	604
Certified Midwife, ...	13,019	10,637	11,361	11,306	12,311	13,903
Others, ...		1,991	1,619	1,228	559	431
Total Cards issued, ...	17,476	16,700	16,834	16,456	16,650	19,044
Total Cards returned, ...	17,381	16,725	16,726	16,425	16,574	18,286
Full Information, ...	16,077	15,931	15,855	15,562	15,586	16,958
Doctor found in attendance, ...	221	195	153	281	248	167
Duplicates, ...	28	17	21	11	8	1
Wrong Address—Not Traced, ...	145	18	59	14	2	5
Others, ...	910	564	638	557	730	1,155

ABLE XVIII.—Glasgow, 1914-1919.—BIRTHS Notified showing Medically and not Medically Attended

	1914.	1915.	1916.	1917.	1918.	1919.
tifications Received—*less Duplicates*—						
Total, ...	31,027	29,142	28,317	24.937	24,319	27,327
Live-births, ...	29,691	27,964	27,297	24,033	23.415	26,227
Still-births, ...	1,336	1,178	1,020	904	904	1,100
Per cent. Still-births to Total, ...	4·3	4·0	3·6	3·6	3·7	4·0
dically attended—						
Total Births at Home, ...	13,800	12,459	11,504	8,492	7,677	8,284
In Institutions, ...	1,276	1,267	1,237	1,373	1,523	1,963
Total, ...	15,076	13,726	12,741	9,865	9,200	10,247
Per cent., ...	48·6	47·1	45·0	39·6	37·8	37·5
Still-births at Home, ...	591	489	485	273	234	318
Still-births in Institutions, ...	221	217	113	196	203	303
t Medically attended—						
Maternity Hospital, Outdoor Nurse,...	3,181	1,876	1,714	1,705	1,554	2,142
Other Institutional Nurses, ...		923	900	841	702	604
Certified Midwives, ...	12,770	10,629	11,350	11,304	12,310	13,903
Others, ...		1,988	1,612	1,222	553	431
Total, ...	15,951	15,416	15,576	15,072	15.119	17,080
Per cent., ...	51·4	52·9	55·0	60·4	62·2	62·5
Still-births.	524	472	422	435	467	479

TABLE XIX.—Glasgow, 1914-1919.—Cases of Infectious Disease Registered and Numbers Treated in Hospital.

1914.		1915.		1916.		1917.		1918.		1919.		
Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	
19	...	10	...	19	...	1	...	55	..	32	1	A.—Notifiable—
346	13	248	19	168	5	87	4	131	11	106	9	Fevers:—Typhus, ...
7	...	5	...	9	...	2	2	12	1	9	...	Enteric, ...
160	58	157	31	176	19	149	15	150	18	146	36	Continued and Undefined,
...	...	...	...	...	...	...	...	1	...	6	..	Puerperal, ...
5,217	419	5,923	495	3,814	259	1,680	126	1,239	88	2,582	142	Smallpox, ...
1,391	130	1,247	104	1,247	89	1,191	76	1,476	58	1,722	90	Scarlet Fever, ...
443	1,098	392	1,116	288	795	308	523	273	444	374	542	Diphtheria and Membranous Croup,
...	...	...	...	...	...	...	...	...	...	...	1	Erysipelas, ...
23	24	159	20	116	27	65	18	58	17	76	4	Cholera, ...
24	422	99	330	95	476	98	569	92	478	107	624	Cerebro-Spinal Fever, ...
24	15	16	102	12	59	13	80	7	44	4	83	Ophthalmia Neonatorum, ...
...	...	...	...	...	...	...	...	...	...	2	...	Trachoma, ...
...	...	...	...	...	...	...	...	6	5	21	9	Acute Encephalitis Lethargica, ...
...	...	...	...	...	...	...	...	6	14	6	14	Acute Polio-Encephalitis, ...
...	...	...	...	...	...	...	...	...	...	230	778	Acute Poliomyelitis, ...
...	...	...	...	...	...	...	...	...	...	...	...	Acute Primary Pneumonia, ...
...	...	...	...	...	...	...	...	...	...	87	1,341	Acute Influenzal Pneumonia, ...
...	...	1	...	...	...	...	...	1	...	13	104	Malaria, ...
...	...	...	...	...	...	...	...	...	...	...	12	Dysentery, ...
373	2,039	882	1,449	880	1,622	1,144	1,548	862	1,651	798	1,246	Trench Fever, ...
...	1,149	210	1,268	133	1,258	182	1,402	231	1,186	291	916	Pulmonary Tuberculosis, ...
												Other Forms of Tuberculosis, ...
927	9,233	903	12,627	770	9,665	1,084	11,883	810	7,820	725	8,314	B.—Not Notifiable—
10	138	9	107	76	402	166	920	189	209	62	114	Measles, ...
555	5,856	457	7,048	135	1,547	862	10,165	439	3,599	454	6,255	German Measles, ...
212	3,928	58	3,909	78	4,186	64	2,997	81	2,683	90	2,492	Whooping-cough, ...
...	...	...	...	...	...	...	...	535	...	932	4	Chickenpox, ...
...	...	...	...	17	15	114	...	115	...	10	...	Influenza, ...
...	...	...	...	1	...	4	...	2	...	2	...	Mumps, ...
1[1]	...	...	...	1	1[2]	5[3]	...	1[4]	...	2[5]	...	Cancrum Oris, ...
												Others, ...
9,732	24,522	10,776	28,625	8,035	20,425	7,219	30,328	6,772	18,326	8,889	23,131	

TABLE XX.—Glasgow, 1914-1919.—Case-Rates *per Million* for Infectious Diseases.

Case-Rates per Million.						
1914.	1915.	1916.	1917.	1918.	1919.	
						A.—Notifiable—
18	9	17	1	49	30	Fevers:—Typhus, ...
340	248	158	82	128	103	Enteric, ...
7	5	8	4	12	8	Continued and Undefined,
206	175	178	148	151	163	Puerperal, ...
...	...	...	...	1	5	Smallpox, ...
5,337	5,973	3,719	1,634	1,193	2,443	Scarlet Fever, ...
1,440	1,257	1,220	1,146	1,379	1,626	Diphtheria and Membranous Croup,
1,459	1,403	989	752	644	822	Erysipelas, ...
...	...	...	...	...	1	Cholera, ...
45	167	131	75	67	72	Cerebro-Spinal Fever, ...
422	399	521	603	512	656	Ophthalmia Neonatorum, ...
37	110	65	84	46	78	Trachoma, ...
...	..	...	...	...	2	Acute Encephalitis Lethargica, ...
...	...	...	...	10	27	Acute Polio-Encephalitis, ...
...	...	...	...	18	18	Acute Poliomyelitis, ...
...	..	...	...	...	904	Acute Primary Pneumonia, ...
...	...	...	...	...	...	Acute Influenzal Pneumonia, ...
...	...	...	...	...	1,281	Malaria, ...
...	1	...	...	1	105	Dysentery, ...
...	...	...	...	...	11	Trench Fever, ...
2,284	2,169	2,285	2,435	2,258	1,834	Pulmonary Tuberculosis, ...
1,088	1,375	1,270	1,433	1,273	1,083	Other Forms of Tuberculosis, ...
						B.—Not Notifiable—
9,624	12,592	9,529	11,729	7,756	8,107	Measles, ...
140	108	436	982	358	158	German Measles, ...
6,071	6,984	1,536	9,974	3,629	6,020	Whooping-cough, ...
3,921	3,692	3,893	2,769	2,484	2,316	Chickenpox, ...
...	...	...	...	481	840	Influenza, ...
...	...	29	103	103	9	Mumps, ...
...	...	1	4	2	2	Cancrum Oris, ...
1	...	2	5	1	2	Others, ...
32,440	36,667	25,987	33,963	22,556	28,726	

[1] Anthrax. [2] Anthrax (Hosp.); Tetanus (Home). [3] Tetanus, 1; Beri-beri, 2; Conjunctivitis, 2. [4] Vincent's Angina. [5] Anthrax, 1; Cancer, 1.

TABLE XXI.—Glasgow.—STATUTORY Declarations of Conscientious Objection to Vaccination in each Ward from 1913 to 1919.

Municipal Wards.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
1. Dalmarnock, ...	395	514	457	386	456	377	432
2. Calton, ...	153	193	146	172	163	138	217
3. Mile-end, ...	358	360	380	368	379	310	406
4. Whitevale, ...	178	201	198	192	204	165	251
5. Dennistoun, ...	206	222	226	221	214	163	182
6. Springburn, ...	516	515	525	544	527	417	453
7. Cowlairs, ...	325	304	295	283	262	284	284
8. Townhead, ...	179	248	220	229	234	197	189
9. Blackfriars, ...	80	91	60	57	83	72	82
10. Exchange, ...	...	2	7	6	1	5	8
11. Blythswood,...	4	5	5	6	6	4	10
12. Broomielaw, ...	13	19	30	17	20	14	16
13. Anderston, ...	156	178	137	138	132	120	134
14. Sandyford, ...	79	107	80	70	79	69	73
15. Park, ...	42	39	28	44	35	43	50
16. Cowcaddens, ...	149	159	158	146	152	143	155
17. Woodside, ...	275	309	275	297	308	233	296
18. Hutchesontown, ...	333	334	321	351	367	288	317
19. Gorbals, ...	161	124	168	123	161	123	110
20. Kingston, ...	229	290	243	274	264	242	209
21. Govanhill, ...	342	291	326	317	286	232	232
22. Langside, ...	199	178	165	169	118	119	107
23. Pollokshields, ...	34	36	37	23	14	32	32
24. Kelvinside, ...	38	37	41	35	30	36	24
25. Maryhill, ...	269	372	375	336	362	277	270
26. Kinning Park, ...	155	160	142	140	148	128	146
27. Plantation, ...	231	276	244	249	238	240	186
28. Ibrox, ...	134	177	202	197	178	160	175
29. Govan (Central), ...	245	334	341	346	309	274	291
30. Fairfield, ...	276	292	256	278	382	251	239
31. Partick (East), ...	72	101	86	56	87	86	94
32. ,, (Central), ...	194	239	196	169	199	190	170
33. ,, (West), ...	181	205	183	146	165	167	149
34. Jordanhill, ...	108	126	105	110	114	97	100
35. Pollokshaws, ...	172	186	170	147	132	108	115
36. Cathcart, ...	83	98	63	82	73	54	60
37. Shettleston and Tollcross, ...	228	228	159	279	232	188	222
Institutions, &c., ...	12	30	12	10	3	3	3
City, ...	6,804	7,580	7,062	7,013	7,017	6,049	6,489

TABLE XXII.—HOSPITAL BED ACCOMMODATION FOR INFECTIOUS DISEASES IN GLASGOW SINCE 1865 (EXCLUDING TUBERCULOSIS).

YEAR.	PARISH.			Glasgow Royal Infirmary.	LOCAL AUTHORITY.						Total Beds.	Population in Thousands.	Beds per Thousand.
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Small-pox.	Ruchill.	Shieldhall.	Knightswood.			
1865	100	120	54	200	136	...	...	...	...	...	610	428	1·4
1866	100	120	54	175	136	...	...	...	...	...	585	438	1·3
1867	...	120	54	100	136	...	...	...	...	...	410	446	0·9
1869	...	120	54	135	136	...	...	...	...	...	445	464	1·0
1870	...	120	54	100	250	250	...	...	...	...	774	471	1·7
1872	...	120	...	100	250	250	...	...	...	...	720	495	1·4
1875	...	...	...	100	250	250	...	...	...	...	600	500	1·2
1876	...	...	...	...	250	250	...	...	...	...	500	502	1·0
1878	...	...	...	...	120	250	150	...	...	...	520	507	1·0
1880	...	...	...	...	120	250	150	...	...	...	520	510	1·0
1881	...	...	...	...	120	370	150	...	...	...	640	512	1·2
1882	...	...	...	...	120	220	150	...	...	...	490	518	1·0
1887	...	...	...	...	120	390	150	...	...	...	660	545	1·2
1893	...	...	...	...	200	390	150	...	...	...	740	678	1·1
1900	...	...	...	...	200	390	150	440	...	...	1180	744	1·6
1901	...	...	...	...	200	390	220	440	...	...	1250	764	1·6
1906	...	...	...	...	...	390	220	440	...	...	1050	836	1·3
1910	...	...	...	...	...	390	220	542	...	...	1152	884	1·3
1913 *	...	...	...	...	...	390	220	542	100	81	1333	1032	1·3
1915	...	...	...	...	...	390	220	542[1]	100[2]	10[3]	1262	1106	1·1

[1] Also 272 beds for Tuberculosis.
[2] ,, 24 ,, ,,
[3] ,, 70 ,, ,,

* The City has also a part interest in Lightburn Hospital—about 7-8 beds.
,, ,, ,, Darnley ,, ,, 20 ,,

City of Glasgow Fever and Smallpox Hospitals.

RETURN BY THE MEDICAL OFFICER OF HEALTH
Showing Number, Average Residence, and Cost of Treatment of Patients, during 6 years, 1914-1920.

ORDINARY NETT EXPENDITURE, as per Treasurer's Statement :—	[1] Year 1914-1915.	1915-1916.	1916-1917.	1917-1918.	1918-1919.	1919-1920.
Hospital—						
Belvidere,	£41,858 12 1	£43,660 14 7	£40,962 19 10	£41,771 7 11	£48,758 12 3	£67,077 1 3
Belvidere, Smallpox,	960 17 2	863 14 2	818 14 8	931 15 11	890 11 1	1,461 12 6
Ruchill,[2]	52,038 7 8	57,143 17 3	59,572 12 8	68,312 10 7	78,776 14 5	106,129 1 11
Shieldhall,[2]	8,303 5 9	8,118 5 5	8,861 0 0	9,911 4 10	12,610 16 11	14,648 17 6
Knightswood,[2]	7,291 3 5	7,016 1 8	7,743 9 0	10,117 16 0	13,063 2 4	14,797 19 1
	£110,452 6 1	£116,802 13 1	£117,958 16 2	£131,044 15 3	£154,099 17 0	£204,114 12 3

[1] The Ordinary Expenditure on all the Hospitals has been thrown together. There is a certain amount of community in the Expenditure which could not be unravelled without trouble quite out of proportion to any result.

[2] Exclusive of Revenue for treating Phthisis Patients.

Average daily Number of Patients in Hospital—						
Belvidere,	583	541	336	280	307	452
Belvidere (Smallpox),[1]	23	9	8	7	7	19
Ruchill,	693	773	642	556	578	767
Shieldhall,	119	107	78	74	76	87
Knightswood,	105	81	62	75	78	80
Average daily number of Patients in Hospitals,	1,522	1,511	1,126	992	1,046	1,405

[1] Save 71 cases in 1918 all these cases were Chickenpox.

Average Daily Expenditure,	£302 12 2	£319 2 8	£323 3 6	£359 0 6·5	£422 3 6·6	£557 13 10
Average Daily Cost per Patient,	0 3 11·70	0 4 2·69	0 5 8·88	0 7 2·9	0 8 0·9	0 7 11·3
Average Cost of Treatment per Patient,	9 13 6·22	10 8 2·00	14 3 9·43	18 19 8·4	19 3 0·9	19 11 11·1
Average Cost of Bed per Year,	72 10 10·50	77 6 0·54	104 15 1·20	132 1 10·4	147 6 1·3	144 17 7·4
Average Residence of Patients Dismissed, Days.	48·71	49·28	49·44	52·46	47·44	49·35

[OVER.

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TABLE XXIII.—(*Continued*).

	Belvidere Fever Hospital.	Belvidere Smallpox Hospital.	Ruchill Hospital.	Shieldhall Hospital.	Knightswood Hospital.	Total.
Patients remaining at 31st May, 1914, ...	544	10	538	113	84	1,289
Patients admitted during 1914-1915, ...	4,465	216	4,807	810	777	11,075
Total under Treatment, 1914-1915, ...	5,009	226	5,345	923	861	12,364
Patients dismissed during 1914-1915,	4,400	217	4,666	792	757	10,832
Patients remaining at 31st May, 1915,	609	9	679	131	104	1,532
Patients admitted during 1915-1916, ...	4,276	97	5,325	787	462	10,947
Total under Treatment, 1915-1916, ...	4,885	106	6,004	918	566	12,479
Patients dismissed during 1915-1916,	4,468	98	5,321	832	490	11,209
Patients remaining at 31st May, 1916,	417	8	683	86	76	1,270
Patients admitted during 1916-1917, ...	2,811	90	4,273	534	417	8,125
Total under Treatment, 1916-1917, ...	3,228	98	4,956	620	493	9,395
Patients dismissed during 1916-1917,	2,840	88	4,301	533	415	8,177
Patients remaining at 31st May, 1917,	388	10	655	87	78	1,218
Patients admitted during 1917-1918, ...	2,693	87	3,076	505	273	6,634
Total under Treatment, 1917-1918, ...	3,081	97	3,731	592	351	7,852
Patients dismissed during 1917-1918,	2,730	88	3,211	517	279	6,825
Patients remaining at 31st May, 1918,	351	9	520	75	72	1,027
Patients admitted during 1918-1919, ...	3,362	86	3,577	544	309	7,878
Total under Treatment, 1918-1919, ...	3,713	95	4,097	619	381	8,905
Patients dismissed during 1918-1919,	3,392	83	3,496	543	302	7,816
Patients remaining at 31st May, 1919,	321	12	601	76	79	1,089
Patients admitted during 1919-1920, ...	4,273	317	5,493	695	259	11,037
Total under Treatment, 1919-1920, ...	4,594	329	6,094	771	338	12,126
Patients dismissed during 1919-1920,	4,267	172	5,168	683	256	10,546
Patients remaining at 31st May, 1920,	327	157	926	88	82	1,580

STATEMENT SHOWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE OF PATIENTS DISMISSED, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE.

Disease.	1914-1915.		1915-1916.		1916-1917.		1917-1918.		1918-1919.		1919-1920.	
	No. Dismissed	Average Days' Residence.	No. Dismissed	Average Days' Residence.	No. Dismissed	Average Days' Residence.	No. Dismissed	Average Days' Residence.	No. Dismissed	Average Days' Residence.	No. Dismissed	Average Days' Residence.
Scarlet Fever, ...	5,517	50·96	5,657	51·86	3,038	51·90	1,305	50·44	1,334	50·56	3,032	49·97
Enteric Fever, ...	381	49·73	195	47·93	147	52·02	85	57·61	130	54·12	127	55·43
Whooping-cough, ...	1,030	51·20	326	58·36	472	50·37	885	53·50	587	41·15	308	55·59
Typhus Fever, ...	8	50·13	12	54·58	16	27·06	29	31·34	40	30·80	22	29·55
Measles, ...	641	30·57	1,294	27·37	1,023	28·00	997	27·40	743	27·81	1,233	27·88
Other Infectious Diseases,(1)	2,695	51·33	3,309	55·43	3,224	56·46	2,847	70·13	4,697	51·59	5,401	55·83
Smallpox, ...	...	...	...	...	...	...	...	...	...	...	71	21·25
All other Diseases,(2) ...	560	29·51	418	27·03	335	23·55	677	17·84	285	28·17	346	19·41
All Cases, ...	10,832		11,211		8,255		6,825		7,816		10,546	

(1) Includes Phthisis, Erysipelas, Diphtheria, Chickenpox, Puerperal and Cerebro Spinal Fevers, Pneumonia, Influenza, Malaria, Dysentery, Poliomyelitis, Polio-Encephalitis, Anthrax.

(2) Includes nursing mothers besides persons sent in by mistaken diagnosis.

The above calculations of cost do not include Interest and Sinking Fund Charges.

TABLE XXIV.—Summary of Operations of Sanitary Section for the Years 1915 to 1919.

Year.	1915	1916	1917	1918	1919
I. Nuisances.					
Total Inspections made for discovery of Nuisances,	621,813	661,017	627,528	619,921	671,370
Nuisances discovered and recorded,	62,147	59,516	61,076	58,967	70,752
Do. removed or remedied,	61,226	58,455	57,529	57,155	67,898
Consisting of Accumulations of Garbage on Roofs, Courts, &c., or in Empty Houses or Cellars, or open wastage,	3,265	2,670	2,864	2,408	2,422
Apartment, Lobby, or W.C. with insufficient light or ventilation,	41	64	22	14	14
Animals or Poultry kept, so as to cause a nuisance,	40	26	13	15	23
Bad Smells, or Diphtheria or Enteric Fever in Dwelling,	1,086	1,157	1,146	792	1,069
Dwellings without Water Supply,	596	566	900	2,136	2,184
Dead Animal Matter under Floor,	7	11	7	14	4
Defective Window in Dwelling,	62	59	94	304	111
Domestic Water Supply from Cistern in W.C.; or Cistern in Attic, foul and uncovered,	72	10	10	29	825
Drains, Soil-pipes, Branches, &c., choked, defective or out of repair,	15,274	16,776	15,292	16,643	23,987
External Walls of Dwellings, Stairs, Lobbies, or Closets filthy,	10,149	8,561	4,652	4,252	9,253
Internal Walls or Floors of House, or W.C., or Lobbies, or Stairs filthy,	10,899	9,156	10,375	9,142	10,230
House Damp, or otherwise rendered unfit for habitation,	227	183	252	197	160
Sink, or W.C., or Trap, choked or broken or out of repair,	12,981	12,966	13,829	12,283	10,380
Nuisances in Bakehouses,	165	162	115	110	118
Roofs, Walls, or Ceilings of Dwellings broken or out of repair,	679	1,797	1,094	1,288	889
Rhones, Pipes, or Gutters broken or out of repair,	1,778	1,901	1,850	1,994	1,191
Smoky Vents, or Back Smoke, causing a nuisance,	128	156	197	320	361
Sink accommodation defective, or new required,	45	14	7	8	7
Water-Closet accommodation required,	32	31	19	21	21
Water-Closet defective in construction,	22	20	10	13	7
Water-Closet accommodation in Workshops defective,	83	62	64	29	62
Workshops filthy,	514	525	567	511	692
Workshops overcrowded,	7	—	1	—	7
Workshops defective in ventilation or light,	72	28	24	7	31
Waste of Water reported to the Engineer and remedied,	2,145	2,287	3,182	3,428	2,803
Complaints to Master of Works remedied,	1,058	1,350	1,248	1,197	1,253
Reported to Procurator-Fiscal for prosecution before the Sheriff,	6	5	6	3	7
Summoned before the Police Magistrates,	70	71	31	24	34
Number of Rotation Cards for Cleansing of Common Stairs, Lobbies, and Water-Closets served on Tenants,	8,960	6,847	5,134	5,217	8,177
Pigstyes inspected for Licensing Court,	248	182	150	200	246
II. Drain Testing.					
Total number of Applications of the test at different times,	2,733	2,503	1,908	1,324	1,875
Number of new Applications for satisfaction of Dean of Guild Court,	235	124	56	39	103
Number of old Tenements or Systems to which they were applied for the first time,	1,183	1,150	978	710	949
Number of these found all right on first application of Test,	249	260	260	167	221
Number found more or less defective on first application,	937	890	718	543	728
III. Houses Let in Lodgings and Farmed-out Houses.					
Number Inspected, Measured, and Registered,	185	188	56	40	20
Number now on Register, { Houses Let in Lodgings,	216	436	228	245	212
{ Farmed-out Houses,	1,521	1,360	1,568	1,531	1,509
Number of Re-inspections by Day,	8,723	7,393	8,762	8,010	8,266
Do. do. by Night,	3,043	3,129	3,345	2,857	3,860
Do. of Keepers Summoned for Contravening Regulations,	9	—	3	1	—
Do. do. Fined for same,	6	—	2	1	—
Amount of Fines,	£8 3 0	—	£4 4 0	£1 0 0	—

TABLE XXIV.—*(Continued).*

Year.	1915.	1916.	1917.	1918.	1919.
IV. Female Visitations.					
Number of Houses visited, first time, including Birth Card Visits,	58,272	101,933	75,039	76,775	78,502
Number of Houses in which Lodgers were found,	1,270	1,389	2,606	4,251	4,081
Number of Houses and Bedding found Dirty, dealt with by statutory notice,	3,632	3,008	4,299	4,195	3,544
Number of Houses revisited,	4,767	4,247	6,919	6,835	7,579
Number of Houses found improved,	3,461	3,012	4,219	4,026	4,086
Number of Nuisances reported by Female Inspectors,	111	130	395	286	441
Number of Infectious Disease Cases reported,	39	16	40	17	17
Under the Glasgow Corporation (Police) Order, 1904, dealing with Filthy Houses and Dirty or Verminous Children :—					
Number of Visits to Schools,	1,695	1,488	1,512	1,617	1,639
Number of Children submitted for inspection,	24,464	20,282	21,713	18,695	16,461
Number of Children found Verminous,	4,724	2,445	3,972	1,593	3,488
Number of Children found Dirty,	719	711	922	954	790
Number of Homes inspected,	8,834	8,183	7,280	6,480	5,964
Number of Homes Re-inspected,	909	510	299	181	208
Number of Dirty Houses,	363	304	158	114	129
Number of Dirty Bedding,	251	244	182	92	105
Number of Notices served,	6,039	3,676	3,423	2,639	2,520
Number of Houses Cleaned in consequence,	245	247	104	84	95
Number of Bedding Cleaned in consequence,	208	183	133	71	62
Number of Bedding Cleaned at Sanitary Wash-house,	—	—	—	—	—
Number of Children Cleaned by Guardians,	4,465	2,878	2,842	2,063	1,886
Number of Children Cleaned by Officers,	—	—	—	—	—
Number of Applicants supplied with Insecticide,	335	145	218	116	1,242
Infantile Mortality — Birth Cards dealt with,	9,819	2,402	—	—	—
V. Factories, Workshops, and Home-workers' Dwellings.					
Total number of Workshops on the Registers at 31st December,	5,810	5,741	5,648	5,691	6,192
Total Inspections made,	30,141	32,895	35,393	31,654	38,591
Apartments Measured and Registered during the Year,	545	412	365	311	901
Number of Workshops found defective in Light or Ventilation,	65	27	23	11	31
Number found defective in Water-closet Accommodation,	83	87	54	29	69
Number requiring Limewashing,	547	576	538	549	699
Number of other Defects,	763	749	762	751	840
Number who carried out Improvements suggested by Inspector,	1,479	1,323	1,420	1,298	1,531
Prosecutions,	1	—	—	—	—
Convictions,	1	—	—	—	—
Number found Overcrowded,	7	—	—	—	—
Number of Visits made under the Home-work Order,	1,810	1,850	1,421	1,322	1,331
Number of Premises found dirty and Intimations issued,	37	34	12	4	39
VI. Bakehouses.					
Number of Inspections for Cleanliness, &c.,	747	865	671	708	782
Number of Warnings issued for neglect of Cleanliness,	136	147	128	108	102
VII. Rag Flock Act, 1911.					
Samples submitted for Analysis,	87	68	76	48	66
Certified not to conform to Standard,	7	7	4	8	17
Proceedings instituted,	4	1	3	—	9
Convictions,	4	1	3	—	9
VIII. Common Lodging-houses and Boarding-houses for Emigrants and Seamen.					
Common Lodging-houses Inspected, Measured, and Registered,	2	1	—	—	3
Number of Re-inspections by Day,	2,013	2,064	2,007	1,643	1,975
Do. do. by Night,	85	63	48	44	46
Do. Structural Defects found and remedied,	6	—	—	—	—
Do. Intimations of Irregularities to Keepers,	368	306	304	311	323
Do. Keepers summoned for contravening Regulations,	1	—	—	—	—
Do. Keepers fined for contravening Regulations,	1	—	—	—	—
Do. Removed from the Register,	6	2	3	8	1

TABLE XXIV.—(*Continued*).

Year	1915.	1916.	1917.	1918.	1919.
VIII.—Common Lodging-houses and Boarding-houses, &c. (*Continued*).					
Total Number of Common Lodging-houses now on Register, ...	53	52	49	41	43
With Accommodation for	13,296	13,147	12,542	9,958	10,334
Boarding-houses Measured and Registered,	4	8	1	1	9
Total Number of Boarding-houses, ...	26	31	25	26	31
With Cubic Capacity for	549	679	596	619	706
Number of Re-inspections, ...	858	1,109	967	757	1,078
Do. Intimations of Irregularities to Keepers, ...	28	45	41	43	49
IX. Night Inspections					
(Of Houses Ticketed under Glasgow Police Acts, 1866 to 1890.)					
Total Number of Houses ticketed for first time during year, ...	179	54	—	—	13
Total Number of Ticketed Houses, now on the Registers, ...	19,433	19,414	19,302	19,278	19,020
Total Number of Inspections for Detection of Overcrowding, ...	41,929	48,249	39,974	43,831	51,675
Total Number of Cases of Overcrowding,	1,974	2,420	2,201	2,197	3,246
Total Number warned by Inspectors, ...	1,747	2,147	2,055	2,068	3,185
Total Number admonished by Magistrates in Police Courts, ...	147	163	96	102	50
Total Number fined by Magistrates in Police Courts.	80	110	50	27	11
Cubic feet of space in worst cases of Overcrowding, instead of 400, only	138	100	140	163	100
Number of Cases of Overcrowding in houses under 900 cubic feet of space, ...	113	120	97	51	96
X. Smoke Prevention.					
Glasgow Police (Further Powers) Act, 1892, Sec. 31.					
Number of Inspections of Boiler and other Furnaces, ...	1,070	930	920	849	1,112
" Observations of Chimneys, ...	23,326	22,088	20,825	21,374	20,166
" Intimations of Excess Smoke given, ...	309	281	301	266	322
" Warning Notices to those contravening the Act, ...	22	21	22	15	24
" Prosecutions in Police Courts,	25	16	29	14	40
" Convictions, ...	25	16	29	14	39
" Amount of Fines imposed, ...	£45 5 6	£20 12 6	£36 4 6	£17 2 0	£58 11 6
" Prosecutions departed from on receiving a promise from Offenders to improve the Furnace Plant, ...	26	21	12	17	12
" Prosecutions departed from on account of accidents to Furnace Plant, or, regular fireman temporarily off duty,	6	19	6	10	17
" New Steam Boilers installed to give increased power, ...	2	5	1	—	3
" Mechanical Stokers fitted to Steam Boilers, ...	7	11	2	1	4
" Boiler Furnaces fitted with Smoke-preventing Appliances,	2	4	3	2	10
" Boilers fitted with Special Furnaces for burning non-bituminous and low volatile fuels, ...	4	6	1	12	9
" Steam Boilers replaced by Electric Motors (using Corporation power), ...	13	2	2		2
" New Chimneys erected or existing Chimneys heightened to give increased draught and carry gases higher, ...	2	1	—	—	9
" Improvements to Furnaces not coming under any of the above headings, ...	7	7	—	8	—
XI. Milk Purveyors.					
Registered during year, ...	175	170	171	96	241
Removed from Register, ...	236	212	223	138	212
On Register at 31st Dec., ...	1,394	1,352	1,300	1,258	1,287
Number of Inspections, ...	19,401	17,400	16,148	14,670	17,429
Contraventions of Orders or Regulations,	152	104	110	58	76
Prosecutions for same, ...	1	1	2	—	1
Repairs or Improvements effected, ...	64	50	27	26	28
XII. Dealers in Ice Cream.					
Registered during the year, ...	152	98	54	4	100
Removed from Register, ...	115	106	85	42	121
On Register at 31st Dec., ...	718	710	679	641	620
Number of Inspections, ...	8,150	8,062	7,461	5,460	7,627
Contraventions of Orders or Regulations,	155	114	70	2	82
Prosecutions for same, ...	1	1	2	—	1
Repairs or Improvements effected, ...	50	33	4	3	20

TABLE XXIV.—(*Continued*).

Year.	1915	1916	1917	1918	1919
XIII. Byres for Milch Cows.					
Number of Dairy Byres as at 31st Dec., ...	73	68	69	70	61
,, Cows licensed for, ...	1,250	1,209	1,233	1,234	1,141
Average number kept, ...	1,038	981	940	916	836
Number of Inspections, ...	914	778	730	738	748
Contraventions of Rules or Regulations, ...	10	20	28	14	29
Prosecutions for same, ...	—	—	—	—	1
Repairs or Improvements effected, ...	3	—	4	2	1
XIV. Unwholesome Food.					
Number of Inspections, ...	9,980	10,935	9,278	8,809	9,808
,, Lots dealt with, ...	91	89	81	70	196
Nature of Food destroyed at Inspector's instance with Owner's consent—					
Condensed Milk, ... (tins)	102	—	—	—	—
Eggs, ...	14,090	6,225	840	—	89,360
Egg Powder, ... (lbs.)	—	—	—	—	9
Bread, ... (lbs.)	—	—	624	—	—
Bakers' Cake, ... ,,	—	—	7,933	1,980	—
Butter, ... ,,	40	185	—	320	12
Chicory, ... ,,	—	—	—	—	22,176
Cheese, ... ,,	20	—	825	80	—
Cooking Fat, ... ,,	—	—	—	504	—
Cereals, ... ,,	—	—	—	5,478	1,820
Chocolate, ... ,,	—	—	—	112	210
Cured Fish, ... ,,	—	28	—	56	—
Flour, ... ,,	—	—	1,890	—	—
Fruit (Dried and Soft), ... ,,	106,109	22,482	77,631	21,219	86,645
Meal, ... ,,	—	—	190	—	—
Margarine, ... ,,	—	—	2,210	—	—
Pickles, ... ,,	—	—	—	—	23
Preserved Meat, ... ,,	6	42	141	221	9,906
Pork (Fresh and Cured), ... ,,	378	937	1,801	459	—
Preserves, ... ,,	—	—	—	—	29
Sausage Casings, ... ,,	—	—	112	—	—
Vegetables, ... ,,	26,167	37,483	20,028	152,450	41,457
Game, ... ,,	224	—	—	—	118
Shell Fish, ... ,,	—	—	—	—	448
XV. Food and Drugs and Margarine Acts.					
Samples examined by Inspectors, ...	1,308	1,275	—	—	—
Informal Samples analysed,...	1,382	2,358	3,173	2,645	3,055
Statutory Samples analysed, ...	944	717	907	1,000	1,244
Statutory Samples found Non-genuine, ...	219	176	197	159	156
Proceedings instituted, ...	164	133	133	75	104
Fines and Expenses imposed, ...	£679 1 6	£718 5 6	£650 3 0	£319 0 6	£441 15 6
Non-convictions, ...	9	9	6	2	16
Prosecutions for Margarine Offences, ...	15	9	7	4	10
Fines and Expenses imposed, ...	£20 6 0	£18 18 0	£9 13 0	£6 13 6	£20 2 0
Non convictions, ...	1	2	—	—	—
False Warranty (Butter), ...	—	—	—	—	1
Fines imposed, ...	—	—	—	—	£20 0 0
Obstruction, ...	—	—	—	—	1
Fines imposed, ...	—	—	—	—	£2 10 0
XVI. The Sale of Horse-Flesh—Regulation Act, 1889.					
Number of premises in which Horse-flesh is sold, ...	7	8	10	13	7
Prosecutions for contravention of Act, ...	1	—	2	—	1
Fines imposed, ...	£2 2 0	—	£16 16 0	—	£10 10 0
XVII. Fish and Game Inspection.					
(Under the Glasgow Police Amendment Act, 1890.)					
Number of Packages of Fish, Game, Poultry, and Rabbits passed through Fish Market,	791,365	663,547	659,543	746,040	1,206,542
Number of Inspections of Fish Shops, Restaurants, and Hawkers' Barrows and Carts, ...	1,602	1,533	1,649	1,513	1,257
Number of Nuisances discovered therein, ...	—	—	—	—	—
Fish and Game destroyed with consent—					
Fresh Fish, ...	23,193	62,626	51,016	59,070	318,454
Cured Fish, ...	24,094	17,370	17,346	22,468	10,808
Shell Fish, ...	798	—	1,792	—	—
Crabs, ...	—	560	—	—	112
Oysters, ...	—	114	—	—	—
Lobsters, ...	—	124	—	10	26
Rabbits, ...	918	1,271	493	1,786	1,457
Game, ...	224	676	7	—	397
Poultry, ...	518	119	7	51	48
XVIII. Spraying Dungsteads, Ashpits and Privies.					
Total number of Dungsteads Sprayed from 8th June till 26th September, ...	21,835	20,225	18,055	18,157	18,239
Total number of Ashpits and Privies Sprayed from 8th June till 26th September, ...	—	95	—	—	—
Total Outlay for Wages, Plant, and Material,	£267 12 9	£270 10 7	£309 11 3	£365 13 0	£418 3 0
XIX.—Interments.					
For year ending 31st May.					
Total number of Applications granted for Interment of Unclaimed and other Bodies, ...	448	297	264	248	324
Total Expenditure, ...	£350 7 6	£305 13 0	£273 3 0	£282 9 0	£534 6 3
Payment of Costs recovered, ...	56 10 6	34 13 2	51 2 0	32 11 1	109 1 3