[Report 1947] / Medical Officer of Health, Glasgow.

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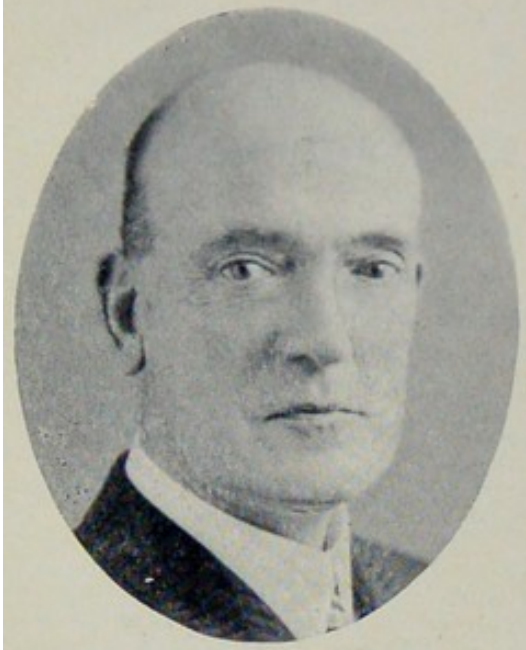

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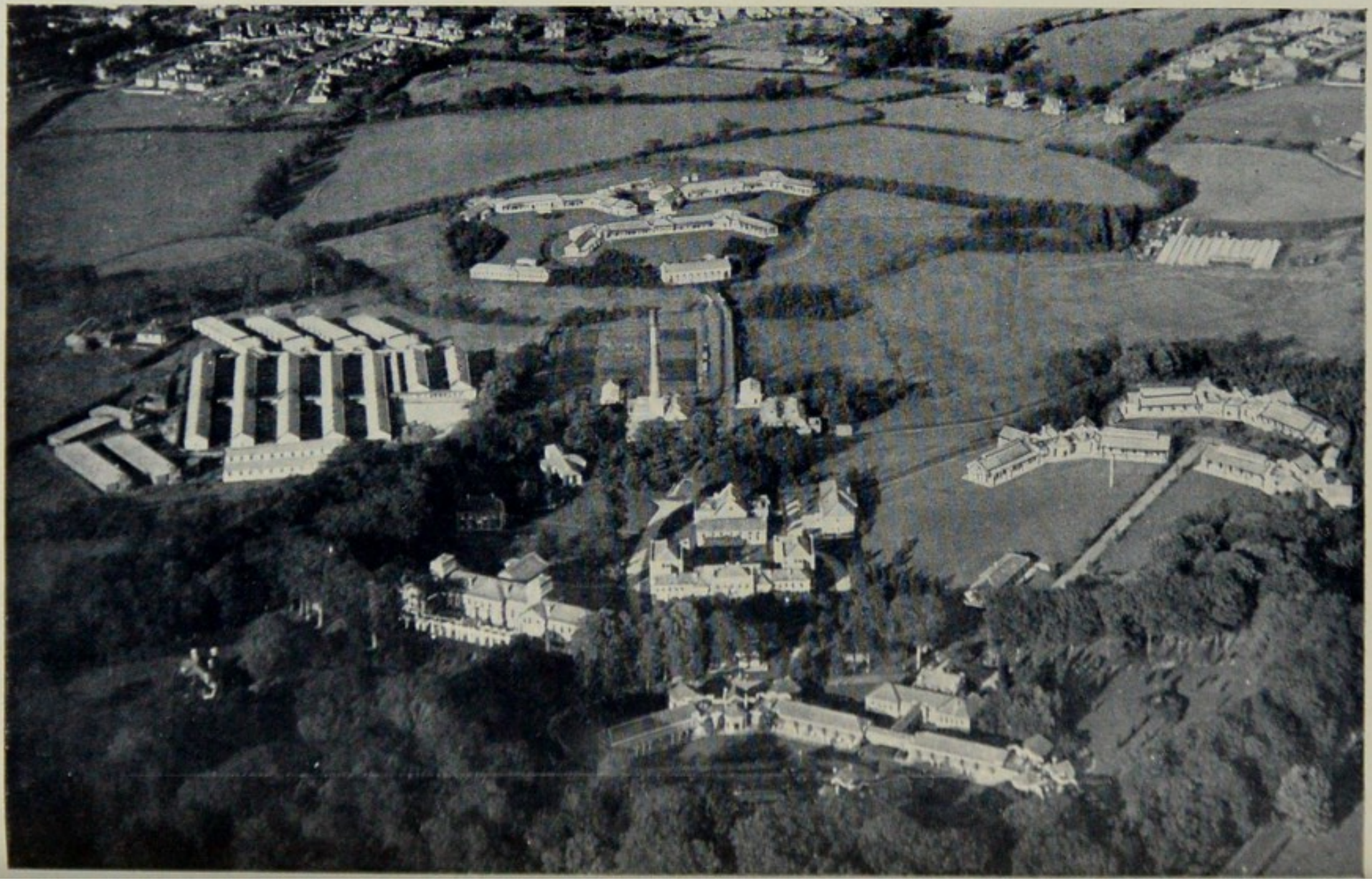


PREFACE.

In previous years the Preface to the Annual Report has followed closely the lines of its predecessors, but, as we are approaching a period of transition in medical affairs, it is appropriate that we should consider a few of the advances made during the last two decades.

One of the greatest landmarks in the building up of the public health services was undoubtedly the coming into operation of the Local Government (Scotland) Act, 1929, which unified the administration of the medical aspects of education, poor law, public health, lunacy and mental deficiency. Under the wise guidance of Sir Alexander Macgregor this was accomplished in record time, and from it evolved, among other things, the first and only whole-time medical service for the sick poor, the necessity for which was amply shown by the fact that in 1936 that service alone employed 27 whole-time doctors, 9 part-time doctors and 18 nurses. At 11 clinics 287,000 consultations were conducted, and in addition 60,000 visits were undertaken. At the same time, the status of the poor law hospitals was raised by the introduction of training courses for the State registration of nurses, and, by additions to and modernisation of buildings, these hospitals were gradually brought up to date. In 1937 Stobhill became a teaching hospital for medical students, thus linking for the first time the Municipal Hospital Service with the University.

In the field of maternity and child welfare, a great development came about in 1931 when the Central Midwives' Board introduced the regulation that ante-natal examination should be carried out in all midwives' cases. This immediately doubled the numbers attending the ante-natal centres, and to-day the attendances are four times as numerous as in 1930. Now over 70 per cent. of expectant mothers report at our ante-natal clinics, and the benefit to mothers and children of this single step is incalculable.

The treatment and diagnosis of pulmonary tuberculosis has markedly improved since the opening, in 1933, of Baird Street Pneumothorax Clinic, one of the first of its kind. Chest surgery has come to play a very important part in the treatment of hitherto incurable

chest conditions, and, in October 1947, the Lord Provost, Sir Hector McNeill, opened the thoracic unit at Mearnskirk, the culmination of fifteen years of advance. Along with this progress in treatment we have seen improved diagnostic facilities in the form of modern X-ray plants in all our hospitals and the introduction of the mass radiography unit. It is unfortunate that the war disturbed the downward trend of tuberculosis in this country as well as elsewhere, with the result that the number of new cases seeking treatment has increased by over 70 per cent. above pre-war figures and that the advantages of modern treatment are frequently offset by lack of accommodation in hospital.

Glasgow can claim the distinction of designing and building at Provan in 1935 the first polyclinic in Britain. There, under one roof, clinics for maternity and child welfare, education health service, dental treatment and outdoor medical service are conducted.

It should also be remembered that the Casualty Service of the city was organised during the war years by the Public Health Department, which was responsible for the formation of numerous First-Aid Posts and First-Aid Party Depots. The name of Dr. James Dunlop, who literally devoted all his time and energies to this work and who acted as an inspiration to the service, will long be remembered.

No mention is made here of the comprehensive activities carried out by the Education Health Service, as its Annual Report is published separately.

This Annual Report covers the last complete year of the activities of the Public Health Department prior to the coming into operation of the National Health Service (Scotland) Act, 1947. Although the hospitals will then pass from the control of the local authority, the principal operations of the public health service will go on more intensively than ever. Much has been accomplished in the control of the spread and severity of some of the infectious diseases, but many of the old problems still remain to be solved and new ones constantly appear to exercise the minds of the epidemiologists. For example, very little is yet known regarding the etiology and spread of acute anterior poliomyelitis which reached such serious proportions during the year, nor has any solution been found to prevent the periodic outbreaks of acute gastro-enteritis among infants. There is little doubt that bad housing is an important contributory factor in the causation of ill-health, but we may look forward to improved vital statistics as a result of the disappearance of those insanitary dwellings

which still exist within the city. The progressive interest in health matters which is steadily growing among the people is, in itself, a factor likely to be followed by improved physical standards. Continued restrictions in food supplies have not apparently acted adversely, although it is possible that the psychological effect of greater varieties of food would be followed by improved vital statistics.

The population of the city has been estimated at 1,100,000 as at the middle of 1947, compared with 1,075,000 in 1946, and the method adopted of arriving at this figure is described at the beginning of Part I of this Report.

The early part of the year was notable for the prolonged wintry conditions, the most severe recorded for fifty years, resulting in an increased death rate, especially among old people. With the exception of August, the remainder of the year was relatively deficient in sunshine.

The birth rate was 23·5 per thousand of the population compared with 21·9 for the previous year, and the death rate was 13·88 compared with 13·49 in 1946, which is below the average of the past fifteen years. There was a small decrease in the number of deaths from pulmonary tuberculosis, and possibly, as post-war conditions improve, this downward trend will continue. By far the greatest contribution to the number of deaths is made by diseases of the circulatory system. The gradual increase in mortality from such causes is to be expected as the older age groups of the population increase. Mortality from diseases of the respiratory system, which had reached a relatively low figure, namely 944 per million of the population in 1945, rose to 1,147 during 1947, mainly because of the severe wintry conditions early in the year which affected particularly infants and elderly persons. Considerable attention has been paid in this Report to the incidence of malignant disease or cancer which accounted for the death rate of 1,841 per million. There were 2,025 deaths from this cause, of which 1,088 were males and 937 females. There has been a notable increase in recent years of deaths among males from cancer of the respiratory organs, and it is noteworthy that the disease occurs comparatively early in life, namely between 35 and 55 years. It has been suggested that industrial conditions may be a factor in this increase in the incidence of pulmonary cancer.

The activities of the Child Welfare and Maternity Departments were greater than ever during the year, but additional clinical facilities will be required to meet the increasing demands made upon these

branches of public health. When the new National Health Scheme develops, increased responsibility will inevitably fall upon the Child Welfare and Maternity Services. They form a very important part of public health administration, and, from their development, we may confidently anticipate a steady improvement in the health of future generations.

The infant mortality rate rose to 77 compared with 67 in 1946, due mainly to a a serious increase in deaths from diarrhoea and enteritis. A special study of the position is being carried out by the Department, and, so far, one fact stands out clearly, namely, that breast-fed children are rarely affected or die of gastro-enteritis. Every effort is being made by the Child Welfare Department to ensure that more infants are breast-fed.

The Home Help Service, which was expanded considerably during the year, has become well known throughout the city and has proved most valuable. The scheme, already well established, will be developed still further under the National Health Service Act.

The total number of cases of infectious diseases registered during the year is the lowest recorded, but the city suffered its largest outbreak of infantile paralysis. The last outbreak occurred in 1928 when 112 cases were confirmed with 8 deaths. In 1947 the Health Department received information regarding 319 definite acute cases, 262 of which were in the paralytic and 57 in the " pre-paralytic " or abortive stage of the disease. In all, 29 deaths occurred, the majority of patients so extensively paralysed that they required treatment in the iron lung. Orthopaedic beds were made available in Mearnskirk and the E.M.S. hospitals—Law, Hairmyres and Killearn—for the treatment of cases after the acute period had been passed in the fever hospitals, while out-patient treatment at three Education Health Service Orthopaedic Clinics was made available for home and ex-hospital cases. The etiology and epidemiology of the disease, however, still remain obscure, although world-wide research goes on continually. A complete report of the Glasgow outbreak, by Dr. Ian B. L. Weir of this Department, is included in Section IV.

With regard to diphtheria, the campaign for the protection of children by immunisation has been intensified. The number of cases of diphtheria has fallen to 502 compared with 1,458 for the preceding year, and there is no doubt that immunisation has been responsible for the reduction. The deaths numbered 13 compared with 37 during 1946, and all were among children who had not been immunised. It is

interesting to note that since the diphtheria immunisation campaign started in earnest in 1941 at least 103,000 school children and 23,000 pre-school children have been immunised in Glasgow.

A new activity of the Department was the establishment, on behalf of the Department of Health for Scotland, of a centre for the immunisation against yellow fever of intending travellers. During the twelve months in which this clinic has been in operation, 2,132 persons were immunised.

Mass miniature radiography of the public was extended by the acquisition of a second set with a mobile dark room, and the unit almost reached its hundred thousandth examination by the end of the year.

The nursing problem in all the hospitals still exists, particularly in the tuberculosis hospitals, but the employment of part-time nurses has restored to active service nearly 400 beds in the Corporation hospitals, of which increase 120 were for cases of tuberculosis. Knightswood Hospital was chosen during the year as a centre for streptomycin treatment of tuberculous meningitis and acute miliary tuberculosis. It is too early yet to give a full account of the results, but the initial reports have been favourable. It is important, however, that the public should realise that there are certain types and stages of tuberculous disease which will not benefit from streptomycin and that other forms of treatment are to be preferred in these cases.

Towards the end of the year there was a serious outbreak of cholera in Egypt, and, in consequence, special precautions were taken at the Port of Glasgow to prevent the possible importation of the disease to this country. Medical staff, boarding officers, inspectors, rat catchers and certain nurses were inoculated with anti-cholera vaccine to enable them to handle with safety possible cases of cholera. Special enquiry had to be made regarding the source of food supplies and water on ships arriving from Egypt, but fortunately no suspected cases were found among passengers or crews. The work of the Port Health Authority is vital to the city's well-being, as it is an insurance against attack by infection from overseas, and its efficiency has been proved on many occasions. It is a testimony to its watchfulness that no epidemic has originated from abroad.

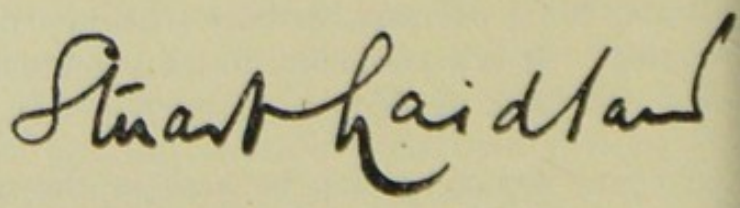
There was a notable increase in the number of new dwellings completed by the Corporation of Glasgow during the year, and a detailed review of the situation is contained in Section VI of this

Report. A satisfactory feature of rehousing was the provision of suitable dwellings for 245 tuberculous families. It should be noted, however, that the number of recommendations made by this Department on behalf of tuberculous families was 568, but the supply is still far short of the demand. The rehousing of tuberculous cases is an essential factor in bringing about a reduction in the incidence of the disease in the city.

Owing to the reduced speed of slum clearance consequent on the supply difficulties associated with rehousing, a special effort has been made during the year to make many insanitary bug-infested houses more habitable by the use of the comparatively new insecticides D.D.T. and Gammexane. The process is reported in Section VI, and owing to their efficacy a mechanised D.D.T. disinfestation unit has now been established in the Department. Disinfestation of insanitary dwelling-houses, is, however, only a palliative and a temporary expedient pending complete clearance. The campaign of rat destruction and control was continued with notable success, and planned operations were conducted jointly with the Department of Agriculture. These operations have an important bearing on the food situation and the protection of stores from the depredations of rats.

This is the last Report which will contain information and statistics of the work of the fever, tuberculosis, general and mental hospitals for a complete year. Opportunity is therefore taken of making special mention of the services rendered by Dr. Thomas Archibald, Dr. William Elliott, Dr. William Napier, and Dr. Archibald McCrorie, Physician Superintendents of the fever hospitals, and by Dr. Thomas Anderson, Reader in Infectious Diseases at Glasgow University. The contributions made by Dr. Ronald Stewart, now Medical Superintendent of Gartloch Hospital, also deserve special mention.

In presenting this Report, I am indebted to Mr. William McKean of this Department, who has undertaken its arrangement and publication and has been responsible for the statistical sections.



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REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1947

PART I

SECTION 1

POPULATION, ETC.

In the reports for post-war years the question of the estimated population of the city has received careful consideration because of the importance of this figure in connection with the calculation of rates for all the vital statistics which must be based on a reasonably accurate estimate. The last official census of the population was made 17 years ago and many important changes, social, economic and national, have occurred during this period all of which have contributed some factors which have not been without influence on the distribution of the population.

The significance of these changes in population throughout the country generally has recently been exercising the minds of statisticians because of the emigration movement and the lack of sufficient shipping accommodation to meet the demands of those desirous of going abroad. The emigrants are mostly those of the virile classes of the population, younger men and women and their families, so that the remaining population is left with a higher proportion of older persons who are less productive.

On official figures which have been given for emigration the proportion relating to Glasgow would be about 5,000 per annum at the present time, a number which is less than the average natural increase *i.e.*, the excess of births over deaths. Last year this excess was 10,563 as the number of births, 25,829, was about 5,000 more than the annual average of recent years, while the deaths numbering 15,267 remained around the average. The number of emigrants however, may increase when more shipping facilities become available but on the other hand it is probable that economic conditions throughout the world, at no very distant date, may tend to restrict this movement.

The population of the city has therefore been estimated as 1,100,000 as at the middle of 1947. This number is an increase of 25,000 on the estimate for the previous year, a figure which is more or less justified by the following table similar to that given a year ago but restated now that social conditions have become more normal and information as to the position is more accurate.

Number of Electorate		791,311	
Less those on Service Register	12,620		
Less Electorate on Business Register ...	5,968		
		18,588	
			772,723
Estimated Population under 5 years of age		... ...	100,000
Estimated Population from 5-15 years		... ...	185,000
Estimated Population between 15 and 21 years ...		110,000	
Less conscripted for military service		10,000	
			100,000
			1,157,723

A consideration of the birth rates and death rates over the past ten or twenty years would seem to corroborate the post-war estimates of the population which have been adopted for the Annual Reports of the Department. This increase of population is not substantiated by the annual increase in the number of inhabited houses, a return made by the City Assessor, on which in former years was based the inter-censal changes. The housing position at the present time is quite abnormal.

Ward Population.—The ward distribution of the population is given in Table I of the Appendix. Variations throughout the wards are largely dependent on the number of occupied houses and these variations are mostly influenced by building activities for there are now practically no suitable and inhabitable empty houses.

The ward with the largest population is still Pollokshields—55,857 persons—which is 2,897 more than the estimate for the previous year. Other wards with large populations are Ruchill, 51,507, 759 more than a year ago, Shettleston and Tollcross, 46,313 compared with 45,386, and Provan 45,909 against 44,832.

As compared with these wards the population of Blythswood ward is only 11,588, Sandyford 17,078 and Langside 17,944.

Reference was made in the report for last year on the question of the alteration of ward boundaries in order to rectify as far as possible the unequal distribution of the population for electoral purposes. Changes are likely to take effect towards the early part of 1948. Such alterations, however necessitated, usually make it impossible to correlate the vital statistics for comparative purposes over a period of years until the altered boundaries have been in situ for a considerable period thereafter.

Institutional Population.—The number of persons resident in institutions, *i.e.*, hospitals, hotels, lodging-houses, etc.—33,577, is greater by 1,567 than the number at the middle of 1946. This information is based on a special enquiry made at 30th June each year. The ward distribution of this population is given in Appendix Table I. There are considerable variations between one ward and another because of the situation of large hospitals in the peripheral wards and concentration of hotels and lodging-houses in the central part of the city ; for instance Springburn has an institutional population of 4,683 because of the situation of three large hospitals, Stobhill, Robroyston and Gartloch ; Pollokshields—2,756, contains Hawkhead Mental Hospital while the Fairfield ward with 1,711 contains the Southern General Hospital, which alone has 1,514 inmates. The institutional population of Blythswood is 2,464 because many hotels and some lodging-houses are situated in the centre of the city while Exchange ward has 2,046, mostly in common lodging-houses, and the Maternity Hospital.

The inmates of the institutions form exactly 3 per cent. of the total population of the City.

Acreage.—No change has taken place in the area of the city which remains at 39,725 acres. Reference was made last year to the disparity in the size of certain of the municipal wards and the impending changes to be made in order to rectify the dis-proportion of the population

which had resulted from the displacement of families from over-built central areas to housing schemes in the peripheral wards. These alterations will take effect as from the early part of 1948. Quite apart from the population there are other matters to be considered in connection with the alterations of wards, such as acreage, suitable boundaries, as well as the industrial and social interests of the persons resident therein. The changes will be dealt with more fully in the report for next year.

Density.—The density of the wards will also be affected by the changes referred to above. The density of the whole city however will not be affected. The number of persons per acre is now 28 on the higher estimate of the population this year compared with 27 for the previous year. It remains to be seen to what extent the altered ward boundaries will affect the density of individual wards; the changes will not reduce the over-crowding of houses and consequently population in closely built areas irrespective of the wards in which they are incorporated.

The highest density as shown in Appendix Table I is 174 persons per acre in Woodside ward followed by Gorbals 154, Townhead 141 and North Kelvin 137; four other wards have densities in excess of 100.

Occupied and Empty Houses.—In Table II of the Appendix are given the numbers of occupied houses compared with the corresponding figures for each municipal ward for the previous year. The figures include numbers of so-called temporary houses which now form a considerable proportion of the total new houses provided annually. A statement of these, numbering 1,418, is given under the heading of Dean of Guild linings.

The great demand and urgent need for additional housing accommodation has made it necessary to adopt this method of easing the problem. These houses have been placed on sites which will not be required for permanent housing schemes. The largest increase in occupied houses, 520, was in Pollokshields ward, where a number of housing schemes are being developed in the Hillington and Penilee areas. The other wards showing larger increases for the same reason are Yoker and Knightswood 278, Springburn 265, Whiteinch 124 and Mile-End 123. Some of these houses, such as those in the Knightswood district, are replacements for those destroyed by enemy action during the war. The decreases shown in Appendix Table II are mostly due to closure or demolition of dangerous or uninhabitable houses.

Of the 308 empty houses over 30 per cent. are one apartment and 25 of these are in Kelvinside ward alone, most of them service flats while others scattered throughout the better class wards are probably of the same type. The largest number of empty houses in any one ward is 72 in Kelvinside, 17 of which are of five or more apartments. Eight in Pollokshields and 6 in Park ward are also of these larger sizes.

Dean of Guild Linings.—The number of linings granted by the Dean of Guild Court during each year to 31st August is given in Appendix Table III. The linings for erection of houses numbered 1,430 compared with 3,843 for the previous year. Of this total the great majority (994) were four apartment houses. There were 232 houses of larger size while three apartment houses numbered 115, almost all of them in Corporation Housing Schemes.

Because of the lack of materials and man-power and in order to help in the solution of the housing problem Local Authorities have resorted, under Government direction, to the erection of temporary houses and in Glasgow during the year ended 30th June, 1947, the number of these provided within the city was 1,055. Of these 134 were erected in Provan ward, 111 in Yoker and Knightswood and 94 in Whiteinch, while the remainder was distributed throughout other 15 wards. Of the total 440 were of the Arcon type, 342 Aluminium and 273 Tarran type.

As at 30th June, 1947, the total number of temporary houses in the City was 1,418 in four different types, Phoenix 258, Arcon 524, Tarran 294 and Aluminium 342. These are distributed as follows :—

Ward			*Ward*		
1	Shettleston & Tollcross	74	25	Whiteinch	130
2	Parkhead	97	30	Govan	11
8	Provan	143	31	Fairfield	45
10	Springburn ...	74	32	Pollokshields ...	88
19	Ruchill	63	33	Camphill	30
21	Maryhill	34	34	Pollokshaws ...	70
22	Kelvinside ...	20	36	Langside	76
23	Partick East ...	5	37	Cathcart	16
24	Partick West ...	66	38	Yoker & Knightswood	376

METEOROLOGY.

The weather conditions during 1947 were rather unfavourable to health, especially at certain periods of the year when there were considerable variations of temperature with cold and warm spells

and periods of rain which were unfavourable to the harvest prospects and the production of food for the community at one of the most difficult periods in the nation's history.

From the latter part of January until the middle of March extremely hard frost accompanied by frequent snow falls, produced the coldest period during the past 50 years; there were heavy falls on the 5th and 21st of February and again on the 10th, 13th and 16th of March with some sleet on the 18th, but by 21st March the snow had practically gone although most of the spring thereafter was cold. These severe conditions were associated with increased mortality, especially among old people as will be referred to in the next section of this report. The average temperature during February was 28·6°F. compared with 40·4°F. for the preceding year while the comparative figures for March were 33·1°F. and 41·0°F. The lowest temperature recorded during the year was 8°F. in March, *i.e.*, 24°F. of frost, while 9°F. was recorded in February.

The highest temperature was 86°F. recorded in August, while the average temperature for that month, which was the warmest and driest August for half a century, was 64·3°F. compared with 56·5°F. for the same month in 1946. The average temperature over the whole year was 46·7°F. compared with 47·3°F. for the previous year and 48·6°F. for 1945.

In November there was a very cold spell for three days, the 17th to 19th, followed by an exceptionally warm humid period in the latter three days of the week, 20th to 22nd November, which was responsible for very abnormal condensation.

The total rainfall of 38·63 inches was slightly less than normal, but distribution over the year was most uneven. For instance, there were 5·28 inches of rain in November while there were 5·19 inches in April, which is usually the driest period of the year; in August the rainfall was only 0·02 inches recorded in two days of the month. Altogether precipitation was recorded on 209 days which with the exception of 1941 is the lowest figure for many years.

Apart from August there was a noticeable deficiency of sunshine the total number of hours of bright sunshine recorded being 1,086 compared with 1,220 for the previous year. The recording for August was 239 hours.

HEALTH LECTURES 1947-48.

The co-operation of the Corporation was continued with representatives of the Insurance Committee of the Burgh of Glasgow in organising health lectures during the winter of 1947-48.

The Central Course was somewhat curtailed because a suitable date was not available during March in the Cosmo Cinema where the five Central Health Lectures were held.

Central Health Lectures.—All the meetings were held in the evening with the exception of that in December when the Cosmo Cinema was not available. The meetings were of a varied type, such as " Health Brains Trusts," " Health Commentaries " and " Film Health Talks," all of which were illustrated by films usually appropriate to the subject matter of the discussion. The following are the details of the meetings with the estimated attendances :—

Date. 1947.	Type of Meeting (and Attendance).	Speakers.
Oct. 26	Health Brains Trust (750) ... ... *Question Master* : Councillor William Reid, J.P.	Dr. Nora I. Wattie. Dr. Miller. Dr. A. Smith Poole. Dr. Langmuir.
Nov. 30	Lecture on " Health and Youth " (700) ... *Chairman* : W. S. Phillips, Esq., M.B.E., J.P., F.C.I.I.	Dr. A. G. Mearns, F.R.S., B.Sc., M.D., M.B., Ch.B., D.P.H.
Dec. 14	Lecture on " Infectious Diseases of the Nervous System " including Infantile Paralysis (650) ... ... *Chairman* : Bailie Alice Cullen, J.P.	Dr. Stuart I. A. Laidlaw, B.Sc., M.D., D.P.H., B.L., D.P.A.
1948.		
Jan. 25	Film Health Talk " Psychiatry and Health " (850) ... ... *Chairman* : Mr. T. W. Wallace, L.L.B., F.C.I.I.	Dr. I. M. Sclare, L.R.C.P., L.R.C.S., L.R.F.P.S.
Feb. 22	Health Brains Trust (700) ... ... *Question Master* : Dr. Stuart I. A. Laidlaw, B.Sc., M.D., D.P.H., B.L., D.P.A.	Professor T. Ferguson, Dr. T. Anderson. Dr. I. Grant. Dr. W. Knox.

District Health Lecture.—One lecture only was organised by the Conjoint Committee in the Bridgeton Public Hall, on a Sunday evening, when Film Health Commentaries were given as follows :—

Date.	Title.	Speakers.
Nov. 9	" Venereal Diseases."	Dr. Jas. M'Cutcheon.
	" The Spread of Disease."	Dr. Charles Rigg.
	Chairman : Bailie William Reid, J.P.	

The commentaries were illustrated by suitable propaganda films.

In addition to the above, much health propaganda work was undertaken by members of the medical and other staffs of the Department at the requests of secretaries of trade union societies, co-operative guilds, church organisations, etc., and between 300 and 400 of these engagements were overtaken. The Medical staff also delivered many tutorial lectures while the Health Visitors gave frequent talks and demonstrations to mothers attending the health clinics.

BLIND PERSONS ACTS.

During the year under review 462 persons were examined by the Regional Clinic for the first time, of whom 374 were examined at the clinic and 88 at home. In addition 72 applicants were re-examined, making for the year a total of 534 cases examined.

Certified Blind.			Rejected.			Re-examinations.	Grand Total.
Males.	Females.	Total.	Males.	Females.	Total.		
158	157	315	82	65	147	72	534

Of the 462 cases examined for the first time, 68·2 per cent. were certified blind within the meaning of the Act.

Sources of Candidates.—The source of candidates is shown as follows :—

Applicants for Blind Pension	114
Applicants for increased Public Assistance	223
Applicants for Technical Training	25
Applicants for Free Tramway Pass	7
Applicants referred by Mission to Outdoor Blind ...	88
Unclassified	5

As in previous years it will be noted that the largest number examined was in connection with applications for increased Public Assistance.

TABLE A.

SHOWING THE AGE AND SEX INCIDENCE OF APPLICANTS CLAIMING TO BE BLIND EXAMINED AT THE CERTIFYING CLINIC DURING THE YEAR 1947.

Age.	Certified.			Rejected.		
	Males.	Females.	Total.	Males.	Females.	Total.
—1	—	—	—	—	1	1
1-4	1	1	2	—	—	—
5-15	3	3	6	1	—	1
16-29	11	5	16	9	6	15
30-39	7	2	9	4	3	7
40-49	26	17	43	6	4	10
50-59	25	23	48	5	11	16
60-69	28	42	70	23	20	43
70+	59	62	121	35	19	54
	160	155	315	83	64	147

From the foregoing table it will be seen that 76·2 per cent, of the applicants were over 50 years of age and 37·9 per cent. were 70 and over. The males outnumbered the females.

TABLE B.

SHOWING THE ALLOCATION OF THE APPLICANTS EXAMINED DURING 1947 AT THE CERTIFYING CLINIC AMONG THE LOCAL AUTHORITIES COMPOSING THE JOINT-COMMITTEE FOR THE BLIND FOR GLASGOW AND THE SOUTH-WEST OF SCOTLAND.

	Certified.			Rejected.		
	Males.	Females.	Total.	Males.	Females.	Total.
Glasgow	75	73	148	43	34	77
Airdrie	3	3	6	2	3	5
Coatbridge ...	13	4	17	7	—	7
Hamilton	2	5	7	—	1	1
Motherwell & Wishaw	2	2	4	1	—	1
Rutherglen ...	1	2	3	—	1	1
Other Lanarkshire	18	22	40	8	6	14
Greenock	5	4	9	5	3	8
Paisley	10	5	15	3	1	4
Port Glasgow ...	2	1	3	2	3	5
Other Renfrewshire	4	1	5	1	3	4
Dumbarton ...	—	2	2	—	—	—
Clydebank ...	4	2	6	1	—	1
Other Dunbartonshire	2	8	10	—	2	2
Falkirk	1	1	2	—	1	1
Stirling	1	1	2	1	—	1
Other Stirlingshire	2	5	7	2	3	5
Ayr	4	4	8	—	—	—
Kilmarnock ...	2	1	3	—	—	—
Other Ayrshire ...	7	4	11	3	—	3
Argyll County ...	1	4	5	2	2	4
Bute County ...	—	1	1	—	—	—
Dumfries Burgh ...	1	—	1	2	1	3
Not stated ...	—	—	—	—	—	—
Total ...	160	155	315	83	64	147

Of the applicants examined 225 or 48·7 per cent. resided in Glasgow, compared with the corresponding percentage of 46·0 during the preceding year.

In 1947, 72 cases were re-examined. The alterations in the decisions of the clinic as a result of re-examination were as follows :—

(*a*) Certified blind on first examination and decision unaltered on re-examination 8

(*b*) Certified blind on first examination and decision reversed on re-examination 2

(*c*) Certified not blind on first examination and decision unaltered on re-examination 17

(*d*) Certified not blind on first examination and decision reversed on re-examination 21

(*e*) Certified blind on second examination and decision unaltered on re-examination 2

(*f*) Certified blind on second examination and decision reversed on re-examination	1
(*g*) Certified not blind on second examination and decision unaltered on re-examination	9
(*h*) Certified not blind on second examination and decision reversed on re-examination	12
Total	72

Follow-up Scheme.—During the past few years a scheme has been in operation to follow up those patients examined at the Regional Clinic and considered by the examining surgeons as likely to benefit from further treatment. The scheme has been made possible by the co-operation of the Mission to the Outdoor Blind for Glasgow and the South-West of Scotland. The home teachers make special enquiries twice yearly regarding such patients and report progress. Where operative or other treatment has been completed, the patient is summoned to the clinic for examination and the improvement or otherwise noted. During the year the teachers investigated 36 cases certified blind with the following results :—

	Treatment Carried Out.				Not Carried Out.			
Treatment Recommended.	No. of Cases.	Still Blind.	Not now Blind.	Total.	Died.	Unwilling.	Unfit.	Others.
Surgical	32	1	1	2	1	15	9	5
Medical	4	3	—	3	—	—	1	—
	36	4	1	5	1	15	10	5

The large group entitled in the table " unwilling " is composed mainly of elderly people who do not feel inclined, owing to their advanced age, to undertake an operation. The group " others " numbering 5 in the table consists of patients who for some medical reason are not yet ready for operative procedures, *e.g.*, patients whose cataract has not yet " matured."

Table C.

Causes of Blindness.

The causes of blindness of the 315 cases certified blind during 1947 are shown in the following table :—

Congenital and Undetermined—	
Congenital anomalies (8) and developmental defects (7)	15
Tumor of globe and orbit	—
Myopia	45
Other errors of refraction	—
Glaucoma, primary	52
Cataract, primary	92
Other primary ocular defects (primary detachment)	3

Infectious and Toxic—	
(*a*) Exogenous :	
Ophthalmia neonatorum	1
Trachoma	—
Local septic infection of coats of eye	—
Other local specific infections (gonorrhoea) (mycosis)	
(*b*) Endogenous :	
Gonorrhoea	1
Syphilis, congenital	8
Syphilis, acquired, including not definitely congenital	6
Specific fevers (smallpox—1)	1
Meningitis (non-tuberculous), including cerebro-spinal fever	2
Tuberculosis	—
Phlyctenular, strumous and similar, not definitely tuberculous	1
Septicaemia, acute	—
Septicaemia, chronic ; autotoxic, focal sepsis	22
Other general infections and organismal diseases	—
Traumatic and Chemical—	
Birth trauma	2
Non-industrial trauma	3
Industrial trauma	2
War trauma	2
Trauma, category not ascertainable	1
Chemico-toxic, non-industrial (tobacco)	3
Scheduled industrial diseases (lead) (pyroxylin) (carbon bi-sulphide) (aniline) (phosphorus) (glass-blowers' cataract) (metal workers' cataract) (miners' nystagmus)	—
Sympathetic ophthalmia	4
Systemic Diseases—	
Anaemia and blood diseases	—
Diabetes	18
Nephritis	—
Pregnancy	—
Vascular diseases including cerebral vascular lesions	13
Intracranial neoplasm	3
Other diseases of central nervous system	4
Functional disturbances (hysteria) (malingering)	—
Other general diseases	1
Not Ascertainable Definitely	6
Total	315

The largest number is included in the category " Congenital and Undetermined " and the most important individual causes of blindness are still glaucoma, cataract, myopia and septicaemia.

LEGISLATION.

The following Act of Parliament, Regulations, etc., dealing directly with Public Health in Scotland, or having a bearing thereon, came into operation during the year :—

Local Government (Scotland) Act, 1947, consolidates the enactments relating to authorities for the purposes of local government in Scotland.

National Health Service (Scotland) Act, 1947, provides for the establishment of a comprehensive health service for Scotland and for purposes connected therewith.

Town and Country Planning (Scotland) Act, 1947, makes fresh provision with regard to Scotland for planning the development and use of land and for other powers of control over the use of land ; confers on public authorities additional powers in respect of the acquisition and development of land for planning and other purposes, etc., etc.

Circulars, Orders, Regulations, etc., issued in 1947.

Cancer—

Department of Health for Scotland. Circular No. 22/1947 of 4/3/47. Cancer Act, 1939.

Education—

Department of Health for Scotland. Circular No. 415/S.13 of 7/3/47. School Health Service (Scotland) Regulations.

Department of Health for Scotland. Circular No. 61/1947 of 5/6/47. School Health Service (Scotland) Regulations.

Order No. 1576/S.62 of 18/7/47. Reports on Handicapped Children (Scotland) Order.

Department of Health for Scotland. Circular No. 80/1947 of 11/8/47. School Health Service. Annual Selection of Age Groups for routine medical inspection, and Annual Reports of School Medical Officers.

Housing—

Department of Health for Scotland. Circular No. 11/1947 of 28/1/47. Housing Programme 1947.

Infectious Diseases—

Department of Health for Scotland. Circular No. 65/1947 of 1/7/47. Diphtheria Immunisation Returns.

Maternity and Child Welfare—

Department of Health for Scotland. Circular No. 12/1947 of 13/2/47. Infant Mortality. Neo-natal Deaths due to Infection.

Meat and Fish Inspection—

Department of Health for Scotland. Foods/254630 of 16/1/47. Public Health (Imported Food) Regulations (Scotland), 1937. Government of Cyprus.

Department of Health for Scotland. Foods/310142 of 27/6/47. Public Health (Imported Food) Regulations (Scotland), 1937. Municipality of Guatemala City.

Department of Health for Scotland. Foods/254624 of 22/8/47. Public Health (Imported Food) Regulations (Scotland), 1937. United States of America.

Department of Health for Scotland. Foods/254893 of 20/20/47. Public Health (Imported Food) Regulations (Scotland), 1937. Shanghai. Withdrawal of recognition of official certificate.

National Health Service—

Department of Health for Scotland. Circular No. 64/1947 of 26/6/47. National Health Service (Scotland) Act, 1947.

Order No. 1311/S.51 of 25/6/47. National Health Service (Scotland) Act, 1947. (Determination of Areas of Regional Hospital Boards) Order, 1947.

Order No. 1321/S.52 of 27/6/47. National Health Service Executive Councils (Valuation of Constitution) (Scotland) Order, 1947.

Order No. 1358/S.53 of 27/6/47. National Health Service Executive Councils (Constitution) (Scotland) Order, 1947.

Circular No. 85/1947 of 22/8/47. National Health Service (Scotland) Act, 1947. Proposals for the discharge of Local Health Authority Functions.

Circular No. 97/1947 of 6/10/47. Bacteriological Service.

Circular No. 99/1947 of 24/10/47. National Health Service (Scotland) Act, 1947. Mental Health Services.

Order No. 2261/S.82 of 20/10/47. Regional Hospital Boards and Boards of Management (Scotland) Regulations, 1947.

Order No. 2297/S.83 of 28/10/47. Constitution of Regional Hospital Boards (Scotland) Order, 1947.

Order No. 2504/S.92 of 21/11/47. Executive Councils (Scotland) Regulations, 1947.

Nursing—

Department of Health for Scotland. Circular No. 389/S.9 of 3/3/47. Nurses (Scotland) Regulations. (Nurses (Scotland) Act, 1943.)

Tuberculosis—

Department of Health for Scotland. Circular No. 6/1947 of 20/1/47. Public Health (Tuberculosis) Regulations (Scotland), 1940.

Department of Health for Scotland. Circular No. 40/1947 of 2/4/47. Tuberculosis Allowances Scheme. Winter Allocation for Fuel.

Department of Health for Scotland. Circular No. 50/1947 of 5/5/47. Public Health (Tuberculosis) Regulations (Scotland), 1940. Submission of Form T.147 to Ministry of Labour and National Service.

Department of Health for Scotland. Circular No. 88/1947 of 21/8/47. Tuberculosis Allowances Scheme. Allowances for Winter Fuel.

Department of Health for Scotland. Circular No. 115/1947 of 15/12/47. Public Health (Tuberculosis) Regulations (Scotland), 1940.

Department of Health for Scotland. Circular No. 119/1947 of 27/12/47. Tuberculosis Allowances Scheme. Increase in Winter Fuel Allowance.

Venereal Disease—

Department of Health for Scotland. Circular No. 120/1947 of 31/12/47. Venereal Diseases. Defence Regulation 33B.

Welfare of the Old—

Department of Health for Scotland. Circular No. 41/1947 of 2/4/47. The Care of Old People.

SECTION II.

VITAL STATISTICS.

Although all the particulars of vital and other statistics are given in Tables I to XVIII in Appendix on pages 190 to 214, the principal items are collated in this section for the convenience of reference. The following table summarises the vital statistics referring to the population, etc., of the city compared with the previous year and the pre-war year 1938 :—

SUMMARY.

	1938.	1944.	1945.	1946.	1947.
Population	1,127,825	1,050,000	1,050,000	1,075,000	1,100,000
Acreage	39,725	39,725	39,725	39,725	39,725
Persons per acre	28	26	26	27	28
Number of Inhabited Houses	280,561	288,780	289,028	289,655	291,407
Deaths—Number registered	16,411	15,779	15,112	15,561	16,412
Deaths—After correction for Transfers ...	15,016	14,603	13,941	14,502	15,267
Births—Number registered	23,193	22,695	21,296	25,391	27,237
Births—After correction	21,979	22,203	20,294	23,560	25,829
Death rate per 1,000 living—All causes ...	13·31	13·91	13·27	13·49	13·88
Birth rate per 1,000 living	19·49	20·21	19·33	21·92	23·48
Deaths under One Year—After correction ...	1,919	2,108	1,379	1,588	1,989
Deaths under One Year—Per 1,000 births ...	87	95	68	67	77

BIRTHS.

The total number of births registered in the city during the year was 27,237 which after correction for transfers is reduced to a nett number of 25,829. This is the highest number recorded since 1923 when the high birth rate following the first world war had commenced to fall. The highest annual number of births at that time was 32,626 in 1920 and the rate 31·5.

Social habits and economic conditions have changed considerably in the intervening years and it is unlikely that present day numbers will approach these figures.

The nett total births represents a birth rate of 23·5 which compares with 21·9 for the previous year. The highest birth rate, 30·3, was in Gorbals ward followed by 29·3 in Mile-end, 28·2 in both Kinning Park and Kingston, and 28·1 in Cowcaddens and Woodside—all working

class wards. The lowest rate was 14·8 in Cathcart followed by Camphill with 15·7 and Kelvinside with 16·6. Compared with birth rates for the previous year the largest increases were Blythswood 6·2, Shettleston 4·1 and Partick 4·1. There was a decrease of 1·7 in Camphill and 1·4 in Fairfield.

The greatest natural increases, *i.e.*, excess of birth rates over death rates, were 14·8 in Cowcaddens, 14·6 in Gorbals, 14·3 in Dalmarnock and 14·2 in Hutchesontown wards.

Illegitimate Births.—There were 1,364 illegitimate births recorded in 1947, the illegitimate rate being reduced to 5·2 against 6·1 for the previous year. This figure is among the lowest ever recorded in the city.

The highest rate occurred in Exchange ward where 13·2 per cent. of the births were illegitimate compared with 10·3 for the previous year. Other high rates were 9·4 in Blythswood, 9·0 in both Calton and Gorbals, while Sandyford and Park wards had a rate in excess of 8. The lowest rate was 2·0 in Cathcart followed by Langside with 2·1, Kelvinside and Cowlairs 2·3 and Camphill 2·4. There were 36 illegitimate births in institutions compared with 24 in 1946.

MARRIAGES.

During 1947 there were 10,978 marriages against 11,581 for the previous year. These figures may be compared with 14,581 marriages which took place in 1940, which was the highest number recorded for many years. These rates are above the average as will be seen from the following statement which gives the rates since 1871.

Marriages per Thousand Persons Living :

1871-1880	9·1	1939	11·7
1881-1890	9·3	1940	13·9
1891-1900	9·4	1941	12·1
1901-1910	8·8	1942	11·9
1911-1920	9·7	1943	9·7
1921-1931	8·9	1944	9·3
1931-1935	8·8	1945	11·9
1936	9·2	1946	10·3
1937	9·5	1947	10·0
1938	9·7		

Calculated on the estimated number of un-married women of the reproductive ages, 15-45 years, this number of marriages represents 73 per thousand.

DEATHS.

The number of deaths registered in the city during the year was 16,412 which is reduced to 15,267 when adjustments are made for inward and outward transfers. The corrected figure therefore represents a death rate of 13·88 per thousand of the population compared with 13·49 in 1946. This rate is below the average of the past 15 years.

The number of deaths in each municipal ward of the city is given in Appendix Table VI with the death rates compared with the rates for the two preceding years. The highest ward death rate was 17·8 in Blythswood, followed by Exchange with 16·4. The only other ward with a rate exceeding 16 was Calton. The lowest rate 11·7 was in Fairfield followed by 12·0 in Cowlairs and 12·4 in Yoker and Knightswood, all wards of the artisan class. The rate for Camphill ward was 15·2. The following statement summarises the death rates since 1881.

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

1881-1890	... ...	24·22	1941	... ...	15·59
1891-1900	... ...	21·53	1942	... ...	14·04
1901-1910	... ...	19·56	1943	... ...	14·18
1911-1920	... ...	16·36	1944	... ...	13·91
1921-1925	... ...	15·49	1945	... ...	13·28
1926-1935	... ...	15·04	1946	... ...	13·49
1931-1935	... ...	13·88	1947	... ...	13·88
1936-1940	... ...	14·55			

Causes of Death.—The number of causes of death are summarised in the following table :—

SUMMARY OF DEATH RATES PER MILLION FROM PRINCIPAL CAUSES.

General Diseases—	1945.	1946.	1947.
(*a*) Infectious	513	395	689
(*b*) Tuberculous—			
(1) Phthisis	1,033	1,102	1,066
(2) Others	249	225	224
(*c*) Malignant (Cancer, etc.)	1,832	1,767	1,841
Diseases of the Nervous System	1,547	1,514	1,526
Diseases of the Circulatory System	3,375	3,513	3,693
Diseases of Respiration	944	1,123	1,147
Congenital Defects and Malformations (including Premature Birth)	607	769	789
Violence	527	514	502
All Other Causes	2,650	2,568	2,402
All Causes	13,277	13,490	13,879

Causes of Death.—The death rate from acute infectious diseases, 689 per million of the population was higher than the record low rate of 395 for the previous year. The deaths from typhoid and paratyphoid fevers remain at a very low level, 3 per million, while there were 5 deaths from scarlet fever compared with only 1 in 1946. Diphtheria was the cause of only 13 deaths representing a death rate of 12 per million of the population, which is the lowest on record and is an indication of the effectiveness of the Diphtheria immunisation campaign.

Mortality from diarrhoea and enteritis of children under two years of age was unfortunately heavy and 574 deaths were ascribed to these causes, giving a rate of 522 against 274 for 1946. A considerable part of this increase may be ascribed to the high birth rate which will be referred to more fully in the Child Welfare Section of this report.

Because of the prevalence of whooping cough the mortality rate, 70, was considerably above the rate of 19 for the previous year; the respective figure for measles was 14 against 22.

The death rate from pulmonary tuberculosis was lower—1,066 against 1,102 in 1946. The statistics of the disease are more fully dealt with in Section IV of the report.

The death rate from non-pulmonary forms of the disease, 224, was practically the same as that for 1946. Last year a diagram was inserted in the report, showing the definite reduction which has taken place since the beginning of the present century in the mortality from abdominal tuberculosis, together with special notes on the reasons for the decline. The number of deaths still remains low despite the increased possibility of infection from the large number of pulmonary cases remaining at home because of the lack of hospital accommodation and nurses.

Deaths from tuberculous meningitis were more numerous, 167 against 156, but deaths from the other non-pulmonary forms of the disease were reduced from 71 in 1946 to 58.

Diseases of the Nervous System.—The death rate from diseases of the nervous system is slightly higher, 1,526 against 1,514. The rate

has not fluctuated much since the beginning of the war ; before that the annual rates were around 1,300. Most of the mortality in this group is due to intra-cranial vascular lesions, the death rate for which was 1,254 against 1,232 in 1946.

The gradual increase in mortality from cerebral haemorrhage is to be expected with the increase in the population of the older age groups most of whom have been exposed to the stress and strain of war conditions.

Diseases of the Circulatory System.—Mortality from this group of disease is by far the greatest cause of death, the rate per million being 3,693. This is again an increase on the rates of the previous year, and this group now forms 27 per cent of the total death rate. The principal factor in this group is heart disease, with a death rate of 3,417 which compares with 3,242 for the preceding year and 3,110 in 1945. Here again the rates are definitely above those of pre-war years, probably for the same reasons as stated for nervous diseases. The other causes of death related to the circulatory system were responsible for a rate of 276 which is a little greater than the previous rates.

Diseases of the Respiratory System.—Mortality from these diseases was somewhat higher, 1,147 per million of the population against 1,123 for the previous year and 944 in 1945, which was the lowest hitherto recorded. All of this increase can be accounted for by the larger number of deaths of young infants and persons of old age, who died during the spring months when there was a long spell of very cold and severe weather. The matter will be further referred to in Section IV dealing with respiratory infections.

Congenital, etc., Diseases.—Mortality from congenital malformations, birth injuries, etc., (including premature births) again increased, 437 deaths being recorded, compared with 388. This increase, however, is related to the greater number of births which occurred during the year, the percentage in both instances being between 11 and 12. Further reference will be made to these causes in Section III dealing with infant mortality.

Deaths from Violence.—The total number of deaths under this heading, which includes road traffic accidents and industrial accidents,

etc., numbered 552 compared with 553 for the previous year. The male deaths were 364 against 354 ; the respective figures for females were 188 and 199. The following table giving the age and sex distribution of the deaths, shows that there has been an increase in deaths of males under five years of age from 29 in 1946 to 47 in 1947.

	Males.					Females.				
	−5	−15	−45	+45	Total	−5	−15	−45	+45	Total
1944 ...	45	66	79	204	394	22	21	33	123	199
1945 ...	37	67	77	179	360	25	19	24	125	193
1946 ...	29	43	81	201	354	28	10	28	133	199
1947 ...	47	39	91	187	364	21	13	24	130	188

Age and Sex Distribution.

The age and sex distribution of deaths according to causes are given in Appendix Table IX according to the Short International Classification. Mortality from the acute infectious diseases which is all at younger ages, now represents a very small proportion of the total. Whooping cough was the most fatal with 77 deaths, of which 18 were males and 28 females in the first year of life. Of the deaths from syphilis 46 were males all, with the exception of one from congenital disease, being over 35 years of age, while of the 29 females two were under one year of age and 7 between 20 and 45.

There were 145 deaths from diabetes, 27 males and 118 females. The supply of insulin in the treatment of this disease was introduced in 1924, following a circular from the Department of Health authorising the free issue to necessitous cases and the following table gives a comparison of the deaths occurring at certain ages in respect of that year compared with the numbers occurring at the present time. This shows the considerable saving in life in the earlier productive years of life and up to about 50 years of age. Some part of the excess deaths at older ages at the present time is probably due to the larger number of people at these ages, and probably also, to more accurate diagnosis.

	Ages.				
	−25	−45	−65	+65	Total
1924	16	26	29	34	103
1947	2	5	62	76	145
	*	*	*	*	*
1947—Males	—	2	10	15	27
Females ...	2	3	52	61	118

Deaths from diseases of the nervous system increased rapidly at ages above 55 ; about 78 per cent of the 746 male and 82 per cent. of the 933 female deaths occur at these ages. Deaths from heart and other circulatory diseases among males numbered 2,068 while the corresponding figures for females were 1,995 of which 84 and 80 per cent. respectively were persons aged 55 years and over.

Deaths from nephritis numbered 118 among males and 104 among females, only one of the former being under 20 years against 7 of the latter.

Of the total deaths in the city 8,074 were males and 7,192 females.

CANCER.

Since 1927 considerable detail has been published in the Annual Reports giving information as to the site of the disease, sex and age, although these statements were abridged during the war. Now that changes are imminent with regard to the National Health Service, the time seems opportune to collate the statistics for cancer during the past 20 years when diagnosis of the disease has been more accurate than had been the case in the early years of the century. More hospital accommodation is provided in Glasgow than in most other towns or districts and with its large population of over a million, a sufficient number of cases occurs to provide accurate information of the sites of the disease and of age and sex distribution.

These details for the year 1947 are given in the table on the following page. The total number of deaths during the year was 2,025 compared with 1,899 for 1946. Male deaths numbered 1,088 and females 937. The sites affected showed considerable variation but with regard to those which are common to both sexes the mortality among males was heavier. For instance diseases of the buccal cavity and pharynx was six times more common (62 to 11) among males ; in earlier years the incidence in males was almost nine times that in females.

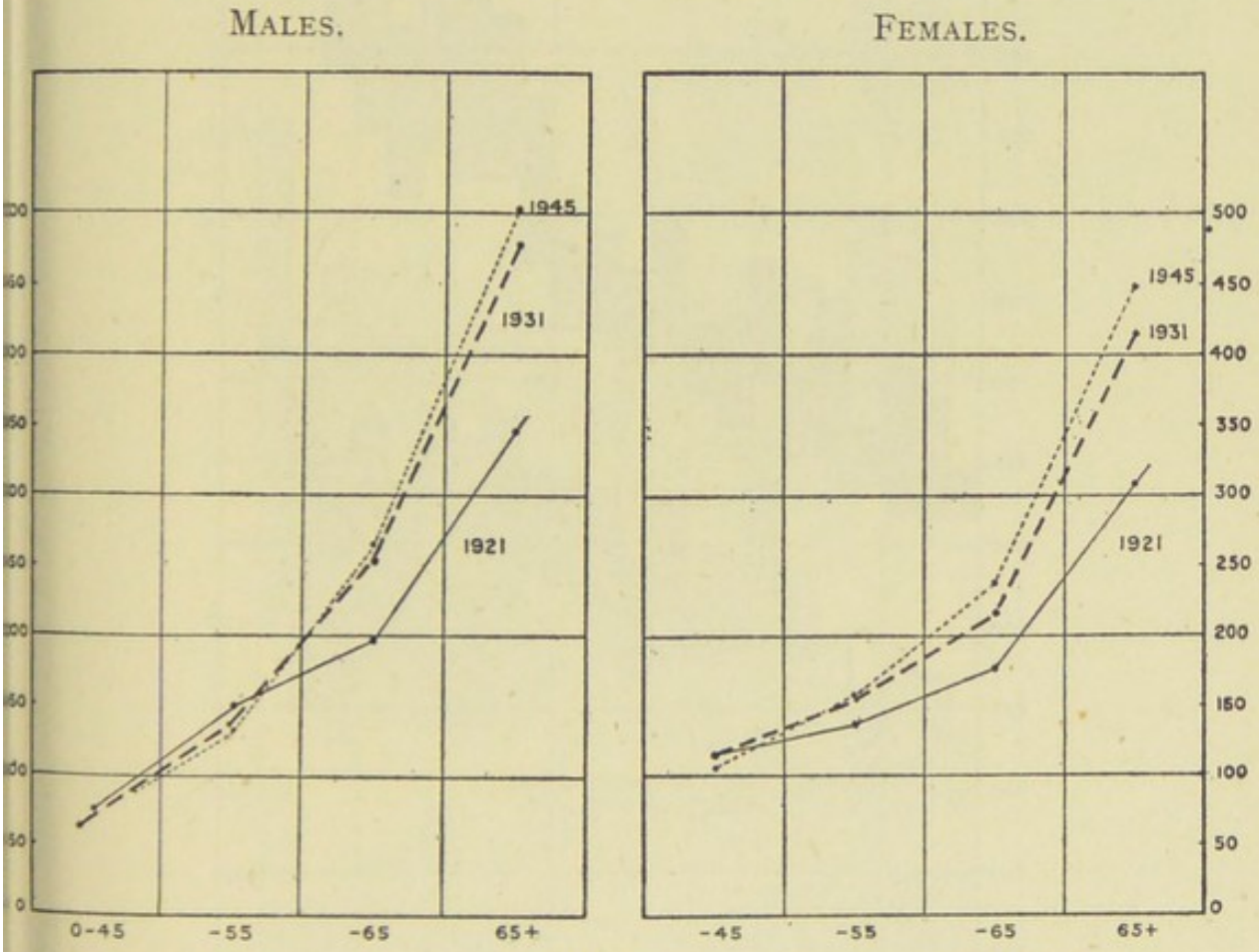
Involvement of the digestive organs was more common among males to the extent of 20 per cent. Deaths in this group of the disease formed more than half the total for males and at least half for females. The volume of deaths, as shown in the twin charts on pages 41 and 42, is on the increase among males and to a less extent among females,

Glasgow, 1947.—DEATHS from Cancer in the Different Sites as given in the International List of Causes of Death.

SITE OF LESION.	MALES.									FEMALES.									Both Sexes.	Year 1946		
	−15	−25	−35	−45	−55	−65	−75	75+	Total.	−15	−25	−35	−45	−55	−65	−75	75+	Total.		All Ages. Males.	All Ages. Females.	Both Sexes.
Buccal Cavity and Pharynx ...	—	—	—	—	3	11	26	22	62	—	2	1	—	1	1	4	2	11	73	60	12	72
Digestive Organs and Peritoneum—																						
(*a*) Oesophagus	—	—	—	—	11	15	18	5	49	—	—	—	1	3	4	13	4	25	74	41	24	65
(*b*) Stomach and Duodenum ...	—	1	3	17	41	68	63	40	233	—	—	1	5	20	32	73	47	178	411	184	182	366
(*c*) Rectum	—	—	3	7	12	24	35	17	98	—	—	—	3	4	17	20	12	56	154	82	38	120
(*d*) Liver and Biliary Passages	—	1	—	1	3	8	11	9	33	—	—	—	—	—	11	16	11	38	71	28	39	67
(*e*) Pancreas	—	—	—	—	4	11	8	8	31	—	—	—	2	1	9	6	5	23	54	27	23	50
(*f*) Peritoneum	1	—	1	—	—	2	1	—	5	—	—	—	1	1	—	—	1	3	8	3	2	5
(*g*) Other Digestive Organs ...	—	1	—	8	16	26	56	23	130	—	—	2	4	24	31	48	48	157	287	170	156	326
Respiratory Organs	—	1	1	25	87	93	46	16	269	—	—	1	4	15	13	9	9	51	320	236	171	307
Uterus	—	—	—	—	—	—	—	—	—	—	—	1	16	25	39	22	8	111	111	—	110	110
Other Female Genital Organs ...	—	—	—	—	—	—	—	—	—	—	1	2	4	15	18	5	4	49	49	—	46	46
Breast	—	—	—	—	—	—	2	—	2	—	—	—	7	38	33	39	22	139	141	3	142	145
Male Genito-Urinary Organs ...	—	1	2	—	3	14	34	18	72	—	—	—	—	—	—	—	—	—	72	58	—	58
Skin	—	—	—	—	—	2	5	4	11	—	—	—	—	—	—	4	6	10	21	7	7	14
Other or Unspecified Organs ...	2	2	1	3	16	25	28	16	93	4	4	3	7	13	17	23	15	86	179	86	62	148
Totals	3	7	11	61	196	299	333	178	1088	4	7	11	54	160	225	282	194	937	2,025	985	914	1,899

although within more recent years the rate of increase has declined. This is shown in the two small charts which are here inserted with the deaths corrected for the age distribution of the population as at present estimated.

DEATHS FROM CANCER
IN 1921, 1931 AND 1945.

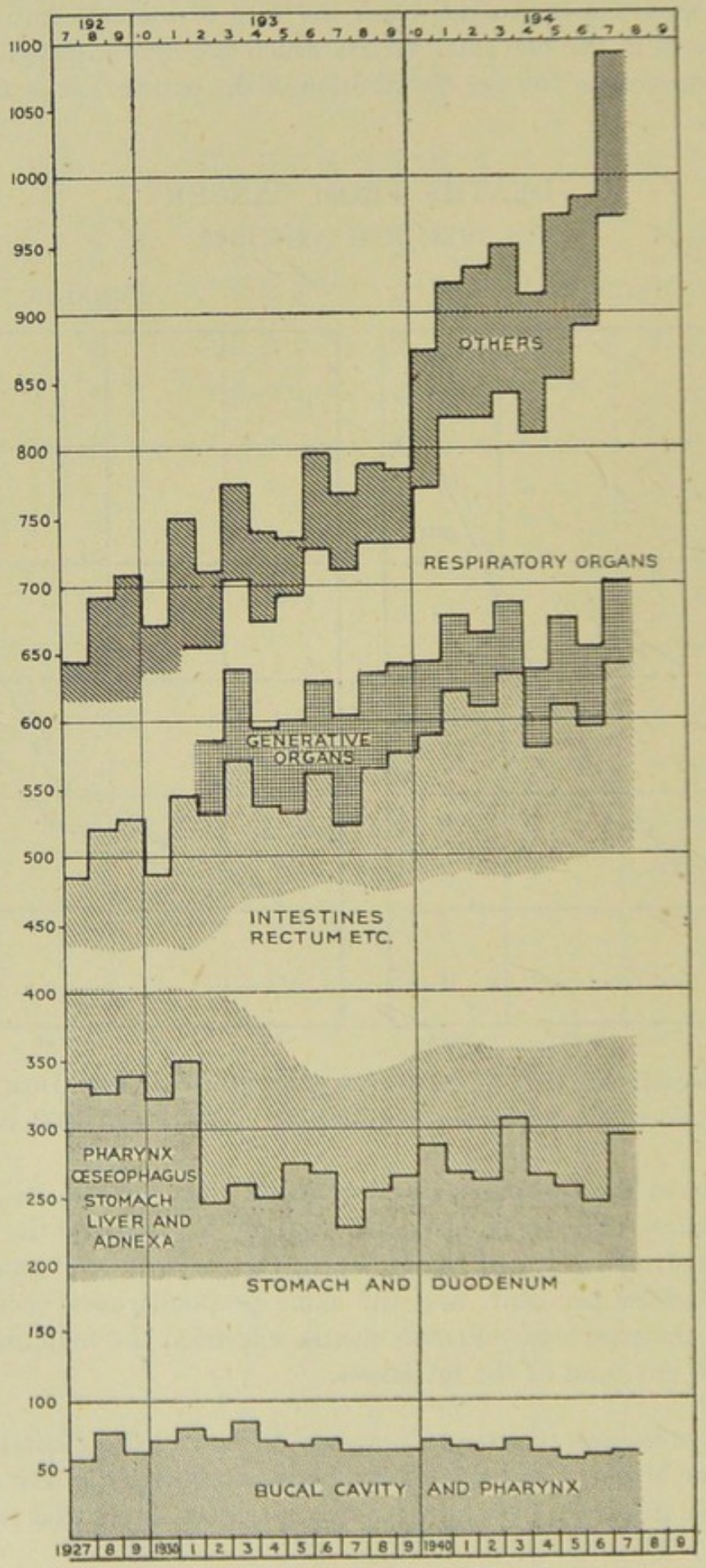


Note.—Deaths for 1921 and 1931 are *calculated, i.e.*, 1945 Death rate applied to the age group populations of 1921 and 1931 census.

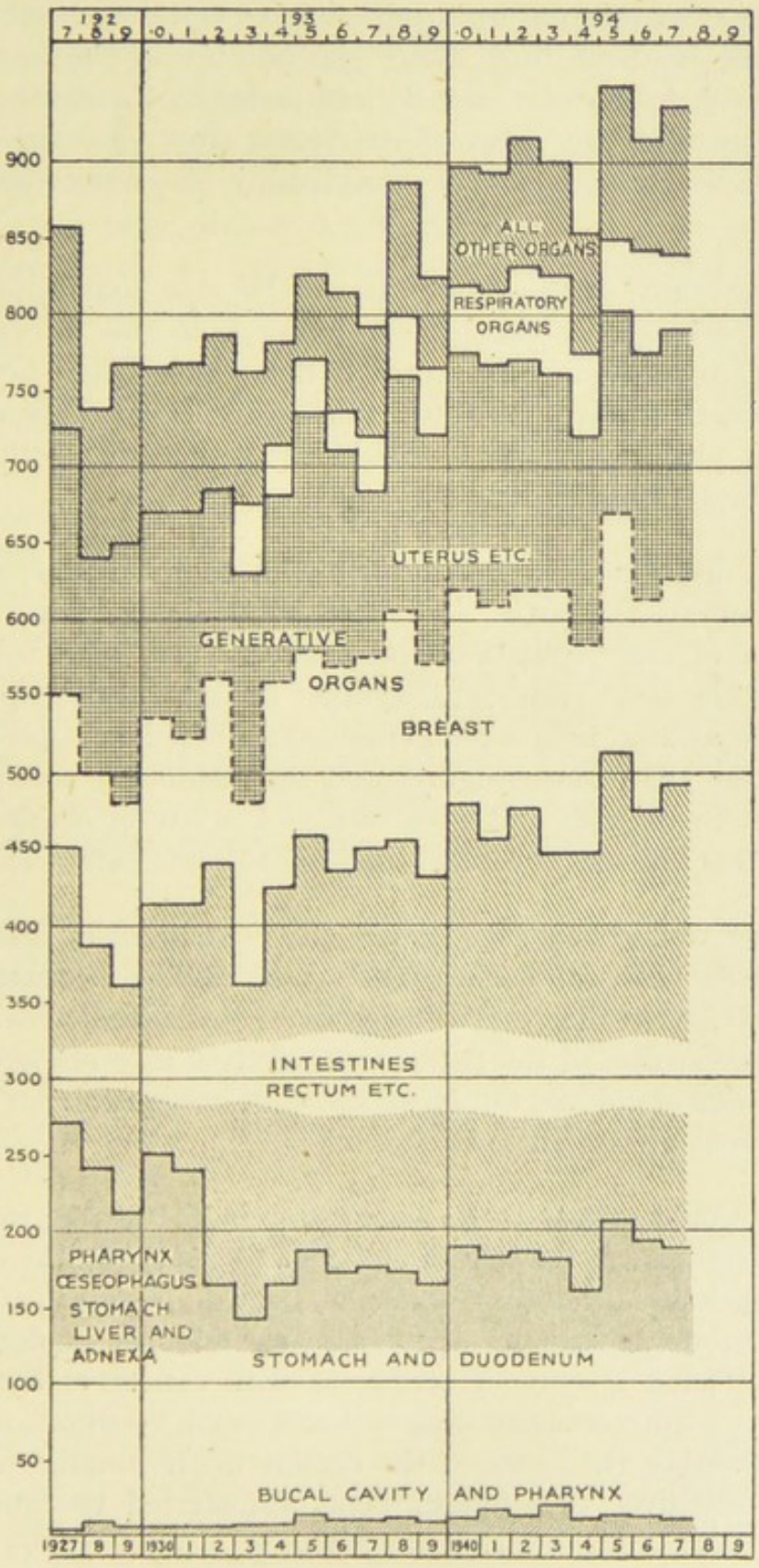
Disease of the oesophagus among males was twice as frequent as among females. The same observations apply to disease of the rectum. Male deaths from cancer of the stomach, etc., were more numerous to the extent of 30 per cent. and the same preponderance occurred in diseases of the pancreas. Female deaths exceeded the male in disease of the liver, etc., and of the intestines.

The greatest sex difference, however, is that of the genital system including the breast. In 1947, female deaths numbered 299 as compared with 74 male deaths. The chart for female cancer shows that the num-

GLASGOW—DEATHS FROM CANCER (MALE).



GLASGOW—DEATHS FROM CANCER (FEMALE).



ber of deaths from involvement of this system in females has not been reduced.

Much of this disparity is balanced by the excess of male deaths from cancer of the respiratory organs, especially in recent years. The increase since 1939 has been quite marked and the number of deaths in 1947, 269, is about three times the number in the former year; it occurs early, for at ages over 35 and under 55 the deaths are more frequent than from any other of the cancer sites. Deaths of females from the same cause, although considerably less numerous, are also increasing.

From a study of the figures it will be seen that approximately one in six persons over the age of 45 dies from this disease. If the trend of medical thought is accepted that cancer may first develop before it actually shows itself as a clinical entity, perhaps after some chemical or physical injury, it should be considered whether we can learn anything from our figures.

In the first place, we are dealing with actual deaths, not death-rates. To obtain the latter, we require an accurate knowledge of the distribution of the population and that was last obtained in 1931, the date of the last Census; till another Census is taken, probably in 1951, our population figures remain estimates based on applying certain factors to the 1931 Census figures and the results are complicated by the population changes of a great war. A study of death-rates may well show that the rise in cancer deaths is to some extent exaggerated.

Another well-known fact is that the population is ageing, partly due to smaller birth rates and partly to the decline in causes of death other than cancer, the result of advances in medical treatment. If a greater proportion of the population survives into old age then the killing diseases of old age will be all the more responsible for mortality, and prominent among these is cancer.

There would appear to be an increase in the deaths from cancer, particularly of the gastro-intestinal tract in both sexes, the respiratory organs in men and generative organs in women. Earlier diagnosis and treatment is responsible for the fall in the number of deaths where the part affected is easy of access, as with cancer of the skin, lip, tongue, etc. More accurate diagnosis and death certification in recent years is probably the cause of the decline in the number of cases of cancer of the liver (the figures being transferred to cancer of the

gastro-intestinal tract) and to the increase in the number of cases of cancer of the lung. On the other hand, with the last-named, failure to find a primary source elsewhere in the body, where one actually exists, means that the lungs are often wrongly accused of being the primary source of the tumour. The most likely place to seek such a source in the male would be in the genital organs and it is possible that the considerable rise in male lung cancer is really a reflex of increased male genital cancer, a theory which would to some extent account for the discrepancy of high genital cancer and low lung cancer in the female. But even so it is hard to avoid the conclusion that there is a genuine rise in lung cancer and it may be permitted to speculate, having regard to the coincidence of the rise with the intensive rearmament campaign, the war time industrial effort and the more recent export drive, whether there is more irritation of the respiratory tract from the chemicals used in industry, with consequent cancerous degeneration, than there used to be.

It is difficult to know what advice to give in the control of cancer. So often the patient comes to the doctor too late for any attempt to be made to save him by operation or other means. Lucky indeed is the person whose disease is within range of his eyesight or who bleeds from an unusual situation without warning, because that person has the clearest indication that he should seek medical advice and if he or she does so at once, there is some chance of helping him. The best means in the end may be the regular medical examination so commonplace in some other countries but not yet a habit here.

Transfer Deaths etc.—Deaths occurring in the city and transferred to other authorities numbered 1,746, and inward transfers 599, compared with the respective figures of 1,760 and 701 for the previous year.

The deaths occurring in hospitals, nursing homes, and other institutions compared with the respective figures for the preceding year were as follows :—

	1946.	1947.
Local Authority General Hospitals and Poorhouses ...	3,139	3,022
Local Authority Fever Hospitals and Sanatoria	1,119	1,334
Local Authority Mental Hospitals	370	312
Voluntary Hospitals and Infirmaries	2,026	2,166
Nursing Homes, etc.	227	241
Totals	6,881	7,075
Percentage of all Deaths	47·44	46·33

SECTION III.

MATERNITY AND CHILD WELFARE.

During 1947 the birth rate was even higher than in 1946. In consequence the Child Welfare and Maternity Departments had a particularly busy year and the demand on the services was very great indeed. Additional clinic facilities are seriously needed in certain residential areas in the city. Plans for such development have been approved by the Corporation but at present they cannot be realised. One new clinic in a house adapted for the purpose was opened in Balvicar Street in May, and the adaption of Civil Defence buildings in the Hutchesontown area is being proceeded with. A beginning has also been made with the erection of the new clinic at Bengal Street, Pollokshaws, to replace the shop premises at Harriet Street.

Negotiations with the University and the Royal Hospital for Sick Children resulted in the establishment of a Child Welfare Clinic in the hospital premises. This clinic is the Child Welfare Clinic for the city ward adjacent to the hospital. Details of the administration of the clinic appear in the body of this Report.

Although there was a slight decline in the number of attendances at the ante-natal clinics, all centres continue to work under great pressure. Together, the Maternity and Child Welfare Centres and the Hospital Clinics are responsible for the ante-natal care of over 70 per cent. of all expectant mothers in the city. The public increasingly recognise the value of the services which they can obtain at a well organised ante-natal clinic.

Reference must be made to the investigation of the rhesus factor in mother's blood and its significance in neonatal mortality and morbidity. Arrangements were made during the year with the Public Health Central Laboratory and the Blood Transfusion Service whereby the blood of every expectant mother in attendance at an ante-natal clinic in the city is examined with regard to this factor. All mothers showing a rhesus negative factor and sensitisation are referred either to Stobhill Hospital or to Southern General Hospital for their confine-

ment, where immediate transfusion of the new-born infants can be carried out if necessary. Such standards of care of expectant mothers are only possible through an organisation of ante-natal clinics and the well-being of expectant mothers and their infants may be seriously affected if under the new maternity arrangements of the Health Service Act there is a falling off in the attendance of mothers at ante-natal clinics. It is to be hoped that the future use of these clinics will not be jeopardised by developments under the Act.

The accommodation in the various maternity units was the same during 1947 as in 1946. The recruitment of pupil midwives to the unit at Lennox Castle was so satisfactory that this unit is now working to full capacity, namely, 130 beds. A ward of 40 beds for abortions was opened during the year in Stobhill Hospital.

The continuing high birth rate has thrown a great strain on the Domiciliary Midwifery Service. The number of municipal midwives was increased during the year to 55. Additions to the staff are still necessary and every endeavour is being made to recruit more midwives. The number of births attended by these midwives in 1947 was 4,755 as compared with 3,719 in 1946.

Reference must be made to the great success of the Home Help Service. Over 400 helps were in employment during the winter, and even in summer the number never fell below 350. Praise of the service comes from all classes of the population, and it is gratifying that expansion of the service by the Local Health Authority is envisaged under the new Health Act.

Unfortunately the infant mortality rate is considerably higher than that for 1946, namely, 77 as compared with 67. This rise is most disappointing and is accounted for entirely by another serious increase in the deaths from diarrhoea and enteritis. This increase was paricularly marked in July, August and September, although there was an undue incidence throughout the whole year. The position in Glasgow is that not only relatively but actually more infants are dying from gastro-enteritis than did at the beginning of the century. The highest death rate is in children between three and six months. A special study of the position is being carried out by the Department, but one fact emerges clearly, that breast-fed children are hardly ever affected and very rarely die. Practically all the cases and the deaths occurred in artificially fed infants, most of whom were on some dried

milk preparation. The present position is a challenge to all Child Welfare and Public Health workers. At the invitation of the Health Committee Dr. Harold Waller visited the Corporation Clinics and Maternity Units in December, 1947, and gave various talks and demonstrations about breast-feeding. Plans are being made to develop special education and supervision of mothers at the ante-natal clinics and in the various maternity units to try to secure that more infants are breast-fed.

Throughout the year the staff, both medical and nursing, gave many lectures and took part in other forms of health propaganda. The public are showing an increasing interest in health matters in general and in child welfare and parenthood in particular.

INFANT MORTALITY.

The number of deaths of infants after correction for inward and outward transfers was 1,989 compared with 1,588 for the previous year, an increase of 401. Births numbered 25,829 or 2,269 more than the total of 1946 so that there was a nett natural increase in the first year of life of 1,868 babies. The infant mortality rate, however, rose to 77 as compared with 67 for 1946. This rise is accounted for by the marked increase of cases of gastro-enteritis which occurred during the year. Although the incidence was fortunately not so high as in 1944, it was alarmingly high and accounted for the deaths of 560 infants.

The following summary gives a comparison of the Infant Mortality rate with those of previous years :—

1939	 80	1944	 95
1940	 95	1945	 68
1941	 111	1946	 67
1942	 90	1947	 77
1943	 82		

The rates previous to 1939 were usually in the region of 100 or more and these are given in the last column of Table XVIII in the Appendix.

Details of the causes of male and female deaths for each quarter during the first year of life are given in Appendix Table XII. The information there given is summarised in the following statement,

which shows the relative magnitude of the principal group of causes of death, compared with the rate for previous years since 1911.

MALES—

	Causes of Death	Rate per 1,000 Births. 1911-20	1921-30	1931-35	1936-40	1941-45	1946	1947
I.	Immaturity	46	41	43	44	42	39	35
II.	Diseases of Respiratory System	29	32	30	25	18	14	14
III.	Diseases of Digestive System	20	15	17	19	24	14	28
IV.	Diseases of Nervous System	9	7	4	4	5	4	3
V.	Tuberculous Diseases ...	5	2	1	1	1	1	1
VI.	Infectious Diseases ...	15	14	12	6	4	2	2
VII.	Suffocation	1	—	—	—	—	—	1
VIII.	All other causes ...	11	8	7	6	5	2	3
	All causes ...	136	119	114	105	99	76	87

FEMALES—

	Causes of Death	Rate per 1,000 Births. 1911-20	1921-30	1931-35	1936-40	1941-45	1946	1947
I.	Immaturity	36	33	33	35	34	29	30
II.	Diseases of Respiratory System	23	23	23	21	14	10	9
III.	Diseases of Digestive System	16	11	12	13	16	11	18
IV.	Diseases of Nervous System	7	4	3	3	4	3	2
V.	Tuberculous Diseases ...	3	2	1	1	1	1	1
VI.	Infectious Diseases ...	15	13	11	6	4	1	3
VII.	Suffocation	1	1	—	—	—	—	1
VIII.	All other causes ...	8	7	5	4	3	3	3
	All causes ...	109	94	88	83	76	58	67
	Ratio—Males to 100 Females ...	124	128	131	126	130	131	130

Although the sex differentiated mortality still shows the usual apparently biological excess of 130 males to 100 females, the relatively heavier death rate among males is evident in all the principal groups of causes given in the above tables.

Mortality of male infants from diseases of the immaturity group at 35 is considerably below the rate of 39 for 1946 as well as the rates of previous years. The corresponding rates for females were 30 compared with 29. Of the number of deaths included in this group all but 15 per cent. occurred in the first month of life. Deaths for congenital malformations are over 30 per cent. greater than the corresponding number in 1946. The number of deaths certified as due to prematurity, 431, was less by 7 than the number for the previous year, despite the considerably higher birth rate.

Mortality from diseases of respiratory system formerly the heaviest cause of infant deaths, apart from the immaturity group, has gone down rapidly in the past 3 or 4 years coincident with the reduction in the pneumonia death rate of the whole population. The low infant death rate of 1946 has been more than maintained for the male rate remains the same, at 14 per thousand births, while the rate for female infants is 9 against 10 despite the adverse affects of the severe cold spell from the middle of February to the middle of April when mortality among infants as well as old persons was considerably above the average for that period of the year.

Apart from diseases of the digestive system the death rate from the other groups of infant causes are all relatively small. Even for the infectious diseases the rates were low, 2 for males and 3 for females. The rates for tuberculous diseases remain at unity for both sexes ; and the same observation applies to suffocation, but here it may be mentioned that the number of deaths due to overlaying was 18 compared with 8 for the previous year and is probably an indication of the serious effects resulting from overcrowding and possibly the lack of children's cots.

The cause of the higher infant mortality rates during the year, however, is largely accounted for by the heavy death rate from diarrhoeal diseases. The rate for males was 28 against 14 during 1946, while the corresponding rates for females were 18 and 11.

There was an increase in the number of deaths from gastro-enteritis in all months during the year, with a relatively high increase during July, August, and September, but the extremely heavy mortality which obtained in August, 1944, was not a feature of the incidence in 1947.

The effect of the fatality of these diarrhoeal diseases on the infant mortality, in certain wards, was serious as shown in the following table.

Ward	Infant Mortality per 1,000 births. Diarrhoeal Diseases.	All Causes.
2—Parkhead	25	84
3—Dalmarnock	32	90
4—Calton	31	111
8—Provan	32	98
12—Exchange	29	87
13—Blythswood	25	113
14—Anderston	32	93
19—Ruchill	24	66
20—North Kelvin	34	86
23—Partick (East)	39	77
24—Partick (West)	42	80
26—Hutchesontown	26	69
27—Gorbals	33	103

In Partick (West) the diarrhoeal mortality, 42, is more than half the infant mortality for the ward. As against this the diarrhoeal mortality in Langside was only 3 out of the total rate of 34, while in Park ward the corresponding figures were 4 and 43.

Infant Mortality in Wards.—The ward distribution of deaths with the corresponding rates compared with previous years are given in Appendix Table XI. The highest rate was 113 in Blythswood followed by 111 in Calton, 110 in Mile-End, 106 in Springburn and 103 in Gorbals. All the other ward rates were below 100.

The lowest rate, 33, was recorded in Cathcart, followed by 34 in the adjacent ward of Langside.

Year	*Infant Mortality Rate per* 1,000 *Births*	*Deaths* 1-5 *Years : Actual Number*	*Rate per* 1,000 *Population at Ages* 1-5 *Years*
1900	153	2,754	39·2
1911	139	1,862	26·7
1921	106	1,494	19·2
1931	105	1,341	17·2
1938	87	753	9·8
1943	82	394	5·3
1946	67	276	3·6
1947	77	296	3·7

Illegitimate Mortality.—There were 141 infant deaths among the 1,364 illegitimate births, which is equivalent to an infant mortality rate of 103. The corresponding rate for the preceding year was 96.

Notification of Still Births.—The number of still births registered in the city during the year was 973 compared with 995 for the preceding year. There were 143 outward and 38 inward transfer still births, so that the net total for the city was 868 against 886. This is equal to 3·2 per cent. of the births compared with 3·6 in 1946.

From information obtained regarding still births reported under the Notification of Births Acts, it is found that 2·1 per cent. of all births attended at home by doctors were still births, and of those medically attended in institution 4·3 per cent. Together the rate indicated is 3·8. Among non-medically attended births the corresponding rate was 1·6. Detailed statistics are given in Appendix Tables XIII and XIV.

CHILD WELFARE SCHEME.

The clinic in premises in Balvicar Street referred to in the Report last year was opened on 22nd May. An ante-natal clinic is held there weekly on Thursday afternoons, and child welfare clinics on Mondays and Fridays, so that it was possible to discontinue the Wednesday forenoon clinic at Pollokshaws centre for mothers from the Queen's Park area.

An important development in the Child Welfare Service has been made by the establishment of a child welfare clinic in the premises of the Royal Hospital for Sick Children. Negotiations with the Directors of the Hospital and the Health Committee of the Corporation were successfully completed and the clinic was opened in November. The establishment of this clinic is a first step towards the organisation of a scheme for child welfare which would embrace the varying aspects of child health, preventive and curative. The immediate aims of the clinic are :—

(1) Co-ordination between preventive medicine, nutrition, child care and the child welfare clinic.

(2) To provide opportunities for research on matters concerning child health.

(3) To provide educational facilities for under-graduates and graduates in child health.

The children referred to this clinic by the health visitors are from the neighbourhood of the hospital and all the usual activities of child welfare centres are made available in addition to vaccination, inoculation, etc. Arrangements were made that the assistant medical staff at the Royal Hospital for Sick Children should be one of the officers and that the University would appoint this officer as assistant in child health to the department of paediatrics. The clinic is held on Tuesday forenoon and Thursday afternoon.

The following additional alteration in clinic arrangements was made during the year :—

Orr Street—Child welfare afternoon clinic altered to ante-natal.

There are now 19 centres throughout the city, 10 of which are situated in premises specially constructed for the purpose, while 6 more are held in suitable accommodation in administrative buildings, etc. The total number of sessions is now 110, which includes 41 ante-natal clinics, 64 child welfare sessions and 5 ultra violet ray

treatment. In addition, ante-natal and child welfare clinics still continue to be held at the Royal Maternity Hospital.

The time table of the clinics as now organised is given below and on the following page.

LIST OF MATERNITY AND CHILD WELFARE CLINICS.

	9 a.m.	1.30 p.m.
ONDAY,	15 Glenbarr Street, Provan. 106 Orr Street. 26 Florence Street. 2 Summertown Road, Govan (Ante-natal). 20 Arklet Road, Elder Park (Ante-natal). 33 Richard Street (Ante-natal). Sandy Road, Partick (—1 year). 26 Florence Street (Ante-natal) 194 Fernbank Street (Ante-natal) 150 Wellshot Road, Shettleston (Ante-natal).	15 Glenbarr Street, Provan (Ante-natal Sandy Road, Partick (Ante-natal). 60 Avenuepark Street. 106 Orr Street. (Ante-natal). 26 Florence Street. 2 Summertown Road, Govan (Ultra Violet Ray). 614 Dobbie's Loan (Ante-natal). 194 Fernbank Street, Springburn. 15 Glenbarr Street (Ultra-Violet Ray). 101 Denmark Street. 150 Wellshot Road, Shettleston. Craigmuir Road, Penilee (Ante-natal). 46 Balvicar Street.
UESDAY,	33 Richard Street (1-5 years). 194 Fernbank Street, Springburn. 60 Avenuepark Street (Ante-natal). 150 Wellshot Road, Shettleston. 15 Glenbarr Street, Provan. 2 Summertown Road, Govan. 106 Orr Street (Ante-natal). 26 Florence Street 614 Dobbie's Loan. 132 Weir Street. 20 Arklet Road, Elder Park (Ante-natal). 18 Plean Street, Blawarthill Royal Hospital for Sick Children.	33 Richard Street (Ante-natal). Sandy Road, Partick (—1 year). 614 Dobbie's Loan (Ante-natal). 106 Orr Street. 150 Wellshot Road, Shettleston. 26 Florence Street (Ante-natal). 20 Arklet Road, Elder Park (Ante-natal 26 Florence Street. 101 Denmark Street. 33 Harriet Street. 150 Wellshot Road, Shettleston (Ante-natal)
EDNESDAY,	33 Richard Street (—1 year). 60 Avenuepark Street. 614 Dobbie's Loan. 18 Plean Street, Blawarthill. 106 Orr Street (Ante-natal). 2 Summertown Road, Govan (Ultra-Violet Ray). 150 Wellshot Road, Shettleston. 15 Glenbarr Street, Provan Craigmuir Road, Penilee (Ante-natal).	18 Plean Street, Blawarthill (Ante-natal 194 Fernbank Street, Springburn (Ante-natal). 106 Orr Street. 26 Florence Street (Ante-natal). 2 Summertown Road, Govan. 150 Wellshot Road, Shettleston. 33 Harriet Street. Craigmuir Road, Penilee.

	9 a.m.	1.30 p.m.
THURSDAY,	614 Dobbie's Loan.	Sandy Road, Partick (1-5 years).
	106 Orr Street (Ante-natal).	60 Avenuepark Street (Ante-natal).
	15 Glenbarr Street (Ante-natal).	614 Dobbie's Loan.
	26 Florence Street.	106 Orr Street.
	132 Weir Street.	150 Wellshot Road, Shettleston (A natal).
	33 Richard Street.	26 Florence Street.
	2 Summertown Road, Govan (Ante-natal).	132 Weir Street.
	194 Fernbank Street, Springburn.	2 Summertown Road, Govan (A natal).
	112 Ingram Street.	26 Florence Street (Ante-natal).
	Sandy Road, Partick (Ante-natal).	15 Glenbarr Street (Ultra-Violet Ray)
	Craigmuir Road, Penilee.	101 Denmark Street (Ante-natal)
		46 Balvicar Street (Ante-natal).
FRIDAY,	18 Plean Street, Blawarthill.	614 Dobbie's Loan.
	101 Denmark Street (Ante-natal).	106 Orr Street.
	614 Dobbie's Loan (Ante-natal).	101 Denmark Street
	60 Avenuepark Street.	2 Summertown Road, Govan (U Violet Ray).
	106 Orr Street (Ante-natal).	20 Arklet Road, Elder Park.
	150 Wellshot Road, Shettleston. (Ante-natal).	15 Glenbarr Street, Provan.
	26 Florence Street.	33 Harriet Street (Ante-natal).
	2 Summertown Road, Govan.	18 Plean Street, Blawarthill (Ante-nat
	15 Glenbarr Street, Provan.	150 Wellshot Road, Shettleston
	33 Richard Street.	26 Florence Street (Ante-natal).
	46 Balvicar Street.	Craigmuir Road, Penilee.
		Royal Hospital for Sick Children.

Elderpark Infant Consultations—Monday, Wednesday and Thursday at 1.30 p.m.

Maternity Hospital Ante-Natal Clinics—Daily, Monday to Friday, at 1.30 p.m., Saturday, 9.30 a.m. —1 Year Clinics, Monday, Wednesday and Friday, 9 a.m.

Vaccination is also done at 20 Cochrane Street on Tuesdays at 12 noon.

The number of consultations held during 1947 was 3,272 compared with 3,290 for the preceding year and the total number of attendances at these consultations was 157,926, compared with 149,456 during 1946. The number of infants under one year attending for the first time was 12,104, compared with 10,413 for the preceding year, while the corresponding figures for subsequent attendances were 117,904 and 107,290. The number of children over one year attending for the first time was 1,123, compared with 1,171, and the subsequent attendances numbered 26,795, against 30,582.

The following table gives the attendances at each consultation centre during 1947, with the corresponding total figures for the previous year:—

ATTENDANCES AT INFANT CONSULTATIONS, 1947.

	No. of Consultations held.	Children—1 year. No. of Attendances.		Children+1 year. No. of Attendances.		Total No. of Attendances.		1946—Total No. of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Central—									
Ingram Street	50	95	771	20	373	115	1,144	107	1,108
Richard Street	206	586	6,451	50	961	636	7,412	570	6,342
Partick ...	150	523	4,979	64	1,347	587	6,326	495	5,809
Blawarthill ...	156	627	4,221	60	1,044	687	5,265	626	5,267
Royal Hospital for Sick Children ...	13	24	208	3	34	27	242	—	—
North—									
Provan ...	254	762	6,299	119	1,409	881	7,708	761	7,422
Springburn ...	150	468	5,469	33	961	501	6,430	418	5,977
Denmark Street	150	472	5,587	14	492	486	6,079	451	5,550
Cowcaddens	254	614	6,367	85	2,125	699	8,492	581	7,176
Maryhill ...	152	661	5,382	63	952	724	6,334	565	6,230
East—									
Orr Street ...	256	1,699	14,978	140	2,311	1,839	17,289	1,615	16,495
Shettleston ...	305	1,312	13,022	81	3,688	1,393	16,710	1,164	18,070
South-East—									
Gorbals ...	352	1,602	15,800	150	2,777	1,752	18,577	1,642	17,197
Pollokshaws...	122	392	3,490	31	622	423	4,112	413	6,138
Balvicar Street	45	168	1,673	45	554	213	2,227	—	—
South-West—									
Weir Street ...	152	455	5,192	24	1,391	479	6,583	444	6,107
Govan ...	155	542	4,594	54	1,811	596	6,405	598	7,245
Elder Park ...	199	740	8,817	44	2,801	784	11,618	747	10,338
Penilee ...	151	362	4,604	43	1,142	405	5,746	387	5,401
	3,272	12,104	117,904	1,123	26,795	13,227	144,699	11,584	137,872

Supply of Dried Milk, etc.—The total number of packets supplied free was 1,175, representing a cost of £112 12s. 1d.

Where family income was above the scale of necessity, 89,176 packets were supplied at cost price to mothers and children.

Dietary supplements as shown below were also issued from the Centres :—

	Lbs.	Cost.
Cod Liver Oil	1,842½	£305
Cod Liver Oil Emulsion ...	3,513¾	171
Chemical Food	1,773	193
Sundry Foods	52	4
	7,181¼	£673

The booklet " Health of Mother and Child " continued in demand at the Centres, and 8,237 copies were sold during the year. Large numbers were supplied to other Local Authorities in England and Scotland by special arrangement

Ante-Natal Consultations.—Sessions at ante-natal clinics numbered 2,035, compared with 1,933 for the preceding year. The total attendances were 90,594, compared with 94,974 in 1946; primary attendances were 12,752, or 1,122 less than in the previous year (1946); subsequent attendances numbered 77,842, a decrease of 3,258. Consultations and attendances at each of the Centres are shown in the following table :—

ATTENDANCES AT ANTE-NATAL CLINICS, 1947.

	No. of Clinical Sessions.	Number of Attendances.		
		Primary.	Subsequent.	Total.
Richard Street ...	100	700	3,379	4,079
Partick	98	584	3,684	4,268
Blawarthill ...	101	644	3,894	4,538
Provan	98	737	3,771	4,508
Springburn ...	99	432	2,480	2,912
Denmark Street ...	102	430	2,458	2,888
Cowcaddens ...	152	697	3,574	4,271
Maryhill	102	746	4,368	5,114
Orr Street ...	249	1,717	12,422	14,139
Shettleston ...	202	1,293	8,990	10,283
Gorbals	251	1,926	11,936	13,862
Pollokshaws ...	50	301	1,694	1,995
Balvicar Street ...	31	55	352	407
Govan	148	1,339	7,080	8,419
Elderpark	152	878	5,773	6,651
Penilee	100	273	1,987	2,260
	2,035	12,752	77,842	90,594

In addition to the above, ante-natal consultations were carried on at the four municipal hospital out-patients departments, namely, Stobhill Hospital, Southern General Hospital, Eastern District Hospital, and Western District Hospital. The new cases registered at these consultations during 1947 numbered 3,449, and they made 15,059 attendances. The corresponding figures were 2,833 and 11,066 in 1946 respectively.

Among the 13,648 patients whose pregnancy terminated in 1947 (excluding abortions) 35 deaths occurred, giving a death-rate of 2·6 per thousand births compared with 2·9 for the year 1946. There were only 3 deaths from puerperal septicaemia. Deaths among the other 32 patients were as follows :—

Haemorrhage of Pregnancy	3
Toxaemias of Pregnancy	1
Other Diseases and Accidents of Pregnancy	1
Haemorrhage of Childbirth and the Puerperium	7
Puerperal Toxaemias	2
Other Accidents of Childbirth	6
Tuberculosis of Respiratory System	2
Cancer	1
Heart Disease	7
Diabetes	1
All other causes	1

Excluding the 12 deaths which had little association with the puerperal state, the maternal death-rate of mothers attending the clinics was 1·7, compared with 2·32 for the city as a whole.

The total number of cases attending the ante-natal dispensary of the Maternity Hospital for the first time was 3,792, compared with 4,117 in 1946, and the total attendance 20,370, as against 21,619. Of the 2,804 cases treated to a termination in delivery, 702 were treated in their own homes. Cases treated in the ante-natal wards numbered 3,483.

At the infant consultations held at the hospital there were 2,877 attendances as compared with 2,800 in 1946.

Dental Treatment of Expectant Mothers.—The scheme approved by the Corporation in 1935 to provide dental treatment for necessitous and partly necessitous mothers in need of treatment was continued. Applications for treatment numbered 861, a decrease of 41 from 1946. Of these, 743—or 86·3 per cent.—were wholly or partly necessitous. The charges made in partly necessitous cases are determined by a scale of necessity approved by the Corporation. Attendances totalled 4,299, of which 855 were first attendances. Extractions made numbered 7,204, and 829 dentures were completed. Scaling, filling, dressing, and other work necessitated over 1,099 attendances of patients.

Maternal Mortality.—The following statement showing the maternal mortality deaths and rates is from figures supplied by the Registrar-General :—

STATEMENT SHOWING MATERNAL DEATHS AND RATES PER 1,000 BIRTHS IN GLASGOW AND SCOTLAND IN THE YEARS 1943-1947.

	Deaths.					Rate per 1,000 Births.			
	1943.	1944.	1945.	1946.	1947.	1943.	1944.	1945.	1946.
Accidents of Pregnancy ...	5	6	6	15	18	0·22	0·26	0·28	0·61
Puerperal Haemorrhage	34	13	11	21	21	1·47	0·56	0·52	0·86
Puerperal Septicaemia, including Post-abortive Sepsis	43	38	24	15	9	1·86	1·56	1·14	0·61
Toxaemia of Pregnancy, Albuminuria Convulsions	19	20	14	12	12	0·82	0·87	0·67	0·49
Other Puerperal Diseases	19	15	18	6	2	0·82	0·65	0·86	0·25
Totals— Glasgow ...	120	92	73	69	62	5·19	3·99	3·47	2·82
Scotland ...	364	294	249	237	235	3·7	3·0	2·8	2·2

During the year 62 deaths occurred from maternal causes, equivalent to a rate of 2·32 per 1,000 live and still births, which compares with a rate of 2·82 for the previous year. The rates since 1940 are based on live and still births.

ULTRA-VIOLET RAY CLINICS.

No alteration has taken place in the arrangements for light treatment of children suffering from rickets, malnutrition, etc.

The installation and the results of treatment have been fully dealt with in previous reports, so that only the records of numbers treated are here given in respect of 1947 :—

RECORD OF ATTENDANCES AND CONSULTATIONS DURING 1947.

	Number of Clinics held.	Children −1 year. Number of Attendances.		Children +1 year. Number of Attendances.		Mothers. Number of Attendances.		Total. Number of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Provan ...	98	19	131	254	5,617	4	31	277	5,779
Govan ...	151	106	737	449	10,258	6	20	561	11,015
	249	125	868	703	15,875	10	51	838	16,794

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 :—

	1945.	1946.	1947.
Inquiry Cards returned	16,869	19,319	21,413
Full information obtained	16,524	18,947	21,055
Doctor found in attendance	—	—	—
Others	345	372	358
Inquiry Cards issued	16,728	19,713	21,196

VISITATION BY NURSES.

Altogether the health visitors made 219,677 home visits during the year, compared with 189,670 during the preceding year. Of these totals the respective numbers for infants under one year of age were 91,761 and 79,718. First visits numbered 20,779. In addition 57,123 visits were made to houses in respect of toddlers, while 10,214 other toddlers were seen during the course of routine visitation of infants. Other visits were made for special enquiries, etc., as shown in the following table :—

Visits Made by Nurses.

	1946.		1947.	
Infants under one year—Primary visits ...	19,128		20,779	
Infants under one year—Subsequent visits	60,590		70,982	
		79,718		91,761
Children one to five years		57,385		57,123
Children seen while visiting infants ...		9,127		10,214
Ophthalmia Neonatorum		2,429		2,489
Puerperal Fever		657		669
Maternal Deaths Enquiries		99		86
Infant Deaths		471		630
Ante-natal Visits		6,132		6,546
Venereal Diseases		213		167
Light Treatment		765		799
Pneumonia		22		5
Other Visits		974		3,409
Houses Shut		25,699		30,439
Final Visits		5,979		15,340
		189,670		219,677

In addition to home visitation, the nurses attend the Child Welfare and other consultations for their own districts. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment and following up cases afterwards to see that the treatment recommended is carried out.

DAY NURSERIES.

An interesting experiment, the first of its kind in Glasgow, has been in progress at Quarrybrae Nursery since the 9th June, 1947. Under the joint auspices of the Education and Health Departments there is accommodated in the same building a nursery for twenty children under the age of 2 years in the care of a matron and staff of nursery nurses, and a nursery school for children, aged 2½ to 5 years, in charge of a nursery school teacher and nursery school assistants. This innovation is proving very successful. The two sets of figures given in the table below give the information in respect of the nursery only, prior to and following the 9th June, 1947.

Nursery	No. of Days Open	Attendances during the year	Average	Maximum No. in One Day	Accommodation for
Bridgeton	254	9,979	38	53	50
Kingston	252	9,067	42	44	40
Cowcaddens ...	252	9,201	37	44	45

DAY NURSERIES.

Nursery	Opening Date.	Days Open.	Total Attend. for Year.	Average Daily Attend-ances.	Max. No. in one Day.	Accom-modation for.
Central—						
Gt. Western Road	21/10/42	310	10,127	32	46	40
Sandyford Place ...	2/3/43	247	10,593	43	54	50
North—						
Hamiltonhill ...	18/10/43	262	9,809	37	53	45
East—						
Crail Street ...	18/10/42	264	10,148	38	50	50
Onslow Drive ...	9/8/43	263	10,815	42	58	60
Quarrybrae	1/1/47—9/6/47	127	5,489	43	48	50
Quarrybrae	9/6/47—31/12/47	148	2,104	15	20	20
Westercraigs ...	5/3/42	258	9,786	37	48	45
South-East—						
Bedford Street ...	22/6/42	255	6,901	28	42	45
Holmlea Road ...	17/5/44	261	11,830	45	55	50
Pollokshaws ...	1/2/43	257	8,262	32	46	45
South-West—						
Clutha Street ...	20/3/44	255	10,234	40	49	50
Elderpark	20/10/41	254	8,210	32	43	40

Short Stay Residence Homes.—This new development in the Child Welfare Scheme was introduced in 1946. To these homes are admitted children whose parents usually owing to the illness of the mother, are unable temporarily to care for them. No child is allowed to stay longer in the home than two months, and the average stay is about one month. This provision is proving an extremely useful social measure in the interests of family life, and is being widely taken advantage of by all classes of citizens. A charge is made for the care of the children according to the Corporation scale of necessity.

"Short Stay" Homes	Opening Date	Days Open	Total Admissions	Accommodation for
9 Winton Drive ...	20/5/46	340	215	30
*21 Winton Drive ...	17/6/46	284	219	30
Glenrosa, 47 Maxwell Drive ...	29/10/47	64	71	33

* This home was closed on 24th October, 1947.

Country Homes.—One of the two Country Homes in operation prior to the war—Scotstoun House—reopened again on 3rd June, 1946, as a Convalescent Home for children under 5 years of age. At the outbreak of war the Home was converted into a First Aid Post and later, in February, 1944, to a War-time Nursery. Castlebank House, in use as a War-time Nursery from 24.4.44 to March, 1946, was converted and opened on 29.7.46 as a Country Home.

	Scotstoun House	Castlebank House
Admitted	106	62
Dismissed well	84	42
Removed against doctors' orders ...	—	14
Removed to hospital	4*	5†
Died	—	—
In residence at end of year ...	18	15

*One case of diphtheria, one positive-swab (carrier), one broncho-pneumonia and one gastro-enteritis.

†Two cases of gastro-enteritis, one of pneumonia, one of chicken-pox and one of measles.

HOME HELP SERVICE.

The Home Help Service has had a most successful year. As will be seen, the number of applications in both the maternity and the general scheme increased during 1947. There has also been an increase in the number of home helps employed. At the peak period the number was over 400, and during the year it rarely fell below 350. About one-third of the number are engaged on the maternity scheme and two-

thirds on the general scheme. Another gratifying feature is that there is a steady number of persons who are applying to become home helps. The service has become well known in the city and is very popular both from the patient's and employees' point of view. It would appear that the expansion envisaged under the new Health Act will be readily possible.

Applications for maternity helps increased from 1,753 in 1946 to 2,588 in 1947. Of these applications, 2,014 cases were completed, 335 were cancelled, and 239 were carried forward for completion in 1948. There were 26,217½ working days.

In the General Scheme there were 2,189 applications. Of these, 183 were cancelled, leaving 1,748 cases to be dealt with. 258 cases were transferred to the Maternity Scheme. There were 42,917 working days.

The charges for both schemes are the same and are made in accordance with the Corporation's scale of necessity. They vary from 1s. to 12/4 per day. After payment of £7,593 19s. 2d. the net cost to the Corporation was £8,878 19s. 10d. for 2,014 maternity cases. For the 1,748 general cases the net cost was £23,303 10s. 2d. after payment of £10,852 6s. 6d. In the Maternity Scheme 5 per cent. of the applicants paid only 1s. to 1/11 per day and 3 per cent. the full amount of 12/4. In the General Scheme the percentage was 29 and 6 respectively.

The following table shows the illness or other conditions under which applications for Home Helps under the general scheme were made :—

	General and "E" Schemes			
Diseases.	−40 yrs.	40-60 yrs.	+60 yrs.	Totals.
Influenza	16	29	27	72
Cancer	2	22	30	54
Diabetes	1	1	5	7
Intra Cranial Vascular Lesion ...	—	32	138	170
Heart Disease	20	60	176	256
Circulatory	8	52	118	178
Bronchitis	10	35	96	141
Pneumonia	8	15	24	47
Pleurisy	15	11	6	32
Respiratory	8	10	17	35
Digestive	8	23	31	62
Kidney Disease	9	10	11	30
Nervous Diseases	13	25	24	62
Debility following illness	6	10	35	51
Debility following operation ...	47	82	62	191
Accident	8	39	89	136
Rheumatism	14	43	77	134
Puerperal Fever and Pyrexia ...	—	—	—	—
Phlegmasia Alba Dolens	—	—	—	—
All other causes	40	43	47	130
Totals	233	542	1,013	1,788

Maternity Bundles.—Bundles or part bundles to the number of 1,282 were supplied in respect of which part payment received amounted to £37 3s. 10d.

MIDWIVES (SCOTLAND) ACTS.

During 1947 there was an increase of 12 in the number of midwives who notified their intention to practise, so that there are now 165 on the register. This increase is due to an increase in the number of Municipal Midwives and in County Midwives attending Glasgow cases at the boundary. The number of those entitled to registration by examination is 157, while the number of those registered as having been in practice in 1914 is now 5. There are also 3 with other recognised qualifications. The number who notified their intention to practise for the first time was 41.

During the year there were 2,426 occasions on which medical help was called by midwives, which represents 35·2 per cent. of the total births occurring in the practice of midwives. Details of the nature of emergency are not given this year, but the following indicates the period during which medical assistance was called :—

	1944.	1945.	1946.	1947.
In all cases in which a woman during pregnancy, labour, or lying-in appears to be dying or is dead	—	—	—	—
PREGNANCY.—In cases of a pregnant woman where there is any abnormality or complication	71	35	36	58
LABOUR.—In the case of a woman in labour at or near term, where there is any abnormality or complication ...	1,088	985	1,566	1,723
LYING-IN.—In the case of a lying-in woman, when there is any abnormality or complication	158	189	326	295
THE CHILD.—In the child, when there is any abnormmality of complication ...	206	180	282	348
Cannot be classified	—	—	3	2
Total	1,523	1,389	2,213	2,426

Fees to doctors attending emergency cases amounted to £1,835 19s. and during the year £1,272 6s. 2d. was recovered and £6 6s. withdrawn from medical practitioner's accounts.

CASES OF PUERPERAL FEVER OCCURRING IN THE PRACTICE OF MIDWIVES.

Year	Midwives	Cases Notified	Year	Midwives	Cases Notified
1939	45	62	1944	31	39
1940	42	61	1945	31	38
1941	31	41	1946	28	42
1942	24	31	1947	42	63
1943	29	39			

SCHEME FOR THE PAYMENT OF MIDWIVES FEES IN NECESSITOUS CASES.

Year	Applications			Fees paid to Midwives	Amount recoverable
	Received	Refused	Granted		
1938	668	180	488	£540 10 0	£11 10 0
1939	506	196	310	£385 0 0	£10 10 0
1940 (June)	140	54	86	£112 10 0	£12 9 0

On the 21st June, 1940, the services of salaried municipal midwives were made available to necessitous cases at charges made in accordance with a scale of necessitousness approved by the Corporation.

The essential details of this service since its inception are shown as follows :—

Year	Applications			Amount	
	Received	Refused	Granted	Recoverable	Recovered
1940	1,139	163	976	£510 6 0	£373 5 0
1941	1,662	234	1,428	1,721 2 0	1,475 16 6
1942	1,928	203	1,725	2,191 13 0	1,806 19 0
1943	2,705	245	2,460	3,099 0 0	2,856 13 6
1944	2,770	215	2,555	3,130 6 0	2,857 16 6
1945	2,704	237	2,467	3,000 17 0	2,627 3 4
1946	4,454	261	4,193	5,221 9 0	3,821 8 0
1947	5,330	355	4,975	6,405 19 0	5,808 2 0

Municipal Midwives.—1947 was a particularly busy year for the Municipal Midwifery Service. The number of municipal midwives is now 55. The expectant mothers booked by the midwives attend the Corporation ante-natal clinics, but in addition the midwives paid 12,450 ante-natal visits to their patients. 70,494 visits were also carried out during the puerperium. In addition the municipal midwives are responsible for the domiciliary training of the pupil midwives from the various Corporation Hospital Maternity Units. During the year 127 pupil midwives were so trained. The scheme provides that there is always a municipal midwife and/or one of the non-medical supervisors with the pupil midwife at each confinement.

NURSING HOMES REGISTRATION (SCOTLAND) ACT, 1938.

Four applications for registration of Nursing Homes were made during the year. Two of these were granted and the remaining two cases were still under consideration at the end of the year. Two of the applications were for new certificates consequent upon a change of management, one on account of a change of address, and one was a new applicant. In addition, three applications, which had been made during the preceding year and which were under consideration at the beginning of 1947, were also granted.

Five certificates were withdrawn. Two of these were in respect of Homes in which there had been a change of management, and two in consequence of a change of address, while in the remaining case the Home was discontinued following the death of one of the partners in whose names the premises were registered.

No fresh applications for exemptions were received.

The following table shows the position of Nursing Homes at 31st December, 1947 :—

	Registered.	Exempted.
Maternity Hospitals	—	1
General Infirmaries and Hospitals	1	10
Nursing Homes	37	4
	38	15

OPHTHALMIA NEONATORUM.

During 1947, the incidence of ophthalmia neonatorum showed a downward trend and 305 cases were notified compared with 340 in 1946.

As in previous years, many of the cases did not prove to be true ophthalmia neonatorum and an analysis was made of all notifications with the following result :—

Ophthalmia Neonatorum	129
Purulent Conjunctivitis	89
Simple Conjunctivitis	65
Dacryocystitis	4
Stye	4
N.A.D.	14
	305

All cases notified according to nature of attendance at birth :—

Doctors	15
Institutions	74
Institution Nurses	73
Midwives	143
	305

All cases classified according to age at onset :—

—12 hours	18
— 4 days	78
— 8 days	91
+ 8 days	104
N.A.D.	14
	305

Bacteriological examination was made in all cases and nine were positive for gonococcus compared with eight in 1946 and sixteen in 1945.

Forty-four of the above cases were admitted to Baird Street Hospital for indoor treatment and 48 attended as out-door cases and made 277 attendances in all. The remainder were treated by the Health Visitors who made 2,483 visits. In addition, ten cases were admitted to Baird Street from other authorities, two of which were positive for gonococcus.

The treatment in Baird Street by the use of sulphathiazol and penicillin was continued with satisfactory results.

The length of stay in hospital in most cases has been greatly reduced and in no case was there any impairment of vision.

The serological tests for syphilis were carried out in all hospital cases and found to be positive in one case.

PUERPERAL FEVER AND PUERPERAL PYREXIA

During the year there were registered 310 cases of puerperal fever and 143 cases of puerperal pyrexia compared with 305 and 192 respectively for the preceding year. All the cases of puerperal fever and all but 14 pyrexias were removed to hospital or other institution.

Deaths associated with cases of puerperal fever *notified* during the year numbered 11. This is equal to a fatality rate of 3·5 compared with 4·9 for the preceding year.

Among the cases registered as puerperal pyrexia there were 11 deaths which under the International Classification of Deaths would be tabulated as follows : pulmonary tuberculosis, 5, other tuberculous disease, 1 ; heart disease, 2 ; puerperal sepsis, 1 ; other maternal causes, 2. Excluding 8 deaths which had little association with the puerperal state, the combined mortality rate on the 14 deaths from puerperal conditions is, therefore, 3·0 per cent. compared with 4·6 per cent. for 1947.

SECTION IV.

INFECTIOUS DISEASES.

The total number of cases of infectious diseases registered for the year 1947 is the lowest recorded, since the list of compulsory notifiable diseases was extended to include acute pneumonia, etc. Altogether 31,355 cases were registered, with an additional 3,154 other cases which were ultimately diagnosed as non-infectious. For the preceding year the corresponding figures were 35,290 and 2,596. Of the total cases notified, 11,716 were removed to hospitals, while 1,533 were treated in other institutions. The balance, 21,260, were treated at home, the great bulk of these being accounted for by the non-notifiable children's diseases of measles and rubella, whooping cough and chickenpox.

The reduction in the number of cases dealt with is due mostly to measles which was much less prevalent and a relatively large reduction in the number of cases of diphtheria. Whooping cough, however, was more prevalent although the number of cases of this disease seldom approaches the magnitude of that for measles. Details of notifiable and non-notifiable cases, showing those treated in hospitals and other institutions, etc., are given in the Appendix Table XV, while the seasonal prevalence is shown in Appendix Table XVI.

Smallpox and Vaccination.

No case of smallpox was recorded during 1947. During the previous year one case was registered.

Notifications of particulars of persons arriving by plane at various airports have become more numerous although none was known to be a definite contact. These persons are notified because they had come from or passed through places where smallpox, etc., was known to be endemic, and because they had arrived in this country before the expiry of the incubation period.

Vaccination.

The following table gives some details of the administration of the Vaccination Acts up to the end of 1946 from information supplied by the Registrar General for Scotland. Since the outbreak of smallpox in 1942 the percentage of infants successfully vaccinated has remained more or less constant in the region of 60 per cent. In 1946 the percentage was 59·0 compared with 56·5 for the preceding year and this improvement has taken place despite the considerable increase in the birth rate referred to in the previous section of this report. It may be that this increase can be ascribed to the better response of parents because of the information imparted during the repeated campaigns, especially at Child Welfare Clinics.

Conscientious objection to vaccination has consequently been reduced to 19·8 against 21·6 in 1946, which figures may be compared with 41·6 in 1939.

The percentage of children dying before vaccination remains the same, 6·1, while the percentage insusceptible to vaccination is reduced to 3·2 against 3·6.

Table Showing Results of Primary Vaccination of Children Born during Several Years.

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

Year.	Successfully vaccinated. Per cent.	Insusceptible of vaccine disease. Per cent.	Died before vaccination. Per cent.	Conscientious objection to vaccination. Per cent.	Vaccination postponed. Per cent.	Unaccounted for. Per cent.
1906	82·9	0·5	10·6	0·2	0·8	5·0
*	*	*	*	*	*	*
1914	51·7	0·9	12·1	25·1	1·8	8·4
*	*	*	*	*	*	*
1939	39·6	2·3	7·4	41·6	1·6	7·5
1940	43·2	1·8	8·0	36·5	1·6	8·9
1941	50·2	1·9	9·5	30·5	0·4	7·5
1942	60·8	3·3	7·6	18·7	1·7	7·9
1943	56·7	3·5	7·4	22·1	0·4	9·9
1944	56·0	2·8	8·2	22·6	1·2	9·2
1945	56·5	3·6	6·1	21·6	0·5	11·7
1946	59·0	3·2	6·1	19·8	0·0	11·9

During 1947 the number of cases reported by Registrars as not having lodged certificates for conscientious objection to vaccination under the Act was 7,720, against 5,903 for the preceding year. Of these 1,843 were vaccinated, the number postponed was 1,959, and 63

were certified as not susceptible. Medical certificates on behalf of 3,210 children were forwarded to the Department of Health for registration as not fit subjects for vaccination.

The number of children vaccinated at Child Welfare Centres was 4,928, compared with 3,791 during the previous year.

Typhus Fever.

No case of this disease occurred in the city during the year. There has been none since 1931 ; and only 3 cases have been recorded for over 20 years.

ENTERIC FEVERS, ETC.

Typhoid and Para-typhoid.

During the year the incidence of this group of diseases remained low. There were 18 cases of typhoid, 10 of which sickened during the last quarter of the year while only 4 were under 15 years of age. Excepting the South-Eastern Division where no cases were recorded. the 18 cases were scattered more or less evenly throughout the whole city.

An interesting outbreak occurred during the late winter months producing 5 cases all intimately connected both with the patient and with each other. The first patient was a child of three years, S.G., who resided with his parents, two brothers and a sister in a two-apartment tenement house in the centre of the city. Although in this particular tenement there are five houses on each flat, each house has an internal w.c. On 4th November, 1947, he complained of abdominal pain and was listless. He remained rather unwell until 11th November when his abdominal pain became worse and he was removed to a general hospital as an appendicitis. Prior to his removal he had an attack of diarrhoea. His appendix was removed but was not grossly diseased. On 12th November his motions were again loose, he was feverish and sweating and this persisted for several days. The Widal was returned positive 1/500 for para-typhoid B. on 21/11/47 and he was admitted to Ruchill Fever Hospital (subsequently the diagnosis was altered to B. typhosus infection).

Following the removal of S.G. to Ruchill, the home contacts were checked up on 24/11/47 at which date they all appeared to be well.

Specimens of faeces were examined and the laboratory reported a positive result (B. typhosus) for I.G. aged 5, on 4/12/47 and the house was visited to make arrangements for his removal. It was then found that M.G. aged 2 was extremely ill having sickened on 1/12/47 and was being treated for pneumonia. Clinically she presented a typical picture of enteric and was removed to Ruchill Fever Hospital along with her brother. The diagnosis in her case was confirmed 5/12/47, the Widal being positive for B. typhosus 0·1/1600, blood culture was positive B. typhosus 5/12/47 and faeces 8/12/47. She died on 10/12/47.

Daily surveillance of the family was continued thereafter and Mrs. G., 34 years, became feverish on 5/12/47 and was removed to hospital on the 6th. In hospital her blood culture was positive for B. typhosus and so was her Widal.

Subsequently a niece E.K., 16 years, residing in a house on the same stair landing and who had been in contact with Margaret on 1/12/47, was sent to Ruchill Hospital as ? meningitis on 15/12/47. She also was proved to have a B. typhosus infection, blood culture and faeces being positive on 17/12/47.

All contacts in the latter household were examined with negative result and visitors to both houses in the " danger " period were also examined without finding any further cases. No definite source of infection for the original case was found but in the back-courts of the houses there were several defective house waste water pipes which resulted in an accumulation of surface water. It has to be admitted however that this source of infection was never definitely proved responsible.

Cases of para-typhoid also numbered 18 and again all areas of the city were involved except the eastern. Thirteen of the cases were under 15 years of age. There was however nothing specially worthy of note regarding them.

Dysentery.—There was a considerable fall in the number of recorded cases. These totalled 277, the lowest figure since 1942. Seasonal distribution was as follows :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Home Infections ...	33	35	40	109	217
Institutional	6	7	9	38	60

Home cases have declined markedly from the peak incidence of two years ago when over twelve hundred were registered. It is seen, however, that incidence began to rise again in the fourth quarter. It is therefore essential that precautions be maintained among food handlers and in institutions. The institutional cases came from nine institutions, including twenty-seven Sonne cases from two Residential Nurseries. The age incidence of the year's cases was as follows :—

	−1	−5	−15	−55	55+	Total.
Home Infections	15	111	23	62	6	217
Institutional	3	37	3	15	2	60

Children under school age thus again formed a majority of those infected.

SCARLET FEVER.

The prevalence of scarlet fever, according to the number registered, (3,567), continues at a moderately low level. The corresponding figure for the previous year was 3,431. The increase, 136, is relatively small, especially when the number of cases treated at home was considerably larger, 1,467 against 1,136. The reasons for this are (1) the lack of hospital beds because of the difficulty of obtaining a sufficient number of nurses and (2) the conservation of the available accommodation for young children suffering from other acute diseases with a view to reducing mortality.

Scarlet fever in recent years has been rather a mild infection and last year a chart was published to illustrate the almost complete disappearance of deaths from the disease. In 1947 there were five deaths against only one for the previous year.

Of the deaths, three were children of school age and two were under five years, at which ages the great bulk of cases occur. Between 15 and 45 years of age there were 173 cases among males and 275 among females, thus indicating the greater chance of infection to mothers or other female relatives having the care of children. Above these ages there were 9 male and 17 female cases.

The seasonal incidence of the disease is given in Appendix Table XVI which shows that three-sevenths of the total cases occurred during the winter months, the greatest number occurring in January (537 cases). There were no outbreaks during the year and few instances of associated cases.

In pre-war days the number of return cases of scarlet fever, *i.e.*, cases sickening in a household after return of a dismissed patient from hospital, usually averaged about two to three per cent of the total cases. Now in the post-war period such cases are comparatively rare for the number occurring forms only a fraction of 1 per cent—0·3 per cent in 1947. This improvement has taken place despite the fact that scarlet fever patients are only retained in hospital for an average period of 27 days, whereas years prior to the war it was customary to treat such patients for nearly 6 weeks, when desquamation was complete. As a matter of fact in order to prevent as far as possible the occurrence of "return" cases, patients who developed oral or nasal discharge, etc., were in most cases retained in the wards for a period of 12 weeks.

It may be that the modern methods of therapy have effected some part of the improvement, but as was shown in the chart on scarlet fever in the report for last year, the disease would appear to be much milder nowadays, for the fatality rates have been reduced to very small proportions.

Although there may be some municipal wards with many more cases than other areas, such as 279 in Govan ward against 20 in Blythswood, 194 in Shettleston and Tollcross against 35 in Kelvinside, and 179 in Provan compared with 35 in Park ward, these differences are explained by the differences in the estimated populations of children of susceptible ages in the respective wards.

DIPHTHERIA.

In the Report for 1945 there was introduced a composite diagram showing the relationship between the proportion of immunised children and the drop both in the incidence of the disease and the mortality. Since then the campaign for the protection of children of susceptible ages by immunisation has been intensified with improved results for the number of cases recorded during 1947 has dropped to 502 compared with 1,458 for the preceding year. Some part of this reduction can be explained by the generally lowered incidence of the disease resulting from immunisation, the consequent reduction in the number of points of infection, and the periodic wave prevalence. The immediate isolation in hospital of cases also reduces the possibilities of infection being transferred and in this respect it is interesting to record that a very considerable number of children were removed to hospital at the request of practitioners on clinical grounds, although the diagnoses,

in many instances proved to be other than diphtheria—the most common correction being tonsillitis. All but three of the cases were treated in fever hospitals.

Of the total cases, 96 males and 64 females were under five years, 92 males and 146 females were of school ages and above these ages females exceeded the males in the ratio of 77 to 26.

In former years the seasonal incidence invariably showed the maximum to occur at the end of November or the beginning of December. The figures for 1947, as given in Appendix Table XVI show that the greatest numbers occurred in the early months of the year, the heaviest being 82 cases in January. Despite this shift in the seasonal incidence to a period of the year when mortality is apt to be enhanced, the number of deaths was only 13 compared with 37 during 1946 and 226 for the year 1940, when the heaviest prevalence within recent years occurred. All the six male deaths occurred at ages under five years, while five of the seven female deaths were also of these ages. All these deaths were unimmunised children.

With such relatively small numbers of cases there were no associated outbreaks, the highest number recorded in any one district being 35 in both Provan and Govan wards where there are large populations of young children ; in Ruchill ward there were 13 cases. Apart from these most of the other wards had small numbers. Only one case occurred in Exchange ward and two each in Whitevale and Camphill.

Diphtheria Immunisation.—The facilities for diphtheria immunisation which are available are as follows :—

(1) Thirteen diphtheria immunisation clinics held each Tuesday afternoon in different areas of the city. These deal with children of all ages.

(2) Immunisation is carried out at all Child Welfare Centres.

(3) School entrants are offered facilities at their first medical examination.

(4) Children in day nurseries and nursery schools are immunised on admission.

Birthday letters are sent to the parents of children of one year who have not been immunised. These cases are picked up by the

Health Visitors in the course of their visitation. A similar letter is sent to the parents of toddlers known to the Health Visitors to be still unprotected.

	Letters Sent.			Number immunised under 5 years of age.
	Infants.	Toddlers.	Total.	
1946	5,686	5,814	11,500	8,745
1947	6,846	8,210	15,056	10,560

A special campaign was carried out in the spring. Arrangements were made for a Medical Officer to visit each school on specified dates. Propaganda was carried out in the press, cinemas, and by special posters on trams and buses. An appeal was issued to the parents of each child in the form of a pamphlet from the Director of Education and the Medical Officer of Health pointing out the desirability of having their children protected and the urgent need of accepting this special opportunity. Children under school age were allowed to attend these special sessions. As a result of the campaign, about 10,000 children were immunised and 3,200 were given a reinforcing dose.

Apart from children who are immunised at clinics, many children are immunised by private practitioners and at the end of December it was estimated that about 80 per cent. of the school children and 50 per cent. of the pre-school children had been immunised.

	No. of Children Immunised.			No. of Reinforcing Doses.		
	−5 years.	+5 years.	Total.	−5 years.	+5 years.	Total.
1946	8,745	3,734	12,479	61	1,723	1,784
1947	10,560	10,143	20,703	32	4,809	4,841

The increase in the number of children immunised during the year is probably due to an increase in the number of letters sent to the parents of pre-school children and also to the more extensive campaign which was held in the schools.

The number of deaths from diphtheria fell from 37 in 1946 to 13 last year and of these 11 were children under five years of age. None of the children had been immunised. There was also a marked fall in the number of cases of diphtheria occurring in the city, the number having fallen to 502 from 1,458 the previous year.

ERYSIPELAS.

Erysipelas still remains one of the compulsorily notifiable diseases, which is a reminder of the seriousness with which it was treated, even

as late as the end of last century when it was common and deadly. As late as the first years of the 1914-18 war the incidence of the disease per million of the population was as large as 1,459, but since then there has been a more or less gradual decrease except during the years of industrial depression around the early '30's. Now the incidence is down to 430 per million of the population compared with 447 in 1946.

Of the total cases registered (473 in 1947) there were removed to fever hospital 214, while five more were treated in other institutions. Few of the cases occurred under 15 years of age but between 15 and 45 years of age 97 occurred amongst females and 57 amongst males. Above 45 years of age there were 123 male and 177 female cases. The incidence is greatest during the cold weather. For instance there were 55 cases during January compared with 27 in August.

The reduction in mortality from the disease has been even more pronounced for the average annual number of deaths is now less than seven, compared with 60 during the years 1929-31, as shown in the following statement :—

	No. of Deaths.		No. of Deaths.
1929	55	1945	7
1930	68	1946	13
1931	58	1947	4

This reduction is due to the diminished incidence of the disease and modern methods of treatment.

DISEASES OF THE CENTRAL NERVOUS SYSTEM.

Cerebro-Spinal Fever.

The disease was less prevalent during the year, the number of cases recorded being 132 compared with 227 for the previous year, and has been declining slowly since the explosive outbreak in 1940, when 457 cases were recorded. Prior to that there was a series of heavy incidence of the disease from 1929 to 1934. The apparent higher incidence during the past seven years may be explained to some extent by the increasing tendency of medical practitioners to request the removal to hospital of cases with suspicious symptoms with in many instances a subsequent alteration of the diagnosis. For this reason the records are probably more accurate than formerly, fewer cases being missed. Of the total cases, all but four were removed to hospital.

Unlike poliomyelitis, where practically all the cases occurred in the latter half of the year, most of the cases of cerebro-spinal fever were registered in the early months, especially during the Spring. The highest incidence was in March with 22 cases.

	Cases Registered—C.S.F.	
	1947	1946
1st Quarter	49	93
2nd Quarter	40	69
3rd Quarter	19	32
4th Quarter	24	33
Total	132	227

As shown in the following table the disease affects most children under school age, especially in the first year of life; school children are more prone to the disease than adults. The table also shows the increased mortality which usually coincides with a reduction in incidence; the male death rate being 20·5 and the female rate 11·8, compared with the respective rates of 17·6 and 10·2 for the previous year.

	CASES.												Death Rates per Million.
	−5		−15		−45		45+		Total.		Mortality per cent.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1938	22	28	8	5	15	7	1	2	46	42	41·3	45·2	34
1939	23	18	9	12	12	6	1	—	45	36	28·8	16·6	17
1940	125	102	27	36	89	58	14	6	255	202	21·5	18·8	89
1941	100	88	27	28	74	56	19	16	220	188	20·0	21·2	80
1942	46	37	25	18	30	24	9	9	110	88	23·6	27·2	48
1943	42	32	14	5	17	6	3	4	76	47	14·4	27·6	23
1944	38	33	11	9	12	15	5	6	66	63	25·7	17·4	27
1945	52	29	12	6	16	8	2	5	82	48	26·8	18·7	29
1946	74	63	18	17	21	23	6	5	119	108	12·6	10·2	24
1947	53	32	10	15	6	10	4	2	73	59	20·5	11·8	20

Acute Encephalitis Lethargica.—In 1947 four cases were notified as suffering from this disease against 6 for the preceding year. There have been only sporadic cases of the disease since a small outbreak occurred in 1937. Two of the cases were males and 2 female. The deaths classified as due to acute infectious encephalitis numbered 24 compared with 15 during 1946.

There were 19 cases of acute polioencephalitis, eleven females and 5 males under 15 and one male and two females under twenty years of age.

Acute Polio-encephalitis and Anterior Poliomyelitis.

Report by Dr. I. B. L. Weir.

During the summer and autumn of 1947, in common with the rest of Britain, Glasgow suffered its largest outbreak of infantile paralysis—the second to be recorded. The last outbreak occurred in 1928 when 121 notifications were received and 112 of these were confirmed, eight deaths resulting. In the intervening years, the incidence has remained at a relatively low level, the only occasions when a small rise took place being 1933, 1938 and 1940-41.

	Poliomyelitis	Polioencephalitis	Total.
1928	119	2	121
1929	26	1	27
1930	22	3	25
1931	4	—	4
1932	4	—	4
1933	34	6	40
1934	9	—	9
1935	2	—	2
1936	26	—	26
1937	1	1	2
1938	42	1	43
1939	4	—	4
1940	33	1	34
1941	47	—	47
1942	6	2	8
1943	2	1	3
1944	24	1	25
1945	7	—	7
1946	2	—	2

In 1947, the Health Department received information regarding 319 definite acute cases—262 of which were paralytic and 57 " pre-paralytic " or abortive—these figures being inclusive of cases of poliomyelitis and polio-encephalitis, giving a case rate of 297 per million.

Notifications received resulted as follows :—

	No. of Notifications	Final Diagnosis Polio-myelitis	Polio-enceph.	Diagnosis altered
Notified as—				
Poliomyelitis	477	250	4	223
Polio-encephalitis ...	17	5	9	3
Other Diseases	51	45	6	—
	545	300	19	226

These notifications as will be seen from histogram I were spread out in time from approximately the end of May until December. Of those notified in each week, the number confirmed has been entered in black. Up until the end of July, the number of confirmed cases followed very closely the number notified. About that time, however,

the significance of the rising notification rate was brought to the notice of practitioners through the medical press and, in Glasgow, was followed by a circular letter of 7th August resulting in a higher notification rate but a lower percentage of confirmed cases. Two peaks are found in the histogram—the first at week ending 16th August and the second in week ending 6th September. The smaller elevation at week ending 11th October, may have resulted from further propaganda measures and that in the last week of the year is accounted for by an enquiry into the number of cases attending the orthopaedic departments in the city when five cases were found which had not been notified.

The Course of the Epidemic.—The earliest signs of a pending outbreak came about mid-June when it was reported from fever hospitals that cases exhibiting signs typical of infantile paralysis had been admitted. At the same time there were a few instances when the final diagnosis was that of Encephalitis or Benign Lymphocytic Meningitis so that the presence in the community of a virus disease of the Central Nervous System was apparent.

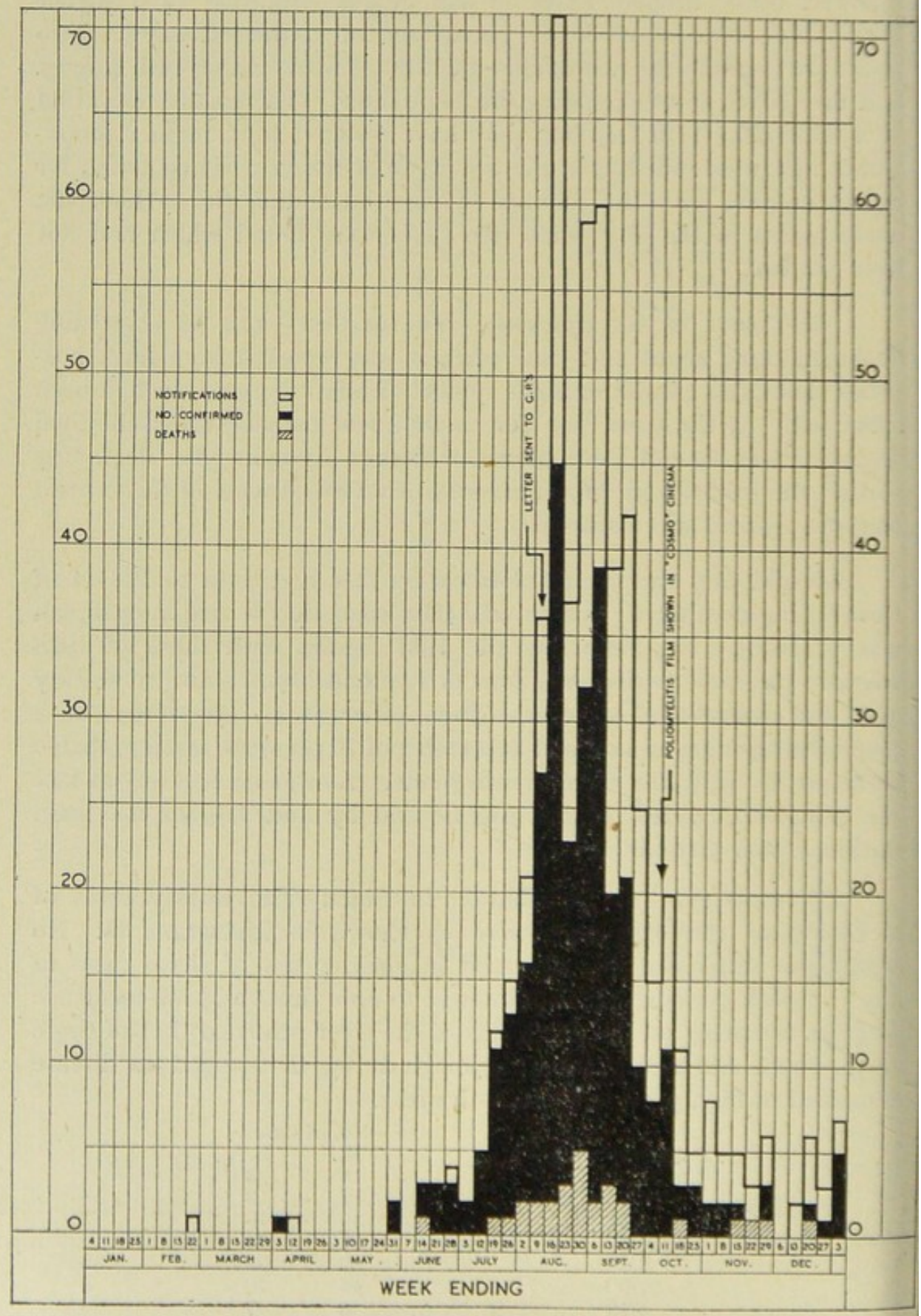
By mid-July the weekly notification rate had risen to 12—11 of these being confirmed, and it was then seen that a major outbreak was probable. By comparing the 1947 figures with those of 1928 when in the same period only four or five had been confirmed weekly and, by observation of returns from other areas, assessment of a possible maximum around mid-September of 70 per week and a probable duration up until 31st October was made. As was seen in actual fact the peak was reached in mid-August and by mid-October the main outbreak was virtually over.

Epidemiology.—(*a*) Distribution in time: The weekly rates of sickening of the 319 cases were as shown in histogram II. No significant difference was observed in ages or sex of those cases in the two peak periods. It is of interest to note that the peak incidence of cases occurring on the north side of the river preceded that of those to the south side by a fortnight although during that period the disease remained of high prevalence in both areas.

Fortnight ending	No. of Cases. N.	S.
12/7	15	3
26/7	17	13
9/8	30	19
23/8	38	24
6/9	32	36
20/9	16	16
4/10	6	7

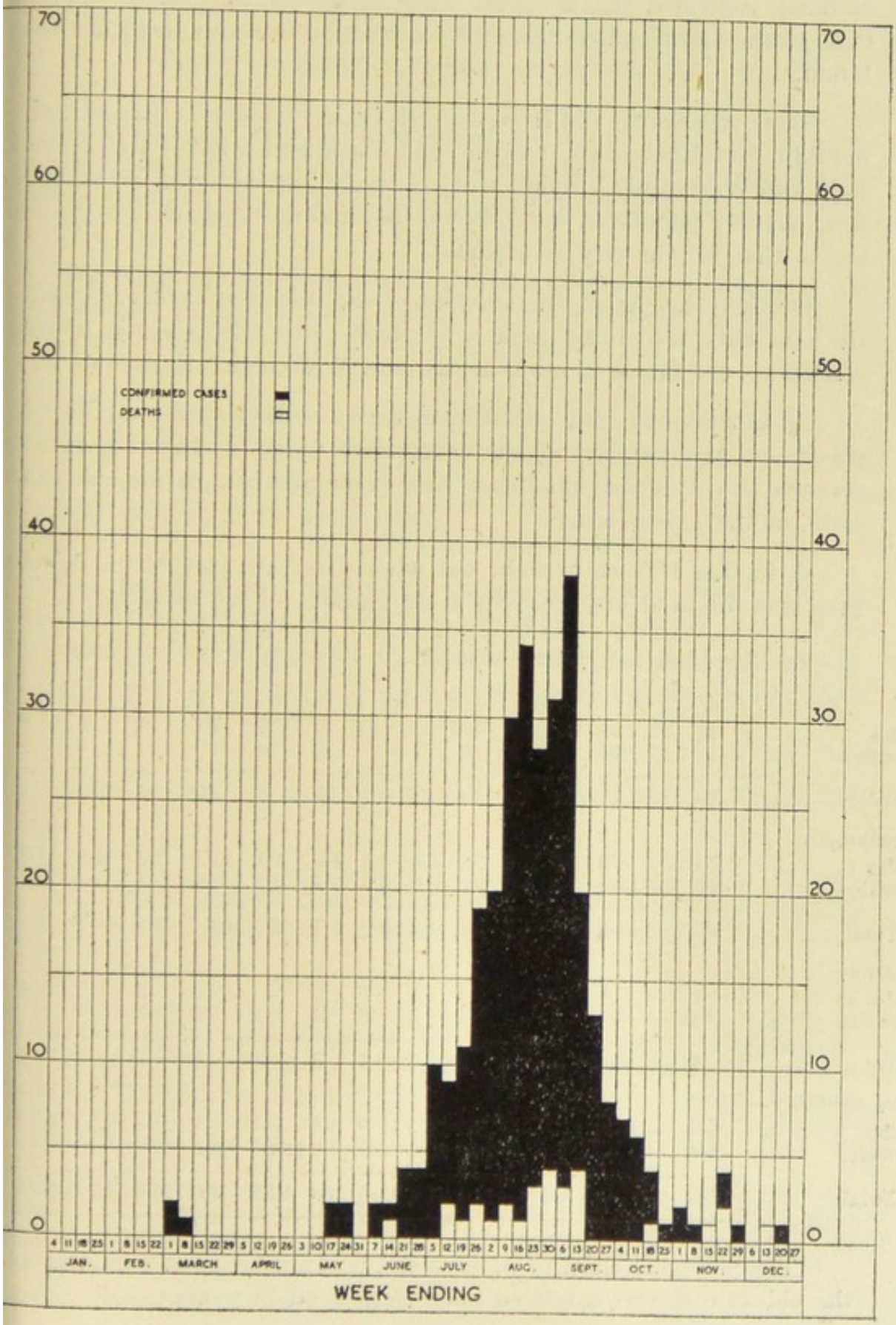
POLIOMYELITIS. HISTOGRAM I.

Showing Weekly Notifications, Confirmed Cases and Deaths.



POLIOMYELITIS. HISTOGRAM II.

Showing Sickening Dates of Confirmed Cases and Deaths.



(*b*) Distribution in Space :—The distribution of cases throughout the city was widespread but uneven. The two earliest cases in the epidemic sickened in the same week but were located in opposite ends of the town and no traceable connection between them has been found.

Some city wards did have a much higher incidence than others—notably Hutchesontown, Govan, and Parkhead while Park, Partick East and West, and Camphill had relatively low incidence rates. The most densely populated ward, Woodside, had an incidence corresponding to that for the city as a whole.

On the other hand, the severity of the infection varied markedly, the mortality rate being highest in those areas where better housing conditions are found—Pollokshields, and Whiteinch—Kelvinside.

As in previous epidemics the tendency to focus grouping of cases was found but analysis of the constituent cases in these foci seldom revealed any sequence of cases in time or possible association with other cases in the same focus.

A further feature brought out when cases are plotted on the city map was the tendency to occur along the line of the main roads.

(*c*) Age and Sex Distribution :—

	0 & 1	−2	−3	−4	−5	−6	−7	−8	−9	−10	−15	−25	−35	35+
Males	15	32	16	24	7	13	7	8	8	2	23	14	9	8
Females ...	11	27	20	8	8	5	7	8	5	6	11	10	4	3
Total ...	26	59	36	32	15	18	14	16	13	8	34	24	13	11
Percentages														
Males	8·1	17·2	8·6	12·9	3·8	7·0	3·8	4·3	4·3	1·1	12·3	7·5	4·8	4·3
Females ...	8·3	20·3	15·0	6·0	6·0	3·8	5·3	6·0	3·7	4·5	8·3	7·5	3·0	2·3
Total ...	8·2	18·6	11·3	10·0	4·7	5·6	4·4	5·0	4·1	2·5	10·6	7·5	4·1	3·4
Deaths—														
Males	1	—	—	—	—	1	1	1	2	—	—	3	2	4
Females ...	4	—	—	—	—	1	2	1	3	1	1	1	—	—
Total ...	5	—	—	—	—	2	3	2	5	1	1	4	2	4
Case Mortality—														
Males	6·3	—	—	—	—	7·7	14·3	12·5	2·5	—	—	21·4	22·2	50·0
Females ...	36·4	—	—	—	—	20·0	28·6	12·5	6·0	16·6	9·1	10·0	—	—
Total ...	19·2	—	—	—	—	11·1	21·4	12·5	3·8	12·5	3·0	16·6	15·4	36·4

The youngest child to be involved was a male aged 2 months and the oldest case was a retired male clerk aged 71 years.

(*d*) Meteorological Conditions during the summer were :—

June—moderate temperature—average rainfall.
July—moderate temperature—average rainfall.
August—high temperature—low rainfall—much sunshine.
September—moderate temperature—average rainfall.

(*e*) Mortality :—29 deaths occurred during the period of treatment of the acute phase. Three others have taken place subsequently—two from pulmonary complications and one from diphtheria.

As before the 29 deaths were spread out in time and place. The high mortality rate in infants and the older age groups and the absence of deaths from age groups 1—5 is noticeable.

Of the 29 deaths here recorded all but four occurred within the period of the first 7 days of illness. The great majority of the deaths were due to respiratory failure and took place while the patient was under treatment in the respirator.

Calculated on the basis of 29 deaths in 262 paralytic cases the case mortality rate is 11·1. Of these 29 deaths, 13 are stated to have had operation for tonsils and adenoids at some time during their lives, in most instances within 3—5 years of contracting poliomyelitis which in 12 of the 13 was primarily bulbar in type.

In two instances some association has been found between fatal cases.

A. In a modern housing scheme of four-apartment dwelling houses, eight to the block, there were three fatal cases.

A male, eight years old, residing in the end house, sickened on 16th August, recovered but sickened again on 20th August, became paralysed on 22nd August, was removed to hospital on 23rd August and died on 24th August in respirator. Another adult male, 31 years old, residing at the other end of the same block but having no immediate contact with the primary case, sickened on 4th September, developed paralysis on 7th September, was removed to hospital on 8th September and died in respirator on 11th September.

Associated with this latter case is that of a visitor who resided in the same household from 26th to 30th August, proceeded to England and was notified there (not entered in Glasgow returns)—a female, aged 26 years, sickened 9th September, paralysed on 10th September, admitted to hospital on 11th September, and died 1st October of respiratory failure.

B. The second instance concerns a case of indirect contact :—

(i) A male, 43 years, sickened 28/8 ; paralysed 30/8 ; admitted to hospital 29/8 ; died 30/8 of cardiac syncope, had a 10 year old son who played on 27th, 28th and 29th August with—

(ii) A 16 year old male, sickened 31/8 ; paralysed 1/9 ; hospital 3/9 ; died 4/9 of polio-encephalitis.

The 10 years old boy remained well throughout.

(*f*) *Association between Cases* :—1. Direct association between paralytic cases has been traced in several instances.

In three, two paralytic cases have occurred in the same household.

In another instance an aunt, 34 years, contracted the infection eight days after visiting her nephew, aged 2 months, who was ill and developed extensive leg paralysis the next day.

A sequence of cases which came to light only after extensive investigation was as follows :—

A male G.R., aged 5 years, returned by train from holiday at Blackpool on 31st July. On 5th August he sickened and developed an internal strabismus of the right eye on 11th August, being admitted to hospital where he was confirmed to be a paralytic case on 12th August.

On the day he sickened, he visited his grandmother some distance away and was there allowed out to play during which time he came into contact with—

A male child I.M., aged $4\frac{1}{12}$ years who sickened on 10th August and developed paralysis of the 6th and 7th L. Cranial Nerves on 15th August (admitted to hospital on 16th August).

This boy, in turn, was in contact daily with a female A.H., $1\frac{3}{12}$ years, who sickened on 13th August, became paralysed on 15th August in both legs and was admitted to hospital on 27th August.

During the time she was awaiting removal to hospital after diagnosis on the 27th August, this child was visited at home by the grandmother of—

C.C., a female aged $1\frac{2}{12}$ years, who sickened on 31st August, became paralysed—R. internal strabismus—on 3rd September, and was removed to hospital on 4th September—

and further, the aunt of the case, A.H., who resided in the same house, visited on 23rd August and nursed a nephew, R.C., aged 11 months, who sickened on 31st August, developed R. facial paralysis on 3rd September and was removed to hospital on 4th September.

It is interesting to note that 4 of these 5 cases had cranial nerve palsies.

Traceable connections with direct or even remote contact have been found to exist in fourteen other instances.

2. Association between a paralytic and an "abortive" case has been reported on several occasions—in three instances from the same household, in two instances from the same tenement, and in others from more remote contact.

3. In approximately 25 per cent. of cases there has been obtained from the relatives a history of some minor illness, usually of the nature of "tonsillitis" or "influenza" occurring in some other member or members of the family prior to or subsequent to the sickening of the patient. In one instance where the family consisted of four adults and two children, one adult developed bulbar paralysis which proved fatal and of the other members of the family only one escaped without complaining of tonsillitis.

In the great majority of cases, however, no history of illness in contacts and no known source of infection was found.

4. Schools did not appear to be implicated, no class giving rise to more than one primary case.

(*g*) Tonsillectomy has been reported in two instances where the child developed poliomyelitis within one month of operation. Both children developed lesions associated with bulbar nuclei but in neither case did a fatal result ensue.

(*h*) One case of a pregnant woman developing the disease has been reported. She contracted the infection very late in the epidemic at which time she was only two months pregnant.

(*i*) Two other interesting points may be mentioned in passing.

Those adults who developed the disease in the severer form almost invariably gave a history of being overworked, overtired and run down.

A female child, 2½ years, who lives a very secluded life, rarely coming into contact with any other child except her brother, aged 4, residing in a house half a mile removed from other dwellings, sickened on 11th August and developed paralysis of the back on 16th August. She had been playing in the garden into which the overflow of a choked septic tank from the clubhouse of a playing field had escaped for a few days before. Her brother sickened a few days later but the presence of poliomyelitis was not definitely confirmed in his case, the final diagnosis being "tonsillitis."

(j) Social Class—Housing Conditions of Patients :—

	No. of Cases		
	Overcrowded		Not Overcrowded
1 apartment	34		—
2 apartments	79		45
3 apartments	14		67
4 apartments	5		34
5 apartments and over ...	2		30
Institution		9	
Total	134	9	176

Correlation between Social Class and Cleanliness of House.

SOCIAL CLASS.

Cleanliness of House	Professional	Clerical, etc.	Skilled Labour	Semi-skilled Labour	Unskilled Labour
Clean	17	37	59	25	6
Fair	1	8	41	47	32
Dirty	—	2	7	14	17

ECONOMIC CIRCUMSTANCES.

No deduction from the gross family income has been made for rent or other outlay and each member of the family, whether child, infant or adult has been taken as one unit.

Family Income allowing less than	£0	10	0	per head per week	3
	0	15	0	,, ,,	18
	1	0	0	,, ,,	54
	1	10	0	,, ,,	121
	2	0	0	,, ,,	72
	3	0	0	,, ,,	26
Over	£3	0	0	,, ,,	19
					313
Information not available					6

A study of the tables shows that all sections of the community were involved and the disease did not attack any one group disproportionately.

Symptomatology—(*a*) A review of the history of symptoms of onset show that a preponderance of cases (60 per cent.) had fever associated in many instances with infections of the throat or upper respiratory tract. In 22 per cent. the initial symptom was headache, particularly prominent in those cases finally diagnosed abortive. Of the paralytic

cases almost 12 per cent. had no premonitary symptoms, the first complaint being that of paralysis of a limb, usually a lower limb, the right side usually being more frequently attacked than the left.

In 52 cases (16 per cent.) there was a history of an illness of the "dromedary" type, *i.e.*, of an illness of infection followed by recovery and subsequent onset of paralysis.

(*b*) Abortive or non-paralytic cases were diagnosed on 57 occasions : in these the criterion has been taken of the existence of meningeal symptoms and signs associated with a raised C.S.F. pressure and presence of an increased number of lymphocytes. While the total 57 is stated, this represents the final diagnosis only in those observed in hospital and it is more than probable that a much larger number of illnesses of a minor degree which were in reality abortive poliomyelitis were treated at home and were not notified.

In reviewing the unconfirmed cases—those for which an altered diagnosis was returned—there is found a considerable number of cases in which the final diagnosis is some form of upper respiratory catarrh and it is not beyond the bounds of possibility that had materials and equipment been available for a full bacteriological and biological examination of these, many would have been classified as low grade virus infections.

(*c*) Altered diagnoses were returned in 226 cases, the most commonly reported being :—

	Cases
Upper respiratory catarrh	41
Tonsillitis	29
Influenza	11
Benign lymphocytic meningitis Cerebral haemorrhage Meningitis and brain abscess	18
N.A.D.	13
Neurosis or hysteria	10

Of those admitted as "Other Diseases" and subsequently found to have poliomyelitis :—

38 were admitted as Cerebro-Spinal Fever.
4 were admitted as Diphtheria.
3 were admitted as Scarlet Fever.
3 were admitted as Pneumonia.
2 were admitted as Continued Fever.
1 was admitted as Enteric Fever.

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(*d*) *Paralysis* :—From those cases in which the day of onset of paralysis could be fairly accurately established the following table has been constructed showing that the onset of paralysis occurs most frequently within the first week.

Day of illness	1	2	3	4	5	6	7	8	9	10	10+
No. of Cases	31	31	51	52	25	24	10	16	5	2	2

(*e*) *Site of paralysis and assessment of severity* (as at February, 1948).

	Bulbar	Arm	Leg	Multiple Sites
Died	7	—	—	22
Severe ...	—	2	15	48
Moderate ...	3	22	37	14
Minimal ...	26	7	16	6
Nil	10	7	13	7

Note :—The classification of severity here is not based on a technically accurate orthopaedic standard, but has rather a sociological foundation determined thus :—

(*a*) Severe :—where two or more limbs have been seriously involved ;

(*b*) Moderate :—where one limb has been seriously involved or two parts of two limbs have been affected ;

(*c*) Minimal :—where the final paralysis is not more than a slight disability ;

(*d*) Nil :—where the original paralysis has completely cleared up.

(*f*) *Respirator* :—24 Glasgow cases required treatment in the respirator ; of these 19 died and 5 recovered.

Administration.—Hospital accommodation was available from the onset in two of the fever hospitals to which, in the earlier part of the epidemic, a high proportion of the subsequently confirmed cases were admitted as cerebro-spinal fever. By mid-July it became necessary to open up additional wards and a further ward was also made available as the epidemic reached its peak in mid-August. Despite this extra accommodation the demand for fever hospital beds was heavy and was only partially relieved when cases were transferred for orthopaedic treatment at the end of their isolation period. It thus became necessary to reduce the previously accepted six-week isolation period to one of four-weeks.

Orthopaedic beds to the number of 75 were made available in Mearnskirk at the expense of an equal number of surgical tuberculosis beds and the E.M.S. Hospitals—Law, Hairmyres and Killearn—also had a reserve of beds available and the Glasgow cases which could not be accommodated at Mearnskirk were sent there.

In the latter part of the epidemic, after the Glasgow peak had been passed, several cases were accepted for treatment from outlying authorities—Argyllshire, Wigtownshire, Stirlingshire and Dunbartonshire. In all, 53 such cases were admitted, 36 being paralytic cases and 4 abortive ; these do not enter into Glasgow returns.

Of the cases notified to Glasgow 19 were treated at home, the infective period being over by the time the case was notified. Of those treated in Corporation infectious diseases hospitals it was possible to dismiss almost 43 per cent. home directly, either cured or with minor disability for treatment at an out-patient orthopaedic centre.

Cases transferred to orthopaedic hospitals numbered 134 and in 80 of these a period of treatment extending over 6 months will be necessary. Out-patient centres are available at three Education Health Service Orthopaedic Clinics and the orthopaedic surgeon from Mearnskirk supervises the treatment there.

Early in the outbreak attention was paid to the provision of an adequate supply of efficient respirators at the fever hospitals and a reserve supply was available in each of the Corporation General Hospitals. In all four pulsators of the Bragg Paul type and ten iron lung (Nuffield) respirators were in use during the epidemic.

Reference has previously been made to the circular letter sent to general practitioners on 7th August. This accelerated the notification rate and at the same time brought to the department's notice several missed cases. The interval elapsing between sickening date of paralytic cases and their admission to hospital, which was never very lengthy, was also reduced.

The advice regarding the advisability of discontinuation of all but essential cases of tonsillectomy given in that circular letter in accordance with the Department of Health lead seems to have been rigidly observed. No case of poliomyelitis who had tonsils removed after 7th August has been notified.

The press advice to the public to curtail the use of swimming ponds by children during the epidemic period also had a marked effect and no instance of any infection attributable to this source came to our notice.

On 5th October the Ministry of Health film on Poliomyelitis—diagnosis, prevention and treatment—was shown to general practitioners in the Cosmo Cinema.

MEASLES.

This disease was dealt with at some considerable length in the report for last year when a chart was introduced to show the continuing heavy prevalencies from year to year and the violent fluctuations which occurred during periods of biennial prevalencies : but a more important point was the reduction in mortality from 1,287 deaths in 1922 to quite nominal figures in recent years. In 1947 the deaths numbered 15 which compares with 24 for the previous year.

The incidence of measles during 1947 was also much lower, 4,210 cases being recorded against 9,696 in 1946. Of this total, 436 cases were removed to fever hospitals for treatment, many of them because of complications, especially respiratory diseases among young children.

	Cases.	Deaths.	Mortality per cent.
1936	20,196	311	1·5
1937	2,272	29	1·3
1938	15,839	257	1·6
1939	1,462	2	0·1
1940	1,028	97	0·9
1941	1,613	11	0·7
1942	8,303	65	0·8
1943	7,843	31	0·4
1944	6,364	16	0·3
1945	6,012	24	0·4
1946	9,696	24	0·2
1947	4,230	15	0·3

All but 177 of the cases occurred among children under 10 years of age. The sexes were equally affected—2,093 males and 2,137 females.

The incidence of the disease was greatest towards the end of the year, as shown in Appendix Table XVI, when 858 cases were recorded

in November and 1,470 in December. This is an indication that the prevalancies which have been occurring annually during the Spring and Summer months in recent years may revert to the biennial outbreaks extending over the winter period.

RUBELLA.

This disease shows a continuing moderate prevalence year in and year out but fortunately the fatality is practically nil. In 1947 there were recorded 1,126 cases compared with 1,092 during the previous year. Practically all the cases occurred at ages under five years and in the first five years of school life ; the prevalence, as is usual, was in the early months of the year.

WHOOPING COUGH.

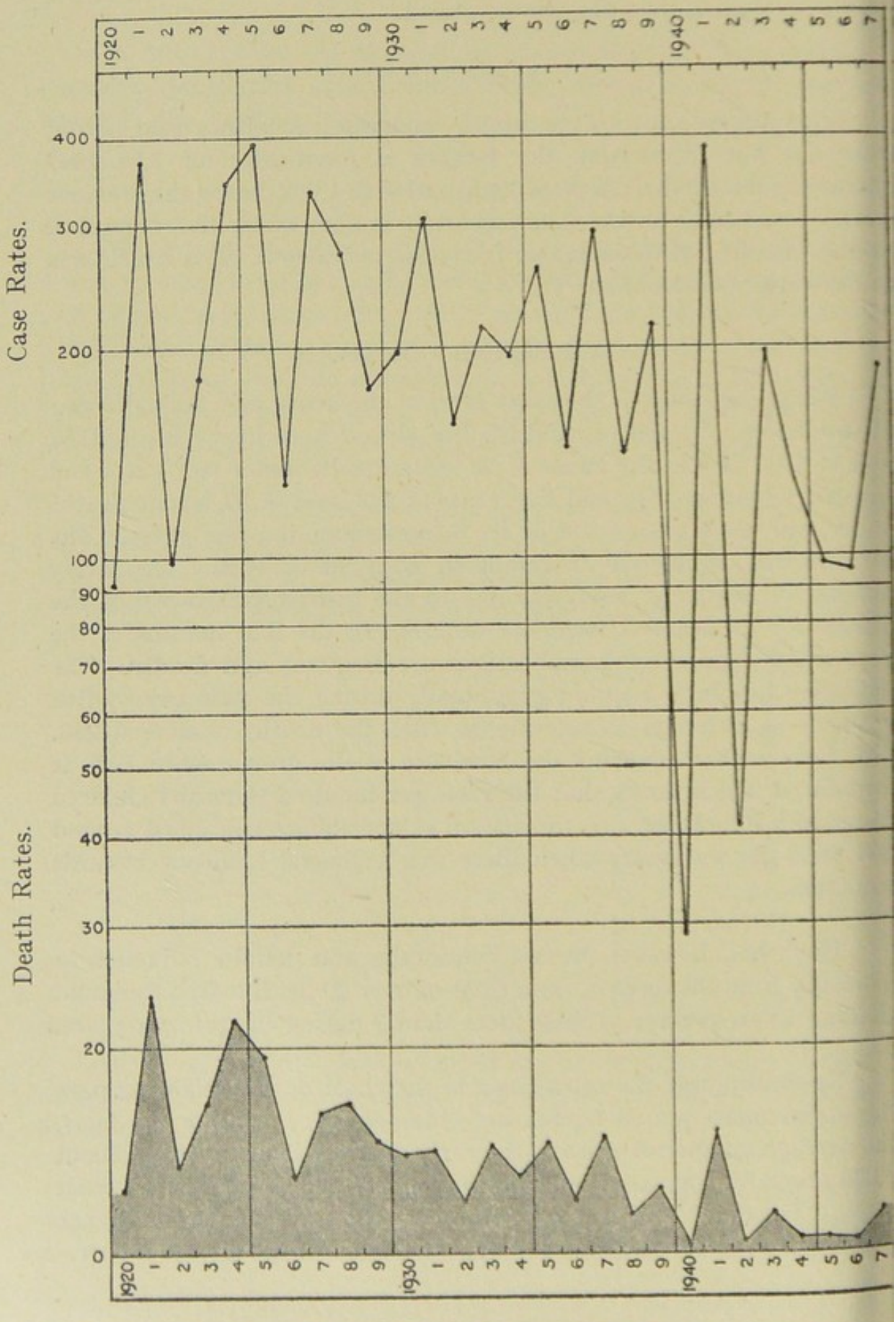
Whooping cough is the most fatal of the acute infectious diseases of childhood. Its toll of child life has always been heavy in the City and in 1947 it was the cause of 26 male deaths under two years and five more between two and five years of age, and of 37 female deaths under two years of age and of six between two and five years. The total deaths numbered 77 compared with 20 in 1946. The larger number of deaths in 1947 was due to the greater prevalence of the disease for its heaviest incidence occurred in the first months of the year when respiratory complications are frequent and deadly. The mortality has been improving gradually during the past twenty-five years or so although as recently as 1941 the deaths numbered 286. This year a chart showing the incidence of the disease since 1920 is introduced which shows that the rates per hundred thousand children under 15 years of age, *i.e.*, the ages of susceptibility, continued around 200 until the war years when there was a general tendency towards reduction.

There has, however, been a continuous and definite reduction in mortality from the disease, from rates of over 20 per hundred thousand children to an average of little more than 3 during the past six years.

By multiplying the rates given in the chart on the following page the approximate actual figures are obtained, so, re-stating the facts, the average number of cases in the early years of the chart were about 3,000 annually compared with between 3,000 and 4,000 during recent years. The number of deaths annually has come down from an average number of over 400 to about 40. The incidence of the disease is there-

GLASGOW—INCIDENCE OF WHOOPING COUGH, 1920-1947.

CASE RATES AND DEATH RATES PER 100,000 ON ARITHLOG SCALE.



fore only about 50 per cent. of what it was about twenty-five years ago, but the mortality has been reduced to 10 per cent. On these average figures the fatality per hundred cases for the period 1920-25 was 6·0, compared with 1.3 for recent years.

Immunisation has probably not been without influence in moderating the fatality for it has been the practice during the past five or six years to inoculate children with a combined antitoxin for diphtheria and whooping cough and, as has been shown under diphtheria, the number of children so protected approaches 200,000 although probably about one-third of these may have passed out of the age of susceptibility which would still leave a number of about 135,000.

In Appendix Table XVII is given the seasonal incidence. The number of cases removed to hospital was 372 and six more were treated in other institutions. All the wards were more or less affected by the prevalence, especially Shettleston and Tollcross, Provan, Ruchill, Hutchesontown and Gorbals, all wards with a high proportion of young children.

OTHER INFECTIOUS DISEASES.

Chickenpox.—Like the other non-notifiable diseases most of the cases of chickenpox are brought to the notice of the department by the Education Attendance Officers because of the absence of children from school. In visiting the houses other cases are usually discovered and in 1947 5,553 cases were registered compared with 4,880 during the preceding year. This is only an indication of the prevalence of the disease for it is probable that a considerable number of cases occurred in other households where the children in families are all under school age. Age distribution shows that 1,003 cases were under school age while 4,492 cases occurred among children between 5 and 15 years of age. The sexes were equally affected. The seasonal incidence is given in Appendix Table XVI and shows that the heaviest incidence occurred in the early months of the year.

Diarrhoea and Enteritis—Apart from the deaths due to prematurity and congenital malformations, etc., diarrhoea and enteritis is now the most fatal infection to child life especially in infants under one year of age. It may be that this is just another indication of reproductive pathological failure for the excess of male infant mortality is in consonance with the

high fatality from causes included in the immaturity group of diseases. The following table summarises the number of deaths during the past five years and also shows the very small proportion of children who succumb to these diseases after surviving the first year of life.

	Males		Females		Total	—1 year
	—1 year	—2 years	—1 year	—2 years		Per thousand births.
1943	210	7	113	8	322	14
1944	400	18	270	16	670	30
1945	225	16	138	6	363	12
1946	166	6	117	6	283	12
1947	339	5	221	9	574	22

The most fatal age as shown in Appendix Table XII is between the third and six month of life, for both sexes, a period at which a proportion of mothers at least probably begin to wean their infants and the careless ones to give their babies improper food. During the previous and more serious outbreak in 1944 it was found from special enquiries that infants fed with dried milk were just as prone to diarrhoea and enteritis as those fed on ordinary cows' milk.

Some part of the increase in the number of deaths is explained by the high birth rate which was above the average to the extent of about 20 per cent. Calculated against the births instead of the population the death rate from diarrhoeal diseases in 1947 was 22 per thousand infants compared with 12 for each of the two preceding years. The rates for the years 1945 and 1946, however, were below average. In 1944 when the last heavy mortality from enteritic conditions occurred the rate was 30, but in that year the heaviest incidence was during the autumn months following or during a period of high temperatures. Warm spells of weather were formerly definitely associated with outbreaks of enteritic diseases especially when ashpits, middens, etc., were common and in close proximity to slum properties, and many stables were situated within the city; these in turn were frequently the cause of fly nuisance and consequent contamination of milk and other foods. The deaths during 1947, however, were more evenly distributed throughout the year, although September with 75 deaths can be associated with the high temperatures during August, the average for the whole of that month being 64·3°F. or about 5°F. above the readings in recent years. The following table gives the number of deaths under 1 year in each month of the year against the mean temperature compared with the previous year.

NUMBER OF DEATHS UNDER 1 YEAR ACCORDING TO MONTH OF DEATH.

	1946 Death	1946 Temp.	1947 Deaths	1947 Temp.		1946 Deaths	1946 Temp.	1947 Deaths	1947 Temp.
January	17	35·9	31	35·3	July ...	28	58·6	54	59·4
February	29	40·4	45	28·6	August ...	26	56·5	58	64·3
March	23	41·0	34	33·1	Sept. ...	22	54·7	75	54·7
April	28	48·0	47	44·6	October ...	19	46·3	50	50·1
May	23	51·8	45	52·3	Nov. ...	25	43·0	38	41·9
June	26	54·5	48	56·6	December	37	36·3	30	39·0

Reference to the influence of the diarrhoeal deaths on the infant mortality rates in municipal wards has been made in the previous section of this report on Infant Mortality where it was shown that in some wards the enteritic conditions were responsible for more than 50 per cent. of the total infant mortality rate.

Anthrax.—A 36 year old worker in a tannery developed a sore on his face after having knocked off the top of a pimple which he had had there for a week. The man did not feel unwell and there were none of the usual symptoms—headache, shivering, etc. The condition of the sore was too suspicious, however, of a malignant nodule and he was immediately removed to hospital for treatment. The bacteriological examination of a swab taken from the sore confirmed the diagnosis of anthrax.

This man's job was to remove the hair and surface epidermis from hides after they had received a preliminary steeping in lime pits for a period of four to six days and he was provided for this purpose with rubber gloves reaching to the elbows. Presumably, the man infected his face from his hands. The hides came from Africa and were received here in a dry state.

Disinfection of the patient's clothing, shaving kit and home were carried out and suitable precautions taken at the tannery where all contacts were kept under observation. No other case developed.

Infective Jaundice—During the year there were three definite cases and one doubtful case of leptospiral infection. In all these cases infection from rats was more than a possibility.

A 39 year-old worker in a tannery became ill on 30th January with shivering, fever and headache. Jaundice appeared on the fifth day and on the sixth he had a severe epistaxis and developed a slight

cough, with some blood-stained sputum. He was removed to the Royal Infirmary on 9th February, where a positive result was obtained for leptospira haemorrhagica (1/30,000) and leptospira canicola (1/300). There was no evidence of rats in his home, and only some slight traces at the tannery, in the storeroom where raw hides were kept. The patient had no cuts on his hands, but there were lime burns on both arms. The nature of his work, which was dehairing the chemically impregnated hides entailed his working in premises, the floors and benches of which were constantly wet.

A 59 year-old plumber, living in Renfrew was admitted to the Western Infirmary on 16th June, slightly confused and with pain in the back and lower abdomen. Jaundice developed on the 19th June, and bile and red blood cells were found in the urine. A vesicular rash appeared on his face on the 19th and petechiae on his body on the 20th. He was then employed at North Hillington, but may have worked for a time in a Greenock factory which was said to be rat infested. A subsequent blood test suggested it was not a case of recent infection.

A cattleman of 59, employed in a Glasgow slaughterhouse, was admitted to the Western Infirmary on the 27th September, with pains and weakness in his legs. The condition had been present since the 19th. He had a haemorrhagic herpes of the lips and an occasional bleeding from the rectum. Jaundice had developed on the 24th. A blood test proved positive for icterohaemorrhagiae (1/3,000). Repeated examination of the urine was negative for leptospira. In the course of his work, handling the carcases of animals after they had been shot, he frequently sustained small cuts on his hands. Rats were present in the premises and he was in the habit of carrying a lunch "piece."

A 62 year-old Dumbarton sewerman presented himself at the Western Infirmary dispensary on the 8th December with a history of nausea, sickness and jaundice of two or three weeks duration. After examination and blood test, he was sent home and on the 13th December the blood was reported positive for L. icterohaemorrhagica (1/30,000).

Scabies.—There has been a further decline in the incidence of scabies throughout 1947. The total number of families brought to the notice of the Medical Officer of Health during the year was 2,306 compared with 2,862 in 1946, and the total number of new cases

treated was 4,055, compared with 7,487 in the preceding year. It should be noted that the Scabies Order (Scotland) 1941, ceased to be operative at the end of 1947. The distribution of the causes was as follows :—

Division.	Families.	New Cases.
Central	351	660
Northern ...	670	1,109
South-Western ...	344	674
Eastern	491	860
South-Eastern ...	450	752
	2,306	4,055

There are two centres for the treatment of adults and children of pre-school age, one at Baird Street Auxiliary Hospital, and the other at Moffat Street Reception House. There are, in addition, five school clinics with bathing facilities for the treatment of school children.

Although the Scabies Order has been rescinded the follow-up of contacts will be continued by the small staff of nurses still engaged part of their time on the control of scabies in the city.

Trachoma.—The number of cases of trachoma notified during the year was 1 compared with 14 during the preceding year. During the year 15 cases were removed from the register, 12 gone, no address ; died, 1 ; and left the city, 2. The number now on the register of this more or less chronic disease is 133 and there are 3 other doubtful cases, making a total of 136.

The clinic at which an eye specialist attends is held on Thursdays while on three other occasions during the week a nurse carries out the treatment prescribed, During 1947 patients who attended numbered 112, while subsequent attendances numbered 2,304, of which 623 were consultations with the ophthalmic surgeon and 1,681 for treatment by the nurse. Of the 112 patients attending the clinic, 6 resided beyond the boundary.

With regard to hospital treatment, it was found necessary to remove 6 cases to Stobhill Hospital, 2 of these being admitted for the first time.

Rabies.—No case of rabies is known to have occurred, but a number of persons bitten by dogs were reported by the police for inquiry. These are shown in relation to the season of occurrence and the severity of the bite :—

		Slight.	Serious.
1st Quarter	...	58	2
2nd Quarter	...	87	3
3rd Quarter	...	98	4
4th Quarter	...	54	1
		297	10
		307	

1946 ... 337 ; 1945 ... 291 ; 1944 ... 287

RESPIRATORY DISEASES.

Pneumonia and Influenza.—The marked decline in the death rate from all respiratory diseases during the past 20 years has been arrested. This observation applies more definitely to pneumonia, the death rate from which has declined from an average of approximately between 1,600 and 1,700 deaths per million of the population to between 600 and 700 during the past two years. In 1945 the death rate from pneumonia was 529 which was the lowest ever recorded in the city, but compared with years previous to that the rate of 665 for 1947 is quite favourable when it is remembered that over a considerable period of the spring especially severe weather conditions were experienced with frequent snow storms and low temperatures. During this period the mortality from pneumonia among persons of old age and infants under one was considerably above the average for that period of the previous year. The mortality among infants was quite marked for the deaths under one during the three spring months was higher by 36 per cent.

In both the years 1946 and 1947 there was a prevalence of pneumonia of the influenzal type. The outbreak in 1947 was not so severe as that of 1946, but it occurred later in the spring during the cold spell referred to above. The weather conditions however, were somewhat modified by a considerable amount of sunshine. During this period deaths among persons of old ages were also more numerous than in the corresponding months of the year previous.

The total mortality for the year however, was lower, the death rate being 1,221 for all forms of respiratory diseases as shown in

the following table which gives a comparsion for the preceding five years.

	1947.	1946.	1945.	1944.	1943.	1942
Influenza ...	74	149	44	75	196	53
Pneumonia ...	665	661	529	696	840	731
Bronchitis ...	351	320	324	312	306	339
Others ...	131	142	91	118	143	133
	1,221	1,272	988	1,201	1,485	1,256

The reduction was mainly in respect of deaths from influenza which was responsible for a rate of 74 per million of the population compared with 149 for the preceding year. The death rate from bronchitis was higher in 1947 at 351 compared with 320 during 1946.

TUBERCULOSIS.

During 1947, there were notified 2,765 cases of pulmonary tuberculosis and 512 of non-pulmonary tuberculosis, respectively 44 less and 4 more than in 1946. The notifications in recent years are as follows :—

	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	All Tuberculosis.
1934-39 (average) ...	1,650	661	2,311
1940	1,908	669	2,577
1941	2,066	661	2,727
1942	2,324	714	3,308
1943	2,778	735	3,513
1944	2,758	671	3,429
1945	2,641	555	3,196
1946	2,809	508	3,317
1947	2,765	512	3,277

There is therefore a slight fall in the notifications of pulmonary tuberculosis while the notifications of non-pulmonary tuberculosis are virtually unchanged.

The number of cases of pulmonary tuberculosis notified in the 5-14 years age group rose from 270 in 1946 to 327 in 1947, whereas in the 15-24 years age group the numbers fell from 428 to 420 (males) and from 605 to 579 (females).

During 1947, 1,173 persons died from pulmonary tuberculosis compared with 1,185 in 1946. The deaths from non-pulmonary

tuberculosis numbered 246, 4 more than in 1946. There were 27 deaths of registered tuberculous persons from non-tuberculous causes.

Notifications of bone and joint tuberculosis fell from 174 in 1946 to 167 in 1947, and of meningeal tuberculosis rose from 140 in 1946 to 152 in 1947. Other, non-pulmonary, forms of tuberculosis accounted for 193 cases.

The number of cases of pulmonary tuberculosis on the register at 31st December, 1947, was 10,023 of which 3,584 had tubercle bacilli in the sputum. There were also 1,959 cases of non-pulmonary tuberculosis, giving a total for all forms of tuberculosis of 11,982.

At the end of 1947, there were 1,646 tuberculosis patients occupying beds in Corporation and other hospitals as compared with 1,526 in December, 1946. This increase of 120 available beds during 1947 is the direct result of the success of the part-time nursing scheme which, to that extent, more than counter-balances the further loss of beds in the Department of Health hospitals.

The following table shows the number of waiting list cases and the number of occupied beds at 31st December for each year since 1939 :—

	Patients on Waiting List on 31st December.	Occupied Beds on 31st December.
1939	127	1,374
1940	107	1,588
1941	261	1,650
1942	405	1,791
1943	743	1,921
1944	1,034	1,972
1945	1,092	1,761
1946	1,058	1,526
1947	1,208	1,646

The following table shows the broad distribution for age and site of disease of those cases which constituted the waiting list as at the end of 1947 :—

	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Total.
Under 5 years	40	14	54
5-14 years	111	31	142
Over 15 years	974	38	1,012
Total	1,125	83	1,208

Of the 2,765 cases of pulmonary tuberculosis notified during 1947, 137 were from death certificates and 256 in respect of men and women discharged from the Services on account of tuberculosis. This latter figure is a decrease of 95 on the corresponding figure for 1946.

Of the 10,023 cases of pulmonary tuberculosis on the register on 31st December, 1947, 999 were in the age group 5-14 years, 48 having tubercle bacilli in the sputum. Sixty-three per cent. of the female and 45 per cent. of the male tuberculosis notifications during 1947 were for patients between the ages of 15 and 35 years.

The attendances at the Tuberculosis Dispensaries show a further increase. The number of dispensary sessions in 1947 numbered 1,338 and at these there were 8,059 first attendances and 61,395 attendances on second and subsequent occasions. The Health Visitors made 64,977 domiciliary visits.

An appointments system has been brought into use gradually in all five dispensaries and has been the means of cutting down the amount of time the patients have to wait to be seen by the dispensary doctors.

Mass miniature radiography of the public was developed further during 1947 and the Unit just failed to record its hundred thousandth examination by the end of the year. A second set with a mobile darkroom has been acquired and staff is being recruited for it ; it is expected that its use will mean even less interference with production in industry than was possible with the existing less portable set.

The " Remploy " factory mentioned in the 1946 report has not so far materialised because of the official ban on all building programmes which are not in the first priority category. It is now hoped to build the factory not at North Cardonald but on a vacant site in Springburn. The question of providing employment in their homes for suitable tuberculous persons is at present under consideration in collaboration with the Ministry of Labour and National Service.

The nursing problem still exists, the main difficulty being the failure to attract trained nurses to the hospitals in any numbers. Part-time nurses have given great help and have been responsible for the restoration to active service of nearly four hundred beds in the Corporation's own hospitals. Part-time nurses with little or no

training are coming forward but unless a sufficient number of trained staff is available, it is not possible to make full use of the former. An experiment in running a ward of convalescent patients without any junior nursing staff but with full medical attention and the supervisory care of the Sister of an adjoining acute ward is in being at present and will probably be extended ; the use of such a " hostel " ward means the patients must do certain tasks themselves but these duties are not onerous and are in fact part of the hardening phase of treatment which enables the patient to leave hospital in a much fitter mental and physical state than was often the case in the past.

Ante-natal dispensaries for tuberculous patients are now being held at Robroyston Hospital twice a week in association with the special ward for these patients which was mentioned in the 1946 report. There is good reason to think that the use of up-to-date chest surgical measures during pregnancy will avoid much of the breakdown that was known to occur in these patients in the past and will often lead not only to a live healthy baby but to a fit mother as well.

It has been possible during 1947, with the appointment of a full-time Orthopaedic Surgeon at Mearnskirk Hospital, to restore the special clinic which was formerly held at Ashley Street Special School in association with the Education Health Service and to extend the facilities to include similar clinics at Florence Street Dispensary and Glenbarr Street School Clinic. In addition, patients with more difficult disabilities are seen at Mearnskirk Hospital itself on a Monday afternoon.

Outpatient clinics at which the suitability of patients for chest surgery is considered are held once weekly at both Ruchill and Robroyston Hospitals and have proved to be of great assistance to the dispensary doctors in deciding on their patients' treatment. In spite of their own heavy commitments the dispensary staffs often manage to make time to discuss their problems with the hospital surgical staffs at the times when their patients actually attend the surgical clinics. The clinic for ordinary surgical tuberculosis cases has now been transferred from Glenfarg Street Dispensary to Robroyston Hospital, the particular benefit to the patient being that repairs to splints and changes of plasters and other supports can be carried through without delay.

New drugs are in the news in the tuberculosis world. Calciferol which has been so valuable in lupus vulgaris has now been tried out

in other forms of non-pulmonary tuberculosis and it is possible to say that in some cases, at least, of tuberculosis of lymphatic glands and of the abdomen a distinct improvement is very soon noticeable ; but the same cannot be said of lung disease. During the year, Knightswood Hospital was chosen as a centre for streptomycin treatment of tuberculous meningitis and acute miliary tuberculosis, seven beds being put aside for this purpose ; it is too early yet to give a full report of the results but the initial reports have been promising. A third drug, para-aminosalicylic acid, also came to the fore during the year ; a group of cases of tuberculous empyema has been under treatment with this substance and several have responded well ; unfortunately, at the time of writing, the supply position for the drug is poor but the manufacturing firm concerned is confident that it will improve before long.

Tuberculosis Allowances Scheme.

The special scheme of allowances to certain types of tuberculous patients continues in operation. The total number of persons eligible for this grant from its inception to 31st March, 1948, was 3,343. The position at 31st March, 1948, is set out in the following table :—

Number of persons to whom allowances payable			970
Number of persons to whom allowances ceased to be payable on recovery			1,678
Number of persons to whom allowances ceased to be payable on death			283
Number of persons to whom allowances ceased to be payable on account of receiving pensions, failing to continue treatment, etc.			412
Weekly amount of allowances being paid	£960	3	4
Total amount of allowances paid from 30th March, 1947, to 31st March, 1948	£49,205	15	5

The above figures apply to patients with pulmonary tuberculosis only, and it will be noted that in 1,678 cases the allowances ceased to be payable on the recovery of the patient and the resumption of full-time employment.

Baird Street Actinotherapy Clinic.

The number of patients on the roll of this clinic at the end of 1947 was 184. During the year 136 patients were dismissed and the results in their cases are summarised in the following table :—

	Number of Patients.			Average duration of treatment in months.		
	Healed.	Improved.	Not Improved.	Healed.	Improved.	Not Improved.
Superficial Adenitis ...	57	38	6	13·3	9·1	2·3
Abdominal Tuberculosis	—	14	3	—	5·1	4·7
Bone and Joint Tuberculosis	2	4	—	11·5	5·5	—
OtherTubercular Conditions	4	3	—	12	6·3	—
Miscellaneous	2	3	—	6	3·3	—
Totals ...	65	62	9			

During the year, 74 patients attended the special lupus clinic on 1,962 occasions and received in the aggregate 3,941 hours of treatment from the Finsen-Lomholt lamps. Nearly all of these were also given Calciferol by mouth or by injection and penicillin injections were also used as required. Most of our cases are now apparently well healed but having regard to the propensity of lupus to relapse one must not claim actual cure till a much longer period of time has elapsed.

The utilisation of calciferol in the treatment of resistant cases of massive adenitis has been greatly increased and there are now 32 patients undergoing this therapy. In every case there has been very marked improvement.

The total number of attendances at the clinic during the year was 13,332. The total number of treatments was 23,423.

Mass Radiography Unit.

The Mass Radiography Unit during 1947, was in operation partly at its Centre and partly at other premises. Visits were paid to Cowlairs Locomotive Works, Kinning Park Co-operative Society, Bridge Street, City Bakeries, Clarendon Street, Jordanhill Training College, Hawkhead Hospital, Lennox Castle Hospital, and the Commercial College, Pitt Street. Return visits were paid to the S.C.W.S. factories at Shieldhall and Morrison Street. At the request of the Admiralty, a special investigation of the naval and civilian personnel of the Fleet Air Arm was made at Abbotsinch.

Persons examined during the year numbered 30,060—15,503 Males and 14,557 Females.

On the average, out of every 1,000 persons of whom miniature films were taken, 103 were recalled for a full size film of the chest and

36 for clinical examination. The special investigation of cases of tuberculosis with minimal lesions in the lungs has been continued and the recall rate for full size films is consequently high. During the year surveys of groups previously X-rayed by the Unit were made and this accounts for the increase in the number of cases of previously known Pulmonary Tuberculosis.

Of every 1,000 persons examined by miniature films, 3 required hospital treatment and 10 observation at the Mass Radiography Centre or under the care of their own doctor; 7 other persons with inactive disease required no further action. In the same number, 60 cases with non-tuberculosis conditions were investigated.

Of the cases of active Pulmonary Tuberculosis 164 were resident in Glasgow, of whom 74 were admitted to Hospital. 90 were observed at the Centre or referred to their own doctor.

The following table summarises the results for the year :—

	Males.	Females.	Total.
Total Examinations	15,503	14,557	30,060
Number in whom large film taken	1,592	1,514	3,106
Percentage of whole	10·26	10·38	10·33
Number in whom Clinical Examination made ...	474	620	1,094
Percentage of whole	3·05	4·26	3·63

Pulmonary Tuberculosis.

A. Tuberculous cases in which action taken :—

Total			
Number of Cases	185	219	404
Percentage of whole	1·18	1·5	1·34
Active Pulmonary Tuberculosis ...			
Number of Cases	89	102	191
Percentage of whole	·57	·70	·63
Inactive Pulmonary Tuberculosis			
Number of Cases	95	117	212
Percentage of whole	·61	·80	·70

B. Tuberculous cases in which no action taken :—

Total—All Inactive Pulmonary Tuberculosis			
Number of Cases	144	76	220
Percentage of whole	·92	·52	·73

C. Previously known Pulmonary Tuberculosis :—

Number of Cases	86	58	144
Percentage of whole	·55	·39	·47

Surgical Treatment in Ruchill Hospital.

The surgical work at Ruchill Hospital during the past few years has been increasing to such an extent that it has become necessary to establish another unit in Mearnskirk Hospital.

	Number of Operations.
Adhesion Section	—
Phrenic crush	17
Thoracoplasty	—
Lobectomy	—
Pneumonectomy	—
Rib resection for Empyema ...	1
Thoracotomy for inoperable Neoplasm	—
Bronchoscopy	9
	27

Surgical Work at Robroyston Hospital.

Non-Pulmonary Tuberculosis—

Site of Lesion.	Number of Operations.
Tuberculosis of spine	3
Tuberculosis of hip	1
Tuberculosis of bones other than spinal	—
Tuberculosis of joints other than hip	11
Genitourinary tuberculosis	98
Abdominal tuberculosis	3
Tuberculosis of lymphatic nodes	1
Multiple and miscellaneous lesions (tuberculous)	6
Non-tuberculous lesions	15
Pulmonary Tuberculosis—	
(Thoracoplasty, endoscopic, pneumolysis, etc.)	294
Total	432

X-RAY WORK.

The following table shows the amount of work done at the various institutions :—

Institution.	Number of Patients Skiagraphed. Indoor	Outdoor	Number Skiagraphs taken.	Number of Screen Examinations only.	Total Patients.
Ruchill ...	5,320	11,780	19,470	5,701	22,831
Robroyston ...	2,090	1,610*	4,898	4,779	8,479
Mearnskirk ...	2,920	592	4,885	3,575	7,087
Baird Street ...	—	—	—	10,071	531
Bellefield ...	852	—	—	1,241	146
Florence Street	—	10,735	12,924	—	10,735

* includes 1,370 staff.

VENEREAL DISEASES.

Under the National Health Service (Scotland) Act, 1947, the diagnosis and treatment of venereal disease became the responsibility of the Regional Hospital Board. The Medical Officer of Health still retains his interest in the epidemiology and the prevention of the disease, but it will be necessary to promote some form of co-ordination which will in some measure unite the two parts of the scheme, particularly as the work of prevention and treatment has been up till now carried out by the same staff.

Accordingly, in the Local Health Authority's proposal it is recommended that the five health visitors engaged whole time in venereal disease work should continue to carry out preventive measures and contact tracing, and also attend the clinics and assist the Medical Officers. Their knowledge of the individual patient will promote efficient contact tracing and the follow-up of defaulters. Similarly, it is desirable that the male attendants should continue the work of contact tracing as formerly, on behalf of the Local Health Authority, and in all these cases some financial adjustment would fall to be made between the Hospital Board and the Local Health Authority.

Of special interest to Glasgow is the scheme for the treatment of expectant mothers. At the present time expectant mothers who have been found to suffer from venereal disease are treated at special ante-natal sessions by the Child Welfare Medical Officers and it is proposed that these arrangements should continue, the Regional Board making some contribution towards the cost of the service.

The incidence of venereal disease for the year 1947 showed an appreciable decrease in acute syphilis and acute gonorrhoea in males and females as compared with the 1946 figures. The year 1946 saw the peak of the post-war rise and judging by the new cases coming to the centres during the early months of 1948, the fall during 1947 has been maintained. The incidence of acute syphilis in males is still 139 per cent. above the 1938 figure, which compares with 174 per cent. in 1946. Acute syphilis in females is 99 per cent. above the 1938 figure as compared with 185 per cent. in 1946.

The figures for the years 1938 to 1947 are shown in the following table :—

NEW CASES OF VENEREAL DISEASE FOR THE YEARS 1938-1947.

Year.	Acute Syphilis. Males.	Acute Syphilis. Females.	Acute Gonorrhoea. Males.	Acute Gonorrhoea. Females.
1938	250	124	1,426	157
1939	293	118	1,358	143
1940	465	144	1,476	165
1941	671	279	1,720	246
1942	778	395	1,536	308
1943	671	368	1,323	407
1944	454	262	1,231	406
1945	365	252	1,301	398
1946	687	356	2,463	449
1947	597	247	2,164	305

In the case of congenital syphilis there has been a slight decrease in the group " all ages," although the rate in children under one year is now 0·97 per 1,000 live births, the second lowest figure obtained.

The total number of new and transferred cases attending the centres has decreased since the peak year of 1946 as can be seen from the following table :—

NEW AND " TRANSFERRED IN " CASES OF VENEREAL DISEASE ATTENDING THE CENTRES FOR THE FIRST TIME.

	Total New Cases.	Transferred In.
1938	5,189	245
1939	4,724	189
1940	5,021	219
1941	5,891	441
1942	6,344	642
1943	7,740	853
1944	6,544	735
1945	6,582	619
1946	9,937	1,495
1947	8,181	570

The marked fall in the number of " transferred in " cases is an indication of the decreased numbers of ex-service personnel and seamen requiring continuation of treatment.

The national and local propaganda campaign was maintained during the year 1947 and has been responsible for the attendance at the centres of 3,000 patients suffering from non-venereal conditions. This figure is lower only to that of 1946 and is perhaps a truer indication of promiscuity than the statistics for new venereal disease cases.

ATTENDANCE OF PATIENTS SUFFERING FROM NON-VENEREAL CONDITIONS DURING YEARS 1941 to 1947.

Year.	Males.	Females.	Total.
1941	880	246	1,126
1942	1,058	398	1,456
1943	2,002	708	2,710
1944	1,656	721	2,377
1945	1,674	799	2,473
1946	3,027	650	3,677
1947	2,458	547	3,005

Continued efforts have been made to hold patients both by follow-up letters and home visitation and there has been a further increase in the number of follow-up letters sent to patients who had ceased to attend before the completion of treatment. The contact tracing scheme on the other hand is still below the optimum and the discontinuance from 31st December, 1947, of Defence Regulation 33B will undoubtedly reduce the number of contacts found. It is true, however, that the Regulation has been of use mainly to the military authorities and was little used by the civil centres.

The following table shows the contact-tracing work carried out by the staff at the Male and Female *ad hoc* Centres :—

VENEREAL DISEASES, 1947—*Ad hoc* CLINICS.

Contact Tracing, and Follow-up of Sources of Infection.

Referred by Male Clinics.

	Wives.		Consorts.	
	Number.	Percentage.	Number.	Percentage
Attended	164	85·4	60	47·6
Did not attend ...	28	14·6	66	52·4
	192		126	

Total Referred, 318; Total attended, 224—70·4 per cent.

Referred by Female Clinics.

	Husbands and Consorts.	
	Number.	Percentage.
Attended	38	52·8
Did not attend	34	47·2
Total Referred ...	72	

Under Defence Regulation 33B any person who had been named by two patients as the source of their infection could be compelled to submit to examination and if found infectious, to treatment. In Glasgow action was taken on the receipt of one notification, and

resulted in the attendance of a considerable number of contacts for treatment during the operation of the Regulation. The total number of notifications during the year 1947, the last year of the operation of this Regulation, and the action taken is shown in the following table :—

DEFENCE REGULATION 33B—FOR THE YEAR 1947.

	Male.	Female.
Form I. Received	1	18
Visits Made	—	20
Suspects Found	—	9
Suspects did not attend	—	1
Suspects not found	—	9
Suspects gone away	—	—
Suspects came to Clinic	1	8
Suspects attending when notified ...	—	—
Insufficient Data	—	—
Suspects to attend own Doctor ...	—	—
Suspects notified twice	—	—
Suspects notified thrice	—	—
Total	1	18

Syphilis.—The number of male patients suffering from acute syphilis coming to the clinics for the first time in 1947 was 597, which compares with 687 in the year 1946 and 365 for the year 1945. The incidence of acute syphilis in females decreased from 356 in 1946 to 247 in 1947, which compares with 252 in 1945. Patients suffering from late syphilis increased to 322 in 1947 compared with 315 in 1946. These statistics have already been discussed.

Congenital syphilis has increased slightly in the group " all ages " as will be seen from the following table which illustrates the position during the past 25 years :—

CONGENITAL SYPHILIS.

Year.	All Cases.	Cases—1 Year.	Rate per 1,000 Live Births.
1922 ...	1,023	335	12·8
1927 ...	551	119	5·0
1932 ...	240	72	3·2
1937 ...	177	36	1·6
1941 ...	67	15	0·75
1942 ...	71	27	1·3
1943 ...	97	32	1·4
1944 ...	83	29	1·3
1945 ...	72	32	1·6
1946 ...	72	27	1·1
1947 ...	80	25	0·97

The rise in the incidence of acute syphilis in females during the year 1946 is now reflected in the increased percentage of pre-natal blood tests found positive during the year 1947, as can be seen from the following table :—

PRE-NATAL BLOOD TESTS.

Year.	Number.	Percentage Positive.
1925	—	4·9
1930	1,749	2·8
1935	3,334	1·8
1940	8,714	1·3
1942	10,265	1·18
1943	11,067	1·7
1944	10,260	1·3
1945	10,853	1·18
1946	13,946	1·23
1947	13,250	1·46

All specimens are submitted to the Kahn Test and if positive, to the Wasserman Test which is applied to the same specimen and a repeat specimen requested. A modified high sensitivity Laughlan Test is to be used in future as a screening test for the pre-natal specimens.

The essential factor in the treatment of expectant mothers who may suffer from syphilis is that the patients are treated where they are found. It is intended to carry on in the future the special sessions at ante-natal centres for the treatment of the expectant mother, and should the patient have come under treatment too late to have a healthy child, also for the care of the mother and child.

Gonorrhoea.—As already mentioned the incidence of acute gonorrhoea has fallen appreciably during the year, there being 2,469 cases in 1947 compared with 2,912 in 1946. The decrease has been maintained during the early part of 1948. Chronic gonorrhoea in both males and females has continued at a low level and the exact figures for this stage of the disease in females are shown in the following table :—

CHRONIC GONORRHOEA IN FEMALES.

Year.	Number.
1938	312
1939	266
1940	229
1941	119
1942	88
1943	93
1944	54
1945	42
1946	48
1947	38

Venereal Disease in Seamen.—Seamen continued to form a proportion of the patients attending the male centres, but as will be seen from the following table, while the proportion of seamen to total cases suffering from early syphilis has increased, the actual number of seamen affected remains approximately the same. On the other hand there has been a marked decrease in the number of seamen suffering from acute gonorrhoea.

BLACK STREET, BROOMIELAW, BELLAHOUSTON CLINICS.

NEW AND TRANSFERRED-IN PATIENTS.

PROPORTION OF SEAMEN TO TOTAL CASES.

		Early Syphilis.			Acute Gonorrhoea.		
		All.	Seamen.		All.	Seamen.	
1939	...	265	54	20·4%	1,133	75	6·6%
1940	...	403	133	33·0%	1,210	224	18·5%
1941	...	793	434	54·7%	1,671	539	32·3%
1942	...	1,082	589	54·4%	1,543	532	34·5%
1943	...	1,149	577	50·2%	1,393	436	31·3%
1944	...	831	452	54·3%	1,356	428	31·6%
1945	...	679	228	33·6%	1,478	370	25·0%
1946	...	1,264	164	13·0%	3,070	435	14·2%
1947	...	872	166	19·0%	2,340	330	14·1%

In-Patients.—During the year 1947, 447 patients were treated in hospital compared with 448 in 1946. The number of male patients admitted to Belvidere Hospital was 153 in 1947, a decrease of 18 compared with the previous year. Patients admitted to Baird Street Auxiliary Hospital and Ruchill Hospital increased from 255 in 1946 to 275 in 1947. The following table shows admission of patients to hospitals of the Local Authority and elsewhere for the treatment of venereal diseases :—

TOTAL NUMBER OF PATIENTS ADMITTED FOR IN-PATIENT TREATMENT.

	Sex.	Primary Syphilis D.G.+W.R.−	Primary Syphilis W.R.+	Secondary Syphilis.	Latent Syphilis. (1st year).	All Later Stages.	Congenital Syphilis.	Extra-genital Infection.	Acute Gonorrhoea.	Chronic Gonorrhoea.	Soft Chancre.	Non-Specific Venereal Disease.	Non-Venereal.	Total Admissions.	Aggregate Days' Residence.
Belvidere Hospital	M.	24	27	33	1	27	1	—	19	2	8	11	—	153	4,386
Baird Street	M.	—	—	—	—	—	4	—	1	—	—	—	1	6	599
	F.	2	14	29	3	15	8	1	23	5	—	—	9	109	2,963
Ruchill Hospital	M.	—	—	—	—	—	3	—	—	—	—	—	2	5	506
	F.	2	12	46	7	53	10	1	11	4	—	1	8	155	5,954
Other Hospitals	M.	—	—	—	—	—	12	—	—	—	—	—	—	12	528
	F.	—	—	—	1	1	5	—	—	—	—	—	—	7	301
Totals		28	53	108	12	96	43	2	54	11	8	12	20	447	15,237

Attendance of Patients.—Patients attending for the first time the various treatment centres numbered 8,181, compared with 9,937 in 1946. There were 124,308 attendances of new and old cases and 447 patients were admitted for in-patient treatment, 64 being admitted directly without previous attendance at the centre. Corporation *ad hoc* centres dealt with 95·6 per cent. of all acute venereal disease.

The following table summarises the attendances of new patients at the various centrres :—

	Ad Hoc Treatment Centres		Glasgow : All Centres
	Males.	Females.	
Acute Syphilis (includes Primary, Secondary and Latent in the First Year of Infection)	556	169	844
Acute Gonorrhoea	2,156	285	2,469
Total Acute Venereal Disease ...	2,712	454	3,313
Late and Congenital Syphilis	110	88	402
Chronic Gonorrhoea	32	36	70
Total Chronic Venereal Disease ...	142	124	472
Other Diseases, including Soft Sore, Septic Balanitis, etc.	1,206	31	1,391
Non-Venereal	2,402	445	3,005

Incidence of Jaundice.—There was a rise in the incidence of jaundice of all degrees among new cases of early syphilis under treatment at the male *ad hoc* centres, the majority of the cases occurring in one of the centres which did not have an autoclave installed until late in 1947. During the year, out of 556 cases of early syphilis attending the centres, 9·0 per cent. developed jaundice compared with 8·2 per cent. in 1946, while 6·4 per cent. out of 109 cases of late syphilis developed this complication. Only four of the early syphilitic jaundice patients required treatment in hospital and none of the cases of jaundice in late syphilis.

Issue of Salvarsan Substitutes to Medical Practitioners.—During the year 17 practitioners received free supplies of Salvarsan substitutes for the treatment of private patients. The total number of doses issued was 457, which compares with 748 in 1946.

Follow-up of Defaulters.—The follow-up of defaulters by the personal visits of the Nurse Almoners and, in the case of the males,

by the follow-up letters and the visits by the senior attendants of the male centres, has resulted in a high proportion of the patients resuming treatment. During the year the Nurse Almoners visited 1,622 female patients on 1,885 occasions and persuaded 68·4 per cent of the patients to resume treatment. Wrong names and addresses had been given on 86 occasions. With regard to the males, 3,466 follow-up letters were sent to 2,237 patients who defaulted during treatment and 72 per cent. of the patients resumed treatment. This compares with 3,063 letters sent to 1,918 patients during 1946 when 79·5 per cent. of the patients resumed treatment during the year. Wrong names and/or addresses were given by 16·6 per cent. of the defaulting patients.

SECTION V.

PORT HEALTH AUTHORITY.

There was no change in the working arrangements at the port during the year and with the exception of the period from March, 1941, to December, 1945, when the western boundary of the port was extended to an imaginary line drawn across the estuary from the Cloch Lighthouse to Dunoon Pier, the limits of jurisdiction remain as laid down in the order of the Local Government Board.

The position of the mooring and boarding station at Greenock was moved temporarily to a point between the Cloch Lighthouse and Gourock on account of a naval review which was held during the period—18th to 28th July, 1947. Some 180 vessels took part in the review and they were all anchored in the river between Greenock and Gourock.

Boarding of all vessels from foreign ports and the Irish Free State is carried out immediately on arrival at the Tail of the Bank, Greenock, by a staff of four Boarding Officers working on rotation which ensures one officer being on duty at every hour throughout the year. The boarding arrangements are subject to the state of the weather, and should it be such that it makes boarding at Greenock impossible, the officer on duty communicates with the Head Office and the vessel or vessels are boarded on arrival at their berth by members of the Glasgow staff.

Each vessel from an infected port is visited by the Port Boarding Medical Officer, either at the Boarding Station, Greenock, or at her berth in Glasgow, depending on the state of the tide. In these cases the Boarding Officer at Greenock leaves the Declaration of Health on board, and it is uplifted by the Boarding Medical Officer during his visit.

During the year 878 vessels from foreign ports, either direct or coastwise, and 285 from the Irish Free State arrived at the port;

of the 878 vessels from foreign ports 310 were from non-infected ports and 568 from infected ports in terms of the Port Sanitary Regulations (Scotland) 1933-1945.

Particulars of the arrivals are given in the following tables :—

NATIONALITY OF VESSELS ARRIVING DURING 1947.

Nationality.	Ships.	Crews.	Passengers.
Argentinian	2	38	15
British	712	42,516	22,900
Chinese	1	36	0
Danish	15	344	8
Dutch	7	155	—
Egyptian	2	63	2
French	2	54	—
Greek	2	69	—
Italian	1	36	—
Norwegian	35	998	43
Panamanian	9	313	1
Portuguese	1	148	51
Russian	1	40	—
Spanish	2	64	—
Swedish	21	531	—
U.S.A.	64	2,602	—
Yugo Slav	1	34	—
Total ...	878	48,071	23,020

TONNAGE OF VESSELS ARRIVING DURING 1947.

Month.	No. of Ships.	Crews.	Net Reg. Tonnage.
January	75	4,620	271,435
February	60	3,785	249,119
March	57	3,265	234,733
April	33	2,117	149,212
May	73	3,926	286,831
June	77	4,182	288,856
July	75	4,386	298,981
August	94	4,595	335,229
September	85	4,146	300,819
October	92	4,834	353,679
November	80	4,333	287,367
December	77	3,882	264,083
Total ...	878	48,071	3,320,344

Nationality of Ships' Crews Arriving during 1947.

Month.	British.	Natives of India.	Chinese.	Other Nationalities.	Total.	Passengers
January ...	3,197	517	34	872	4,620	6,505
February ...	2,431	622	100	632	3,785	1,744
March	2,212	476	26	551	3,265	686
April	1,764	72	8	273	2,117	1,875
May	2,920	341	176	489	3,926	4,412
June	2,721	671	177	613	4,182	2,752
July	2,815	851	69	651	4,386	1,154
August	3,470	666	43	416	4,595	31
September ...	2,765	601	12	768	4,146	417
October	2,785	1,106	299	644	4,834	28
November ...	2,737	1,011	63	522	4,333	3,287
December ...	2,422	615	254	591	3,882	129
Total	32,239	7,459	1,261	7,022	48,071	23,020

Number of Ships from Foreign Ports and Irish Free State during 1947.

Month.	From Infected Ports.									From Non-Infected Ports.			Total.			From Irish Free State
	Class 'A'—Direct.			Class 'B'—Coastwise.			Total 'A' and 'B'			Direct and Coastwise.			From Foreign Ports.			
	Ships	Crews	Passengers	Ships	Crews	Passengers	Ships	Crews	Passengers	Ships	Crews	Passengers	Ships	Crews	Passengers	
January ...	33	2,543	6,437	16	1,037	—	49	3,580	6,437	26	1,040	68	75	4,620	6,505	25
February	23	1,341	1,636	22	1,788	96	45	3,129	1,732	15	656	12	60	3,785	1,744	16
March ...	26	1,450	656	18	1,329	9	44	2,779	665	13	486	21	57	3,265	686	15
April ...	15	1,012	1,866	13	792	—	28	1,804	1,866	5	313	9	33	2,117	1,875	6
May ...	24	1,263	4,399	28	1,676	2	52	2,939	4,401	21	987	11	73	3,926	4,412	16
June ...	20	1,347	2,695	27	1,588	24	47	2,935	2,719	30	1,247	33	77	4,182	2,752	29
July ...	28	1,433	1,112	23	2,004	2	51	3,437	1,114	24	949	40	75	4,386	1,154	22
August	26	1,041	13	36	2,307	6	62	3,348	19	32	1,247	12	94	4,595	31	29
September	21	979	406	35	2,221	—	56	3,101	406	29	1,045	11	85	4,146	417	30
October ...	15	863	2	28	1,910	5	43	2,773	7	49	2,061	21	92	4,834	28	27
November	14	693	3,272	30	2,115	—	44	2,808	3,272	36	1,525	15	80	4,333	3,287	36
December	25	1,141	85	22	1,326	3	47	2,467	88	30	1,415	41	77	3,882	129	34
Total ...	270	15,106	22,579	298	19994	147	568	35,100	22,726	310	12,971	294	878	48,071	23,020	285

During the year 157 cases of illness were found on board on arrival, and the following table shows how they were dealt with :—

CASES FOUND ON ARRIVAL.

Disease.	Removed to Hospital.	Sent Home.	Referred to Clinic.	Left on Board.	Died.	Total.
Tonsillitis ...	1	—	—	1	—	2
Diphtheria ...	3	—	—	—	—	3
Enteric Fever ...	1	—	—	—	—	1
Measles	3	—	—	1	—	4
Dysentery	7	—	—	1	—	8
Malaria	7	—	—	1	—	8
Carcinoma ...	2	—	—	—	—	2
Mumps	2	—	—	—	—	2
Pulmonary T.B. ...	—	2	—	1	—	3
Chickenpox ...	1	1	—	1	—	3
Pleurisy	5	—	—	—	—	5
Erysipelas	1	—	—	—	—	1
Scarlet Fever ...	2	—	—	—	—	2
Scabies	—	—	—	1	—	1
Pneumonia ...	17	—	—	1	—	18
Acute Pleurisy ...	5	—	—	—	—	5
Pyrexia	1	—	—	—	—	1
Venereal Disease ...	—	—	46	—	—	46
Accidents or Other Illnesses ...	38	—	—	3	—	41
Vincent's Angina ...	1	—	—	—	—	1
Total ...	97	3	46	11	—	157

Cases of illness occurring during the voyage and disposed of prior to arrival here, are shown in the following table :—

Disease.	How Disposed of.
Malaria	Died. Buried at sea on 24th December, 1946.
Influenza	In hospital at Lisbon. Returned home and discharged.
Typhoid	To hospital and died in Bahia Blanca on 5th April, 1947.
Bronchitis and Cardiac Failure ...	Died and buried at sea. (Army passenger).
Scrub Typhus	To hospital at Port Said.
Pneumonia	To hospital at Gibraltar.
Dysentery	To hospital at Port Said.
Infantile Paralysis	To hospital at Liverpool.
Gastric Haemorrhage	Died at sea 14/9/47.
Dysentery	To hospital at Liverpool.
Tuberculosis	To hospital at Avonmouth.
Amoebic Dysentery	To hospital at Liverpool.
Typhoid	To hospital at Gibraltar.
Pleurisy	To hospital at Roonsker (Sweden).

Smallpox.—There were no cases of smallpox found on board vessels arriving at the port but the Master of a troop transport reported by wireless that he had landed a case of illness resembling smallpox on the outward voyage.

History of the case and action taken :—The patient, a soldier, returning from leave which was spent somewhere in Essex, England, sickened on the 11th June, 1947, the diagnosis of chickenpox being made on the appearance of the rash, which was centripetal in distribution and came out in successive crops. Toxaemic symptoms were not marked although his temperature attained 104°F. on the 14th June.

On arrival at Port Said, the Port Medical Officer considered that a diagnosis of smallpox could not be ruled out and the patient was removed to hospital ashore on the 14th June. Disinfection of quarters, hospital and fomites was carried out by military personnel. All personnel remaining on board, viz. : crew and permanent military staff, were vaccinated. The troops on disembarking at Port Said are believed to have been isolated in camp.

On receipt of the wireless message, a request was made to the Department of Health for Scotland to obtain information as to the diagnosis of the illness, and a reply to the effect that it had been finally diagnosed as severe chickenpox was received.

The vessel was boarded on arrival at Greenock on the 27th and a medical inspection of the crew and permanent military staff was carried out. No signs or symptoms indicative of smallpox or chickenpox were discovered and no other cases had occurred during the voyage.

Quarantine Clearance by Radio, New York Harbour.

The revival at the beginning of the year by the United States Public Health Service of clearing vessels, fulfilling certain conditions, by radio must be of considerable assistance to passenger vessels trading regularly between this country and New York. Notice of the revival was given in the press of the United States on the 10th January, 1947, and the following is a copy of the announcement :—

"The United States Public Health Service, Federal Security Agency, has announced that starting 1st January, 1947, passenger vessels fulfilling certain health and sanitary requirements may enter New York Harbor without stopping for quarantine inspection. For the first time since the beginning of World War II, eligible ships may receive "free pratique," or quarantine clearance, by radio.

For passengers on such ships this will mean that when they sight the Statue of Liberty, they may know that their voyage will soon be finished. They will not be tantalised by the view of New York while waiting for the ship to be inspected at the quarantine anchorage.

" Clearance will be granted by radio only when, on the basis of information regarding the ship, its cargo, and persons aboard, quarantine officials are satisfied that entry of the ship will not result in introduction or spread of dangerous communicable disease. Public Health Service regulations place special stress on control of the quarantinable diseases ; cholera, transmitted by infected food or water or by contact ; plague, transmitted by the rat flea ; typhus, transmitted by the body louse ; smallpox, transmitted by contact, and yellow fever, transmitted by the Aedes aegypti mosquito. The speed of modern transportation has increased the need of vigilance against the threat of importation of these quarantinable diseases. Of particular concern to quarantine officers is the possibility that a person may become infected with disease in a foreign country, and come to the United States while the disease is still in the incubation stage—that is, before symptoms of illness have appeared. To prevent a person so infected from entering the country special pre-embarkation precautions including immunisation are necessary. If, within a period of 60 days before its arrival at New York, a ship has visited a port infected or suspected of being infected with a quarantinable disease, that ship is not eligible for radio clearance, but must undergo quarantine inspection.

" As additional requisites for use of the radio clearance procedure, a ship must be maintained in rat-free condition, must ply between specified ports, and must carry a ship's surgeon who has been interviewed and approved by the chief quarantine officer at New York.

" Radio clearance places heavy responsibility on the ship's surgeon ; before radio clearance will be granted he must be sure that serious communicable disease is not present on the ship. If through carelessness he should fail to diagnose a case of a quarantinable disease, and the ship received radio clearance, he would be disqualified by the chief quarantine officer, and the ship would lose the privilege of using the radio clearance procedure until it obtained an approved surgeon and re-qualified for the privilege.

" If a case of communicable disease develops on a ship after it has been granted clearance by radio but before it has docked, the quarantine station must be notified immediately so that it can take appropriate action.

" Although vessels cleared by radio are not required to stop at the quarantine anchorage, raise the yellow flag signifying " Q " or " Quarantine," and undergo inspection, these vessels are subject to sanitary inspection on arrival at the dock.

" Quarantine clearance by radio was first approved by the Surgeon General of the United States Public Health Service in 1937. It was instituted in that year as a modern and economical procedure for facilitating quarantine clearance. When radio silence was imposed on vessels as a security measure in 1941, it was necessary to discontinue radio quarantine clearance since it is based on the ship's transmission of a radio message requesting clearance 12 to 24 hours before arrival in port."

Cholera.—A serious outbreak of Cholera in Egypt which commenced in the month of September and ended on the 21st January, 1948, made necessary the putting into operation of certain precautionary measures. Boarding officers, inspectors, rat catchers and medical staff were inoculated with Anti-Cholera Vaccine. Several beds at Knightswood Hospital were earmarked for the isolation and treatment of possible imported cases of Cholera and the necessary medical and nursing staff inoculated.

All vessels arriving from Egyptian ports were visited by the Port Boarding Medical Officer immediately on arrival, and examination of crews and passengers, if any, was carried out. Special enquiry was made as to the presence among the stores of any fish, milk, green vegetables, shell-fish, etc., and in any case where it was learned that the source of origin was Egypt instructions were given to have them destroyed.

In cases where water had been taken in Egypt, either as part of the domestic supply or as ballast, instructions were given to chlorinate before discharge, cleanse the tanks, and after refilling, rechlorinate.

During the course of the outbreak, many shipowners with vessels calling at these ports were very much alive to the danger, and instructed the masters of their vessels to refrain from purchasing any foodstuffs whatever and refilling domestic water tanks at any Egyptian ports.

Throughout the whole period of the outbreak no cases or suspected cases of cholera were found among the passengers or crews, nor had any cases occurred during the voyage on board any vessels which arrived at Glasgow.

Aliens Act, 1920.—During the year there arrived 56 ships carrying 1,194 aliens. There were no rejections on medical grounds. The following table shows the nationalities together with numbers :—

Argentinos	1	Other Non-Europeans	13
Austrian	2	Persian	1
Baltic States	7	Palestinian	6
Belgian	2	Poles	850
Central and South America	9	Portuguese	90
Danes	20	Russian	2
Egyptian	4	Spaniards	12
Finns	1	Swedes	4
French	1	Swiss	2
Greeks	109	Stateless	1
Iranian	1	Turks	3
Norwegian	9	U.S.A. Citizens ...	42
Other Europeans ...	2		

Parrots (Prohibition of Import) Regulations (Scotland) 1930.—Three parrots and two budgerigars were found on board five vessels. In the case of three parrots and one budgerigar, the owners gave a written undertaking to re-export them. The Department of Health for Scotland granted permission to import to the owner of the remaining budgerigar.

Destruction of Rats.—A total number of 4,117 rats were destroyed during the year, 3,527 on board ships and 590 in sheds and other premises adjoining the harbour. Of the total number of rats, 2,993 were found dead after fumigation and 534 were trapped. Four hundred and seventy-nine were submitted to the City Bacteriologist for examination for bacillus pests with negative result.

In the following tables, details are shown of the rats destroyed on board ship, in sheds and other premises adjacent to the harbour.

ON BOARD SHIP.

Method of Destruction	Infected Ports.				Non-Infected Ports.				Total
	R. Rattus		R. Norvegicus		R. Rattus		R. Norvegicus		
	M.	F.	M.	F.	M.	F.	M.	F.	
HCN	1,413	817	2	0	473	281	3	1	2,990
SO_2	0	0	0	0	2	1	0	0	3
Trapping	211	120	0	0	124	78	1	0	534
	1,624	937	2	0	599	360	4	1	3,527

SHEDS AND OTHER PREMISES.

R. Norvegicus		R. Rattus		
Male.	Female.	Male.	Female.	Total.
63	42	293	192	590

Plague.—There were no cases of plague, human or rodent, in the United Kingdom during the year, but two outbreaks of particular interest to Port Health Authorities occurred at the same time in the month of June, one at Haifa, Palestine, and the other in Königsberg, East Prussia.

At Haifa, according to information received by the Ministry of Health, 15 cases with one death had occurred up to the 12th July. Infection amongst the rat population was said to be heavy and 168 infected rats were found in a period of two weeks.

The following procedure was applied by the Haifa Authorities to the case of ships leaving Haifa for the United Kingdom :—

(1) Inspection of all passengers to prevent embarkation of sick persons and plague contacts.

(2) Passengers inoculated with anti-plague vaccine prior to embarkation.

(3) Control and supervision of all merchandise cargo and baggage to prevent rats gaining access to the ship.

(4) While in port, strict supervision kept over ships to ensure that effective rat guards are in position.

(5) Loading and unloading of cargo restricted to the hours of daylight, except in special circumstances, when it is done under strong artificial light.

(6) Ships are inspected for rats. Those showing evidence of infestation are deratised.

The last case of human plague in Haifa was stated to have occurred on the 12th August.

Information was received that Epidemic Bubonic Plague had been reported from Königsberg, East Prussia, and the civilian mortality was stated to be extremely serious. No other details of this outbreak were available.

The usual plague precautions were put into operation against arrivals from Haifa and all Eastern Baltic ports. No cases of illness resembling plague and no infected rats were found, nor were any cases of undue mortality among the rat population on board any of the vessels reported.

Deratization and Deratization Exemption Certificates.—Two hundred and eighty-eight certificates were issued during the year—119 Deratization Certificates after fumigation with hydro-cyanic acid and 169 Deratization Exemption Certificates. Twenty-five of these certificates were granted to newly constructed vessels—24 exemptions and 1 deratization.

Hygiene in Crew Spaces, etc.—Eight hundred and seventy-eight visits and two hundred and fifty-nine re-visits were paid to foreign-going vessels, and one hundred and three visits and sixty-one re-visits to coasting vessels. The number of defects discovered totalled 1,176, and the following table indicates the type of defect :—

	Coasters.	Foreign Arrivals.	Totals.
General Neglect—			
Drinking Water Tanks	—	—	—
Accumulations of Garbage	—	28	28
Gear in Sleeping Compartments	—	6	6
	—	34	34
Structural Defects—			
Ports or Deadlights leaking	2	38	40
Deckheads leaking	2	55	57
Heating Apparatus defective	—	39	39
Floors broken	—	2	2
Lighting defective	—	11	11
Ventilation defective	—	6	6
Food Locker Doors broken	—	34	34
Steampipes leaking	—	36	36
	4	221	225

Wash Places and Water-Closet Compartments—	Coasters.	Foreign Arrivals.	Totals.
Seats broken or missing	5	48	53
Doors broken or defective	—	22	22
W.C. Basins broken	—	9	9
Lighting defective	—	2	2
Ventilation defective	—	7	7
Wash Basins broken	—	4	4
Soilpipe or Storm Valve defective	2	25	27
Floors broken	—	9	9
	7	126	133
Functional Neglect—			
Paintwork dirty	—	35	35
Floors and Woodwork dirty	8	60	68
Tables and Benches dirty	13	52	65
Alleyways dirty	2	45	47
Food Lockers dirty	16	55	71
Verminous condition	2	155	157
Galleys dirty	—	13	13
Scuppers choked	—	35	35
Accumulation of Rubbish	6	45	51
Beds and Bedding dirty	—	9	9
	47	504	551
Wash Places and Water-Closet Compartments—			
Troughs of W.C. Basins foul or choked ...	3	45	48
Floors or Woodwork dirty	3	30	33
Paintwork dirty	2	34	36
Scuppers choked	—	28	28
Flushing Apparatus defective	—	45	45
Wash Basins dirty or choked	—	43	43
	8	225	233
	66	1,110	1,176

As the above tables show, more than 50 per cent. of the defects are due to neglect. The majority of this type of defect was discovered on vessels of British nationality, and as in former years it would appear that the standard of cleanliness does not compare favourably with the standard found on vessels of other nationalities. It does not, however, present a true picture of the standard of cleanliness on board British vessels, as the conditions found are, apart from vermin infestation, due to the members of the crew, on being paid off at the conclusion of the voyage, discarding all sorts of unwanted articles, including food, which create accumulations of rubbish, untidy tables, floors, bunks, food lockers, messrooms, wash-places, latrines, etc. It has been observed that vessels calling at this port which have not completed the voyage compare favourably, apart from the above exception, with vessels of other nationality.

NUMBER AND NATIONALITY OF VESSELS ON WHICH DEFECTS WERE DISCOVERED.

Nationality.	No. of Arrivals.	No. Showing Defects.
Argentinian	2	—
British	712	184
Chinese	1	—
Danish	15	—
Dutch	7	1
Egyptian	2	—
French	2	—
Greek	2	1
Italian	1	1
Norwegian	35	3
Panamanian	9	3
Portuguese	1	—
Russian	1	—
Spanish	2	1
Swedish	21	3
U.S.A.	64	—
Yugo Slav	1	—
	878	197

One hundred and nine "Intimations" in terms of the Public Health (Scotland) Act, 1897, were served on masters of foreign-going vessels and four on masters of coasting vessels in respect of nuisances discovered on board. In addition, one hundred and eleven verbal intimations calling for the removal of minor nuisances were given.

Rags, Hair, Hides and Bones.—The following table shows amount of imported rags, hair, hides, and bones, the number of shipments, and source of origin :—

Source of Origin.	Rags		Hair		Hides		Bones	
	No. of Ships.	Bundles.	No. of Ships.	Various Bundles.	No. of Ships.	Various Bundles.	No. of Ships.	Bags.
Europe ...	10	4,414	—	—	1	51	—	—
Canada ...	—	—	2	96	—	—	—	—
United States	—	—	20	13,857	6	6,411	—	—
South America	—	—	—	—	—	—	1	4,041
Africa ...	—	—	—	—	1	1,298	2	5,261
Australia ...	—	—	—	—	3	1,023	—	—
New Zealand	—	—	—	—	6	2,723	—	—
India ...	1	55	—	—	—	—	13	32,245
Egypt ...	5	5,441	—	—	1	2,500	—	—
China ...	—	—	1	2	—	—	—	—

Anthrax.—Two samples of dry salted goatskin from one consignment and seven of dry salted cattle hides from two consignments were submitted to the City Bacteriologist who reported the presence of B. Anthracis in two specimens of goatskin and two of cattle hides, all of which were part of consignments from Africa.

No cases of anthrax were reported among the persons engaged in the discharge of the infected hides, and while it is gratifying to know that no person became infected through handling the infected hides, the possibility of such an event occurring is ever present.

Hides and skins are imported in various forms, tanned and untanned, dry salted, wet salted, sun dried, etc., some loose, some in bales and some in barrels. Unlike hair and wool, no satisfactory method of disinfecting hides and skins without damage has yet been discovered, and in the absence of such a method, it would perhaps be desirable to have them so packed as to minimise the amount of handling between the port of lading and the final destination of the material, and thus reduce the possibility of infection.

Imported Food Regulations.—Approximately six hundred and ten thousand, five hundred and thirteen tons of imported food-stuffs passed through the port during the year and of this total sixteen thousand two hundred and fourteen and one quarter hundredweights were found unsuitable for human consumption.

Two hundred and fifty-one samples were submitted to the City Analyst who reported 23 unfit for human consumption. None of the samples found unfit call for special mention and the results of the examination are shown in one of the following tables.

Twenty-three samples were submitted to bacteriological examination, seven of which were reported unsatisfactory. Two of the unsatisfactory reports concerned two samples of block dates found to contain moulds and a number of Cl. Welchii which in the opinion of the Bacteriologist would, if stored for long periods, increase to such an extent as to render the dates unfit for human consumption.

The remaining five unsatisfactory reports concerned samples of fat substitutes which contained Faecal B. Coli, B. Proteus and B. Pyocyaneus in varying amounts.

Damaged Onions.—Discharge of 27,326 one-cwt. bags of Egyptian onions was commenced on 12th July and on completion some 10,000 bags were found to be unfit for human consumption.

The damage was believed to be due to lack of ventilation owing to faulty stowage causing the skeleton air trunks inserted during loading to collapse under pressure.

As discharge progressed rapidly, separation of sound from unsound material became impossible, and conditions in the stowage shed became hopeless. The owners of the consignment, some thirty in all, did not come forward early enough to enable the question of salvage to be dealt with satisfactorily and the shipowner agreed to accept responsibility of surrender on their behalf.

Owing to the large amount of material for destruction which could not be dealt with in the ordinary manner at the refuse destructor, a special arrangement was made with the City Cleansing Department to convey it to the refuse dump at Pinwhinnie and mix it with other refuse arriving there for disposal. As the refuse dump was some distance outside the city boundary, private contractors were engaged to convey the material to the dump. Removal started on the 22nd and was completed on the 29th instant. During visits to the dump it was found that the arrangements to have the onions mixed with other refuse had broken down owing to the staff there being overwhelmed with the large quantity involved.

Conditions at the shed were very unpleasant and the difficulties of the workers engaged on the removal were increased by an infestation of flies, which they alleged were, because of their persistent attention, the cause of a skin rash which had appeared on the exposed parts of their bodies. A search of the shed showed that the infestation was heavy and thousands of larvae were scattered round and over the decaying onions. Specimens were collected and identified as Drosphila, commonly known as the vinegar fly. With the removal of the decaying vegetable matter the infestation was reduced in proportion and when the shed was cleared it was treated with a suitable insecticide.

Earlier in the year approximately 50 per cent. of a consignment of 7,200 bags of onions were destroyed as a result of delay in discharge due to the dockers' strike. The vessel arrived on the 24th March and discharge did not commence until the 18th April. The unsound onions were disposed of partly for use as fertiliser, partly for animal feeding and the remainder by destructor.

Edible Gelatine.—In last year's report reference was made to the absence of a legal standard controlling the amount of copper in gelatine used for edible purposes.

In an order dated 30th January, 1947, the Minister of Food under powers conferred on him by regulation 55 and 55AA of the Defence

(General) Regulations, 1939, issued The Edible Gelatine (Control) Order, 1947.

This order prohibits the use of gelatine other than edible gelatine, in the manufacture of any food and limits the amount of arsenic, lead, copper and zinc which may be present in this product.

"Edible Gelatine" is defined as follows:—means the clean wholesome protein which:—

(*a*) is obtained by extraction from collagenous material;

(*b*) is free from objectionable taste and offensive odour when in a warm 5 per cent. aqueous solution;

(*c*) contains, when air dried, not more than 3·25 per cent. by weight of mineral matter;

(*d*) contains, when air dried, not more than 1·4 parts by weight of arsenic (expressed as arsenious oxide), 10 parts by weight of lead, 30 parts by weight of copper or 100 parts by weight of zinc, in each million parts by weight of gelatine.

The following table shows the character and quantity of the foodstuffs imported direct during 1947 (but does not include coastwise or transhipped cargoes), a percentage of which was examined by the food inspectors before removal:—

Article.	Weight Tons	Cwts.	Article.	Weight Tons	Cwts.
Apples	8,192	11	Lard	5,092	11
Barley	6,774	18	Lemons	3,983	16
Butter	12,197	8	Licorice	10	—
Cheese	14,586	3	Maize	62,190	18
Coffee Beans	995	6	Meal	984	16
Cocoa Beans	700	17	Meats (Canned)	5,018	6
Condiments	70	6	Milk (Canned)	9,459	1
Confectionery	42	1	Milk (Dried)	7,188	3
Eggs	1,674	16	Nuts (Various)	18,946	13
Egg Powder	6,846	8	Oats	9,799	8
Egg Frozen	94	7	Oils (Various)	5,803	9
Fruits (Canned)	4,110	5	Onions	3,408	15
Fruits (Dried)	9,233	14	Oranges	41,287	15
Fruit Juices	988	5	Peas	44	2
Fruit Pulp	113	7	Pears	3,930	2
Fish (Canned, etc.)	1,254	3	Pineapples	99	9
Farinaceous Foods	414	13	Plums	269	14
Flour (Various)	61,124	16	Potatoes	700	2
Gelatine	1	14	Sugar	3,700	—
Ginger (Wet and Dry)	130	4	Sundries	1,948	9
Grapes	154	3	Tea	1,165	3
Grape Fruit	7,923	3	Tomatoes (Canned)	2,634	9
Honey	22	2	Vegetables (Canned)	2,185	5
Jams and Jellies	4,009	13	Wheat	279,007	18

Total Weight—610,513 tons, 7 cwts.

The following foodstuffs were found unfit and disposed of to the satisfaction of the Port Medical Officer :—

Article.	
Aerated Waters	17,117 pint bottles.

Article.	Weight Cwts.	Qrs.	Article.	Weight Cwts.	Qrs.
Apples	18	—	Meats (Pickled) ...	16	3
Beans	44	—	Milk (Canned) ...	1,163	3
Coffee	4	2	Milk (Dried)	1	2
Cereals	3	2	Maize	473	—
Egg Dried	5	2	Orange Juice	12	3
Flour	727	2	Oranges...	995	—
Fruits (Canned)	52	3	Onions	10,000	—
Fruits (Dried)	556	—	Periwinkles	9	—
Fish (Canned)	3	1	Potatoes	80	—
Grape Fruit	120	—	Soups (Canned) ...	—	2
Ham and Bacon ...	—	2	Tomatoes (Canned) ...	14	3
Jams	10	1	Vegetables (Canned)	3	3
Meats (Canned)	2	1	Wheat	1,895	2

Total Weight—16,214 cwts., 1 qr.

(*Note.*—20 cwts., 1 qr. were from ships' stores).

Foodstuffs Examined by City Analyst.

Article.	Fit for Human Consumption.	Unfit for Human Consumption or not in conformity with Regulations.	Remarks.
Apples	27	2	Contained 2·4 parts per million of arsenic.
Aerated Waters ...	6	1	Deficient in sugar—17,117 pints destroyed.
Blackberries	—	1	Contained an excess of SO_2. For jam-making.
Butter	7	—	
Cereals	1	1	Infected with weevils—3½ cwts. condemned but released for animal feeding.
Confectionery ...	1	—	
Condiments	3	—	
Cheese	10	—	
Egg Frozen	4	—	
Egg Powder ...	23	—	
Fats (Various) ...	16	—	
Flour	3	—	
Fish (Canned) ...	9	—	
Fruits (Canned) ...	4	—	
Fruits (Dried ...	15	3	Two samples of Apricots contained an excess of SO_2. One sample of currants badly damaged by sea water—534½ cwts. condemned but released for animal feeding.
Fruit Pulp (Various)	3	—	
Gelatine	2	—	
Grape Fruit	1	—	
Ginger (Wet and Dry)	3	—	

Article.	Fit for Human Consumption.	Unfit for Human Consumption or not in conformity with Regulations.	Remarks.
Ham and Bacon ...	1	2	Copper sulphate contamination. Reconditioned and passed for human consumption ¼ cwt. condemned.
Jams and Jellies	4	2	One sample deficient in soluble solids, and one contained an excess of metallic tin.
Lard	9	—	
Lemons	5	—	
Licorice Juice ...	1	—	
Margarine	1	—	
Meats (Canned, etc.)	11	—	
Milks (Canned) ...	12	—	
Milks (Dried) ...	8	—	
Oils (Various) ...	2	—	
Oranges	20	—	
Orange Juice ...	5	11	Contained an excess of SO_2.
Oysters (Canned) ...	1	—	
Pork and Beans ...	1	—	
Sauces	2	—	
Soups	2	—	
Tea	2	—	
Tomatoes (Canned)	2	—	
Wines	1	—	

Food Insect Pest Infestation.—At the request of the Ministry of Agriculture, Insect Pest Infestation Section, nine vessels were treated for the destruction of food insect pests. Treatment consisted of exposure of the affected compartments to HCN. Concentration and time of exposure depended on the degree of infestation, etc., and varied from eight to ten ounces per 1,000 c.f. with from eight to 23 hours exposure. At the same time as the process of disinfestation was being carried out, other compartments such as crews quarters, galleys, pantries, fore-and after-peaks, etc., showing evidence of rat and/or cockroach infestation were dealt with and a Deratization Certificate issued.

Sanitation at the Docks.—Removal of refuse, cleansing of roadways, sheds and public conveniences throughout the district is carried out by the Glasgow Corporation Cleansing Department, under contract with the Trustees, with the exception of Rothesay Dock, Clydebank, King George V Dock, and Shieldhall Wharf where it is the responsibility of the staff of the Trustees. At Govan Dry Dock the latrine accommodation is under the care of an attendant and the standard of cleanliness of these structures and conveniences is exceedingly high.

Public Conveniences.—During the year one new structure of modern design was erected and one old structure demolished.

Canteens.—Seventy-three visits were paid to canteens in the dock area. Standard of maintenance was good and no conditions calling for official action were discovered.

Temporary Accommodation for Troops.—During the dockers' strike in the months of March and April, approximately 312 army personnel, who were drafted to the docks to discharge vessels carrying perishable cargoes, were billeted in Princes Dock and the following is an outline of the arrangements made :—

Sleeping Accommodation.—Three hundred were accommodated in the loft above the shed at No. 1 Princes Dock and 12 comprising Police and R.A.M.C. staff, were accommodated in the shed.

Ablution.—Ample temporary wash-stands were erected inside the shed with running water under pressure laid on. Drainage of waste water was by open sheet iron channels carried through the shed to the dock wall and discharged into the dock basin.

Latrine Accommodation.—An adequate supply of " Elsan " type latrines efficiently screened with canvas were installed for the use of other ranks inside the shed. Contents of the containers were disposed of twice daily direct into the sewer in the roadway through a hatchway erected over a manhole. Officers and N.C.O.'s had use of accommodation normally reserved for the use of ship's officers, etc.

Messing.—Cooking ranges, etc., were installed in the shed across the roadway at 83 Plantation Quay and Messing tables and forms were provided also ample facilities for washing-up, etc. All waste water was passed through a grease box before discharging into the river. The grease box was cleaned twice daily.

Frequent visits of inspection were made but at no time was any cause for complaint found.

Complaint re Nuisance at Rothesay Dock.—Residents in Clydebank adjacent to Rothesay Dock complained of a nuisance caused by dust arising from the discharge of cargo in dock. This dock is used principally by vessels discharging minerals and scrap ; loading coal either for bunkers or cargo ; discharging cement clinker for use in the cement work which was installed on the North side of the dock some

years ago and to discharge phosphates. The amount of dust arising from such operations will be fairly large and while a prevailing wind is blowing during dry weather must be a source of discomfort and annoyance to local residents.

Observations were made during discharge of the offending cargoes, *i.e.*, cement clinker and phosphates and it was found that when it was raining or if there was a breeze from other than a prevailing wind or when it was still, there was no cause for complaint. Investigation into the method of discharge was also made and it was found that, so far as the cement clinker was concerned, nothing could be done as the clinker had to be discharged at the site of the works and the method in use was to transfer it from the holds to hoppers on the dock side which communicated directly with the works. The manufacturing side of the business was conducted in an orderly and efficient manner and, short of closing down the business, nothing could be done.

The discharge of the phosphates from the holds to railway trucks on the dock side was carried out with the use of grabs and during the passage from ship to truck a fair amount of the phosphates fell from between the teeth on the grab. The question of an alternative method to the grab was gone into but it was found that any other method such as the bucket system would increase the time of discharge to three times the time required by the grab method and the additional expense incurred and the delay in the speedy turn round of ship was out of all proportion to the injurious nature of the nuisance.

With a view to having such vessels discharged at a point in the dock, as far removed from the buildings and main thoroughfares a possible, representations were made to the Clyde Navigation Trustees to have these vessels discharged on the south wall of the dock but unfortunately this could not be arranged as the berths there are used for the discharge of iron ore and, owing to the action of even small quantities of phosphates on the quality of the steel produced from the ore, they cannot be discharged at adjoining berths at the same time.

Up to the present no satisfactory solution to the problem has been found and, in the absence of evidence of injury to health arising from production of dust from these operations, there is not much that can be done in the matter.

The following statement submitted by the Corporation Veterinary Surgeon indicates the work done under the Imported Food Regulations during 1947 :—

	Examined.
Beef—	
Quarters	126,956
Cuts	15,774
Boxes	4,033
Bags	253,676
Veal—	
Bags	20,113
Mutton and Lamb—	
Carcases	1,142,901
Bags	8,531
Pork—	
Sides	15,460
Boxes	3,009
Bags	3,750
Goats—	
Carcases	12,273
Poultry—	
Fowls, cases	24,823
Turkeys, cases	6,166
Geese, cases	224
Mixed Poultry, boxes	22,757
Rabbits—	
Boxes	5,000
Crates	3,400
Fish—	
Salmon, cases	489
Offal—	
Ox Tongues, bags	1,466
Ox Tongues, boxes	377
Ox Tongue Roots, bags	1,720
Ox Cheeks, bags	11
Ox Hearts, bags	3,561
Ox Hearts, boxes	19
Ox Livers, boxes	252
Ox Livers, bags	25,496
Ox Tripes, bags	1,925
Ox Kidneys, bags	5,555
Ox Kidneys, boxes	1,142
Ox Tails, boxes	207
Ox Tails, bags	2,604
Ox Skirts, bags	71
Ox Sweetbreads, bags	366
Ox Casings, tierces	10
Sheep Hearts, pkgs.	2,340
Sheep Livers, cases	13,942
Sheep Kidneys, bags	413
Sheep Kidneys, boxes	139

Offal—	Examined
Sheep Tongues, bags	660
Sheep Casings, tierces	31
Lamb Tongues, bags	1,021
Lamb Hearts, bags	601
Lamb Livers, pkgs.	1,731
Lamb Kidneys, cases	5
Lamb Sweetbreads, bags	397
Lamb Tails, cases	522
Pig Tongues, cases	217
Pig Hearts, pkgs.	419
Pig Livers, cases	12,138
Pig Kidneys, pkgs.	2,823
Pig Feet, bags	100
Pig Casings, tierces	61
Calf Tongues, bags	93
Calf Hearts, pkgs.	231
Calf Livers, cases	1,748
Calf Kidneys, pkgs.	208
Calf Sweetbreads, bags	45
Goat Tongues, bags	19
Goat Hearts, bags	13
Goat Livers, cartons	122
Goat Kidneys, bags	37
Mixed Offal, pkgs.	72

Beef—	Condemned.
Quarters	10
Bags	4
Lbs. Trimmings	147½
Mutton and Lamb—	
Carcases	189
Bags	50
Cuts	13
Lbs. Trimmings	46
Poultry—	
Fowls, cases	1
Offal—	
Ox Hearts, bags	4
Ox Livers, bags	57
Ox Livers, lbs.	130
Ox Tripe bags	1
Ox Kidneys, bags	6
Sheep Kidneys, bags	1
Lamb Hearts, bags	½
Lamb Livers, cases	6
Calf Livers, cases	1

SECTION VI.

HOUSING.

During 1947 the Corporation completed 1,406 permanent houses, to which have to be added the erection of 1,438 temporary houses and the conversion of 208 requisitioned dwellings, making a total increase in dwelling accommodation of 3,052 houses for the year. The following table shows the number of houses completed during the past ten years :—

1938	...	2,936	1943	...	931
1939	...	2,227	1944	...	484
1940	...	980	1945	...	572
1941	...	791	1946	...	1,891
1942	...	1,124	1947	...	3,052

At 31st December, 1947, the total number of houses provided by the Corporation since the commencement of local government operations was 62,831. The sizes and types of houses are shown in the following table :—

	1 Apt.	2 Apt.	3 Apt.	4 Apt.	5 Apt. and over	Total.
Higher Rented Houses—						
Ordinary	36	106	15,631	9,731	1,604	27,108
House Purchase ...	—	—	5	23	76	104
S.S.H.A.	—	—	—	96	—	96
Corporation Depts. ...	51	241	187	97	55	631
Temporary Pre-fab. ...	—	—	2,066	—	—	2,066
Requisitioned ...	33	333	408	161	25	960
Lower Rented Houses—						
City Improvements ...	686	1,422	352	29	—	2,489
Intermediate	—	1	9,227	4,845	523	14,596
Rehousing	99	4,922	8,104	1,620	36	14,781
Totals	905	7,025	35,980	16,602	2,319	62,831

During the early housing operations of the Corporation the houses provided were mainly of the smaller type of one, two and three

apartments. Since 1944 almost all the houses completed have been of four or five apartments. During 1947, owing to the need for the housing programme to be brought into balance and to the limitations of the capital expenditure, it was decided that houses which had been approved by the central government but not begun would have to be postponed. In D.H.S. Circulars 100 and 102/1947, the Secretary of State stated that an effort would have to be made to increase the rate of completion of all houses under construction and to make the best use of supplies of timber and other materials. It would appear that the construction of new houses had run ahead of the available supplies and the housing programme would require to be curtailed until a balance was struck between the supplies becoming available and the rate of completion of new houses. It was decided that the temporary housing programme would continue, but no further licences were to be issued for private enterprise houses.

In view of Glasgow's special housing problems, such a decision was a serious blow to the housing programme, and an appeal was made to the Secretary of State to consider the matter, having regard to the fact that the city's direct labour department was already in balance. It was as a special concession to Glasgow, therefore, that the Secretary of State permitted the commencement of one new house for each completed house of the 2,041 houses of traditional design under construction by the direct labour department, with a review of the situation in six months' time.

As already mentioned in the 1946 Report, old housing property particularly in the poorer areas of the city, is becoming unprofitable and should any large item of repair require to be undertaken in many cases the subjects are forthwith abandoned. Further, some of the older properties, not necessarily in the poorer parts of the city, are revealing defects in structure which compels the Dean of Guild Court to order the demolition of the buildings as dangerous. The Corporation being the largest factors of housing properties in the city have decided to provide alternative accommodation as and when such accommodation becomes available for the tenents of these dangerous properties.

The whole question of the abandoned, dangerous and unfit properties in the city has been recently reconsidered by a joint sub-committee of the Housing and Highways and Town Planning Committees and it was decided that where abandoned properties are of modern design and where the repairs required are of a reasonable

character, having regard to the state of the building, the Housing Committee would consider the whole question and where appropriate take over the properties and recondition them. This scheme is, in fact, a method of buying time, as it reduces the pressure on the available accommodation and prolongs the life of these properties by a period varying from three to ten years. At the survey of such properties made at the end of 1947, it was found that there were in all 121 properties containing 1,736 houses, which were abandoned, about to be abandoned, dangerous or likely to become dangerous or unfit and requiring early demolition or closure. Details are shown in the accompanying table :—

ABANDONED, DANGEROUS AND UNFIT PROPERTIES.

NUMBER OF HOUSES IN EACH CATEGORY.

	Abandoned.		Dangerous.		Unfit.		Total.	
	Properties.	Dwellings.	Properties.	Dwellings.	Properties.	Dwellings.	Properties.	Dwellings.
Abandoned and about to be abandoned ...	33	527	6	121	5	76	44	724
Dangerous ...	2	32	7	50	—	—	9	82
Likely to become dangerous ...	4	89	25	355	—	—	29	444
Unfit	5	76	—	—	34	410	39	486
Totals ...	44	724	38	526	39	486	121	1,736

A certain number of unfit properties which were in a derelict condition were represented during the year. As the alternative accommodation was not readily available, only a limited number of dwellings could be dealt with, and in the course of 1947, 274 houses were represented. It had been hoped to deal with an even greater number during 1948, but action has had to be delayed owing to the absence of alternative accommodation.

Applications for Rent Restriction Certificates under the Rent and Mortgage Interest Restrictions Acts, 1920-1939, continued at an even higher level than during the past two years. The following table shows the number of applications from 1938 to 1947 :—

1938	...	35	1943	...	51
1939	...	29	1944	...	81
1940	...	3	1945	...	437
1941	...	8	1946	...	271
1942	...	3	1947	...	672

Of the 672 applications for certificates during the year 1947, 379 were granted, 285 were refused and 8 were cancelled. There were 80 applications by house factors for reports, of which 77 were granted and 3 refused.

Recently the City Assessor drew the attention of the Medical Officer of Health to the fact that a considerable amount of effort was being spent on the investigation of applications from tenants whose houses were not " old controlled " houses. Previously the Corporation granted certificates without proof that the houses to which they referred were subject to the provisions of the Rent Restrictions Acts, and in many cases the holders of the certificates were disappointed to find that their houses were not controlled under the Acts. In future, in order to avoid disappointment, applicants will be invited to consult the City Assessor before formally making application for a certificate to the Medical Officer of Health.

Statistics of decrowding in relation to houses vacated by families removed to new houses are shown in a table, as follows :—

Decrowding Operations.

Condition of Vacated Houses since the Coming into Force of the Housing (Scotland) Act, 1935.

Size of House.	No. of Houses inspected.	Over-crowding removed.	Over-crowding reduced.	Over-crowding unchanged.	Over-crowding increased.
One apartment	5,473	4,081	1,133	161	98
Two apartments ...	11,907	9,429	1,767	350	361
Three apartments ...	3,726	3,318	238	53	117
Four apartments and up	464	403	30	5	26
Total ...	21,570	17,231	3,168	569	602
		79·9%	14·7%	2·6%	2·8%

Out of 21,570 houses inspected subsequent to the transfer of the occupants to Corporation houses since the passing of the Housing (Scotland) Act, 1935, 20·1 per cent. were found to be again overcrowded compared with 19·7 per cent. in 1946.

During the year 274 houses were represented by the Medical Officer of Health to the Housing Committee as uninhabitable.

Housing Acts.

Number of Houses Represented since 1923 and Action Taken.

Year.	Number of Houses represented. Under Slum Clearance Schemes.	Under Closing and Demolition Orders.	Together.	Number of these Houses actually closed in each Year. Slum Clearance Schemes.	Closing and Demolition Orders.	Together.
1917-1937 ...	8,635	8,278	16,913	8,545	7,605	16,150
1938 ...	—	467	467	89	914	1,003
1939 ...	36	275	311	2	347	349
1940 ...	—	157	157	—	213	213
1941 ...	—	52	52	—	74	74
1942 ...	—	4	4	—	13	13
1943 ...	—	46	46	—	47	47
1944 ...	—	19	19	—	19	19
1945 ...	—	13	13	—	12	12
1946 ...	—	26	26	—	26	26
1947 ...	—	274	274	—	127	127
Totals ...	8,671	9,611	18,282	8,636	9,397	18,033

With regard to the rehousing of tuberculous families, 568 recommendations were made to the City Improvements Department during 1947, of which 72 families have since been rehoused. In addition, 173 families recommended in previous years were rehoused during 1947, making in all 245 for the year. This compares with a total of 220 families rehoused in 1946. The results of the scheme for the rehousing of tuberculous families over the past thirteen years are shown in the following table :—

No. of Tuberculous Families rehoused.

1935	...	278	1942	...	69
1936	...	182	1943	...	146
1937	...	125	1944	...	166
1938	...	100	1945	...	124
1939	...	82	1946	...	220
1940	...	52	1947	...	245
1941	...	60			1,849

It will be remembered that not more than ten per cent. of all houses allocated by the Housing Committee to the overcrowded

category of applicant is available for tuberculous families recommended by the Medical Officer of Health. In addition to the question of number, there is also the problem of suitability of dwelling house, especially as regards size and rental. Owing to the number of properties in the city becoming dangerous, much of the available accommodation in the lower rental housing schemes has had to be utilised to rehouse the displaced tenants. Similarly, it is only in this type of scheme that accommodation can be found for the tenants from houses condemned as unfit. Any extension of the scheme for the rehousing of tuberculous families and also of the closure and demolition of unfit property will be dependent on a marked increase in suitable alternative accommodation.

Inspection of Housing Schemes.

(*a*) Condition as to Cleanliness.

The number of houses in the various rehousing schemes reported on is 14,769.

No. of tenants under supervision at 1st January, 1947 ...		14,740	
Of which evicted or left owing rent during 1947	14		
Of which left voluntarily during 1947	399		
		413	
Of which remaining at 31st December, 1947		... ...	14,327
No. of tenants obtaining entry during 1947		407	
Of which evicted or left owing rent during 1947 ...	—		
Of which left voluntarily during 1947	—	—	
Of which remaining at 31st December, 1947		... ...	407
Total number of tenants remaining as at 31st December, 1947 ...			14,734

During 1947 the nurse inspectresses made 66,162 primary visits, the condition of the houses being recorded at the time of the visits as "Clean" 42,777, "Fair" 22,368, and "Dirty" 1,017. Further visits numbering 2,224 were made to the less satisfactory tenants.

At the beginning of the year 14,740 households were under supervision and at the end of the year 14,734—a decrease of 6. The number of new tenants was 407. There were 413 removals or 2·8 per cent. of the total occupancies.

The changes in the condition of the 14,327 households under supervision throughout the whole year were as follows:—

Condition at beginning of Year—	Condition at End of Year. Clean.	Fair.	Dirty.	Totals.	Group Percentages.
Clean	9,176	267	—	9,443	65·9
Fair	492	4,191	33	4,716	32·9
Dirty	4	38	126	168	1·2
	9,672	4,496	159	14,327	100·0
Group Percentages	67·5	31·4	1·1	100·0	—

A similar table is given for the 407 tenants who obtained entry during the year and who were still resident in the schemes at the close.

Condition at date of Entry—	Condition at End of Year. Clean.	Fair.	Dirty.	Totals.	Group. Percentages.
Clean	140	42	—	182	44·7
Fair	44	178	—	222	54·6
Dirty	1	—	2	3	0·7
	185	220	2	407	100·0
Group Percentages	45·5	54·0	0·5	100·0	—

The condition prior to removal of the houses occupied by families who were evicted or left owing rent and by tenants removing voluntarily during the year is compared in the following table :—

Condition at date of Removal—	Tenants evicted during 1947. No.	Group. Percentages.	Tenants Removing Voluntarily during 1947. No.	Group Percentages.
Clean	1	7·1	259	64·9
Fair	12	85·5	138	34·6
Dirty	1	7·1	2	0·5
	14	100·0	399	100·0

Of 14,734 houses occupied at the end of the year, 9,857 were regarded as " Clean," 4,716 as " Fair," and 161 as " Dirty," representing 66·9 per cent., 32·0 per cent., and 1·1 per cent. of the total. The corresponding percentages for occupancies at the end of 1946 were 65·8 per cent., 33·0 per cent., and 1·2 per cent.

(*b*) Bug Infestation.

The total number of houses in which evidence of the presence of bed bugs was found was 182, or 1·2 per cent., as against 1·1 per cent.

in 1946. This increase is insignificant. Analysis of this figure shows that only a " trace " of bed bugs was found in 30 houses, or 0·2 per cent., which was the same percentage as recorded in 1946. In this group of houses only old hatched eggs or bug casts but no living bugs or eggs were found in the beds or on furniture, pictures or other household belongings. In 21 houses or 0·1 per cent., compared with 0·2 per cent. in 1946, a " medium " degree of infestation was found and by this is meant that living bugs or eggs were found in beds or on furniture, pictures or other household belongings but not in the structure of the building itself. This condition is readily remedied by the tenants by applying the ordinary methods of household cleansing under the direction of the nurse inspectresses. In 131 houses, or 0·9 per cent., compared with 0·7 per cent. in 1946, a " serious " degree of infestation was found. In these houses living bugs or eggs, or both, were found in beds, on furniture or on picture rails, skirting or door facings. The eradication of bugs in these houses requires the co-operation of the tradesmen of the Maintenance Section of the Housing Department whose procedure is to remove the infested woodwork from walls and apply the blow lamp directly or a contact insecticide. However, it has been found that the proper application of the new insecticides, D.D.T. and Gammexane (" 666 ") are sufficient in themselves to eradicate infestation of the wall structures without having recourse to the removal of woodwork for the purpose of disinfestation. A feature of the work of the nurse inspectresses is the early detection of infestation and this has been very important in that it has prevented the vermin from establishing themselves for any length of time. In no houses throughout the year was fumigation by a lethal gas adopted.

The table submitted herewith shows the progress made during the past fourteen years in the prevention of bug infestation which has fallen from 10·7 per cent. in 1934 to 1·2 per cent. in 1947. It should be noted that serious infestation has fallen during that period from 7·1 per cent. to 0·9 per cent. throughout the rehousing schemes. This progress is further proof that the preventative system which has been practised in Glasgow during the past fourteen years is thoroughly sound, as it depends for its success upon the cleanliness of tenants and the supervision of them by the nurse inspectresses who are specially trained in the work of prevention of infestation by the bed bug.

PROGRESS OF BUG INFESTATION PREVENTION IN REHOUSING SCHEMES.

Year.	Number of Houses Inspected.	Number of Houses in which Bed Bugs were found.				Percentage of Total Number of Houses.			
		Trace.	M.I.	S.I.	Total.	Trace.	M.I.	S.I.	Total.
1934 ...	8,670	104	210	612	926	1·2	2·4	7·1	10·7
1935 ...	10,576	218	368	378	964	2·1	3·5	3·6	9·2
1936 ...	12,803	220	296	295	811	1·7	2·3	2·3	6·3
1937 ...	13,676	253	165	304	722	1·8	1·2	2·2	5·2
1938 ...	14,416	138	69	240	447	0·9	0·5	1·7	3·1
1939 ...	14,609	79	62	168	309	0·5	0·4	1·2	2·1
1940 ...	14,669	55	75	185	315	0·4	0·5	1·2	2·1
1941 ...	14,731	51	65	94	210	0·3	0·4	0·7	1·4
1942 ...	14,751	34	61	121	216	0·2	0·4	0·8	1·4
1943 ...	14,769	25	51	120	196	0·2	0·3	0·8	1·3
1944 ...	14,769	21	26	110	157	0·1	0·2	0·8	1·1
1945 ...	14,769	31	21	108	160	0·2	0·1	0·7	1·0
1946 ...	14,769	33	23	105	161	0·2	0·2	0·7	1·1
1947 ...	14,769	30	21	131	182	0·2	0·1	0·9	1·2

Trace—Trace of Bugs. M.I.—Medium Infestation.
S.I.—Serious Infestation.

AN INVESTIGATION INTO THE USES OF D.D.T. IN BUG EXTERMINATION, ESPECIALLY IN SLUM PROPERTIES IN GLASGOW.

by Dr. W. C. GUNN.

This report shows the results of an investigation on disinfestation by D.D.T. and Gammexane which has been carried out during the past year in selected groups of slum houses in Glasgow. Most of the houses which have been selected were very heavily infested by bed bugs and, in fact, the degree of infestation and uncleanliness of many of these houses can hardly be exaggerated. Bed bugs in uncountable numbers infested walls and furniture, and cracked and crumbling plaster and rotten woodwork made the prospect of disinfestation seem hopeless. However, the results obtained from the application of D.D.T. and Gammexane have been consistently good *and recurrence of infestation after several months has been almost entirely absent.*

These two insecticides can now be confidently recommended for the treatment of the worst types of bug-infested slum houses. As slum clearance by Local Authorities is now held up indefinitely, and the demolition of decayed properties proceeds very slowly, the proper use of the new insecticides can guarantee to the occupants of these old houses a large measure of freedom from the discomfort caused by the bed bug.

A most important feature of the investigation in Glasgow has been the employment of the same two Assistant Sanitary Inspectors on the work. They had a good experience in the application of D.D.T. on a large scale in the Army. This has assured uniformity in the use of the insecticides and in assessing the results. Experience has shown that disinfestation can only be successful if the work is done by men properly trained in the knowledge of the life history and habits of the bed bug, and close attention should be given to this essential training before the operators start on the job. All sanitary inspectors ought to know thoroughly the bionomics of such insects as the domestic flies, lice, fleas, the bed bug and cockroaches.

The sympathetic approach by the sanitary inspector has resulted in breaking down any reluctance on the part of the tenants to report bug-infestation of their houses; in fact, as time has gone on more clients have approached them for their help than could be conveniently taken on for this investigation.

It has been obvious that more workers and more appliances are necessary to cope successfully with bug infestation in Glasgow and so the Corporation has authorised the establishment of a team of at least four qualified men and the provision of suitable motor transport to take them and their equipment about the city.

Materials.—Even under the least promising conditions a five per cent. water emulsion of D.D.T. is completely effective. The water emulsion eliminates all risks of fire and gives the same results as the five per cent. solution in kerosene.

In some of the houses which have been disinfected a ten per cent. D.D.T. powder has been used in addition to one or other of the five per cent. solutions in dealing with the pictures, bedding and some articles of furniture.

The D.D.T. smoke generators have not been found suitable for work in slum properties. Most of these apartments cannot be properly sealed and there are difficulties which prevent clearing the houses of the inmates while the smoke is being applied. More work for the operators is entailed in the use of these smoke generators.

Procedure.—The house to be treated is first of all surveyed and preliminary arrangements made with the people for the day of

disinfestation. The actual preparation of the apartment requires the co-operation of the inmates. This can be very difficult when it is crowded with furniture and complicated by shake-down beds, all of which must be made accessible to the sprayers. In fact, each house dictates to some extent its own technique. *Food must be protected from any contamination by the insecticide.*

When the preliminary preparations have been thorough, the actual application of the spray or powder may not be very difficult, but care must be exercised to ensure that it is complete. Slip-shod work is of no use.

As most of the apartments which have been dealt with have cracked and crumbling walls, bed recesses with woodwork about them, and bed-steads and furniture in all stages of wear and deterioration, the application of the insecticide has been on a generous scale and the average has been nearly one gallon per apartment. The amount which should be applied per square foot has not been calculated. In fact, such a calculation has not been possible but experience has shown that the D.D.T. solution should be used liberally. In this connection, the very important *residual effect* of the chemical has to be taken into account. We have not yet found the time limit of this residual effect which goes on killing bugs for months after the insecticide has been first applied.

It is known that undisturbed glass and wood surfaces dusted with five per cent. D.D.T. are lethal for at least *two years*. Whether or not this laboratory observation can be applied to what happens with D.D.T. or Gammexane on walls and bed-steads and furniture which have been sprayed or dusted with these insecticides can only be a matter of conjecture, but there is plenty of evidence to show that the treated walls remain lethal to bugs for some months. Live bugs may be observed wandering somewhat aimlessly on walls for a few days after the spraying but they are doomed and they cease to feed and breed. Bed bugs killed by D.D.T. are lethal to other bugs. This quality of D.D.T. has been demonstrated in Petri dishes in which fresh bed-bugs have been brought into contact for a few hours with others killed by D.D.T. Poisoned bugs may therefore carry lethal quantities of the insecticides into retreats from which some of their colony have not yet emerged to feed. If larval bugs hatch from unaffected eggs, they fall victims to this *residual effect* of the D.D.T.

Apparatus.—A motor vehicle is required for transport of men and materials. There are various types of hand sprays and powder blowers which have been used and can be recommended. The best of them for applying liquids are the " Four Oak's " portable pressure sprays. The main points are that the apparatus should be well made, strong and fitted with a nozzle that is easily cleaned and gives a fine shower spray, but not one that is as fine as a mist.

Manual spraying can be efficient in most cases but considerable experience has been gained from the use of a small petrol-driven compressor unit operating spray-guns. Suitable lengths of hose leading the compressed air to the spray guns enable the operators to spray a series of tenement houses in a comparatively short time. These mechanically-operated sprays lessen the work and are more economical in the use of the insecticides. Where a large number of houses has to be disinfested, as has been found to be the case in Glasgow, the acquisition of a small portable petrol-driven compressor unit is strongly recommended. Such a unit will be well worth while in Glasgow.

Protection of Operators.—There is now considerable evidence that workers with D.D.T. and Gammexane preparations run very little risk of injury to their health. However, it is advisable to ensure that they take some precautions. In Glasgow they wear a suit of Denim overalls, a gauze mask to cover the mouth and nose, and the hands are rubbed over with a " barrier " cream. The protecting film remains on the hands until washed off with soap and warm water.

The two workers in Glasgow who have used D.D.T. preparations for nearly a year have enjoyed perfect health. They have worked carefully. No ill effects have been noted among the inmates of the disinfested houses.

Much that has been written in this report about the efficacy of D.D.T. applies also to Gammexane.

Gammexane kills bed bugs and other insect pests such as the cockroach more quickly than D.D.T. but no more surely.

The following table is a summary of the work carried out for this report :—

Numbers of Houses Treated and Materials Used.

Material Used.	No. of Apts. Treated.	10% D.D.T. Powder used in addition.	No. of Apts. where Bedding was removed for Disinfection by Steam.
5% D.D.T. in Kerosene	36	34	12
10% D.D.T. in Kerosene	3	3	—
5% D.D.T. Water Emulsion ...	124	99	6
10% D.D.T. Water Emulsion ...	4	1	—
Gammexane Solution (0·35%) ...	22	—	9
5% D.D.T. in Kerosene (H.M.5) ...	10	10	—
Gammexane Smoke Generator ...	1	—	—
Fumite (D.D.T. Smoke Generator)...	4	—	—
Total	204	147	27

Results Observed at Intervals after the Application of the Insecticides.

	First visit within one week after treatment.		Second visit within three weeks after treatment.		Third visit after approx. 2 months.		Fourth visit after three-four months.	
	No Bugs.	Bugs found.	No Bugs.	Bugs found.	No Bugs.	Bugs found.	No Bugs.	Bugs found.
5% Kerosene Solution (D.D.T.)	32	4	36	—	36	—	36	—
10% Kerosene Solution (D.D.T.)	3	—	3	—	3	—	3	—
5% Water Emulsion (D.D.T.)	120	4	124	—	124	—	90	—
10% Water Emulsion (D.D.T.)	4	—	4	—	4	—	4	—
Gammexane Solution (0·35%)	21	1	22	—	19	3	22	—
H.M.5	9	1	10	—	10	—	10	—
Gammexane Smoke Generator	—	1	1	—	1	—	1	—
"Fumite" D.D.T. Smoke Generator	1	3	2	2	2	2	2	2
	190	14	202	2	199	5	168	2

Note (on Table of Results Observed).—Observations have been made from the disinfestation of 204 houses during winter, spring and summer of 1947 and the majority of these houses have been revisited for inspection on four occasions subsequent to the disinfestation visit.

The main feature of the table of results is the *total absence of bugs from the houses which have been revisited.* It should be remembered that the summer of 1947 was unusually favourable for bed bug breeding owing to the prolonged hot weather of August, but revisits carried out later have not upset the very favourable trend of earlier observations made in the same houses.

Bug-Infested Model Lodging-House.—It may be noted here that the method of bed bug disinfestation indicated in this report has also been applied on a much larger scale to a very heavily bug-invested and badly-kept model lodging-house. The majority of the bed cubicles were very heavily affected. Each of the D.D.T. and Gammexane preparations, except the smoke generators, was used in different series of cubicles with uniformly good results.

Extermination of Cockroaches.—There has been a considerable amount of work done with D.D.T. and Gammexane preparations for the suppression of cockroaches, steam flies and crickets in the large institutions.

The two operators who have been carrying out the disinfestation of bug-infested slum properties have also succeeded in clearing cockroaches from Whitevale and Pollokshaws Public Baths, but there has been a recurrence of cockroaches in a Girls' Home—The Magdalene Institution, Maryhill, which was treated early in January, 1947. This is a fairly old, extensive building with a large laundry attached and without ready access to the heating ducts which, as is the case in most institutions, are the main source of the infestation. There these insects shelter and multiply. Spraying with solutions of the insecticides and laying the powder preparations as " traps " through which the cockroaches must travel to their " feeding ground " have given excellent results. In each of the Glasgow Corporation Hospitals one or two men from their staff of workmen have been engaged on the destruction of cockroaches, steam flies and crickets. They spend a few hours overtime each week treating with sprays and powder the heating ducts and the basement structure of wards and of other buildings, such as kitchens and laundries. This work in the institutions with D.D.T. and Gammexane has been done during the past two years with excellent results. Complete eradication of these insects from so extensive premises does not seem possible, but they can be reduced well below the nuisance level.

It has been necessary to warn expectant clients that these two modern insecticides, D.D.T. and Gammexane do not kill their victims quickly and that *the killing process goes on for weeks or months owing to their remarkable residual effect.*

The D.D.T. used in this work has been obtained directly by the Glasgow Corporation Central Drug Store from The Geigy Co. Ltd., Manchester, and the Gammexane, " 666," from I.C.I. This has assured the uniform quality of the insecticides.

SECTION VII.

BACTERIOLOGICAL LABORATORY.

The examinations performed in the Bacteriological Laboratory during 1947 numbered 88,349 compared with 82,425 in the previous year : a substantial increase. This number does not include many operations carried out to investigate gastro-enteritis, to improve the efficiency of the gonococcus carrying medium introduced last year for the transport of material from the dispersed city clinics, or numbers of tests done in attempts to improve existing methods.

Original Investigations.

Screen Tests.—The modification of the Laughlen test for Syphilis, with a sensitivity stabilised at a high level, devised by Dr. Stevenson for use as a screen test in the laboratory, has been taken into full routine use. This simple procedure has proved reliable and very satisfactory as a time-saver for " throwing out " the negatives among sera from untreated cases, thus rendering many examinations by more complicated methods unnecessary. The new test is most convenient to use, and appears to be more sensitive than either the Wassermann or Kahn tests. Eleven thousand specimens were examined by this version of the Laughlen test during the year.

Gonorrhoea.—The new transport medium for the preservation in a viable state of gonococci, which have to be carried some distance to the laboratory, has been in use all the year. The technical difficulty mentioned in last year's report was overcome and the efficiency of the medium enhanced, after much enquiry, by the introduction of a charcoal-impregnated swab, which has the property of absorbing and nullifying certain factors in one of the basic components of the medium, which were found to be inimical to certain strains of gonococci. The co-operative service between clinics and laboratory is now working well and is proving of great value for assessing the completeness of cure

of gonorrhoea in females, as well as for diagnosis. An account of centralised gonococcus culture for dispersed clinics, and its value, is awaiting publication.

Trichomoniasis.—As previously noted the gonococcus transport medium lends itself as a vehicle for specimens to be examined for this flagellate parasite in the living state, and during the year 2,073 specimens were examined, 531 proving positive. Control of the examinations for living specimens by parallel microscopic examination of stained films of exudate was discontinued as unnecessary in most cases, as experience was gained.

Gastro-Enteritis.—Work was continued along the lines indicated in last year's report, investigating the probability of various coliform bacilli being concerned in the etiology of this disease. This work is long and tedious but the possible culpability of coliforms cannot be entirely dismissed until the ground has been thoroughly worked over and comprehensive negative evidence has been obtained, Some thousands of tests to this end were carried out by Dr. Stuart and technicians, but the investigation was not concluded.

Streptococcal Infections.—The work on the suitability of the complement fixation test as a means of grouping streptococci undertaken by Mr. Brooke has proceeded. Further investigation along new lines is now yielding more promising results.

Water Examination.—In connection with this Mr. Brooke has been comparing a time saving direct method of detecting faecal B. coli by the Eijkman method with the older and more elaborate procedure. Agreement was obtained in about 98 per cent, of 2,000 tests.

Infectious Disease—Epidemiological Investigations.

Diphtheria.—There was a very substantial decrease in the number of positive specimens this year but the decrease in the total number examined in the work of diagnosis and control of this disease was relatively small. Typing of all the infecting strains of *C. diphtheriae* isolated from patients in the City Fever Hospitals was continued. Of the 478 strains typed, 389 only were from new cases and of these 136 were classed as gravis, 59 as intermedius, 49 as mitis and 75 as atypical. Comparative figures for the previous two years are given

in the annexed table, which shows the rapid decline in numbers and the decrease in the relative percentages of the more dangerous types, gravis and intermedius. A large proportion of the atypical strains were non-virulent.

Year	No. of Cases	Gravis No.	Gravis Per cent.	Intermedius No.	Intermedius Per cent.	Mitis No.	Mitis Per cent.	Atypical No.	Atypical Per cent.
1945 ...	1,351	666	49·3	436	32·2	181	13·4	68	5·1
1946 ...	973	447	45·9	214	22·0	194	19·9	118	12·0
1947 ...	389	136	35·0	59	15·1	119	30·6	75	19·3

An account of the type incidence of *C. diphtheriae* in Glasgow during the past fifteen years, with some epidemiological considerations, was contributed to the Glasgow Medical Journal in July.

Enteric Fever.—No epidemic outbreaks large or small came to the notice of the laboratory during the year. Little change is registered in the total number of specimens examined, but the number of positives was only about half that of the previous year; for diagnosis and control, 130 against 253.

Dysentery.—A further drop in the incidence of this disease in Glasgow has to be noted. Only 305 positive stools were found in contrast with 783 last year. *B. dysenteriae Sonne* was isolated on 197 occasions, *B. dysenteriae Flexner* on 67, and *B. dysenteriae Newcastle* on 41. Towards the end of the year there was a slight increase in the prevalence of Sonne dysentery, but the increase was relatively small. In 1946 there was little difference in the relative incidence of the Sonne and Flexner types. In 1947 the decline in Flexner dysentery was greater than that in Sonne dysentery.

Food Poisoning and Foodstuffs.—Thirty-four specimens of food and 36 specimens from patients were examined: in addition 33 specimens of food materials, largely cooking fats, entering the port were tested for bacteriological contamination. There were only sporadic cases of food-poisoning infection during the year.

Venereal Diseases.—The year's examinations show an increase of 1,726 at 43,953, a small percentage of the large number of tests done, and small compared with the previous rise. This suggests that the anticipated post-war increase in Venereal diseases is perhaps almost at its zenith, and some diminution may be looked for in future.

Ophthalmia Neonatorum.—This year again two cases of meningococcal infection of the eye were discovered in the routine culture of material for gonococci in cases of ophthalmia. The transport medium which preserves these delicate organisms during carriage made this possible. A paper on primary meningococcal conjunctivitis in children is awaiting publication by the Lancet.

Leptospirosis.—The Schüffner test for this infection was carried out as usual; 105 examinations of suspected sera were made, 88 for Glasgow and 17 for outside authorities.

Public Health—General Control.

Antenatal—Rh Tests.—This service which is conducted by the laboratory in co-operation with the Maternity and Child Welfare Department and the Regional Blood Transfusion organisation was started in November, 1946, and up to the end of that year 2,150 specimens of blood had been examined for the presence of the Rh factor. In the full working year 1947, the work increased by the reception of material from six more Corporation Antenatal clinics, and in all 14,075 examinations were made. Several interesting cases of Rh factor sensitization have been discovered. This means that by antenatal examination of the blood of pregnant women, there have been found several patients in whose blood-stream there have developed substances antagonistic to their child's Rh blood group. Fore-knowledge of this situation enables the clinician to take precautions before the birth of the child, to take steps to safeguard the integrity of its blood by transfusion, and it is hoped that as the scheme of Rh testing becomes more generalised and knowledge concerning it more widespread, information of vital importance concerning these sensitized women will be accumulated and will have an appreciable effect in lowering neonatal mortality.

Milk Supply.—The number of samples tested biologically for tubercle bacilli was 579. Tubercle bacilli were detected in the city milk supply in 1·8 per cent. of 338 undesignated samples, which shows an improvement of 1·3 per cent, over last year's figures; and in 1·4 per cent. of 71 designated samples, which does not differ materially from last year's result. The hospital milk supplies and the pasteurised milk issued to schools were free from such infection in 39 samples and 35 samples respectively examined. From other Local Authorities 96 milks were received, none of which was tuberculous.

The milk supplies of the city, as well as those sent to schools—823 samples in all—were on the whole similar in bacterial content to those of the previous year. The results found with hospital supplies (319 samples) and with graded milks (980 samples) examined for the Health Department were also similar to those reported for the year 1946.

Shellfish.—One sample of mussels and one of cockles were examined. No evidence of gross contamination was obtained.

Anthrax.—Nine samples of hides and skins were examined biologically for the Anthrax bacillus. Four gave positive results. Of two specimens from human lesions, one contained B. anthracis.

Plague.—Examination of rats from the harbour and from ships was carried out as usual, 428 animals in all. No evidence of plague was discovered

City Water Supply.—583 samples from the reservoirs and other sources were examined during the year, and reported upon to the Health and Water Departments.

Public Baths Water.—The results of examination of 256 samples from thirteen swimming ponds were reported to the Baths Department, providing information upon the effects of filtration and chemical treatment.

Publications.

The Types of Corynebacterium Diphtheriæ found in Glasgow during the last fifteen years, with some account of their Epidemiological Relationships. H. S. Carter. 1947. Glas. med. J. 28. 173.

The Application of Fluoroscent Microscopy to the Detection of Tubercle bacilli in Public Health bacteriology. A. B. Andrew, W. Wilson and R. D. Stuart. 1947. Glas. med. J. 28. 220.

Milk Standards and Milk Safety : a critical analysis in relation to Glasgow Milk Supply. Marcus S. Brooke. 1947. Glas. med. J. 28. 378.

Primary Meningococcal Conjunctivitis in Children, R. D. Stuart and Doris M'Walter. 1948. Lancet *I.* 246.

Summary of Examinations for the Year 1947.

City of Glasgow. Infectious Diseases.

			Positive	*Total*
Diphtheria and General Throat Infections—				
Diphtheria	Suspects ...	... ...	268	8,426
	Control ...	... ...	478	1,993
	Typing ...	... ...	...	746
	Virulence	... ...	...	129
Streptococcal Infections	Suspects ...	... ...	118	575

		Positive.	Total.
Gastro-Intestinal Infections—			
Enteric Fever ...	Suspects	10	405
	Control	120	1,139
Food Poisoning ...	Foodstuffs	...	34
	Specimens from patients	...	36
	Shellfish	...	2
Dysentery—			
Bacillary ...	Suspects	114	1,259
	Control	191	1,671
Amoebic ...	... ...	...	84
Other Forms	... ...	...	31
Tuberculosis—			
	Sputa	1,333	5,639
	Other specimens ...	...	472
Venereal Diseases—			
	Wassermann Test ...	...	18,229
	Kahn Test	...	10,994
	Precipitation Test ...	...	10,378
	Gonococcal Smears, Cultures and Complement Fixation	...	3,422
	Colloidal Gold Test ...	...	40
	Ophthalmia neonatorum	...	890
Miscellaneous Examinations—			
	Blood : Rh Factor ...	...	14,075
	Blood Groups	...	153
	Blood	...	222
	Body Fluids	...	322
	Exudates	...	88
	Excretions	...	14
	Worms	...	22
	Vincent's organisms ...	...	391
	Trichomoniasis ...	...	2,073
CITY OF GLASGOW. GENERAL PUBLIC HEALTH.			
City Milk Supplies			2,247
Hospital Milk Supplies			358
Milk bottles, ice cream, milk churn			227
Water Supplies			432
Baths Department			256
Water Department			151
PORT HEALTH AUTHORITY			
Anthrax—hides and skins. From ships, etc.			9
Food Posioning do.			33
Plague—rats do.			428
H.M. AND ALLIED FORCES.			
Venereal Diseases			101
Tuberculosis			2
Diphtheria			2
Chemical examination			1
OUTSIDE AUTHORITIES.			
Diphtheria			15
Leptospirosis—Schüffner Test			17
Enteric Fever			7
Undulant Fever			3
Food Poisoning			4
Tuberculosis			1
Milks			96
Miscellaneous			5
			88,349

CONTROL = Specimens from hospital cases, contacts, etc.

SECTION VIII.

FOOD.

Food Infections, Poisons, etc.—During the year numerous cases of suspected food poisoning were investigated. In quite a number of these no causal organism was identified. The following is a summary of some of the more interesting cases.

An Employment Officer of the Ministry of Labour became ill on the morning of 12th June with abdominal pain and severe diarrhoea. The persistence of these symptoms, with a rising temperature, necessitated his removal to hospital on the following day as a case of " clinical dysentery." During his naval service in the Middle East the patient had on various occasions suffered from dysentery. On the 28th June, S. typhi-murium organisms were isolated from his faeces. Enquiries at the tearoom where the patient usually lunched showed no illness then present in the staff or other customers, but two members of the staff had a history of mild diarrhoeal illness about the 24th to 27th May.

Also in June, three of the four members of one family and all four of another became ill with symptoms of food poisoning after having eaten some " cut spam " obtained from the same shop on the 3rd and 5th of the month. The sale of this particular brand of American tinned meat was stopped until bacteriological examination indicated that no organism of the typhoid-salmonella group had been found. High bacterial counts of staphylococci were reported however. Chemical analysis also indicated that the suspected samples contained a slightly greater amount of sodium nitrate than other samples taken from the shop, but well within the limit of 200 parts per million. Poisonous metals were not present in any appreciable quantity.

While a young married couple were on a visit to their relatives in Glasgow, the husband became ill on 10th August with all the

symptoms of food poisoning. A specimen of his faeces showed the presence of S. typhi-murium, but an exhaustive enquiry of all meals and food taken by the patient failed to reveal the source of infection. As his wife, however, volunteered the information that she had had a similar attack a year previously, a specimen of her faeces was taken and this proved positive for B. salmonella typhi-murium. It would appear that she was the source of infection and had probably been a carrier. The local health authority was notified.

On 6th September, a lorry driver became ill after a mid-day meal of two pies (unheated), a sausage sandwich and a meat sandwich. His illness took the form of diarrhoea, sickness and cramplike pains in the abdomen and muscles of his legs. His faeces were found to contain the salmonella typhi-murium. No specimens of the suspected food-stuffs were available for examination and no other cases of illness were reported in association with the restaurant where he had obtained the pies.

Three persons, two of whom having come from Crieff on a visit the previous day, became ill on 7th September with what proved to be a salmonella typhi-murium infection. The suspected articles of food, which all three had shared and which had not been taken by the one other member of the household who remained well, were some cream filled buns brought from Crieff by the visitors and ice cream bought in Glasgow on the 7th. The sample of ice cream proved negative on bacteriological analysis and was otherwise satisfactory. Later information from Crieff identified this outbreak with one of B. aertrycke there which had been definitely traced to cream cookies.

An engineer's helper took ill while at work on 24th August with violent abdominal pain, sickness, and later diarrhoea. His symptoms persisted and he was removed to hospital where a specimen of his faeces was found positive for salmonella typhi-murium. The patient attributed his illness to a duck egg eaten at breakfast that morning which he said had not been quite fresh. As no specimens were available, the source of the infection could not be identified.

An infant of four months sickened on the 18th December with a moderately severe gastro-enteritis and food poisoning organisms of the salmonella group were isolated in his stools. The National Dried Milk on which the infant was fed was negative for the presence of any

pathogenic organism. None of the other nine inmates of the household had been ill, but food poisoning organisms similar to those isolated from the infant's stools were also found in the grandmother's faeces.

In three of the other twelve cases of food poisoning investigated coagulase positive staphylococci were considered to be a possible cause. In the absence of essential information and of material for examination, the cause of the illness in the other instances could not be determined.

In the following notes the chief food inspector reports on the administration of the statutory enactments. during the year.

SUMMARY OF OPERATIONS UNDER THE FOOD AND DRUGS (ADULTERATION) ACT; THE MILK AND DAIRIES ACTS; AND ALLIED ACTS AND ORDERS FOR THE YEAR ENDED 31ST DECEMBER, 1947.

The Food and Drugs (Adulteration) Act, 1928.—The requirements of this important Act were again carried out in the city during the year and it is pleasing to report that these were well observed. The number of offences was low and the need for instituting proceedings against offenders arose in 24 instances only. This is fewer than last year when the lowest number was recorded for any year. A good selection of foodstuffs was examined and these are shown in a table at the end of this report. Difficulty in obtaining a variety of samples still exists owing to scarcity of supplies and to rationing. Legislation in the form of Regulations increases and amendment is frequent. Altogether 131 different kinds of foods and drugs, including some miscellaneous fancy foods, were analysed.

A total of 4,686 samples were examined by the Public Analyst. Of these 1,314 were formal and 3,372 informal, 32 (2·44 per cent.) of the former and 77 (2·28 per cent.) of the latter were found adulterated. The previous year showed 35 (2·81 per cent.) formal samples and 52 (1·80 per cent.) informal samples not to be genuine. The number of proceedings instituted equalled 24 and 17 convictions were recorded—penalties amounted to £63. No infringements were detected regarding the sale of margarine. Of cases dealt with, one was a second and another a third offence.

Abstract of Total Samples Examined during 1947.

Article.	Informal.		Statutory.		Percentage adulterated.		Percentage of Samples taken in each Group to Total.	
	No. Taken	No. Non-Gen.	No. Taken	No. Non-Gen.	Infor. %	Stat. %	Infor. %	Stat. %
Milk and Cream	2,433	43	867	16	1·77	1·84	72·16	65·98
Milk Products (Butter, Cheese, etc.)	108	—	30	—	—	—	3·21	2·28
Meats and Meat Food Products	111	5	150	8	4·50	5·33	3·29	11·42
Cereals, etc.	68	1	60	—	1·47	—	2·02	4·57
Spirituous Liquors ...	19	—	3	3	—	100·00	0·57	0·23
Drugs	183	7	31	2	3·83	6·45	5·40	2·36
Flavourings and Condiments	163	1	28	—	0·61	—	4·84	2·13
Miscellaneous Foods ...	287	20	145	3	6·97	2·07	8·51	11·03
	3,372	77	1,314	32	2·28	2·44	100·00	100·00

Abstract of Informal and Statutory Samples of Sweet Milk Examined during Year 1947.

Month.	Informal.				Statutory.			
	No. examined.	No. Non-Gen.	Average percentage Composition.		No. examined.	No. Non-Gen	Average percentage Composition.	
			Fat. %	Non-Fat. %			Fat. %	Non-Fat. %
January ...	185	—	3·74	8·79	74	2	3·74	8·83
February ...	205	3	3·79	8·79	77	1	3·69	8·77
March... ...	211	2	3·83	8·79	73	—	3·72	8·73
April	220	3	3·66	8·68	81	6	3·66	8·61
May	200	3	3·71	8·77	76	—	3·59	8·69
June	168	4	3·53	8·81	67	—	3·51	8·93
July	202	6	3·68	8·77	63	2	3·62	8·85
August ...	183	4	3·67	8·63	53	—	3·67	8·61
September ...	200	4	3·95	8·73	72	—	3·78	8·67
October ...	213	6	3·94	8·71	77	1	3·93	8·73
November ...	208	1	3·93	8·70	75	1	3·87	8·65
December ...	234	7	3·76	8·67	78	3	3·74	8·67
	2,429	43 =1·77%	3·77	8·74	866	16 =1·85%	3·71	8·73

Artificial Cream Act, 1929.—There are no manufacturers or dealers in the city registered with the Food and Drugs Authority.

The Public Health (Preservatives, etc., in Food) Regulations.—Six contraventions of these Regulations were dealt with in court compared with thirteen cases last year. The foodstuffs concerned were

butcher's mince and sausages. One sample of mince was found to contain preservative during the prohibited period, October to May, and three samples of mince were found with an excess of preservative during the permitted summer months, June to September. Of sausages, two samples were found with an excessive amount of preservative. The following list shows the foods in which preservatives were found along with their nature and amount. It will be seen that two samples of Essence of Rennet were found with small quantities of Phenols and on investigation it was alleged by the seller that permission had been given in this respect by the Ministry of Food. This was reported to the Department of Health who are investigating the circumstances.

ABSTRACT OF ARTICLES OF FOOD IN WHICH PRESERVATIVES, ETC., WERE FOUND, AND THE NATURE AND AMOUNT DURING YEAR ENDED 31ST DECEMBER, 1947.

Nature of Article.	Number examined.	Number in which Preservatives, etc., were found.	Nature of Preservative, etc.	Parts per Million.	
				Highest.	Lowest.
Aerated and Mineral Waters	41	1	Sulphur Dioxide	64	—
Ale	5	2	,,	26	19
Apricots, Dried ...	9	9	,,	1,920	204
Barley	9	1	,,	25	—
Cornflour	4	1	,,	19	—
Custard Powder ...	5	1	,,	25	—
Cider	3	3	,,	38	32
Essence of Rennet ...	4	2	Phenols	8	8
Figs, Dried	13	1	Sulphur Dioxide	25	—
Gelatine	15	15	,,	653	51
Margarine	34	34	Boron	0·24%	0·12%
Mince	59	15	Sulphur Dioxide	1,593	83
Peaches, Dried ...	17	16	,,	1,401	192
Potato Flour (P.O.M.)	2	2	,,	198	125
Prunes	22	1	,,	32	—
Raisins	16	2	,,	25	13
Sausages	118	84	,,	1,920	19
Sausage Meat ...	1	1	,,	410	—
Semolina Pudding Mixture	2	1	,,	19	—
Stout	3	1	,,	6	—
Sultanas	11	2	,,	96	32
	393	195			

The Milk (Special Designations) Orders (Scotland), 1936-1944.—Of 54 samples of Certified and Tuberculin Tested milk examined biologically, none was found positive for tubercle bacilli. It is satisfactory and encouraging to find this to be the case in another year

proving the reliability of the test applied to the cows by the officers of the Ministry of Agriculture and Fisheries. Twenty-three samples of milk were taken from Standard herds and one positive sample was reported. These herds are clinically examined in the same manner as ordinary herds.

There are ten Pasteurising establishments and thirteen Heat Treatment plants licensed in the city by the Local Authority, an increase of one (a Heat Treatment plant) from last year. Licencees are paid sums of one penny and of one halfpenny per gallon by the Ministry of Food for milk processed according to whether it is sold in bulk or bottled—the higher premium being paid for bottling. One dealer had his licence cancelled by the Local Authority for not keeping the dairy and dairy plant in a satisfactory condition. The licence was restored later after several monthly reports had been submitted by the Medical Officer of Health as required by the Health Committee of the Corporation. Regular sampling of Pasteurised and Heat Treated milk is carried out and reports of the results are submitted through the Town Clerk to the Department of Health for Scotland and to the Ministry of Food on special forms furnished for this purpose. The various grades of designated milk dealt in by city dairymen are shown in the following table along with the average amount sold each day. The number of producers, dealers, pasteurising, heat treatment and bottling establishments licensed in terms of the Milk (Special Designations) Orders is also given.

	1947.	1946.	1945.
CERTIFIED—			
Producers	—	1	1
Dealers	247	237	224
Total Average Daily Sales (Gallons) ...	1,871	1,752	1,211
TUBERCULIN TESTED—			
Producers	14	13	10
Bottling Establishments	6	6	6
Dealers	518	497	476
Total Average Daily Sales (Gallons) ...	*3,062	†2,948	‡2,806
STANDARD—			
Producers	10	13	15
Bottling Establishments	—	—	—
Dealers	—	—	—
Total Average Daily Sales (City Producers only) (Gallons)	517	630	853
PASTEURISED—			
Pasteurising Establishments	10	10	10
Dealers	627	548	579
Total Average Daily Sales (Gallons) ...	57,568	54,357	50,860

	1947.	1946.	1945.
HEAT TREATED—			
Heat Treating Establishments	13	12	11
Total Average Daily Sales (Gallons) ...	16,856	14,793	12,289

* Includes 823 gallons Tuberculin Tested (Pasteurised).
† ,, 695 ,, ,, ,,
‡ ,, 760 ,, ,, ,,

Samples of the foregoing taken during the year numbered 980. All were submitted to the City Bacteriologist and the City Analyst for examination regarding their conformity with the requirements of the Orders. The results are set out in detail in the table on page 162.

The tables show that 84·49 per cent. of the samples examined were in compliance with the required standards, as compared with 77·55 per cent. last year. Chemical examination showed all except five samples, which were slightly deficient in fat, to consist of genuine milk.

Supplies of Designated Milk to Corporation Hospitals, etc.— Tuberculin Tested and Pasteurised milk only is supplied to Corporation hospitals and institution. This milk is provided by the Corporation's own farms, by various producers, and by some milk contractors. The approximate average amount delivered daily was 2,179 gallons. Of this, 1,558 gallons were Tuberculin Tested and 621 gallons were Pasteurised. Two hundred and sixty-one samples of Tuberculin Tested milk were examined by the plate count, and 212 were found to conform with the Regulations. This shows a percentage of 81, which is 16 per cent. higher than last year. Of 55 samples of Pasteurised milk, 41 were found satisfactory. Twenty-one samples of Tuberculin Tested and Pasteurised milk were examined for the presence of tubercle, and none was found positive. In addition, 361 samples were chemically examined, and three were found to be below the standard set by the Sale of Milk Regulations. The average fat content of the milk samples was found to be 3·82 per cent.

Examination of Ordinary Market Milk for the Presence of Tubercle.— Producers' milk arriving at the city dairies is sampled regularly and submitted to the City Bacteriologist for biological examination, etc. In the course of the year, 279 samples were examined and three found to be tuberculous, giving a percentage of 1·08 as against a percentage of 2·75 in the previous year. This is a satisfactory figure, the lowest yet recorded, and shows that the eradication of tuberculosis among dairy herds is making good progress. In addition, the quantity of

Results of Examinations of Designated Milks.

	Certified. (a) Not more than 30,000 Bacteria per ml. (b) No Coliform Bacillus in 1/10 ml.	Tuberculin Tested. (a) Not more than 200,000 Bacteria per ml. (b) No Coliform Bacillus in 1/100 ml.	Standard. (a) Not more than 200,000 Bacteria per ml. (b) No Coliform Bacillus in 1/100 ml.
Bacteriological Examinations—			
Number examined	128	156	73
Number conforming to all requirements	96	128	66
Number exceeding count only	12	5	6
Number exceeding count and having coliforms present	6	10	—
Number conforming to count but having coliforms present	14	13	1
Agar Count per ml. Highest	1,000,000+	1,000,000+	1,000,000+
Agar Count per ml. Lowest	300	0	0
Presence of Coliforms −	108	133	72
Presence of Coliforms +	20	23	1
Chemical Examination—			
Fat Minimum 3% Number 3% or over	127	154	72
Fat Minimum 3% Number below 3%	1	2	1
Average Butter Fat content	3·84	3·99	4·00

	Tuberculin Tested (Pasteurised). (a) Not more than 30,000 Bacteria per ml. (b) No Coliform Bacillus in 1/10 ml. (c) Not more than 2·3 Lovibond Blue Units (Phosphatase Test).	Pasteurised. (a) No Coliform Bacillus in 1/100 ml. (b) Not more than 2·3 Lovibond Blue Units. (Phosphatase Test).	Heat Treated. (a) Not more than 2·3 Lovibond Blue Units (Phosphatase Test). (b) No decolorisation prior to 12 noon on day following taking of sample.
Number examined	33	289	301
Number passing each Test	25	275	238
Number failing in one or more of the Tests	8	14	63
Milk-Fat Test No. Satisfactory	33	289	300
Milk-Fat Test No. Unsatisfactory	—	—	1
Average Butter Fat content	3·73	3·71	3·69

Tuberculin Tested milk coming to the city is still increasing. The following table gives the figures for the year, along with the figures for the two previous years, and also shows the county in which the milk was produced :—

SAMPLES OF PRODUCERS' SUPPLIES EXAMINED FOR THE PRESENCE OF TUBERCLE.

County.	1947		1946		1945	
	No. Examined.	No. Tuberculous.	No. Examined.	No. Tuberculous.	No. Examined.	No. Tuberculous.
Ayr	186	1	141	3	230	2
Dunbarton	13	—	6	1	—	—
Lanark	45	2	83	—	33	1
Renfrew	21	—	47	2	36	1
Stirling	14	—	14	2	9	—
	279	3	291	8	308	4

Bacterial Counts of Ordinary Market Milk supplied to the City.—Three hundred and eighteen samples were examined for the number of bacteria and the presence of coliform bacillus. The results are shown in the following table :—

BACTERIAL COUNTS OF ORDINARY MARKET MILK SUPPLIED TO THE CITY.

Number Examined.	Average number of Bacteria per ml.					Coliforms in 1/100 ml. (2 days).	
	Under 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	–	+
318	259	21	12	11	15	280	38

Viewed from the number of bacteria found, 207 (79·92 per cent.) of the 259 samples with less than 100,000 bacteria per millilitre were of certified quality, compared with 156 (70·27 per cent.) of the 222 with less than 100,000 in 1946. Two hundred and eighty (88·05 per cent.) of the total number of samples taken were equal to Tuberculin Tested quality, compared with 246 (74·55 per cent.) in 1946. Coliforms were absent in 280 (88·05 per cent.) compared with 275 (88·33 per cent.) in 1946. The 318 samples were also submitted for chemical analysis ; 30 were found low in non-fatty solids and 4 deficient in fat. The average fat and non-fat content of the samples was 3·73 and 8·75 per cent. respectively.

Raw Milk as Retailed in the City.—Eighty-eight samples of raw milk as retailed were taken from shops and carts in the city. None of 29 was found positive for tubercle bacilli compared with none of

22 last year. Any adverse results received are communicated to the Medical Officers of Health of the districts where the milk was produced, and steps are taken meanwhile to prevent the sale of any infected milk. This raw milk, supplied usually by wholesale and retail producers, decreases in quantity each year.

All the samples were examined for the number of bacteria and the presence of coliforms. Results are detailed in the following table :—

BACTERIAL COUNTS OF RAW (UNTREATED) MILK AS RETAILED IN THE CITY.

Number Examined.	Average number of Bacteria per ml.						Coliforms in 1/100 ml. (2 days).	
	Under 30,000	30,000 to 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	–	+
88	57	15	7	5	3	1	83	5

Milk to School Children.—Only milk of pasteurised quality is supplied to the schools. The milk is supplied by four contractors and is sampled regularly. One hundred and sixty samples were examined during the year in terms of the Milk (Special Designations) Orders. Thirteen of 160, equal to 8·12 per cent., failed to pass the tests which are very exacting. This can be considered satisfactory.

Below is shown a table giving a summary of results of the sampling. Another table shows the average daily quantity supplied, computed on a monthly basis, along with the number of school days which occurred in each month. There was an increased consumption this year of 4,800 gallons.

SCHOOL MILK (PASTEURISED).

No. Examined.	No. passing both Phosphatase and Coliform Tests.	No. failing Phosphatase Test only.	No. failing Coliforms Test only.	No. failing both.	No. Tuberculous.	Average Fat Solids.	Average Non-Fat Solids.
160	147	4	8	1	—	3·72	8·73

AVERAGE DAILY QUANTITIES SUPPLIED.

Month.	Gallons.	School Days.	Month.	Gallons.	School Days.
January ...	6,110	19	July	65	12
February ...	5,515	20	August ...	2,002	10
March ...	5,194	20	September ...	6,322	21
April	5,743	15	October ...	6,406	23
May	5,968	21	November ...	6,363	18
June	5,990	20	December ...	5,832	18

Milk Summary.—Reviewing the position of the city's milk supply at the close of another year, it is pleasing to report continued improvement. Considering the indifferent conditions which had obtained during hostilities and for a short time afterwards, this is all the more satisfactory. Credit can be given to the work of the Inspectorate and to the increased interest and the desire to reach higher standards shown by the dairy trade itself. Premiums paid by the Ministry of Food for producing high quality milk were also helpful. Of much importance was the impression made on the trade by the removal by the Health Committee, from the Dairy Register, of two of the larger city dairies. The supply of dairy plant is still slow and replacements difficult. One additional " T.T." Producer's licence has been granted and there are three Standard licences less. Heat Treatment establishments have increased in number by one. The city's milk is practically all pasteurised or heat treated—an approximate figure would be around 90 per cent. of the total. Two hundred and seventy-nine samples of milk from different producers were taken on arrival at city creameries. These samples were examined biologically, etc. Three were found positive for tubercle—equal to 1·08 per cent. of the total, the lowest figure ever recorded in any year.

Sixty-one thousand five hundred gallons of milk were supplied to schools. This is a good increase from last year's figure of 56,708. Samples from each supplier are taken at least twice monthly and the results are very satisfactory. No sample was found tuberculous and the average butter fat content was 3·72 per cent.

New Dairy Bye-laws which will prohibit hand bottling and hand discing of milk bottles have been approved by the Health Committee and confirmed by the Department of Health. These Bye-laws will soon be in being and should ensure more satisfactory conditions in connection with the bottling of milk in dairies. At present, milk in bottles is sold by over 70 per cent. of the dairies in the city. Formal and informal samples of milk taken during the year totalled 3,300 ; these gave an average fat content of 3·74 per cent.

One Heat Treatment licence was withdrawn by the Health Committee during the year and only restored when conditions were reported to be again fully satisfactory.

Inspection of Food and Food Premises.—10,328 inspections of markets, stores, shops and places where food is dealt with were carried out. Three thousand one hundred and thirty lots of food were submitted

for reconditioning, passed as suitable only for animal food or destroyed. The total quantity equalled 139 tons 16 cwts. 30 lbs., and consisted chiefly of canned foods, as follows :—meat, milk, fish, vegetables and fruit : also fresh vegetables, cereals, biscuits, dried fruit and other miscellaneous articles. Food premises in general were found in a satisfactory condition. A quantity of fish dressing was seized in the premises of a Co-operative Society in the city as the result of a complaint regarding the presence of the dried carcase of a mouse, etc., in the fish dressing sold to a customer. The dressing was brought before the Stipendiary Magistrate and ordered by him to be destroyed. The Co-operative Society was subsequently fined £5.

A serious situation exists in respect of shops, stores, rooms and other places where food is dealt with inasmuch as the law available in Scotland for dealing with such premises is practically non-existent. The English Food and Drugs Act, 1938, gives power to approve premises where food is dealt in and supplies a useful requirement. Here, in Glasgow, and elsewhere in Scotland anybody can start a food business anywhere in an unsatisfactory place (a dairy excepted). Occasions often arise of complaints of persons making " Puff Toffee." " Toffee Apples " and other things, for sale for human consumption, under very poor conditions. There not being any specific Regulation for dealing with the matter, recourse is made to implication to have the practice stopped. This should not be so and the time is long past for giving power to Local Authorities in Scotland to approve of any premises where food for human consumption is in course of manufacture or being stored or sold, etc. An easy way would be to make the particular section of the English Act dealing with this applicable to Scotland. Other sections of that Act of less worth are already so applicable.

The new Glasgow Street Trading Bye-laws will give some little help in this connection but very far from what is required.

In connection with the Public Health (Meat) Regulations (Scotland) 1932, ten renewals of registration were granted and certificates of approval issued in respect of them. Thirty-eight copies of certificates were provided for vehicles operating from these premises.

Fertilisers and Feeding Stuffs Act, 1926.—Thirteen samples of feeding stuffs and four samples of fertilisers were taken from farmers and dealers in the town and handed to the Agricultural Analyst for

examination. Four samples of feeding stuffs were found deficient in oil and one fertiliser had an excess of insoluble phosphoric acid and a deficiency in soluble phosphoric acid. These discrepancies were taken up with the suppliers and in each case a satisfactory explanation was given. All other samples were reported as conforming with the terms of the Act. No request was received during the year for any sample to be taken. All results have been reported as required to the Department of Agriculture and Fisheries.

Dairies.—Dairies on the register at the end of the year numbered 1,425 compared with 1,445 last year. This is a decrease of 20. This number consists of the following :—47 producers, 15 wholesalers, 37 wholesale and retail dealers, 437 retailers of loose milk, 879 retailers of bottled milk only, and 10 carts from without the district. A qualified certificate of registration is granted where milk is supplied only in properly capped and sealed bottles as received from the wholesaler. This certificate is granted where the shop does not fully satisfy the terms of the dairy bye-laws. The percentage of these dairies is 61·69 of the total number registered, compared with 52·93 per cent. in 1946. During the year 16,071 inspections were made of dairies and 36 contraventions were dealt with. In 82 instances repairs and alterations were carried out as requested.

This year the other large wholesale dairy company, whose appeal was mentioned in this report last year as pending, has had its appeal dismissed by the Sheriff before whom evidence was led by the appellants and by the respondents.

There was no proceedings taken against any dairymen for contravention of the dairy bye-laws nor were any proceedings taken under the Milk and Dairies (Scotland) Order, 1934, the terms of which were generally well observed.

Byres.—There are 47 producers in the city having 59 byres. Four hundred and twenty-three inspections were made of these byres which were found to be generally well kept. Repairs were carried out in eight instances and four contraventions of the bye-laws corrected. There is provision for 1,499 cows in the byres and the average number kept is 1,230. Only in one instance are no grazing facilities provided for the herd.

Exempted Persons.—There are five byres in the city where persons keep cows for their own use. The number kept averages eight. In

addition, the Public Health Department have two attested herds within the city, the number approximating 348 animals. Milk is produced for use in Corporation institutions only. All these byres are regularly supervised and found to be well kept.

Food and Drugs (Adulteration) Act, 1928, *Section* 8—*Registration of Butter Factories and Wholesale Dealers in Margarine, etc.*—Sixteen butter factories, 133 wholesale dealers in margarine, and one margarine factory are on the register. Visits were paid to these premises in the course of the year, and no contravention was found. Samples taken were reported upon satisfactorily by the City Analyst. Details of the number on the register at the end of the year are as follows :—

Margarine Factories	1
Wholesale Dealers in Margarine	133
Factories of or Wholesale Dealers in Milk Blended Butter	—
Butter Factories	16

Ice-Cream Shops.—The number of persons on the register of ice-cream dealers in the city at the end of the year was 444, which is 6 more than the number for the previous year. Three thousand eight hundred and seventy-three inspections were made of these premises, as a result of which repairs were carried out in 17 instances and 4 contraventions were corrected.

The new Regulations for the heat treatment and better handling of ice cream are still in course of preparation, but are expected to be in operation during the summer of 1948. These regulations should mark a great improvement in the care exercised in the preparation of this article of food.

One hundred and six samples of ice cream were examined during the year and 37 were considered unsatisfactory by reason of high bacterial count, presence of coliform or both.

Cleansing of Milk Bottles.—The washing and sterilising of milk bottles is an important feature in the production of milk for sale, and the improper cleansing of bottles is a cause of the failure of bottled milk to pass the tests required by the Milk (Special Designations) Orders, and also a cause of early souring. To ascertain the condition of sterility in washed bottles, 118 were procured during the year from the large and from the smaller dairies. The standard of examination

adopted was that which fixes a maximum of 600 organisms per pint bottle. Of the 118 bottles examined, 79 were found satisfactory and 39 unsatisfactory. Intimation was made in each case when an unsatisfactory report was received from the Bacteriologist. The designs of bottle-washing machines generally in use in the larger dairies are the soaker-sprayer and jet types, while the methods employed in the smaller establishments are washing by means of rotary brushes and by hand brushes. The results found by the different methods are as follows :—

	Number	*Satisfactory*	*Unsatisfactory*	*Percentage Satisfactory*
Washed by Soaker Sprayer Type Machine	8	4	4	50
Washed by Jet Type Machine	53	43	10	81
Washed by Rotary Brushes	26	17	9	65
Washed by Hand Brushes	31	15	16	48

These figures again disclose the poorer results obtained from washing by rotary and hand brushes as compared with jet type machines.

The Food and Drugs (Adulteration) Act, 1928.

Details of Samples, etc., in which Proceedings were instituted during 1947.

Number of complaints.	Nature of sample and alleged offence.	Number of convictions.	Amount of fines imposed.	Number dismissed or found "not guilty."	Number deserted simpliciter.
2	Milk—Deficient in milk fat ...	1	£3	—	1
10	Milk—Deficient in solids other than fat	5	£25	3	2
2	Sausages—Contained an excess of preservative	2	£4	—	—
1	Mince—Contained preservative during proscribed period ...	1	Admon.	—	—
3	Mince—Contained and excess of preservative	3	£8	—	—
3	Whisky—Contained an excess of water	3	£13	—	—
1	Coffee—Contained 50 per cent. chicory	1	£5	—	—
1	Borax—Contained 83 per cent. Boric Acid	1	£5	—	—
1	Baking Powder—Deficient in available carbon dioxide ...	—	—	—	1
24		17	£63	3	4

Abstract of Proceedings under other than Food and Drugs (Adulteration) Act during 1947.

Act, Order, etc.	Nature of Offence.	No. of Complaints.	No. of Convictions.	Amount of Fines Imposed.	No. dismissed found "Not Proven" or deserted Simpliciter.
Glasgow Police (Amendment) Act, 1890	Having for sale unsound fish dressing	1	1	£5	—

Special Sanitary Operations.

	1941.	1942.	1943.	1944.	1945.	1946.	1947
(*a*) Food and Drugs, Etc.—							
I.—*Dairies*—							
Registered during year	—	—	55	143	103	160	250
Removed from Register	—	—	79	227	110	182	269
On Register at 31st Dec.	1,616	1,582	1,558	1,474	1,467	1,445	1,425
No. of Inspections ...	19,789	17,586	17,529	15,829	15,719	15,957	16,071
Contraventions of Orders, Act, or Bye-laws ...	16	19	22	55	54	65	40
Prosecutions for same	1	1	11	6	4	5	—
Repairs or improvements effected ...	33	44	28	83	91	75	91
II.—*Dealers in Ice-Cream*—							
Registered during year	—	—	2	—	94	52	42
Removed from Register	—	—	2	1	118	41	36
On Register at 31st Dec.	456	452	452	451	427	438	444
No. of Inspections ...	5,566	4,421	1,951	1,144	3,103	3,206	3,873
Contraventions of Acts, Orders or Bye-laws ...	4	1	—	—	5	11	4
Prosecutions for same	—	—	—	—	1	—	—
Repairs or improvements effected ...	2	1	—	—	18	14	16
III.—*Byres for Milch Cows*—							
No. of Dairy Byres as at 31st December ...	71	70	69	64	64	58	58
No. of cows licensed for	1,816	1,798	1,792	1,665	1,665	1,467	1,499
Average number kept ...	1,590	1,574	1,565	1,576	1,571	1,239	1,230
No. of Inspections ...	519	444	473	538	425	477	422
IV.—*Unwholesome Food*—							
No. of Inspections ...	11,726	11,564	12,053	10,468	10,026	9,905	10,328
No. of Lots dealt with ...	391	1,845	2,001	2,075	2,308	2,339	3,180
Nature of Food estroyed at Inspector's instance with Owner's consent	tons 88 lbs.	tons 114 cwts.	tons 99 cwts.	tons 180 cwts.	tons 221 cwts.	tons 145 cwts.	tons 139 cwts
Assorted foodstuffs ...	15	14	6 41 lbs.	17	6	2	16 30 lbs

Special Sanitary Operations—*Continued.*

	1941.	1942.	1943.	1944.	1945.	1946.	1947.
V.—*Food and Drugs (Adulteration) Act*—							
Informal samples analysed	2,860	2,165	2,079	2,098	2,183	2,877	3,372
Statutory samples analysed	1,295	1,156	1,284	1,251	1,241	1,245	1,314
Statutory samples found non-genuine ...	58	61	41	36	45	35	32
Proceedings instituted	44	52	31	28	39	27	24
No. of convictions ...	33	40	31	25	33	22	17
Amount of fines imposed	£94 15s.	£106 8s.	£110	£103	£124	£80	£63
No. dismissed or found "Not Proven" ...	6	7	—	—	—	1	3
No. deserted simpliciter	2	5	—	2	6	2	4
Warranty Defence sustained	3	—	—	1	—	—	—
No. pending	—	—	—	—	—	—	—
No. withdrawn... ...	—	—	—	—	—	—	—
No. dismissed (first offenders)	—	—	—	—	—	2	—

The Food and Drugs (Adulteration) Act, 1928.

Table showing Nature and Number of Total Samples Procured and Examined during 1947.

Nature of Sample.	Informal.		Statutory.	
	No. Taken.	No. Non-genuine.	No. Taken.	No. Non-genuine.
Aerated and Mineral Waters	41	15	—	—
Ale	5	—	—	—
Almonds, Ground	—	—	1	—
Apple Juice	1	—	—	—
Apricots	3	—	6	—
Arrowroot	2	—	—	—
Aspirin	34	3	—	—
Baking Powder...	21	3	5	2
Barley and Barley Crystals	7	—	4	—
Bicarbonate of Soda	27	—	1	—
Black Pudding	1	—	—	—
Boracic Acid	1	—	—	—
Borax	8	1	2	1
Borax and Honey	2	1	1	1
Brose Meal	1	—	1	—
Butter	5	—	23	—
Camphor Ice	1	—	—	—
Carraway Seeds	1	—	—	—
Cascara Sagrada	11	—	—	—
Celery Salt	1	—	—	—
Cheese	—	—	7	—
Cherries, Preserved	—	—	1	—

The Food and Drugs (Adulteration) Act, 1928—*Contd.*

Table showing Nature and Number of Total Samples Procured and Examined during 1947—*Contd.*

Nature of Sample.	Informal. No. Taken.	Informal. No. Non-genuine.	Statutory. No. Taken.	Statutory. No. Non-genuine.
Chocolate, Drinking	—	—	1	—
Chocolate Mould	1	—	—	—
Cinnamon	9	—	2	—
Cloves	3	—	—	—
Cocoa	16	—	14	—
Coffee	11	—	11	1
Coffee Essence with Chicory	3	—	—	—
Cooking Fat	10	—	24	—
Corned Beef	1	—	—	—
Cornflour	3	—	1	—
Cream of Tartar	8	—	7	—
Creamy Curd	1	—	—	—
Currants	4	—	10	—
Curry Powder	9	—	1	—
Custard Powder	3	—	2	—
Cider	3	—	—	—
Dates	1	—	2	—
Dessert Mould	2	—	—	—
Essence of Rennet	4	1	—	—
Figs	5	—	8	—
Fish Cakes	1	—	—	—
Fish, Canned	1	—	—	—
Fish Dressing	4	—	2	—
Fish Paste	48	—	—	—
Flake Meal	—	—	1	—
Flour, S.R., and Ordinary	7	1	9	—
Flowers of Sulphur	1	—	2	—
Fruit Pudding	2	—	—	—
Fruit Laxative Syrup	1	—	—	—
Gelatine	10	1	5	—
Ginger	11	—	5	—
Ginger Wine Essence	1	—	—	—
Glycerine	7	—	—	—
Glycerine, Borax and Honey	1	—	—	—
Glycerine of Thymol	2	—	—	—
Gravy Salts and Powders	10	—	—	—
Gregory's Powder	15	—	3	—
Honey	1	—	—	—
Ice Cream	100	—	—	—
Ice Cream Powder	3	—	—	—
Jam	1	—	—	—
Jelly, Table	1	—	—	—
Lager	2	—	—	—
Lard	—	—	6	—
Lemon Drink	1	—	—	—
Lemon Flavouring	1	—	—	—
Lentils and Lentil Powder	1	—	1	—
Liquid Paraffin	1	—	—	—
Liquorice Powder, Comp.	8	1	3	—

The Food and Drugs (Adulteration) Act, 1928—*Contd.*

Table showing Nature and Number of Total Samples Procured and Examined during 1947—*Contd.*

Nature of Sample.	Informal.		Statutory.	
	No. Taken.	No. Non-genuine.	No. Taken.	No. Non-genuine.
Macaroni	2	—	3	—
Malted Milk Tablets	1	—	—	—
Margarine	11	—	23	—
Marmalade	1	—	—	—
Meat Cubes	3	—	—	—
Meat Paste	39	—	—	—
Milk, Sweet	2,433	43	867	16
Mince	11	2	48	5
Mincemeat	6	—	—	—
Mustard and Mustard Comp. ...	13	—	4	—
Nutmeg	4	—	—	—
Oat Flour	—	—	1	—
Oat Meal	8	—	1	—
Oil, Camphorated	—	—	1	—
Oil, Castor	20	—	—	—
Oil, Cod Liver	1	—	—	—
Oil, Laxative	1	—	—	—
Oil, Olive	2	—	—	—
Ointments, Medicinal	12	—	1	—
Onions, Dehydrated	1	—	—	—
Parsley	2	—	—	—
Peaches	5	—	12	—
Peas	1	—	—	—
Peppers	39	—	9	—
Petroleum Jelly	1	—	—	—
Piccalilli	1	—	—	—
Potato Flour	—	—	1	—
Potatoes, Dried Mashed	1	—	—	—
Prunes	4	—	18	—
Pudding Mixture	8	—	4	—
Raisins	4	—	12	—
Rice Flour	1	—	—	—
Saccharin	6	—	—	—
Sage	1	—	—	—
Sage and Onion Stuffing	—	—	1	—
Salad Cream	1	—	—	—
Salts, Medicinal	21	—	9	—
Sauces and Sauce Powder	39	—	—	—
Sausages	50	3	68	3
Sausage Meat	—	—	1	—
Seidlitz Powders	2	1	—	—
Semolina	13	—	25	—
Soups and Soup Powders	22	—	—	—
Soya Flour	4	—	4	—
Spices	9	—	1	—
Sponge Mixture	2	—	1	—
Stout	3	—	—	—
Stuffing	2	—	—	—
Suet	2	—	3	—
Sugars	2	—	4	—
Sultanas	2	—	9	—
Sweetening Tablets	1	—	—	—

The Food and Drugs (Adulteration) Act, 1928—*Contd.*

Table showing Nature and Number of Total Samples Procured and Examined during 1947—*Contd.*

Nature of Sample.	Informal.		Statutory.	
	No. Taken.	No. Non-genuine.	No. Taken.	No. Non-genuine.
Table Dessert	2	—	—	—
Tartaric Acid	2	—	2	—
Thyme, Dried	3	1	—	—
Tincture of Iodine	9	—	—	—
Veal, Jellied	4	—	—	—
Vinegar	2	—	5	—
Whisky	2	—	3	3
Wines	4	—	—	—
Miscellaneous Foods with fancy names	14	—	1	—
	3,372	77	1,314	32

SECTION IX.

AIR PURIFICATION AND SMOKE ABATEMENT.

In the two previous post-war reports reference was made to the fact that the interest of the public in smoke abatement was undergoing a re-awakening and that a less tolerant attitude towards smoke conditions was very evident. This changing attitude is very apparent to those who are dealing with the subject day by day. That such a tolerance, even an apathy in many cases, did exist, was understandable. The distractions of acute war-time conditions accounted for this. When these conditions let up somewhat there was greater inclination and urge to focus attention on some immediate matters affecting everyday amenities and one of these was atmospheric pollution, particularly in the more congested areas of urban districts.

Again to those fortunate to have taken occupancy of the many housing areas, both permanent and temporary (" pre-fabs "), especially the latter, sited as they are in many cases contiguous to industry and individual works' plants, smoke emission, which previously did not cause local nuisance, does so now. In consequence, complaints are steadily on the increase. Such complaints are intimated to the authorities by letter, telephone, and personal call and there is always the " letter to the editor." In addition to these sources, a proportion are intimated to Ward Committees, Tenants' Associations, and Local Authority Representatives direct. The result of all this is shown by the increasing interest taken in the subject by local authorities, even by those authorities not normally immediately concerned, *e.g.*, landward authorities. Increasing numbers of authorities are becoming active members of the National Smoke Abatement Society and more prominence is being given to smoke problems in the routine authority business. Such an extended interest by all concerned—especially the public—is all to the good and augurs well for progress being made.

This has been the experience of the Public Health Department in Glasgow during 1947. In the technical field, the deliberations of a number of the prominent institutions, both engineering and

architectural, also witness to the fact that these bodies are being influenced by the expressed opinions and demands of the "man in the street" and are themselves in active sympathy with the subject. In industrial and domestic fuel burning appliances, research work goes on and many new appliances of improved design, embodying the latest developments in fuel economy and smoke reduction, are coming on the market.

It can be understood from the above general observations on the subject that the smoke inspectorate in Glasgow has been progressively busy during 1947 and that practical smoke abatement work is quickly resuming its pre-war activity. In addition to the volume of complaints handled during the year, the following indicates the routine work carried through :—

Observations on chimneys	20,764
Inspections of steam boiler and other furnaces ...	367
Intimations of excess smoke given	222
Warning notices issued	4

This routine work included visits paid to and inspections made of all sizes of plants and is again representative of almost every type of industry. These are all, of course, within the city boundaries and include shipping activities in the harbour areas. It can be said that with only a few exceptions the advice offered by the inspectors was acceptable to the plant users and owners involved and they have made and are making efforts to keep within the acceptable limits of smoke emission. Again it must be stated that a considerable number of new and inexperienced men are being employed on the operational staff of the concerns involved and that in itself has accounted for much of the excessive smoke emission noted and it is in this connection that the educational aspect of the work is going to play a very important part. This is of major importance and is complementary to the supervisory work of the inspectorate.

The acute position in the fuel supply field has also been consistently referred to and, while it is true to say that there is rather less stringency than previously, at the present rate of improvement it will be some considerable time before such supply conditions can be satisfactory. Very many plants are still using unsatisfactory types and grades of fuels. Fuel supplies are closely rationed and directed and in those types of ungraded fuels where there is no choice, the quality is most inferior. In the use of such low quality fuels, heavy smoke emission is

more the rule than the exception as, in their use, uniformity of combustion is difficult to achieve.

Observations on Plant Improvements.

The primary function of the smoke inspectorate is to observe and record contraventions of the local smoke enactment and, having done so, to advise on practical remedial measures that may be adopted in each case in order to prevent recurrence of such unnecessary emission. At the same time, it was the practice pre-war to note the many improvements and additions to plant that took place year by year, especially those which had a direct bearing on smoke abatement. These were recorded in the annual reports. During the war years, when smoke abatement work was less active, many such additions and alterations took place and these are again being noted during the routine inspections. The following table indicates the nature and number of such additional improvements as have taken place since 1939 and have, so far, been noted.

Number of new steam boilers installed to give increased power ...	18
Number of mechanical stokers fitted to steam and heating boiler furnaces	25
Number of steam boilers replaced by electric motors using public power supply	3
Number of new chimneys erected or existing chimneys heightened	44
Number of boiler or process furnaces fired by gas or oil fuel ...	6
Number of new mechanical grit and dust arrestors installed ...	1
Number of improvements not coming under any of the above headings	15

These figures refer only to material alterations and additions to plant and do not record the repair work carried out on boiler and furnace settings, dampers, flues, or repair of existing chimneys, etc. In this general repair work there is a large lee-way to be made up. Some large schemes of plant renewal involving very large capital outlay are under way and as these are completed they will be duly recorded in these reports.

Soot and Atmospheric Precipitation Gauges.

The monthly soot and dust fall recordings from the five precipitation gauges sited approximately north, south, east, west and central of the city area were continued without interruption during the year. These observations and recordings have been maintained since 1914. A few years before the war, the number of such stations was reduced

from nine to the present figure. In addition to these five stations, two other stations are maintained respectively 10 miles north and south of the centre of the city. The following is an abstract from the results obtained from the city gauges which, in pre-war years, was published in greater detail. It is expected that the fuller statement will again be made use of next year :—

DEPOSIT OF EACH ELEMENT OF ATMOSPHERIC POLLUTION FOR 1946/47.

	Tons per Square Mile 1946.	1947.
Insoluble Matter—		
Tar	3·47	3·55
Carbonaceous other than Tar	44·76	51·35
Ash	99·36	111·99
Total Insoluble Matter	146·59	167·90
Total Soluble Matter	82·44	82·96
Total Solids	229·09	250·84
Rainfall in Millimetres	893·69	898·74

During 1946 the average weight in tons per square mile of solid deposit was 0·255 per millimetre of rainfall. During 1947 this figure is represented by 0·279, which is an increase for the year of 0·024. The average yearly total precipitation for the six years 1941 to 1946 amounted to 248·60 tons per square mile. The corresponding figure for the present year as stated above is 250·84. This shows an increase of 0·09 per cent. over the six-year period. The average monthly rainfall during the winter period (October-March) was 64·96 millimetres, while the corresponding figure for the summer period (April-September) was 85 millimetres. The average monthly deposit during the winter period was 23·06 tons per square mile, while the figure in the summer period was 19·74 tons. The total annual rainfall as shown by the gauges during the year was 898·74 millimetres. The corresponding figure for 1946 was 893·69 millimetres. Again the corresponding total solid precipitations are 250·84 and 229·09. This indicates a slight increase in the annual rainfall but very much greater increase in precipitation. The results obtained year by year are not by any means always in direct ratio. Sometimes the results, rainfall and precipitation, are inverse and it has had to be pointed out each year in these reports that the incidence of the rainfall has a direct bearing on the weight of precipitation. A greater "washing" effect on the atmosphere is got by "showery conditions" rather than steady downpour.

Course in Boiler House Practice and Fuel Economy.

The usual enquiries were received during the latter part of the summer and autumn and beginning of the winter periods from intending students and also from a number of firms as to the arrangement of the above classes. During the ensuing season and during the winter of 1947-48 the course was carried on. This was the 32nd annual session. These courses were inaugurated during 1910 and with the exception of several years during the first world war they have been held continuously since. The personnel of the class was again composed of stokers, boiler attendants, engineers, chemists, and others actively interested in the burning of fuel or in fuel supplies. The courses were held as usual under the joint auspices of the Scottish Branch of the National Smoke Abatement Society, the Corporation of Glasgow, and the Scottish Fuel Efficiency Committee of the Ministry of Fuel and Power. A combined ordinary and advanced class was commenced on Tuesday evening, 7th October, 1947. The venue was again the Burgh Court Hall, Municipal Buildings. It was intended to hold the course as usual on successive Tuesday evenings between 7.45 and 9.15 p.m. but, after the second lecture, owing to the phenomenal enrolment, the course was divided and met thereafter on both Tuesday and Wednesday evenings of each week. The fee charged was the nominal one of 3s. 6d. Full use was made of the comprehensive wall charts, some 60 in number, and also the working models. The total enrolment was 190, the previous highest enrolment having been during the immediate pre-war years when the figure was 150. The average pre-war enrolment was around 100. Of this total of 190, 130 were members of the ordinary class and 60 of the advanced class. The course finished on 20th January, 1948. An average attendance over the session was 71 per cent. ordinary and 71 per cent. advanced class respectively, giving a combined average of 71 per cent. A number of the members of the ordinary class preferred to attend the advanced class lectures. Twenty-six lectures were given and, in addition, two further refresher lectures of two hours each were delivered during April, 1948, to the intending candidates for the City and Guilds of London Institute examination in Boiler House Practice. Forty-one candidates stated their intention of going forward to this examination this year. They are held either at the end of April or the beginning of May. The written class examinations were held on 24th January, 1948, in the Municipal Buildings. Seventy-six men came forward. Forty-seven took the ordinary and 29 the advanced papers respectively. The examination in each grade is a written one. As in former years,

60 per cent. or over was made the standard qualifying for a merit certificate and as has been the practice, only *bona fide* stokers, boiler attendants, or men of similar status attaining 70 per cent. or over were eligible for the book prizes allocated to each class. Twenty-five men of the advanced and 35 men of the ordinary class gained merit certificates. The certificates and prizes were distributed at the usual annual social meeting which was held during May. This was attended by members of the Smoke Abatement Society, the Corporation, and the Ministry of Fuel and Power.

SECTION X.

GENERAL SANITARY OPERATIONS.

During 1947 the number of visits made by the Sanitary Inspectors totalled 669,585 which compares with 722,011 for the preceding year and 615,853 in 1945. Some part of the reduction on the 1946 figures may be due to the clearing up of conditions as things become more normal after 6 years of war. For instance inspections for general nuisances numbered 553,485 against 608,519, while lime-washings accounted for 30,469 against 33,320 and stair cleaning, etc., 25,420 compared with 37,420. Drain testing visits were also fewer, 15,783, whereas there were 17,186 in 1946.

Operations in connection with bug infestation were more active with 4,004 visits compared with 2,806, while the corresponding figures for destruction of rats, etc., were 37,164 and 21,210.

As is to be expected under present housing conditions there were more instances of over-crowding, 2,343 against 1,511 for the preceding year, although the number of dirty houses, bedding, etc., was lower, 1,372 compared with 1,406. Special attention was paid to water storage tanks and 1,026 were discovered to be dirty or uncovered, mostly in the higher lying parts of the city, while in 951 instances water pipes were found defective. With the erection of a larger number of houses there were 2,964 applications for drain testing against 1,942 during the preceding year.

There are now 198 houses on the register of houses-let-in-lodgings (200 in 1946) and 212 farmed-out houses (263 in 1946), the reduction in the latter being caused by the demolition of a considerable number of these types of houses in derelict property in the area around George Street in Exchange ward. The number of ticketed houses is also fewer 4,947 compared with 5,186.

The number of mechanical bakehouses now on the register is 263 or 7 more than a year ago, but only 89 of these were found dirty compared with 142 during the preceding year. Non-mechanical

bakehouses were only increased by one to a total of 172, 30 of which were found dirty against 39 in 1946.

With regard to non-mechanical factories 252 were registered making a total of 4,105. The most frequent cause of complaint in these premises was dirty sanitary conveniences to the number of 351 whereas in 1946 there were 855 nuisances of this type. In the 1,605 non-mechanical factories 130 were found in dirty condition while 482 were defective in lighting and ventilation.

There are now fewer piggeries in the city, 55 against 66, and 46 offensive trades are now operating.

With regard to the work of Nurse-Inspectors 91,721 children were examined for vermin of which 491 were found infested. This latter figure compares with 560 for the preceding year. The number of children found infected, however, was 17,593 or 1,033 more than the year before. The number of children cleansed by Guardians was 11,608 and by officers 324, the corresponding figures for 1946 being 11,978 and 161.

The following notes dealing with important aspects of the administration of various Acts with regard to nuisances, etc., are based on the reports of the Divisional Sanitary Inspectors.

1947 brought no relief from the administrative difficulties encountered during the preceding year in maintaining sanitary conditions in the City. Nevertheless, the detailed figures in Table XVII of the Appendix show that these difficulties were largely overcome and conditions well maintained. The outstanding feature of the year was the welcome resumption of slum clearance. It is to be hoped that circumstances will permit the maintenance of this policy; apart from the more obvious benefits, nothing is more heartening to the staff than to see all their preparatory work bearing fruit. The effect of the general tightening of controls following the cuts in capital expenditure was very noticeable in the industrial and commercial field. Many firms which had embarked on schemes of improved hygienic conditions and amenities for staffs and customers were compelled to defer these until more favourable times.

The intensified campaign of rat destruction and control developed during recent years was continued with notable results. Two large

areas in the Central and South-Eastern divisions were dealt with in a planned operation conducted jointly with the Department of Agriculture.

These and other matters will be dealt with under their appropriate headings and the detailed figures shown in Table XVII of the Appendix.

Nuisances.—The steady deterioration of house property is a factor in maintaining the volume of nuisances. These were, in general, of the type made familiar in previous reports. Two cases of nuisance caused by the emission of ash and grit and of dust from industrial concerns caused considerable trouble. In the first case, the cause was the poor quality of coal supplied to a power station and, despite efforts to secure higher-grade fuel, the nuisance had not been completely eliminated at the end of the year. The second case was due to dust arising from a manufacturing process and, pending the installation of suitable mechanical plant, temporary measures have been adopted to reduce nuisance to a minimum. Several complaints of noise from industrial premises affecting the occupiers of adjoining houses were dealt with. This type of nuisance is difficult to eliminate and often involves quite expensive remedies. The increasing number of such complaints underlines the wisdom of the policy of " zoning " industry away from dwelling-houses. Another type of nuisance came to light on the death of a man living alone in a single-apartment house. When admittance to the house was gained, it was found to be stacked from floor to ceiling with books and other material. The occupier lived—and died—in a clearing in this jungle of debris only large enough to accommodate a bed-chair. Seven cartloads of books and rubbish, including 178 milk bottles, were removed by the Cleansing Department.

Rat Destruction.—The increased tempo of the anti-rat campaign is demonstrated by the 36,464 visits of inspection made compared with 21,210 for the previous year. The two schemes inaugurated in the Central and South-Eastern Divisions had not been completed by the end of the year, but enough data had been obtained and results achieved to demonstrate the justification for such operations. Both schemes will fall to be reported on fully in the next report. Many of the large restaurants in the Central area were found to be heavily infested and this fact demonstrates again the necessity for adequate ratproofing of all premises in which food for human consumption is stored. Unfortunately, adequate ratproofing of some of the older types of premises would entail major reconstruction. Rats killed in

the course of the year numbered 23,532 but this takes no account of the many killed by other agencies than the Department of Agriculture.

Factories Act, 1937.—The administration of this Act entailed 14,954 visits of inspection and conditions were to found be similar to those of recent years. In two cases it was found necessary to take court proceedings against occupiers of factories for failure to provide the prescribed standard of sanitary conveniences : one of the cases concerned a site where building operations were in progress. Such building construction operations come within the scope of the Act. 1,790 contraventions or nuisances were dealt with during the year ; the bulk were of a normal type calling for no special comment. The number of factories on the register at the end of the year was 6,165 which included 435 bakehouses. This figure shows a drop of 43 from the preceding year.

Shops and Offices.—Little trouble was experienced in dealing with such premises and no special comment is necessary. To raise hygienic conditions in such places would necessitate new legislation and a laying down of standards.

Common Lodging-Houses.—The number of such premises was reduced by two during the year leaving 28 on the register including five boarding-houses for seamen. One common lodging-house and one boarding-house for seamen in the South-Eastern Division were closed and subsequently converted to other uses. Contraventions of the byelaws were of a minor nature and verbal warning was in most cases sufficient.

Farmed-Out Houses.—The number of such houses was reduced by 51 owing to slum clearance operations in the Central Division, the tenants being rehoused by the Corporation. Owing to supply difficulties it is still found impossible to maintain the standard of equipment and furnishing demanded by the byelaws.

Drainage.—The testing of drainage systems both old and new demanded the application of smoke or hydraulic tests on 2,964 occasions, an increase of 1,022 over 1946. The increase was principally due to the greater number of new houses completed during the year. The difficulties met with during last year in connection with materials continued to be encountered. Owing to new difficulties which arose

in connection with the recruitment of smoke-test boys the Committee on Health authorised the Department to call on tradesmen and contractors to uplift the machines and supply the labour for working them. This practice is general throughout Scotland. The new policy encountered some difficulties but these are gradually being smoothed out, and will doubtless disappear as tradesmen become accustomed to the changed conditions.

Offensive Trades.—There was a reduction of one in the number of offensive trades All were well conducted and any defects found were of a minor nature. The experimental treatment of some premises with D.D.T. insecticide mentioned in last year's report was carried further and a notable decrease in fly and blow-fly infestations resulted.

Piggeries.—The number of piggeries on the register decreased to 55. Little trouble was experienced in the enforcement of the bye-laws and no conditions calling for special comment were encountered.

Air-Raid Shelters.—One result of the cuts in capital expenditure was the almost complete cessation of the demolition of surface shelters. Only where these constitute a definite threat to public health is it possible to secure demolition. Meanwhile the most that can be done is to try and maintain those still standing in as sanitary condition as possible. The co-operation of the Cleansing Department in this work is willingly given.

Tents, Vans and Sheds.—Nothing of note occurred in connection with such structures. Any irregularities were of a minor nature and remedied without trouble. The annual carnival held on Fleshers Haugh gave rise to complaints of inadequate sanitary facilities for the public with consequent insanitary conditions. The provision of an adequate number of water-closets is advocated and no suggestion to continue the system of installing dry privies should be considered in view of the fact that adequate sewerage is readily accessible.

Cleansing of Common Closes, Stairs, etc.—The detailed figures in Table XVII will show the amount of work involved in enforcing the byelaws, much of it unnecessary given a higher standard of responsibility among many tenants. It should be stressed that prosecutions against offenders under these byelaws are generally a last resort and only taken after repeated warnings have been ignored.

Limewashing of Closes and Staircase Walls, etc.—The volume of work done under this head was well up to the standard of the previous year. Visits of inspection totalled 30,469 and 5,058 notices were issued. As a result, 5,275 properties were treated. It is noticeable that many owners of good-class property carry out this work voluntarily: perhaps if others realised the quite remarkably stimulating effect of newly whitewashed walls and painted dadoes, less pressure would be required from the Department's inspectors.

Housing.—The small-scale resumption of slum clearance welcomed in the opening paragraphs of the report resulted in the closure or demolition of 251 of the worst houses in the City. Many of the families had been rehoused by the end of the year, leaving others to be dealt with as accommodation becomes available. The necessity for rehousing families displaced from buildings declared dangerous by the Dean of Guild no doubt restricted the number of houses it was found possible to deal with under the Housing Acts. In two cases where Closing Orders were applied the owners demolished the buildings after vacation by the tenants.

Rents (Restrictions) Acts.—The number of applications for certificates under these Acts continued at a high level. Of the 671 applications received, 379 were granted and 285 refused. The remainder were withdrawn. The high proportion of refusals is partly explained by the fact that many tenants are being wrongly advised to apply on very slender grounds. Again, considerable confusion still seems to exist among tenants as to the real purpose of the certificates and many applications are made under quite erroneous impressions. In such cases, a little explanation and the return of the fee generally settles the matter. The number of visits made was 2,698.

Squatters.—The situation as regards premises occupied by homeless families was somewhat relieved during the year by the vacation of some premises and the taking over of others, including former military camps, by the Department of Health. Some of the premises still occupied, however, demand constant supervision in the interests of the occupiers themselves. One such tenement has neither water, sanitation, nor artificial lighting, and is in such a ruinous state that one can only guess at the conditions under which the occupants previously lived and which led them to prefer their present abodes.

Verminous Children.—The figures for the inspection of school children over the past few years show that the proportion of children found verminous during school inspections is tending to become stabilised at between 19 per cent and 20 per cent. While this is so, the experience of the nurse-inspectresses is that the degree of infestation of individual children is lighter than in the past. Heavily infested children are now something of a rarity and a high proportion of those found verminous are so to the extent of only a few nits. This is still too high, and there is little doubt that home conditions are one cause of the trouble. One great breach in the hygienic defences is the lack of powers to deal with verminous adults. It seems the essence of futility to have children cleansed of vermin and sent home to be reinfested by the adult members of the family against whom no action can be taken.

Rehousing Schemes.—The supervision of these schemes by the nurse-inspectors was continued as heretofore. In them, as elsewhere, a great deal of overcrowding is prevalent due to the presence of lodger families and this is likely to continue indefinitely. In some schemes an attempt is being made to cultivate the plots in front of tenements and so greatly does the presence of even small plots of grass and a few flowers soften the rather drab and austere appearance of the streets that the time seems ripe for the Local Authority to enforce the cultivation of gardens and plots, which cultivation is a "condition of let." The prospect of success in this would be enhanced if some attempt were made to reduce the number of animals (dogs and cats) kept in the schemes. The presence of these animals running over seedbeds and young plants discourages many budding gardeners.

Sanitary Conveniences.—The number of water-closets used in common was reduced during the year owing to demolitions and closure of properties under the Housing Acts, and by Dean of Guild action. As a result of the building of new houses the number of houses with baths increased. The figures at the end of the year were as under :—

		Ratio of Use. Tenants.			
		2	3	4	5 or more.
W.C.'s used in common	28,901	6,123	15,396	6,107	1,275
Dry closets, privies ...	171				
Houses without internal water supply ...	240				
Houses with baths	118,086				

Cemeteries.—Eight visits were made during the year to cemeteries within the city. Conditions were satisfactory.

The condition of Broker's premises, Home-workers dwellings and Bothies of agricultural workers were generally satisfactory. The visits paid to these are shown in Appendix Table XVII.—Operations of the Sanitary Section.

Offensive Trades.

46 of the 52 businesses on the register of offensive trades in the city at 31st December are at present in operation. Several businesses were closed during the war as a result of concentration of business under the Defence Regulations and have not yet resumed operations. During the year one firm discontinued soap boiling and now manufactures sheepdip and disinfectant.

The nature of the businesses is shown in the following statement :—

	1946	1947
Bone Boilers	6	6
Tallow melters	11	11
Manure manufacturers	2	2
Gut cleaners	4	4
Hide and skin factors	5	5
Soap boilers	6	5
Tanners	9	9
Glue and size manufacturers	1	1
Horse slaughterer	1	1
Knacker	1	1
Blood boiler	1	1
	47	46

Disinfection.

The following table summarises the washings and disinfections carried out at Ruchill and Belvidere Disinfecting Stations during the year 1947 :—

	Belvidere.	Ruchill.	Total.
Number of washings	9,490	10,190	19,680
Average number per day	31·3	33·17	32·23
Articles washed and disinfected	274,675	335,831	610,506
Average number of articles per washing ...	29·0	32·9	31·0
Fuel consumed (tons)	596	512	1,108
Fuel used per article (lbs.)	4·89	3·44	4·06
Soap and powder used per article (ozs.) ...	0·23	0·25	0·25
Disinfectant used per article	0·69	0·58	0·63

Number of Washings, Articles Disinfected, etc., for Years 1938-47 *Inclusive.*

	Washings.	Articles.	Houses, etc., Disinfected.	White-washings.	Library and School Books Disinfected.
1938 ...	19,088	665,641	12,457	2	1,602
1939 ...	18,189	681,074	10,419	—	1,550
1940 ...	26,780	841,572	12,427	14	1,346
1941 ...	25,106	903,562	10,494	4	1,319
1942 ...	27,095	104,945	11,101	1	1,956
1943 ...	24,981	894,119	11,207	1	2,004
1944 ...	23,513	803,748	11,056	1	1,763
1945 ...	21,756	742,306	10,840	—	1,498
1946 ...	19,623	646,690	9,430	2	3,026
1947 ...	19,680	610,506	9,796	5	1,618

Disinfection of Second-hand Clothing, etc.—The export of second-hand clothing to Ireland declined steeply after 1939 and, with the exception of one consignment in 1943, had ceased altogether in the years 1944 and 1945. In 1946 this trade was resumed and the accompanying table gives the relative figures from 1939 to 1947 inclusive :—

	No. of Consignments.	Fees paid.
1939	375	£86 0 0
1940	310	77 1 4
1941	122	28 3 8
1942	19	5 5 7
1943	1	0 5 0
1944	—	—
1945	—	—
1946	210	51 11 3
1947	604	213 13 6

APPENDIX

TABLE I.—GLASGOW, 1947.—ESTIMATED POPULATION IN EACH MUNICIPAL WARD, ACREAGE, AND PERSONS PER ACRE.

MUNICIPAL WARDS	POPULATION				Acreage	Persons per acre (including Inst'utions and Shipping
	Without Institutions and Shipping	Institutions	Shipping	Total		
1. Shettleston and Tollcross	46,131	182	—	46,313	1,473	31
2. Parkhead ...	38,776	744	—	39,520	883	43
3. Dalmarnock ...	29,843	64	—	29,907	288	104
4. Calton ...	23,347	1,801	—	25,148	333	75
5. Mile-end ...	19,121	29	—	19,150	191	100
6. Whitevale ...	18,721	349	—	19,070	176	108
7. Dennistoun ...	26,008	330	—	26,338	280	94
8. Provan ...	44,830	1,079	—	45,909	2,935	16
9. Cowlairs ...	20,960	1,306	—	22,266	456	49
10. Springburn ...	26,116	4,683	—	30,799	4,741	6
11. Townhead ...	23,204	1,572	—	24,776	175	141
12. Exchange ...	11,384	2,046	7	13,437	289	46
13. Blythswood ...	9,113	2,464	11	11,588	242	48
14. Anderston ...	21,503	1,065	806	23,374	422	55
15. Sandyford ...	16,491	587	—	17,078	152	112
16. Park	20,013	697	—	20,710	272	76
17. Cowcaddens ...	28,837	689	1	29,527	488	60
18. Woodside ...	29,033	648	—	29,681	170	174
19. Ruchill ...	50,604	901	2	51,507	2,105	24
20. North Kelvin	20,017	74	—	20,091	146	137
21. Maryhill ...	25,874	1,646	4	27,524	2,210	12
22. Kelvinside ...	26,875	1,237	—	28,112	1,127	25
23. Partick (East)	24,557	974	—	25,531	268	95
24. ,, (West)	21,743	—	123	21,866	357	61
25. Whiteinch ...	32,742	670	13	33,425	1,266	26
26. Hutchesontown	34,509	27	—	34,536	387	89
27. Gorbals ...	38,505	318	—	38,823	252	154
28. Kingston ...	24,797	538	163	25,498	285	89
29. Kinning Park	30,860	204	245	31,309	379	83
30. Govan ...	35,678	197	—	35,875	529	68
31. Fairfield ...	31,259	1,711	104	33,074	1,403	24
32. Pollokshields	53,101	2,756	—	55,857	4,837	11
33. Camphill ...	18,115	76	—	18,191	366	50
34. Pollokshaws ...	27,812	380	—	28,192	3,324	3
35. Govanhill ...	29,403	411	—	29,814	365	81
36. Langside ...	17,138	806	—	17,944	557	32
37. Cathcart ...	30,366	216	—	30,582	2,949	10
38. Yoker and Knightswood	37,558	100	—	37,658	2,647	14
CITY	1,064,944	33,577	1,479	1,100,000	39,725	27

TABLE II.—GLASGOW, 1947.—INHABITED AND UNOCCUPIED HOUSES IN EACH MUNICIPAL WARD.

MUNICIPAL WARDS	INHABITED HOUSES*				Empty Houses
	1947	1946	Decrease	Increase	
1. Shettleston and Tollcross	11,748	11,715	—	33	9
2. Parkhead	10,131	10,050	—	81	2
3. Dalmarnock... ...	8,087	8,082	—	5	2
4. Calton	6,027	6,016	—	11	3
5. Mile-end	5,158	5,035	—	123	1
6. Whitevale	5,125	5,133	8	—	—
7. Dennistoun	7,211	7,203	—	8	5
8. Provan	11,800	11,707	—	93	7
9. Cowlairs	6,246	6,245	—	1	2
10. Springburn ...	6,747	6,482	—	265	12
11. Townhead	6,107	6,105	—	2	3
12. Exchange	3,114	3,148	34	—	28
13. Blythswood ...	2,296	2,294	—	2	5
14. Anderston	5,622	5,633	11	—	3
15. Sandyford	4,111	4,112	1	—	1
16. Park	5,564	5,548	—	16	20
17. Cowcaddens ...	7,763	7,784	21	—	7
18. Woodside	8,328	8,350	22	—	7
19. Ruchill	12,238	12,242	4	—	9
20. North Kelvin ...	6,028	6,009	—	19	10
21. Maryhill	6,896	6,858	—	38	3
22. Kelvinside ...	8,833	8,797	—	36	72
23. Partick (East) ...	6,665	6,668	3	—	2
24. ,, (West) ...	6,583	6,513	—	70	4
25. Whiteinch	9,286	9,162	—	124	11
26. Hutchesontown ...	9,667	9,665	—	2	3
27. Gorbals	9,602	9,631	29	—	3
28. Kingston	6,138	6,184	46	—	6
29. Kinning Park ...	8,309	8,315	6	—	2
30. Govan	9,006	8,983	—	23	6
31. Fairfield	8,336	8,297	—	39	4
32. Pollokshields ...	15,234	14,714	—	520	20
33. Camphill	6,053	6,009	—	44	10
34. Pollokshaws ...	7,727	7,665	—	62	6
35. Govanhill	8,469	8,468	—	1	—
36. Langside	5,243	5,226	—	17	5
37. Cathcart	9,563	9,539	—	24	3
38. Yoker and Knightswood ...	10,346	10,068	—	278	12
CITY ...	291,407	289,655	185	1,937	308

* Includes Inhabitant Occupiers

TABLE III.—GLASGOW.—LININGS GRANTED BY DEAN OF GUILD COURT IN YEARS FROM 1919 IN RESPECT OF HOUSES.

Year ending 31st August.	Number of Apartments.						Total
	1.	2.	3.	4.	5.	6.	
1919-20 (Annual Average)	—	6	692	246	107	29	1,080
1921-25 (do.)	—	308	638	400	234	51	1,631
1926-30 (do.)	—	350	3,067	1,346	448	90	5,301
1931 ...	—	122	2,220	1,900	38	26	4,306
1932 ...	33	529	3,464	1,251	70	4	5,351
1933 ...	—	270	1,845	3,162	337	23	5,637
1934 ...	34	603	1,825	787	80	52	3,381
1935 ...	—	220	2,082	792	128	9	3,231
1936 ...	—	—	1,462	1,320	290	12	3,084
1937 ...	—	2	687	847	301	34	1,871
1938 ...	—	—	2,017	3,068	824	50	5,859
1939 ...	—	—	2,159	3,324	717	2	6,202
1940-43 ...	—	—	—	—	—	—	—
1944 ...	36	—	—	5	1	—	42
1945 ...	—	—	79	94	5	—	178
1946 ...	33	—	812	2,503	483	12	3,843
1947 ...	—	89	115	994	232	—	1,430

TABLE IV.—ABSTRACT OF METEOROLOGICAL OBSERVATIONS TAKEN AT SPRINGBURN PUBLIC PARK.

Months. 1947.	Temperature.			Rainfall.		Sunshine Hours.
	Highest Temp. in Shade.	Lowest Temp. in Shade.	Mean Temp.	No. of Days.	Amount Collected in inches.	
January ...	51	16	35·3	22	3·87	20·9
February ...	42	9	28·6	11	1·50	67·8
March ...	53	8	33·1	19	3·07	70·0
April ...	57	26	44·6	23	5·19	97·0
May ...	75	36	52·3	22	4·83	138·2
June ...	78	42	56·6	21	3·36	113·9
July ...	77	44	59·4	19	2·63	116·7
August ...	86	49	64·3	2	0·02	239·4
September ...	74	35	54·7	19	4·40	80·2
October ...	64	35	50·1	16	1·98	54·6
November ...	59	18	41·9	19	5·28	75·8
December ...	51	17	39·0	16	2·50	11·6
1937	80	15	47·0	212	31·66	1,183
1938	76	20	48·1	242	49·76	1,174
1939	88	18	47·6	212	38·41	1,177
1940	85	6	46·5	210	39·52	1,111
1941	80	12	46·3	204	33·34	1,035
1942	80	18	46·3	220	40·64	1,067
1943	86	23	48·0	252	45·43	1,094
1944	80	21	47·3	231	44·44	953
1945	81	11	48·6	233	43·62	1,199
1946	77	19	47·3	222	39·93	1,220
1947	86	8	46·7	209	38·63	1,086

TABLE V.—GLASGOW.—BIRTHS AND BIRTH-RATES *per Million* IN EACH WARD, FOR THE YEAR 1947, AND NUMBER AND PERCENTAGE OF ILLEGITIMATE BIRTHS.

MUNICIPAL WARDS.	Births 1947	Birth-rate 1947	Birth-rate 1946	Illegitimate Births.	
				No.	% Total Births.
1. Shettleston and Tollcross ...	1,127	24,334	20,248	49	4·3
2. Parkhead	987	24,975	22,643	47	4·7
3. Dalmarnock	809	27,050	25,675	37	4·5
4. Calton	655	27,124	23,318	59	9·0
5. Mile-end	562	29,347	26,741	23	4·1
6. Whitevale	497	26,062	25,407	18	3·6
7. Dennistoun	534	20,274	17,956	22	4·1
8. Provan	1,109	24,156	23,555	52	4·6
9. Cowlairs	514	23,084	19,413	12	2·3
10. Springburn	593	19,254	18,287	37	6·2
11. Townhead	642	25,912	23,871	49	7·6
12. Exchange	311	23,145	25,792	41	13·2
13. Blythswood	256	22,091	15,851	24	9·4
14. Anderston	572	24,472	25,930	31	5·4
15. Sandyford	418	24,476	23,178	37	8·8
16. Park	416	20,086	20,330	35	8·4
17. Cowcaddens	830	28,109	28,412	48	5·8
18. Woodside	833	28,065	24,106	61	7·3
19. Ruchill	1,218	23,647	22,011	71	5·8
20. North Kelvin	465	23,144	21,078	28	6·0
21. Maryhill	659	23,943	20,807	29	4·4
22. Kelvinside	467	16,647	14,586	11	2·3
23. Partick (East)	621	24,324	20,229	24	3·9
24. ,, (West)	450	20,579	19,637	16	3·5
25. Whiteinch	629	18,818	19,457	16	2·5
26. Hutchesontown...	953	27,594	25,146	45	4·7
27. Gorbals	1,176	30,291	27,764	106	9·0
28. Kingston	718	28,159	27,677	37	5·1
29. Kinning Park	884	28,235	26,461	52	5·9
30. Govan	994	27,707	26,108	42	4·2
31. Fairfield	673	20,348	21,767	19	2·8
32. Pollokshields	1,135	20,319	17,768	43	3·8
33. Camphill	286	15,722	17,475	7	2·4
34. Pollokshaws	665	23,588	21,104	34	5·1
35. Govanhill	573	19,219	18,586	22	3·8
36. Langside	327	18,223	16,057	7	2·1
37. Cathcart	452	14,780	15,127	9	2·0
38. Yoker and Knightswood ...	757	20,102	19,377	28	3·7
Institutions	62	—	—	36	—
Harbour	—	—	—	—	—
CITY	25,829	23,481	21,916	1,364	5·2

TABLE VI.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* IN EA
MUNICIPAL WARD, FOR THE YEAR 1947, AND CORRESPONDING RATES I
1946 AND 1945.

MUNICIPAL WARDS.	Deaths 1947	Death-rates		
		1947	1946	1945
1. Shettleston and Tollcross ...	590	12,790	12,905	11,478
2. Parkhead	492	12,688	12,764	14,204
3. Dalmarnock	379	12,700	11,554	12,093
4. Calton	375	16,062	15,397	16,542
5. Mile-end	300	15,689	13,452	13,114
6. Whitevale	256	13,674	13,607	14,114
7. Dennistoun	366	14,072	14,791	12,149
8. Provan	636	14,187	12,776	13,366
9. Cowlairs	252	12,023	11,060	11,710
10. Springburn	342	13,095	10,939	11,755
11. Townhead	345	14,868	13,366	14,430
12. Exchange	187	16,426	16,604	13,762
13. Blythswood	162	17,777	15,965	16,335
14. Anderston	296	13,765	13,965	13,753
15. Sandyford	230	13,947	11,956	14,207
16. Park	287	14,341	14,823	14,345
17. Cowcaddens	383	13,281	14,554	14,385
18. Woodside	451	15,534	14,003	14,120
19. Ruchill	606	11,975	12,491	11,029
20. North Kelvin	261	13,039	13,093	12,306
21. Maryhill	334	12,909	12,128	11,787
22. Kelvinside	354	13,172	13,407	13,302
23. Partick (East)	381	15,515	14,523	13,411
24. ,, (West)	296	13,613	12,900	12,942
25. Whiteinch	442	13,499	12,209	11,779
26. Hutchesontown	460	13,330	12,021	11,394
27. Gorbals	601	15,608	15,555	14,979
28. Kingston	344	13,873	14,079	12,753
29. Kinning Park	416	13,480	12,870	13,109
30. Govan	460	12,893	12,569	12,908
31. Fairfield	366	11,709	11,631	10,570
32. Pollokshields	686	12,919	12,625	12,501
33. Camphill	276	15,236	13,583	15,376
34. Pollokshaws	348	12,512	13,190	12,334
35. Govanhill	379	12,890	12,136	13,875
36. Langside	253	14,762	15,710	13,060
37. Cathcart	430	14,161	14,028	13,323
38. Yoker and Knightswood ...	467	12,434	11,487	11,341
Institutions	758	—	—	—
Harbour	20	—	—	—
CITY	15,267	13,879	13,490	13,277

TABLE VII.—GLASGOW.—NUMBER OF OUTWARD AND INWARD TRANSFER DEATHS FOR THE YEAR 1947.

CAUSE OF DEATH.	Outward Transfers	Inward Transfers
1. Typhoid and Paratyphoid Fevers	1	—
2. Cerebrospinal Fever	6	1
3. Scarlet Fever	—	—
4. Whooping Cough	4	—
5. Diphtheria	2	—
6. Erysipelas	—	—
7. Tuberculosis of Respiratory System	43	100
8. Tubercular Meningitis	32	3
9. Abdominal Tuberculosis	3	2
10. Other Tuberculous Disease	11	5
11. Syphilitic Disease	5	1
12. Influenza	2	—
13. Measles	—	—
14. Acute Poliomyelitis and Polioencephalitis	6	—
15. Acute Infectious Encephalitis	1	3
16. Cancer—all forms	324	52
17. Diabetes	29	4
18. Intra-cranial Vascular Lesions	89	38
19. Other Nervous Diseases	32	35
20. Heart Disease	224	153
21. Other Diseases of Circulatory System	39	8
22. Bronchitis	11	5
23. Pneumonia	51	17
24. Other Respiratory Diseases	14	3
25. Ulceration of the Stomach and the Duodenum ...	66	3
26. Diarrhoea (under 2 years)	48	6
27. Appendicitis	28	1
28. Other Digestive Diseases	116	11
29. Nephritis	47	11
30. Puerperal and Post-abortive Sepsis	3	—
31. Other Maternal Causes	7	2
32. Premature Birth	56	10
33. Congenital Malformations, Birth Injury, Infantile Disease	92	15
34. Suicide, Road Traffic Accidents, and other Violent Causes	123	42
35. All Other Causes	230	69
TOTAL	1,745	600

TABLE VIII.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* FRO DIFFERENT CAUSES, FOR THE YEAR 1947, AND CORRESPONDING RAT FOR 1946 AND 1945.

CAUSE OF DEATH.	Deaths	Annual Death-rate per Million.		
	1947	1947	1946	1945
1. Typhoid and Paratyphoid Fevers ...	3	3	4	3
2. Cerebro-spinal Fever	22	20	24	29
3. Scarlet Fever	5	4	1	4
4. Whooping Cough	77	70	19	33
5. Diphtheria	13	12	34	31
6. Erysipelas	4	4	12	8
7. Tuberculosis of Respiratory System	1,173	1,066	1,102	1,033
8. Tubercular Meningitis	167	152	145	159
9. Abdominal Tuberculosis	21	19	14	21
10. Other Tuberculous Diseases ...	58	53	66	69
11. Syphilitic Disease	75	68	65	56
12. Influenza	82	74	149	44
13. Measles	15	14	22	23
14. Acute Poliomyelitis and Polioencephalitis	24	22	3	2
15. Acute Infectious Encephalitis ...	24	22	14	21
16. Cancer—All forms	2,025	1,841	1,767	1,832
17. Diabetes	145	132	158	159
18. Intra-cranial Vascular Lesions ...	1,380	1,254	1,232	1,255
19. Other Nervous Diseases	299	272	282	292
20. Heart Disease	3,759	3,417	3,242	3,110
21. Other Diseases of Circulatory System	304	276	271	265
22. Bronchitis	386	351	320	324
23. Pneumonia	732	665	661	529
24. Other Respiratory Diseases ...	144	131	142	91
25. Ulceration of the Stomach and the Duodenum	122	111	100	98
26. Diarrhoea (under 2 years)	574	522	274	367
27. Appendicitis	26	24	30	50
28. Other Digestive Diseases	335	304	257	320
29. Nephritis	222	202	230	226
30. Puerperal and Post-abortive Sepsis	15	14	17	28
31. Other Maternal Causes	47	43	50	43
32. Premature Birth	431	392	408	333
33. Congenital Malformations, Birth Injury, Infantile Diseases ...	437	397	361	274
34. Suicide, Road Traffic Accidents, and other Violent Causes	552	502	514	527
35. All other Causes	1,569	1,426	1,500	1,618
36. Smallpox	—	—	—	—
ALL CAUSES	15,267	13,879	13,490	13,277

TABLE X.—GLASGOW, 1947.—DEATHS OCCURRING IN INSTITUTIONS FOR THE TREATMENT OF THE SICK, NURSING HOMES, &c.

CAUSE OF DEATH.	Local Authority General Hospitals and Poorhouses.	Local Authority Fever Hospitals and Sanatoria.	Local Authority Mental Hospitals.	Voluntary Hospitals and Infirmaries.	Nursing Homes, &c.	Totals.	% of all Deaths.	Outward Transfer Deaths.
1. Typhoid and Paratyphoid Fevers	—	3	—	—	—	3	100·0	1
2. Cerebrospinal Fever ...	3	12	—	3	—	18	81·8	5
3. Scarlet Fever	—	3	—	—	—	3	60·0	—
4. Whooping Cough	2	44	—	1	—	47	61·0	4
5. Diphtheria	—	11	—	—	—	11	84·6	2
6. Erysipelas	1	3	—	—	—	4	100·0	—
7. Tuberculosis of Respiratory System	113	353	34	62	3	565	48·2	40
8. Tubercular Meningitis ...	11	118	—	30	—	159	95·2	32
9. Abdominal Tuberculosis ...	4	4	2	3	—	13	61·9	3
10. Other Tuberculous Disease	8	25	3	13	—	49	84·5	11
11. Syphilitic Disease	28	4	10	9	1	52	70·6	5
12. Influenza	—	2	—	2	2	6	7·3	2
13. Measles	—	7	—	—	—	7	46·6	—
14. Acute Poliomyelitis and Polioencephalitis ...	—	20	—	3	—	23	91·6	6
15. Acute Infectious Encephalitis	8	—	5	—	—	13	54·1	1
16. Cancer—all forms	468	46	22	409	21	966	47·7	308
17. Diabetes	29	3	3	30	3	68	46·9	29
18. Intracranial Vascular Lesions	310	11	20	115	36	492	35·6	79
19. Other Nervous Diseases ...	70	26	31	45	3	175	58·5	30
20. Heart Disease	597	71	105	212	87	1,072	28·5	184
21. Other Diseases of Circulatory System	100	3	11	37	7	158	51·9	37
22. Bronchitis	62	16	9	16	4	107	27·7	11
23. Pneumonia	195	166	18	59	5	443	60·5	50
24. Other Respiratory Diseases	39	13	4	23	1	80	55·5	14
25. Ulceration of the Stomach and the Duodenum ...	18	1	2	82	—	103	84·4	66
26. Diarrhoea (under 2 years) ...	125	233	—	92	—	450	78·3	48
27. Appendicitis	—	—	—	24	2	26	100·0	28
28. Other Digestive Diseases ...	62	9	—	177	2	250	74·6	114
29. Nephritis	53	1	5	53	—	112	50·4	44
30. Puerperal and Post-abortive Sepsis	4	7	—	3	—	14	93·3	2
31. Other Maternal Causes ...	18	4	1	21	—	44	91·4	7
32. Premature Birth	166	51	7	95	16	335	77·7	55
33. Congenital Malformations, Birth Injury, Infantile Disease	144	34	8	76	30	292	66·8	90
34. Suicide, Road Traffic Accidents, and other Violent Causes	45	2	1	199	6	253	45·8	111
35. All Other Causes	339	28	11	272	12	662	42·1	211
YEAR 1947	3,022	1,334	312	2,166	241	7,075	46·34	1,630
YEAR 1946	3,139	1,119	370	2,026	227	6,881	47·44	1,639

TABLE IX.—GLASGOW, 1947.—DEATHS FROM

CAUSE OF DEATH.	MALES.													Age Unknown	Total Males.
	−1	−2	−5	−10	−15	−20	−25	−35	−45	−55	−65	−75	75+		
1. Typhoid and Paratyphoid Fevers	—	—	—	—	—	—	—	—	—	—	1	—	—	—	
2. Cerebro-spinal Fever ...	8	4	1	—	—	—	—	—	1	1	—	—	—	—	1
3. Scarlet Fever	—	1	—	1	1	—	—	—	—	—	—	—	—	—	
4. Whooping Cough	18	8	5	2	—	—	—	—	—	—	—	—	—	—	3
5. Diphtheria	3	1	2	—	—	—	—	—	—	—	—	—	—	—	
6. Erysipelas	1	—	—	—	—	—	—	—	—	—	—	—	1	—	
7. Tuberculosis of Respiratory System	9	5	7	5	6	31	63	107	107	134	91	35	5	—	60
8. Tubercular Meningitis ...	8	8	20	20	12	14	3	1	—	—	—	—	—	—	8
9. Abdominal Tuberculosis ...	—	—	1	—	—	—	—	2	4	2	—	1	—	—	1
10. Other Tuberculous Disease	—	—	1	1	1	6	2	4	3	—	3	1	2	—	2
11. Syphilitic Disease ...	1	—	—	—	—	—	—	—	7	9	16	9	4	—	4
12. Influenza	—	—	1	—	—	1	—	—	3	5	6	15	12	—	4
13. Measles	2	2	3	1	—	—	—	—	—	—	—	—	—	—	
14. Acute Poliomyelitis and Polioencephalitis ...	1	—	—	3	—	2	—	3	2	1	1	—	—	—	1
15. Acute Infectious Encephalitis	—	—	—	—	—	—	2	2	4	4	2	—	1	—	1
16. Cancer—all forms ...	2	—	1	—	—	3	4	11	61	196	299	333	178	—	108
17. Diabetes	—	—	—	—	—	—	—	—	2	5	5	13	2	—	2
18. Intra-cranial Vascular Lesions	—	—	—	—	—	2	—	3	9	43	104	233	193	—	58
19. Other Nervous Diseases ...	33	4	3	4	5	7	3	14	13	16	33	16	8	—	15
20. Heart Disease	5	—	—	2	6	7	7	19	58	206	408	610	586	—	191
21. Other Diseases of Circulatory System	—	—	—	—	—	—	—	1	4	9	24	40	76	—	15
22. Bronchitis	7	1	—	1	—	—	—	2	14	42	65	58	45	—	23
23. Pneumonia	178	8	4	1	2	2	2	7	15	39	67	56	61	—	44
24. Other Respiratory Diseases	5	2	—	—	—	—	—	1	6	12	15	15	19	—	7
25. Ulceration of the Stomach and the Duodenum ...	—	—	—	—	—	1	2	6	17	20	24	17	9	—	9
26. Diarrhoea (under 2 years)	339	5	—	—	—	—	—	—	—	—	—	—	—	—	34
27. Appendicitis	—	—	2	—	3	—	1	4	2	1	2	2	—	—	1
28. Other Digestive Diseases	13	3	2	7	—	1	1	4	5	24	40	43	30	—	17
29. Nephritis	—	—	—	1	—	—	3	12	2	17	25	32	26	—	11
30. Puerperal and Post-abortive Sepsis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31. Other Maternal Causes ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
32. Premature Birth	231	—	—	—	—	—	—	—	—	—	—	—	—	—	231
33. Congenital Malformations, Birth Injury, Infantile Diseases	234	3	4	2	1	—	—	2	—	2	—	—	—	—	24
34. Suicide, Road Traffic Accidents and other Violent Causes	27	6	14	27	12	14	13	28	36	47	42	49	48	1	364
35. Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
36. All other Causes	21	3	2	4	5	13	5	17	37	94	157	258	276	—	89
ALL CAUSES	1146	64	73	82	54	104	111	250	412	929	1430	1836	1582	1	8074

Different Causes in Sexes and at several Age-Periods.

CAUSE OF DEATH.	FEMALES.													Total Females.	Total Both Sexes.
	−1	−2	−5	−10	−15	−20	−25	−35	−45	−55	−65	−75	75+		
1. Typhoid and Paratyphoid Fevers	1	—	1	—	—	—	—	—	—	—	—	—	—	2	3
2. Cerebro-spinal Fever ...	3	—	1	1	1	—	—	—	1	—	—	—	—	7	22
3. Scarlet Fever	—	1	—	1	—	—	—	—	—	—	—	—	—	2	5
4. Whooping Cough	28	9	6	1	—	—	—	—	—	—	—	—	—	44	77
5. Diphtheria	—	1	4	1	—	1	—	—	—	—	—	—	—	7	13
6. Erysipelas	—	—	—	—	—	—	—	—	—	—	1	1	—	2	4
7. Tuberculosis of Respiratory System	6	6	7	15	12	88	120	174	76	31	17	11	5	568	1173
8. Tubercular Meningitis ...	5	5	14	14	15	17	3	8	—	—	—	—	—	81	167
9. Abdominal Tuberculosis ...	—	—	—	3	3	1	2	—	2	—	—	—	—	11	21
10. Other Tuberculous Disease	—	—	4	3	4	3	2	5	3	4	2	2	2	34	58
11. Syphilitic Disease ...	2	—	—	—	—	—	1	3	3	2	6	11	1	29	75
12. Influenza	1	—	—	—	—	—	—	1	1	6	7	8	15	39	82
13. Measles	5	1	1	—	—	—	—	—	—	—	—	—	—	7	15
14. Acute Poliomyelitis and Polioencephalitis ...	3	—	—	6	1	1	—	—	—	—	—	—	—	11	24
15. Acute Infectious Encephalitis	—	—	—	—	—	—	—	1	3	1	1	2	1	9	24
16. Cancer—all forms ...	2	—	1	1	—	5	2	11	54	160	225	282	194	937	2025
17. Diabetes	—	—	—	—	1	—	1	—	3	12	40	44	17	118	145
18. Intra-cranial Vascular Lesions	—	—	—	1	—	—	—	7	14	54	146	270	301	793	1380
19. Other Nervous Diseases ...	28	3	3	6	6	3	4	9	15	18	22	18	5	140	299
20. Heart Disease	—	—	—	2	2	11	14	32	61	143	294	567	719	1845	3759
21. Other Diseases of Circulatory System	—	—	—	—	—	—	—	6	8	12	18	36	70	150	304
22. Bronchitis	14	2	—	—	1	2	1	2	3	10	15	40	61	151	386
23. Pneumonia	101	12	8	3	1	2	1	4	4	11	32	51	60	290	732
24. Other Respiratory Diseases	4	2	—	1	—	2	—	2	6	12	9	13	18	69	144
25. Ulceration of the Stomach and the Duodenum ...	1	—	—	—	—	—	1	1	2	5	5	7	4	26	122
26. Diarrhoea (under 2 years)	221	9	—	—	—	—	—	—	—	—	—	—	—	230	574
27. Appendicitis	—	—	—	—	—	1	—	1	—	1	2	1	3	9	26
28. Other Digestive Diseases	8	3	4	1	—	—	—	9	11	23	39	34	30	162	335
29. Nephritis	1	—	1	—	3	2	2	8	5	13	27	20	22	104	222
30. Puerperal and Post-abortive Sepsis	—	—	—	—	—	1	2	8	4	—	—	—	—	15	15
31. Other Maternal Causes ...	—	—	—	—	—	2	6	23	15	1	—	—	—	47	47
32. Premature Birth	200	—	—	—	—	—	—	—	—	—	—	—	—	200	431
33. Congenital Malformations, Birth Injury, Infantile Diseases	180	1	1	2	—	—	—	3	1	—	—	1	—	189	437
34. Suicide, Road Traffic Accidents and other Violent Causes	17	—	4	10	3	2	1	11	10	15	24	27	64	188	552
35. Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
36. All other Causes	12	1	1	6	5	5	9	19	30	56	111	172	250	677	1569
All Causes	843	56	61	78	58	149	172	348	335	590	1043	1618	1842	7192	15267

TABLE XI.—GLASGOW.—DEATHS UNDER 1 YEAR AND DEATH-RATES PER 1,0
BIRTHS IN EACH MUNICIPAL WARD, FOR THE YEAR 1947.

MUNICIPAL WARDS.	Deaths —1 Year.	Death Rate per 1,000 Births.		
	1947.	1947.	1946.	1945.
1. Shettleston and Tollcross	87	77	73	54
2. Parkhead	83	84	72	78
3. Dalmarnock	73	90	74	72
4. Calton	73	111	82	79
5. Mile-End	62	110	71	75
6. Whitevale	43	86	61	99
7. Dennistoun	33	62	69	49
8. Provan	109	98	73	64
9. Cowlairs	37	72	40	72
10. Springburn	63	106	73	59
11. Townhead	59	92	72	93
12. Exchange	27	87	94	121
13. Blythswood	29	113	69	89
14. Anderston	53	93	81	79
15. Sandyford	31	74	56	66
16. Park	18	43	34	40
17. Cowcaddens	71	85	75	100
18. Woodside	56	67	65	94
19. Ruchill	80	66	55	63
20. North Kelvin	40	86	55	44
21. Maryhill	47	71	54	53
22. Kelvinside	29	62	25	43
23. Partick (East)	48	77	112	81
24. Partick (West)	37	80	60	37
25. Whiteinch	37	59	40	55
26. Hutchesontown	66	69	75	72
27. Gorbals	121	103	87	113
28. Kingston	70	97	92	82
29. Kinning Park	66	75	70	67
30. Govan	86	86	94	89
31. Fairfield	45	67	57	46
32. Pollokshields	53	47	47	41
33. Camphill	10	35	26	35
34. Pollokshaws	39	59	61	68
35. Govanhill	29	51	50	51
36. Langside	11	34	60	24
37. Cathcart	15	33	42	23
38. Yoker and Knightswood	42	55	69	47
Institutions	11	—	—	—
Harbour	—	—	—	—
CITY	1,989	77	67	68

TABLE XII.—Glasgow 1947—Infant Deaths at Given Ages and from Several Causes.

Cause of Death.	Males. Age in Months.						Females. Age in Months.						Total — 1 year. Both Sexes.
	— 1	— 3	— 6	— 9	— 12	Total.	— 1	— 3	— 6	— 9	— 12	Total.	
I. Congenital Malformations	54	21	9	3	6	93	43	15	7	6	1	72	165
II. Diseases of early Infancy—													
(a) Congenital Debility, Sclerema, and Icterus	30	9	—	1	—	40	21	6	3	—	—	30	70
(b) Premature Birth	217	13	1	—	—	231	188	11	1	—	—	200	431
(c) Injury at Birth	31	3	1	1	—	36	28	1	—	—	—	29	65
(d) Atelectasis	38	—	—	—	—	38	33	—	1	—	—	34	72
(e) Others	22	5	—	—	—	27	12	2	1	—	—	15	42
III. Diseases of Respiratory System ...	50	44	60	23	13	190	34	35	22	19	9	119	309
IV. Diseases of Digestive System—													
(a) Diarrhoeal	45	93	97	77	27	339	30	53	77	45	16	221	560
(b) Others	—	10	3	—	—	13	3	3	1	1	1	9	22
V. Diseases of Nervous System ...	3	10	14	4	2	33	5	7	6	7	3	28	61
VI. Tuberculous Diseases—													
(a) Pulmonary Tuberculosis	—	3	3	—	3	9	—	—	1	3	2	6	15
(b) Tuberculous Meningitis	—	1	1	—	6	8	1	—	1	1	2	5	13
(c) Abdominal Tuberculosis	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Other Forms	—	—	—	—	—	—	—	—	—	—	—	—	—
VII. Infectious Diseases—													
(a) Measles	—	—	1	—	1	2	—	—	2	—	3	5	7
(b) Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Whooping Cough	—	7	4	5	2	18	1	8	7	6	6	28	46
(d) Diphtheria	—	1	—	2	—	3	—	—	—	—	—	—	3
(e) Erysipelas	—	1	—	—	—	1	—	—	—	—	—	—	1
(f) Cerebro-spinal Fever	—	1	2	5	—	8	—	—	1	1	1	3	11
(g) Varicella	—	—	—	1	—	1	—	—	—	—	—	—	1
(h) Typhoid and Paratyphoid Fevers	—	—	—	—	—	—	—	—	—	1	—	1	1
VIII. Syphilis	—	1	—	—	—	1	—	1	—	1	—	2	3
IX. Overlaying	5	6	—	1	—	12	3	2	1	—	—	6	18
X. Other Violence	3	6	4	1	1	15	3	6	—	2	—	11	26
XI. All other Causes	9	8	2	5	4	28	5	4	2	6	2	19	47
Totals	507	243	202	129	65	1,146	410	154	134	99	46	843	1,989

TABLE XIII.—Glasgow, 1945-1947.—Abstract of Notifications under Notification of Births Act, 1907, and Results of Visits.

	1947	1946	1945
Total Number of Notifications	26,794	24,780	20,979
Doctor at Home	4,078	3,434	2,773
Doctor in Nursing Home	2,747	2,609	2,285
Doctor in Institution	10,206	10,100	9,394
Maternity Hospital (Outdoor) Nurse ...	2,790	2,639	2,076
Midwife in Nursing Home	477	419	392
Certified Midwife	2,277	2,423	1,921
Municipal Midwife	4,210	3,145	2,130
Others	9	11	8
Total Cards issued	21,196	19,713	16,728
Total Cards returned	21,413	19,319	16,869
Full Information	21,055	18,947	16,524
Doctor found in Attendance	—	—	—
Others	358	372	345

TABLE XIV.—Glasgow, 1945-1947.—Births Notified showing Medically and not Medically Attended.

	1947	1946	1945
Notifications Received—*less Duplicates*—			
Total	26,794	24,780	20,979
Live-births	25,954	23,894	20,243
Still-births	840	886	736
Per cent. Still-births to Total	3·1	3·6	3·5
Medically attended—			
Births at Home	4,078	3,434	2,773
Births in Nursing Home	2,747	2,609	2,285
In Institutions	10,206	10,100	9,394
Total	17,031	16,143	14,452
Per cent.	63·6	65·1	68·8
Still-births at Home	87	108	75
Still-births in Nursing Home	55	66	60
Still-births in Institutions	532	541	469
Not Medically attended—			
Maternity Hospital, Outdoor Nurse ...	2,790	2,639	2,076
Certified Midwives in Nursing Home ...	477	419	392
Certified Midwives in Private Practice	2,277	2,423	1,921
Municipal Midwives	4,210	3,145	2,130
Others	9	11	8
Total	9,763	8,637	6,527
Per cent.	36	35	31
Still-births	166	171	132

TABLE XV.—GLASGOW, 1947 and 1946.—CASES OF INFECTIOUS DISEASE REGISTERED AND NUMBERS OF THESE TREATED IN FEVER HOSPITALS, &c.

	1947				1946			
	Fever Hosp.	Other Institutions	Home	Total	Fever Hosp.	Other Institutions	Home	Total
A.—Notifiable—								
Typhus Fever	—	—	—	—	—	—	—	—
Enteric Fever	18	—	—	18	29	—	—	29
Paratyphoid B	18	—	—	18	15	—	—	15
Continued and Undefined Fever	2	1	2	5	—	—	—	—
Puerperal Fever ...	303	7	—	310	281	22	2	305
Puerperal Pyrexia ...	79	50	14	143	87	87	18	192
Smallpox	—	—	—	—	—	—	—	—
Scarlet Fever	2,100	—	1,467	3,567	2,295	—	1,136	3,431
Diphtheria and Membranous Croup	499	—	3	502	1,449	3	6	1,458
Erysipelas	214	5	254	473	252	5	224	481
Cholera	—	—	—	—	—	—	—	—
Cerebro-spinal Fever ...	124	4	4	132	217	5	5	227
Ophthalmia Neonatorum	44	—	261	305	42	2	296	340
Trachoma	—	—	1	1	—	5	9	14
Acute Encephalitis Lethargica	—	1	3	4	2	1	3	6
Acute Polio-Encephalitis	17	1	1	19	1	1	—	2
Acute Poliomyelitis ...	272	6	19	297	1	1	—	2
Acute Primary Pneumonia	2,491	1,426	1,479	5,396	2,532	1,755	1,864	6,151
Acute Influenzal-Pneumonia	25	21	42	88	71	66	82	219
Malaria	17	1	14	32	37	8	21	66
Dysentery	203	1	73	277	420	5	147	572
Infective Jaundice ...	2	1	1	4	—	—	—	—
Anthrax	1	—	—	1	1	—	—	1
Pulmonary Tuberculosis	885	—	1,880	2,765	920	—	1,889	2,809
Other Forms of Tuberculosis	142	—	370	512	131	—	377	508
B.—Not Notifiable								
Measles	436	1	3,793	4,230	928	6	8,762	9,696
German Measles ...	63	1	1,062	1,126	111	—	981	1,092
Whooping-cough ...	372	6	5,078	5,456	203	2	2,521	2,726
Chickenpox	152	—	5,401	5,553	160	—	4,720	4,880
Mumps	68	—	12	80	24	—	8	32
Pemphigus Neonatorum	17	—	24	41	29	—	7	36
Leprosy	—	—	—	—	—	—	—	—
Totals	8,564	1,533	21,258	31,355	10,238	1,974	23,078	35,290
Notified, but diagnosis altered to Non-Infectious Diseases ...	3,152	—	2	3,154	2,584	12	—	2,596
Total Registered ...	11,716	1,533	21,260	34,509	12,822	1,986	23,078	37,886

Where patients suffer from two or more diseases, each disease is reckoned as a case.

Apart from cases of pneumonia admitted to Corporation General Hospitals and Voluntary stitutions in times of pressure; cases of puerperal fever, puerperal pyrexia, and ophthalmia onatorum occurring in other than Fever Hospitals and allowed to remain; and cases of achoma treated in Stobhill Hospital; the cases shown under the headings "Corporation neral Hospitals" and "Other Institutions" are, for the most part, accidental.

Table XVI.—Cases of Infectious Disease Registered in Each Month in 1947.

	Month.												Year.	
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Hosp.	Home
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric, including Paratyphoid Fever	1	—	1	1	2	1	3	—	9	11	1	6	36	—
Continued and Undefined Fever	1	—	—	—	—	—	—	2	—	—	—	2	3	2
Puerperal Fever	36	20	37	20	25	24	18	29	24	30	14	33	310	—
Puerperal Pyrexia	15	16	16	18	6	11	9	18	7	7	3	17	129	14
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	537	361	310	219	214	152	156	115	178	380	451	494	2,100	1,467
Diphtheria and Membranous Croup	82	56	50	56	51	37	26	23	33	30	29	29	499	3
Erysipelas	55	43	40	47	34	28	29	27	31	41	50	48	219	254
Cerebro-spinal Fever	13	14	22	16	14	10	5	10	4	11	5	8	128	4
Ophthalmia Neonatorum	14	28	39	30	23	31	28	28	22	23	12	27	44	261
Trachoma	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Acute and Chronic Encephalitis Lethargica	1	—	—	—	—	1	1	1	—	—	—	—	1	3
Acute Polioencephalitis	—	—	—	—	—	—	2	9	2	3	2	1	18	1
Acute Poliomyelitis	—	—	—	1	2	8	37	120	94	19	8	8	278	19
Acute Primary Pneumonia	669	478	521	402	339	338	212	230	254	467	768	718	3,917	1,479
Acute Influenzal Pneumonia	21	13	13	6	1	2	1	4	2	4	9	12	46	42
Malaria	6	2	1	2	—	3	4	2	2	3	1	6	18	14
Dysentery	14	15	10	17	14	11	8	12	29	28	50	69	204	73
Pulmonary Tuberculosis	232	228	243	259	248	283	234	187	207	239	221	184	885	1,880
Tuberculosis	36	39	49	56	40	51	51	35	38	36	35	46	142	370
Measles	107	175	248	214	201	202	100	92	188	375	858	1,470	437	3,793
German Measles	74	90	232	223	246	146	1	6	16	31	34	27	64	1,062
Whooping Cough	1,277	1,162	1,207	821	531	145	14	55	80	54	65	45	378	5,078
Chickenpox	1,055	966	862	497	579	393	15	29	124	212	324	497	152	5,401
Total	4,246	3,706	3,901	2,905	2,570	1,877	954	1,034	1,344	2,005	2,940	3,747	31,229	
Hospital	1,064	896	953	810	719	715	596	661	641	831	995	1,127	10,008	
Home	3,182	2,810	2,948	2,095	1,851	1,162	358	373	703	1,174	1,945	2,620		21,221

* Mumps, 80; Pemphigus Neonatorum, 41; Anthrax, 1; Infective Jaundice, 4.

Add others *	...	89
Altered diagnosis		3,152
		13,249

	37
	2
	21,260

TABLE XVII.

Operations of Sanitary Section.

1. (a) Nuisances.	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
Inspections made—							
Nuisances	100,119	153,821	111,389	45,726	142,430	553,485	608,519
Bug Disinfestation	1,483	806	1,065	522	128	4,004	2,806
Water Storage Cisterns ...	—	2,177	1,008	10	65	3,260	1,550
Limewashings	7,449	9,320	3,942	3,666	6,092	30,469	33,320
Stair Cleaning	3,020	8,057	5,483	2,006	6,854	25,420	37,420
Drain Testing	3,369	3,365	3,087	1,276	4,686	15,783	17,186
Rats and Mice Destruction Acts	10,672	2,287	5,946	16,898	1,361	37,164	21,210
Total	126,112	179,833	131,920	70,104	161,616	669,585	722,011
Nuisances removed or remedied Consisting of—	7,947	17,055	12,888	7,872	16,357	62,119	65,314
Apartments, Lobbies, or W.C.'s, with insufficient light or ventilation, or otherwise defective in construction	1	1	—	1	1	4	6
Defective Chimneys causing nuisance	68	172	69	115	95	519	602
Disrepair or dampness in Dwelling-houses	1,360	2,348	2,518	1,545	1,679	9,450	8,882
Offensive smells from Drains, or other reasonable grounds— smoke test	—	—	—	4	2	6	29
Drains, Conductors, Soil-pipes, or Rones choked or defective ...	3,942	7,124	5,077	3,871	8,186	28,200	29,883
Sanitary Fittings choked or defective	580	1,094	889	757	1,030	4,350	4,263
Dirty Houses and Bedding and Children	24	77	1,102	120	49	1,372	1,406
Dirty Closes, Stairs, etc. (daily and bi-weekly cleaning) ...	73	789	171	57	201	1,291	2,198
Houses overcrowded	—	899	823	—	621	2,343	1,511
Common passages, stairs or staircases not in a cleanly state (limewashing or painting) ...	849	1,437	740	447	1,376	4,849	6,217
Animals or Poultry kept so as to be a nuisance	—	7	—	2	5	14	11
Accumulation of Garbage or Rubbish	153	126	38	61	134	512	684
Smells from Decaying Animal Matter or other cause ...	7	14	2	10	11	4	46
Stagnant Water	17	19	5	33	24	98	134
Premises infested with Rats or other vermin	84	194	284	141	87	790	1,122
Sink accommodation and Water Supply required	—	—	—	—	—	—	2
Water-Closet accommodation required	1	1	1	2	2	7	2
Water Storage Cisterns dirty, uncovered, or unventilated ...	72	679	175	24	76	1,026	744
Water Supply Pipes defective— tenants without water ...	79	312	94	117	349	951	516

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	194
Pit Shaft without adequate protection	—	—	—	—	—	—	
Reports to Gas Manager ...	2	6	—	1	—	9	
,, Master of Works ...	289	788	412	279	1,428	3,196	4,3
,, Superintendent of Cleansing	3	36	6	15	66	126	2
,, Water Engineer ...	343	932	482	270	935	2,962	2,5
Prosecutions—Sheriff Court ...	2	—	—	—	1	3	
,, Police Court ...	4	2	—	—	4	10	
Number Successful	6	2	—	—	5	13	
Amount of Fines	£1 0 0	£1 0 0	—	—	£2 5 0	£4 5 0	£11 1
Number of Rotation Cards for Cleansing of Common Stairs, Lobbies, and W.C.'s served on Tenants	644	6,062	319	503	1,607	9,135	10,5
1. (*b*) Drain Testing.							
Number of Applications for satisfaction of Dean of Guild Court	448	900	337	271	1,008	2,964	1,9
Number of first Applications to old Tenements or Systems ...	12	—	10	6	—	28	
Number of these found more or less defective	3	—	4	3	1	11	
Subsequent applications to old Tenements or Systems ...	—	—	8	7	1	16	
2. Common Lodging Houses.							
Number measured and registered	—	—	—	—	—	—	
Total number now on register ...	7	5	7	2	3	24	
With accommodation for ...	1,815	1,579	2,213	595	943	7,145	7,2
Number of inspections by day	169	115	378	65	165	892	6
Number of inspections by night	—	—	—	—	—	—	
Number of irregularities ...	15	3	10	—	15	42	
Number of prosecutions	—	—	—	—	—	—	
Amount of Fine	—	—	—	—	—	—	
3. Boarding Houses for Emigrants and Seamen.							
Number measured and registered	—	—	—	—	—	—	
Total number now on register ...	4	—	1	1	—	6	
With accommodation for ...	453	—	131½	31	—	615½	6
Number of inspections by day	6	—	35	4	—	45	1
Number of inspections by night	—	—	—	—	—	—	
Number of irregularities ...	—	—	—	—	—	—	
Number of prosecutions	—	—	—	—	—	—	

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
4. Houses-Let-in-Lodgings.							
Number measured and registered	—	—	—	—	—	—	1
Total number now on register ...	164	—	—	1	33	198	200
Number of inspections by day	341	—	—	3	65	409	1,917
Number of inspections by night	—	—	—	—	—	—	—
Number of irregularities ...	28	—	—	1	2	31	174
Number of prosecutions	—	—	—	—	—	—	—
Amount of Fines	—	—	—	—	—	—	—
5. Farmed-out Houses.							
Number measured and registered	—	—	—	—	—	—	—
Total number now on register ...	114	—	98	—	—	212	263
Number of inspections by day	82	—	471	—	—	553	905
Number of inspections by night	—	—	—	—	—	—	—
Number of irregularities ...	48	—	30	—	—	78	58
Number of prosecutions	—	—	—	—	—	—	—
Amount of Fine	—	—	—	—	—	—	—
6. Ticketed Houses.							
Number ticketed for first time	—	—	—	—	—	—	—
Total number now on register ...	1,196	1,683	1,500	—	568	4,947	5,186
Number of visits by day ...	—	—	—	—	—	—	—
Number of inspections by night	—	—	—	—	—	—	—
Number of cases of Overcrowding found and warned ...	—	—	—	—	—	—	—
Number of prosecutions	—	—	—	—	—	—	—
7. Tents and Vans.							
Number of inspections	3	264	93	—	16	376	212
Number of irregularities ...	—	1	—	—	6	7	7
Number of prosecutions	—	—	—	—	—	—	—
8. Mech. Bakehouses.							
Number measured and registered	—	—	1	5	—	6	7
Total number now on register ...	65	56	55	57	30	263	256
Number of inspections	168	83	255	155	184	845	1,399
Number dirty	22	—	20	29	18	89	142
Number Overcrowded	—	—	—	—	—	—	—
Number defective in light or ventilation	5	—	8	1	8	22	11
Number with sanitary convenience required	—	—	—	1	—	1	1
Number with sanitary fittings choked or defective	2	—	—	2	3	7	14
Number of other nuisances ...	7	1	8	6	16	38	51
Number of prosecutions	—	—	—	—	—	—	—

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
9. Non-Mech. Bakehouses.							
Number measured and registered	—	—	2	6	1	9	4
Total number now on register ...	36	68	24	24	20	172	171
Number of inspections	152	60	138	99	87	536	832
Number dirty	10	—	7	10	3	30	39
Number overcrowded	—	—	—	—	—	—	—
Number defective in light or ventilation	1	—	—	—	—	1	1
Number with sanitary conveniences required	—	—	1	—	—	1	—
Number with sanitary fittings choked or defective	—	—	—	—	1	1	1
Number of other nuisances ...	1	—	3	3	6	13	14
Number of prosecutions	—	—	—	—	—	—	—
10. Mech. Factories.							
Number registered	83	18	46	57	48	252	123
Total number now on register ...	1,489	722	766	557	571	4,105	4,002
Number of inspections	3,755	780	2,514	1,187	1,221	9,457	11,267
Number with sanitary conveniences dirty	93	24	125	47	62	351	855
Number defective in light or ventilation	127	28	28	23	37	243	243
Number with sanitary conveniences required	24	3	13	3	23	66	36
Number with sanitary fittings choked or defective	36	38	38	13	76	201	512
Number of other nuisances ...	77	41	53	11	99	281	423
Number of prosecutions	—	—	—	—	1	1	1
Amount of Fine	—	—	—	—	£2 2 0	£2 2 0	£10 0 0
Other parts of factory— Number of other nuisances ...	33	6	56	18	11	124	261
11. Non-Mech. Factories.							
Number measured and registered	9	4	8	23	11	55	42
Total number now on register ...	706	314	136	315	134	1,605	1,693
Number of inspections	2,548	359	506	824	293	4,530	5,329
Number dirty	82	7	7	24	10	130	158
Number overcrowded	—	—	—	—	—	—	1
Number defective in light of ventilation	34	5	4	1	4	48	32
Number with sanitary conveniences required	5	—	2	2	2	11	4
Number with sanitary fittings choked or defective	13	1	2	1	10	27	54
Number of other nuisances ...	45	3	8	5	6	67	72
Number of prosecutions ...	—	—	—	—	—	—	—

TABLE XVII.—*Continued*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
12. Shops.							
umber of inspections	90	32	949	46	1,076	2,193	2,041
umber dirty	2	—	—	—	11	13	31
umber defective in ventilation, temperature or lighting ...	1	—	—	—	7	8	5
umber with sanitary conveniences required	—	—	1	1	5	7	11
umber with washing facilities required	—	—	—	—	—	—	—
umber with sanitary fittings choked or defective	2	4	1	7	6	20	39
umber of other nuisances ...	38	34	107	44	56	279	314
13. Fish Restaurants.							
umber of inspections	—	1	9	6	—	16	85
umber dirty	—	—	—	—	—	—	6
umber defective in light or ventilation	—	—	—	—	—	—	—
umber requiring sanitary conveniences	—	—	—	—	—	—	1
umber with sanitary fittings choked, etc.	—	—	—	—	—	—	2
umber of other nuisances ...	1	1	6	3	4	15	19
14. Offices.							
umber of inspections	18	127	1	8	7	161	275
umber dirty	1	—	—	—	—	1	14
umber defective in light or ventilation	—	—	—	—	1	1	1
umber with sanitary conveniences required	1	—	—	—	—	1	—
umber with washing facilities required	—	—	—	—	—	—	—
umber with sanitary fittings choked or defective	1	—	—	—	—	1	5
umber of other nuisances ...	7	—	1	—	—	8	9
Homeworkers' Dwellings.							
al number now on register ...	10	11	17	20	10	68	48
umber of inspections	—	1	6	28	26	61	51
umber found dirty	—	—	—	—	—	—	—
16. Bothies, Chaumers.							
umber of inspections	—	—	—	—	6	6	4
umber dirty	—	—	—	—	—	—	—
umber of other nuisances ...	—	—	—	—	—	—	—

TABLE XVII.—*Continued.*

Operations of Sanitary Section—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
17. Piggeries.							
Total number now on register ...	6	32	7	7	3	55	6
Number of inspections	38	52	64	18	29	201	27
Number found dirty	2	5	2	—	4	13	2
Number of other nuisances ...	—	3	—	—	—	3	1
Number of prosecutions	—	—	—	—	—	—	—
18. Offensive Trades.							
Total number now on register ...	5	6	39	—	2	52	5
Number of inspections	—	39	352	—	10	401	69
Number of irregularities ...	—	1	14	—	—	15	2
Number of prosecutions	—	—	—	—	—	—	—
19. Rag Flock Act, 1911.							
Total number of visits	6	2	—	—	—	8	6
Samples submitted for analysis	4	—	—	—	—	4	1
Certified not to conform to standard	1	—	—	—	—	1	—
Number of prosecutions	—	—	—	—	—	—	—
Number of convictions	—	—	—	—	—	—	—
Amount of fines	—	—	—	—	—	—	—
20. Broker's Premises.							
Total number of visits	15	13	10	28	8	74	51
Number dirty	1	—	—	—	—	1	6
Number of other nuisances ...	—	—	2	2	—	4	4
21. Cemeteries.							
Total number of visits	—	3	—	3	2	8	22
22. Air Raid Shelters.							
Number of inspections	—	—	—	—	—	—	89
Number dirty	—	—	—	2	—	2	22
Number defective in light or ventilation	—	—	—	—	—	—	—
Number with sanitary conveniences choked, etc.	—	—	—	—	—	—	9
Number of other nuisances ...	4	6	10	—	—	20	28

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
23. Infectious Diseases, etc.							
Infectious Diseases, visits ...	12,917	17,389	14,654	12,592	13,236	70,788	109,423
Pre-admissions, Country Homes, visits	—	—	—	—	—	—	—
Vaccination visits	806	1,321	970	578	900	4,575	4,429
Institutional census	40	5	1	—	—	46	42
Air Raid Precautions visits ...	—	—	—	—	—	—	—
24. Housing Acts.							
Total number of visits	3,838	1,972	4,180	2,135	3,046	15,171	10,707
25. Squatter's Premises.							
Total number of visits	392	16	121	11	359	899	3,575
26. Work of Female Inspectors.							
Under the Glasgow Corporation (Police) Order, 1904—							
(*a*) **Verminous Children.**							
Number of visits to schools ...	214	435	454	110	106	1,319	1,278
Number of children submitted for inspection	14,717	28,294	30,527	9,060	9,123	91,721	87,522
Number of children found infested	5	41	284	158	3	491	560
Number of children found infected	3,990	3,274	6,632	1,681	2,016	17,593	16,560
Number of children found with fleas	9	16	184	19	18	246	207
Number of children found dirty	128	71	532	47	166	944	1,249
Number of written notices ...	1	49	290	156	23	519	542
Number of children cleaned by Guardians	1,579	2,974	3,887	1,679	1,489	11,608	11,978
Number of children cleaned by officers	—	20	278	26	—	324	161
Number of special visits ...	—	—	—	—	—	—	—
Number of children examined	—	—	—	—	—	—	—
Number of children re-inspected	10,286	11,879	18,883	3,644	5,549	50,241	48,981
Number of infectious diseases	22	64	101	3	9	199	304

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
(*b*) Homes of Verminous Children.							
Number of houses inspected ...	351	1,554	3,947	418	814	7,084	8,352
Number of houses in which lodgers were found	8	—	3	—	—	11	4
Number of houses found dirty	1	—	4	—	—	5	18
Number of houses with dirty bedding	1	—	4	—	—	5	4
Number of written notices ...	—	—	9	—	—	9	7
Number of re-inspections ...	12	2	170	2	85	271	167
Number of houses cleaned ...	—	—	12	5	—	17	9
Number of bedding cleaned ...	—	—	3	—	—	3	4
(*c*) House-to-House Visitation.							
Number of houses visited first time	478	2,489	95	394	88	3,544	2,886
Number of houses in which lodgers were found	22	—	4	—	—	26	36
Number of houses found dirty	2	24	16	4	—	46	68
Number of houses with dirty bedding	3	1	6	2	—	12	38
Number of houses—Written notices...	—	—	24	—	—	24	31
Number of houses—Re-visits...	51	30	20	14	1	116	217
Number of houses found cleaned	6	17	15	8	1	47	76
Number of houses—Bedding found cleaned	3	12	2	2	—	19	39
(*d*) Re-housing Scheme Visitation.							
Number of houses visited first time	2,919	24,236	28,399	4,347	6,261	66,162	69,106
Number of houses in which lodgers were found	483	1,569	4,013	—	—	6,065	3,733
Number of houses found clean	2,643	16,290	14,922	3,651	5,271	42,777	44,043
Number of houses found fair	275	7,911	12,583	623	976	22,368	23,956
Number of houses found unsatisfactory	—	—	—	—	—	—	—
Number of houses found dirty	1	35	894	73	14	1,017	1,107
Number of houses with dirty bedding	—	17	212	3	2	234	149
Number of written notices ...	1	25	1,059	2	—	1,087	1,107
Number of re-visits	5	535	1,371	253	60	2,224	2,397
Number of houses found cleaned	2	39	924	87	30	1,082	1,085
Number of bedding found cleaned	1	13	217	8	3	242	141

TABLE XVII.—*Continued.*

OPERATIONS OF SANITARY SECTION—*Continued.*

	Central	Northern	Eastern	South-Eastern	South-Western	City 1947	City 1946
(*e*) Intermediate Housing Scheme Visitation.							
Number of houses visited ...	852	435	44	228	5	1,564	1,133
Number of houses in which lodgers were found	66	6	—	—	—	72	8
Number of houses found clean	678	377	35	183	4	1,277	909
Number of houses found fair...	171	54	3	36	—	264	205
Number of houses found unsatisfactory	—	—	—	—	—	—	—
Number of houses dirty ...	3	4	6	9	—	22	19
Number of houses with dirty bedding	—	—	3	2	—	5	5
Number of written notices ...	—	—	8	2	—	10	9
Number of re-visits	17	20	6	21	—	64	79
Number of houses found cleaned	5	1	4	13	—	23	23
Number of bedding found cleaned	1	—	3	2	—	6	6
Number of empty houses visited	12	35	85	1	—	133	101
(*f*) Other Work.							
Number of nuisances reported by Female Inspectors ...	15	4	24	—	1	44	44
Number of infectious disease cases reported by Female Inspectors	1	—	—	—	—	1	1

TABLE XVIII.—GLASGOW.—POPULATION; BIRTHS AND DEATHS; BIRTH-RATES AND DEATH-RATES PER 1,000; ALSO DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,000 BIRTHS SINCE 1871.

Year	Population	Births	Deaths	Birth-rate per 1,000	Death-rate per 1,000	Deaths under 1 Year	
						Number	Rate per 1,000 Births
1871 ...	491,900	18,867	15,790	38·4	32·1	3,608	191
1881 ...	512,034	19,106	12,916	37·3	25·2	2,745	144
1891 ...	567,143	19,857	14,324	35·0	25·3	2,946	148
1901 ...	761,925	24,206	16,197	31·8	21·2	3,607	149
1902 ...	762,789	24,722	15,532	32·4	20·4	3,206	129
1903 ...	763,654	25,135	15,073	32·9	19·7	3,663	146
1904 ...	764,521	24,754	15,414	32·4	20·2	3,606	146
1905 ...	765,389	24,316	14,460	31·8	18·9	3,195	131
1906 ...	780,192*	24,560	14,889	31·5	19·1	3,223	131
1907 ...	781,080	24,006	15,659	30·7	20·0	3,116	130
1908 ...	781,969	23,915	15,265	30·6	19·5	3,284	137
1909 ...	782,860	23,140	15,242	29·6	19·5	3,073	133
1910 ...	783,785	22,222	13,395	28·4	17·1	2,694	121
1911 ...	784,680	21,755	13,899	27·7	17·7	3,016	139
1912 ...	785,600	22,044	13,797	28·1	17·6	2,740	124
1913‡...	1,021,789*	28,688	17,693	28·1	17·3	3,706	129
1914 ...	1,028,440	29,462	17,522	28·6	17·0	3,913	133
1915 ...	1,035,091	27,943	20,159	27·0	19·5	4,007	143
1916 ...	1,041,742	27,094	16,601	26·0	15·9	2,996	111
1917 ...	1,048,393	24,030	16,691	22·9	15·9	3,089	129
1918 ...	1,055,044	23,524	18,362	22·3	17·4	2,660	113
1919 ...	1,061,695	25,835	18,237	24·3	17·2	2,937	114
1920 ...	1,068,346	32,626	16,765	31·5	15·7	3,477	107
1921 ...	1,075,000	29,712	15,625	27·6	14·5	3,138	106
1922 ...	1,074,607	28,298	17,850	26·3	16·6	3,401	120
1923 ...	1,074,215	26,710	14,875	24·9	13·8	2,388	89
1924 ...	1,073,822	25,330	16,868	23·6	15·7	3,005	119
1925 ...	1,073,429	25,416	15,336	23·7	14·3	2,591	102
1926 ...	1,090,380*	24,541	15,731	22·7	14·6	2,548	104
1927 ...	1,089,988	23,578	15,439	21·6	14·2	2,527	107
1928 ...	1,089,595	23,649	15,701	21·7	14·4	2,525	107
1929 ...	1,089,202	22,799	17,760	20·9	16·3	2,438	107
1930 ...	1,088,810	23,322	15,455	21·4	14·2	2,355	101
1931 ...	1,088,461	22,926	15,505	21·1	14·2	2,397	105
1932 ...	1,095,263	22,732	16,071	20·8	14·7	2,542	112
1933 ...	1,103,357	21,361	14,747	19·4	13·4	2,061	96
1934 ...	1,115,590	21,822	15,234	19·6	13·7	2,140	98
1935 ...	1,119,414	22,102	15,537	19·7	13·9	2,169	98
1936 ...	1,119,600	22,273	16,406	19·9	14·7	2,429	109
1937 ...	1,119,863	22,176	16,379	19·8	14·6	2,313	104
1938 ...	1,127,825*	21,979	15,016	19·5	13·3	1,919	87
1939 ...	1,128,473	21,682	15,010	19·2	15·0	1,737	80
1940 ...	1,045,333†	20,965	17,603	19·1	16·8	1,983	95
1941 ...	1,045,333	20,365	16,301	18·5	15·6	2,267	111
1942 ...	1,045,333	20,615	14,679	18·8	14·0	1,863	90
1943 ...	1,045,333	22,363	14,824	20·3	14·2	1,825	82
1944 ...	1,050,000	22,203	14,603	20·2	13·9	2,108	95
1945 ...	1,050,000	20,294	13,941	19·3	13·3	1,379	68
1946 ...	1,075,000	23,560	14,502	21·9	13·5	1,588	67
1947 ...	1,100,000	25,829	15,266	23·5	13·9	1,989	77

* Extended City. ‡ Births and Deaths from 1913 are corrected for transfers.

† Civilian population only, shown for the war years

PART II.

HOSPITALS.

INFECTIOUS DISEASES HOSPITALS.

During the year in which this report is written (1948) the fever hospitals, so long the close concern of the Public Health Department, will become the responsibility of a new hospital authority, namely, the Regional Hospital Board. It has seemed appropriate, therefore, to include in this last annual report in its present form some brief record of the changes which have occurred since their inception during the last century. There can be little doubt that the early fever hospitals made a great contribution to the effective evolution of the growing general hospitals of the time by removing from their medical and surgical wards diseases such as typhus and typhoid, the common infections of that period. It is fair to say that the continual outbreaks of these infectious diseases made the study of general diseases under hospital conditions a hazardous business ; and admission to the wards of a general hospital was regarded as a danger which only the greatest need should occasion.

It is perhaps apposite to comment that the fever hospitals now come under the same Boards of Management as general hospitals just at the very time when medical attention is again being directed to the danger of ward infection in general hospitals—not, this time, infection of a notifiable kind but in its nature sometimes as dangerous to the patient. History may well show that the proper appreciation of the importance of the fever hospital by these new Boards of Management will again encourage a fuller development of general medicine and surgery.

The emphasis placed upon the need for isolation in the latter part of the 19th century can be shown by the steady growth of the hospital accommodation.

Hospital.	Date of Opening.	No. of Beds.
Separate Fever House of the Royal Infirmary	1829	200
Kennedy Street (the First Municipal Fever Hospital in Scotland)	1865	136-250
Belvidere (Fever and Smallpox)	1870	366-666
Knightswood (Partick, Hillhead and Maryhill)	1877	100-250
Shieldhall (Govan Parish)	1890	100
Ruchill	1900	420-550
Robroyston (Smallpox only)	1918	150

As one would naturally expect the type of disease dealt with in the hospitals has changed with the passage of time and it is interesting to abstract from the various Annual Reports the diseases which took up the main accommodation at different periods.

1800-1850	1850-1900	1900-1920	1920-1948
Typhus.	Typhus.	Scarlet Fever.	Pneumonia.
Cholera.	Relapsing Fever (1870).	Measles.	Scarlet Fever.
	Cholera (last appeared in Glasgow, 1866).	Whooping Cough.	Diphtheria.

Just because of these continuing changes in the types of infection prevalent any comparison of general mortality rates is of no value; although it is revealing to find that in 1890 the fatality rate from broncho-pneumonia complicating measles and whooping cough was no less than 75 per cent. But as the aim of the fever hospital gradually changed from that of pure isolation to that of specialist treatment, so the attention of the physicians changed more and more to a study of improvement of techniques in the management of the different diseases. The early years of the present century found the Glasgow fever hospitals far ahead in the investigation of such problems; and a list of the assistant physicians of those days contains the names of many doctors who have since contributed much to the medical life of Glasgow, and indeed of the country. It is important to appreciate that their first essays at investigative work were made in the wards of Belvidere and Ruchill Hospitals. The Annual Report for 1909, for example, records that during a period of nine years 12 physicians had obtained the M.D. degree, five with Honours, one with High Commendation and six with Commendation.

There is no doubt that the genius who inspired practically all of this work was the late Dr. John Brownlee whose name must always

be writ large in any record of the Glasgow fever hospitals. But like all great men his spirit survived him and right up to the present time the fever hospitals in Glasgow have been a " nursery " for young men keen to do research work. The fever hospital has thus afforded in the past, and it is hoped that it will be encouraged to supply in the future, an opportunity for graduate study which not only enriches the experience of the graduate himself, but benefits the whole field of medical science ; and as, in the following report, attention is directed to the changed outlook at the present time in regard to the severity of the common infectious disease, it is well to remind ourselves that so long as man continues to live in crowded cities such as Glasgow so long will he remain subject to epidemics of infection, the study of which will always pay good dividends. It is evident that from the beginning the concern of successive Health Committees was not only to supply the patients with the best nursing care and medical supervision, but to encourage research and the development of new methods of diagnosis and treatment. The early reports particularly bear witness to the wisdom of their management and the zeal of those who were charged with the day-to-day working of the hospitals. The writings of the first Medical Superintendent at Kennedy Street, Dr. J. B. Russell, later to become first full-time Medical Officer of Health of the City, bear the impress of a character steeped in the best traditions of medical service ; writings which even to-day repay study. It is well, therefore, that we should be reminded that the fever hospitals come to the new system of administration with a record of public service and a tradition of scientific work which merits the closest attention to their needs for future development.

During the year 1947 the fever hospitals dealt with 11,225 patients suffering from infectious disease. In addition to this total no less than 3,555 cases were admitted where the notified diagnosis was not confirmed. The mortality among those with notifiable infections was 7·9 per cent. Although the fatality is always thus quoted it can be appreciated that no comparison from year to year is possible in view of the constantly changing distribution of the different infections.

As in last year's report it is necessary to comment upon the main anxiety of the hospital administrator in these times, namely, the scarcity of nurses. During the past year much use has been made of the part-time services of nurses who had previously resigned from nursing work. This arrangement calls for great flexibility in administration and adds to the anxiety of the superintendent and

matron for it is far from an ideal arrangement ; but it is necessary to add that this part-time assistance has helped to solve a serious problem and has been of the greatest value in allowing the hospitals to serve the public with an ever-increasing demand for hospital treatment. It is of interest to recall that Dr. J. B. Russell's main anxiety in his first annual report in 1865 was the same as our own to-day—the supply of adequate numbers of good nurses ; and it is important to appreciate that the attraction of young women to nursing as a career constitutes the most urgent concern for the whole future of hospital planning.

Anterior Poliomyelitis.

There is no doubt that the occurrence of a widespread epidemic of infantile paralysis was the most important epidemiological event of 1947. So far as the hospital cases were concerned every effort was made to study them systematically, although little new information was brought to light. The age-distribution, divided into three broad groups, is compared in the accompanying table with that of all the cases notified since 1920.

Epidemic Cases.

Age Group (Years).	Epidemic Cases. Males. Cases.	Males. Deaths.	Females. Cases.	Females. Deaths.	Total. Both Sexes.	Combined Figures for Glasgow. 1920-1946.
0—5	86	0	68	2	154 (49·6)	322 (68·3)
—15	68	4	34	1	102 (33·0)	113 (23·8)
15+	42	9	13	0	55 (17·8)	37 (7·8)
Total ...	196	13	115	3	311 (100)	472 (100)

This table shows two interesting features. First, when we compare the age distributions of the epidemic and non-epidemic cases we see that the former comprise a definitely older population. The concentration of cases during the epidemic in the early period of life suggests an infecting agent to which the population is already accustomed ; although the greater proportion of cases in persons over 25 years during the epidemic would argue in favour of some new facet in the power of the virus which enabled it to invade a population normally resistant. The second feature is the inequality of the sex-distribution for 63 per cent. of the cases were males. It must be

admitted that our present knowledge of the mode of spread of the disease is very inadequate ; but, whether the virus gains entrance by the alimentary or the respiratory tracts, it is difficult to see why there should be this inequality of sex. It would seem reasonable to suggest that the greater muscular activity of boys and even perhaps of adult males might constitute a factor ; and that the best advice we can give in our present state of ignorance is the avoidance of excessive physical and mental fatigue by the general population during times of epidemic prevalence.

Dr. P. McKenzie made a special study of the non-paralytic cases of poliomyelitis and has supplied the following notes on the cases admitted to Belvidere. During the year a total of 136 cases of poliomyelitis was admitted of which 35 (25·8 per cent.) never developed signs of paralysis. In each of the latter patients the diagnosis was suggested by the complaint of typical symptoms and confirmed by the presence of an abnormal cerebro-spinal fluid. Sometimes the changes in the C.S.F. were not great in extent ; in general the cell count fell between 20 and 100 cells per c.mm., polymorphonuclear cells accounting for 25-50 per cent. of the total in the early stages. Protein estimates were likewise slightly raised, the highest being 100 mgms. per cent. The cell count became normal in all cases by the 21st day of illness, but there was a tendency for the fall in protein to lag a little so that normal values were not obtained until the end of four weeks.

The main symptoms complained of are listed in the following table :—

Muscle pain—lumbar	9	
neck	7	
neck and limbs	5	
limbs	3	
		24
Headache		18
Vomiting		15
Marked Irritability		8
Listlessness		7
Anorexia		4
Sore Throat		3
Diarrhoea		3

These symptoms show little difference from those of the patients who subsequently became paralysed. Signs of " meningeal irritation " were suggested by the fact that in 30 patients there was nuchal rigidity,

a definite Kernig's sign in 28 and spinal stiffness in 22. Fever was usual, the commonest range being 100°-102°F. In most cases the temperature was normal after two days and in all after five days. An interesting feature of the temperature charts was that 11 of the cases showed a biphasic or " dromedary " type of fever. After one or two days of febrile illness with rather vague complaint, the patient became completely recovered and appeared well for 4-7 days. Fever now returned, this time accompanied by more severe symptoms pointing to a typical poliomyelitis. By analogy with measles, where some persons show a typical febrile response when first exposed to the virus, it seems possible that this is an " illness of infection " and marks the beginning of the incubation period.

Finally a comparison of the age-distribution in paralytic and non-paralytic cases is shown in a further table.

COMPARATIVE AGE-DISTRIBUTION OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS.

Age-Group (Years).	Non-Paralytic.		Paralytic.	
	Male.	Female.	Male.	Female.
0—1	0	0	7	5
—4	7	4	24	23
—14	13	5	18	12
—24	3	1	4	1
25+	2	0	7	0
Total ...	25	10	60	41

An interesting feature is the absence of non-paralytic cases in the youngest age-group. This may, of course, have the perfectly simple explanation that at this age it is only the occurrence of frank paralysis which attracts attention to a child who cannot complain of symptoms. On the other hand it might suggest that resistance to infection is less satisfactory in infancy so that paralysis always results.

STREPTOCOCCAL INFECTIONS.

During the year the following infections, in which S. pyogenes is the main attacking mechanism, were dealt with :—

	Total.	Deaths.	A.D.
Scarlet Fever	2,254	3	152
Erysipelas	283	4	76
Infections of the Puerperium, etc.	264	8	36

In this group of infections there can be little doubt that the benefits of modern chemotherapy are enhanced by a diminution in virulence of the infecting organism. Nevertheless the value of sulphonamides and penicillin in such cases is undoubted; for examples are still seen where the disease has become of such severity before admission to hospital that all previous clinical experience would suggest that a successful recovery was impossible of attainment. Such cases, recovering after efficient chemotherapy make it obvious that the drugs are life-saving. In view of the prevailing mildness of scarlet fever and the modern knowledge that it is no more important than tonsillitis, either as a cause of illness or as a focus of spread of infection, it seems illogical to set aside so much accommodation for hospital management. No doubt some of the admissions are compelled by bad housing conditions but the demand for hospital accommodation for serious cases is now so acute that it would seem desirable to limit still further the scarlet fever accommodation.

Scarlet Fever.—Since the causative organism of scarlet fever is susceptible to the action of penicillin this substance has been suggested as a method of treatment for the disease and Dr. A. W. McCrorie has submitted the following figures from cases admitted to Knightswood Hospital. Here it was decided to give one large daily dose of the antibiotic (500,000 units) each day over a period of seven days from the time of admission. Cultures of the nose and throat were taken at admission and on the 7th, 8th and 9th days to observe the effect of the treatment on the carriage of streptococci on the throat. A total of 125 consecutive cases has been so treated. The effect of the treatment is summarised in the accompanying table.

	Positive.		Negative.	
Presence of S.pyogenes on admission	92		33	
	Positive.	Negative.	Positive.	Negative.
Presence of S.pyogenes at end of treatment	42*	49*	13†	18†

* One case dismissed irregularly.
† Two cases no record available.

Contrary to expectation chemotherapy with penicillin was not uniformly successful in clearing the throat of S.pyogenes, for nearly half of the patients who were positive on admission still showed S.pyogenes in the throat or nose after treatment had concluded. Further, nearly half of the patients whose original culture was already negative, became infected with streptococci while undergoing treatment.

In addition to this evidence, analysis of the duration of fever and the duration of the rash did not suggest any hastening of recovery. Finally, the occurrence of otitis media is compared in the accompanying table with that obtained in 1944 and 1945 when scarlet fever antitoxin was the standard method of treatment.

Year.	Total Cases	Catarrhal Otitis. A	Catarrhal Otitis. B	Suppurative Otitis. A	Suppurative Otitis. B
1944	305	37 (12%)	11	13 (4·0%)	3 (1%)
1945	277	13 (5%)	1	3 (1·0%)	3 (1%)
Present Series ...	125	6 (5%)	0	3 (2·0%)	1 (1%)

A=Complication present on admission or developing in first week of hospital stay.

B=Complication developed after the passage of one week from admission.

These figures show very clearly that in so far as prevention of the development of otitis media is concerned the new method of treatment offered no advantage over that previously used. Penicillin is, of course, of great value in the management of otitis media of streptococcal origin and it has accordingly been decided to reserve penicillin for such cases and not to use it as a routine measure.

Erysipelas.—The proven value of the sulphonamides in erysipelas is reflected in both the low number of admissions and the low fatality rate. In the great majority of cases chemotherapy produces a cure within a matter of 24-28 hours so that most patients can now be adequately dealt with at home. Penicillin is, of course, also effective but it is rarely necessary to resort to it. At least one patient, however, was encountered during the past year who failed to respond to sulphonamide and spread was only stopped when penicillin was administered.

Puerperal Conditions.

Patients with puerperal and related infections are admitted to both Robroyston and Belvidere Hospitals. For the sake of comparison with previous annual reports the following record by Dr. T. Archibald, who has been responsible for this section of the report for many years, is based on the Belvidere cases only.

Looking back over a period of over 30 years the steadily progressive fall in the fatality rate is the most obtrusive feature. No doubt many

factors—improved ante-natal supervision, more accurate notification and modern methods of chemotherapy—have contributed to the fall. Notification, for example, has brought many patients under supervision at an earlier period of their illness when prompt treatment is almost always successful. In the past patients with septicaemia already present on admission to hospital constituted the majority. Now they are a very small minority and indeed, during the year, of all routine blood cultures performed, only one was positive (S.pyogenes). There is little doubt that this reduction is due to prompt administration of sulphonamides to such cases, even before admission to hospital.

During 1947, 300 patients were treated to a conclusion in the puerperal wards. Puerperal pyrexia was notified in 131 of which 95 were confirmed as puerperal sepsis. Abortions and miscarriages accounted for 133. A further 36 unclassified cases were dealt with where the diagnosis was revised. In all, eight deaths occurred, giving an over-all fatality rate of 2·66 per cent. In puerperal sepsis cases only there were five deaths in one of which the primary cause was miliary tuberculosis. If it is excluded the fatality rate in this group was 4·2 per cent. Among the abortions there was one fatality due to *ruptured uterus and general peritonitis*. In the unclassified group two deaths occurred, one due to *carcinoma of the colon* and one to *ruptured uterus and generalised peritonitis* (no pregnancy).

The following indicates in order of frequency the cause of pyrexia in the puerperal pyrexia group :—

Puerperal Sepsis	69 (including one death)
Mastitis	17
Pneumonia	6
Puerperal Sepsis and Phlegmasia	6
Puerperal Sepsis and Mastitis	5
Puerperal Sepsis and Pyelitis	4
Puerperal Sepsis, Phlegmasia and Pulmonary Embolism	2
Puerperal Sepsis and Insanity	2
Puerperal Sepsis and Pulmonary Congestion ...	1
Puerperal Sepsis and Infective Hepatitis	1
Puerperal Sepsis and Vulvitis	1
Mastitis and Scarlatiniform Rash	1
Mastitis and Pyuria	1
Mastitis and Anaemia	1
Mastitis and Pyelitis	1
Pyelitis	1
Pyelitis and Abscess of Buttock	1

Pyelitis and Bronchitis	1	
Acute Bronchitis	1	
Pleural Effusion	1	
Tonsillitis (Strep. Haem.)	1	
Scarlatiniform Eruption	1	
Influenza	1	
Constipation	1	
Puerperal Sepsis, Phlegmasia and Nephritis ...	1	4 Deaths
Puerperal Sepsis, Miliary Tuberculosis and Mitral Stenosis	1	
Puerperal Sepsis, Anaemia of Pregnancy	1	
Puerperal Sepsis, Acute Bacterial Endocarditis ...	1	

Abortion and Miscarriage.—One hundred and eighteen cases of abortion were dealt with and classified as follows :—

Simple Abortion	57	
Septic Abortion	41	(1 Death)
Threatened Abortion	20	

There were 15 miscarriages ; six were simple and nine septic.

Complications—.Among the 57 simple abortions, six were complicated as follows :—

Pyuria	1
Acute Pyelitis	1
Mitral Stenosis	1
Chronic Pyelitis	1
Virus (?) Encephalitis	1
Secondary Haemorrhage	1

In the 41 septic abortions the following conditions were found :—

Lobar Pneumonia	2	
Pelvic Cellulitis	2	
Pelvic Peritonitis	2	
Pelvic Peritonitis with Subphrenic Abscess ...	1	
Pelvic Peritonitis with Rectal Abscess	1	
Salpingitis	1	
Rupture of Uterus with Peritonitis	1	(died)

In the 20 threatened abortions four complications were noted :—

Oedema of Vulva	1
Pyuria	1
Syphilis	1
Haemoptysis	1

Among the miscarriages one simple case was complicated with influenza.

The following conditions were met within the nine septic cases :—

Acute Pyelitis	1
Pelvic Abscess and Menorrhagia	1
Eclampsia	1
Chronic Pyelitis with Renal Calculus	1
Tapeworm	1

The following is a list of the conditions found in the 36 cases in the unclassified group :—

Normal Puerperium	4	
Normal Menstruation	3	
Menorrhagia	3	
Salpingitis	2	
Pyelitis of Pregnancy	2	
Pyelitis and Mastitis	1	
Perineal Stitch Abscess	1	
Chronic Parametritis	1	
General Debility	1	
Laryngitis and Whooping Cough	1	
Menopausal Menorrhagia and Cervical Polypus	1	
Pyelitis and Salpingitis	1	
Salpingitis and Retroversion	1	
Salpingitis and Menorrhagia	1	
Lederer's Anaemia	1	
Parametritis	1	
Carcinoma of Cervix	1	
Carcinoma of Colon	1	
Pelvic Cellulitis	1	
Hilar Adenitis	1	
Acute Pyelitis	1	
Pemphigus	1	
Scarlet Fever	1	
Metrorrhagia	1	
Anaemia	1	
Metritis and Salpingitis	1	
Rupture of Uterus, Peritonitis (no pregnancy)	1	(died)

Treatment.—Sulphamerazine was used extensively in 1·0 gm. doses at eight-hourly intervals. In 56 cases penicillin was used in combination.

Local interference was avoided wherever possible but the following operative procedures were necessary :—

Dilation and curettage	57
Incision of Breast Abscess	8
Aspiration of Breast Abscess	2
Laparotomy	2

General anaesthesia was used in 67 cases and local in five.

Varying degrees of anaemia were present in a large number of cases and in 37 the haemoglobin fell below 60 per cent. The majority yielded to iron or liver therapy but blood transfusion was necessary in 13 cases. Plasma transfusion was given to four patients and glucose saline infusion to two.

Pneumonia.

During the past 20 years pneumonia has gradually come to occupy first place in the admissions to hospital. This year 3,484 cases were admitted with this diagnosis which was confirmed in 2,214. The importance of the age-distribution in determining the outcome has been stressed in previous reports and is confirmed in the following figures :—

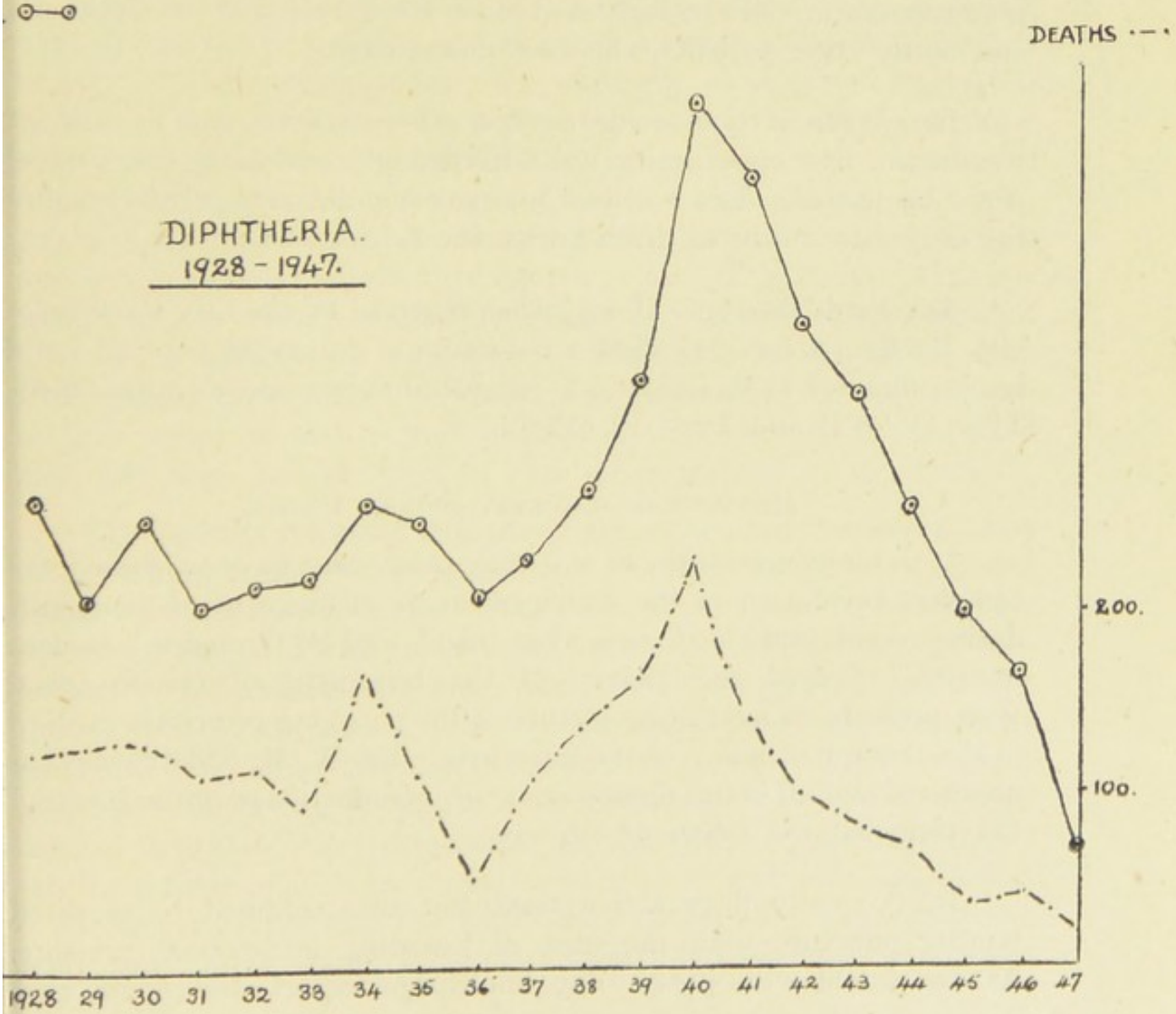
	Age Group (Years).						
	0—1	—5	—15	—25	—45	45+	All Ages
Proportion of Total Admissions	25·5	18·6	13·0	6·0	14·1	22·9	100
Fatality Rate (per cent.)	17·8	5·7	1·4	1·2	4·6	15·9	11·7

It is, perhaps, of more importance to observe that practically half of the patients dealt with were under one year of age or over 45 years ; only 19·0 per cent. were between 5 years and 25 years. This draws attention to the fact that many cases in this latter age-group are now successfully treated at home ; hospital accommodation is principally demanded for the severest cases at the extremes of life. Although this is, of course, desirable, it can be realised that such a concentration of very ill patients makes heavy demands on the nursing and medical staff. Sulphonamide and penicillin constitute the routine methods of treatment. At Knightswood the use of penicillin by mouth in adults was investigated. It had at first seemed that the acidity of the stomach juices would inactivate the penicillin and render treatment ineffective. However, in practice this did not occur. The most successful dosage was 480,000 units daily given in eight three-hourly amounts of 60,000 units. This method of treatment compared favourably with penicillin by injection. The investigation was reported in the medical press.

Diphtheria.

Dr. W. Napier has supplied the following analysis of the diphtheria figures for 1947 based on dismissals from and deaths in the four fever hospitals. These show a continuation of the trend which has been in evidence for a number of years. A fall in the total number of

patients dealt with has been continuous since the peak year (1940) with 4,803 patients to the phenomenally low level of 614 in 1947. (See diagram.) The initial part of the decline may be regarded as the natural reduction from an epidemic peak incidence to the average level, but its continuation is undoubtedly related to the widespread immunisation of school children which was introduced in Glasgow towards the end of 1940. A similar steady reduction in severity is reflected in a fall in the number of fatal cases from 227 in 1940 to only 12 in 1947. The case mortality-rate for the years 1928-1940 inclusive was 4·8 per cent. as compared with that for the period 1941-1947 of 2·6 per cent. The figure for 1947, 1·9 per cent., is the second lowest on record, broken only in 1945 when it was 1·6. Again immunisation is probably an important factor concerned, although some credit must be given to the more prompt notification of cases allowing earlier effective treatment.



A change in the age incidence has occurred. As the total incidence fell a relative increase in the number of adult patients was observed. Thus the percentage of patients over 20 years, which was 10·3 in 1940 (an average figure until then) rose gradually to 15·9 in 1944 and fell again to 11·1 in 1947. Patients of from 15 to 20 years have shown a similar variation while in the age-group 5 to 15 years a relative reduction in numbers has corresponded to the increase in the older age groups. As regards children under 5 years, the curve is now slightly upwards. Mass immunisation is clearly responsible for the drift of incidence away from the school child to an older population or to children of pre-school age, who may not be immunised.

A great increase has taken place in recent years in the number of altered diagnoses. In 1947 no less than 666 patients, representing over 50 per cent. of the diphtheria notifications, had the diagnosis revised, mostly to tonsillitis or pharyngitis. It is evident that practitioners are increasingly aware of the possibility of diphtheria and notify their patients whenever doubt exists.

In a year of low incidence and severity little can be said of treatment. No opportunity was afforded of continuing the trial of penicillin mentioned in last year's report nor did any patient require the drug as a means of dealing with the carrier state.

As regards the types of organisms reported by the City Bacteriologist, the figures for 1947 show a reduction in gravis (35 per cent.) and intermedius (15·1) strains and a considerable increase in mitis (30·6), Type IV (6·4) and Type VI (12·6).

Meningitis—Cerebro-Spinal Fever.

It is no exaggeration to say that those who have witnessed the complete revolution in the management of meningococcal meningitis during recent years have seen what might well be termed a "modern miracle." Indeed the history of the treatment of cerebro-spinal fever presents an interesting picture of the changing principles evolved in the therapy of many of the infections. Dr. W. M. Elliott, who has interested himself in this disease since the introduction of serum therapy, has compiled the following survey.

In the early days active treatment was confined to repeated lumbar puncture with the idea of lessening intracranial pressure. As one would with present-day knowledge expect the results were

entirely unsatisfactory; a few certainly recovered completely, but by far the greater portion died. This phase was followed by the introduction of an immune serum prepared from the meningococcus. Initially this serum was administered subcutaneously because of the beneficial results obtained by diphtheria antitoxin when given by this route, but the eminently successful effects of the latter did not materialise and the fatality rate was not noticeably affected. Investigation followed as to the fate of these antibodies after their introduction to the tissues and it was found that they did not appear in any degree of concentration in the cerebrospinal fluid and that consequently they never got into effective contact with the infecting organisms. The natural sequence to this observation was intrathecal administration of the serum. This procedure produced slightly better results but the fatality rate still remained very high although a 50 per cent. mortality was then considered a satisfactory figure.

This method of treatment continued to be regarded as orthodox until during the first world war when, as a result of research into the biology of the meningococcus, the existence of different serological types was demonstrated. Thereafter type sera were employed either after determining the type of the infecting organism or by the use of a polyvalent serum containing antibodies to all the known types. Again slight improvement in results followed but still many cases were met with which did not seem to benefit at all. This failure of specific treatment to produce uniformly satisfactory results was somewhat difficult to understand but it was considered possible that other unrecognised types of the organism were responsible for the infection or that, owing to lack of free passage of fluid through the inflamed meninges, some foci of infection were never reached by the serum.

The position remained materially the same until the introduction of the sulphonamide drugs completely changed the picture. It was found that oral administration was in almost all cases just as effective as intrathecal and this fact quite revolutionised the treatment—instead of daily lumbar puncture and injection of serum it was found that in almost all cases a primary diagnostic puncture followed by one in 36 to 48 hours to indicate the success or otherwise of the treatment were sufficient, though a final one at three weeks or so was deemed desirable before dismissal. This method reduced the fatality rate to a little more than a quarter of what it had been and further it was demonstrated that the deaths were almost all in the very young age groups and in many of the other groups fatalities were practically eliminated.

With the introduction of penicillin it seemed that this new weapon might still further reduce the mortality from the disease for the meningococcus was found to be one of the organisms against which it was effective. As a result of investigation, however, it was proved that cases treated by penicillin alone did not respond any better than to sulphonamide alone ; in fact it seemed that taking everything into consideration—for penicillin had to be used intrathecally—the choice lay with sulphonamides. It was noted, however, that in quite a number of cases the combination of both methods of treatment seemed to have a more beneficial effect than either alone and it would appear that this method will eventually be adopted as the routine. There is reason to hope, though it is not yet established completely, that the outlook among the very young age groups will become much more favourable in the future.

During 1947, 134 patients were treated. There were 18 deaths representing a fatality rate of 13 per cent.

Other Forms of Meningitis.

The meningococcus is only one of the meningitis-producing organisms. Dr. J. Lawson, who has kindly examined the figures for the other forms, supplies the following notes.

Pneumococcal Meningitis.—The majority of patients admitted to the hospital suffering from pneumococcal meningitis are infants and in these prognosis is not entirely favourable. Treatment with sulphonamide drugs as the sole method of therapy proved disappointing in the past. Combined treatment with sulphadiazine and penicillin is now the method of choice. Sulphadiazine is administered orally and in severe cases the patient is given the benefit of one or at most two initial intravenous injections ; therapy is continued for a minimum period of ten days. Penicillin is administered by the intramuscular route and by daily intrathecal injections for a minimum period of seven days. During the period, eight patients, all under five years of age, have been treated with three deaths, all occurring in the infants below the age of one year. When it is realised that formerly all such patients died it can be appreciated that great improvement has occurred.

Influenzal Meningitis.—This infection has been notorious in the past on account of its lack of response to sulphonamide thereapy. The incidence of the disease is low, but experience with a small number

of cases has proved the value of treatment with sulphadiazine in combination with penicillin. Therapy must be intensive and prolonged with the added discomfort to the patient of numerous intrathecal injections of penicillin in large daily doses, but even the most vigorous methods do not exclude the risk of relapse. Fortunately streptomycin bids fair to simplify the treatment of influenzal meningitis with eminently satisfactory results. During the past six months four patients, two of whom failed to respond to sulphadiazine and penicillin, have been treated with streptomycin. Their ages ranged from four months to three years and all have made an uneventful recovery following one week of treatment.

Tuberculous Meningitis.—A large number of cases of pulmonary tuberculosis are treated in the fever hospitals, but one of the forms of tuberculous disease particularly dealt with is that of the meninges which is usually admitted diagnosed as cerebro-spinal fever. The incidence of tuberculous meningitis in the cerebro-spinal fever ward of one hospital alone over the past two years reveals an average annual admission rate of more than 70 cases. This figure is mentioned merely to convey some idea of the problems which lie ahead in the management and disposal of such patients when streptomycin becomes available on a wider scale for the treatment of tuberculous meningitis.

A unit to investigate the efficacy of streptomycin was set up in Knightswood Hospital during 1947 at the request of the Department of Health for Scotland. Since the supply of streptomycin was limited the unit was small and could only deal with a limited number of cases. The results obtained with the first 25 cases are very encouraging, although it is still too early to assess the end-result. It is already clear, however, that cases must be diagnosed at a very early stage to secure maximum benefit; and that treatment must be continued over long periods which will therefore demand a long stay in hospital. In certain patients X-ray examination of the chest has revealed the classical " snow-storm " appearance. One of the most striking features of the streptomycin therapy has been to observe the gradual disappearance of such shadows, often within a few months of starting treatment. Such a rapid clearing is an entirely new experience. It was stated earlier in the report that the treatment of cerebro-spinal fever had been revolutionised. In the case of tuberculous meningitis the outlook in the past has been that death is inevitable—usually in three to four weeks. The first three recoveries have now walked out of the hospital—an unprecedented experience.

Infections of the Bowel.

There was no major epidemic of enteric infections during the year and only 14 cases were treated. There has also been a welcome reduction in the number of cases of dysentery which had, during the war years, become very numerous. Only 199 cases of dysentery were dismissed during the year, the mortality rate being two per cent.

With the return of soldiers who have served in the East, amoebic dysentery has been encountered on several occasions. In a few cases it has been possible to observe the effect of penicillin and sulphonamide in conjunction with the usual courses of emetine and the other anti-amoebic compounds. The former materials have, of course, no effect upon the amoeba, but by reducing secondary infection, healing is hastened. Two cases of amoebic liver abscess were erroneously notified as pneumonia which serves to draw attention to this possibility even in patients who have no suspicion of having suffered from amoebic dysentery.

Venereal Diseases.

Venereal diseases are treated in Ruchill and Belvidere Hospitals, female patients in Ruchill and males in Belvidere. The following figures and remarks refer to the work of the latter hospital. During 1947, 153 infections were dealt with among 149 patients. Forty-seven of the patients were under 25 years of age.

They were classified as follows :—

Syphilis—	
Primary—dark ground positive—Wasserman negative	24
Primary—Wassermann positive	27
Secondary	33
Latent first year	1
Later stages	28
Gonorrhoea—	
Acute	19
Chronic	2
Soft chancre	9
Non-specific venereal infection	10
Other than venereal	0

The average duration of residence was—syphilis 29 days, gonorrhoea 21 days, soft chancre 22 days, non-specific venereal infection 46 days, and mixed infections 17 days.

As in the previous year penicillin was freely used. Cases of late syphilis received 5-10 mega units with marked clinical improvement and improved cerebro-spinal fluid findings. Dmelco's (Ducré) vaccine was given intravenously to cases of gonococcal arthritis and produced satisfactory results without the acute general disturbance associated with typhoid vaccine. Increased supplies of British Anti-Lewisite (B.A.L.) permitted its use in all cases of arsenical dermatitis with excellent results, especially in early cases. This drug has effected a considerable reduction in the period of residence in hospital of these patients.

General.

Reference has been made in previous annual reports to the enormous increase in *laboratory work* which has resulted from the improved treatment of recent years. It is true to say that the laboratory has become the central hub round which the efficient treatment of the patients revolves. The long-established system in Glasgow whereby most of the routine bacteriological and other laboratory examinations are carried out by the resident assistants under the guidance of their seniors has much to commend it for it has secured for them a very sound training in laboratory procedures. The assistance, both in the conduct of special investigations and in guidance upon routine work, which has so freely been supplied by the City Bacteriologist, especially in recent years, has further ensured a high standard of work. But the time cannot be far away when the specialist nature of the bacteriological and pathological work will demand the appointment of full-time pathologists to the fever hospitals.

It should be recorded too that during the past six winters a monthly meeting of all those members of the staff with a close interest in infectious diseases has come to occupy an important place not only in the diffusion of knowledge of up-to-date methods of diagnosis and treatment, but in the closer linkage of the four hospitals. These informal meetings culminated during the year in the formation of a *Scottish Fever Society* which held its first meeting at Knightswood Hospital in June, 1947. A variety of scientific papers was read (all by members of the staffs of the Glasgow hospitals) at a meeting attended by infectious diseases specialists from all over Scotland. That this supplied a much-felt want was apparent from the enthusiasm which was shown and such annual meetings are planned for the future.

Conclusion.

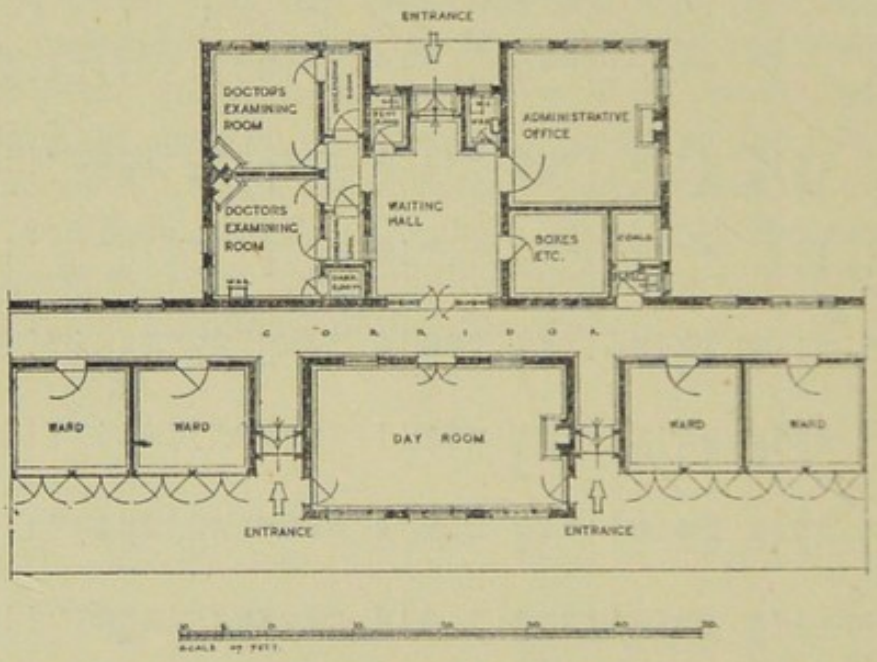
These Annual Reports of the fever hospitals stretch back in an unbroken succession for 83 years. During the greater part of that time the fever hospitals constituted the sole hospital concern of the Corporation of Glasgow and their development owes much to the interest of past and present Health Committees. As one looks back over the distance that has been travelled since the first Scottish Municipal hospital was opened at Kennedy Street in 1865, one can appreciate that great advances have been made possible. In concluding what may be our last joint report to the Committee on Health, therefore, I would join with the superintendents of the hospitals —Dr. T. Archibald, Dr. W. M. Elliott, Dr. A. W. McCrorie and Dr. W. Napier—in thanking them and their predecessors for their continued interest and active support during the years.

FEVER HOSPITALS—Statement of Cases Treated According to Sex, etc., Based on Dismissals and Deaths for Year 1947.

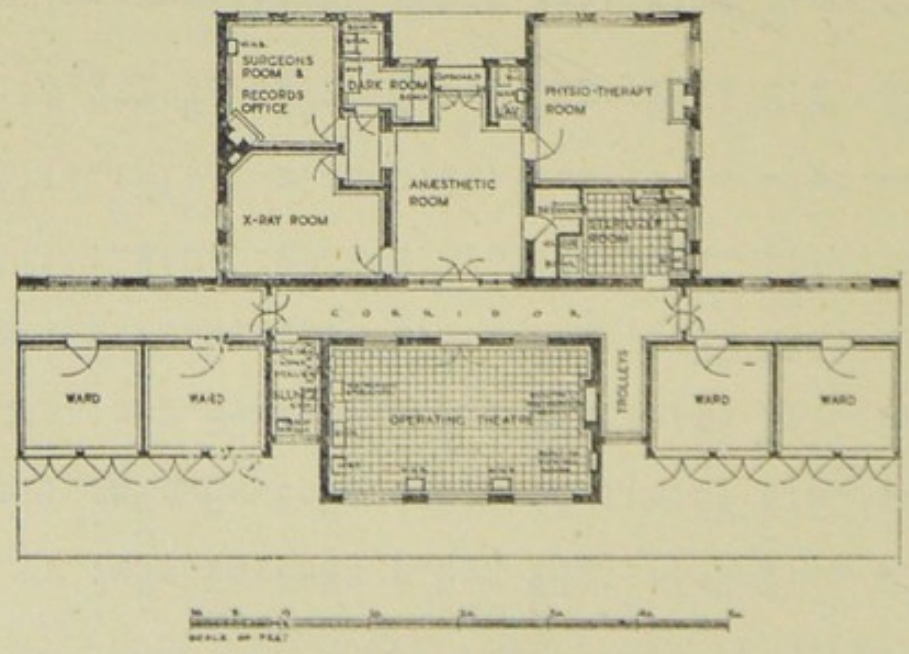
	Admitted.		Dismissed.		Died.		M'tality	Av. Residence.		Ages. Dismissals & Deaths.			Altered	Ruchill.		Belvidere.		Knightswood.		Shieldhall.		Total Days' Residence.	
	M.	F.	M.	F.	M.	F.	per cent.	Dismiss.	Deaths	—5	—15	15+	Diagnosis.	Dismissals.	Deaths.	Dismissals.	Deaths.	Dismissals.	Deaths.	Dismissals.	Deaths.	Dismissals.	Deaths.
Typhus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	8	11	6	6	1	1	14·3	45	4	3	1	10	23	4	2	6	—	2	—	—	—	538	7
Paratyphoid Fever ...	9	8	8	7	—	1	6·3	97	50	6	6	4	8	5	—	6	—	4	1	—	—	773	50
Continued and Undefined Fever	2	1	1	—	—	—	—	19	—	—	—	1	96	1	—	—	—	—	—	—	—	19	—
Puerperal Fever ...	—	139	—	140	—	5	3·4	16	17	—	—	145	101	—	—	140	5	—	—	—	—	2,814	84
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	918	1,189	932	1,167	2	1	0·1	27	12	496	1,336	270	152	562	—	915	2	292	—	330	1	56,419	36
Diphtheria and Mem. Croup	212	288	245	357	6	6	1·9	49	13	190	306	118	666	284	4	184	5	21	1	113	2	29,859	156
Erysipelas	90	121	85	118	3	1	1·9	14	2	7	4	196	76	190	3	1	—	9	1	3	—	2,856	10
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebrospinal Fever ...	74	55	65	51	13	5	13·4	26	32	86	26	22	646	77	10	19	1	20	7	—	—	2,972	162
Trachoma	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—
Acute Polioencephalitis	9	11	6	3	2	8	5·3	42	3	6	11	2	8	4	8	2	2	3	—	—	—	378	28
Acute Poliomyelitis ...	187	118	170	111	13	3	5·4	39	6	154	97	46	222	74	2	124	8	49	5	34	1	11,030	97
Acute Primary Pneumonia	1,433	763	1,282	661	155	103	11·7	29	11	1,050	313	838	1,259	654	123	682	83	308	30	299	22	57,305	2,725
Acute Influenzal Pneumonia	12	6	13	6	3	—	13·6	42	1	6	4	12	11	4	—	8	—	5	1	2	2	803	3
Malaria	16	—	12	—	—	—	—	16	—	—	—	12	8	9	—	2	—	—	—	1	—	195	—
Dysentery	124	81	113	82	2	2	2·0	25	12	124	25	50	66	132	2	51	2	12	—	—	—	4,972	49
Relapsing Fever ...	1	—	1	—	—	—	—	102	—	—	—	1	—	—	—	1	—	—	—	—	—	102	—
Pulmonary Tuberculosis	96	73	80	63	22	14	20·1	53	35	20	20	139	—	65	20	53	8	20	6	5	2	7,633	1,256
Other forms of Tuberculosis	75	97	11	10	60	86	87·4	27	13	47	71	49	—	6	89	11	44	2	11	2	2	582	1,903
Measles	230	216	181	156	5	3	2·3	20	5	269	60	16	51	100	4	144	2	70	—	23	2	6,717	40
German Measles ...	21	45	24	46	—	—	—	15	—	17	21	32	7	13	—	43	—	12	—	2	—	1,029	—
Whooping Cough ...	171	194	181	193	23	28	12·0	55	8	365	58	2	60	152	19	120	22	80	9	22	1	20,600	443
Chickenpox	85	56	78	60	1	1	1·4	31	4	81	45	14	8	10	—	121	2	6	—	1	—	4,273	8
Mumps	49	30	49	30	—	—	—	17	—	18	34	27	8	22	—	13	—	42	—	2	—	1,322	—
Venereal Diseases ...	154	142	155	143	—	2	0·7	36	17	15	2	283	—	151	2	147	—	—	—	—	—	10,678	34
Babies with Mothers ...	2	2	1	2	1	—	25·0	11	1	4	—	—	—	2	—	1	1	—	—	—	—	33	1
No apparent Disease ...	93	67	91	70	—	—	—	12	—	94	35	32	—	59	—	53	—	6	—	43	—	1,902	—
Others	1,701	1,507	1,495	1,404	199	104	9·5	25	16	1,569	611	1,022	70	1,531	133	937	124	383	41	48	5	71,486	4,761
Influenza	39	28	40	34	1	—	1·3	13	1	13	25	37	—	30	1	41	—	3	—	—	—	975	1
Puerperal Pyrexia ...	—	51	—	48	—	1	2·0	18	56	—	—	49	4	—	—	47	1	1	—	—	—	863	56
Impetigo	7	2	7	2	—	—	—	19	—	4	2	3	—	8	—	1	—	—	—	—	—	176	—
Mothers with Babies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pemphigus Neonatorum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified (Staff) ...	1	31	1	32	—	—	—	21	—	—	—	33	—	7	—	18	—	8	—	—	—	—	—
Anthrax	1	—	1	—	—	—	—	25	—	—	—	1	—	1	—	—	—	—	—	—	—	703	—
Infective Jaundice ...	2	—	2	—	—	—	—	17	—	—	—	2	—	—	—	—	—	2	—	—	—	25	—
																						34	—
Total	5,822	5,332	5,336	5,002	512	375	7·9	29	13	4,644	3,113	3,468	3,555	4,157	422	3,891	312	1,360	113	930	40	300,066	11,910
Phthisis	286	627	214	535	63	98	17·7	150	118	31	133	746	—	614	113	54	8	81	40	—	—	112,231	19,082

MEARNSKIRK HOSPITAL—THORACIC UNIT

PLAN OF CENTRAL PORTION OF PAVILION 7.



PLAN 2—BEFORE CONVERSION.



PLAN 3—AFTER CONVERSION.

MEARNSKIRK HOSPITAL.

During 1947 the work of the hospital, despite the continued shortage of nurses, showed a considerable increase and by the end of the year only one unit of the parent hospital remained unoccupied. This advance was made possible by the appointment of large numbers of women to work in the wards on a part-time basis. Only a relatively small proportion of these, approximately one third, were trained nurses, yet their presence made it possible to bring into use 100 urgently required beds and by the end of the year it was possible to foresee the opening of the entire parent hospital. Even with the hospital functioning only in part, the turn-over of patients during the year reached a level considerably above that of any pre-war year. This is explained partly by the large number of patients dealt with in the 36 beds of the Thoracic Unit and partly by the unusually high admission rate of cases of infantile paralysis requiring orthopaedic treatment following the serious epidemic of the Summer and Autumn of 1947.

There were 296 patients in residence on 1st January, 1947. During the year 766 new patients were admitted and 659 were dismissed or died in hospital, leaving 403 still in residence at 31st December. These figures are shown, together with the corresponding figures for 1946 and for the three pre-war years in the following comparative table.

TABLE SHOWING PATIENTS ADMITTED AND DISMISSED DURING 1946 AND 1947 AND THE THREE YEARS PRECEDING THE WAR.

Year.	In Residence at 1st Jany.	Admitted	Dismissed	In Residence at 31st Dec.
1936	499	506	524	481
1937	481	523	509	495
1938	495	540	529	506
1946	311	352	367	296
1947	296	766	659	403

The dismissal figures for 1947 include 2 Naval patients from Glasgow who were suffering from tuberculosis and were retained in Mearnskirk after the Naval evacuation in August, 1946. Apart from these last two representatives of the Naval occupation, the hospital reverted completely to its pre-war function and the patients were mainly children suffering from bone and joint tuberculosis or other orthopaedic conditions and patients of all ages suffering from pulmonary conditions, tuberculous and non-tuberculous. The relative proportion of patients in the various categories is shown roughly in the following table of admissions.

ADMISSIONS DURING 1947.

Pulmonary Tuberculosis	181
Non-pulmonary Tuberculosis and Orthopaedic ...	116
Infantile Paralysis	123
Thoracic Unit	346
Total	766

In addition to admissions, out-patient attendances to the number of 1,441 were recorded.

The patients, treated to a conclusion and dismissed or died in hospital during the year, were the subject of more detailed study and the following table shows more accurately the relative proportion of the various conditions treated together with the age distribution.

	Children (−16)	Adults (+16)	Total.	
Pulmonary Conditions—				
Tuberculous—Phthisis Wards	58	118	176	
—Thoracic Unit	29	241	270	
	87	359	446	
Non-Tuberculous—Thoracic Unit	35	35	70	
	122	394	516	516
Orthopaedic Conditions—				
Bone and Joint Tuberculosis ...	76	11	87	
Infantile Paralysis	40	3	43	
Other	3	1	4	
	119	15	134	134
Other Tuberculous Conditions—				
Abdominal Tuberculosis ...	3	—	3	
Glandular Tuberculosis ...	3	—	3	
Genito-Urinary Tuberculosis	—	3	3	
	6	3	9	9
Total	247	412	659	659

Further details of the dismissed cases with regard to type of disease, age and sex distribution and condition on admission and on dismissal are shown in the large table appended. This is summarised in the following brief statement.

Of the 659 patients dismissed, 565 completed the prescribed course of treatment or investigation and of these 7 were dismissed with the disease healed, 99 were much improved and 392 showed some improve-

ment. This latter group included 229 patients dismissed from the thoracic unit soon after operation. A further 67 cases were recorded as not improved. These were all from the thoracic unit and were patients who after investigation were found unsuitable for operation and were returned to their own hospitals *in statu quo*. Of the remaining 94 cases, 40 died, 18 were dismissed irregularly at their own request or at the request of relatives with the disease still active although improved in 7 cases. A further 36 patients were transferred to other institutions, with the disease still active, to make room for infantile paralysis cases urgently awaiting transfer to Mearnskirk to ease the pressure on bed accommodation in the Infectious Diseases Hospitals. Of the 40 deaths which occurred during the year, 31 were among patients with advanced phthisis, 29 deaths resulting from the extensive nature of the disease and two from complications namely, tuberculous meningitis and bronchial carcinoma. Two deaths occurred in the non-pulmonary tuberculosis group and resulted from the development of tuberculous broncho-pneumonia in one case and tuberculous meningitis in the other. The remaining 7 deaths occurred in the thoracic unit and are dealt with later in the appropriate section of the report.

The average duration of residence for all cases was 168 days.

In the interests of brevity, the remainder of this report is confined to short descriptions of the hospital's main departments, by which method an endeavour is made to present a composite picture of the work of the hospital.

A. Pulmonary Conditions.

Of the 516 pulmonary cases dismissed during the year, 340, or two-thirds of them, passed through the thoracic unit. In addition the unit dealt with 55 cases temporarily transferred from other wards of the hospital for surgical treatment.

Thoracic Unit.

The report for 1947 covers the first complete year's working of the thoracic unit. The unit was officially opened on 23rd October by the Right Honourable, the Lord Provost of the City of Glasgow, Sir Hector M'Neill, at an interesting ceremony presided over by the Convener of the Committee on Health, Bailie William Reid, assisted by the Sub-convener, Bailie Mrs. Alice Cullen. The statistics for the unit, for the nine-month period which had elapsed since it opened for the admission of patients, were published in a brochure issued to commemorate the ceremony.

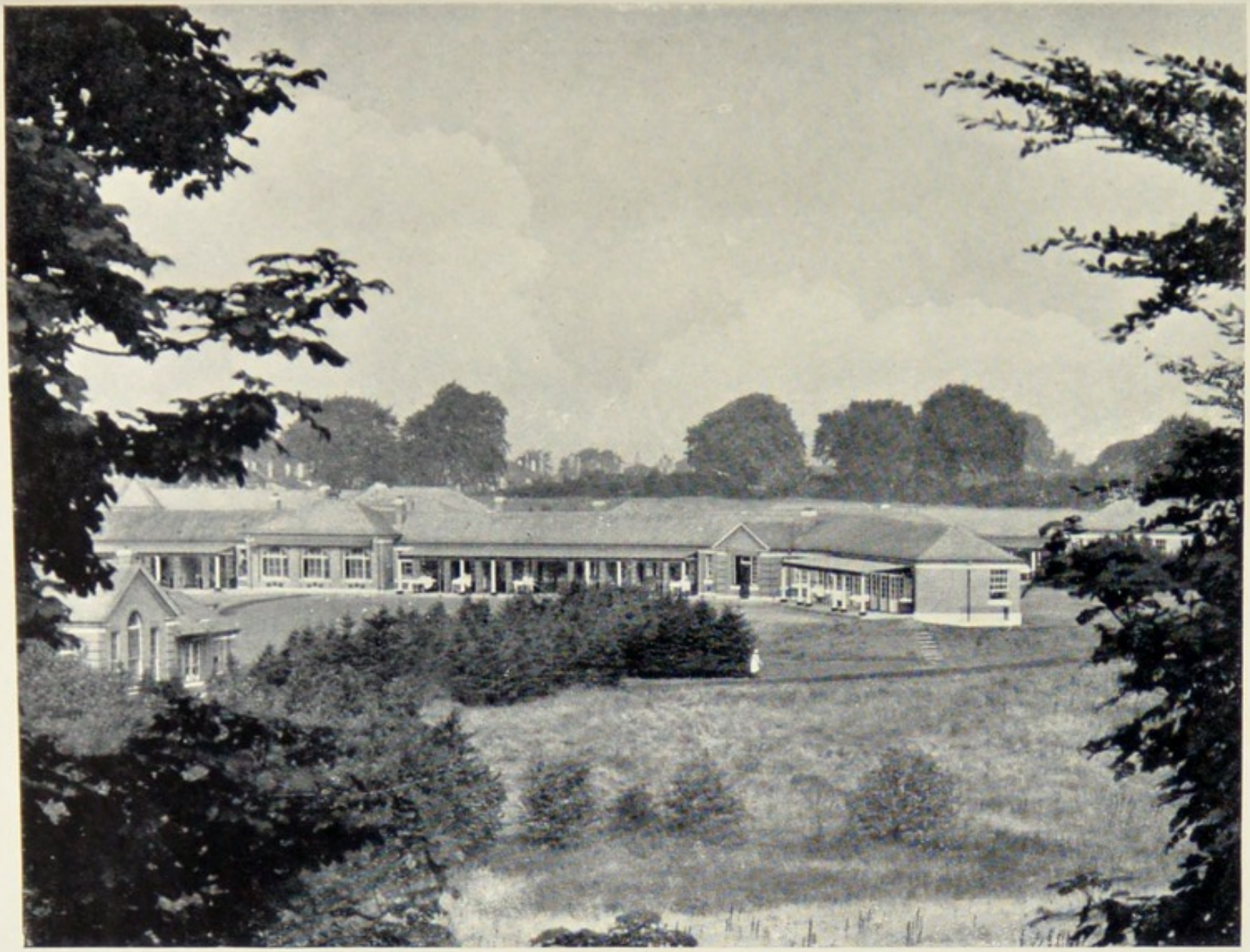
During the year, 346 patients were admitted to the unit's 36 beds and 340 were discharged. Of the dismissed cases 270 were tuberculous patients admitted for surgical treatment, usually to produce or assist collapse of the lung, and 70 had non-tuberculous conditions of the thorax requiring operation or investigation. The types of disease dealt with are shown in the following table :—

Pulmonary Tuberculosis	270
Bronchiectasis	35
Lung Tumour	19
Chronic Empyema	7
Lung Abscess	3
Cyst of Lung	1
Congenital Heart Disease	5
	340

Of the 340 cases discharged, 33 were recorded as much improved, 229 improved and 78 not improved at the time of dismissal. The "improved" group consisted mainly of patients who were returned to their own hospitals shortly after operations, the full benefits of which were not, as yet, apparent at the time of dismissal. The 78 patients who were not improved comprised 71 cases found unsuitable for operation, e.g. inoperable bronchial carcinoma, indivisible adhesions, etc., and 7 patients who died. The causes of death in the fatal cases were, bronchial carcinoma 2, pulmonary tuberculosis and thoracoplasty 2, chronic phthisis with empyema and amyloid disease 1, congenital pulmonary stenosis 1, anaesthetic death 1.

In the operating theatre 497 surgical procedures were carried out of which 174 were major thoracic operations and 323 were classed as minor operations. These are shown in the following table :—

Operations	Tuberculous Patients	Non-Tuberculous Patients	Total	
Major Operations—				
Thorocaplasty 1st stage	49	—	49	
,, 2nd ,,	51	—	51	
,, 3rd ,,	27	—	27	
,, 4th ,,	2	—	2	
Pneumonectomy ...	—	6	6	
Lobectomy	1	17	18	
Thoracotomy	—	11	11	
Decortication of Lung	—	1	1	
Closure of Patent Ductus Arteriosus	—	1	1	
Rib Resection	—	8	8	
Total	130	44	174	174



The Thoracic Unit—Pavilion 7, Mearnskirk Hospital.

Operations	Tuberculous Patients	Non-Tuberculous Patients	Total	
Minor Operations—				
Phrenic Crush	121	—	121	
Adhesion Section ...	138	—	138	
Thoracoscopy ...	32	—	32	
Bronchoscopy	—	22	22	
Biopsy	—	1	1	
Intercostal Drainage	—	5	5	
Incision	—	1	1	
Resuture of Wound ...	—	1	1	
Exploration of wound	—	2	2	
Total	291	32	323	323
Grand Total	421	76	497	497

Follow-up and after-care were undertaken at the unit and in this connection 152 out-patient attendances were recorded. The total benefits of the thoracic unit will be more fully made known through the follow-up scheme which has been inaugurated.

The average duration of residence for all cases in the thoracic unit was 25 days.

B. Orthopaedic Conditions.

Of the 134 orthopaedic cases discharged from hospital during the year the majority, 87, were suffering from bone and joint tuberculosis. An unusual proportion of infantile paralysis cases were dealt with and in view of the special interest of the epidemic of 1947 a note on these cases is justified.

Infantile Paralysis.

To cope with the major epidemic of infantile paralysis which occurred during the second half of 1947 special orthopaedic arrangements were made. From the earliest stage of the epidemic the Orthopaedic Surgeon made regular visits to the Infectious Diseases Hospitals to which the patients had been admitted and co-operated with the hospital staffs in the orthopaedic management of the cases. Adequate splintage was provided, where necessary, from our splint department, and as soon as muscle tenderness had subsided, physiotherapy was instituted, treatment being provided by physiotherapists released from our own staff and from the staffs of Stobhill Hospital, Western District Hospital and the Southern General Hospital. Senior students from

the Glasgow Royal Infirmary School of Physiotherapy were also released, in so far as their studies would permit, to help with the work. At periods varying from 4 to 12 weeks from the date of onset of the illness, the patients were transferred to orthopaedic hospitals, particularly to Mearnskirk, for continuation of orthopaedic supervision. In all, 123 cases were transferred to this hospital. Of these 43 were discharged before the end of the year to attend for follow-up and after-care at the Education Health Services Orthopaedic Clinics or at the hospital out-patient department. Of the 43 cases dismissed, 17 had only slight disability on admission, while 21 had moderate and 5 gross disability. The majority of the cases dismissed were suffering from paralysis of facial or arm muscles. They were ambulent and could be dismissed after assessment and the provision of suitable permanent splints. The average duration of residence for this small group was 34 days, a very short period indeed compared with what is likely to be required for the more numerous leg and trunk cases still resident in hospital at the end of the year.

C. Hospital Departments.

Operating Theatres.

Despite the reversion of the hospital to its peace-time function, with the consequent loss of general surgery, and the closure of wards as a result of staff shortage, the amount and standard of the work carried through in the two operating theatres was well maintained. During the year 207 major operations were undertaken and 1,170 minor operations and other surgical procedures were carried out. The great majority of these were thoracic or orthopaedic operations.

Anaesthetics to the number of 674 were administered and of these 245 were general, 1 was spinal and 428 were local.

The theatre staff also undertook 1,265 minor operative procedures and surgical dressings in the treatment of out-patients and staff.

Plaster of Paris Work.

There was an increase in the work of the plaster room, 468 plaster splints being made of which 159 were for infantile paralysis cases. The total included 20 spinal jackets, 59 hip spicae, 225 leg plasters, 38 shoulder abduction plasters, 30 arm plasters, 66 plaster beds and

30 guarding plasters. In addition 21 repairs to plaster splints were carried out and 45 casts were made as a first stage in the construction of certalmid or celluloid splints.

Splint Department.

In this department splints and other orthopaedic appliances were made, repaired or adjusted for tuberculous and other orthopaedic cases, resident in hospital or attending as out-patients. During the year 231 new splints were constructed in certalmid, celluloid, iron, leather, wood or aluminium. Boots were altered in 308 cases by raising or tilting soles or by fitting metatarsal bars or T-straps. Walking irons were made for 18 plaster leg splints, 29 new pieces of orthopaedic equipment were constructed including 11 Bradford Frames and 141 new accessories were made for attachment to spinal and hip carriages. Crutches to the number of 92 pairs were produced and 85 new crutch heads were made. In addition, major orthopaedic apparatus was erected, dismantled or adjusted in 179 cases and 374 repairs to splints, boots and other appliances were carried out.

Physiotherapy Department.

On 1st January there were 29 patients undergoing physical treatment. During the year 411 new patients were accepted for treatment and 335 were discharged leaving 105 still under treatment on 31st December. In all 22,026 treatments, 3,758 in the department and 18,268 in the wards, were given to the 440 patients during the year. The increase by 3,207 treatments over last years' figure is accounted for by the large number of cases of infantile paralysis treated. During the epidemic, physiotherapists from the hospital staff and from other centres undertook the treatment of the patients in the Infectious Diseases Hospitals so that orthopaedic treatment would be continuous from as early a date as possible. Over the period of the epidemic 3,086 such treatments were carried out by the physiotherapists. An additional form of treatment inaugurated this year namely hydrotherapy was made possible by the construction, in the hospital, of a tiled bath for under-water exercises. A Guthrie-Smith bed for aided and resisted exercises, made in the hospital workshops, was a further addition to the physiotherapists' armamentarium. The classification of the 22,026 treatments was as follows :—massage and exercises 1,708, medical gymnastics 17,047, medical electricity 130, heat therapy 2,097,

ultra-violet ray therapy 368, hydrotherapy 676. The categories of patients who received treatment are shown in the following table :—

	Treatments
Tuberculous Patients	2,599
Poliomyelitis Patients	10,496
Thoracic Unit Patients	7,674
Staff Patients	1,257
Total	22,026

Dental Department.

The Dentist visited the hospital weekly and examined 587 patients. Of the total 329 received dental treatment and of these 146 required extractions, 345 teeth being extracted, while 183 were treated conservatively. The anaesthetics required for patients who had extractions were, general in 24 cases and local in 122. Of the extractions, 141 were carried out in the Dental Department and 5 in the wards, and of the 183 patients treated conservatively 5 were treated in the wards. The conservative work consisted of 111 fillings in 90 patients, 90 dressings in 73 patients, 17 scalings in 17 patients and 3 artificial dentures in 3 patients. The work of the department is shown in tabular form as follows :—

	Number of Patients	Examined	Treated	Extractions			Conservative				
				General Anaesthesia	Local Anaesthesia	Total	Fillings	Dressings	Scalings	Artificial Dentures	Total
Patients	583	258	325	24	118	142 (340)	90 (111)	73 (90)	17 (17)	3 (3)	183 (221)
Staff (Emergency)	4	—	4	—	4	4 (5)	—	—	—	—	—
Total	587	258	329	24	122	146 (345)	90 (111)	73 (90)	17 (17)	3 (3)	183 (221)

(In the above table the number of patients is shown. The figure in brackets indicates the number of extractions or treatments).

X-Ray Department.

In this department 7,087 X-ray examinations were made, skiagrams being taken of 2,910 in-patients and staff and 602 out-patients. In

addition 3,575 screen examinations were made. The work carried out and the skiagrams taken are shown in the following table :—

	Patients	Staff	Total
In-patients	2,185	725	2,910
Out-patients	602	—	602
Screenings	3,547	28	3,575
Skiagrams	4,016	869	4,885

Laboratory.

During the year 2,383 specimens were submitted to the laboratory for examination. These were for bacteriological, pathological or biochemical investigation. The majority were submitted for the determination of the presence or absence of tubercle bacilli.

Education.

During the first six months of the year there were 5 classes in the school. The children in these classes received half-time instruction in the subjects of the ordinary school curriculum from three full-time teachers. In September two new classes were formed and another teacher was added to the staff. At the beginning of the year there were 100 children on the roll but by December the average number had reached 124.

The pupils in each class were mainly bed patients of ages ranging from 5 to 16 years so that the work was largely individual and the children were for the most part taught in bed. Educational hand-work and hand and eye training generally formed an important part of the work.

Table of Cases Dismissed or Died in Hospital during 1947, Showing Location of Disease, Age and Sex Distribution, Condition on Admission and Dismissal, and Average Duration of Residence in Hospital.

Distribution of Disease.	Age and Sex Distribution.													Condition on Admission.													Condition on Dismissal.														
	Males.						Females.							General					Local Poliomyelitis.			Local Others.					General.							Local.						
	Years.					Total	Years.					Total	Joint Total	Good	Fair	Poor	Very Poor	Moribund	Mild	Moderate	Severe	Early	Intermediate	Advanced	Healed Deformity	Very Good	Good	Fair	Poor	Transferred	Irregular Dismissal	Died	Not Improved	Improved	Much Improved	Healed	Average Duration of Residence in Days
	−1	−5	−10	−15	15+		−1	−5	−10	−15	15+																													
Abdomen	—	—	2	—	—	2	—	1	—	—	—	1	3	1	—	2	—	—	—	—	—	1	2	—	—	1	2	—	—	—	—	—	—	—	—	3	231
Spine	—	2	3	2	2	9	—	2	7	—	2	11	20	5	9	6	—	—	—	—	—	—	10	9	1	8	8	2	—	1	1	—	1	12	7	—	468
Dactylitis	—	—	1	—	—	1	—	—	1	—	—	1	2	—	2	—	—	—	—	—	—	—	1	1	—	—	2	—	—	—	—	—	—	—	2	—	180
Other Bones ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hip	—	2	7	1	4	14	—	1	5	2	2	10	24	9	13	1	1	—	—	—	—	1	14	8	1	2	16	2	—	1	1	2	2	16	5	1	450
Knee	—	3	5	5	—	13	—	2	3	6	—	11	24	12	10	2	—	—	—	—	—	5	12	4	3	9	14	1	—	—	—	—	—	9	12	3	366
Ankle and Tarsus ...	—	—	2	1	—	3	—	1	4	2	—	7	10	3	5	2	—	—	—	—	—	1	5	4	—	4	6	—	—	—	—	—	—	4	6	—	280
Sacro-Iliac	—	—	—	—	—	—	—	—	—	—	1	1	1	—	1	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	—	—	885
Shoulder	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Elbow	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wrist and Carpus ...	—	—	—	—	—	—	—	—	—	1	—	1	1	1	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	—	—	—	254
Other Joints	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cervical Glands ...	—	2	—	1	—	3	—	—	—	—	—	—	3	—	2	1	—	—	—	—	—	—	2	1	—	2	—	—	—	1	—	—	—	1	2	—	154
Skin and Soft Tissues	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Genito-Urinary ...	—	—	—	—	3	3	—	—	—	—	—	—	3	2	1	—	—	—	—	—	—	—	3	—	—	1	2	—	—	—	—	—	—	3	—	—	129
Pulmonary Tubercle	1	15	11	7	103	137	—	5	8	11	15	39	176	18	106	47	4	1	—	—	—	37	65	74	—	22	69	9	—	30	15	31	47	102	27	—	405
Multiple Tuberculosis	—	2	—	—	—	2	—	1	2	—	—	3	5	2	—	2	1	—	—	—	—	—	3	2	—	2	3	—	—	—	—	—	—	2	3	—	781
(Thoracic Unit) Pulmonary Tubercle	—	1	—	1	55	57	—	1	1	25	186	213	270	83	181	6	—	—	—	—	—	1	244	25	—	11	67	186	—	3	—	3	40	215	15	—	19
(Thoracic Unit) Non-Tuberculous Pulmonary ...	—	5	5	4	24	38	—	5	9	7	11	32	70	12	48	10	—	—	—	—	—	3	43	24	—	6	28	24	7	—	1	4	38	14	18	—	48
Anterior Poliomyelitis	3	14	2	—	1	20	3	15	2	1	2	23	43	41	2	—	—	—	17	21	5	—	—	—	—	—	43	—	—	—	—	—	—	41	2	—	34
Orthopaedic	—	—	2	—	—	2	—	1	—	—	1	2	4	2	2	—	—	—	—	—	—	1	—	—	3	1	2	1	—	—	—	—	—	4	—	—	4
Total ...	4	46	40	22	192	304	3	35	42	55	220	355	659	191	382	79	6	1	17	21	5	50	405	153	8	71	262	225	7	36	18	40	129	424	99	7	168

ROBROYSTON HOSPITAL.

The annual report for the year 1947 is presented in shortened form, but gives the outstanding features of the year's work in all departments.

Accommodation and Staffing.—The difficulties experienced in staffing the hospital, particularly those parts devoted to tuberculosis, have been discussed in every report since 1942 and the report for 1946 made it quite clear that a critical position had been reached at the end of that year. At that point the number of nurses had reached the lowest figure recorded and a large number of beds had been withdrawn from the effective strength of the hospital. The proposals to engage nurses and nursing assistants, on a part-time basis, early in 1947, culminated in serious discontent among those nurses who had carried the hospital through previous crises, and to whom the highest praise is due. Matters, were however, amicably settled and it may be said truly, that every section of the hospital's activities was stimulated by the new conditions, and by the influx of nurses able to give only a few hours' service daily. By the summer, the working week had been reduced to 48 hours, worked in six 8-hourly periods, and the weekly day off duty had become standard practice in all the wards, except the maternity unit. By re-organisation and extension of the part-time nursing scheme, similar conditions became operative in this last department of the hospital in the last few months of the year. It is correct that the fullest acknowledgments be here made of the manner in which Miss M'Call, the Matron, and her assistants and the ward sisters tackled the innumerable problems that arose from the operation of the new conditions. As a result of their unremitting efforts, the effective strength assessed on a working week of 48 hours is well above that reached for very many years. With the extension of the part-time nursing scheme to many other hospitals all over the country there has been, as would be expected, some falling off in the recruitment of trained and assistant nurses, but at December 31st the hospital employed 150 women under this scheme. There has been, however, no improvement in the recruitment of student nurses, on whom the whole future of the nursing profession depends.

It follows automatically that the turn over in the tuberculosis wards has been greater than for many years. On 11th April there were 393 sufferers from tuberculosis in residence ; but on 29th December the number had risen to 505 ; nor is this figure the highest obtainable.

Two wards, re-opened in the last month of the year, are not yet fully occupied and may be reckoned to fill up to capacity early in the year, thereby increasing the tuberculous population to close on 540. It must be recalled, too, that one pavilion of 56 beds has been converted to a maternity ward. The number of patients admitted during the year for treatment of tuberculosis was 728, which easily passed the figures for those years when the hospital was thought to be adequately staffed. The total number of patients discharged from all departments was 4,577, of which 1,404 were babies.

Pulmonary Tuberculosis.—The following short table indicates the condition of the pulmonary lesion on admission of those patients who were discharged during the year. The total number discharged represents an increase of just under 33 per cent. over the previous year's figures :—

	Total.	Died.
Lesions classified as early	93	1
Lesions classified as intermediate	92	3
Lesions classified as late	320	95
	485	99

Throughout the year treatment continued to be carried out on lines of proven worth but the scope of surgical treatment will continue to be seriously limited so long as patients reach hospital in the late stages of their illness. There was, however, a slight, but quite appreciable increase, in the number of treatable lesions over the year. This probably accounts for the slight rise in the number of patients treated by artificial pneumothorax. Of the 146 attempts made to achieve collapse of the diseased lung by this method, only 90 were assessed, three months after induction, as being therapeutically effective. Among these patients, and others carried over from 1946, endoscopic section of pleural adhesions was carried out in 113 instances. Thoracoplastic operations numbered 93, and involved 51 patients. The total number of operations for the treatment of pulmonary tuberculosis, and including a few for other chest diseases, was 294.

Non-pulmonary Tuberculosis.—The whole work of this department is summarily presented below. Alongside is given some idea of the total operative work of the hospital.

	Total.	Deaths.	Operations
Tuberculosis of spine	56	5	3
Tuberculosis of hip	25	3	1
Tuberculosis of bones other than spine	7	—	—
Tuberculosis of joints other than hip	29	1	11
Genito-urinary tuberculosis	60	7	98
Abdominal tuberculosis	17	3	3
Tuberculosis of lymphatic nodes	3	—	1
Multiple and miscellaneous tuberculous lesions	7	2	6
Non-tuberculous disease or admitted for observation	9	1	25
Operations on thorax	See separate par.		294
Operations connected with puerperal sepsis and abortions	See separate par.		224
Operations connected with obstetrical unit	See separate par.		502
	213	22	1,168

Radiology.—The existing radiology unit installed in 1934, continues to function though giving rise to considerable trouble owing to its age and the volume of work with which it has to cope. In the year to come it is hoped to replace the unit by a modern installation with additional equipment to meet the demands of the maternity wards.

During 1947, there were taken 4,898 plates, of which 1,370 are accounted for by the regulations designed to protect the health of the staff. Examinations by fluoroscopy totalled 4,779. There were, apart from staff attendances, 240 out-patients.

Puerperal and Sepsis Puerperal Pyrexia.—The short table below summarises the work of this unit of the hospital. The total work undertaken by the unit is represented by this and the succeeding section.

	Total.	Deaths.
(1) Puerperal sepsis following the birth of a viable child	129	4
(2) Puerperal sepsis following the birth of a non-viable child	92	1
(3) Other diseases	48	—
	269	5

There is nothing of note to add to the reports of previous years. Over all the average patient admitted was only mildly ill. In contradistinction those who died were, with two exceptions, hopelessly ill when they were admitted. The two exceptions were (1) a patient with a phlegmasia alba dolens, who later developed an axillary tuberculosis

and finally a massive pulmonary embolus ; and (2) a patient who died of ileus paralyticus with severe peritonitis after abortion. The remaining deaths were due to uncontrolled haemorrhage following abortion, to acute yellow atrophy of the liver, verified histologically, but associated with uterine sepsis, and to an intra cranial abscess.

There was no marked change in therapeutic methods. A small number of patients still are admitted after prolonged treatment by gravely inadequate doses of sulphonamide or penicillin, or of both.

Abortions.—Pavilion 3 continued to treat abortions during 1947, apparently safely doing so, despite the presence of septic infection associated with the patients discussed in the previous section. The total number was divisible as follows :—

Threatened abortions	62
Inevitable abortions	43
Incomplete abortions	147
Complete abortions	61
Ectopic pregnancies	3
Hydatidiform moles	2
Total	318

There were no deaths.

Pneumonia.—A pavilion in the hutted hospital continues, as in the past, to treat pneumonia in females. Probably as a result of the known fact that the hospitals main work concerns tuberculous patients, the largest group of patients admitted was tuberculous. The total number of patients discharged may be divided as follows :—

	Total.	Deaths.
(1) Acute primary pneumonia	44	1
(2) Bronchopneumonia	54	2
(3) Tuberculous diseases	60	5
(4) Respiratory diseases (not in 1, 2, or 3)	52	—
(5) Various diseases	44	11
Total	254	19

Maternity Unit.—The unit may now be regarded as complete. It consists of two pavilions of the sanatorium, suitably modified and united by a corridor. This addition to the original plans was necessitated by the grave condition of some of the patients who required major operative interference in the single theatre. A further valuable ad-

dition, during the year, was the establishment of consulting ante-natal and post-natal clinics, which recorded 305 attendances. Any necessary post-natal treatment was undertaken in a nearby ward. The liaison between the maternity unit and the sanatorium continues to be close and there was marked expansion of the work of those beds set aside for the observation and treatment of pregnancies in tuberculous women. One hundred and twenty-seven women were admitted to the portion of the unit set aside for this work. Collapse therapy was commenced in 13 instances. Of the remainder, 15 were treated by abdominal hysterotomy, and the others were admitted too late for interference of any kind.

The year's work was marred in its last quarter by the persistent occurrence of severe upper respiratory catarrh, almost exclusively among the artificially fed infants. The outbreak was concurrent with widespread though relatively harmless infection in the staff of all parts of the institution, and seemed to be associated with streptococci and staphylococci, which were resistant to treatment with penicillin. The outbreak entirely accounts for the unfavourable comparison between the neonatal death rate for 1947 and the previous year.

The appended table gives in summary form the work undertaken during the year.

Total number of admissions during 1947	1,692
Total number of deliveries during 1947	1,505
Total number of mothers discharged during 1947	1,634
Total number of children discharged during 1947	1,404
Antenatal patients discharged before delivery	152
Mothers and babies admitted together	40
Total livebirths	1,425
Total stillbirths	74
Maternal deaths	5
Neonatal deaths—	
(Hospital cases : 40, from " district " : 27)	67
Maternal death rate	3·3 per 1,000 confinements.
Neonatal death rate	(Hospital cases) 28 per 1,000 confinements.
Stillbirth rate	5 per 1000 births.

Operations—Major 272 ; Minor 230.

Smallpox.—As is usual, a number of beds have been kept in readiness for the admission of patients suspected of having smallpox. The unit was, however, not required in the past year.

Laboratory.—The total number of specimens investigated was 5,708. They are classified in the table below.

For M. tuberculosis in sputum	....	3,802
	pleural fluid	93
	Cerebrospinal fluid	14
	gastric secretion	12
	urine	318
	pus (other than from chest)	87
For M. tuberculosis and various infections in faeces		96
Throat and nasal cultures		106
Uterine and cervical cultures		113
Urine analysis		612
Blood and biochemical investigations		179
Test meals		4
Miscellaneous		76
Total		5,708

Dental Department.—During the year 587 patients were attended of which 110 were examinations. Treatment of the remaining 477 consisted of 424 extractions, 116 fillings, 101 dressings, 24 scalings and 6 artificial dentures.

PART III.

OUTDOOR MEDICAL SERVICES AND GENERAL HOSPITALS.

Outdoor Medical Services.—The following table shows the work done by the medical staff as compared with the four previous years :—

	Visits.	Consultations.
1942	35,821	113,841
1943	36,861	107,238
1944	35,517	100,380
1945	34,502	100,550
1946	36,374	105,897
1947	34,526	103,684

The total amount of service expressed in units was 192,859, as compared with 199,690 in 1946, a decrease of 3·4 per cent. Of the total services rendered, 177,037 units represented the work of the medical officers on full-time service, a proportion of 91·8 per cent. (One consultation at a clinic is reckoned as 1 unit, one domiciliary visit 2½ units, and one session at a Welfare Department 2½ units).

It will be seen from the figures that the amount of work carried out by the medical officers during the later war years remained fairly steady, but for comparison attention is drawn to the figures for the peak year of 1938, when the number of visits paid was 74,944 and there were 300,048 consultations at clinics. The total number of units of service was 488,402. The relatively small decrease in the number of visits and consultations during 1947 is hardly significant. During 1938 the pressure of work and the overcrowding at clinics was excessive and it is to be noted that the number of full-time medical officers at that time was 31 compared with 23 at present.

Hospital accommodation has presented constant difficulties and this is intimately linked up with the shortage of nurses and the situation in this respect is steadily worsening. The waiting list of patients has in consequence increased, particularly in regard to female medical cases and mental observation cases. The supervision of this waiting list

and the assessment of priority for admission are duties undertaken by the outdoor medical officers and the nursing staff. This has become a considerable task.

General Hospitals.—The following table shows the average daily number of patients in residence in the four general hospitals and the highest and lowest numbers :—

	Stobhill.	Eastern District.	Western District.	Southern General.
Average daily number in residence in 1947 ...	1,277	231	210	791
Highest number in residence in 1947	1,349	284	253	854
Lowest number in residence in 1947	1,180	164	171	745
Residence on 31st December, 1947	1,239	195	189	762

On 31st December, 1946, the number of patients in residence in hospital was 2,486, whereas the corresponding figure at the end of 1947 was 2,385. The number of admissions in 1947 was 29,765, which was 948 less than the admissions during the previous year. The last pre-war figure was 28,192 in 1938.

The proportion of deaths occurring in hospital for many years averaged between 13 and 14 per cent., and in 1947 it was 9·2.

At the end of the year out of a total of 2,385 patients in the four general hospitals, there were only 3 Service and 12 E.M.S. Scheme cases. In addition to the accommodation in the four general hospitals, Corporation patients were also treated at Gartloch and Lennox Castle Institutions. At the end of the year there were 118 such patients in Gartloch and 116 in Lennox Castle. But for the additional accommodation provided in these two institutions the waiting list position would have become unmanageable.

It will be observed that the number of cases delivered in the four general hospitals during the year was 5,062 as against 5,384 in 1946. The Maternity Unit at Lennox Castle, however, was in full working order and during the year there were 962 births in that institution.

A table showing the number of cases dismissed from each of the four general hospitals for the year ended 31st December, 1947, arranged according to disease and sex will be found on Page 259.

Stobhill, Eastern and Western District Hospitals.

Out-Patient Department.—The Out-Patient Departments continue to expand and below is a table showing the number of patients who were treated at the three hospitals :—

	Stobhill.	Eastern District.	Western District.
Number of cases attending as Out-Patients	8,526	7,580	13,302
Number of Attendances	25,984	10,906	19,822

Dental Treatment.—No change is to be noted in the provision of dental treatment for both out-patients and in-patients.

Pathological Laboratories.—The following table shows the work of these laboratories :—

Autopsies	486
Historical Reports	1,282
Biological Tests	46
Bacteriological and Serological Reports	6,132
Wassermann Reactions	5,032
Colloidal Gold Tests	277

Refereeing of Cases.—The Board of Referees examined 172 cases, an average of 3·3 per week.

Electro-Medical Departments.—The following table shows the work of the Electro-Medical Departments :—

	Stobhill.	Eastern District.	Western District.
Number of Radiographic Films taken ...	16,746	297	4,903
Number of Barium Meals	860	—	104
Number of Deep Therapy Treatments ...	4,366	—	—
Number of cases treated by Radium ...	77	5	—
Number of Sunlight Treatments given ...	280	1,108	4,474
Number of cases treated by Massage ...	2,420	329	96
Number of Massage Treatments given ...	28,214	3,402	7,9
Number of cases treated by electricity	282	109	155
Number of Electrical Treatments given ...	5,777	1,519	3,432
Number of Electrocardiographs	693	16	12

The total number of radiographic films taken at the three hospitals was 21,946, compared with 20,353 for the previous year.

Southern General Hospital.—The daily number of patients in residence and the highest and lowest figures for 1947 are shown on page 254.

Out-Patients.—Out-Patient attendances numbered 76,599 compared with 56,022 in the previous year. The following table shows the work in more detail :—

REPORT OF PATIENTS AND ATTENDANCES AT OUT-PATIENT DEPARTMENT FOR YEAR ENDED 31ST DECEMBER, 1947.

	Persons Attended.	Total Attendances.
Medical and Surgical	13,244	38,055
Nervous Diseases	1,168	4,138
Skin Diseases	774	3,829
Diabetes	37	570
Ear, Nose and Throat	1,387	3,215
Ante-Natal	1,420	4,687
Post-Natal	644	1,432
Diseases of Women	507	1,428
Dental	226	1,198
X-Ray Treatment	6,413	6,413
Massage Treatment	769	9,111
Light Treatment	259	2,156
Eye Treatment	214	367
	27,062	76,599

Surgical Department.—Operations under general or spinal anaesthesia numbered 3,298 as compared with 2,950 in the previous year.

X-Ray Department.—The following table shows the amount of work done in the X-Ray Department :—

Number of patients X-rayed	12,078
Number of Films used	25,177
Number of Barium Examinations	968
Number of Screen Examinations	1,858
Number of Deep Therapy Treatments ...	2,164
Number of Sunlight Treatments	2,156

The number of X-ray films used was 25,177, as compared with 22,683 in 1946. In addition, there were large numbers of barium investigations carried out. Treatments numbering 2,164 by deep X-ray therapy were given.

Number of Massage Treatments	10,758
Number of Electric Treatments	10,609

Obstetrical Work in the General Hospitals.

The number of cases delivered in hospital has shown a decrease from 5,384 in 1946 to 5,062 in 1947. The following table summarises the work of the Obstetrical Departments in the four general hospitals :—

Cases delivered in hospitals—	Stobhill Hospital.	Eastern District Hospital.	Western District Hospital.	Southern General Hospital.	Total.
Dismissed well ...	1,819	838	919	1,422	4,998
Died	8	—	3	12	23
Transferred	26	12	1	2	41
Total dismissals of cases which were delivered in Hospital	1,853	850	923	1,436	5,062

Method of Admission of above Cases—	Stobhill Hospital.	Eastern District Hospital.	Western District Hospital.	Southern General Hospital.	Total.
Admitted during Ante-Natal period for treatment and delivered in hospital	38	14	17	44	113
Admitted to Labour Ward	1,815	835	906	1,392	4,948
Admitted to Labour Ward (via Glasgow Royal Maternity Hospital)	—	1	—	—	1
Total	1,853	850	923	1,436	5,062

Cases admitted during Ante-Natal period— Dismissed undelivered	418	133	122	307	980
Cases admitted after delivery	95	6	7	47	155
Abortions and miscarriages	823	55	65	339	1,282
Infants dismissed alive	1,624	772	898	1,366	4,660
Infants still-born ...	81	33	28	76	218
Infants Neo-Natal deaths	165	55	23	36	279
Total	1,870	860	949	1,478	5,157

The incidence of puerperal morbidity and mortality is shown in the following table :—

Hospital.	No. of Cases.		Cases per 1,000 Births.		No. of Deaths.		Deaths per 1,000 Births.		Case Mortality %
	Fever.	Pyrexia.	Fever.	Pyrexia.	Fever.	Non-Septic.	Fever.	Non-Septic.	Fever.
Stobhill ...	4	7	2·1	3·7	1	12	0·6	6·7	25·0
Eastern District ...	3	3	3·5	3·5	—	—	—	—	—
Western District ...	5	6	5·5	6·6	—	4	—	4·3	—
Southern General ...	4	4	2·6	2·6	—	14	—	7·8	—
Total ...	16	20	3·4	4·1	1	30	0·2	6·1	6·2

General Hospitals.

Number of Cases Dismissed from each Hospital for the Year ended 31st December, 1947, arranged according to Disease and Sex.

Diseases (Short Classification)	Stobhill			Eastern District			Western District			Southern General			Totals			Percentage of Total Cases dealt with.	Average Days' Residence.	Percentage of Hospital Accommodation Occupied.
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.			
Acute Infectious Disease ...	15	23	38	8	3	11	1	2	3	15	7	22	39	35	74	·25	11·90	·10
Influenza	6	2	8	4	1	5	3	3	6	2	5	7	15	11	26	·09	21·80	·07
Tuberculosis, Respiratory ...	136	41	177	24	9	33	8	10	18	44	48	92	212	108	320	1·07	86·07	3·21
Tuberculosis, Non-Respiratory	22	24	46	1	5	6	2	8	10	23	17	40	48	54	102	·34	78·30	·93
Malignant Disease	284	189	473	60	14	74	44	17	61	169	87	256	557	307	864	2·89	51·56	5·19
Rheumatism, Acute	57	71	128	20	18	38	18	15	33	32	29	61	127	133	260	·87	78·70	2·38
Rheumatism, Muscular, etc. ...	9	21	30	10	2	12	4	12	16	15	18	33	38	53	91	·31	49·67	·53
Rheumatism, Chronic Arthritis	26	29	55	9	8	17	7	9	16	18	20	38	60	66	126	·42	113·92	1·67
Venereal	6	4	10	—	—	—	—	—	—	2	5	7	8	9	17	·06	21·52	·04
Pregnancy and Diseases connected with Child Bearing	—	3,190	3,190	—	1,044	1,044	—	1,117	1,117	—	2,130	2,130	—	7,481	7,481	25·05	13·33	11·62
Congenital Debility and other Disease of early infancy and malformations	69	61	130	16	13	29	24	19	43	31	26	57	140	119	259	·87	28·05	·84
Mental	171	157	328	37	36	73	1	1	1	212	103	315	421	297	718	2·40	105·71	8·85
Senile Decay	105	53	158	32	12	44	20	7	27	122	57	179	279	129	408	1·37	111·99	5·32
Violence	128	110	238	57	37	94	134	89	223	341	143	484	660	379	1,039	3·48	24·70	2·99
Disease not included in above—																		
Nervous System	420	280	700	59	44	103	43	43	86	321	224	545	843	591	1,434	4·80	92·33	12·81
Respiratory System	596	354	950	174	72	246	152	123	275	379	180	559	1,301	729	2,030	6·80	36·65	8·67
Circulatory System	325	245	570	92	68	160	69	45	114	219	155	374	705	513	1,218	4·08	49·59	7·03
Digestive System	724	610	1,334	98	67	165	609	738	1,347	931	770	1,701	2,362	2,185	4,547	15·21	13·20	6·99
Genito-Urinary System ...	162	466	628	53	210	263	36	67	103	167	373	540	418	1,116	1,534	5·13	24·06	4·29
Skin	244	203	447	2	7	9	—	8	8	241	108	349	487	326	813	2·73	46·12	4·37
Other Diseases	232	248	480	81	86	167	74	104	178	298	288	586	685	726	1,411	4·72	33·95	5·55
No Apparent Disease	2	10	12	2	5	7	—	2	2	6	4	10	10	21	31	·10	6·93	·02
Born in Hospital	928	861	1,789	398	429	827	453	468	921	762	640	1,402	2,541	2,398	4,939	16·54	10·97	6·32
Healthy Children	27	41	68	4	2	6	4	5	9	15	26	41	50	74	124	·42	14·80	·21
	4694	7293	11987	1241	2192	3433	1706	2912	4618	4365	5463	9828	12006	17860	29866	100·00	28·72	100·00

DIABETES—SUPPLY OF INSULIN.

Supplies of insulin are given to persons whose circumstances warrant such assistance and who are not already provided for under the National Insurance Scheme or Public Assistance. The following statement summarises the changes in the Roll during 1947 :—

Cases on the Roll at 31st December, 1946		341
Cases applying for the first time during 1947	96	
Cases who discontinued treatment prior to 31st December, 1946 but reapplied during 1947	20	
		116
		457
Cases who died during 1947	34	
Cases in respect of which supply of insulin ceased to be collected during 1947	40	
		74
Leaving cases on the Roll at 31st December, 1947 ...		383

Of the 96 new cases applying for the first time during 1947, 60 were married women and 26 widows. Five were outwith the National Insurance Scheme and five were children under 16 years of age. The 40 cases who discontinued were visited, and the following reasons were given for discontinuance :—

Gone away, not found at address given	7
Discontinued on medical advice	5
Discontinued of own accord	12
In hospital	5
Obtaining supplies elsewhere (per P.A.D., N.H.I., etc.)	11
	40

Of the 383 cases on the Roll at 31st December, 1947, 27 are males and 356 females. The proportion of married women on the Roll is now 67 per cent.

Married women	260
Widows	77
Unmarried women	14
Uninsured males	14
Children under 16 years ...	18
	383

The age distribution is as follows :—

Under 10 years	3
,, 20 ,, ...	17
,, 30 ,, ...	11
,, 40 ,, ...	26
,, 50 ,, ...	38
,, 60 ,, ...	84
,, 70 ,, ...	151
,, 80 ,, ...	44
80 and over	5
Not stated	4
	383

The various types of insulin issued to these 383 cases are :—

Ordinary Strength (20 units per c.c.)	46	(15)
Double Strength (40 units per c.c.)	58	(25)
Extra Double Strength (80 units per c.c.)	50	(40)
Protamine Zinc (40 units per c.c.)	181	
Protamine Zinc (80 units per c.c.)	20	
Globin (40 units per c.c.)	23	
Globin (80 units per c.c.)	5	
	383	

The figures in brackets indicate the number of cases using this insulin in combination with one or other of the Protamine insulins or with Globin.

	1945.	1946.	1947.
Amount of Insulin supplied by the Central Drug Store (No. of phials)	21,231	22,969	25,099
Cost (including syringes, repairs and needles)	£1,797	£2,036	£2,439

The increased use of the more potent insulins continues.

	1945.	1946.	1947.
Ordinary Strength (20)	3,936	3,316	3,426
Double Strength (40)	4,896	4,311	4,170
Extra Double Strength (80)	1,298	2,165	2,162
Protamine Zinc (40)	8,517	10,206	11,553
Protamine Zinc (80)	2,082	2,025	2,190
Globin (80)	204	673	1,232
Globin (40)	298	273	366
	21,231	22,969	25,099

PART IV.

MENTAL SERVICES.

The shortage of nursing staffs to which reference has been made in recent annual reports has continued throughout the year under review and still presents the major problem in the administration of the mental institutions. In spite of considerable improvements in the conditions of service of the nursing staffs, which have been introduced from time to time in recent years, the greatest difficulty is still being experienced in the recruitment of sufficient nurses to look after the patients in the wards at present occupied. At Gartloch and Woodilee Mental Hospitals there are several unoccupied wards which cannot be utilised owing to the lack of staff and, as a consequence of this, there is a considerable degree of overcrowding in the occupied wards and less efficient classification of patients, thus throwing a greater strain on an already overburdened staff. Little improvement can be looked for in this direction until more nurses become available. Practically every channel of recruitment has been and is being explored, but the results continue to be poor.

In consequence of the staffing difficulties in the mental hospitals the admission of new patients has been considerably restricted, and, as a result, the psychiatric units in the general hospitals have continued to be heavily handicapped through overcrowding and have had to retain many cases who should have been certified and removed to mental hospitals. The retention of these cases in the psychiatric units is detrimental to the treatment of psychoneurotics and cases of incipient mental disorder, for the treatment of whom the units were originally established. Throughout the year there has been a long waiting list of patients recommended for admission to these units, with the result that they have had to remain at home, often under conditions of great difficulty, under the regular supervision of health visitors who report on their progress or on the development of any untoward symptoms.

The number of certified cases admitted to the mental hospitals during the year shows an increase of 177 on last year's figures, but this number includes many cases returned to Gartloch from other

institutions to which they were evacuated in 1939 at the outbreak of the war and does not indicate any real increase in the number of new cases admitted. New admissions are largely regulated by the nursing staff available and, as has already been pointed out, there is a serious shortage in this direction, so that there still remains a considerable amount of accommodation in several of the mental hospitals which cannot be utilised.

Modern forms of treatment continue to be used in all the mental institutions with satisfactory results. Many of the new admissions had already been under treatment in the psychiatric units and had failed to respond to treatment, and many were suffering from one or other of the more chronic forms of mental disorder. It is to the credit of the mental hospitals that they are able to maintain a satisfactory recovery rate year after year in spite of the unpromising material admitted. Electric convulsant therapy, hydrotherapy, pyrotherapy and the use of malaria in the treatment of general paralysis continued to be employed during the year.

In last year's report attention was drawn to the neglected state of the grounds at Gartloch owing to the lack of patient labour in that institution consequent upon the evacuation of the patients elsewhere. During the year a number of the patients returned to Gartloch, and already considerable improvement has been effected in this direction. Outdoor work in the grounds of the hospital is an excellent form of occupational therapy and is of great benefit to the patients, mentally and physically.

In expressing appreciation of the concerts and dances provided during the winter and spring months, weekly cinema shows and the bus outings during the summer months, all of which are greatly appreciated by the patients, Dr. Dick, Medical Superintendent of Hawkhead Mental Hospital, is voicing the unanimous opinion of the Superintendents of all the Corporation mental hospitals.

In the Electro-therapeutic Department at Hawkhead the following attendances and treatments were given during the year :—

Convulsant Therapy	679
Mercury Vapour	130
Infra Red	96
Vibro Massage	44
X-rays	67
Fever Cabinet	26

In 1939 the Corporation had decided to proceed with the erection of a Nurses' Home and an extension to accommodate 150 additional patients at Stoneyetts Hospital. At Gartloch also, building operations had been commenced on a new hospital block to house 300 patients. When war broke out these projects had to be abandoned, and so far, it has not been possible to resume building. With so much accommodation lying vacant at Gartloch and Woodilee, the provision of additional accommodation does not appear to be a matter of great urgency. The provision of a Nurses' Home at Stoneyetts Hospital, however, should be proceeded with as soon as possible, as the present accommodation in a cubicilised pavilion is not satisfactory and is not in keeping with modern standards.

Several of the pavilions at Lennox Castle continue to be used by the Corporation as a Maternity Hospital. This state of matters is likely to continue for some years owing to the difficulty of finding suitable alternative accommodation.

Mental Hospitals.

Admissions, Discharges and Deaths.—The number of certified cases admitted to the mental hospitals during the year was 494, an increase of 177 on the number admitted during the previous year. Many cases of certifiable mental disorder remain in the psychiatric units of the general hospitals, as already stated.

There were 3,458 patients under care in the mental institutions during the year as compared with 3,331 during the previous year.

Seventy-five patients were discharged as recovered. This number shows a decrease on the figure for the previous year when the number was 107, but it is a fairly satisfactory result considering the types of patient admitted. A large proportion of the admissions belonged to the categories of schizophrenia, paraphrenia, senile dementia and organic dementia associated with arterio-sclerosis, all of which forms of disorder are of much less hopeful outlook than cases of the manic-depressive and confusional types, of whom a relatively small number was admitted.

Owing to the absence of any serious epidemics and to the general good health of the communities in the mental hospitals, the death rate was considerably lower than that of last year. The number of

patients who died was 147, and of these upwards of 58 per cent. were over sixty years of age. As before, the commonest causes of death were cardio-vascular disease, respiratory disorders and senile degeneration.

Of those who recovered, most were discharged within two years of admission. Five patients were discharged recovered after continuous residence of more than five years. Of the patients who died, more than 61 per cent. had been resident for more than five years.

The causative factors in the production of mental disorders are extremely difficult to determine with any degree of accuracy. Constitutional and environmental factors both play an important part. In the cases admitted during the year the most commonly assigned causes were constitutional inferiority, adolescence, mental stress and senility. In less than 2·8 per cent. was the breakdown attributed to war strain. Alcohol was considered to be the main factor in 35 cases. There is no direct evidence to show that war conditions or the aftermath of war have materially increased the incidence of insanity amongst the civilian population.

Patients in Other Institutions.—At 31st December, 1947, there were 514 Glasgow patients boarded out in institutions owned by other local authorities, an increase of 18 on the number at the corresponding date in 1946.

Admission of Lunatics from H.M. Prisons.—There was again a large number of " Fiscal Cases " admitted during the year, 74 men and 22 women, a slight decrease on the previous year. The large number of these " Fiscal Cases " causes considerable strain in the administration of the mental hospitals owing to the restrictions necessarily imposed in their supervision. Ordinary patients housed along with them suffer through these restrictions and resent being treated alongside the " Fiscal Cases," with the result that an ever increasing strain is thrown on the nursing staff. No relief can be looked for in this connection until the State Institution at Carstairs reverts to its proper function. Further approaches have been made to the General Board of Control for Scotland with a view to expediting the release of the State Institution as soon as possible.

Licensed Wards in Southern General Hospital.—The 389 beds provided in these wards continued to be used to their full capacity.

Dental Services in the Mental Hospitals and Certified Institutions.—Mr. John Caldwell Kyd, L.D.S., Dental Surgeon to the mental institutions, carried out the following treatments during the year:—2,900 visits were made by patients; 2,858 extractions, 106 fillings, 102 scalings, 364 dentures supplied and 86 dentures repaired.

Certified Institutions for Mental Defectives.

Lennox Castle.—The number of certified mental defectives on the register of this institution at the end of the year was 1,356, an increase of 40 compared with the previous year; 115 cases were admitted, 51 were discharged, and 24 patients died during the year. All of the patients discharged were transferred to other institutions. Dr. James Curran, Medical Superintendent, reports as follows:—

Occupational Therapy.—There has been some improvement in supplies of material, and the sheet metal section is showing a particular improvement. During the current year a new department has been opened for the imbecile grade of female defectives. This is designated the "Occupational Centre" where simple handcrafts are taught. The staffing difficulty in the Occupational Centre has been overcome by placing high grade feeble-minded patients in charge of small groups and one nurse supervises the Centre. Sixty patients are employed.

General Health.—The general health is well maintained. The Mass Radiography Unit visited the institution, and the Medical Officer of Health received a report.

Entertainments.—Concerts provided by the Corporation and those by voluntary companies have been of a satisfactory standard. The female patients' own Concert Party trained by Dr. Low gave three performances.

Staff.—In the female section there continues to be a shortage of nurses, but the male section is more adequately staffed. Eight male and three female nurses passed the final examination for the R.M.P.A. Certificate. Twenty-six males and four females passed the preliminary examination for the same certificate.

Caldwell House Certified Institution.—On 31st December, 1947, the number of patients was 119 (68 males and 51 females). Twenty-five patients were admitted—13 boys and 12 girls. Four boys were trans-

ferred to other institutions or boarded-out in private dwellings, and three boys and six girls died.

Miss Young, Superintendent, reports as follows :—The general health of the patients and staff has been good throughout the year. Difficulty in maintaining an adequate staff has continued.

Psychiatric Units in the General Hospitals.

During the year the number of admissions to the psychiatric units of the general hospitals was 1,142, and the total number of cases treated was 1,595. These figures compare with 1,304 and 1,710 respectively for the previous year. The decrease in the number of admissions was due almost entirely to the difficulty of obtaining beds in the mental hospitals for patients who should have been removed there.

Of the 1,595 cases treated in the general hospitals, 822 (51 per cent.) were sufficiently recovered to be sent home or, where they had no home, to an institution under the Welfare Department ; 153 patients died (9·6 per cent.), the majority of whom were old people suffering from senile degeneration ; 166 (10 per cent.) were certified and transferred to mental hospitals or certified institutions for further treatment.

Overcrowding has continued to be very marked, particularly on the female side, where the demand for beds has been heavy. There is still a long waiting list for female patients. While awaiting admission these patients are supervised by District Medical Officers and Health Visitors.

Dr. Ivy MacKenzie, Visiting Psychiatrist, Stobhill Hospital, reports :—

" So far as my own Observation Wards are concerned, the outstanding feature is the extent to which the beds are occupied by senile cases. This, of course, is not a matter for criticism, as anyone who is familiar with modern conditions and the lack of accommodation in the asylums must realise that it is impossible at present to use the Observation Wards for the purpose for which they were originally intended—that is for the care and treatment of persons who were likely to make a recovery and who, in this way, would be provided with the means of avoiding certification. This is made quite clear in the statistical outline, which shows that during the year only fifteen of

the patients from Wards 22A and B were transferred to asylums. It is significant, moreover, that of the forty-three patients who died, thirty-four were of the average age of seventy.

In respect of the work in the wards, I should like to express my appreciation of the efficiency with which the Nursing Staff has contributed its share to the comfort and welfare of the patients, and I have reason to know that the patients themselves appreciate the attention which they receive.

The Encephalitic Wards present a problem peculiar to the type of illness. The patients are not insane, but they are often very difficult, and the nursing necessary for feeding and for cleanliness must be of a high order. As these are chronic cases, there are comparatively few admissions and no discharges. The numbers are reduced only by death.

In the past year an important advance in the medical work has taken place by the appointment of a Registrar and a Medical Assistant for examination and treatment of indoor and outdoor patients. These new appointments have resulted in the integration of all the Observation Wards in a unit in which Dr. MacLeod and I take part in a spirit of co-operation and mutual understanding. We are both indebted to these assistants and their juniors for the good work which they are doing."

Dr. John MacLeod, Medical Superintendent, Stoneyetts Mental Hospital, and Visiting Psychiatrist, Stobhill Psychiatric Unit, reports as follows :—

" The year 1947 was another very successful year at Stobhill in the treatment of early cases, both psychotic and psychoneurotic. Besides the time-consuming but all-important psychotherapy, the modern physical therapies, insulin coma and electric convulsant were applied to selected cases either separately or in combination, with excellent results. But much more could have been accomplished had there been accommodation available elsewhere for those senile and other cases which continuously fill the greater proportion of beds in the Observation Wards and preclude the admission of very many early cases requiring urgent treatment. Those incurable organic cases with slight mental confusion mostly referred from medical and surgical wards in the city, as well as the senile dements, all hopeless

and dying, not only immobilise bed turnover but also have a depressing effect on the early mental cases coming in for urgent hospital treatment. For example, in Ward 24A where the turnover was not less than in any of the other wards, 50 per cent. of the thirty deaths were in patients of seventy and over. Thirteen deaths occurred in the age group fifty to seventy, most of these being incurable organic cases—mainly with advanced general paralysis, cerebral haemorrhage or cancer. Of the two deaths below fifty, one was advanced tuberculosis and the other an imbecile with severe debility, both dying within a very short time of admission. Certifiable cases have to be kept for months before removal can be effected owing to shortage of beds in the mental hospitals.

The out-patient department is becoming increasingly busy but, unfortunately, many of the cases obviously requiring temporary in-patient treatment cannot be accommodated because of the stasis in bed-turnover referred to above.

The Sisters of the Wards are efficient mental nurses, and much of the success achieved in the wards is mainly due to their wise management. The Social Sister has proved herself to be an invaluable member of the Staff by linking the hospital with the homes of the patients, both before and after discharge."

Dr. I. M. Sclare, Visiting Psychiatrist, Eastern District Hospital and late Psychiatrist, Stobhill Hospital, reports in a somewhat different strain. His report is as follows :—

" Throughout the year the wards were badly overcrowded and the nursing staff was sorely taxed. For a great number of very difficult patients the proper place was in a mental hospital. The really valuable function of Mental Observation Wards in Social Medicine will never be realised until suitable accommodation is made available—which means there must be ample accommodation *elsewhere* (1) for the true asylum patients, (2) for old people, many of them no more than physiologically senile, and (3) for the chronic encephalitics.

Physical Methods of Psychiatry.—Far too many patients in 1947 arrived in hospital having already been subjected to so-called physical methods of psychiatry—and in consequence their treatment by rational methods was rendered almost impossible. Those not already treated had frequently been told by outside specialists that all they needed

was "an injection," or "the pressing of a switch," or "a brain operation." This did not make the handling of patients or their relatives any easier.

There is a very strong case for having Mental Observation Wards here and there in which the wholesale adoption of physical methods is rigorously avoided and where the staffs will have sufficient time and skill to devote to rational treatments and the scientific capacity to make long-term comparative studies of their work.

Out-Patient Department.—The corridor wards of the hospital, medical, surgical, gynaecological, etc., made increasing use of the clinic during the year. This is a hopeful augury, for, in the ability of the doctor who is treating physical symptoms to recognise hidden psychogenic factors, lies one of the most valuable opportunities of anticipating mental breakdown.

The Psychiatric Social Sister did excellent work throughout the year both with out-patients and in supervision of in-patients. Her work amply demonstrated how valuable an innovation this appointment has been."

At the Southern General Hospital also, the work of the Psychiatric Unit and Clinic has increased considerably, and excellent results continue to be obtained. Dr. Alexander Dick, Medical Superintendent, Hawkhead Mental Hospital, who is in charge of this unit, reports :—

"From the statistical tables it will be seen that there has been no lessening of the activities of this unit. The attendances at the out-patient clinic have steadily increased, and, as mentioned in my last report, it has been necessary to institute a system of appointments and out-patients are now seen and given advice and treatment on five days in the week. Relatives are also interviewed by appointment. There has always been a number of patients waiting for admission. Too many beds continue to be occupied by those suffering from a deterioration associated with old age, and the problem of their disposal is always present. It is recognised, of course, that these old people require care and appropriate nursing and treatment, and there is a natural reluctance to transfer them to a mental hospital unless their mental state definitely indicates that course. Frequently well established psychotics and mental defectives have remained in the wards for long periods as not sufficient beds were available in the mental institutions.

Where psychiatry begins and ends has not been settled. The vagueness and extent of the territory covered, the reluctance of some patients to seek treatment or their relatives to seek advice, the doubts created by the uncertain results of different methods of treatment retard the progress of this branch of medicine and influence to a certain extent its future place in the medical services. There is no question now, however, of its proper recognition indicated by the increasing number of patients referred for treatment. Psychiatry has no definite boundaries and encroaches on many non-medical territories. Many of the necessary treatments are time consuming and difficult to put into practice owing to the lack of experienced psychiatrists. We are glad to be able to record satisfactory results during the past year, and this unit has been running smoothly. Additional consulting rooms are required, and they will probably be available at an early date when some reconstruction is carried out at the Male Block. The lack of accommodation and proper facilities in the Female Wards has been mentioned in previous reports. There is always a waiting list, and frequently the Acute Ward is overcrowded.

We have again to acknowledge the helpful co-operation and assistance of the other departments and the friendly atmosphere which pervades the whole hospital is most stimulating."

In connection with the work carried out during the year at the Psychiatric Clinic of this hospital, it is worthy of note that 4,375 consultations were given by the psychiatrists, including 2,961 consultations to 550 out-patients (including 1 R.N. and 41 ex-service personnel), 237 consultations to 200 in-patients (including 21 ex-Service personnel), and 1,177 consultations to 618 relatives regarding in- and out-patients.

During the year the Psychiatric Social Sister paid 516 visits, 422 to obtain histories, 88 visits to 79 ex-patients and out-patients, and 6 visits with reference to social and domestic problems.

In the tables following will be found the more important details of the admissions, discharges and deaths for the year 1947.

Showing Numbers Admitted to Glasgow Mental Hospitals and the Channels through which they were admitted during the Year 1947.

	Hawkhead		Woodilee		Stoneyetts		Gartloch	
	M.	F.	M.	F.	M.	F.	M.	F.
Observation Wards ...	24	15	14	27	43	3	3	4
Home, Police Stations, Infirmary, etc. ...	—	7	6	28	1	4	3	5
Transferred from other Asylums or Certified Institutions	2	5	2	1	1	—	161	39
H.M. Prisons	31	12	23	8	11	1	9	1
Totals ...	57	39	45	64	56	8	176	49

Assigned Causes of Insanity in Patients Admitted to the Mental Hospitals during the Year 1947.

	Male	Female	Total
Mental Stress (including domestic or business worry, adverse circumstances, unemployment, social environment, anxiety, etc.)	24	22	46
Constitutional Psychopathic Inferiority	50	24	74
Alcohol	32	3	35
Heredity	33	24	57
Syphilis	10	6	16
War Strain	12	2	14
Arterio-Sclerosis	11	4	15
Epilepsy	23	6	29
Encephalitis Lethargica	6	1	7
Mental Deficiency	10	3	13
Physical Strain	2	6	8
Adolescence	67	6	73
Menopause	—	12	12
Puerperal	—	6	6
Senility	10	15	25
Trauma	5	—	5
Previous Attack	19	14	33
Organic Brain Disease	2	—	2
Unascertained	18	6	24

Forms of Mental Disorder in the Admissions, Recoveries and Deaths in the Mental Hospitals during 1947.

	Admissions.			Recoveries.			Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
herent Developmental Defects—									
Mental Deficiency—									
(*a*) Idiocy	—	—	—	—	—	—	—	—	—
(*b*) Imbecility	10	6	16	—	—	—	2	1	3
(*c*) Feeblemindedness ...	20	7	27	1	—	1	1	3	4
(*d*) Moral Imbecility ...	4	1	5	4	1	5	—	—	—
Epileptic Insanity	24	6	30	2	—	2	12	3	15
Schizophrenia—									
(*a*) Simple	43	12	55	6	2	8	5	5	10
(*b*) Hebephrenic	33	9	42	1	—	1	1	6	7
(*c*) Katatonic	14	1	15	1	—	1	2	2	4
(*d*) Paranoid	41	15	56	3	1	4	1	4	5
Paraphrenia	16	8	24	1	—	1	2	1	3
Paranoia	6	2	8	—	1	1	—	1	1
Psychoneuroses—									
(*a*) Neurasthenia	—	1	1	—	—	—	—	—	—
(*b*) Psychasthenia	4	2	6	4	—	4	—	—	—
(*c*) Hysteria	—	—	—	2	1	3	1	—	1
(*d*) Neurosis	—	—	—	—	—	—	—	—	—
›xic and Confusional Psychoses—									
Manic Depressive Psychoses ...	55	35	90	14	16	30	7	6	13
Acute Delirium	—	—	—	—	—	—	—	—	—
Acute Confusion	2	12	14	4	—	4	—	—	—
Stupor	—	1	1	—	—	—	—	—	—
Exhaustion Psychosis	—	—	—	—	—	—	—	—	—
Alcoholic Insanity—									
(*a*) Delirium Tremens ...	—	—	—	—	—	—	—	—	—
(*b*) Mania a Potu	—	—	—	—	—	—	—	—	—
(*c*) Korsakows' Psychosis ...	—	—	—	—	—	—	—	—	—
(*d*) Chronic Alcoholic Insanity	12	3	15	2	—	2	2	2	4
Cocaine, Morphine and other Drug Insanities	—	—	—	—	—	—	—	—	—
Involutional Psychoses ...	3	10	13	—	3	3	—	3	3
:quired Defects—									
Pre-Senile Psychosis	3	8	11	—	—	—	4	2	6
Senile Dementia—									
(*a*) Simple	5	9	14	—	1	1	7	16	23
(*b*) With Mania	1	4	5	—	—	—	4	3	7
(*c*) With Depression ...	3	1	4	—	—	—	1	2	3
(*d*) With Presbyophrenia ...	—	—	—	—	—	—	—	—	—
General Paralytic Dementia ...	7	4	11	—	—	—	6	3	9
Traumatic Dementia	—	—	—	—	—	—	—	—	—
Organic Dementia—									
(*a*) Tumour	—	—	—	—	—	—	—	1	1
(*b*) Gumma	—	—	—	—	—	—	—	—	—
(*c*) Arterio Sclerosis	12	2	14	—	—	—	13	6	19
(*d*) Meningitis	—	—	—	—	—	—	1	—	1
(*e*) Encephalitis	6	—	6	1	—	1	2	2	4
(*f*) Other Cerebral Diseases	2	—	2	1	—	1	1	—	1
(*g*) Huntington's Chorea ...	—	—	—	—	—	—	—	—	—
Psychopathic Personality ...	8	1	9	1	—	1	—	—	—
Not Insane	—	—	—	—	1	1	—	—	—

Psychiatric Units in General Hospitals.

	Stobhill			Eastern District			Southern General			Total.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Remaining at 31st December, 1946	117	157	274	28	29	57	91	31	122	236	217	453
Admitted during 1947	268	213	481	62	66	128	402	131	533	732	410	1,142
Numbers treated	385	370	755	90	95	185	493	162	655	968	627	1,595
Discharged home or transferred to Welfare Institution	216	168	384	45	44	89	261	88	349	522	300	822
Died	21	14	35	10	18	28	76	14	90	107	46	153
Removed to Mental Hospitals	25	27	52	7	7	14	69	31	100	101	65	166
Remaining at 31st December, 1947	123	161	284	28	26	54	87	29	116	238	216	454

Admissions, Discharges and Deaths in the Mental Hospitals during 1947.

	Gartloch			Woodilee			Hawkhead			Stoneyetts			Total.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
On Register at 31st December, 1946	142	131	273	652	574	1,226	663	513	1,176	148	141	289	1,605	1,359	2,964
Number of cases admitted during the year	176	49	225	45	64	109	57	39	96	56	8	64	334	160	494
Total cases under care during the year	318	180	498	697	638	1,335	720	552	1,272	204	149	353	1,939	1,519	3,458
Cases discharged and died during the year—															
Recovered	6	4	10	10	9	19	24	13	37	8	1	9	48	27	75
Not recovered ...	—	1	1	22	7	29	7	—	7	6	—	6	35	8	43
Died	10	6	16	17	31	48	36	31	67	12	4	16	75	72	147
Transferred to other Institutions in Scotland and boarded out in private dwellings	38	67	105	81	2	83	2	2	4	3	—	3	124	71	195
Total cases discharged and died during the year	54	78	132	130	49	179	69	46	115	29	5	34	282	178	460
Total cases on Register at 31st December, 1947	264	102	366	567	589	1,156	651	506	1,157	175	144	319	1,657	1,341	2,998