[Report 1928] / Medical Officer of Health, Dundee City.

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CITY OF DUNDEE

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE

YEAR ENDING 31ST DECEMBER, 1928.

DUNDEE:
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INDEX.

Public Health Department,
Dundee, June, 1929.

The Lord Provost, Magistrates and Town Councillors
of the City of Dundee.

Gentlemen,

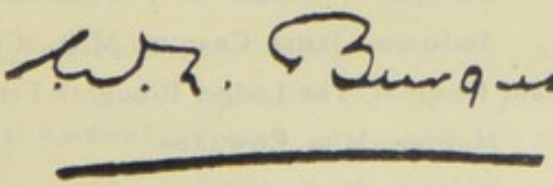
I have the honour to submit my Annual Report on the health of the City of Dundee during the year 1928.

The reports of the various executive medical officers and that of the Chief Sanitary Inspector are included.

I have again to express appreciation of the loyal support given throughout the year by members of the staff of the Department. I also take this opportunity of expressing thanks to Dr. A. E. Kidd, Chief Medical Officer of the Education Authority for Dundee for his valuable co-operation.

I am, Gentlemen,

Your obedient Servant,



Medical Officer of Health.

STAFF OF THE HEALTH DEPARTMENT.

Medical Officer of Health—
W. L. Burgess, M.D., D.P.H., D.T.M.& H., M.R.C.P.(Ed,).

Chief Sanitary Inspector.....Robert Mitchell

Veterinary Inspector.....Hugh Ferrier, M.R.C.V.S.

Chief Tuberculosis Medical Officer.....J. H. Hunter, M.B., D.P.H.

Assistant Tuberculosis Medical Officer.....Arthur Meek, M.B., D.P.H.

Child Welfare Medical Officer.....Margaret Scott Dickson, M.B., D.P.H.

Additional Assistant Medical Officer.....Ellen Douglas, M.B., D.P.H.

Consulting Obstetrician and Gynæcologist.....Margaret Fairlie, M.B., Ch.B

Dental Surgeon—Special Child Welfare Dental Clinic (part time)—
H. Gordon Campbell, L.R.C.P., L.D.S.

Medical Officer, Venereal Diseases Scheme—
Charles Averill, M.A., B.Sc., M.D., D.P.H.

Medical Officer, Women's Section, Venereal Diseases Scheme—
Annie Fulton, M.B., D.P.H.

City Analyst (part time).....Andrew Dargie, B.Sc., A.I.C.

Matron, King's Cross Hospital.....Miss M. A. Clark

Senior Resident Medical Officer, King's Cross Hospital—
John Petrie, M.B., D.P.H.

Junior Resident Medical Officers, King's Cross Hospital—
G. O'Brien, M.B., Ch.B., and E. D. B. Wolfe, M.B., Ch.B.

Diseases of the Ear, Nose and Throat—Consulting Surgeon—
R. P. Mathers, M.D.

Matron, Ashludie Sanatorium.....Miss A. Henry

Clerical Staff.....8 Clerks

Sanitary Staff.....1 Superintendent and 17 Inspectors

Health Visitors—
Child Welfare.....Miss Hunter, Superintendent, and 11 Nurses

Tuberculosis .....4 Nurses

Venereal Diseases.....3 Orderlies and 2 Nurses

Day Nursery Staff.....4 Matrons, 8 Nurses, etc.

Epidemic Officers, Disinfecting Officers, Ambulance Drivers, Hospital Staff, etc.

ANCILLARY INSTITUTIONS.

Bacteriological Laboratory, University College.

Director—Professor W. J. Tulloch.

Assistant—James Craigie, M.B., Ch.B.

Infant Hospital, The Lodge, Broughty Ferry.

Matron—Miss Edwards.

Resident Medical Officer—Annabella Rennie, M.B., Ch.B.

Seafield Hostel, Lochee Day Nursery, etc , etc.

Summary of Vital Statistics.

The following is a summary of the principal statistics for the years 1926, 1927, and 1928:—

	1926.	1927.	1928.
Population	170,060	172,444	172,214
Number of Deaths (corrected)	2,514	2,918	2,598
Death-rate per 1,000 population (corrected) ...	14.8	16.9	15.1
Deaths of Infants under 1 year	382	485	357
Infantile Death-rate per 1,000 Births	103	138	102
Marriage-rate per 1,000 Population	7·7	7·4	7.8
Number of Births registered (corrected)	3,724	3,517	3,501
Birth-rate per 1,000 Population	21.9	20.4	20.3
Illegitimate Birth-rate per 100 Births	6.9	7.6	7.8
Number of Deaths from Pulmonary Tuberculosis ...	138	153	138
Death-rate per 1,000 from Pulmonary Tuberculosis	.81	.89	.80
Death-rate from all forms of Tuberculosis	1.12	1.16	1.05
Death-rate from the Principal Epidemic Diseases...	.79	1.43	.65
Deaths from Enteric Fever	1	0	0

Annual Report—1928

The year 1928 shows a marked improvement in the vital statistics compared to the year 1927. The improvement is due almost entirely to a reduced prevalence of certain of the epidemic diseases.

The birth-rate was 20.3 per 1,000 population. Except for the war years, this is the lowest rate for the city yet recorded. The figure for 1927 was 20.4 per 1,000 population.

The infantile death-rate was the second lowest and the tuberculosis death-rate the lowest yet recorded for the city.

An outbreak of pneumonia mainly affecting children occurred in the early months of the year. This outbreak had an adverse effect on certain of the death-rates.

Smallpox once more invaded the city, but the outbreak was limited to five cases. It would appear possible that the infection reached the city from the neighbouring county of Angus.

The number of deaths from malignant disease was the highest recorded in the city.

A large number of tables showing death-rates, etc., from various diseases are included in the statistical section of the report, and comments are made in the text when it is considered that these are necessary.

An outstanding event of the year 1928, calling for special mention, is the gift of £130,000 received from Mr. Robert Fleming to assist the city in the slum clearance campaign. A large number of new houses was provided during the year and at 31st December 625 houses were in course of erection. Progress was made in the Small's Wynd Improvement Scheme and many insanitary dwellings were made the subjects of closing orders.

The Public Health Institute, which was begun in October, 1926, was completed and opened in September, 1928. As a result, the Tuberculosis Dispensary in Tally Street, the Venereal Diseases (Men's) Centre in Fleuchar Street, and the Venereal Diseases (Women's) Centre at the Out-Patient Department of the Royal Infirmary were closed, the activities of these institutions being transferred to the new building.

Special consideration was given during the year to the re-organisation of the child welfare scheme, especially in regard to the day nurseries and the branch child welfare centres.

The extensions at Ashludie Sanatorium were commenced, and it is hoped that they will be completed about the middle of the year 1930.

The activities under the tuberculosis, venereal disease and child welfare schemes were continued during the year, and the reports of the executive medical officers are included in this volume.

Death-rates

The Registrar General estimates the population of Dundee at the middle of 1928 to have been 172,214, a reduction of 230 on his estimate for 1927. That figure is used in the preparation of the various rates. The vital statistics (*v.* summary, page 7) for 1928 show an improvement on those for 1927. The general death-rate was 15.1 per 1000 population, compared with 16.9 the previous year. The fall was almost entirely due to the reduced prevalence of pneumonia and of certain of the infectious diseases. The respiratory death-rate was 2.73 per 1000 compared with 3.43 in 1927. There were 279 deaths from pneumonia and 153 from bronchitis last year, the corresponding figures for 1927 being 369 and 195. The respiratory death-rate was nevertheless unusually high owing to the occurrence in the early months of the year of an outbreak of pneumonia, especially affecting children. The death-rate from the principal epidemic diseases was reduced by more than 50 per cent. from 1.43 per 1000 in 1927 to .65 per 1000 in 1928. The four infections—measles, whooping cough, scarlet fever, and diphtheria—caused 202 deaths in 1927 and 82 in 1928. Influenza deaths also fell, from 69 in 1927 to 18 in 1928. The reduction in the death-rate as between the two years mentioned must therefore be considered as to a large extent accidental in that it was mainly due to the fact that the former year was an epidemic year, while the latter was not an epidemic year. That statement must not be taken as meaning that no progress was made. Other sections of the report will show that very definite progress has been made and that the vigorous application of new knowledge is producing permanent results. But these results cannot be expected to cause a fall in the general death-rate in one year of 1.8 per 1000, as occurred between 1927 and 1928. The respiratory death-rate, although still high, is very much lower than it was even a few years ago. The same applies to the death-rates from the epidemic diseases responsible for the high rate in 1927. Those diseases while not by any means under complete control are certainly not permitted to do so much damage as formerly. While still ignorant of the main epidemiological facts, a great deal has been done by improving the environment, increasing resistance to infection by general and specific measures, providing hospital treatment, and applying specific remedies, to limit the destructive power

of these infections. The process is a slow one, but it is none the less certain. Tuberculosis is steadily declining, last year's rate being the lowest recorded in the city. The rate for that year is less than half that for the year 1914, the first complete year of the tuberculosis scheme. Had the 1914 rate occurred in 1928, the number of deaths from tuberculosis would have been 365 last year instead of 180. The diseases of infants are also giving way under the insistent pressure of preventive measures. The infantile mortality last year was 102 per 1,000 births, the second lowest on record. Compared with 1927, when the rate was 138, the figure is satisfactory, but it is still far too high. While the average for the last five years will compare favourably with the average annual rate for any former five yearly period, the fall is a very slow one. The conditions prevailing in Dundee are particularly hard on infant life, and correspondingly strenuous measures for combating these conditions are called for. Alongside these more hopeful statements must be recorded the unfortunate fact that the deaths from malignant disease are increasing. Last year there were 338 deaths certified as due to malignant disease. That number far exceeds any previously recorded. While the recorded increase may be larger than the actual increase there can be little doubt that the curve is a rising one. Earlier diagnosis due to improved methods is resulting in earlier and therefore more successful operative interference. Remedies such as radium are having a certain effect, but they are not sufficient to stem the rising tide. Research workers are making a certain degree of progress, and the outlook may be considered as hopeful, but there is still a great deal to be done. Some local authorities conduct propaganda in order to inform the public regarding the early signs of malignant disease, so that skilled advice will be sought at a time when a cure is possible. Even cancer clinics have been established so that specialists of experience can be consulted on the occurrence of suspicious signs. Such clinics also provide material for the further study of the disease. These measures may be useful, but there are arguments against them as well as in their favour.

Table IV. (Statistical Section) gives for each of the last five years the death-rates in the various age periods. The figures for the last two years show that the reduction in the

general death-rate was not shared by all the age periods, but is almost entirely due to a fall in the under 5 death-rate. At all ages, the number of deaths in 1927 was 2,918, and in 1928 2,598, a reduction of 320. At the age period 0-5 years there were 783 deaths in 1927 and 509 in 1928, a reduction of 274, leaving only a reduction of 46 to represent the fall at all the other ages. This is what one would expect when the decline in the general death-rate follows the reduced prevalence of the epidemic diseases, as those diseases cause most havoc during the first five years of life.

The monthly rates varied from 12.8 per 1,000 in September to 18.9 in January. Eight months showed rates below that for the whole year and four had higher rates. Pneumonia was responsible for the unsatisfactory figures for these four months.

The statistics for the various wards are given in Tables VI. to XI. and Chart V. Ward 3 again provides the highest death-rate from all causes. Wards 1, 2, 3, and 9 showed rates higher than that for the whole city.

Infectious Disease.

The infectious diseases were not so prevalent in Dundee in 1928 as was the case in 1927. The notifications and intimations numbered 5,247 last year compared with 7,351 the year before and 3,961 in 1926. Measles, whooping cough, diphtheria and chicken-pox were all present in epidemic form at some time of the year, but they did not prevail to the same extent as they did in 1927. Indeed, there was a marked decline in the incidence of all the infectious diseases, and as a result there was a fall in the death-rate from the six principal epidemic diseases from 1.43 per 1,000 population in 1927 to .65 per 1,000 in 1928. The corresponding rates for 1924, 1925, and 1926 were 1.69, 1.70, and .79 respectively.

Very complete figures are given in the statistical sections of the report, and some observations on certain of the infections are contained in the following paragraphs.

Measles

Measles prevailed throughout the year, showing special

prevalence during the months of March, April, and May. Altogether, 1,062 cases were intimated to the department compared with 2,032 in 1927. Of the total, all but 12 were under 15 years of age, 380 being under 5, and 670 between 5 and 15. Not being notifiable, these figures only give a general idea of the age incidence, the main sources of information being the child welfare scheme and the medical department of the Education Authority. There were 16 deaths, giving a measles death-rate of 9.3 per 100,000 of the population, and a case mortality of 1.5 per cent. All the deaths were of children under 5 years, 7 being infants under 1 year old. The under 5 case mortality was therefore 4.2 per cent., the over 5 being nil.

It was only possible to admit to hospital 65 of the 1,062 cases, or just over 6 per cent., while the health visitors made 1,225 visits to the homes of measles patients.

Whooping Cough.

Whooping cough was also fairly prevalent throughout the year, altogether 829 cases being intimated to the department. The months of March, April, May, and June provided 565 of the total. In 1927 information was received of 924 cases. All last year's patients were children under 15 years old, 466 being under 5 years. There were 36 deaths, giving a death-rate of 20.9 per 100,000 population and a fatality rate of 4.3 per cent. All the deaths were of children less than 5 years old, so that the under 5 case mortality was 7.7 per cent., while the over 5 was nil.

There were treated in hospital 56 cases, or 6.7 per cent. of the total, and health visitors paid 1,028 visits to home-treated cases.

Scarlet Fever.

The number of notifications of scarlet fever fell to 208 in 1928. The corresponding numbers for the years 1925, 1926, and 1927 were 1,528, 1,275, and 414 respectively. The cases were fairly evenly distributed throughout the year, there being no evidence of epidemic occurrence. There were no deaths. Of the total, 125 patients, or 60 per cent., were admitted to hospital for treatment.

The testing for susceptibility to scarlet fever and active immunisation against the disease was continued at the hospital. The following table gives an outline of the work done :—

Age Group.	Dick Positive.	Dick Negative.	Dick Positive and Immunised.	Total.
Under 5 years	12	55	119	186
5-15 years	12	144	142	298
Over 15 years	15	72	19	106
	39	271	280	590

No case of scarlet fever has yet been met with in a person who had been actively immunised against the disease, but as only a small number have been so immunised, and as the disease has not been epidemic since immunisation was started, no conclusion can be drawn therefrom.

Enteric Fever.

Three notifications of enteric fever were received. In two of these the infecting organism was found to be the b. paratyphosus b. The final diagnosis in the third case was meningococcal septicæmia. There were no deaths. No circumstances of note require to be recorded in connection with the two positive cases.

Diphtheria.

A determined effort was made to reduce the number of deaths from diphtheria, and as the case mortality for the year is the lowest on record, namely, 4.8 per cent., it may be assumed that some success was achieved. The notifications numbered 623 compared with 1,023 in 1927 which was a record year. The disease was most prevalent during the first four months of the year, the remaining eight months providing comparatively low figures. Diphtheria has been very prevalent in Dundee since the autumn of 1924, but the epidemic would appear to have worn itself out at the end of last winter.

Among the 623 cases there were 30 deaths, giving a case mortality of 4.8 per cent., the lowest yet recorded in Dundee. In 1927 the rate was 6.7 per cent., in 1926 8.4 per cent., and in 1925 12 per cent. Since 1925, therefore, the case mortality

has steadily fallen. It cannot be claimed that the steady decline is entirely due to special measures of control, but certainly these measures must have had a certain effect. Each death from diphtheria occurring in Dundee now forms the subject of enquiry and report. The evidence provided by these reports shows that a very marked decline in the number of deaths from diphtheria would follow a more thorough understanding on the part of the public of the nature of the infection. The age distribution of the diphtheria deaths was:—Under 5 years, 14 deaths (among 203 cases); 5-15 years, 13 deaths (among 333 cases); over 15 years, 3 deaths (among 87 cases). As is usual, therefore, the case mortality was highest at ages under 5 years, on this occasion 6.9 per cent., compared with 3.9 for age period 5-15 and 3.4 among patients over 15 years old. There were 16 patients under 1 year of age, of whom two, that is 12.5 per cent., died. Although not a frequent disease among infants under 1 year, it is very hard on those attacked.

The circumstances attending the deaths of the 30 patients were investigated. There is evidence that anti-toxin was not administered sufficiently early in every one of the 30 cases. The interval elapsing between the onset of the illness and the administration of antitoxin varied from 2 days in one case to 21 days in another. The average interval was 6 days. In the first 30 cases discharged from King's Cross Hospital after recovery from diphtheria, the average interval between the appearance of the illness and the giving of the specific remedy was 2.8 days; the period varying in individual cases from 1 to 6 days. The average period of stay in hospital for the 30 recoveries was 48.5 days. For those who were given antitoxin within 1 day after onset, the period of treatment was 37 days, while for those in which there was a delay of 6 days before specific treatment was given the hospital treatment lasted 67 days. The year's experience, therefore, provides further proof that recovery from diphtheria depends mainly on the prompt recognition of the disease and the immediate administration of antitoxin. Late treatment was again mainly due to delay in sending for a doctor. Probably financial considerations were responsible, and until the services of a doctor are at all times available to infants and children, free of cost to their parents, there will always be a certain delay. The hope that a child will recover without a doctor, and therefore without serious expenditure, too often

controls the situation. Although the parents and guardians are mainly responsible for delay in treatment by neglecting to call in assistance, doctors cannot be relieved of all responsibility. There is evidence that even after a doctor was called in, antitoxin was not given as promptly as it might have been. No doubt, difficulties in diagnosis presented themselves, but it seems to me that there can be no doubt about the administration of antitoxin in a child who has a lesion on the throat or who shows signs of croup. Unless these signs can be accounted for definitely in some other way, at the time the child is first seen, antitoxin should be given within an hour. Even if the final diagnosis turns out not to be diphtheria, no harm is done. Immediate diagnosis is important, but an immediate decision regarding antitoxin is exceedingly important. It is especially important in the case of a child under 5 years of age. I go the length of saying that every child less than 5 years old showing a faucial lesion or croupy signs should be given antitoxin at the first visit of a doctor. No time should be wasted in order to diagnose the nature of the condition. There is plenty of time for that after antitoxin has been given, but not before it. To take a swab in such a case and wait for a report on its examination before giving the specific treatment is a mistake. A swab may be taken, but it should never be taken before antitoxin is given. If the evidence is enough to justify the taking of a swab it is more than enough to justify the giving of antitoxin. I take every opportunity of repeating these statements, and they appear regularly in these annual reports. But long experience in the diagnosis and treatment of diphtheria has impressed me with the need for the wider use of antitoxin. Time and again cases are admitted to the diphtheria pavilion showing hopeless lesions. They have no chance of getting better. Huge doses of antitoxin are given, but it is too late. Such cases are not easily forgotten, and although one cannot say definitely in every case that antitoxin could have been given in time, there is evidence of unnecessary delay in a certain number. Reliance on a throat swab seems to me to be unwise. I sometimes think that the introduction of the throat swab as an aid to diagnosis has done more harm than good. As a guide to the giving of antitoxin, it should certainly not be relied on. Too long a period must elapse before a report can be obtained, whereas a decision regarding antitoxin must be made on the spot.

The arrangements made for the supply of antitoxin in Dundee were described in the report for 1927. It is available in every district of the city at any hour of the day or night. Delay can therefore never arise from difficulty in obtaining the serum. Medical practitioners are informed frequently of these arrangements, which include the issue free of charge of outfits containing sterile syringe, etc., for the administration of the serum. Not only is serum issued free of charge for the treatment of suspicious cases, but also for the preventive inoculation of immediate contacts. A number of medical practitioners is making free use of these facilities. To them, 1,228,000 units of antitoxin were issued during the year. Outfits for administration to the number of 88 were issued with 528,000 units of antitoxin, while 700,000 units of antitoxin were issued without outfits. Included in the total are 90,000 units of antitoxin issued for the passive immunisation of immediate contacts. These figures provide evidence that medical practitioners appreciate the assistance given by the department. That they are tending to give antitoxin even in suspicious cases is suggested by the fact that 89 of the 214 patients for whom antitoxin was issued were not subsequently notified, and therefore presumably turned out not to be diphtheria. Of the 125 cases treated with antitoxin issued as described and subsequently notified as cases of diphtheria, 3 died, giving a case mortality of 2.4 per cent. This figure compares very favourably with that for the remaining 498 notified cases (623 less 125) received during the year, which provided 27 deaths with a case mortality of 5.4 per cent. The immediate treatment with antitoxin of all suspicious cases by medical practitioners without waiting for a definite diagnosis will therefore produce a much lower fatality rate among those which ultimately prove to be suffering from diphtheria. According to our experience in 1928, the fatality rate can be reduced by more than half. If, therefore, a child is found to show the slightest suspicion of diphtheria it should be given antitoxin at once or sent to hospital as a doubtful case. The diagnosis can be confirmed later.

Active immunisation and testing for susceptibility to diphtheria was carried out in a limited number of children. This work is performed mainly in the child welfare centres, and the health visitors do what they can to inform patients of the fact that protection against diphtheria can be con-

ferred on their children by means of the administration of toxoid antitoxin mixture. Only a small number took advantage of the opportunity, however, and this method of control cannot yet be said to play a very important part in the activities of the department. It is hoped, however, that the public will come to realise the need for preventive treatment, and every opportunity is being taken to keep them informed of the position. Success depends mainly on the health visitor, who, by daily contact with the mothers, can impart the necessary information. No ill effects have followed nearly 1,000 injections made during the year, and the procedure may be considered as a perfectly safe one. During a diphtheria epidemic, children are almost certain to be exposed to infection. It may be too late then to adopt active immunisation as a safeguard, because the active immunity takes some time to develop. The time to take action, therefore, is in the interval between epidemics. Unfortunately, that is just the time when it is most difficult to obtain the co-operation of those who, if the danger was more imminent, would readily agree to have their children protected.

In 1928 there were 307 Schick tests done in Dundee. Of that number, 17 persons did not return for reading. The following is an analysis of the results in the remaining 290 :

Age Group.	Total.	Positive.	Percentage.
Under 5 years	35	25	71.43
5-15 years	208	133	63.94
Over 15 years	47	21	44.68
	290	179	61.72

A total of 319 persons received three intra-muscular injections of toxoid antitoxin mixture at intervals of one week. Of the 179 persons showing positive skin tests, 153 were immunised, while 166 persons, mainly children under five, were protected without a preliminary test. The details are here given in tabular form :—

Age Group.	Immunised after showing positive Schick.	Immunised without preliminary test.
Under 5 years	19	137
5-15 years	117	29
Over 15 years	17	0
	153	166

Total :—Persons, 319; Injections, 957.

Of the 179 positive skin tests, 26 did not complete the prescribed course. In 12 cases no injections were given. In 3 one and in 11 two doses were given. Again 33 persons not previously tested began the course, but did not complete it, 20 receiving one dose and 13 two doses. In this fashion, 71 injections were given to persons who must be considered as defaulters. These injections are not included in the total given in the table.

A careful note has been taken of the occurrence of diphtheria in persons who had been Schick tested and had shown negative results. Three such cases came under observation. The following are extracts from the notes on the record cards :—

1. (12 years). Schick negative on 2.12.27. Notified as diphtheria on 23.1.28. Definite diphtheria. Clinically and also positive swab.

2. ($2\frac{3}{4}$ years). Schick negative on 27.3.27. Notified as diphtheria on 16.2.28. No clinical sign, but definite broncho-pneumonia on admission to King's Cross Hospital. Swab positive. Probably carrier.

3. (6 years). Schick negative on 14.9.28. Notified as diphtheria on 6.11.28. Undoubted diphtheria. Laryngeal obstruction with faucial film. Swab positive. Accepted as diphtheria.

Twelve notifications of diphtheria in persons who had received three immunising injections were made. The following are extracts from the records of 8 of the 12 cases. The other 4 were not accepted as diphtheria :—

1. ($7\frac{3}{4}$ years). Last immunising dose on 16.7.26. Notified as diphtheria on 17.2.28. Not seen by a member of the public health staff. Doctor describes case as a very mild one with positive swab.

2. ($3\frac{3}{4}$ years). Last immunising dose on 22.10.26. Notified as diphtheria on 16.3.28. Clinically definite, swab positive. Moderate case.

3. ($1\frac{3}{4}$ years). Last immunising dose on 13.4.28. Notified as diphtheria on 19.4.28. Clinically mild case. Swab positive. Undoubted diphtheria.

4. (5 years). Last immunising dose on 11.4.28. Notified as diphtheria on 28.5.28. Clinically mainly sepsis. Swab of nose and throat positive. Moderate faucial diphtheria.

5. (18 years). Last immunising dose on 7.10.27. Notified as diphtheria on 10.7.28. Nurse in King's Cross Hospital. Warded on 10.7.28 with sore throat. Clinically not diphtheria. Temperature very high —fauces very swollen and inflamed. Exudation membrane not in the least adherent, first swab, however, positive. Antitoxin given but diagnosis of diphtheria not accepted. Swabs persistently positive even in convalescence. Confirmed by Professor Tulloch. Still positive on 30.8.28. Evidently persistent carrier and has been so all the time, simple tonsillitis supervening.

6. (7 years). Last immunising dose on 13.1.28. Notified as diphtheria on 28.8.28. Clinically definite—swab positive. Definite patch on right tonsil.

7. (1 year). Last immunising dose on 25.11.27. Admitted to King's Cross Hospital as diphtheria on 29.9.28. Not typical in appearance, but swabs (2) positive. Croupy cough. Accepted as diphtheria for treatment.

8. ($2\frac{1}{4}$ years). Last immunising dose on 2.11.28. Notified as diphtheria on 19.11.28. Home treatment—accepted as diphtheria. Not visited by doctor from this department. No swabs taken.

The interval elapsing between the completion of the immunising course and the onset of the diphtheria was only six days in one and six weeks in other two patients. Sufficient time had not elapsed in these cases to permit of the development of the immunity. In two cases, however, the interval was over eighteen months, and in one of these at any rate the diagnosis could not be questioned. In the remaining three cases periods of between six and twelve months intervened between immunisation and onset of diphtheria. These cases emphasised the necessity for retesting and the administration of further doses of immunising material in those showing an absence of immunity.

The occurrence of a number of cases of diphtheria in Balgay Industrial School led to all the inmates being tested and those showing susceptibility immunised. In 1926, 3 cases of diphtheria occurred, in 1927 6 cases, and in January, 1928, 1 case. In March, 1929, all the inmates, 52 in number, ranging in ages from $4\frac{3}{4}$ to $15\frac{3}{4}$ years, were Schick tested. The results showed 24 positive and 28 negative. Thirty of the 52 girls had been Schick tested in 1926, when 15 were

found to be positive and 15 negative. The positive reactors were not then immunised, and in 1928 three of them proved negative. The 24 positive reactors were each given 3 doses of 1 c.c. toxoid-antitoxin mixture at weekly intervals. In August, 1928, four months after, 23 of the 24 girls were re-tested. One had left the school in the interval. Five of these were found to be still positive reactors and were given a further injection of toxoid-antitoxin. These 5 were again retested in April of the present year, when all but one gave a negative reaction. In August one new girl was tested and immunised. The retest in April of this year was negative. Since immunisation was carried out in March, 1928, no cases of diphtheria have occurred in the institution. It is intended to test and immunise if necessary all new entrants to the school.

The treatment of diphtheria in hospital is always encouraged, and no cases are ever refused admission. Last year nearly 90 per cent. of the notified cases were sent to hospital. Dr. Petrie, in his report, records that 614 diphtheria patients were discharged cured and 28 died, giving a case mortality of 4.36 per cent. He points out, however, that 5 died within 24 hours of admission, and that if these were deducted the case mortality would become 3.6 per cent. On the other hand, in a certain number the diagnosis of diphtheria was not confirmed. Many of these were indeed only sent in as observation cases. Deducting these from the total discharges, the case mortality works out at just under 5 per cent., quite a satisfactory figure for hospital-treated cases. The admission of observation cases is always encouraged, especially if the patients are children, in order that antitoxin may be administered at the earliest possible moment.

Smallpox.

Smallpox again appeared in the city, and five cases came under the notice of the department. The first case was a man (A. S.) of 63 years of age, who suffered from a mild unrecognised attack of the disease, the true nature of his illness becoming known only after his wife, Mrs. S. (59), developed a fairly typical attack. Mrs. S. was at first believed to be suffering from influenza, but the appearance of a suspicious rash resulted in the medical attendant calling in the assistance of the health department. She was immediately visited by a medical officer, who confirmed the diag-

nosis and removed her to the Smallpox Hospital (19th October). Mrs. B. (30), a daughter of Mrs. S., who resided in a neighbouring house in the same block had been admitted to the Royal Infirmary a few days before (13th October) with a provisional diagnosis of pleurisy. A visit to the Infirmary resulted in her being removed also to the Smallpox Hospital (19th October) as a definite case of mild smallpox. Both these patients took ill on 12th October. Enquiry elicited the fact that A. S. (husband of Mrs. S. and father of Mrs. B.) had taken ill with influenza on Friday, 21st September, and that a few days later spots had been seen on his face. He was examined on 20th October by a medical officer of the department, who found definite evidence of his having had smallpox. Accordingly, he was removed to hospital the same day.

All the necessary precautions were taken to prevent the spread of the disease, special attention being given to the other occupants of the ward in which Mrs. B. had been under treatment. One of these, a child—R. M., aged 12 years—who had been sent to her home, where she was kept under observation, developed smallpox on 4th November, and she infected her sister, C. M. (24), who took ill on 25th November. Both these patients were removed to the Smallpox Hospital. No further cases occurred.

Investigation revealed the possibility that the missed case, A. S., introduced the infection into the city. He is a dealer in old clothes, rags, scrap iron, etc., and visits places in the neighbourhood of the city for the purpose of collecting these articles. He had occasion to visit a house in Angus in which smallpox had occurred and removed some articles of clothing from that house. The date of this visit fits in satisfactorily with the onset of his illness, so that it is possible that he became infected at the time of this visit or by the clothing which he removed. It would appear likely, therefore, that A. S. was infected in the county of Angus. He passed on the disease to his wife, Mrs. S., and to his daughter, Mrs. B. The latter infected R. M. while in the ward of the Royal Infirmary, and R. M. infected her sister, C. M., at home.

The circumstances attending the occurrence of the last case (C. M.) were rather unsatisfactory. After the removal

of her sister, R. M., to hospital, careful enquiries were made regarding all contacts, so that these could be kept under daily observation, and also, if consent were given, vaccinated. The existence of C. M. was not revealed to the investigating officer, and that such a person resided in the house only became known to the department some days after she had developed smallpox, when the family became alarmed. The father then reported the matter. There was apparently some fear that C. M. would lose her employment if it were known that she was being kept under observation for smallpox. The matter might have been serious, for C. M. worked in a large factory, and indeed continued to work for a day and a half after the appearance of the rash. She was in the eighth day of her illness when she was removed to hospital and precautions taken to prevent further spread. During the 1927 outbreak we had one or two instances in which information regarding contacts was withheld, and accordingly the Town Council, in a Provisional Order now being promoted, have included the following provisions :—

> " The occupier of any building in the borough which is used for human habitation and in which there is or has been any person suffering from an infectious disease shall on the application of the medical officer at any time during the illness of such person or within six weeks from the occurrence of such illness furnish such information within his knowledge as the medical officer may reasonably require for the purpose of enabling measures to be taken to prevent the spread of the disease.
>
> " Any occupier refusing to furnish such information or knowingly furnishing false information shall be liable to a penalty not exceeding forty shillings.
>
> " For the purpose of this section, the expression ' occupier ' shall have the same meaning as in the Infectious Disease (Notification) Act, 1889."

Chickenpox.

All cases of chickenpox were carefully inspected lest any of these should in reality be cases of smallpox. A total of 1,039 notifications and intimations were received, and all of these were visited by a medical officer of the department. The majority of the cases were children attending Education Authority schools the headmasters of which intimated the cases to us.

Influenza was the certified cause of 18 deaths, most of which were among old people. There was nothing of the nature of an epidemic, and all the deaths occurred during the winter months. There were 23 notifications of influenzal pneumonia. Tables XXIII. and XXIV. contain details of the influenza deaths in Dundee during the last ten years. Influenza.

There were notified 736 cases of primary pneumonia and 23 cases of influenzal pneumonia, a total of 759 compared with 1,023 in 1927, 415 in 1926, 446 in 1925, and 499 in 1924. It prevailed throughout the whole year, but the winter months, especially the first quarter, provided the greatest number of cases. During that quarter, the infection was particularly common among children, and the hospital accommodation was taxed to the utmost. Of the total cases for the year 441 were infants and children under 5 years of age and 132 children of school age. Hospital treatment was provided for 495 of the 759 cases, or 65 per cent. The hospital cases were distributed between the Royal Infirmary and King's Cross Hospital. Pneumonia.

There were 279 pneumonia deaths compared with 369 in 1927. Of the total 132 were children under 5 years (78 under 1 year).

During epidemics of pneumonia, great difficulty is experienced in supplying the demand for hospital beds. The trouble is that although the epidemic lasts a comparatively short period, the number of cases comprising it may be very large. In the interests of the community, it has been the practice in Dundee during recent years for the Directors of the Royal Infirmary and the Town Council to pool their resources so that as large a number of patients as possible may receive the advantage of treatment in hospital. The accommodation for pneumonia cases available at King's Cross Hospital depends on the epidemic prevalence of other infections at the time. It is usually possible to set aside one pavilion especially for pneumonia, and this was done during last year's outbreak. But one pavilion is not enough. That 65 per cent. of the total cases notified were treated in hospital is nevertheless satisfactory, and when the extensions at Ashludie are completed and the pavilion at King's Cross Hospital presently occupied by tuberculosis cases vacated that

figure will be improved upon. Meantime the general arrangement is that when cases cannot be admitted to the Royal Infirmary every effort is made to find room for them in the Infectious Diseases Hospital.

Ophthalmia Neonatorum.

A total of 62 notifications was received. Of these, 10 were severe cases, all of which received treatment in the wards of King's Cross Hospital. In one infant, the result was total blindness in one eye and partial blindness in the other. This infant died early in the present year, death being certified as due to acute bronchitis. It is unfortunate that it should be necessary to record the occurrence of marked interference with vision following ophthalmia neonatorum. The circumstances were carefully enquired into, not only by me but by a medical officer of the Scottish Board of Health. There would appear to be no doubt that the infant was carefully attended to and that everything possible was done to save the eyes. The infection was an unusually virulent one. On admission to hospital within 36 hours of its birth, there was marked œdema of the eyelids and severe conjunctivitis. There was also slight discharge of thin yellow pus from both eyes. Owing to the swelling, it was impossible to see the corneæ. Active treatment was carried out, but without the success hoped for. This is the first case of permanent impairment of vision following ophthalmia neonatorum which has occurred in Dundee since the year 1924. Knowing that success is almost certain to follow active measures, every opportunity is taken to impress on the health visitors the necessity for prompt and continuous treatment, and as cots are always available at King's Cross Hospital for such cases, admission to hospital is always advised except in very mild cases. The fact that 851 visits were paid to 62 notified cases and that 12 were treated in hospital shows the attention given to this particular disease.

Puerperal Fever.

The following table shows in regard to puerperal fever the notifications received, the certified deaths, and the number of cases receiving treatment in hospital during each of the last ten years. The case mortality based on these figures and the percentage receiving hospital treatment are also given.

	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Notifications - -	6	12	14	29	17	21	27	15	28	41
Deaths - - - - -	6	9	9	22	6	3	6	10	12	11
Hospital treatment -	2	7	7	23	13	5	17	9	22	36
Case Mortality per cent. - - -	100	75	64	76	35	14	22	66	43	27
Hospital treatment per cent. - -	33	58	50	79	76	23	63	66	78	88

The notifications in 1928 exceeded in number those for any year covered by the table. The high figure last year is due entirely to the occurrence of an unusually large number of cases in an institution and also to the occurrence of a small series of cases in the practice of one particular midwife.

Although the notifications were more numerous than in 1927, there was one fewer death and the case mortality was 27 per cent. instead of 43 per cent. The tremendous variation in the case mortality from puerperal fever, from 14 per cent. to 100 per cent., is not convincing, and emphasises what is already known, that the condition is not efficiently notified. The experience during the last year or two points to a definite improvement in notification, and this may have resulted from the encouragement given to send puerperal sepsis cases to hospital for treatment, the new arrangement whereby such cases are treated in the Infectious Diseases Hospital having been made widely known among medical practitioners. Last year shows the highest percentage of cases receiving hospital treatment, which is all to the good. Thirty-six patients out of a total of 41, or 88 per cent., were so treated. King's Cross Hospital dealt with 24 of these along with 4 from districts beyond Dundee. When the condition does occur, the appropriate treatment is always available. Puerperal fever began to be treated in King's Cross Hospital in May, 1927. From that time until the end of 1928, 40 cases have been received. These 40 cases are classified in the matter of final diagnosis as follows:—

Septicæmia	14
Sapræmia of Pelvic or Perineal Origin ...	18
Phlegmasia Alba Dolens	2
Mastitis	2
Retention of Urine	1
Influenza	1
Constipation	2
Total	40

There were six deaths. In one broncho-pneumonia supervened, in another acute endocarditis, while in a third an attack of erysipelas probably at least hastened death. Another patient had a well-marked mitral stenosis with auricular fibrillation on admission. She died of heart failure. Six deaths out of 40 patients, *i.e.* 15 per cent., is certainly high, but even so it is better than 36 per cent. for all cases in 1928, although that figure cannot be accepted as anything like accurate owing to incomplete notification of the disease. Hospital treatment is undoubtedly advisable for puerperal fever, and that 36 out of 41 known cases were so treated is very satisfactory. While puerperal pyrexia is not yet a notifiable condition in Scotland, it would appear from the final diagnoses in the cases admitted to King's Cross Hospital that a number of them were really cases of pyrexia only, although notified as puerperal fever. No one will grumble at caution of this sort, and the experience in England of making the febrile condition a notifiable one will probably cause Scotland to follow suit. Hospital treatment as early as possible for all cases showing puerperal pyrexia will encourage a low case mortality. Of the 40 cases treated in King's Cross Hospital exact information was obtained regarding the time of onset of the fever in 36. In 26 of these the patient had been ill for three days or less at the time of admission, in 6 the patient had been ill for from four to six days, and in 4 over six days. Three of the four who had been ill for more than six days were confined in the Maternity Hospital and treated there for the puerperal condition. These figures are on the whole fairly satisfactory and suggest that there is little inclination to delay admission to hospital once the condition is suspected.

Encephalitis Lethargica.

During the year 1928, 14 cases of encephalitis lethargica were made known to the department, 12 being notified by medical practitioners and 2 were otherwise intimated. In last year's report it was recorded that the department had notes of 54 cases of encephalitis lethargica, which had occurred in Dundee. The total now stands at 68. Of that number, notification in terms of the relative Regulation provided 30 cases, the remaining 38 being discovered by examination of hospital and other records.

The years of onset of 11 of the 1928 cases are as follows :—

1921.	1923.	1924.	1925.	1926.	1927.	1928.	Total.
1	2	1	4	1	1	1	11

In the remaining three the dates of onset are indefinite or unknown. In 62 of the 68 cases known in Dundee, the years of onset are as follows :—

1918.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	Total.
1	1	1	1	9	21	20	3	4	1	62

As stated in the report for 1927 there is little evidence of the occurrence of new infections. There are reasonable grounds for questioning the diagnosis in the case recorded as having taken ill in 1928. The patient, a man of 25, appears to be perfectly well, and the history is at any rate not characteristic of encephalitis lethargica. The years 1924 and 1925 between them provided 41 new cases. Since then 8 new infections are recorded, but practically all of them are open to doubt.

Three of the patients notified last year died. Two of them are certified as having died of encephalitis lethargica and one from cerebral hæmorrhage. One of the cases notified before 1928 died last year. There were therefore three deaths in 1928 certified as due to encephalitis lethargica.

Of the 68 cases (32 males and 36 females)—

15 have died.

25 have recovered sufficiently as to require no further action by this department. (In one or two of these, there is reason to doubt the diagnosis.)

4 have left the country or cannot be traced.

3 are under treatment in asylums.

14 require treatment in an institution (5 of these are now being treated in the Eastern Hospital, Dundee). Four of these with marked sequelæ really require institutional treatment, but probably would not avail themselves of it if offered.

7 require to be kept under observation by the department. Certain of these may require institutional treatment later.

Other Infectious Diseases.

Diarrhœa in children under two years of age accounted for 30 deaths compared with 45 in 1927. There were 8 notifications of cerebro-spinal fever, 5 of infantile paralysis, 6 of dysentery, 5 of malaria, 130 of erysipelas, and 1 of infective jaundice. Four of the six dysentery cases were members of one family; one of them, a child of 6½ years, died. The source of the infection (Flexner bacillus) was not definitely

ascertained, although the father had contracted dysentery in Italy in 1918 there was no evidence that he remained infectious. The case notified as suffering from infective jaundice was probably merely a case of ordinary catarrhal jaundice. Very thorough investigation failed to reveal any evidence that the case was one of infective jaundice. The other diseases mentioned do not call for comment.

Public Health Institute.

The Public Health Institute at 55 Constitution Road was opened in September. The Tuberculosis Dispensary at Tally Street is now closed, and the men and women V.D. treatment centres have been transferred from the Reception House, Fleuchar Street, and the Out-Patient Department of the Royal Infirmary respectively to the new building. In the tuberculosis section of the Institute there is carried on the work of the tuberculosis dispensary, and included in this section are artificial sunlight lamps and X-ray installation. The waiting room of the tuberculosis section is large, and is intended to be used as a lecture room for nurses, students, etc., as occasion demands. The V.D. (men's) section provides outdoor treatment and also indoor treatment, there being a large ward and a side ward capable of accommodating 12 patients, with the necessary annexes, kitchen, etc. The outdoor section is open from 9 a.m. until 9 p.m. daily, except Saturday afternoon and Sunday, so that patients can attend the centre without interfering with their work. The V.D. (women) section provides outdoor treatment only, women patients requiring indoor treatment being admitted to King's Cross Hospital. The dispensing and laboratory sections are common to the whole Institute.

The opening of the Institute is an important event which has been long waited for. Hitherto, the work now being carried on in commodious and properly equipped premises was done in places hopelessly unsuited for the purpose. Admittedly they were called temporary, but they had to be used for many years, so that they were in fact almost permanent. The new building is a fine-looking one; it is substantial, and with new equipment and furnishing it will cost not much less than £20,000. But the annual cost of maintenance, excluding capital, of conducting the schemes will be less than formerly, as the new arrangement makes certain economies possible, and these have already been effected. From every point of view, therefore, the Public Health Insti-

tute may be said to be a success. The fact that there is sufficient ground to permit of extension is important, for there can be no doubt that extension will be necessary at a time not very far distant. The Institute is an important institution now, but it has a still more important future.

Tuberculosis.

The downward trend of the tuberculosis death-rate was continued last year, the figure 1.05 per 1,000 population being the lowest recorded for the city. In 1927, the rate was 1.16, and in 1926 1.12 per 1,000 population. These rates must be considered as very satisfactory, especially when it is remembered that in 1914 the death-rate was 2.12 per 1,000. The 1928 figure is therefore less than half that for 1914. The decline during the intervening period of 14 years has been steady, interrupted only by occasional slight rises, presumably due to accidental causes. There is every reason to hope that the fall will continue. The difference of .11 between the figures for 1927 and 1928 is shared by both pulmonary and non-pulmonary tuberculosis, the former showing a fall of .09 per 1,000 and the latter of .02 per 1,000. The pulmonary tuberculosis death-rate declined from 1.41 in 1914 to .80 in 1928, and the non-pulmonary rate from .71 to .25 per 1,000 population. The actual number of deaths from all forms of tuberculosis in 1914 was 375 (pulmonary 249, non-pulmonary 126), while in 1928 the number was 180 (pulmonary 138, non-pulmonary 42). Although the period reviewed corresponds roughly with the period during which an active tuberculosis scheme has been in existence in the city, it is not suggested that the reduction in the death-rate is entirely due to that scheme. Probably many factors known and unknown, played their part. But it is reasonable to assume that the tuberculosis scheme has at least accelerated the downward tendency. It is reasonable to conclude that a reduction of over 50 per cent. in the rate in 14 years would not likely have resulted from improvement in environment alone or even from natural causes. The scheme is a costly one to the city and is a serious burden on the rates, but apart from any influence on the death-rate from the disease, the expenditure incurred by the community must be more than offset by the prevention or alleviation of economic disturbance in the families affected with the disease. As a social scourge it seems proper that the cost of dealing with it should be a charge on the whole community and not only on those who have become affected and who are thereby

rendered far less able to bear the burden than the healthy individual. If active measures specially devised for dealing with the disease are tending to reduce its prevalence or even eradicate it, and this seems possible, the case becomes a still stronger one.

The completion of the Public Health Institute and the transfer to it of the Tuberculosis Dispensary from Tally Street will make still more active measures possible. The opportunity was taken to revise the method of conducting the work at the Dispensary in order to ensure if possible that still more determined efforts would be made to deal with centres of infection. The register of cases was carefully revised, and doubtful cases were submitted to thorough examination. At the end of the year the number of persons resident in Dundee known to be suffering from tuberculosis of the lungs was 1,033 (454 males and 579 females), or 5.9 per 1,000 population. Of that number, 202 showed tubercle bacilli in the sputum (1.17 per 1,000 population). The non-pulmonary cases of tuberculosis resident in Dundee at the end of the year numbered 268, making a total for all forms of 1,301. Of the total of 449 cases notified in 1928, 167 were discovered at the Dispensary, these persons having come to the Dispensary on their own initiative or having been sent there for the opinion of the tuberculosis medical officers by medical practitioners. Registrars' returns contained records of the deaths from tuberculosis of 35 persons who had not been notified previous to death. In such cases the certifying practitioner is always communicated with. Of the immediate contacts of known cases 200 were examined. Of these 16 showed evidence of pulmonary tuberculosis and 2 of non-pulmonary tuberculosis. The high percentage (9) of positive contacts demonstrates the importance of their examination, but it is usually very difficult to persuade them to submit to examination, as they rather dread it as an ordeal. The diagnosis in doubtful cases will soon be assisted by an X-ray plant, which will be installed at the Institute in the course of the present year. The revised policy at the Dispensary will result in a marked reduction in the number of attendances, but much more efficient work will be possible. The object is to concentrate more on cases known to be infectious and therefore dangerous to others, and on the search for unknown centres in order that these can be dealt with while the disease is still in an early and more curable stage.

Reference is made in the last Annual Report of the Scottish Board of Health to " the desirability of removing tuberculous families from overcrowded or insanitary houses and in some cases even giving such families a certain amount of priority under the new housing schemes. . . ." It is suggested that " local authorities will find it profitable to devote more attention than has been possible in the past to this aspect of the tuberculosis problem." It is a familiar argument that sanatorium treatment does little good, because the patient must return to the old environment and all the good that has been done is undone in a very short time. One of the principal functions of the sanatorium is the education of the patient in the rules of hygiene. It is certainly very difficult for him to observe these rules in a small, overcrowded house lacking the ordinary facilities necessary for the maintenance of health. If, therefore, he could return after the prescribed period of residence in the sanatorium to a house in which he could continue in a modified way the mode of life he has become accustomed to, the chances of renewed activity of the disease and of his infecting other members of his family would be very much reduced. The re-housing of the tuberculous family should therefore be considered as calling for consideration by the housing authority.

The number of beds available for tuberculosis patients remains the same. The extensions at Ashludie Sanatorium were begun in the autumn, but at least another year must pass before it will be possible to transfer the patients from King's Cross Hospital to the new pavilion at Ashludie. Of the 138 persons who died from pulmonary tuberculosis last year, 74, or 53.6 per cent., died in institutions.

Details of the work done under the tuberculosis scheme are given by Dr. Hunter in his report, and numerous tables of figures are included in the statistical section.

Venereal Diseases

As already explained, the treatment centre for men at Fleuchar Street and that for women at the Out-Patient Department of the Royal Infirmary were transferred to the Public Health Institute in September. The transfer involved a certain disorganisation of the scheme, which must have affected the attendances to some extent. Nevertheless, a full year's working will show that the more central, more commodious and better equipped premises are appreciated. The

venereal diseases scheme in Dundee has had a troublesome career. Now that premises of a permanent nature are in use, it is hoped that more progress will be possible.

The total number of new cases, 890, is well above the 1927 figure, which was 802. The rise is, however, due to an increase of 100 in the number of new cases found not to be suffering from venereal disease. The total under this heading last year was 261, compared with 161 in 1927, and is the highest since 1919. The increase is shared by both sexes, but is more marked among males. It is very satisfactory that the number of cases of this sort should show an increase, and suggests that the treatment centres are becoming better known, and further that there is an increasing appreciation of the seriousness of the venereal infections leading to early application for medical advice.

The total number of new cases found to be suffering from syphilis was 225 (males 92, females 133), being the lowest recorded since the scheme came into operation. The fall is shared equally by males and females as compared with the year 1927. No satisfactory explanation can be given for the reduced number of new cases during recent years. One would be inclined to say that the fall might indicate a reduction in the prevalence of syphilis, but the experience in other parts of Scotland, at least in the year 1927-28, was in the other direction, suggesting an increased prevalence of the disease. The disturbance associated with the transfer of the two centres is probably the principal explanation, and it would therefore be unwise to use the figures as a measure of prevalence. The following are the numbers of new cases attending the various centres found to be suffering from syphilis each year during the eleven years 1918-1928:—

	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Men -	186	359	533	423	203	177	135	128	115	102	92
Women -	269	278	552	454	171	137	150	203	264	140	133
	455	637	1085	877	374	314	285	331	379	242	225

The gonorrhœa figures for the same years are as follows:

	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
Men -	60	241	277	292	236	159	226	240	254	243	247
Women -	18	12	9	40	35	94	63	58	44	65	53
	78	253	286	332	271	253	289	298	298	308	300

The number of new gonorrhœa cases has remained substantially the same for a number of years. While the new gonorrhœa cases exceed in number the new syphilis cases, this is entirely due to the excess of new gonorrhœa cases over new syphilis in men. The position is very much the reverse in the new women patients, 133 of whom were found to be suffering from syphilis and 53 from gonorrhœa. This differs very markedly from the experience elsewhere, and one can only assume that women suffering from gonorrhœa are not attending the centre in sufficient numbers. Until the Institute was opened, the facilities for the treatment of gonorrhœa in women were not of the best, and it is hoped that the new centre will attract greater numbers.

The total attendances at the centres during 1928 numbered 26,775, a reduction of 2,297 on the 1927 figure. On the other hand, during the year ending 15th May, 1929, Forms V.R.1 record that there were 28,074 attendances by 1326 patients, so that the average number of attendances per patient during that year was 21 compared with 18 for both the years ending on 15th May, 1926 and 1927. Table XLIII. shows the defaulter rate for the year 1928-29 and for each of the preceding five years. The actual number of patients discharged with the authority of the medical officer in the year 1928-29 was 278 out of a total of 616, who ceased to attend, that is 45 per cent. (46 per cent. in the year 1927-28). Among males the percentage was 50 and among females 36. The actual defaulter rate is recorded as 40 per cent. representing 250 persons of both sexes. 88 patients were transferred to other centres. The aggregate number of in-patient days was 679 —527 for men and 152 for women.

Complete details of the year's work are given by Dr. Averill in his report.

Hospital Accommodation.

There was no change in the number of hospital beds available to the department. The extensions at Ashludie are proceeding, and the 60 new beds should be ready for use some time during the summer of 1930. Great difficulty was experienced early in the year in finding beds for children suffering from pneumonia. A working arrangement with the Superintendent of the Infirmary ensured that all the available accommodation was made use of, and 495 of the 759 notified cases, or 65 per cent., were treated in hospital.

Diabetes and Supply of Insulin.

At 31st December, 1927, there were eight persons receiving insulin in terms of the Public Health (Scotland) Amendment Act, 1925. During 1928, twelve applications for free supplies were made. Eleven of these were granted, and one was refused after investigating the economic circumstances. In the course of the year, there were thus 19 persons on the insulin register, but, as 2 of these did not apply, 17 persons actually received supplies. During the year, 2 patients died, so that at 31st December, 1928, there remained 17 names on the register. A total of 62,500 units was issued, the largest amount given to any one patient being 8,400 units.

Bacteriological Laboratory Services.

The bacteriological examinations conducted by Professor Tulloch on behalf of the department are detailed in his report. The total number was 9,582 compared with 9,231 in 1927. The increase was entirely due to a greater number of examinations performed under the venereal diseases scheme. Details for earlier years are given in Table XXXIX. The University College continues to give excellent service to the community, and the work of Professor Tulloch and his staff is very much appreciated. Their services and their advice are at all times available to us, and time and again these have proved invaluable.

The Public Health (Port Administration Infectious Diseases) Regulations (Scotland), 1921.

Details of the work done under these Regulations are contained in Tables XXXVI., XXXVII., and XXXVIII. No special action in the direction of infectious disease control was necessary, only two cases of chicken-pox requiring removal to hospital.

Maternity Service and Child Welfare.

Dr. Dickson, in her report, gives detailed information in the form requested by the Scottish Board of Health of the work done under the Child Welfare Scheme during the year 1928. No alterations were made in the scheme during the year calling for comment in this report, but the enlargement and the reorganisation of the principal centre having been completed by the end of 1927, consideration was given to the reorganisation of branch centres and day nurseries. In July a special report on the subject was submitted, and since then negotiations have been proceeding in order to have the main recommendations contained in that report carried into effect. The following paragraphs are taken from the report referred to :—

In order to make the position clear, a brief description of the child welfare centres and day nurseries as they exist at present is given. The principal child welfare centre at 1 Nelson Street, completed and opened last year, is not dealt with.

A. Branch Child Welfare Centres. There are at present 5 branch centres situated as follows :—

(1) 10 Lorne Street, Lochee.
(2) 100 Blackness Road.
(3) Coporation Baths, Caldrum Street.
(4) 73 Princes Street.
(5) Municipal Buildings, Broughty Ferry.

(1) 10 Lorne Street, Lochee. This child welfare centre serves the Lochee district. The premises have been held on lease for a period of ten years from Whitsunday, 1918, to Whitsunday, 1928, at a rental of £17 per annum. A new lease has just been entered into for a further period of five years at a rental of £22 10s. per annum. The premises are in a very convenient situation and satisfy requirements quite well. I do not think any alteration or improvement is necessary.

(2) 100 Blackness Road. The premises at 100 Blackness Road used as a child welfare centre have been so used for the last 11 years. The rent paid is £25. The premises are quite unsuited for the purpose of a child welfare centre in a congested district. They are too small and cannot be properly ventilated. It is unnecessary to enter into further details. The various visiting committees of the Council, on inspecting the premises, have all agreed that they must be vacated at the earliest possible moment, and a new, larger and better centre provided for this quarter of the town.

(3) Corporation Baths, Caldrum Street. A large room is set aside for our use on the first floor of this building. The rent paid to the Baths Department is £25 per annum. The centre is in a very convenient situation for the north side of the town and the premises are reasonably good. The walls of the room and staircase, however, require cleaning and redecorating. If this is done, nothing further is required.

(4) 73 Princes Street. This centre is in a fairly good situation, although probably Blackscroft would be better. Should suitable premises become available in Blackscroft, the opportunity should be taken to transfer the centre from Princes Street.

(5) Municipal Buildings, Broughty Ferry. This centre is really only used as a weighing centre, a medical officer being in attendance once a month. The premises are quite suitable and convenient in situation, and no special improvements or alterations are called for. The rent paid is £20. A medical officer should attend once weekly instead of once a month. That matter is dealt with in a later section of this report.

B. Day Nurseries. There are now five day nurseries in the city. Four of these are maintained by the Town Council and one is a voluntary institution assisted from the rates in the form of a small annual grant. There is, in addition, a nursery school which must be considered from the health point of view as an institution of the same nature as a day nursery. The day nurseries are situated as follows :—

(1) 17 Flight's Lane, Lochee (Voluntary).
(2) 33 Isles Lane (Municipal).
(3) 26 North George Street (Municipal).
(4) 52 Cotton Road (Municipal).
(5) 33 Lilybank Rd. (Municipal).

The nursery school is carrying out its work temporarily in the Caird Rest, Perth Road.

(1) Lochee Day Nursery. This day nursery is managed by a voluntary committee, and has now been in existence for some 33 years. The building is an excellent one and very suitable for the purpose. In my opinion, Lochee is fairly well served, and nothing further requires to be done there. Meantime, the Town Council support the Lochee Day Nursery by guaranteeing any annual deficit up to a maximum of £100. Last year, a deficit of £61 6s. 6d. was made good.

(2) Isles Lane Day Nursery. The day nursery at Isles Lane is the property of and is maintained by the Town Council. It was taken over from the Day Nurseries' Association in May, 1919. The situation is very good, and it serves a very congested district of the town. The building itself, however, is not by any means a convenient one. It is too small, and does not lend itself very well to extension. Further, it is overhung to some extent by the high tenement buildings which form the back lands to Hawkhill.

(3) North George Street Day Nursery. The day nursery in North George Street was taken over from the Day Nurseries' Association in May, 1919, with the other day nurseries. The building is the property of the Town Council. Since it was taken over, a considerable amount of money has been spent on this institution, and I do not think it requires further attention now. It serves a very congested district, but as it is somewhat larger than the others, it can undertake a fair volume of work. Probably some small expenditure will be necessary to throw out a dormer window in a room at present lit by a sky-light only.

(4) Hillbank Day Nursery, Cotton Road. The Cotton Road day nursery is not the property of the Corporation, but is held on a ten years' lease from the Education Authority at an annual rent of £30. The lease ends in May, 1930. The building is rather tiny for a day nursery, and while extensions might be possible, these are not permissible, as it is not the property of the department. In any case, the Education Authority are considering the extension of the grounds of Ann Street School, which extension will in all probability involve the demolition of the nursery. It will, therefore, be necessary to find other premises in the neigh-

bourhood. The cheapest method will be to secure and alter or enlarge an existing house, but it may be necessary to erect a new building.

(5) Lilybank Day Nursery. The day nursery situated at 33 Lilybank Road was taken over from the Day Nurseries' Association with the others. The building belongs to the Town Council. It is rather small, and in many ways very inconvenient. It is possible, however, by extension, to provide larger and better dormitories, playroom, kitchen, etc., and such extensions ought to be carried out in the near future.

The position is, therefore, that four of the five existing branch child welfare centres are quite satisfactory, or can be made satisfactory at a very small cost. The unsatisfactory one is that at 100 Blackness Road.

Of the day nurseries, the voluntary institution at Lochee is sufficient for the requirements of the district. The day nursery at North George Street requires very little alteration. On the other hand, the Lilybank Day Nursery requires considerable extensions. The Isles Lane Day Nursery is too small, and it may not be wise to enlarge it. The Hillbank Day Nursery at Cotton Road will have to be vacated very soon. Another building must be found or a new day nursery built to take its place.

The eastern half of the city is at the moment fairly well served in the matter of child welfare centres and day nurseries, and it is not suggested that any new institutions be established in that district of the town. Certain changes may be necessary in the existing ones.

The Lochee district is also well served with its voluntary day nursery and municipal child welfare centre. Nothing more is required there.

Broughty Ferry does not require a day nursery. The centre at present in use there is quite satisfactory. The only improvement required is in the matter of medical staff.

Excluding Lochee and Broughty Ferry, and dividing the rest of the city into two districts, east and west of a line drawn north and south in the region of the Hilltown, the west district has a population of about 77,000 and the east district a population of about 65,000. Yet the east district has 3 day nurseries (North George Street, Cotton Road, and Lilybank Road), and 3 child welfare centres (Principal Centre, 1 Nelson Street; Caldrum Street, and Princes Street), while the west district has one day nursery (Isles Lane), and one centre (100 Blackness Road), both these institutions being very small and unsatisfactory.

Special consideration must, therefore, be given to the west district of the city, and the following observations will make the recommendations submitted more easily understood.

The reception house at Fleuchar Street is at present in use as a venereal diseases centre for male patients. On the Public Health Institute in Constitution Road being opened, the male section of the venereal diseases scheme will be transferred to the new building. The Fleuchar Street premises will once more be empty. I am satisfied that the reception house can quite well be used regularly for some purpose other than that of a reception house, and I suggest that careful consideration should be given to the advisability of it being used not only as a day nursery, but as a child welfare centre. Certain alterations would have to be carried out, and possibly a small extension made. It is very rare nowadays that the reception house is required for the supervision of contacts, and indeed during the epidemic of smallpox last year, it was only used for the temporary accommodation of a small number of contacts while their houses were being disinfected. Arrangements could quite well be made to make the building available as a reception house in times of emergency.

The day nursery at Isles Lane, as already explained, is too small for our requirements, and further, by reason of its immediate surroundings, it does not lend itself well to extension. On the other hand, the premises are in a good situation and of suitable design for a child welfare centre. Accordingly, consideration should be given to the question of using the premises at 33 Isles Lane as a child welfare centre in place of those at present in use at 100 Blackness Road.

The suggestions contained in the two immediately preceding paragraphs, if carried into effect, would provide, in this particular district, a day nursery situated in Fleuchar Street instead of the one at present situated in Isles Lane. Two new child welfare centres would also be provided, one at Fleuchar Street, along with the day nursery, and the other at Isles Lane (the present day nursery) instead of the one centre at Blackness Road.

The two child welfare centres can, I think, be considered sufficient for the district, but one day nursery, even a large institution, is not enough.

The Dundee Nursery School, which was opened in May, 1920, in the buildings once used as a Poorhouse in Blackness Road, is now carried on in temporary accommodation at the Caird Rest, Perth Road. The Committee of the School are collecting funds in order to erect new buildings on a suitable site. The functions of a nursery school are similar to those of a day nursery, and it would appear to me to be proper for the Town Council to try and co-operate with the Nursery School Committee in order to ensure that the new institution will be established in a district

which is not already served as a day nursery. If the day nursery at Isles Lane is abolished, another must be found in that neighbourhood. As that is a district which the Nursery School hopes to serve, it might be possible to arrange for the Nursery School Authorities to undertake the whole needs of this district so far as this particular type of institution is concerned. This might be done by—

1. Providing the Nursery School Committee with a suitable site in, say, the Blue Mountains area, and

2. Arranging with the Nursery School Committee that when their new Institution is opened, they will undertake the care of infants and children of working mothers in the district.

Co-operation with the proposed new nursery school must ensure that infants, as well as children, are looked after during the day. The Local Authority is concerned with the day care of infants and children, who, because their parents are at work or ill, cannot be looked after at home. The taking away of infants and children from their own homes should most certainly be avoided, but as is well known, that is not possible in Dundee. Unless suitable institutions are provided, infants and children will be left in charge of persons who are ill qualified for the important duty.

Failing agreement with the Nursery School Committee, there are various alternatives which may be adopted. The Council could consider disposing of the Isles Lane property and erecting a combined centre and day nursery on a Blue Mountains site. I am inclined to favour the Blue Mountains area as being a more suitable situation for a child welfare centre than even Isles Lane, which is perhaps a little too far west. A centre in Brook Street would serve a district not meantime sufficiently provided for, and combined with the new centre at Fleuchar Street, would meet the needs of the west district of the city.

Another proposal worthy of careful consideration is the taking over of one or two slum dwellings situated immediately to the north of Isles Lane Day Nursery, converting them into a child welfare centre and enlarging the existing day nursery. In this way, a combined day nursery and child welfare centre, with approaches from both Hawkhill and Blackness Road, would be provided.

As already explained, it is only possible, with the present staff, to have a medical officer at the Broughty Ferry centre on the first Monday of each month. Even then, it means that the clinic held on that day at Nelson Street centre is without a doctor. Such an arrangement is very unsatisfactory. The need for additional medical assistance for the child welfare scheme has been referred to again and again. It must now receive consideration by the Council. A medical officer must attend at Broughty Ferry

at least one afternoon each week. Further, it will be necessary to hold consultations at each of the two new centres in the western district of the city on at least two days each week. That is impossible with the present staff. Assistance must be provided. This may be done by engaging the services of part-time medical officers in the different districts. More satisfactory, however, would be the appointment of a whole time medical officer to the department, who would not only undertake the additional consultations, but would take charge of the diphtheria immunisation clinics, visit cases of chickenpox, measles and whooping cough, etc., all work which is being done meantime by a temporary medical officer. The services of a temporary medical officer would not then be required unless under very exceptional circumstances.

It is recommended—

1. that on the reception house being vacated by the male section of the venereal diseases scheme, the premises be converted into a combined day nursery and child welfare centre.

2. (a) that the premises at 33 Isles Lane, now in use as a day nursery, be converted into a child welfare centre, and that, in conjunction with the Nursery School Committee, a combined day nursery and nursery school be established in the west central district of the city. The site of the Blue Mountains Area would be a very suitable one for such a building;

or

(b) that the property at Isles Lane be disposed of, and that a combined day nursery and child welfare centre be erected by the Town Council on a site in the Blue Mountains Area;

or

(c) that certain slum dwellings on the north side of Isles Lane Day Nursery be taken over and converted into a child welfare centre, the existing nursery being enlarged. In this way, a combined day nursery and child welfare centre would be provided with access from Hawkhill and also from Blackness Road.

3. that the premises now in use as a child welfare centre at 100 Blackness Road be given up when recommendation 2. is carried into effect.

4. that steps be immediately taken to obtain new premises to take the place of the Hillbank Day Nursery in Cotton Road which is likely to be required shortly by the proprietors—the Local Education Authority.

5. that the day nursery at Lilybank Road be altered and extended.

6. that when the opportunity presents itself, the child welfare centre at Princes Street be transferred to suitable premises nearer Blackscroft.

7. that an additional medical officer be appointed to assist at the child welfare centres and to undertake duties in other branches of the Public Health Department as may be required.

The capital expenditure involved, if the above recommendations are accepted, is difficult to estimate, and will depend on which, if any, of the alternatives mentioned in Recommendation 2 is adopted, and whether or not Recommendation 4 will involve the erection of a new building or the conversion of an existing one. Most of the expenditure will, however, be chargeable to the Day Nurseries Extension Fund, which was collected some years ago by Convener Simon Fraser, and which now amounts to over £9,000. Whether or not this fund will meet the total cost of the provision of the day nurseries depends largely on the form which the scheme finally assumes. Only a small sum will be required for the new centre, the cost of which would probably be quite a proper charge on revenue.

The information contained in this report can only enable the Council to form a general opinion on the subject. If provisional approval is given, it will probably be necessary to appoint a small special committee to go into more detail and to report. Such a committee could, for example, meet representatives of the Nursery School Committee and consider the possibility of co-operation. No doubt, also, the City Engineer would be instructed to prepare certain plans and estimates of cost. The question of the additional medical officer would also be considered by such a committee.

Definite although slow progess is being made in putting the above scheme into operation. A new medical officer has been appointed and has taken up duty. The number of consultations held at the existing centres has been increased pending the establishment of new centres. A medical officer now attends every week at the Broughty Ferry centre instead of every month. Plans have been prepared for converting the Reception House at Fleuchar Street into a combined day nursery and child welfare centre and plans for the extension of Lilybank Day Nursery have also been completed. The Nursery School Committee have submitted a sketch of a combined nusery school and day nursery to be erected on a site yet to be fixed, possibly in the Blue Mountains Area. By the end of the present year, the scheme should be well advanced, and as it progresses, it is expected that developments will emerge which are not dealt with in the report.

Infantile Mortality.

The infantile mortality rate was 102 per 1,000 births. The figure is the second lowest recorded in Dundee, the lowest being 98 which occurred in 1923. The rate for last year compares very favourably with that for 1927 which was 138 per 1,000 births. In 1927 there died 485 infants at ages under one year. Last year there were 357 such deaths, a decrease of 128. As explained in the annual report for that year, the high rate in 1927 was entirely due to an unusual prevalence of pneumonia, measles and whooping cough. The reduction in 1928 as compared with 1927 is partly the result of a comparatively low prevalence of those infections. But other groups of disease shared in the fall. The congenital group death-rate fell from 50 per 1,000 births in 1927 to 45 in 1928, the lowest figure for that group yet recorded. The digestive disease group fell from 14 to 9 per 1,000 mainly following a lesser incidence of diarrhœa and enteritis. The respiratory disease group which includes pneumonia and bronchitis declined from 46 to 28 and the infectious disease group from 17 to 9 per 1,000 births. The outbreak of pneumonia among infants and children which occurred in the early months seriously affected the rate for the year. Thus the infantile death-rate in January was 172 per 1,000 births while in October it was 68. In the former month there were 50 infant deaths while only 20 occurred in the latter. The comparatively low rate for congenital diseases which include such certified causes as premature birth, congenital malformation, atrophy, debility, marasmus, etc., is satisfactory, but there is evidence that this decline is not entirely a real one but is due partially at any rate, to the fact that a number of these debilitated children succumbed to the respiratory infections and were certified as having died from such causes. Nevertheless, this does not completely explain the fall in the death-rate from the congenital group. An examination of the infant death-rates during the first week, the first month and the first three months of life show a definite decline at all these age periods compared with 1927. The death-rate for infants under one week old was 22.5 per 1,000 births, the lowest yet recorded. The neo-natal mortality was 39.4 per 1,000 births, being below the 40 mark for the first time. Again the death-rate at ages under 3 months of 56.8 per 1,000 was also a record. At these early ages, especially under one week, pneumonia is not an important cause of death. Indeed last year there

were no deaths from pneumonia among infants within a week of their birth. That disease does become a factor of importance before the end of the first month of life, but not to the same extent as during later months in the first year. Most of the deaths occurring during the early days or even early weeks are due to conditions included in the congenital group. The fact that the death-rates at these very early age periods are the lowest we have yet had may be considered as indicating definite progress. The low rates are not merely the result of the absence of infectious diseases, but are more likely to be due to the persistent pressure of infant hygiene. Looked at from the point of view of progress therefore, the infantile death-rate in Dundee in 1928 although not the lowest recorded must be regarded as the most satisfactory we have yet had. In 1923, the rate was 4 points less, namely 98 per 1,000 births, but that figure was entirely due to the freedom from epidemic disease which Dundee enjoyed during that year. In 1928, epidemic diseases did prevail, not to the same extent as in 1927 but to a much greater extent than in 1923. Their effects are reflected in the deaths of infants at ages from 3 to 12 months old. The difference in the prevalence of infectious disease as between the record year 1923 and the year 1928 will account for probably 10 deaths per 1,000 births. The decline in the deaths from causes believed to be the most obstinate of control may be accidental. Any definite expression of opinion would at the moment be premature but the decline can at least be considered as an encouraging sign. In recent years the trend of child welfare activities has been towards earlier supervision of infant life even to the supervision of life before birth. The importance of the care of the expectant mother by the private and public medical practitioner is being more appreciated by health authorities and by the public. Health authorities and voluntary hospital authorities are providing the necessary facilities in the form of ante-natal clinics and ante-natal beds. Dundee has made a beginning in this direction but this part of the scheme will require to be considerably strengthened. The whole question of the maternity service must become the subject of review in order that it may be developed in a systematic fashion and supply the needs of the city. The special circumstances almost peculiar to Dundee call for a very complete scheme of maternity service which will pro-

vide for the care of the pregnant woman and also ensure for her skilled attendance in a suitable environment during her confinement. Such a service is necessary for the protection of the health of the woman before, during and after childbirth but it is also necessary in order to safeguard the health of the new-born infant. The reduction of the morbidity and mortality during the early days and early weeks of life depends mainly on the circumstances prevailing before and during birth. Infant welfare activities beginning at or soon after birth can only go a certain length. They begin too late to prevent death before or soon after birth, the time when death is most liable to occur. In 1928 79 deaths occurred among infants within a week of their birth, and 138 infants died before they were a month old. During the year 357 infants died at ages under one year, so that of that number 79 or 22 per cent. died before they had been born a week and 138 or 38.6 per cent. died before they had been born a month. One might go further and point out that over 10 per cent. of the deaths of infants under 1 year occur before the end of the first day of separate life. These figures speak for themselves. They illustrate the need for extending the child welfare scheme to include pre-natal life. Infantile mortality in Dundee is always rather high and every effort must be made to combat the responsible influences. The risks to mother and child attending child bearing and child birth are undoubtedly great and these must be attended to if illness and death are to be prevented. The Directors of the Royal Infirmary have provided a new Maternity Hospital which will shortly be completed. The new Institution must be considered as the most important unit in the maternity service schemes in Dundee and district. Not only intranatal but also prenatal care will be provided especially for patients presenting difficulties demanding hospital treatment. But it would appear that there is a need in Dundee for a maternity home. Such an institution would not deal with difficult confinement cases but would provide only for those women who were likely to have normal confinements. The qualifications for admission to such a home would centre round economic factors rather than complications of pregnancy or parturition. Such complicated cases would naturally be dealt with in the Maternity Hospital. Housing conditions, poverty, home responsibilities too often make it difficult or even impossible to conduct with

complete success a confinement in the mother's own home. In such cases, freedom from worry, skilled attendance and the hygienic environment of a maternity home would go a long way towards ensuring a healthy confinement and the arrival of a healthy child who is not likely to succumb before the end of 24 hours or even one week or one month. Doctors and midwives who take charge of confinements in tiny houses lacking ordinary facilities have a difficult task to perform and very often the ordinary course of nature cannot be permitted to have its way. A mass of imperative circumstances sometimes demands interference which, while satisfying the demands of the moment, may have serious effects on the after life of both mother and child. The need of a home of the sort described is at least worthy of earnest consideration.

I cannot pass from the subject of maternity homes without referring to the new Home recently established by the Salvation Army at Clement Park, Lochee. The large mansion house has been renovated and to some extent reconstructed to form a Maternity Home. It is a Home and not a Hospital, and is intended entirely for the care of the unmarried woman who has become pregnant. Such women are admitted early in pregnancy, cared for before and during childbirth and for many months after. So far as is possible the future well-being of both mother and child is safeguarded. The enterprise of the Salvation Army in providing a Home for the care of this particular class of case calls for warm commendation. They have undertaken a difficult task and they are doing it well. The skilled and sympathetic attention given in such beautiful surroundings are bound to have a great influence not only on the physical health but also on the mental outlook of the inmates. The Town Council of Dundee give a small annual grant towards the cost of maintaining this Home, but as the extension of the work in new and better premises involves a considerable increase in cost of upkeep, the Council might consider the question of allowing a larger grant. The community is being well served by this unofficial unit in their maternity service and child welfare scheme.

The danger of child-bearing to the mother is expressed in a rough way by stating the number of deaths of women from diseases and accidents connected with childbirth and child-

bearing per 1,000 live births. This maternal death-rate is, however, only a very rough index as it only takes into account the occurrence of illness attended by immediately fatal results. The extent of the morbidity temporary or permanent, and which may be responsible for death later, is not known, but there is good reason to believe that it is a very serious matter. It may be presumed that measures which will reduce the maternal death-rate will also reduce the morbidity rate and ultimate death-rate from diseases originating in pregnancy and parturition. Viewed from such a standpoint, the figure representing the maternal death-rate becomes a very important one and even a tiny reduction in the rate means a great deal more than it would be permissible to conclude from a too restricted interpretation of the meaning of the rate. There died in Dundee in 1928, 24 women from diseases and accidents connected with pregnancy and childbirth. As there were 3,501 registered births, the maternal death-rate works out at 6.86. This figure is a high one and although the rate in 1927 was 7.96 (28 maternal deaths) it cannot be stated that the improvement is anything more than an accident. The rate has shown no tendency to decline during the period of years for which records are available. Since the middle of 1922 the circumstances attending each maternal death occurring in Dundee have been carefully enquired into by a medical officer of the department, and the information thus collected, and obtained in a similar manner elsewhere, suggests that a fall in the rate is only likely to follow an improvement in maternity service. This matter has already been referred to in connection with infantile mortality but it is important to emphasise again the close association which exists between the efficiency of the maternity service on the one hand and maternal deaths, deaths of infants before birth, and deaths of infants soon after birth on the other.

In terms of the Midwives and Maternity Homes (Scotland) Act, 1927, 9 applications for registration as maternity homes were received and all of these were accepted. The nine Homes are all private nursing homes which undertake a certain amount of maternity work. They are all well conducted institutions and demand little supervision by this department. Something like 90 beds are available for all types of cases, but only a very small proportion of that number is in use at any one time for maternity cases. As one

of the Homes was closed before the end of the year, the registration in that case was cancelled leaving 8 on the register. Thirteen visits were paid during the year in terms of the Act.

Housing.

Mr. Mitchell, the chief sanitary inspector, in his special annual report on housing, has set forth in his usual thorough fashion, complete information on the housing state of the city and the work done during the year to remedy the evil conditions by providing new houses and removing those which can no longer be considered safe to live in. It is unnecessary for me to do more than supplement what he has said by submitting a few general observations. A great deal has been done during the last few years, but a great deal more has yet to be accomplished if Dundee is to be considered as a well-housed city. That is made very obvious to the members of the various committees who periodically inspect the districts under the guidance of the chief sanitary inspector. These inspections are much more effective in impressing on one's mind the urgency of the problem than any description or any presentation of statistics on the subject. The houses visited are those which in the opinion of the inspectors require immediate attention, but they serve as samples of the kind of houses which are still occupied by a large section of the population of the city. Undoubtedly, the most satisfactory aspect of the housing campaign is the provision of new houses and 565 such houses were completed and occupied (Town Council, 439; private enterprise, 126). The number is far short of that for 1927, during which 1331 new dwellings were made ready for occupation, but the number actually completed does not by any means represent the amount of work done by the housing authority. At 31st December 652 houses were in course of erection and these should be completed during the present year. Very definite progress was made in the framing of future housing schemes, the most outstanding of which is that made possible by the generosity of a citizen, Mr. Robert Fleming, who presented the city with a splendid gift of £130,000 for the building of houses for families whose houses are dealt with as being unfit for human habitation. The gift has made possible the immediate construction of 400 houses of one, two and three rooms, each house having a kitchenette This event makes the year 1928 an outstanding one in the history of the housing campaign, and will enable more

active steps to be taken in the direction of slum clearance. While 565 new houses were provided, 25 were provided through houses "closed" being repaired and reopened, shops, etc., being converted into dwelling houses or large dwelling houses being sub-divided. On the other hand, 135 houses were closed for human habitation during the year, so that the net result is that at the end of 1928, 455 more houses were available than at the end of 1927. It is now ten years since the commencement of the housing campaign and although the first year can be discounted, 3994 new houses have appeared in the city during that period, that is, an average of 400 per annum. The average is quite a good one, especially when it is considered that the early years of the decennium were largely experimental. The average production during the first five years was 179 while the average for the last five was 619. The early years were occupied in gaining the necessary momentum which has ever since been maintained and which I hope will continue to be maintained and, if possible, increased. It is a difficult matter these days to get a house built, but it is even more difficult to get one closed and demolished even although it is admitted to be unfit for human habitation. The removal of slums is therefore a slow process. One improvement scheme has been completed in Dundee and another is well advanced so far as procedure is concerned. Large numbers of houses have been made the subjects of closing orders and a few of demolition orders. In 1928, the actual number of houses closed for human habitation was 135. Most of these were dealt with as houses unfit for human habitation but a few were closed to permit of the erection or extension of business and other premises. The second improvement scheme (Small's Wynd) should be well past the paper stage by the end of the present year, before which it is expected that a third scheme will be entered upon. As alternative accommodation becomes more abundant, these schemes should be less drawn out and the making of closing orders should be followed by immediate closure of the houses concerned. In brief, therefore, the rate of production of new houses during recent years must be maintained and if possible improved, and the number of slum houses removed by improvement schemes or otherwise must be very markedly increased. The Scottish Board of Health (now the Department of Health for Scotland)

instructed the medical officer of health to include in his annual report an estimate of the number of houses required at 31st December, 1928, adequate to meet the needs of the city. That is a somewhat difficult thing to do. The estimate given in the 1927 report (as at 31st December, 1927) was 1,511. Allowing for new houses produced, old houses closed, and for an estimated increase in population, that estimate may be reduced to 1,250. It can only be a very rough estimate but it will serve for our immediate purpose.

In the section of this report dealing with tuberculosis, a reference is made to the advisability of special consideration being given in the allocation of new houses to tuberculous families. A number of such families has already been dealt with by the city factor. It is hoped that an opportunity will be given to at least consider the matter.

Food Supply.

Details of the inspections made and of the food samples examined are contained in the report of the Chief Sanitary Inspector. Regarding meat inspection, I have little to say. Mr. Anderson, the superintendent of the slaughterhouse and meat inspector, gives full information in tables which are contained in the statistical section of this report of the results of the year's work in the inspection of meat. No difficulties were met with requiring particular comment except, perhaps, the cropping up every now and again of very definite evidence showing that the system of meat inspection detailed in the Public Health (Meat) Regulation (Scotland), 1924, is not by any means uniform. It would appear that, in certain districts, meat inspection is not efficiently carried out. The alterations and extensions to the Slaughterhouses are proceeding and in the course of another year, the facilities for meat inspection should be much more complete.

There were no known outbreaks of food poisoning in the city during 1928. Although one or two suspicious cases did arise, these, on investigation, proved not to be cases of food poisoning.

Full information regarding the work done under the Milk and Dairies (Scotland) Act, 1914, and under the Milk (Special Designations) Order (Scotland), 1923, is contained

in the report of the Chief Sanitary Inspector. Mr. Ferrier, the Veterinary Inspector, reports that during the year he paid 233 visits of inspection to dairies in which he examined 3,911 cows. He does not record his findings and it is hoped that in his next annual report he will be able to give much more complete details as required under the Milk and Dairies (Scotland) Act, 1914. The cowsheds situated within the city are reported to be in a fairly good state, but I think it must be considered as satisfactory that there is a slow but steady decline in the number of cows which are actually housed within the city. In 1928 it is reported that there were 727 cows in some 49 byres. One or two byres have ceased to be used for the production of milk and certain others will be brought under review during the present year.

Some 72 samples of milk collected in the course of distribution were sent for bacteriological examination. The results are given by Professor Tulloch in his report. Of the 72 samples, 48 were of ungraded milks, while 24 were of designated milks—pasteurised, 16; certified 3; and grade A. (t.t.), 5. Among the 48 samples purchased as ungraded milks, reports were received varying from " B. coli absent in 1 c.c. Total count no colonies " to " B. coli present in .001 c.c. Total count 2,100,000." The receipt of unfavourable reports is always followed by enquiry, and although the true cause is never definitely ascertained, it is hoped that these enquiries will result in improved methods of handling during production and distribution. Some of the samples were bacteriologically very satisfactory, indeed several of the 48 satisfied the requirements for a certified milk and some were even the bacterial standards for grade A (tuberculin tested) milk in regard to both total count and B. coli content. Milk sold as pasteurised was sampled for bacterial count 16 times. While 15 of these samples were below the minimum standard laid down in the relative Regulations, 1 was found to contain an excessive number of organisms. This licence holder was communicated with, and although no reliable explanation could be given, immediate improvement followed, all further samples taken during the remainder of the year fulfilling the required conditions.

One dairyman in the city is licensed to produce and sell certified milk and grade A. (tuberculin tested) milk. Four samples of each of these grades were bacteriologically

examined, and in each case the report was very satisfactory, bacillus coli not being demonstrated even in 1 c.c.

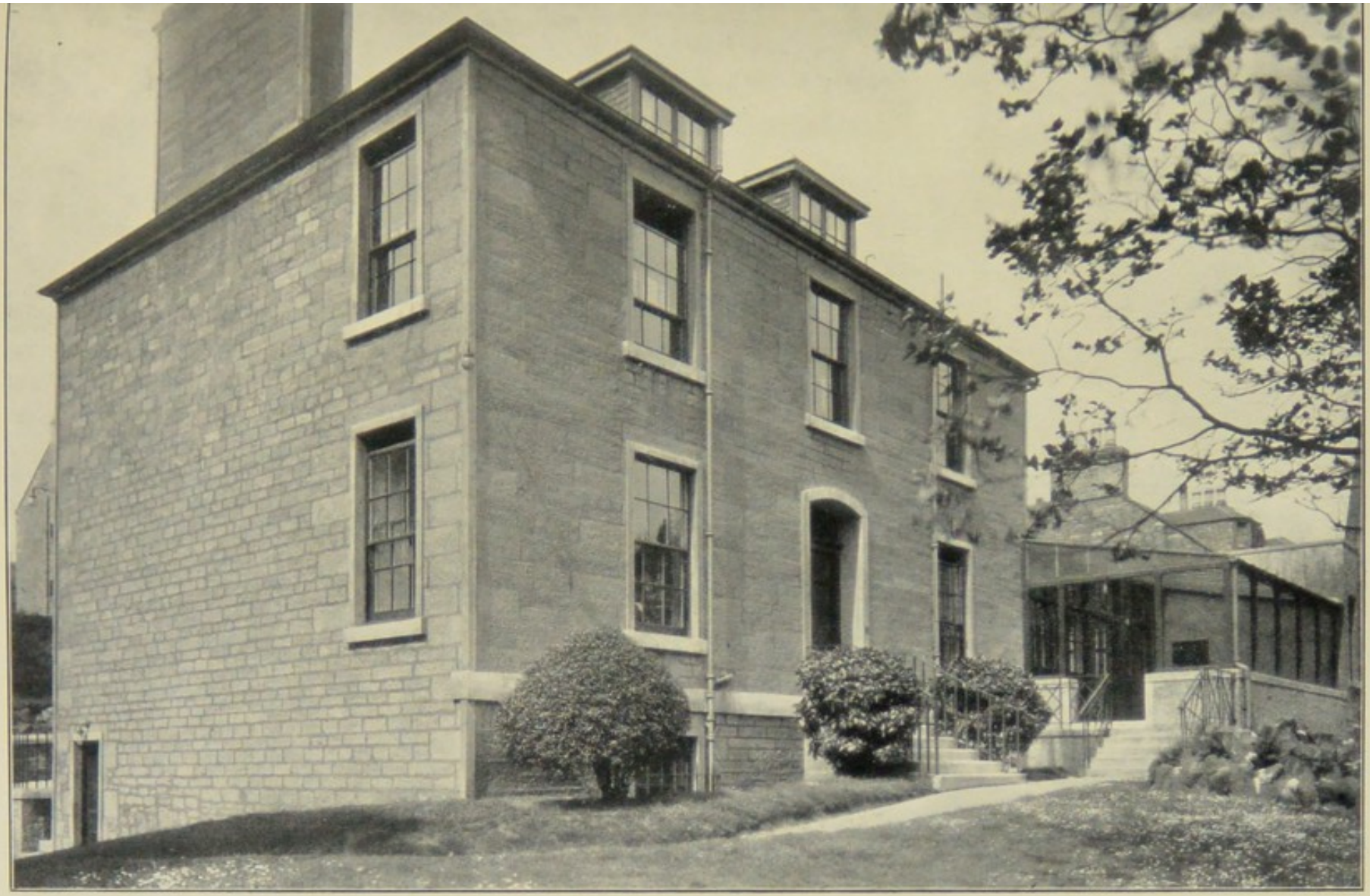
Two of 24 samples examined for tubercle bacilli had positive results, while in two instances the examination was unsatisfactory.

Factory and Workshop Act.

The work which falls to be performed by the inspectors of the Local Authority was carried out as usual. The tabular statement required by the Home Office is reproduced in Table XLI., and the chief sanitary inspector deals with the subject in his report.

Health Lectures.

Several lectures on various health subjects were given by medical and other members of the staff to popular audiences. On 1st November, the Town Council, in association with the Scottish Committee of the British Social Hygiene Council and the Dundee (National Health) Insurance Committee arranged a health lecture, which was held in the Y.M.C.A. (Large) Hall. The lecture, entitled " Venereal Disease and the Home " was given by Dr. Margaret Rorke, London. A Refresher Course for health visitors was held in Dundee from 22nd October to 2nd November. Twenty one visitors attended from all parts of the country.



PRINCIPAL CHILD WELFARE CENTRE, VICTORIA ROAD, DUNDEE. OPENED DECEMBER 1927.

STATISTICAL TABLES AND CHARTS

LIST OF STATISTICAL TABLES AND CHARTS.

TABLE I.

AGE and SEX DISTRIBUTION of POPULATION, 1928.

Population (estimated by Registrar General), **172,214.**

Percentage of Males to total population (Census, 1921) 44.4%.
,, ,, Females ,, ,, ,, ,, 55.6%.
Estimated Sex Distribution for 1928:—Males, 76,463.
Females, 95,751.

Age Groups.	Percentage to total at all ages (Census 1921). Males	Females.	Estimated Age and Sex Distribution for 1928. Males.	Females.	Both Sexes.
0- 5	10.0	7.7	7,646	7,373	15,019
5-10	10.1	8.1	7,723	7,756	15,479
10-15	10.9	8.8	8,334	8,426	16,760
15-25	18.8	19.0	14,375	18,193	32,568
25-35	13.6	15.3	10,399	14,650	25,049
35-45	12.1	13.5	9,252	12,926	22,178
45-55	11.8	12.1	9,023	11,586	20,609
55-65	7.8	8.5	5,964	8,139	14,103
65-75	3.8	5.0	2,906	4,788	7,694
75-85	1.0	1.8	765	1,723	2,488
85 and over	.1	.2	76	191	267
All ages	100.0	100.0	76,463	95,751	172,214

TABLE II.

Estimated Population in various Wards, 1928.

WARD.	Population (Census 1921).	Percentage to total Population (Census 1921).	Estimated Population for 1928.
I.	14,506	8.6	14,810
II.	12,500	7.4	12,744
III.	15,946	9.5	16,360
IV.	18,766	11.2	19,288
V.	22,401	13.3	22,904
VI.	17,731	10.5	18,083
VII.	18,049	10.7	18,427
VIII.	18,880	11.2	19,288
IX.	18,614	11.1	19,116
X. & XI.	10,922	6.5	11,194
Total	168,315	100.0	172,214

TABLE III.

Return Showing the Causes of Death (Corrected for Transfers) at the Different Age periods during 1928:—

CAUSE OF DEATH.	ALL AGES. Total.	Males	Females.	AGE. —1	1—	5—	10—	15—	25—	35—	45—	55—	65—	75—	85 & Over.
Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	16	5	11	7	9	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	36	18	18	17	19	...	...	...	...	..	...	...	...	...	...
Diphtheria	30	10	20	2	12	11	2	...	...	1	1	...	1	...	...
Influenza	18	9	9	1	...	...	...	1	1	3	1	3	5	2	1
Encephalitis Lethargica	3	1	2	...	...	...	...	...	..	...	1	1	...	1	...
Cerebro-Spinal Meningitis	2	1	1	...	...	...	...	1	1	...	...	...	...	...	...
Other Epidemic Diseases	6	3	3	1	...	1	...	...	..	...	1	2	1	...	...
Tuberculosis of Respiratory System	138	67	71	...	3	1	4	34	31	28	20	13	3	1	...
Tuberculous Meningitis	21	12	9	2	11	2	4	1	...	...	1	...	...	...	...
Tuberculosis of Intestines and Peritoneum	6	2	4	...	1	...	...	2	...	2	...	1	...	...	...
Other Tuberculous Diseases	15	7	8	1	...	3	3	4	1	1	...	...	1	1	...
Malignant Tumours	343	141	202	...	3	2	...	1	7	17	51	102	107	50	3
Rheumatic Fever	5	1	4	...	...	...	1	3	1	...	...	...	...	...	...
Meningitis (not Cer.-Spin. or T.B.)	11	7	4	7	2	...	...	1	1	...	...	...	...	...	...
Apoplexy	229	90	139	...	...	...	...	...	1	6	20	42	98	51	11
Heart Disease	344	140	204	1	...	2	3	9	8	13	35	82	103	72	16
Diseases of Arteries	55	27	28	...	...	...	...	...	...	...	1	6	15	25	8
Bronchitis	153	72	81	18	4	...	...	4	3	2	9	21	41	36	15
Pneumonia ((all forms)	279	158	121	78	54	8	1	4	13	19	16	36	28	18	4
Other Diseases of Respiratory System	39	18	21	3	4	1	...	...	...	2	3	7	8	10	1
Diarrhœa and Enteritis (under 2 years)	30	18	12	26	4	...	...	...	...	...	...	...	...	...	...
Appendicitis	16	11	5	...	1	1	2	3	3	2	1	3	...	...	...
All Liver Diseases (not Malignant)	17	6	11	...	...	1	...	1	...	2	1	5	7	...	...
Nephritis (Acute and Chronic)	51	24	27	...	...	1	1	2	5	7	9	7	12	4	3
Puerperal Sepsis	11	...	11	...	...	...	...	3	8	...	...	...	...	...	...
Other Diseases and Accidents of Pregnancy and Parturition	13	...	13	...	...	...	...	...	8	5	...	...	...	...	...
Diseases of Early Infancy and Malformations	158	84	74	155	1	1	1	...	...	...	...	...	...	...	...
Suicide	36	28	8	...	...	...	...	2	4	5	11	8	6	...	...
Other Violent Deaths	92	53	39	14	12	12	...	7	5	6	6	8	9	12	1
Other Defined Diseases	372	157	215	19	10	9	4	8	15	19	47	54	63	89	35
Causes Ill-Defined or Unknown	53	35	18	5	2	2	...	1	2	1	3	13	15	9	...
All Causes	2598	1205	1393	357	152	58	26	92	118	141	238	414	523	381	98

TABLE IV.

Death Rates at various age-periods (from all causes) each year.

1924 - 1928.

Age Periods.	1924. No. of Deaths.	1924. Death-Rate.	1925. No. of Deaths.	1925. Death-Rate.	1926. No. of Deaths.	1926. Death-Rate.	1927. No. of Deaths.	1927. Death-Rate.	1928. No. of Deaths.	1928. Death Rate.
All ages	2809	16.4	2825	16.7	2514	14.8	2918	16.9	2598	15.1
0- 5 years	797	53.4	764	51.7	539	36.3	783	52.1	509	33.9
5-10 ,,	55	3.6	53	3.5	47	3.1	51	3.3	58	3.7
10-15 ,,	29	1.7	27	1.6	27	1.6	28	1.7	26	1.6
15-25 ,,	107	3.3	131	4.1	89	2.8	104	3.2	92	2 8
25-35 ,,	108	4.3	114	4.6	99	4.0	134	5.3	118	4.7
35-45 ,,	139	6.3	152	7.0	152	6.9	147	6.6	141	6.4
45-55 ,,	237	11.6	259	12.8	224	11.0	239	11.6	238	11 5
55-65 ,,	409	29.1	368	26.5	364	26.1	404	28.6	414	29.4
65-75 ,,	477	62.0	489	64.6	517	68.1	530	68.8	523	68 0
75-85 ,,	376	151.5	365	149.2	357	145.3	382	153.3	381	153 1
85 and over	75	265.0	103	390.2	99	373.6	116	431.2	98	367 0

TABLE V.

Death Rate (from all causes) each month during the years 1924 - 1928.

(From Registrar General's monthly returns.)

Month.	1924.	1925.	1926.	1927.	1928
January	18.9	25.2	16.3	18.6	18.9
February	17.2	21.0	17.5	23.7	15.0
March	19.5	16.0	14.8	25.8	17.1
April	18.1	16.7	18.9	15.0	17.9
May	13.2	14.6	13.7	13.8	14.9
June	12.8	13.7	11.6	15.5	13.3
July	13.1	11.7	11.0	14.5	13.1
August	13.1	12.1	13.4	15.4	13.4
September	14.3	13.4	12.1	14.0	12.8
October	14.1	15.5	14.9	15.7	13.4
November	20.1	17.9	16.6	14.7	13.0
December	23.7	19.8	16.4	18.5	15.4

TABLE VI.

Death-rate (from all causes) in various Wards each year since 1919.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	14.7	15.5	15.5	14.3	14.7	12.6	16.4	12.2	13.8	15.1	15.3
1920	15.8	16.2	16.7	16.9	15.1	13.6	18.1	14.6	15.2	14.1	10.2
1921	15.8	15.2	16.5	15.2	15.3	13.8	17.4	14.2	16.9	13.5	12.8
1922	16.7	16.0	17.0	18.1	15.5	14.4	18.1	15.0	18.1	15.3	14.0
1923	14.7	15.0	14.0	14.8	14.0	12.8	16.4	15.0	15.4	14.3	12.1
1924	16.4	15.7	16.6	17.2	14.8	13.5	18.6	16.5	17.6	16.6	13.4
1925	16.7	17.8	15.3	18.4	15.9	15.3	16.8	15.2	17.6	18.6	12.8
1926	14.8	15.7	15.5	16.7	14.0	12.5	14.8	14.5	15.5	14.1	13.2
1927	16.9	16.9	17.9	19.4	15.7	15.2	17.6	16.3	16.5	18.0	12.8
1928	15.1	16.6	15.2	17.3	13.0	13.9	13.6	14.8	14.0	15.8	11.3

TABLE VII.

Birth Rate in various Wards each year since 1919.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	18.7	21.3	19.1	18.7	17.6	17.9	22.3	18.9	20.0	18.0	11.1
1920	27.4	29.3	27.4	29.3	24.6	26.7	28.9	28.0	30.1	27.0	21.0
1921	26.5	27.9	27.7	25.2	25.1	26.8	29.3	24.9	32.3	24.1	17.8
1922	24.6	27.2	24.6	24.6	22.5	21.1	27.5	24.6	28.3	25.1	19.2
1923	24.6	27.7	24.6	26.0	21.8	22.3	27.7	25.8	28.5	24.0	13.6
1924	22.6	23.1	21.8	25.5	20.8	21.3	24.7	20.1	26.9	23.7	14.0
1925	21.8	23.3	19.9	22.2	21.7	20.2	24.1	22.1	25.0	22.1	14.4
1926	21.9	24.7	23.2	26.5	19.6	18.9	25.1	20.3	24.2	23.4	10.9
1927	20.4	24.6	20.6	25.0	18.1	18.5	22.4	20.1	22.2	18.9	11.6
1928	20.3	25.5	19.4	23.1	18.2	18.3	22.0	20.6	21.9	18.9	15.1

TABLE VIII.

Infantile Death-rate (per 1,000 births) in various Wards each year since 1919.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	126	137	156	152	119	114	114	90	139	138	122
1920	131	131	153	150	142	141	150	87	131	133	52
1921	114	130	124	103	101	109	130	131	114	96	99
1922	109	81	101	136	121	109	115	99	125	98	76
1923	98	89	79	121	76	119	121	78	88	92	74
1924	120	104	144	137	121	112	133	108	96	136	71
1925	126	156	128	162	124	118	119	85	150	128	57
1926	103	114	75	110	94	96	100	100	132	93	66
1927	138	121	160	127	137	139	175	135	140	130	62
1928	102	93	126	82	91	108	96	79	111	127	65

TABLE IX.

Death-rate in various Wards each year since 1919 from 6 principal Epidemic Diseases, namely Enteric Fever, Scarlet Fever, Diphtheria, Infantile Diarrhoea, Measles and Whooping Cough.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	.69	.89	.37	.78	.52	.76	.78	.67	.68	1.04	0
1920	1.05	1.15	.90	1.18	.96	.93	1.95	.78	.89	1.09	.34
1921	1.09	1.00	1.15	1.04	.99	.93	1.56	1.37	1.24	1.04	.37
1922	.80	1.09	.72	.66	.67	.95	1.08	.89	.84	.43	.54
1923	1.17	1.65	.97	1.03	.77	1.00	1.48	1.29	1.75	1.12	.36
1924	1.69	1.51	2.42	1.93	1.54	1.48	2.67	1.45	1.59	1.71	.36
1925	1.70	1.58	1.60	2.49	1.27	.57	.90	.82	1.21	.37	.27
1926	.79	.96	.72	1.24	.79	1.60	1.69	1.82	2.21	1.70	.45
1927	1.43	2.16	1.25	2.32	1.45	1.13	1.44	1.19	.93	1.78	.54
1928	.65	1.08	.55	.67	.47	.79	.66	.43	.93	.47	.09

TABLE X.

Pulmonary Tuberculosis Death-rate in various Wards each year since 1919.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	.89	.89	1.64	1.40	.57	.64	.89	.56	.98	.27	.76
1920	.99	.90	1.35	1.29	.81	.81	1.21	.88	.93	.86	.51
1921	1.00	1.12	1.23	1.04	.99	.80	1.38	.85	1.13	.74	.56
1922	.98	.54	1.12	.95	.87	1.17	1.18	.72	1.16	.92	.68
1923	.98	1.24	1.05	1.15	.82	.69	1.08	.89	1.27	.93	.45
1924	.85	1.30	.56	.54	.92	.65	1.13	1.00	.95	.88	.45
1925	.87	.89	.80	1.12	.74	.80	1.12	.66	.79	1.06	.55
1926	.81	.96	.79	.87	.32	.93	.56	.77	.95	1.17	.54
1927	.89	1.35	.86	1.10	.87	.96	.77	.76	.78	1.20	.45
1928	.80	.74	.47	.98	1.09	1.00	.66	.65	.83	.63	.54

TABLE XI.

Tuberculosis (all forms) Death-rate in various Wards each year since 1919.

	Whole	WARDS.									
Year.	City.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10 & 11.
1919	1.34	1.27	2.16	1.62	.90	.92	1.68	.97	1.37	1.36	1.18
1920	1.37	1.02	1.57	1.63	1.05	1.21	1.95	1.09	1.38	1.37	.69
1921	1.35	1.62	1.81	1.60	1.30	.98	1.68	1.31	1.40	1.04	.65
1922	1.37	.82	1.44	1.31	1.43	1.51	1.80	1.00	1.63	1.36	.63
1923	1.43	1.65	1.46	1.45	1.29	1 18	1.71	1.34	1.86	1.32	.64
1924	1.23	1.51	.80	1.33	1.18	1.04	1.64	1.40	1.48	1.07	.54
1925	1.22	1.37	1.12	1.37	1.11	.98	1.41	1.10	1.37	1.38	.82
1926	1.12	1.43	1.19	1.18	.52	1.19	.73	1.21	1.26	1.54	.63
1927	1.16	1.69	1.02	1.40	.67	1.26	1.05	.87	1.04	1.32	.54
1928	1.05	.88	.86	1.22	1.30	1.22	.94	.92	1.04	.89	.68

TABLE XII.

Certified causes of death at the various ages under 1 year for 1928.

Cause of Death.	Under 1 week	1 and under 2 weeks	2 and under 3 weeks	3 and under 4 weeks	Total under 4 weeks	4 weeks and under 2 mths	2 and under 3 months	3 and under 6 months	6 and under 9 months	9 and under 12 months	Total Deaths under 1 year
Measles	...	...	...	...	...	...	...	1	2	4	7
Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough ...	...	...	...	...	...	3	1	5	2	5	16
Diphtheria and Croup	...	...	...	...	...	...	...	1	...	1	2
Tuberculosis — Lung ...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis — General ...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis — Abdominal ...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis — Brain	...	...	...	...	...	...	...	...	1	...	1
Tuberculosis — Other Forms ...	...	...	...	...	...	...	...	...	...	1	1
Meningitis (not T.B.)	...	1	...	...	1	...	...	2	2	2	7
Convulsions ...	2	...	...	1	3	...	1	1	...	1	6
Pneumonia (all forms)	...	2	1	3	6	6	2	24	18	22	78
Bronchitis	...	...	1	...	1	4	1	6	3	3	18
Laryngitis	...	...	...	...	...	...	...	...	2	...	2
Diarrhoea and Enteritis	...	1	...	1	2	2	3	7	9	3	26
Other Digestive Diseases ...	...	...	...	...	...	1	...	2	...	...	3
Congenital Malformations ...	4	4	1	1	10	1	2	2	...	...	15
Premature Birth ...	37	5	8	6	56	4	1	...	...	...	61
Atrophy, Debility, and Marasmus ...	22	7	4	2	35	6	7	20	2	1	71
Atelectasis	2	...	...	...	2	...	...	...	...	...	2
Injury at Birth ...	8	1	...	...	9	...	...	...	...	...	9
Suffocation, Overlaying ...	2	...	1	1	4	1	1	4	...	...	10
Syphilis	...	...	1	1	2	...	...	1	...	...	3
Rickets	...	..	...	...	..	...	...	...	...	1	1
All Other Causes ...	2	1	1	3	7	1	2	3	2	3	18
Totals ...	79	22	18	19	138	29	21	79	43	47	357

TABLE XIII.

Infant Mortality from various groups of causes 1890-94, and each year from 1913.

Year.	Congenital.	Digestive.	Respiratory.	Infectious Diseases.	All Other Causes.	Total.
Average 1890-94	53	32	44	25	29	183
1913	62	40	28	12	20	162
1914	58	33	15	17	13	136
1915	64	38	38	51	18	209
1916	63	20	15	13	15	126
1917	57	24	24	13	19	137
1918	53	16	24	20	13	126
1919	60	13	30	8	15	126
1920	53	21	36	10	11	131
1921	58	16	19	13	8	114
1922	50	11	27	10	11	109
1923	46	4	21	13	14	98
1924	54	12	25	12	17	120
1925	53	10	35	16	12	126
1926	58	11	18	4	12	103
1927	50	14	46	17	11	138
1928	45	9	28	9	11	102

TABLE XIV.

Deaths and Death-rates from various groups of causes each year since 1924 (all ages).

DISEASE GROUP.	1924. Pop. 171,295.		1925. Pop. 169,361.		1926. Pop. 170,060.		1927. Pop. 172,444.		1928. Pop. 172,214.	
	No. of Deaths.	Rate per 1000 Population.	No. of Deaths.	Rate per 1000 Population.	No. of Deaths.	Rate per 1000 Population.	No. of Deaths.	Rate per 1000 Population.	No. of Deaths.	Rate per 1000 Population.
Congenital	225	1.31	200	1.18	216	1.27	177	1.03	164	.95
Digestive	137	.80	137	.81	137	.81	153	.89	128	.74
Respiratory	502	2.93	518	3.06	401	2.36	592	3.43	471	2.73
Infectious	512	2.99	511	3.02	351	2.06	499	2.89	305	1.77
Circulatory	378	2.21	414	2.44	350	2.06	427	2.48	403	2.34
Genito-Urinary	97	.56	90	.53	94	.55	94	.55	78	.45
Malignant	273	1.59	295	1.74	272	1.60	279	1.62	338	1.96
Nervous	256	1.49	265	1.57	285	1.68	291	1.69	283	1.64
Other causes	429	2.50	395	2.33	408	2.40	406	2.35	428	2.49
Totals	2809	16.39	2825	16.68	2514	14.78	2918	16.92	2598	15.09

TABLE XV.

Number of Illegitimate Births, number of Deaths (under 1 year) of Illegitimate Infants, and Death-rate per 1,000 Illegitimate Births since 1919.

Year.	Illegitimate Births.	Deaths of Illeg. Infants.	Rate per 1000 Illeg. Births.
1919	386	75	194
1920	427	104	244
1921	344	65	189
1922	296	45	152
1923	331	43	130
1924	280	52	186
1925	235	33	140
1926	256	33	129
1927	268	48	179
1928	274	42	153

TABLE XVI.

Five-yearly average annual death-rates per 100,000 population from certain of the Infectious Diseases 1876-1920, and, number of deaths and death-rates per 100,000 each year since 1921.

YEAR.	Smallpox.		Scarlet Fever.		Enteric Fever.		Typhus Fever.		Diphtheria.		Measles.		Whooping Cough.	
	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.	No. of Deaths.	Death-rate per 100,000.
1876-1880	—	.1	—	26.5	—	22.3	—	10.4	—	29.1	—	52.7	—	84.4
1881-1885	—	.1	—	14.7	—	14.1	—	5.3	—	40.0	—	33.0	—	86.1
1886-1890	—	0	—	33.0	—	10.5	—	2.8	—	20.0	—	32.7	—	67.3
1891-1895	—	.2	—	5.7	—	17.6	—	4.0	—	19.7	—	51.5	—	64.4
1896-1900	—	0	—	14.5	—	10.4	—	2.5	—	16.1	—	36.5	—	43.9
1901-1905	—	1.5	—	4.1	—	10.8	—	.6	—	12.7	—	42.5	—	55.5
1906-1910	—	.1	—	14.5	—	3.7	—	.7	—	25.9	—	60.8	—	42.1
1911-1915	—	.5	—	10.9	—	3.6	—	.5	—	21.0	—	41.7	—	61.2
1916-1920	—	.1	—	2.7	—	2.8	—	.2	—	18.5	—	33.1	—	15.3
1921	0	—	12	7.1	1	.6	0	—	15	8.9	14	8.3	66	39.2
1922	0	—	7	4.1	0	—	0	—	23	13.4	45	26.2	19	11.0
1923	0	—	14	8.2	3	1.8	0	—	34	19.9	91	53.2	43	25.2
1924	0	—	43	25.1	1	.6	0	—	44	25.7	116	67.7	35	20.4
1925	0	—	37	21.8	0	—	0	—	78	46.1	80	47.2	55	32.5
1926	0	—	28	16.5	1	.6	0	—	66	38.8	1	.6	4	2.4
1927	0	—	9	5.2	0	—	0	—	69	40.0	76	44.1	48	27.8
1928	0	—	0	—	0	—	0	—	30	17.4	16	9.3	36	20.9

TABLE XVII.

Five-yearly average annual Case Mortality (per cent.) from certain Infectious Diseases 1891-1920, and, No. of Cases notified and intimated, No. of Deaths, and Case Mortality each year since 1921.

YEAR.	Smallpox.			Scarlet Fever.			Enteric Fever.			Typhus Fever			Diphtheria.			Measles.			Whooping Cough.		
	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.	Cases.	Deaths.	Case Mortality.
1891-1895	—	—	3.7	—	—	3.3	—	—	15.1	—	—	9.8	—	—	38.0	—	—	8.7	—	—	70.8
1896-1900	—	—	—	—	—	4.2	—	—	15.2	—	—	22.5	—	—	23.2	—	—	8.4	—	—	47.9
1901-1905	—	—	5.4	—	—	2.3	—	—	16.6	—	—	14.0	—	—	16.2	—	—	10.2	—	—	38.8
1906-1910	—	—	1.5	—	—	3.0	—	—	11.3	—	—	12.1	—	—	17.3	—	—	10.4	—	—	17.6
1911-1915	—	—	5.3	—	—	2.5	—	—	9.9	—	—	13.3	—	—	11.1	—	—	11.0	—	—	13.2
1916-1920	—	—	6.7	—	—	1.4	—	—	11.2	—	—	26.7	—	—	11.0	—	—	5.7	—	—	5.2
1921	0	0	—	380	12	3.2	7	1	14.3	0	0	—	274	15	5.5	586	14	2.4	504	66	13.1
1922	0	0	—	429	7	1.6	6	0	—	0	0	—	267	23	8.6	1255	45	3.6	363	19	5.2
1923	0	0	—	813	14	1.7	19	3	15.8	0	0	—	256	34	13.3	996	91	9.1	374	43	11.5
1924	0	0	—	1338	43	3.2	16	1	6.3	0	0	—	452	44	9.7	1828	116	6.3	518	35	6.8
1925	0	0	—	1528	37	2.4	17	0	—	0	0	—	648	78	12.0	806	80	9.9	706	55	7.8
1926	0	0	—	1275	28	2.2	25	1	4.0	0	0	—	786	66	8.4	77	1	1.3	149	4	2.7
1927	152	0	—	414	9	2.2	9	0	—	0	0	—	1023	69	6.7	2032	76	3.7	924	48	5.2
1928	5	0	—	208	0	—	3	0	—	0	0	—	623	30	4.8	1062	16	1.5	829	36	4.3

TABLE XVIII.

MALIGNANT DISEASES.

Number of Deaths during each year since 1921 :—

Year.	Males.	Females.	Total.
1921	113	176	289
1922	104	168	272
1923	115	146	261
1924	103	167	270
1925	114	173	287
1926	111	154	265
1927	111	165	276
1928	138	200	338

TABLE XIX.

Death-rate per 10,000 population, from Malignant Diseases, each year since 1921, sexes given separately and together.

Year.	Males.	Females.	Total.
1921	15.13	18.80	17.17
1922	13.62	17.55	15.81
1923	15.17	15.36	15.27
1924	13.55	17.52	15.76
1925	15.16	18.37	16.95
1926	14.70	16.29	15.58
1927	14.50	17.21	16.01
1928	18.05	20.89	19.63

TABLE

Age and Sex Distribution of Deaths from Malignant Disease

AGES		BUCCAL CAVITY					PHARYNX, OESOPHAGUS, STOMACH, LIVER and ANNEXA							PERITONEUM, INTESTINES and RECTUM											
		Jaw	Mouth	Palate	Tongue	Tonsil	Gall Bladder	Liver	Oesophagus	Pharynx	Pylorus	Stomach	Ventriculi	Anus	Appendix	Bowel	Colon	Descending Colon	Pelvic Colon	Transverse Colon	Ileum	Intestine	Omentum	Rectum	Retro-Peritoneal Cancer
Under 20	M	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20–25	M	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25–35	M	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	F	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
35–45	M	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	1
	F	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	1	..
45–55	M	3	..	..	..	..	..	1	2	1	...	6	..	..	..	...	..	..	1	..	..	1	..	2	..
	F	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	...	...	..	4	..
55–65	M	..	1	..	2	1	..	3	2	..	..	13	..	..	..	..	..	1	2	..	..	3	..	5	..
	F	1	1	..	2	..	2	4	1	..	2	15	..	..	..	..	2	..	1	..	..	3	1	2	..
65–75	M	1	..	1	1	1	..	4	2	..	..	11	..	..	1	1	2	..	..	..	1	1	..	3	..
	F	..	..	..	..	..	1	1	4	..	..	24	..	..	..	2	6	..	4	1	..	1	..	3	..
75 and up	M	..	..	..	..	..	..	1	..	..	..	4	1	1	..	2	2	..	..	..	..	..	..	3	..
	F	..	..	..	..	..	..	3	2	..	..	7	2	..	..	1	2	.	..	..	..	2	..	2	..
Totals		5	2	1	5	2	3	19	14	1	2	83	3	1	1	6	16	1	8	1	1	12	1	25	2

XX.

during 1928, showing parts of the body affected

FEMALE GENITAL ORGANS			BREAST	SKIN			OTHER OR UNSPECIFIED ORGANS																	TOTALS	
Cervix	Ovary	Uterus		Face	Penis	Rodent Ulcer	Abdomen	Axilla	Bladder	Cervical Glands	Kidney	Larynx	Lung	Mediastinum	Neck	Pancreas	Pelvis	Pleura	Prostate	Spleen	Thyroid Gland	Other Parts	Not Specified		
...	..	..	..	..	..	..	..	..	..	..	.	..	..	1	..	..	..	..	..	..	..	1	1	3	5
...	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	2	
...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	1
...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	..	1	
...	..	..	..	..	..	..	..	..	..	..	..	1	.	..	..	..	..	..	..	..	..	..	1	3	7
...	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	4	
...	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	6	17
...	1	2	2	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	11	
...	..	..	..	..	..	..	3	..	..	..	..	..	2	1	..	3	..	..	..	..	..	..	..	26	51
5	1	5	2	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	25	
...	..	..	..	..	1	..	..	..	..	..	..	..	3	..	..	..	..	..	3	..	..	1	..	41	100
1	1	3	9	..	..	..	..	..	..	..	..	..	2	5	..	1	..	..	..	..	..	..	..	59	
...	..	..	..	1	..	..	..	..	1	..	..	..	1	..	2	1	..	..	3	..	..	..	..	39	106
1	..	5	5	..	..	..	..	..	..	1	..	..	2	1	1	1	1	1	..	..	1	..	..	67	
...	..	..	..	..	..	1	1	1	..	..	1	..	..	1	..	..	..	..	..	..	..	1	..	20	51
...	1	1	1	1	..	1	2	..	1	..	1	..	..	1	..	...	..	..	..	..	..	..	..	31	
7	4	16	20	2	2	2	10	1	2	1	3	1	11	10	4	7	2	1	6	1	2	5	3	338	

TABLE XXI.

Five-yearly average annual Death-rates per 100,000 population 1876-1920, and, number of Deaths and Death-rates per 100,000 each year since 1921, from the Respiratory Diseases (including Bronchitis, Pneumonia (all forms), Pleurisy, Asthma, Laryngitis, etc.).

Year	Total Deaths	Death-rate per 100,000
1876-1880	—	508.5
1881-1885	—	482.3
1886-1890	—	463.2
1891-1895	—	473.2
1896-1900	—	419.8
1901-1905	—	387.1
1906-1910	—	345.6
1911-1915	—	329.5
1916-1920	—	327.3
1921	402	238.8
1922	552	320.8
1923	401	234.6
1924	502	293.1
1925	518	305.9
1926	401	235.8
1927	592	343.3
1928	471	273.5

TABLE XXII.

Five-yearly average annual Death-rates per 100,000 population 1876-1920, and, number of Deaths and Death-rates per 100,000 each year since 1921 from Diabetes Mellitus.

Year	Total Deaths	Deate-Rate per 100,000
1876-1880	—	—
1881-1885	—	1.8
1886-1890	—	.5
1891-1895	—	2.0
1896-1900	—	2.4
1901-1905	—	5.5
1906-1910	—	5.9
1911-1915	—	8.5
1916-1920	—	5.5
1921	10	5.9
1922	10	5.8
1923	17	9.9
1924	12	7.0
1925	10	5.9
1926	11	6.5
1927	19	11.0
1928	15	8.7

TABLE XXIII.

INFLUENZA.

Deaths in which Influenza was given as a cause, each month January 1919—December 1928.

Month.	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
January ...	31	4	5	73	2	0	5	1	6	1
February ...	58	0	6	19	0	2	2	0	14	0
March ...	40	4	8	3	0	7	3	0	27	3
April ...	8	55	4	1	2	8	3	14	3	1
May ...	3	24	2	1	1	2	0	8	0	0
June ...	0	0	0	0	1	1	0	1	2	0
July	1	1	0	0	0	0	0	0	0	0
August ...	0	0	0	0	0	0	0	2	0	0
September ...	0	0	1	0	1	3	3	1	3	1
October ...	0	2	0	1	0	0	1	2	6	2
November ...	2	0	2	4	1	10	1	5	4	3
December ...	0	0	5	1	4	6	2	2	4	7
Totals ...	143	90	33	103	12	39	20	36	69	18

TABLE XXIV.

Deaths in which Influenza appears as a cause in death certificate 1919-1928 classified in age periods.

Age Periods.	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Under 1 year	3	3	0	4	0	1	0	1	3	1
1- 5 years	19	13	0	3	0	1	2	2	4	0
5-15 ,,	10	4	1	2	0	1	0	1	3	0
15-25 ,,	18	12	2	5	0	1	0	3	3	1
25-45 ,,	46	25	2	28	2	8	3	4	11	4
45-65 ,,	31	14	9	26	2	12	7	8	21	4
65 and upwards	16	19	19	35	8	15	8	17	24	8
Totals	143	90	33	103	12	39	20	36	69	18

During 1928, 4 deaths were certified as due to Influenza alone, while in 14 cases it was associated with :—

Phthisis	2
Bronchitis	2
Pneumonia	5
Dis. and Acc. of Preg. and Part. ...	1
Other causes	4

TABLE XXV.

INFECTIOUS DISEASES.—Number of Cases of each disease notified and reported in Dundee during the Year 1928. Also number removed and number not removed to Hospital.

DISEASE	At all ages	At Ages—Years							Cases removed to Hospital	Cases not removed to Hospital
		Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards		
Typhoid Fever ...	3	...	1	1	1	...	...	...	2	1
Smallpox ...	5	...	...	1	1	1	2	...	5	0
Scarlet Fever ...	208	1	54	129	18	6	...	...	125	83
Diphtheria ...	623	16	187	333	54	28	5	...	555	68
Erysipelas ...	130	6	2	10	7	30	57	18	49	81
Puerperal Fever	41	...	...	...	18	23	...	...	36	5
Ophthalmia Neonatorum ...	62	62	...	...	...	...	...	...	12	50
Malaria	5	...	...	...	...	5	...	...	1	4
Dysentery ...	6	...	2	3	1	...	...	...	4	2
Infantile Paralysis	5	1	3	1	...	...	...	...	3	2
Encephalitis Lethargica ...	12	...	...	...	1	7	3	1	4	8
Infective Jaundice	1	...	...	1	...	...	...	...	0	1
Acute Primary Pneumonia ...	736	149	291	130	38	65	42	21	489	247
Acute Influenzal Pneumonia ...	23	...	1	2	...	8	12	...	6	17
Pulmonary Tuberculosis ...	318	...	11	82	62	109	47	7	271	47
Non-Pulmonary Tuberculosis ...	131	4	26	49	20	20	8	4	23	108
Cerebro-Spinal Fever... ...	8	2	3	1	1	1	...	...	8	0
Chickenpox ...	1039	55	292	676	10	6	...	...	10	1029
*Measles	1062	49	331	670	9	3	...	...	65	997
*Whooping Cough	829	98	368	363	...	...	...	...	56	773
Totals ...	5247	443	1572	2452	241	312	176	51	1724	3523

*Not notifiable in Dundee during 1928.

Tuberculosis—cases notified in a previous year and removed to Hospital for the first time during 1928—

Pulmonary, 26; Non-Pulmonary. 8; Total, 34.

TABLE XXVI.

Monthly Notifications and Intimations of Infectious Disease,

Dundee, 1928.

DISEASE	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Typhoid Fever	...	1	...	...	...	1	...	...	1	...	...	...	3
Smallpox	...	...	...	...	...	...	...	...	...	3	1	1	5
Scarlet Fever	20	20	12	20	21	14	13	17	18	19	19	15	208
Diphtheria	92	75	56	64	38	33	35	39	47	45	54	45	623
Erysipelas	7	8	15	13	7	8	4	11	12	14	17	14	130
Puerperal Fever	4	1	7	6	1	3	...	...	2	2	5	10	41
Ophthalmia Neonatorum ...	6	1	2	7	3	6	9	7	1	5	7	8	62
Malaria	2	1	1	...	1	...	...	...	...	...	...	...	5
Dysentery	...	...	...	...	4	1	...	...	...	...	...	1	6
Infantile Paralysis	...	...	...	...	...	...	...	...	2	2	1	...	5
Encephalitis Lethargica ...	...	...	...	...	5	...	...	3	3	1	...	...	12
Infective Jaundice	...	1	...	...	...	...	...	...	...	...	...	...	1
Acute Primary Pneumonia ...	99	84	69	59	67	48	31	32	45	79	41	82	736
Acute Influenzal Pneumonia ...	3	1	7	...	1	2	1	1	1	2	1	3	23
Pulmonary Tuberculosis ...	30	18	40	41	42	24	22	22	9	25	27	18	318
Non-Pulmonary Tuberculosis ...	10	10	10	16	17	10	4	16	16	8	10	4	131
Cerebro-Spinal Fever	...	...	...	1	...	1	1	1	...	1	2	1	8
Chickenpox	91	44	84	75	162	160	53	26	33	46	115	150	1039
*Measles	37	83	238	147	166	90	23	20	30	47	96	85	1062
*Whooping Cough	52	60	115	153	176	121	33	34	26	28	10	21	829
Totals	453	408	656	602	711	522	229	229	246	327	406	458	5247

*Not Notifiable in Dundee during 1928.

TABLE XXVII.

TUBERCULOSIS.—Notifications and Deaths, with corresponding rates per 1,000 population at various age-periods each year since 1917.

Year.		PULMONARY TUBERCULOSIS.												NON-PULMONARY TUBERCULOSIS.											
		0-5.		5-15.		15-25.		25-45.		45-65.		65 & over.		0-5.		5-15.		15-25.		25-45.		45-65.		65 & over.	
		No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.
1917	Notifications	16	.81	56	1.52	114	3.27	160	3.19	79	2.58	7	.71	54	2.75	46	1.25	34	.97	30	.60	6	.19	1	.10
	Deaths	4	.20	14	.38	39	1.12	95	1.89	58	1.90	8	.81	53	2.70	29	.79	21	.60	22	.44	12	.39	3	.31
1918	Notifications	25	1.27	57	1.55	99	2.84	131	2.61	77	2.52	4	.40	50	2.54	56	1.52	54	1.55	23	.46	13	.42	5	.50
	Deaths	11	.56	23	.63	63	1.81	76	1.51	74	2.42	9	.92	25	1.27	29	.79	15	.43	10	.20	9	.29	2	.20
1919	Notifications	13	.64	72	1.92	102	2.91	180	3.38	63	2.02	12	1.19	36	1.79	38	1.01	33	.94	17	.32	10	.32	3	.30
	Deaths	4	.19	8	.21	38	1.11	71	1.35	37	1.19	7	.69	24	1.19	19	.50	13	.37	11	.21	8	.25	8	.79
1920	Notifications	13	.67	74	2.05	94	2.62	159	3.07	75	2.40	8	.84	45	2.30	39	1.05	31	.86	12	.23	5	.16	0	—
	Deaths	1	.05	7	.19	38	1.20	73	1.29	56	1.81	8	.84	31	1.61	16	.43	9	.28	8	.14	5	.16	0	—
1921	Notifications	21	1.43	57	1.81	105	3.30	128	2.77	54	1.62	8	.77	24	1.50	47	1.46	15	.47	8	.17	5	.14	2	.19
	Deaths	3	.20	5	.15	38	1.19	76	1.64	38	1.12	8	.77	17	1.15	16	.50	11	.34	8	.17	4	.12	3	.29
1922	Notifications	15	.99	66	2.05	109	3.34	130	2.75	73	2.10	8	.76	49	3.26	54	1.68	40	1.23	12	.25	7	.66	0	—
	Deaths	0	—	10	.31	36	1.10	64	1.35	53	1.53	5	.47	26	1.73	15	.46	19	.58	0	—	6	.17	1	.09
1923	Notifications	20	1.34	50	1.56	72	2.23	97	2.07	60	1.74	10	.95	50	3.35	70	2.19	52	1.61	27	.58	12	.34	5	.47
	Deaths	6	.40	11	.34	45	1.39	64	1.36	35	1.01	6	.57	35	2.34	16	.50	13	.40	6	.12	5	.14	3	.28
1924	Notifications	14	.93	48	1.50	73	2.25	101	2.15	51	1.47	8	.76	50	3.34	37	1.15	26	.80	20	.43	7	.20	2	.19
	Deaths	1	.06	8	.25	44	1.36	55	1.17	33	.96	5	.47	28	1.87	14	.44	9	.28	6	.13	7	.20	1	.09
1925	Notifications	8	.54	49	1.55	72	2.25	100	2.15	42	1.23	9	.88	36	2.44	32	1.01	27	.84	17	.37	5	.15	4	.39
	Deaths	4	.27	6	.19	39	1.22	57	1.23	36	1.05	6	.58	18	1.22	9	.28	15	.47	10	.22	4	.12	3	.29
1926	Notifications	3	.20	67	2.10	72	2.24	107	2.29	53	1.55	6	.58	37	2.49	41	1.29	22	.68	13	.28	7	.20	3	.29
	Deaths	0	—	4	.13	34	1.06	60	1.29	35	1.02	5	.48	20	1.35	12	.38	8	.25	7	.15	3	.09	2	.19
1927	Notifications	7	.47	80	2.48	76	2.33	80	1.69	40	1.15	5	.48	38	2.53	28	.87	13	.40	23	.49	6	.17	4	.38
	Deaths	3	.20	6	.19	45	1.38	70	1.48	26	.75	3	.29	21	1.40	5	.15	6	.18	8	.17	3	.09	4	.38
1928	Notifications	11	.73	82	2.54	62	1.90	109	2.31	47	1.35	7	.67	30	2.00	49	1.52	20	.61	20	.42	8	.23	4	.38
	Deaths	3	.20	5	.16	34	1.04	59	1.25	33	.95	4	.38	15	1.00	12	.37	7	.21	4	.08	2	.06	2	.19

XXVIII.

TUBERCULOSIS.—Notifications and Deaths, with corresponding rates per 1,000 population, for each year since 1913 (since notification became compulsory).

YEAR.	Estimated Population.	NOTIFICATIONS AND CASE RATES.						DEATHS AND DEATH-RATES.					
		Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Tuberculosis (all forms).		Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Tuberculosis (all forms).	
		No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.
1913	164,975	400	2.42	Non-Pulmonary Tuberculosis				191	1.16	128	.77	319	1.93
1914	176,584	590	3.34	Notifiable in March, 1914.				249	1.41	126	.71	375	2.12
1915	177,300	485	2.73	377	2.12	862	4.86	275	1.55	113	.64	388	2.19
1916	181,437	522	2.87	213	1.17	735	4.05	259	1.42	95	.52	354	1.95
1917	181,773	432	2.37	171	.94	603	3.36	218	1.20	110	.77	358	1.97
1918	181,777	393	2.16	201	1.11	594	3.26	256	1.40	90	.49	346	1.90
1919	185,388	442	2.38	137	.73	579	3.12	165	.89	83	.44	248	1.33
1920	184,084	423	2.29	132	.71	555	3.01	183	.99	69	.38	252	1.37
1921	168,217	375	2.23	99	.58	474	2.81	168	.99	59	.35	227	1.34
1922	172,061	401	2.33	162	.94	563	3.27	168	.98	67	.39	235	1.37
1923	170,901	309	1.80	216	1.26	525	3.07	167	.98	78	.45	245	1.43
1924	171,295	295	1.72	142	.83	437	2.55	146	.85	65	.38	211	1.23
1925	169,361	280	1.65	121	.72	401	2.37	148	.87	59	.35	207	1.22
1926	170,060	308	1.81	123	.72	431	2.53	138	.81	52	.31	190	1.12
1927	172,444	288	1.67	112	.65	400	2.32	153	.89	47	.27	200	1.16
1928	172,214	318	1.85	131	.76	449	2.61	138	.80	42	.25	180	1.05

TABLE XXIX.

TUBERCULOSIS.—Notifications and Deaths with corresponding rates per 1,000 population in various wards, 1928.

WARD.	NOTIFICATIONS AND CASE RATES.						DEATHS AND DEATH-RATES.					
	Pulmonary Tuberculosis.	Per 1000.	Non-Pulmonary Tuberculosis.	Per 1000.	Tuberculosis (all forms).	Per 1000.	Pulmonary Tuberculosis	Per 1000.	Non-Pulmonary Tuberculosis.	Per 1000.	Tuberculosis (all forms).	Per 1000.
I.	26	1.76	14	.94	40	2.70	11	.74	2	.14	13	.88
II.	25	1.96	13	1.02	38	2.98	6	.47	5	.39	11	.86
III.	37	2.26	14	.86	51	3.12	16	.98	4	.24	20	1.22
IV.	30	1.55	10	.52	40	2.07	21	1.09	4	.21	25	1.30
V.	38	1.66	17	.74	55	2.40	23	1.00	5	.22	28	1.22
VI.	42	2.32	11	.61	53	2.93	12	.66	5	.28	17	.94
VII.	29	1.57	14	.76	43	2.33	12	.65	5	.27	17	.92
VIII.	35	1.82	17	.88	52	2.70	16	.83	4	.21	20	1.04
IX.	42	2.20	10	.52	52	2.72	12	.63	5	.26	17	.89
X. and XI.	7	.62	4	.36	11	.98	6	.54	1	.09	7	.63
No fixed abode	7	—	7	—	14	—	3	—	2	—	5	—
Totals	318	1.85	131	.76	449	2.61	138	.80	42	.25	180	1.05

TABLE XXX.

PULMONARY TUBERCULOSIS—Notifications and Deaths with corresponding rates per 1,000 population for each sex each year since 1915.

Year.	NOTIFICATIONS.				DEATHS.			
	Males.		Females.		Males.		Females.	
	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.	No.	Per 1000.
1915	216	2.75	269	2.72	106	1.35	169	1.71
1916	227	2.83	295	2.92	99	1.23	160	1.58
1917	181	2.25	251	2.48	100	1.24	118	1.16
1918	198	2.46	195	1.92	117	1.45	139	1.37
1919	238	2.90	204	1.97	90	1.09	75	.72
1920	223	2.74	200	1.95	95	1.16	88	.85
1921	197	2.64	178	1.90	81	1.08	87	.92
1922	170	2.23	231	2.41	75	.98	93	.97
1923	149	1.97	160	1.68	73	.96	94	.98
1924	135	1.78	160	1.68	75	.98	71	.74
1925	125	1.66	155	1.65	61	.81	87	.93
1926	135	1.79	173	1.83	67	.89	71	.75
1927	147	1.92	141	1.47	76	.99	77	.80
1928	159	2.08	159	1.66	67	.88	71	.74

TABLE XXXI.

Pulmonary Tuberculosis—Deaths in Institutions each year since 1919.

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Total Deaths from Pulmon. T.B. -	165	183	168	168	167	147	148	138	153	138
No. of Deaths from Pulmon. T.B. in Institutions -	67	93	91	85	75	62	66	77	70	74
Percentage of Total Deaths from Pul. T. B. dying in Institutions	40.6	50.8	54.1	50.6	44.9	42.1	44.6	55.8	45.8	53.6

TABLE XXXII.

MATERNAL MORTALITY.

Certified causes of deaths of women from diseases and accidents connected with pregnancy and child-birth during 1928, and average numbers for 5-yearly period 1923-1927

CAUSE OF DEATH	Average Annual Number, 1923-1927	1928
Abortion, Miscarriage	1	0
Uncontrollable vomiting	1	0
Ectopic gestation	0	1
Other diseases and accidents of pregnancy	1	0
Puerperal hæmorrhage	3	1
Other accidents of parturition ...	2	4
Puerperal sepsis	7	11
Phlegmasia alba dolens, Embolism ...	2	3
Albuminuria of pregnancy, Eclampsia ...	4	4
Other diseases of puerperium ...	3	0
Puerperal diseases of Breast	0	0
	24	24

TABLE XXXIII.

Maternal Mortality Rates—number of deaths per 1,000 registered births each year, 1919-1928.

1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
5.48	7.13	5.61	8.51	4.76	3.88	4.60	8.86	7.96	6.86

TABLE XXXIV.

Number of births per 1,000 population, illegitimate births per 100 registered births, and marriages per 1,000 population, each year since 1914.

Year.	Birth-rate.	Illegitimate-rate.	Marriage-rate.
1914	25.2	9.1	8.3
1915	22.1	8.0	9.5
1916	20.5	8.0	7.1
1917	15.6	11.2	7.0
1918	16.0	10.6	7.5
1919	18.7	11.1	10.6
1920	27.4	8.5	11.4
1921	26.5	7.7	10.0
1922	24.6	7.0	8.8
1923	24.6	7.9	8.3
1924	22.6	7.2	7.6
1925	21.8	6.4	7.6
1926	21.9	6.9	7.7
1927	20.4	7.6	7.4
1928	20.3	7.8	7.8

TABLE XXXV.

VACCINATION—1921–1927.

Year	Total Births (excluding Transcripts received)	Successfully Vaccinated		Insusceptible to Vaccination		Died before Vaccination		Conscientious Objections		Postponement or unaccounted for	
		No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.	No.	Per Cent.
1921	4509	1191	26·4	27	·6	379	8·4	2682	59·5	230	5·1
1922	4288	1193	27·8	12	·3	323	7·5	2556	59·6	204	4·8
1923	4275	1240	29·0	11	·2	284	6.6	2567	60·1	173	4·1
1924	3921	1077	27·5	16	·4	352	9·0	2271	57·9	205	5·2
1925	3750	978	26·1	17	·4	306	8·2	2270	60·5	179	4·8
1926	3822	1087	28·4	25	·7	309	8·1	2252	58·9	149	3·9
1927	3591	1228	34·2	49	1·4	307	8.5	1933	53·8	74	2.1

TABLE XXXVI.

The Public Health (Port Administration Infectious Diseases) Regulations (Scotland) 1921.

DETAILS OF VESSELS ENTERING THE PORT DURING 1928.

	No. of Arrivals.	Tonnage.	No. Inspected by Medical Officer.	No. Inspected by Sanitary Inspector.	No Reported Defective.	No of Orders Issued.
From Foreign—						
Steamers .	327	632,336	4	327	140	265
Coastwise	782	269,259	—	—	—	—
	1,109	901,595	4	327	140	265

TABLE XXXVII.

Port Sanitation.

Principal Foreign Places from which ships arrived and notes of cargoes.

PORT OR COUNTRY.	No.	CARGOES
India (Calcutta, Chittagong, and Bombay)	92	Jute, Gunnies, Cottonseed and Linseed
Hamburg	52	Sugar, Potash, Farina and Fancy Goods
Rotterdam, Dunkirk and Ghent ...	30	Sugar, Milk, Cheese Bacon Fruit, Vegetables and Steel Plates
Antwerp	25	Vegetables, Cheese, Iron and Steel
Gothenburg	18	Paper, Paper Pulp and Wood
Algeria	9	Esparto Grass
U.S.A. and Canada	24	Flour, Sugar, Tinned Food, Timber, & Pitch
Baltic Ports, Norway, etc.	39	Timber, Flax, Tar, Paper and Granite
Other European Ports	31	Cork, Pyrites, Phosphates and Wood
West Indies, etc.	7	Raw Sugar

TABLE XXXVIII.

Port Sanitation.

Details of Action taken:—

Total Number of verbal intimations		162
Total Number of rat notices issued		103
Total Number of visits to ships		856
Total Number of ships from infected or suspected ports		99
Do.	(direct)	12
Do.	(indirect)	87
Nuisances and defects attended to:—		
Forecastles cleaned out		17
Messrooms cleaned		20
Galleys and store-rooms cleaned		36
Waste food causing a nuisance		28
Water-closets choked and repaired		20
Water-closets cleaned out		51
Discharge of foul water on quay		42
Dirty and broken baths		6
Total nuisances		220
Fresh water tanks cleaned out		19
Forecastles washed		12
Baths painted		14
W.C.'s painted		20
Galleys painted or washed		6
Crews' quarters disinfected		1

TABLE XXXIX.

BACTERIOLOGICAL LABORATORY.

Examinations carried out on behalf of the Department by Professor Tulloch, in the Laboratory, University College, Dundee.

	1922	1923	1924	1925	1926	1927	1928
Wassermann Tests	3573	3418	3261	3513	3660	3619	4107
Microscopical and other examinations under V.D. Scheme for—							
Syphilis	125	91	68	33	35	42	31
Gonorrhœa	485	935	1589	1690	1863	2227	2933
Swabs for diphtheria	569	848	1188	2027	1980	2560	1898
Widal tests for enteric fever	65	126	158	140	220	236	106
Sputum examinations	303	317	334	385	320	299	310
Examination of fæces, blood cultures, etc., for—							
Enteric fever	24	62	64	80	91	47	26
Dysentery	3	2	0	13	6	2	11
Infantile Diarrhœa	5	7	11	8	4	3	7
Milk examination	—	65	96	97	101	97	75
Food Poisoning—							
No. of outbreaks	—	(0)	(4)	(2)	(3)	(2)	(2)
No. of examinations	—	0	145	7	71	44	27
Cerebro spinal meningitis	—	0	1	0	8	10	16
Other examinations	14	12	27	*78	*60	45	35
Totals	5166	5884	6943	8071	8119	9231	9582

*Includes 50 Rats examined for Leptospira Icterohæmorrhagica.

TABLE XI.

DISINFECTION.

The table submitted below details the year's work in regard to disinfection.

Month	Beds	Mattresses	Rugs	Blankets	Sheets	Wearing Apparel	Miscellaneous Articles	Total No. of Articles	No. of Houses from which clothes were removed
January ...	3	18	270	268	210	563	463	1795	138
February ..	2	16	302	226	220	530	444	1740	145
March ...	2	9	247	221	167	521	432	1599	111
April ...	5	8	263	233	191	498	439	1637	119
May... ...	2	23	203	298	195	317	349	1387	87
June ...	1	7	238	118	145	265	199	973	80
July	60	1	265	120	141	168	202	957	71
August ...	235	6	211	414	153	193	312	1524	80
September ...	1	5	216	140	137	266	317	1082	83
October ...	0	13	243	157	131	375	302	1221	103
November ...	0	15	284	198	169	423	335	1424	149
December ...	0	11	184	154	153	459	342	1303	110
	311	132	2926	2547	2012	4578	4136	16642	1276

The following figures relate to the articles disinfected and the houses concerned each year since 1920 :—

	1920	1921	1922	1923	1924	1925	1926	1927	1928
Artioles	20,917	18,078	17,480	20,074	26,763	32,978	29,430	22,721	16,642
Houses concerned	1,204	1,103	1,025	1,322	1,535	2,234	2,042	1,709	1,276

TABLE XLI.

FACTORIES, WORKSHOPS AND WORKPLACES.

YEAR 1928.

1 Inspection of Factories, Workshops and Workplaces, including Inspections made by Sanitary Inspectors.

PREMISES	Inspections	NUMBER OF Written Notices	Occupiers Prosecuted
Factories (including factory laundries)	553	2	0
Workshops (including workshop laundries) ...	1,250	0	0
Workplaces (other than outworkers' premises) ...	478	1	0
	2,281	3	0

2. Defects found in Factories, Workshops and Workplaces

PARTICULARS	NUMBER OF DEFECTS Found	Remedied	Referred to H.M. Inspector	No. of Offences in respect to which Prosecutions were Instituted
Nuisances under the Public Health Acts†—				
Want of cleanliness	110	110	...	...
Want of ventilation	6	6	...	...
Overcrowding	...	...	...	...
Want of drainage of floors ...	...	...	...	...
Other nuisances	...	...	...	...
Sanitary accommodation—				
Insufficient	2	2	...	...
Unsuitable or defective ...	15	15	...	...
Not separate for sexes ...	...	...	...	...
Offences under the Factory and Workshop Acts—				
Illegal occupation of underground bakehouse (S. 101)	...	...	...	...
Other offences ... ... (excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Scottish Board of Health (Factories and Workshops Transfer of Powers) Order, 1921)	...	...	...	...
Total	133	133	...	...

†Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901 as remediable under the Public Health Acts.

TABLE XLII.

DUNDEE INFANT HOSPITAL.

Year to 31st December, 1928.

In Hospital—1st January, 1928		31
Admitted		150
		181
Discharged—		
Relieved	54	
Unrelieved	3	
Taken home against advice	11	
Sent to Royal Infirmary, ...	3	
Sent to King's Cross Hospital	1	
Sent home for Disinfection	38	
		110
		71
Died—		
Marasmus	17	
Broncho-pneumonia	12	
Gastro-enteritis	9	
		38
In Hospital, 31st December, 1928		33

The cases treated were :—

Marasmus	50	Gastro-enteritis	9
Marasmus and Rickets ...	6	Bronchitis	3
Debility	54	Broncho-pneumonia	3
Debility and Rickets	31	Congenital Syphilis	3
Rickets	13	Congenital Heart Disease ...	2
Dyspepsia	4	Convulsions	1
Pyloric spasm	1	Abdominal Tuberculosis ...	1
			181

Highest Daily Number	34
Lowest Daily Number	6
Average Daily Number	30.77

The Hospital was closed from 26th June till 5th July, for German measles.

TABLE XLIII.

VENEREAL DISEASES SCHEME, 1923-24 to 1928-29.

Year.	Patients suffering from Venereal Diseases, attending the V.D. Centres, who:— Left before completing a course of treatment. Both Sexes. No.	Per Cent.	Males. No.	Per Cent.	Females. No.	Per Cent.	Left after completing a course of treatment, but before final tests as to cure. Both Sexes. No.	Per Cent.	Males. No.	Per Cent.	Females. No.	Per Cent.	Were transferred to other centres. Both Sexes. No.	Per Cent.	Males. No.	Per Cent.	Females. No.	Per Cent.	Were discharged from centre after completion of treatment. Both Sexes. No.	Per Cent.	Males. No.	Per Cent.	Females. No.	Per Cent.	Totals. Both Sexes.	Males.	Females.
1923-4	193	38	122	33	71	52	126	25	73	20	53	39	66	13	60	17	6	4	118	24	111	30	7	5	503	366	137
1924-5	179	28	73	20	106	39	119	19	42	11	77	29	79	12	57	15	22	8	263	41	198	54	65	24	640	370	270
1925-6	238	36	114	29	124	46	93	14	61	16	32	11	72	11	52	13	20	7	263	39	162	42	101	36	666	389	277
1926-7	216	32	88	24	128	41	104	15	38	10	66	21	88	13	64	18	24	8	268	40	174	48	94	30	676	364	312
1927-8	160	24	58	15	102	38	86	13	48	12	38	14	109	17	77	20	32	12	306	46	209	53	97	36	661	392	269
1928-9	163	27	77	19	86	39	87	14	50	13	37	17	88	14	70	18	18	8	278	45	200	50	78	36	616	397	219

TABLE XLIV.

Doses of Arseno-Benzol Compounds Issued.

	Treatment Centre.	Other Institutions.	Medical Practitioners.	Total.
1919 ...	1,958	13	141	2,112
1920 ...	6,362	18	472	6,852
1921 ...	6,280	239	358	6,877
1922 ...	5,135	239	239	5,613
1923 ...	5,224	198	123	5,545
1924 ...	3,887	275	504	4,666
1925 ...	2,836	341	398	3,575
1926 ...	2,286	264	423	2,973
1927 ...	2,826	18	272	3,116
1928 ...	2,997	154	253	3,404

TABLE XLV.

LABORATORY WORK—The following examinations were carried out under the V.D. scheme during each of the last ten years :—

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Wassermann Tests	1,301	3,019	4,084	3,573	3,418	3,261	3,513	3,660	3 619	4,107
Microscopical and other Examinations	691	900	870	610	1,555	1,657	1,723	1,898	2,269	2,964
	1,992	3,919	4,954	4,183	4,973	4,918	5,236	5,558	5,888	7,071

TABLE XLVI.

Unsound Food. All Seized at the Public Slaughter-Houses.

Number of Seizures, Weight (in lbs.) of Meat Seized, and Reasons for Seizure.

FOR YEAR ENDING 31ST DECEMBER, 1928.

DISEASE	BEEF		MUTTON		PORK		TOTAL	
	Number	Weight	Number	Weight	Number	Weight	Number	Weight
(a) Tuberculosis	1,702	119,994	...	...	158	3,647	1,860	123,641
(b) Other Diseases :—								
Abscesses, Tumours, and Cysts ...	248	736	10	36	30	107	288	879
Actinomycosis	83	516	1	38	...	...	84	554
Asphyxiation	1	796	5	230	...	...	6	1,026
Decomposition	12	2,884	11	365	1	228	24	3,477
Dropsical Conditions	13	2,441	111	1,513	12	215	136	4,169
Fevered Conditions	92	16,715	205	3,099	39	1,446	336	21,260
Fractures and Bruises	50	5,615	21	154	15	434	86	6,203
Inflammation of Abdominal Organs ...	133	3,621	70	255	6	70	209	3,946
Melanosis	1	...	...	...	...	...	1	...
Pneumonia	65	1,954	56	567	12	47	133	2,568
Rheumatism	16	1,490	15	120	5	35	36	1,645
Septic Conditions	15	5,133	9	391	1	262	25	5,786
Swine Erysipelas	...	...	...	...	2	162	*2	162
Swine Fever	...	...	...	...	1	88	1	88
Uraemia	1	783	...	...	...	...	1	783
Wasted Conditions	10	2,054	14	152	...	...	24	2,206
Totals	2,442	164,732	528	6,920	282	6,741	3,252	178,393

TABLE XLVII.

Shews the numbers of the different kinds of Animals Slaughtered at the Public Slaughter-houses each month during 1928, also the numbers of their carcases found to be Diseased or Unsound, and the weights of each class seized and destroyed.

Month	Animals Slaughtered				Numbers of their Carcases Diseased or Unsound				Weights (in lbs.) condemned from Carcases of Animals Slaughtered on the Premises				
1928	Cattle	Calves	Sheep	Pigs	Cattle	Calves	Sheep	Pigs	Beef	Veal	Mutton	Pork	Total
January	1,210	10	2,298	420	223	2	25	19	14,348	44	110	391	14,893
February ...	1,183	8	2,180	454	193	1	83	40	14,255	82	727	820	15,884
March	1,219	8	2,209	363	234	1	62	15	13,028	74	486	253	13,841
April	1,201	4	2,117	330	212	2	54	22	10,583	3	257	231	11,074
May	1,320	8	2,063	293	246	1	41	19	9,736	54	499	212	10,501
June	1,199	3	1,819	215	227	...	19	11	8,920	...	266	209	9,395
July	1,164	7	1,968	182	195	...	22	11	7,527	...	63	141	7,731
August	1,301	5	2,363	196	211	1	31	7	14,120	106	142	85	14,453
September ...	1,266	6	2,364	229	232	2	26	19	11,463	...	184	191	11,838
October ...	1,354	12	2,808	460	249	..	278	47	10,353	...	141	690	11,184
November ...	1,269	9	2,586	440	153	1	236	22	9,331	3	107	618	10,059
December ...	1,429	7	2,482	477	262	1	219	29	11,258	60	85	525	11,928
Totals ...	15,115	87	27,257	4,059	2,637	12	1,096	261	134,922	426	3,067	4,366	142,781

TABLE XLVIII.

Shews the numbers of the different kinds of Carcases, dressed and undressed, brought to the Slaughter-houses, each month during 1928, with the numbers found to be diseased or unsound, and the weight of each class seized and destroyed on that account.

Month	Carcases brought in				Numbers of them Diseased or Unsound				Weight (in lbs.) Seized and Condemned from Carcases brought in				
1928	Cattle	Calves	Sheep	Pigs	Cattle	Calves	Sheep	Pigs	Beef	Veal	Mutton	Pork	Total
January	306	1	479	9	14	...	18	3	3,032	...	463	207	3,702
February ...	305	...	224	12	10	...	21	3	2,090	...	451	428	2,969
March	391	2	530	19	15	2	30	9	3,543	159	609	188	4,499
April	327	6	610	9	22	2	12	3	5,319	158	320	342	6,139
May	406	10	460	7	27	2	8	3	4,450	200	228	683	5,561
June	444	4	673	6	13	1	10	1	2,623	172	142	45	2,982
July	329	2	301	3	5	...	4	1	260	...	151	148	559
August	415	5	286	4	9	...	7	3	577	...	115	56	748
September ...	396	2	120	3	5	...	7	3	237	...	143	139	519
October	304	2	223	6	15	...	8	2	1,883	...	192	37	2,112
November ...	245	2	153	12	17	...	18	3	3,001	..	545	90	3,636
December ...	345	3	381	22	12	...	23	3	1,680	...	494	12	2,186
Totals ...	4,213	39	4,440	112	164	7	166	37	28,695	689	3,853	2,375	35,612
Table XLVII.	15,115	87	27,257	4,059	2,637	12	1,096	261	134,922	426	3,067	4,366	142,781
Total of Tables XLVII. and XLVIII.	19,328	126	31,697	4,171	2,801	19	1,262	298	163,617	1,115	6,920	6,741	178,393

TABLE XLIX.

The following is a synopsis of the organs seized and condemned in addition to the foregoing at the Slaughter-houses for the full year :—

CATTLE ORGANS		SHEEP ORGANS		PIGS' ORGANS	
Cows' Udders ...	676	Livers	162	Udders	46
Livers	1,565	Plucks	365	Plucks	206
Lungs	1,814	Kidneys ...	553	Kidneys	119
Hearts	783	Lungs	792	Livers	159
Kidneys ...	1,933			Lungs	140
Heads	681	Total ...	1,872		
Tongues ...	724			Total ...	670
Skirts	1,857				
Total ...	10,033				

TINNED AND FROZEN MEAT SEIZED FOR DECOMPOSITION

Frozen Meat	149 lbs.
Frozen Ox Livers	25 ,,
Tinned Meat	54 ,,
Total	228 lbs.

The number of Carcases wholly or partially condemned for Tuberculosis during each year for the last five years were as follows :—

YEAR	Bulls	Bullocks	Heifers	Cows	Calves	Sheep	Pigs	Total
1924	36	211	14	319	1	...	81	662
1925	87	602	14	550	2	...	88	1,343
1926	94	812	19	520	...	...	72	1,517
1927	113	908	16	429	...	...	86	1,552
1928	170	943	16	571	2	...	158	1,860

TABLE. L.

The totals for the years 1908 to 1927 (excluding 1915 to 1918) were :—

	Carcases Examined.				Numbers Diseased or Unsound.				Weight (in lbs.) of Meat Seized and Condemned.				
Year.	Cattle.	Calves.	Sheep.	Pigs.	Cattle.	Calves.	Sheep.	Pigs.	Beef.	Veal.	Mutton.	Pork.	Total.
1908	19,137	684	33,759	5,052	588	45	264	61	159,519	1,936	9,487	6,193	177,135
1909	19,714	780	47,363	3,490	597	53	218	57	158,354	2,579	7,511	6,019	174,463
1910	19,957	664	41,782	3,255	602	38	167	53	160,085	1,942	6,184	5,084	173,295
1911	19,015	561	40,611	4,132	582	33	179	55	154,380	1,851	7,322	6,657	170,210
1912	18,836	574	38,896	4,339	573	39	173	71	150,502	2,194	7,160	7,106	166,962
1913	19,206	515	34,929	2,744	633	45	131	24	155,996	2,115	5,807	2,086	166,004
1914	18,664	427	34,672	3,401	549	38	156	52	134,341	1,811	6,595	3,624	146,371
1919	19,743	268	38,156	4,381	463	45	228	95	135,692	2,328	8,281	1,494	147,795
1920	20,933	250	29,795	2,386	627	51	170	58	174,715	2,955	6,707	5,931	190,308
1921	17,914	182	26,357	2,717	633	32	214	52	144,858	2,278	9,353	4,572	161,061
1922	18,825	207	31,139	4,199	879	38	350	120	188,971	1,762	13,537	6,974	211,244
1923	18,756	138	26,286	3,570	958	33	318	113	219,803	2,022	12,319	8,362	242,506
1924	18,276	184	25,691	4,037	1,382	18	485	242	209,771	714	13,219	9,875	233,579
1925	18,139	198	25,831	3,669	1,561	11	344	141	165,533	578	8,321	5,449	179,881
1926	17,469	145	28,416	2,586	3,161	22	523	127	203,663	1,043	8,491	5,605	218,802
1927	18,224	147	33,983	3,058	3,263	28	778	182	184,577	949	8,191	3,943	197,660

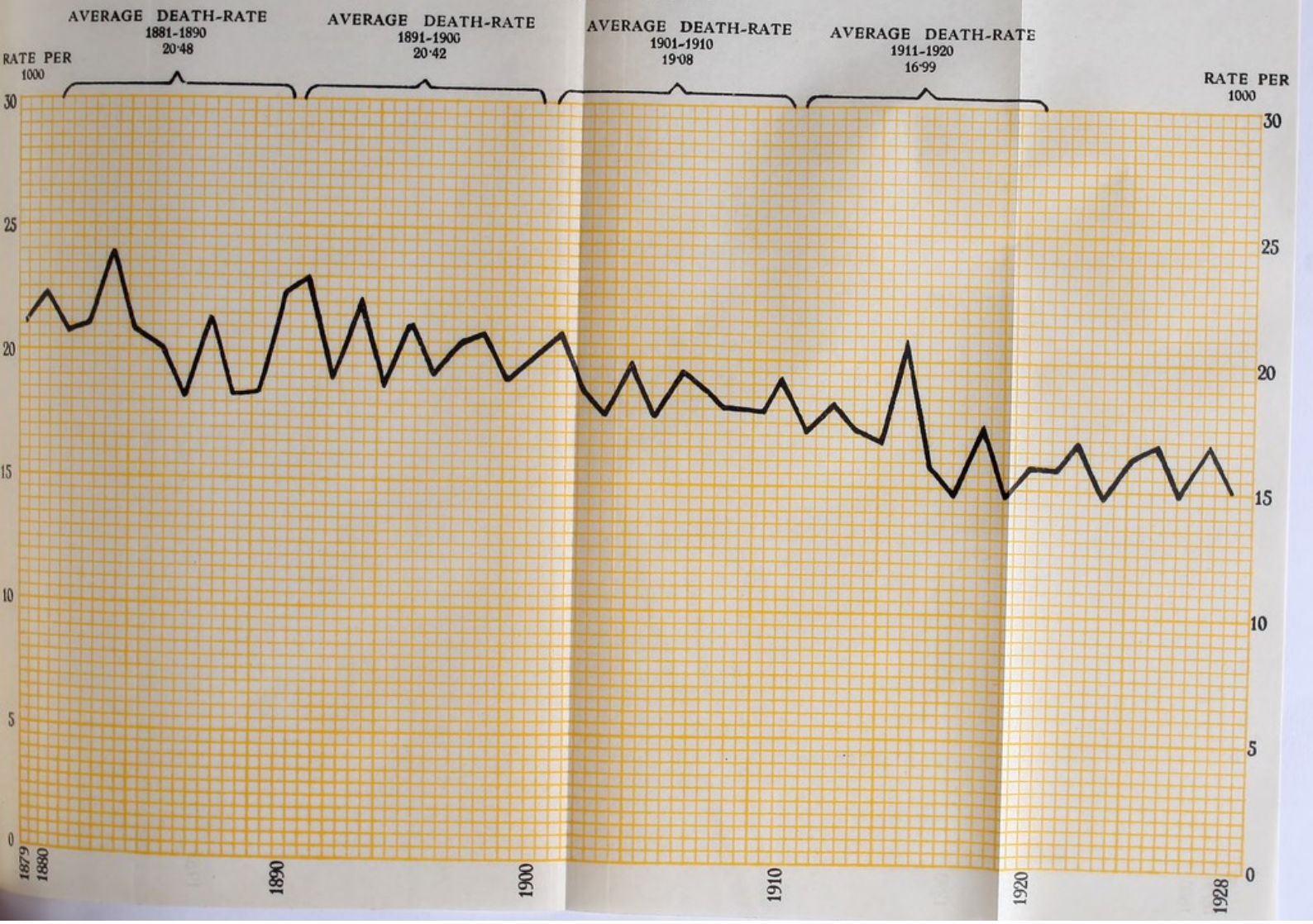
CITY OF DUNDEE

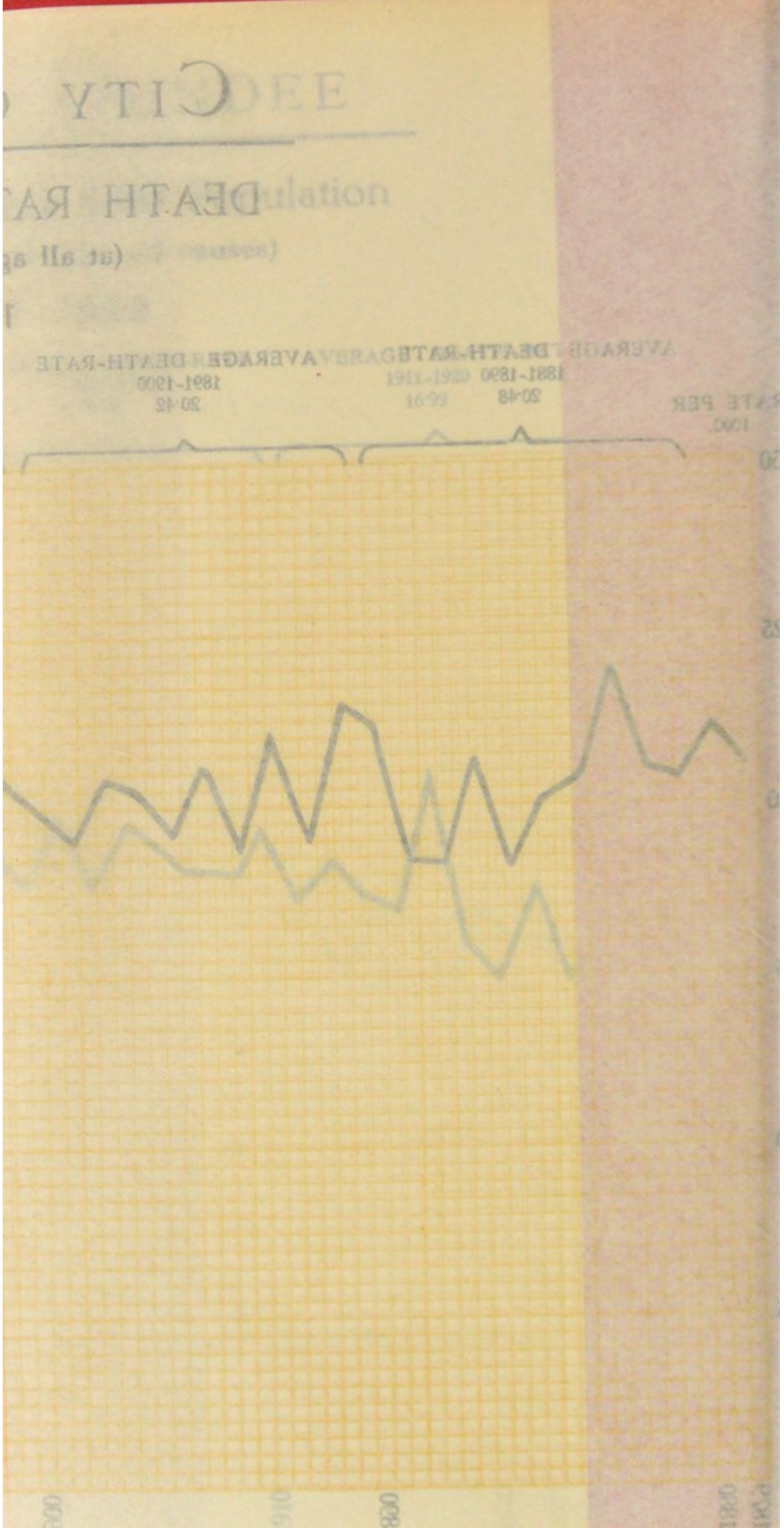
1

DEATH RATE per 1000 Population

(at all ages and from all causes)

1879 - 1928



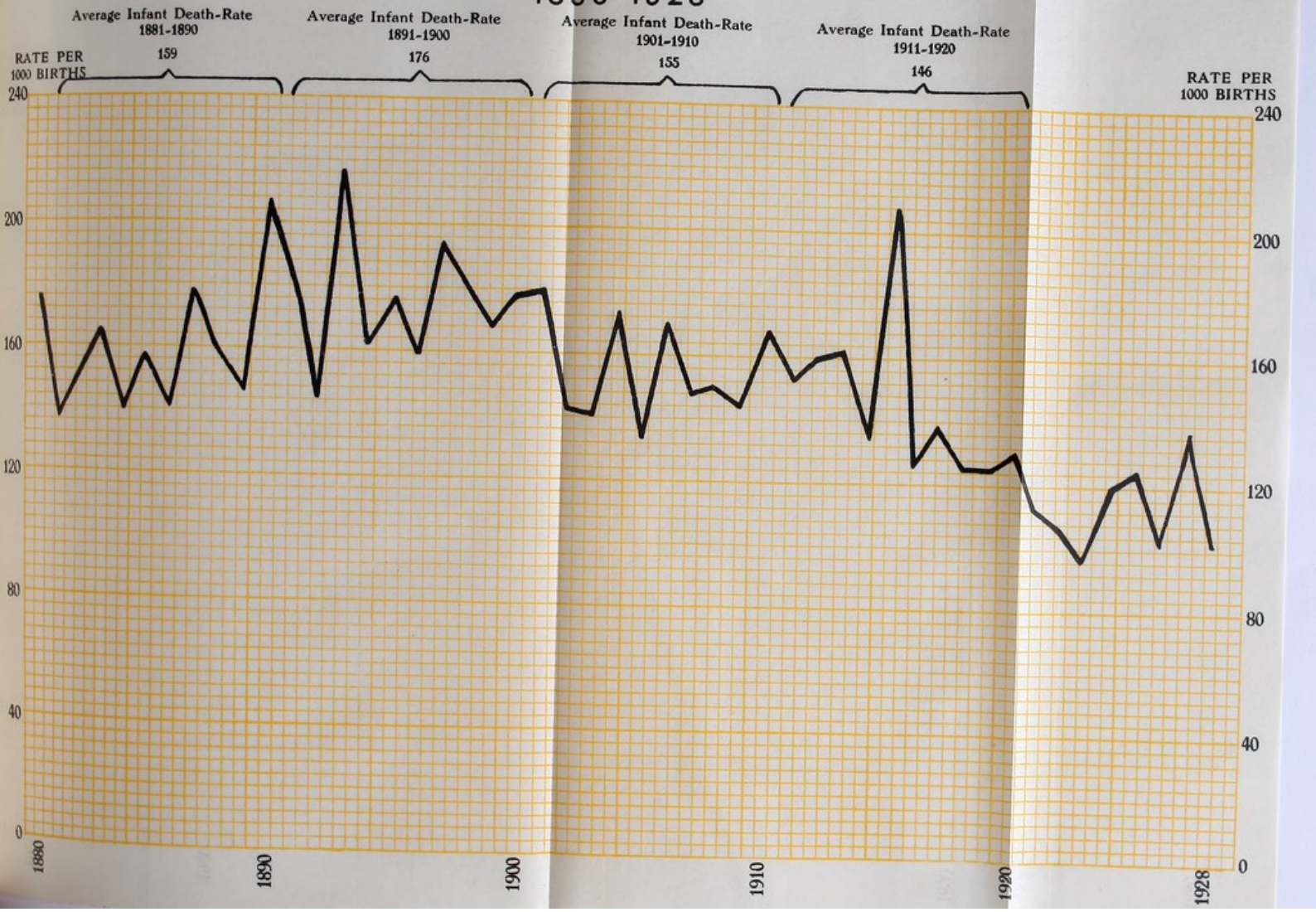


CITY OF DUNDEE

INFANT MORTALITY

INFANT DEATHS (under 1 Year) PER 1000 BIRTHS

1880-1928

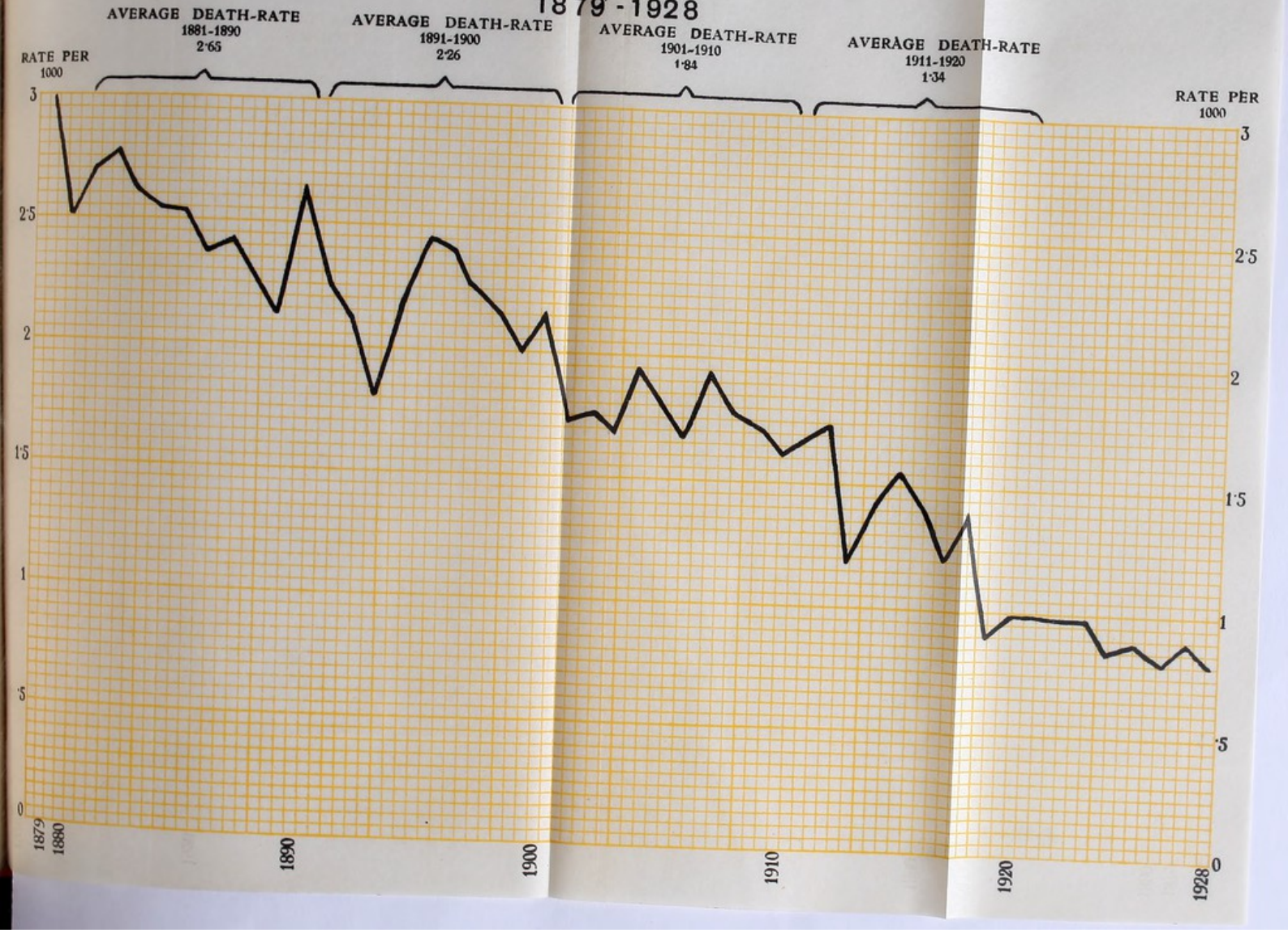


CITY OF DUNDEE

PULMONARY TUBERCULOSIS

DEATH RATE per 1000 Population

1879-1928

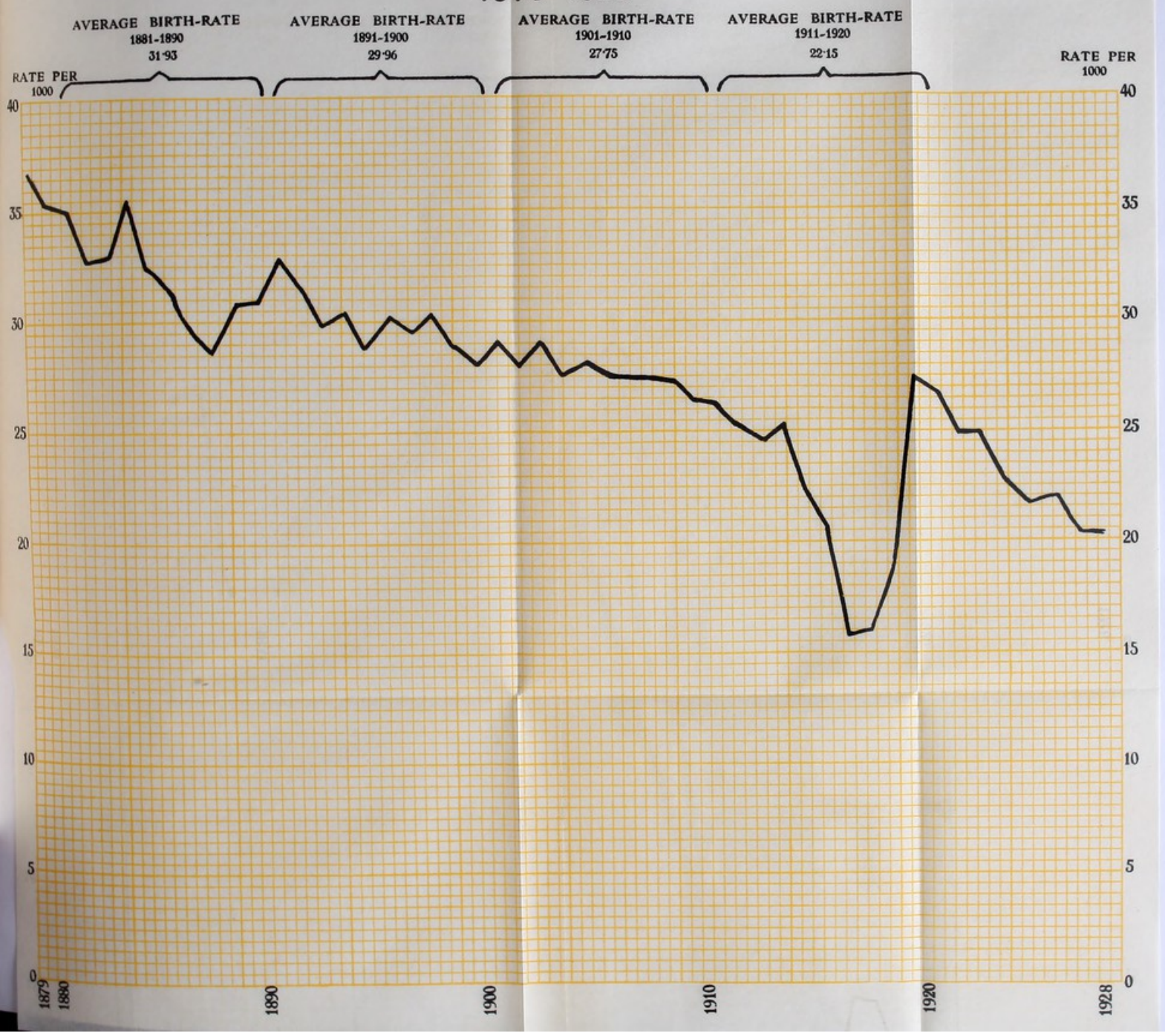


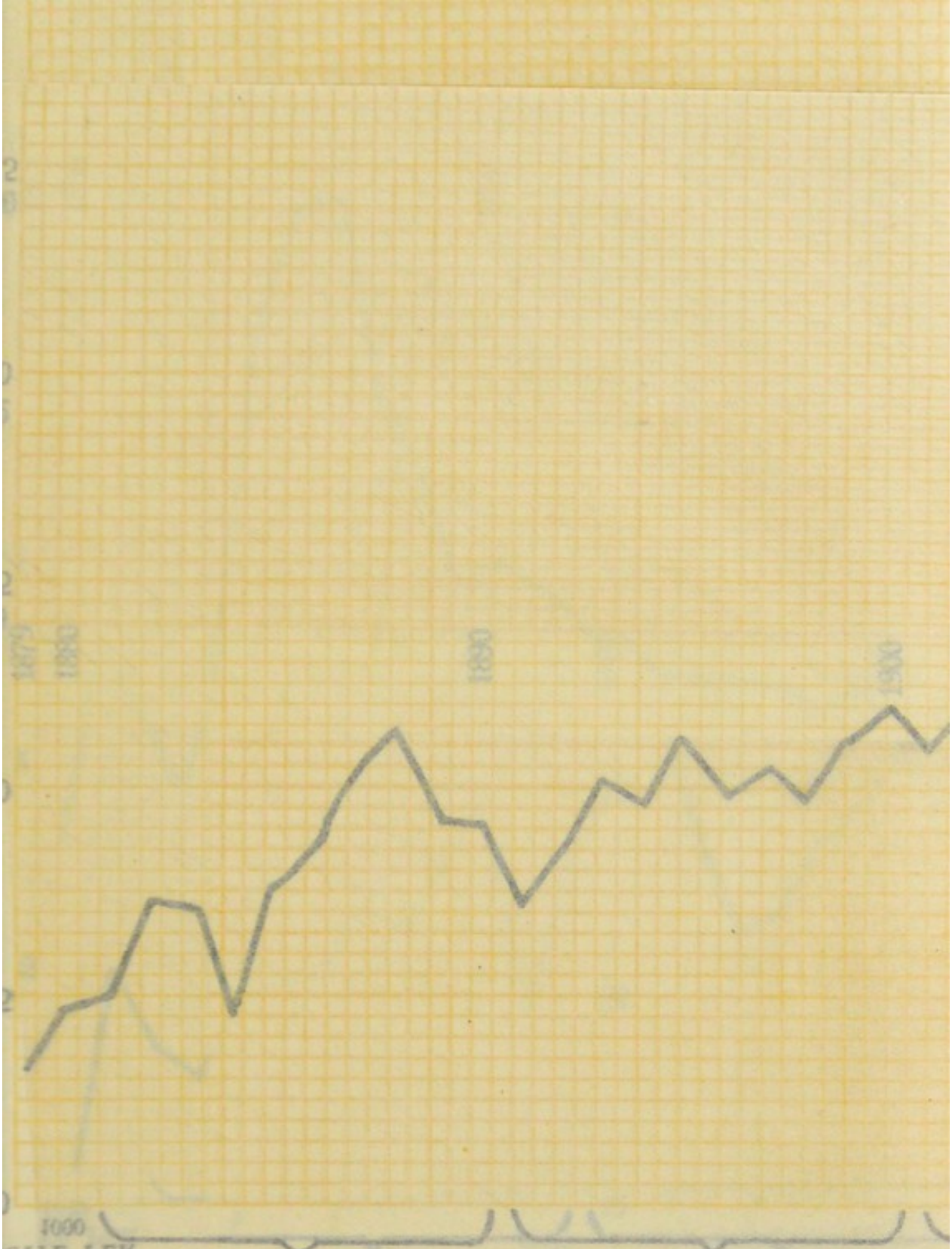
CITY OF DUNDEE

4

BIRTH RATE per 1000 Population

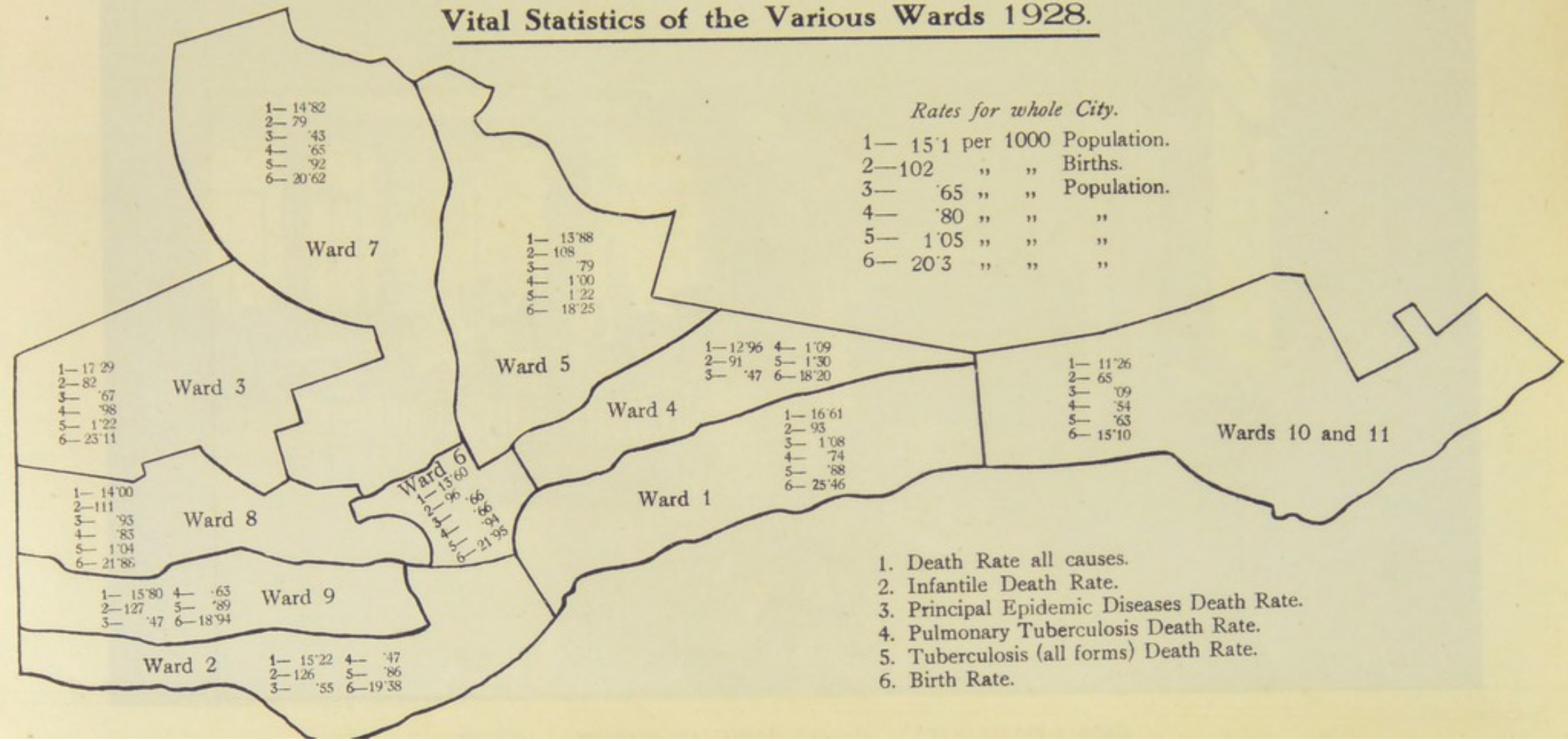
1879-1928





CITY OF DUNDEE.

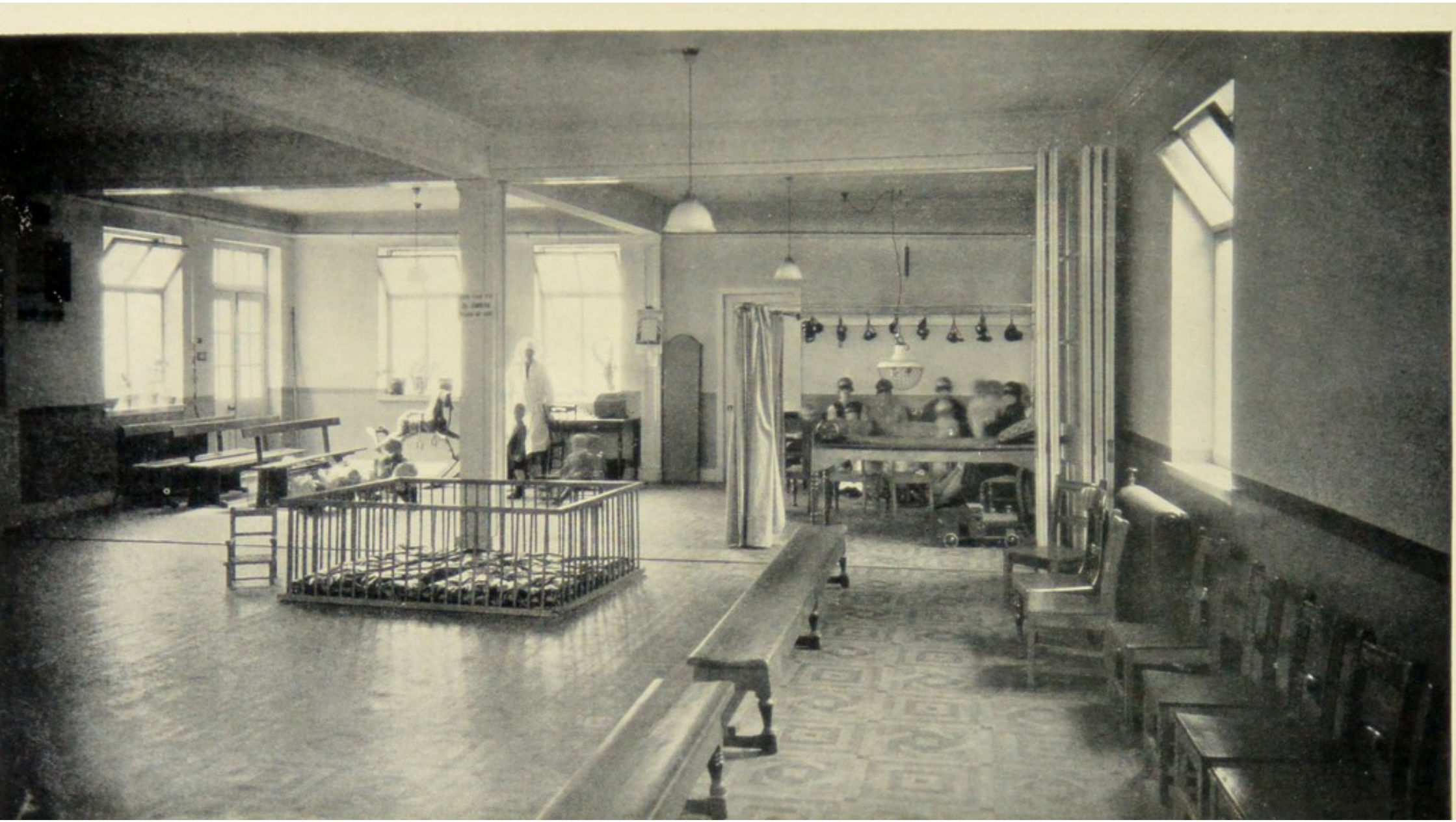
Vital Statistics of the Various Wards 1928.



Rates for whole City.

1—	15·1	per 1000	Population.
2—	102	,, ,,	Births.
3—	·65	,, ,,	Population.
4—	·80	,, ,,	,,
5—	1·05	,, ,,	,,
6—	20·3	,, ,,	,,

1. Death Rate all causes.
2. Infantile Death Rate.
3. Principal Epidemic Diseases Death Rate.
4. Pulmonary Tuberculosis Death Rate.
5. Tuberculosis (all forms) Death Rate.
6. Birth Rate.



TUBERCULOSIS.

Dr. Hunter's Report.

During the year 1928, the working of the Tuberculosis Scheme was carried out on the established lines with gratifying results. The relations with the other Authorities concerned in the work, such as the Education Authority, Parish Council, Ministry of Pensions, Royal Infirmary, &c., have been cordial, and the co-operation well maintained.

To the staffs of the Tuberculosis Section, King's Cross Hospital, Ashludie Sanatorium, and the other branches of the Public Health Department, I here tender my appreciation of their helpful services, which have been of great value in the furtherance of our scheme.

Early in September the removal from the old premises at 1 Tally Street to our new quarters in the Public Health Institute, 55 Constitution Road, was expeditiously carried out without interruption to the continuity of the work.

In our new quarters the work of our scheme has been carried on with much greater facility and with much greater comfort to the patients who attend. The accommodation has proved adequate and the system adopted proved most successful to meet all demands. The establishment of a Dispensary, with a qualified Dispenser in charge, for the supply of drugs, has been an estimable benefit, and will, I am sure, be highly successful financially.

In the year 1928, 449 cases of tuberculosis were notified, 318 cases of pulmonary tuberculosis, and 131 cases of non-pulmonary tuberculosis. Of these :—

167 cases were discovered at the Tuberculosis Section.

121 cases were notified by Private Practitioners.

9 cases were notified by the School Medical Officer.

7 cases were notified from Eastern Hospital.

97 notifications came from Royal Infirmary.

5 notifications came from Canvalescent Home.

7 notifications came from Medical Officers outside the City.

1 notification came from Infant Hospital, Broughty Ferry.

35 cases came under notice of the Department through the Registrar after death had taken place.

Pulmonary Tuberculosis.

During the year, 318 cases of pulmonary tuberculosis were notified. The ages and sex of these were as follows :—

Age.	Males.	Females.	Total.
Under 1 year ...	—	—	—
1- 5 years ...	5	6	11
5-15 ,, ...	47	35	82
15-25 ,, ...	32	30	62
25-45 ,, ...	44	65	109
45-65 ,, ...	28	19	47
65 years and upwards...	2	5	7
Total ...	158	160	318

The following are the particulars as regards housing :—

No. of rooms.	No. of cases.	Total No. of Inmates.	No. of Inmates. per room.
1 ...	65	258	3.96
2 ...	159	745	2.34
3 ...	52	281	1.8
4 and upwards ...	16	94	1.46

In 25 cases the home conditions were satisfactory.

1 case lived in a lodging-house.

206 houses were disinfected on removal of patients as compared with 211 in 1927.

Non-Pulmonary Tuberculosis.

During the year,, 131 cases of non-pulmonary tuberculosis were notified. The ages and sex of these were as follows :—

Age.	Males.	Females.	Total.
Under 1 year ...	2	2	4
1- 5 years ...	17	9	26
5-15 ,, ...	30	19	49
15-25 ,, ...	9	11	20
25-45 ,, ...	6	14	20
45-65 ,, ...	4	4	8
65 years and upwards...	—	4	4
Total ...	68	63	131

The sites of the disease were as follows :—

	Under 1 year.		1-5 years.		5-15 years.		15-25 years.		25-45 years.		45-65 years.		65 years & upwards.		T'l.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Meningitis	1	0	8	4	3	3	0	1	0	1	0	1	0	0	12	10
Abdomen	0	1	1	2	4	3	2	4	1	4	1	0	0	0	9	14
Glands	0	0	5	2	11	9	1	4	1	3	3	2	0	0	21	20
Joints	0	0	2	0	4	3	5	1	1	1	0	0	0	3	12	8
Spine	0	0	1	0	3	0	1	0	2	0	0	0	0	1	7	1
Other Forms	1	1	0	1	5	1	0	1	1	5	0	1	0	0	7	10
Totals	2	2	17	9	30	19	9	11	6	14	4	4	0	4	68	63

The following are the particulars as regards the housing of the non-pulmonary cases :—

No. of rooms.	No. of cases.	Total No. of Inmates.	No. of Inmates. per room.
1	... 19	86	4.53
2	... 66	328	2.48
3	... 20	123	2.05
4 and upwards	... 13	90	1.7

In 11 cases the home conditions were satisfactory.

1 case lived in Eastern Poorhouse.

1 case lived in Baldovan Industrial School.

The number of cases of tuberculosis notified during the year shows a decided increase over the figures of last year, an increase of 30 pulmonary and 19 non-pulmonary. In the pulmonary forms, notable features are the increase in the number of female cases (20), especially in the age group 25-45, and male cases (10), showing a decrease in the age group 15-25, and an increase in the age group 45-65. In the non-pulmonary form the greatest increase is in the 5-15 age period among males, the remainder being fairly evenly spread in sex and higher age groups.

Tuberculosis Clinic.

During the year, 753 new cases were enrolled as compared with 798 in the year 1927. Of these, 147 were found to be suffering from distinct phthisis (76 males and 71 females). 199 were found not to have the disease. In 395 cases the signs were somewhat indefinite; but these cases were regarded as the " pre-tuberculosis " stage; 11 were found to

be suffering from other forms of tuberculosis, and 1 was not examined.

There were 200 contacts examined; 16 of these were found to be suffering from pulmonary tuberculosis, 2 were found to be suffering from other forms of tuberculosis, 110 were suspicious and are being kept under observation, and the remaining 72 were found to be negative.

Of the 147 cases of definite phthisis, 56 were previously notified and 91 were notified from the clinic for the first time.

The ages and sex of these were as follows:—

Age.	Males.	Females.	Total.
Under 1 year ...	—	—	—
1- 5 years ...	2	3	5
5-15 ,, ...	28	16	44
15-25 ,, ...	21	18	39
25-45 ,, ...	19	27	46
45-65 years ...	6	7	13
65 years and upwards...	—	—	—
Total ...	76	71	147

The attendances at the tuberculosis clinic were as follows:

	Insured.	Non-Insured.	Total.
January	786	1,225	2,011
February ...	739	1,272	2,011
March	809	1,364	2,173
April	676	1,267	1,943
May	864	1,300	2,164
June	682	1,091	1,773
July	698	785	1,483
August	747	973	1,720
September ...	674	1,076	1,750
October ...	747	1,200	1,947
November ...	652	761	1,413
December ...	360	306	666
	8,434	12,620	21,054

Artificial Sunlight.

During 1928, 291 patients attended the artificial sunlight clinic. Of these 144 were males and 147 were females.

	Males.	Females.	Total.
No. of Attendances ...	4,682	5,102	9,784
No. of Sessions ...	—	—	635

Laboratory Work.

During the year, 540 specimens of sputum were examined, with the following results:—

	Positive.	Negative.
103 for general practitioners ...	20	83
437 for clinic patients	61	376

Three years ago, an exhaustive survey of the notified cases of tuberculosis on our register was made, and after particular investigation a large number of names were removed from the lists. This year, after settling in our new premises, the cases on our attendance register were subjected similarly to a close investigation, and many names were erased from this register. The adoption of this new policy was only effected after a very thorough inquiry, under the supervision and guidance of Dr. Burgess.

The advantages are many. Overcrowding was abolished, and a more intense search for contacts and susceptibles was made possible. More time could also be devoted to individual cases. As a result, the number of clinic attendances shows a decided decrease, and the contact examinations an increase. These changes will be more marked in a full year's working.

The "Artificial Sun Ray" clinic has proved of the greatest value. The number of sessions shows an increase over last year, but the attendances less, and that is due to the accommodation being smaller and the circles less in numbers. Results have been good and many children have benefited. During the period of waiting for admission to a sanatorium, this mode of treatment is given to children, and in a few instances the benefit gained has been so marked that sanatorium treatment was not required.

Ashludie Sanatorium.

During the year there were 117 cases admitted to this Institution. Of these 54 were males and 63 were females. 128 patients were discharged (59 males and 69 females). Average stay in institution—153 days.

The following show the result of the treatment of these cases :—

	Very much Improved.	Improved.	Slight Improvement.	No Change.
Males ...	28	12	6	10
Females ...	31	16	11	10

3 males and 1 female died before discharge. 103 are still alive and 21 have died since discharge.

The work at Ashludie Sanatorium has been carried on most satisfactorily, and the results obtained have been good.

The work for the erection of a pavilion for 60 beds began in the autumn and is progressing.

King's Cross Hospital.

During the year there were 97 cases admitted to this institution. Of these 48 were males and 49 were females. 51 patients died (23 males and 28 females) and 51 were discharged, many of them greatly improved.

The ages and sex of the fatal cases were :—

Age.	Males.	Females.
Under 1 year	—	—
1 -5 years	—	—
5-15 ,, ...	2	3
15-25 ,, ...	6	8
25-45 ,, ...	10	14
45-65 ,, ...	3	3
Over 65 years	2	—
...	—	—
...	23	28

The work at King's Cross Hospital has been carried out most satisfactorily. The pressure on the available accommodation increases. Again I would direct attention to the steady increase in the number of adult non-pulmonary cases urgently requiring hospital treatment, and such cases have to be refused admission in order to provide for the pulmonary cases. I trust this point will be kept in view on the transference of the beds to Ashludie Sanatorium, and that extra provision be made to meet this ever-growing demand.

Sidlaw Sanatorium.

During the year there were altogether 57 cases from the city under treatment in this institution. 34 of these were males and 23 were females. There were 51 cases discharged (27 males and 24 females). Average stay in institution—198 days.

Improved.	Slight Improvement.	No Improvement.
36	12	3

The beds for children at Sidlaw Sanatorium, Auchterhouse, have been a great boon, and many children have benefited greatly by a stay there. On my visits to the institution I found the children well cared for and happy.

I would here record my appreciation of the courtesy and helpful services of the Visiting and Resident Staffs of the Institution.

J. H. HUNTER.

CHILD WELFARE SCHEME.

Dr. Margaret Scott Dickson's Report.

ALSO REPORTS BY

Dr. H. Gordon Campbell
Dr. Margaret Fairlie and
Dr. Annie A. Fulton.

MATERNITY SERVICE AND CHILD WELFARE SCHEME.

ANNUAL REPORT BY MARGARET SCOTT DICKSON, M.B., Ch.B., D.P.H.

There has been no alteration in the general working of the Scheme during 1928.

The most noticeable feature has been the increase in the number of attendances at the clinics, most marked in the case of the special clinics. This is gratifying, as it bears testimony to the careful supervision of the children in their homes by the health visitors and the good work done by them in educating the parents to realize the benefits of the prevention of disease, as well as of early advice and treatment when illness occurs.

The increase is specially noticeable in the Ante-natal Clinic, where 79 per cent. of the expectant mothers who attended had no definite complaints but came for advice only —a preventive measure due to the loyal co-operation of the practising Midwives of the City, who have sent a large number of patients.

The number of children treated at the Artificial Sunlight Clinic has also increased greatly, the attendances numbering 3,249 as compared with 1,657 in 1927.

An effort has been made to give a course of Sunlight treatment to all the young children who are not thriving, and the results have been most satisfactory.

Details of the work as required for the Report of the Scottish Board of Health are appended, including Reports of the Special Clinics, by the respective Medical Officers in charge.

1. **Infantile Mortality.**

(a) Number of deaths 357

(b) Rate per 1,000 births 102

(c) Number of deaths and rates per 1,000 births classified according to age groups and causes of death—See Table XII., Statistical Tables and Charts.

2. **Births.**

(a) Number registered (corrected) 3,501

(1) Legitimate 3,227

(2) Illegitimate 274

(b) Number notified 3,527

(c) Number classified according to nature of attendance (doctor, midwife, etc.) :—

Doctor	509
Midwife	1,492
Maternity Hospital	1,248
Parents	116
Other sources	162

(d) Number of Stillbirths (births of dead children) 172

3. **Maternal Mortality.**

(a) Number of deaths resulting from miscarriage or childbirth 27

(b) Number of deaths resulting from Puerperal Sepsis 15

Total No. of Births during 1928. (uncorrected).	Total No. of Deaths of Newly-Born Children during 1928. (within 10 days).	Actual No. of Births Attended by Midwives during 1928.	Actual No. of Deaths of Newly-Born Children occurring in the Practice of Midwives during 1928. (within 10 days).	Actual No. of Cases not attended by a Doctor or Midwife during 1928. Births	Deaths
3622	88	1497 41·3%	25	1	1

CASES OF OPHTHALMIA NEONATORUM.

Total No. of Cases during 1928.	Actual No. of Cases occurring in the Practice of Midwives during 1928.	Actual No. of Cases occurring where Confinement not attended by a Doctor or Midwife during 1928.
62	39	0

CASES OF PUERPERAL SEPSIS.

Total. No. of Cases during 1928.	Total No. of Deaths during 1928.	Actual No. of Cases and Deaths occurring in the Practice of Midwives during 1928. Cases.	Deaths.	Actual No. of Cases and Deaths occurring where Confinement not attended by a Doctor or Midwife during 1928. Cases.	Deaths.
41	15	11	2	0	0

CASES OF STILL-BIRTH.

Total No. of Cases during 1928.	Actual No. of Cases occurring in Practice of Midwives during 1928.
172	24

CASES OF EMERGENCY.

Total No. of Cases of Emergency, in which Medical Practitioners have been called in under Section 22 of the Act, during 1928, distinguishing the different cases of emergency.

Ante-natal.	Labour.	Post-natal.	Infant.
157	190	44	127

MIDWIVES (SCOTLAND) ACT, 1915.

4. Report under Midwives (Scotland) Act, 1915.

The following is a list of Midwives who, during January, 1929, intimated their intention to practise Midwifery in the City of Dundee.

NAME and ADDRESS.	C.M.B. Reg. No.	REMARKS.
Anderson, Mrs. Isabella—4 Ferguson Street ...	2,863	Trained.
Andrews, Miss Dora B.—Devonia, Ramsay Park, Broughty Ferry	68,706	Trained.
Angus, Mrs. Clementina—96 King St., B.F. ...	3,057	Bona fide.
Arnott, Miss Jean—36 Dundonald Street	1,182	Bona fide.
Bowman, Mrs. Jessie—10 Hilltown	4,958	Trained.
Brodie, Mrs. Chrissie—Craigie Nursing Home, Ferry Road	54,668 (Eng.)	Trained.
Cartmill, Mrs. Ann—11 Gardner Street	3,373	Bona fide.
Clark, Miss Alexandrina—287 Hilltown	400	Bona fide.
Craig, Mrs. Margaret—10 Albert Street	6,994	Trained.
Dobson, Mrs. Rachel H.—6 Glamis Drive ...	4,423	Trained.
Dodds, Miss Annie L.—(S.A.H.) Harefield Road	8,030	Trained.
Duffus, Miss Mary C.—34 Victoria Street ...	2,567	Trained.
Gouk, Miss Margaret K.—10 Tofthill	6,221	Trained.
Gowans, Miss Eliza—2 Erskine Street	5,925	Trained.
Gunn, Mrs. Sarah—78 Peddie Street	5,404	Trained.
King, Mrs. Helen—53 Perth Road	755	Trained.
Lindsay, Mrs. Marion—3 Gowrie Street	6,457	Trained.
Low, Mrs. Helen—2 Elizabeth Street	5,186	Trained.
Lowe, Mrs. Jane R.—2 Brown Street	432	Trained.
Masson, Mrs. Jane—3 Tayview Buildings, B.F.	3,122	Bona fide.
M'Donald, Mrs. Helen, 8 Garland Place ...	410	Trained.
M'Donald, Miss Mary H.—8 Garland Place ...	6,851	Trained.
M'Donald, Miss Catherine—8 Garland Place ...	7,116	Trained.
Neill, Miss Jane Y.—12 Brown Constable St.	7,434	Trained.
Ramsay, Mrs. Ann C.—4 Ogilvies Road ...	733	Trained.
Rickard, Mrs. Helen—29 Step Row	6,453	Trained.
Smith, Mrs. Jamesina—73 Church Street ...	1,553	Bona fide.
Stewart, Miss Jean B.—20 N. Erskine Street ...	7,713	Trained.
Tulloch, Mrs. Isabella—20 Corso Street	6,231	Trained.
Whittaker, Miss Mary J.—(S.A.H.) Harefield Rd.	7,580	Trained.

(1) In January, 1928, 33 Midwives notified their intention to practise Midwifery in Dundee. During the year 2 Midwives gave notice of their intention to practice in Dundee. 3 left town.

(2) This leaves on the local roll of Midwives at the end of December, 1928, 32 names. Twenty-one of the 32 are actually practising as Midwives.

(3) The Midwives attended a total of 1,497 births (including 119 cases where the Midwife acted as a Midwife although a Doctor was also in attendance)—that is 41.3 per cent. of the total births occurring in the City during the year, including stillbirths.

(4) The extent of the individual practice of the Midwife varies, one Midwife having 217 cases, another only attended 1 case. The average to each Midwife in practice is 71 cases.

(5) Sixty-five visits were paid by the Inspector of Midwives and her Assistant to the Midwives' homes, and 7 visits were paid to cases attended by Midwives.

(6) Three lectures were given to Midwives on special subjects connected with their work, and they also attended a few of the lectures given in the Health Visitors' Refresher Course and those in connection with the College of Nursing.

(7) The general working of the Act has been very good, all the Midwives showing a real interest in their work and endeavouring to fulfil all their duties as efficiently as possible. A special feature which is an indication of their interest is that they have sent 157 mothers to Ante-natal clinics for advice and supervision, of which 71 were cases with no complaint of illness. There have been no complaints against Midwives and no infringement of rules.

One birth was attended by a Handywoman, of which the particulars are as follows:—

The woman was called in by a neighbour to look after the patient till the arrival of the Midwife. The child was born about 20 minutes after the Handywoman arrived and was apparently stillborn. She tried to resuscitate it, but with

no result, and bathed it and dressed the mother, as the Midwife had been out when the message was sent, and did not arrive until one hour later. The handywoman was interviewed and reminded of the law in regard to unqualified midwifery practice. She had been previously warned in 1921, but had never offended since.

Notifications.

570 Notifications have been received from Midwives as follows:—

(1) Application for Medical Assistance—(a) Mother	...	391
(b) Child	...	127
(2) Notification of Death—(a) Mother	...	2
(b) Child	...	9
(3) Notification of Stillbirth	...	24
(4) Notification of laying out a dead body	...	2
(5) Notification of liability to be a source of infection	...	12
(6) Notification of Artificial Feeding	...	3

Classification of application for Medical Assistance (518 cases).

Ante-natal, 157 cases.

Examination	71
Pain	22
Feeling ill	10
Albuminuria	9
Discharge	7
Abortion	6
Sickness	6
Giddiness and dimness of vision	5
Threatened abortion	4
Varicose veins	3
Ante-partum Hæmorrhage	3
Cough	2
Swelling of vulva	2
Rash	1
Headache	1
Fainting attacks	1
Sores in mouth	1
Sore breasts	1
Fall	1
Patient moribund	1

Post-natal, 44 cases.

High temperature	14
Pain—various	7
Cough	5
Mastitis	3
Headaches	3
Weakness	2
Rigor	2
Vomiting, rapid pulse	1
Swelling of left hip	1
Dyspnœa	1
Rash	1
Vaginal Discharge	1
Eclampsia	1
Cracked Nipples	1
Fainting attacks	1

Labour, 190 cases.

Prolonged Labour	78
Ruptured Perineum	65
Abnormal Presentation	28
Adherent Placenta	8
Ante-partum Hæmorrhage	6
Post-partum Hæmorrhage	4
Collapse	1

Infant, 127 cases.

Discharging eyes	30
Premature or Feeble Infants	27
Stillbirths	18
Congenital Deformities	15
Skin Rash	6
Cyanosis	3
Diarrhœa, Vomiting, etc.	5
Inflammatory swellings	3
Umbilical polypus	3
Icterus Neonatorum	2
Difficult breathing	2
Nasal discharge	2
Sudden death	2
Birth injury	1
Asphyxia Pallida	1
Excoriation (Scrotum)	1
Swollen breast	1
Discharging Umbilicus	1
Difficulty in swallowing	1
Convulsion	1
Vaginal Hæmorrhage	1
Phimosis	1

PUERPERAL DEATHS.

During 1928 an inquiry was made into 39 deaths of women occurring at childbirth or within 28 days after, classified as follows:—

Attended by doctor	9
(2 cases sent into D.R.I. and 1 case to nursing home for completion of labour, 1 case B.B.A.)	
Attended by a doctor and midwife	8
(3 cases sent into D.R.I. for completion of labour.)	
Attended by Maternity Hospital I.P.	18
Attended by Maternity Hospital O.P.	3
Attended by midwife	1

4 Women died in Pregnancy:—

Attended by doctor—sent into D.R.I.	2
Attended by doctor and midwife	1
Attended by Midwives	1

CLASSIFICATION OF NOTIFIED CAUSES OF DEATH (39 deaths).

(*a*) Deaths from emergencies and other causes directly due to Parturition—23.

Puerperal Septicæmia	10
Puerperal Septicæmia with Broncho Pneumonia	1
Puerperal Septicæmia with Empyema and Parotid Abscess	1
Puerperal Septicæmia with Erysipelas	1
Puerperal Peritonitis	1
Phlegmasia Alba Dolens	1
Femoral Phlebitis; Pulmonary Embolism ...	1
Albuminuria of Pregnancy...	1
Eclampsia	1
Acute Syncope; Myocardial degeneration occurring during Labour	2
Delayed Labour; Shock following confinement	1
Shock following accidental Hæmorrhage ...	1
Acute Yellow Atrophy of the Liver	1

(*b*) Causes of death not directly connected with Parturition—16 cases.

Lobar Pneumonia	2
Lobar Pneumonia with Auricular Fibrillation ...	1
Lobar Pneumonia with Pulmonary Embolism ...	1
Lobar Pneumonia with Multiple Embolism ...	1
Lobar Pneumonia following operation for Cæsarian Section	1
Broncho Pneumonia	1
Broncho Pneumonia with Influenza	1
Myocardial Degeneration; Chronic Nephritis ...	1
Uræmia; Chronic Nephritis	2

Mitral Stenosis	1
Mitral Stenosis; Embolism of the Coronary Artery	1
Acute Heart Failure	1
Status Epilepticus	1
Pernicious Anæmia	1

(*c*) Causes of death associated with Pregnancy but not with Parturition—4.

Chronic Interstitial Nephritis	1
Eclampsia	2
Ruptured Ectopic Gestation	1

Puerperal Sepsis.

	By Whom Notified.		Attendance at Birth								
	Notified	Un-notified	Primiparae	Multiparae	Admitted to Hospital	Admitted to Nursing Home	Nursed at Home	Recovered	Died	Total	Total Number of Births attended in 1927
Doctors	21	...	2	3	1	1	3	3	2	5	865
Doctor & Midwife	2	...	3	4	7	...	...	5	2	7	232
Midwives ...	...	...	5	2	6	...	1	7	...	7	1378
Maternity Ward - Inpatient ...	12	2	11	6	17	...	...	8	9	17	1257
Outpatient...	3	...	...	5	5	...	...	2	3	5	
East Poorhouse Hospital ...	1	...	...	...	...	...	...	...	...	...	19
Found Dead ...	...	...	...	...	...	...	...	...	...	...	1
Totals ...	39	2	21	20	36	1	4	25	16	41	3752

PARTICULARS OF CASES.

	Recovered.	Died.	Total.
Normal confinement	10	6*	16*
Normal confinement with chloroform...	1	—	1
(a) Normal confinement	1	—	1
(b) Normal confinement with ruptured perineum	3	1	4
(c) Normal confinement	1	—	1
Normal confinement (complicated with severe Albuminuria)	—	1	1
Instrumental delivery	1	1	2
Instrumental delivery with ruptured Perineum	3	2	5
Instrumental delivery (complicated with Ante-partum Hæmorrhage, Placenta Prævia, and Ruptured Perineum)	—	1	1
Prolonged labour with Ruptured Perineum	—	1	1

(d) Breech presentation	1	—	1
Severe Albuminuria induced Labour Spontaneous Delivery ...	1	—	1
Adherent Placenta with Ruptured Perineum	1	—	1
Adherent Placenta with Ruptured Perineum, Post-partum Hæmorrhage, Purulent Vaginal Discharge during pregnancy ...	—	1	1
Adherent Placenta with Post-partum Hæmorrhage	1	—	1
Adherent Placenta (with marked infarctions of placenta)	—	1	1
Impacted breech	—	1	1
Breech presentation	1	—	1
	25	16	41

In 4 of the cases it was found that the patient was suffering from another condition which might have accounted for pyrexia, namely :—

(a) Acute Pyelitis.
(b) Apical Pneumonia (Acute Phthisis).
(c) Chronic middle ear disease.
(d) Acute appendicitis and cystic ovary.

* Includes 1 patient, died in 1929.

	RECOVERED		DIED	
	Primipara.	Multipara.	Primipara.	Multipara.
Where delivered :—				
Home	5	10	2	4
Maternity Ward ...	4	3	6	3
Salvation Army Nursing Home ...	3	—	1	—
Nursing Home ...	—	—	—	—
Where Treated :—				
Home	—	3	1	—
Maternity Ward ...	—	2	4	3
W.18 D.R.I. ...	—	1	1	1
Nursing Home ...	—	—	1	—
King's Cross Hospital	12	7	1	3
East Poorhouse Hospital	—	—	1	—
Home Conditions :—				
Good	6	9	5	4
Bad	1	4	1	3
Not known	—	—	3	—
Institution	5	—	—	—

OPHTHALMIA NEONATORUM.

	Doctors	Midwives	Maternity Ward		Doctor and Midwife	Handy Women	C. W. Dept.	Eye Institution	Eastern Poorhouse Hospital	F'nd Dead	Total
			In-Pat.	Out-Pat.							
By whom notified...	12	27	1	4	7	—	8	2	1	—	62
By whom attended	8	39	5	9	—	—	—	—	1	—	62
Total No. of Births attended in 1928	865	1378	1257		232	—	—	—	19	1	3752

Admitted to Hospital	Treated at Home	Type of Case		Result		Home Visits by Health Visitors		
		Severe	Mild	Complete Recovery	Injury to Eye	Initial Visits	Not Seen	Re-visits
King's Cross H. 10 East Poorh'se H. 1 } 11	51	10	52	61	1	61	1	790

10 cases of the severe type were attended at birth as follows :—

Maternity Ward—Out patient		4
In patient		2
Doctors		2
Midwives		2

These 10 cases were admitted to King's Cross Hospital. In one case the result was total blindness of left eye and partial damage to right eye. (Infant died later of Acute Bronchitis.)

Smears were taken in 37 cases :—

35 were negative.
2 were positive.

During the year 1 case of Purulent Conjunctivitis, in a child of five months, was notified and admitted to King's Cross Hospital.

STILLBIRTHS.

172 Stillbirths were notified during 1928.

24 of these occurred in the practice of Midwives :—

11 were full time Infants ;
13 were premature Infants.

Of the 11 full time Infants :—

4 were cases of macerated Fœtus;
4 were due to complications during Labour, or congenital deformities;
3 were unclassified.

Of the 13 premature Infants :—

7 were cases of macerated Fœtus;
3 were due to complications or congenital deformities;
3 were unclassified.

Home Visitation.

	Number Visited.	Total Visits.
Infants	3,079	11,752
Children (1-5 years)	5,783	13,095
Expectant Mothers	3	9
Total	8,865	24,856

Ante-Natal Consultations.

REPORT BY MARGARET FAIRLIE, M.B., Ch.B.

1 Weekly Session of 2 Hours.

(a) Total number of Expectant Mothers attending ...		244
(b) Total number of attendances		480
(c) Classified summary of conditions found :—		
Advice only		179
Conditions due to Pregnancy		14
Ante-Partum Hæmorrhage	3	
Vomiting	2	
Albuminuria	4	
Oedema	1	
Hydramnios	4	
Conditions aggravated by Pregnancy		9
Varix	4	
Constipation	2	
Discharge	3	
Conditions complicating Pregnancy		24
Retroversion	3	
Contracted Pelvis	1	
Malpresentations	13	
Various	7	
(d) Number of Cases :—		
New Cases.		
(1) Referred to Ante-Natal Ward	12	
(2) Referred to Family Doctor	17	
(3) Treated at Clinic	197	
	226	

Revisits.

(1) Referred to Ante-Natal Ward	3
(2) Referred to Family Doctor	2
(3) Treated at Clinic	249
	254

Post-Natal and Other Consultations.

New Cases.

Post-Natal	51
Not Pregnant	3

Classified summary of conditions found :—

Advice only	P.N.	21	N.P.	1
Displacements	,,	13	,,	1
Constipation	,,	2	,,	0
Menorrhagia	,,	2	,,	0
Endometritis	,,	2	,,	0
Leucorrhœa	,,	2	,,	0
Backache	,,	2	,,	0
Premature Amenorrhœa ...	,,	0	,,	1
Various	,,	7	,,	0
		51		3

New Cases.

(1) Referred to D.R.I. ...	P.N.	13	N.P.	1
(2) Referred to Family Doctor	,,	11	,,	2
(3) Treated at Clinic	,,	27	,,	0
		51		3

Revisits.

(1) Referred to D.R.I. ...	P.N.	1
(2) Referred to Family Doctor	,,	1
(3) Treated at Clinic	,,	9
		11

Child Welfare Consultations.

Seven weekly sessions of 2½ hours each were held in Dundee, with a weekly weighing centre lasting 2½ hours at Broughty Ferry, with consultation by the Medical Officer once a month.

(a) Number of children attending—

(1) Under 1 year of age	1,234
(2) Over 1 year of age	1,312
(3) Mothers—A.N.	2
P.N.	16
	2,564

(b) Total number of attendances—

(1) Under 1 year of age	11,611
(2) Over 1 year of age	13,553
(3) Mothers—A.N.	2
P.N.	67
	25,233

(c) Illnesses recorded on admission to the Child Welfare Clinics—

(1) Children under 1 year of age.—Of the 879 children under 1 year of age admitted to the five principal Clinics, 66 (7.5 per cent.) showed no disease or congenital defect. The remaining 813 showed 2,318 diseases or defects classified as follows :—

Diseases of digestive system		1,050
Diseases of respiratory system		280
Diseases of nutrition :— ...		31
Rickets	12	
Other disorders of Nutrition	19	
Diseases of the skin		256
Diseases of nervous system		2
Diseases of the eye		55
Diseases of the ear, nose, and throat		16
Congenital defects		564
Surgical diseases		21
Infectious Diseases (Whooping Cough)		1
Various		42

(2) Children 1-5 years.—Of the 205 children between 1 and 5 years of age admitted to the five principal Clinics, 11 (5.3 per cent.) showed no disease or congenital defect. The remaining 194 showed 467 diseases or defects, classified as follows :—

Diseases of the Digestive System		60
Diseases of the Respiratory System		81
Diseases of Nutrition :—		
Rickets	105	
Other disorders of Nutrition	24	
	—	129
Diseases of the Skin		48
Diseases of the Nervous System		7
Diseases of the Eye		17
Diseases of the Ear, Nose and Throat		36
Congenital Defects		49
Surgical Conditions		21

Infectious Diseases :—	...	3
Whooping Cough	2	
Abdominal Tuberculosis	1	
Various		16
		467

Special Information with Regard to Rickets.

Twelve children under one year showed clinical signs of commencing rickets, of which the particulars are as follows :—

(a) Incipient—4 cases.

2 (7 months and 9¾ months) had been entirely breast fed.

1 (8 months) was breast fed for 5 months, and then fed on fresh cow's milk.

1 (10 months) had been fed entirely on fresh cow's milk.

(b) Commencing—8 cases.

3 cases (aged respectively 7½ months, 8¾ months, and 11 months) had been entirely breast fed.

1 (11 months) had been breast fed for 6 months, and then fed on cow's milk for 2 months, and then on Sister Laura's food.

1 (11 months) had been breast fed for 2 months and then fed on fresh cow's milk and Grant's Oat Flour.

1 (10 months) had been breast fed for 2 months, and then fed on fresh cow's milk.

1 (10 months) had been breast fed for 2 months and then on fresh cow's milk for 2 months, and then on cow's milk and Grant's Oat Flour.

1 (8 months) had been breast fed for 6 weeks and then fed on fresh cow's milk.

Of the 205 children admitted between 1 and 5 years of age, 105 (51.2 per cent.) showed some signs of clinical rickets on admission. The ages of these children on examination were as follows :—

1-2 years ...	48		out of a total of 94
2-3 years ...	33		out of a total of 55
3-4 years ...	18	(4 twins)	out of a total of 37
4-5 years ...	6	(1 twin)	out of a total of 19

In 23 cases the history indicated that the disease had only commenced in the second year, and in 8 of these the commencement appeared to have followed an attack of acute illness, namely : Pleurisy 1, pneumonia 2, whooping cough 3, measles and whoop-

ing cough 1, and in 1 case, a twin over three years of age, there was a history of successive attacks of infectious diseases before the age of two—measles, chicken-pox, whooping cough, and diphtheria. One case in a child just over 1 year was associated with an attack of broncho-pneumonia, and one (age 1 year 10 months) was a suspected case of tubercular peritonitis. In one case (aged two years) there was a history of non-specific marasmus in the first year of life.

The degree of seventy of the clinical signs was as follows :—

Incipient	2
Slight	24
Moderate	64
Severe	15

Enquiries as to the feeding in the first year elicited the following information :—

Breast fed for 6-12 months—50 out of a total of 102.

Partly breast fed (for a few months only)—25 out of a total of 51.

Mixed feeding—2 out of a total of 4.

Fresh cow's milk—22 out of a total of 38.

Artificial food—5 out of a total of 8.

No particulars—1 out of a total of 2.

Special Treatment Centres.

(1) Teeth—

Report by H. Gordon Campbell, L.R.C.P. & S.E., L.D.S.

(a) Number of attendances :—

(1) Mothers	143
(2) Children	78

(b) Number of Dentures supplied 3

(c) Classified summary of conditions remedied :—

Extractions, Temp. 11, Per. 120; Fillings, 62; Scalings, 16; Dressings, 106; Advice, 23; Dentures, 3; Re-Examination, 4; Repairs, 1.

Other Ailments—

V.D. Clinic, Report by Annie A. Fulton, M.B., Ch.B., D.P.H.

(a) Number of attendances :—Babies, 76; Children, 31; Mothers, 661.

(b) Classified summary of conditions :—

DISEASES TREATED.

	Syphilis.	Gonorrhœa	Mixed Infections.	Not suffering from Venereal Disease.	Total.
Babies ...	5	—	—	31	36
Children ...	2	—	—	8	10
Mothers, A.N.	3	1	2	4	10
P.N.	6	4	0	23	33
	16	5	2	66	89

CASES CARRIED FORWARD FROM 1928.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Not suffering from Venereal Disease.	Total.
Babies ...	—	—	—	2	2
Children ...	4	—	—	—	4
Mothers ...	8	4	1	2	15
	12	4	1	4	21

NUMBER OF INJECTIONS GIVEN—INTRAVENOUS AND INTRAMUSCULAR.

Neokharsivan	29
Kharsulphan	2
Bismuth	65
	96

NUMBER OF SPECIMENS SENT FOR EXAMINATION.

Wassermann Tests	119
Gonococcal Complement Fixation Tests...	22
Smears	78
	219

(4) Ultra-Violet Light Clinic—

(a) Number of attendances :—Babies, 425; Children, 2,718; Mothers, 106.

(b) Number of cases :—Babies, 29; Children, 145; Mothers, 10.

(c) Note of conditions treated and results obtained :—

(1) BABIES—29 Cases.

	Marked Imp.	Slight Imp.	Died.	Did not attend.	Still under Treatment.	Total.
Incipient Rickets ...	2	—	—	1	—	3
Clinical Rickets ...	3	6	1	4	2	16
Marasmus	3	—	1	1	—	5
Not thriving ...	1	—	1	2	—	4
Congenital Laryngismus Stridulus ...	—	—	—	1	—	1
	9	6	3	9	2	29

(2) CHILDREN, 1-5 YEARS—145 Cases.

	Marked Imp.	Slight Imp.	Died.	Did not attend.	Still under Treatment.	Total.
Slight Rickets ...	4	—	—	2	—	6
Rickets	35	9	—	23	4	71
Rickets and Chronic Bronchitis ...	3	—	—	—	—	3
Marasmus	2	—	1	4	—	7
Anæmia	3	1	—	3	1	8
Not thriving ...	7	1	—	3	—	11
Debility after acute illness	8	4	1	8	2	23
Chronic Bronchitis...	4	3	—	—	—	7
Nervous	4	1	—	1	—	6
Backward	1	—	—	—	—	1
Congenital Heart disease	—	—	—	1	—	1
Spina Bifida ...	—	—	1	—	—	1
	71	19	3	45	7	145

(3) Mothers, 10 cases.

Six ante-natal cases commenced treatment with a view to the improvement of lactation, but only one of these was able to attend regularly with satisfactory results.

Four post-natal mothers commenced treatment, one to assist lactation with fair result. Two were cases of general debility, of which one showed marked improvement and the other slight improvement. One was a case of Asthma sent by a general practitioner, but she showed no definite improvement at the end of the course.

Day Nurseries.

(a) Number of attendances :—

(1) Under 1 year of age 3,972
(2) Over 1 year of age 16,581

(b) Charges made :—

4s. 6d. for 5½ day week for each child, with a reduction of 1s. in the case of 2 members of 1 family, and 2s. a week if 3 members of the same family are attending at the same time.

Food and Milk.

(a) Number of persons in respect of whom applications were made for food or milk

(2) Children 45
(1) Mothers 762
807

Number of cases who received free food or milk :—

(1) Mothers	45	
(2) Children	551	
	——	596

All these cases were certified on medical grounds as requiring extra food or milk, and all were in necessitous circumstances.

Measles.

(a) Number of cases intimated to the Public Health Department	1,062
(b) Number of Deaths	16
(c) Number of cases removed to hospital	65
(d) Number of special domiciliary visits	1,225

Whooping Cough.

(a) Number of cases intimated	829
(b) Number of deaths	36
(c) Number of cases removed to hospital	56
(d) Number of special domiciliary visits	1,028

Ophthalmia Neonatorum.

(a) Number of cases notified :—

(1) By Doctor	12	
(2) By Midwife*	27	
(3) By Institution	16	
	—	62

* 7 by Doctor and Midwife.

(b) Number of cases in which infection is gonococcal (if known), 2 positive.	
(c) Number treated in residential institutions	11
(d) Number of cases in which there was appreciable loss of vision	1

Dundee Voluntary Health Workers' Association.

As in former years, the members of the above association assisted in the work by acting as Clerks at the Clinics, conducting the Sewing Classes, and also by the provision of garments for necessitous children.

During the year 500 knitted and 731 sewn garments were made for the Clinics and 358 were provided for the Day Nurseries.

Of the 1,008 garments supplied to the Clinics, 142 were sold at cost price, 48 were sold at half cost price, 790 were sold at quarter cost, and 28 were given free by the Association on the recommendation of the Medical Officer.

The following Voluntary Institutions are also associated with the Scheme, and receive an annual grant from the Dundee Town Council.

SALVATION ARMY HOME.

Number of expectant mothers admitted in 1928	37
Number of mothers and babies dealt with during 1928 ...	61

LOCHEE DAY NURSERY.

Total attendances in 1928 :—

Babies	1,511	
Children	8,350	
	——	9,861

NURSERY SCHOOL.

Number of children admitted in 1928	39
Total number of attendances in 1928	4,946

Educational.

In addition to the usual lectures to the probationers at the Day Nurseries, in preparation for the examination of the National Society of Day Nurseries, three lectures have been given to Midwives by special lecturers. The subjects were as follows :—

"Puerperal Sepsis."
"After-Effects on Mother and Child of Abnormal Labour."
"Ophthalmia Neonatorum."

Sewing Classes were held in connection with three of the Clinics, at which the average attendance was 37. These were organized and carried out as usual by the members of the Dundee Voluntary Workers Association. At one of the classes instruction was also given in the provision and cooking of nourishing and economical meals. In another district one of the Voluntary Workers also arranged to care for children of the poorer mothers, while they were at the washhouse or similarly occupied for a limited period. The children were brought to the centre, and the privilege was much appreciated by those who took advantage of the arrangement.

Health Visitors' Work.

Total number of homes visited, 20,568.

(*a*) Ordinary.

Babies	11,461
Children, 1-5 years	6,136
Mothers, A.N.	9
Mothers, P.N.	13

(*b*) Infectious Diseases and Special Visits :—

Measles—

Babies	97
Children	1,023

Whooping Cough—

Babies	126
Children	659

Chicken Pox—

Babies	22
Children	48

Special Visits (Throat Swabs)	4
Ophthalmia Neonatorum	840
Puerperal Sepsis	17
Slum Clearance	100
Maternal Deaths	13

Total number of cases visited, 28,202.

(*a*) Ordinary :—

	1st visit.	Re-visits.	Total.
Babies	3,143	8,609	11,752
Children, 1-5 years ...	19	13,076	13,095
Mothers, A.N. ...	3	6	9
Mothers, P.N. ...	7	6	13

(*b*) Infectious Diseases and Special Visits :—

	1st visit.	Re-visits.	Total.
Measles—			
Under 1 year	48	52	100
Under 5 years ...	317	78	395
Over 5 years	650	80	730
Whooping Cough—			
Under 1 year	94	49	143
Under 5 years ...	355	131	486
Over 5 years	347	52	399
Chicken Pox—			
Under 1 year	19	5	24
Under 5 years ...	51	6	57
Over 5 years	14	0	14

Special Visits	4	—	4
Ophthalmia Neonatorum ...	61	790	851
Slum Clearance	100	—	100
Puerperal Sepsis	17	—	17
Maternal Deaths	13	—	13
			3,333

Of the 3,143 infants visited for the first time :—

145 were premature.
2,998 were full-time births.

HOUSING.

Of the 3,096 homes of the newly born visited for the first time the home conditions were as follows :—

269 very good.
1,620 good.
1,051 medium.
156 bad.

Information regarding feeding of 3,143 infants visited for the first time :—

(a) Breast	2,442	
(b) Partly breast	187	
(c) Mixed feeding	96	
(d) Artificial	179	
(e) Stillborn	138	
(f) Dead at first visit	101	
		3,143

Special information as to the feeding of infants for the first six months of life was obtained in 1,489 cases :—

(a) Breast	665	
(b) Partly breast	323	
(c) Mixed feeding	186	
(d) Artificial	315	
		1,489

Infant Death Statistics, 1928.

147 deaths occurred in children over one year and under five years of age. 358 deaths occurred in children under one year, distributed as follows :—

1st week	2nd week	3rd week	4th week	1-3 months	3-6 months	6-9 months	9-12 months	Total
79	20	19	26	45	80	41	48	358

Of these 123 were breast fed.
38 were partly breast fed.
19 were mixed feeding (breast and artificial feeding).
98 were artificially fed.

In 46 cases feeding was not commenced due to prematurity.

29 cases were not visited.

In 5 cases no particulars were obtained.

Regarding the feeding, the ages at which those infants died were as follows :—

	1st month	2nd month	3rd month	4th month	5th month	6th month	7th month	8th month	9-12 months	Total	Feeding not commenced	N.V.	N.P.
Breast	36	16	4	3	6	5	8	6	19	123	46	29	5
Partly Breast ..	4	2	1	4	3	6	1	3	14	38	..	..	..
Mixed	1	3	0	2	7	1	2	0	3	19	..	..	..
Artificial	25	11	4	9	9	16	1	3	20	98	..	..	..
Totals ..	86	32	9	18	25	28	12	12	56	278	46	29	5

HOUSING.

In the 324 deaths in which particulars were obtained :—

98 occurred in houses of one room, in which there were 327 occupants.

197 occurred in houses of two rooms, in which there were 913 occupants.

17 occurred in houses of three rooms in which there were 99 occupants.

8 occurred in houses of four rooms in which there were 43 occupants.

4 occurred in institutions.

FAMILY HISTORY.

(a) The family history showed that in these families 678 children were still alive, but 558 had died, and of these no fewer than 479 had died in the first year of life.

(b) In 324 cases in which particulars were obtained, 155 mothers were engaged in work outside their own homes, and 169 were not thus engaged.

In 18 cases the mothers left work one week or under before confinement.

1 case the mother left work two weeks before confinement.

5 cases the mothers left work three weeks before confinement.

3 cases the mothers left work four weeks before confinement.

42 children who died were illegitimate.

30 children who died were twin births.

75 deaths were due to prematurity.

Deaths from Diarrhœa.

Special inquiry into deaths due to diarrhœa :—

38 deaths occurred from diarrhœa during 1928 :—

6 were breast fed.

10 were partly breast fed.

6 were mixed feeding (breast and other food).

12 were artificially fed.

3 cases were not visited.

1 case no particulars were obtained.

	1st Mnth.	2nd Mnth.	3rd Mnth.	4th Mnth.	5th Mnth.	6th Mnth.	7th Mnth.	8th Mnth.	9-12 Mnth.	Tl.	N.V.	N.P
Breast ...	0	1	0	0	2	0	1	1	1	6	3	1
Partly Breast	0	1	0	1	1	0	1	3	2	9	0	0
Mixed ...	0	1	0	0	2	1	1	0	1	6	0	0
Artificial ...	1	2	1	1	3	2	0	0	3	13	0	0
Totals ...	1	5	1	2	8	3	3	4	7	34	3	1

FAMILY HISTORY.

The family history showed that in these families :—

83 were still alive.

59 had died, and no fewer than 52 had died in the first year of life. 18 mothers had worked during pregnancy, and 16 were not engaged in outside employment.

HOUSING.

Of the 34 deaths from diarrhœa in which particulars were obtained :—

9 occurred in houses of one room, in which there were 42 occupants.

23 occurred in houses of two rooms, in which there were 119 occupants.

1 occurred in a house of three rooms, in which there were 7 occupants.

1 occurred in an institution.

Particulars of Births Notified and Registered in Dundee During 1928.

Number of births taken from Registrars' Weekly Returns (includes transfers out and also transfers in)	3,622
Difference between Notification and Registration (1927-28 and 1928-29)	5
	3,617
Less : Number transferred into Dundee	37
(1) Number of Live Births occurring in Dundee	3,580
Number of Stillbirths	172
(2) Total number of births occurring in Dundee	3,752
(3) Number of births notified in accordance with the Act— *i.e.* 94% of total number of births (3,752)	3,527
(4) Number of live births notified—*i.e.* 93.7% of live births (3,580)	3,355

Classification of Notifications.

By whom Notified.	Notified.	Unnotified.	Total.	Total cases attended.	Percentage of total births.
Doctors	509	189	698	865	23%
Doctor and Midwife	111	2	113	232	6.1%
Midwives	1,492	5	1,497	1,378	36.7%
Mat. Ward D.R.I.	1,248	9	1,257	1,257	33.5%
E. Poorhouse Hospital	—	19	19	19	.5%
Parents	116	—	116	—	—
Other Sources ...	51	—	51	—	—
Out of Town ...	—	37	37	—	—
Found dead ...	—	1	1	1	—
	3,527	262	3,789	3,752	—

VENEREAL DISEASES SCHEME.

Dr. Averill's Report.

The year 1928 was marked by the opening of the Public Health Institute and the gathering together under one roof of the male and female V.D. Clinics, which up to September, the month when the Institute was opened, had been respectively carried on at 1 Fleuchar Street and the Dundee Royal Infirmary. As a result of the experiment of an *ad hoc* clinic for the treatment of male V.D. patients at Fleuchar Street it was considered that a clinic outwith a general hospital could be successfully run for the treatment of female patients and children. The ultimate result is awaited with interest, but at any rate the treatment of female patients is now carried on under more suitable conditions than formerly.

The new premises, as far as V.D. is concerned, ought to be a success if properly conducted. They are more central. Other conditions than V.D. are treated. Accommodation is more commodious and infinitely more up to date.

Rapid handling of patients, an extremely important factor indeed, is now possible. In fact, experience has definitely proved that the shorter time patients are kept waiting the more willing they are to attend regularly. Another and obvious reason for rapid handling is that patients do not have to wait in crowds and so have their presence further broadcasted.

The bearing upon new patients is marked, because, if immediately interviewed, they do not tend to be played upon by older ones, who are rather apt, through misconceived humour, to endeavour to frighten the younger and latest callers for advice.

I mention these points to show their importance and to draw attention to some of the facilities which are now for the first time available at the new Institute.

As a result of this extra accommodation, various types of treatment are now carried out in different rooms, so that one patient does not see what another is getting.

An adequate and up-to-date irrigation department has been incorporated as a part of the male section, and this is now open the whole day for the treatment of gonorrhœa. As

many as eight patients can be accommodated at one time, each patient having a cubicle to himself and complete privacy from prying eyes. An attendant is detailed for the regulation of this section of the male clinic.

On the first floor there is a large ward of ten beds for the indoor treatment of male patients; adjoining this is a side ward containing two beds. Consequently it is possible to accommodate comfortably twelve male in-patients.

A single room on the second floor is utilised by the female section to hold two beds for specialised work which necessitates patients being confined to bed for a few hours.

No actual indoor treatment of female patients takes place at the Institute. All indoor patients, as formerly, are treated at King's Cross Hospital.

The second floor also has adequate kitchen arrangements for supplying food for the male V.D. in-patients.

A diathermy room adjoins the male clinic on the first floor and is used for the treatment of both male and female patients at times as pre-arranged.

Consequently it will be noted that as far as possible everything is forthcoming to encourage patients to report for advice and treatment, and every facility is available to allow of that treatment being carried out satisfactorily and with due consideration of the patient's feelings.

Possibly it is too early to enter into a critical analysis and comparison of the work done from the entry into the Public Health Institute to the end of the year with a corresponding period of the previous year and while we were still working under the old conditions.

However, I append the figures for these two periods of both sections—*i.e.*, male and female—and leave the matter thus for the present. It is to be noted in considering these figures that the Institute was entered on the 13th September,

	NEW CASES.				ATTENDANCES.			
Female.	Sept.	Oct.	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
1927 - -	21	20	37	16	1,138	1,131	1,225	1,103
1928 - -	28	15	26	27	1,003	1,105	1,122	966
Male.	Sept.	Oct.	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
1927 - -	39	48	46	37	1,168	1,247	1,179	1,225
1928 - -	52	57	36	69	1,161	1,522	1,391	1,318

Taking the year as a whole the work at both clinics has been well up to the usual for the twelve months.

Once again there has been a decided increase in the number of new cases which have reported for advice and treatment.

The total number of new cases for the year was 578 males and 312 females, an increase of, respectively, 67 and 21 over the previous year.

A feature of considerable interest with regard to these increases was the number of patients who sought advice but on examination were found to be free from any form of venereal disease. Of such patients 157 men and 104 women sought advice during 1928, as compared with 91 men and 70 women in 1927. This increase in the number of non-venereal patients who came to the clinic for advice does not appear to be peculiar to Dundee. It is being noted in other centres as well, and so may be taken as an indication that the public are gradually although perhaps slowly learning to avail themselves, more and more, of the public clinics.

The total attendances at the two clinics for the twelve months were as follow :—Male 13,996, female 12,779. During the previous year the numbers were somewhat higher, being 14,800 for the male clinic and 14,272 for the female. The differences are not sufficient to give rise to either anxiety or hope.

The question of in-patient treatment is now on a much improved basis, and whereas the previous absence of facilities was looked upon as accounting for the small number of in-patient days, it is hoped that with the adequate accommodation now available better results will be forthcoming in the near future.

The in-patient days for 1928 were respectively 341 for males and 123 for females, the males being chiefly treated at Fleuchar Street and all the females at King's Cross Hospital. For purposes of comparison I give the figures for 1927 also. These were respectively 403 for males and 131 for females.

Of patients suffering from gonorrhœa, 27 per cent. reported in the early stage of their infection, while in the remaining 73 per cent. the infection was well established ere advice was sought.

From these percentages it will be seen that the state of affairs is still far from satisfactory. It is difficult to account for this delay in reporting, considering that the longer the disease is established the more difficult it is to eradicate. A full appreciation of the seriousness of this condition is still apparently wanting. Treatment of this condition still remains much about the same, except that throughout the year diathermy has been added to the already extensive therapeutic armamentarium. This method is still very much in the experimental stage, and little really appears to be known of its real action as to whether it primarily acts upon the gonococcus or the tissues. Little doubt appears to exist as regards its efficacy in the treatment of certain chronic gonococcal lesions. A full discussion of the subject, however, scarcely comes within the confines of such a report as this.

With regard to the new cases of syphilis reporting during 1928, an analysis shows them to be made up as follow :—

With " Dark Ground " positive but Wassermann reaction still negative	3.4%
With " Dark Ground " positive and Wassermann reaction positive	8.3%
Suffering from secondary syphilis	37.9%
In the tertiary phase of syphilis	36.7%
Cases showing involvement of central nervous system (Tabes Dorsalis and General Paresis included)	13.7%

These figures reveal a state of affairs that is not very encouraging. The diminution of cases reporting in the primary stage of syphilis with a corresponding increase in number of secondary cases is unfortunate. Unfortunate in

that the most valuable period at which the treatment of syphilis can commence has been allowed to pass. Undoubtedly the ideal method of diagnosing syphilis is by an examination of the exudate from all suspicious sores. In fact, all venereal sores should be looked upon as specific until proved otherwise. To wait until the secondary stage appears when an examination for the presence of Treponema pallidum would have immediately settled the diagnosis is only to hamper preventive and therapeutic measures. Delay in diagnosis and treatment means greater danger in the spread of the disease and prolonged treatment which is much more costly and in the end much less satisfactory. In fact, the golden opportunity has been lost once the Wassermann reaction has become positive. Early diagnosis and treatment cannot be over emphasised, and the ideal to be aimed at is the recognition of the presence of the Treponema pallidum before the Wassermann has become positive.

With regard to the treatment of syphilis there is nothing fresh to note. Cases are still treated by means of the arsenobenzol compounds and metallic bismuth. A course of each is given simultaneously, and no patient receives less than two such courses. To give less is merely a waste of time and money and moreover gives rise to a state of tolerance on the part of the Treponema pallidum to these preparations which means subsequent treatment with less satisfactory results.

The number of specimens examined by Professor Tulloch on behalf of the V.D. clinics is herewith appended. For this large amount of work and other valuable help I am much indebted.

Wassermann reaction	1,877
Special Wassermann	253
Gonococcus Complement Fixation Test ...	864
Dark Ground examinations	31
Urines	155
Smears	1,562
Total	4,742

To the various members of the staff, I tender my thanks for assistance throughout the year.

NEW CASES.

	Dundee.		Other Areas.	
	Males.	Females.	Males.	Females
January ...	38	32	7	1
February ...	34	32	6	2
March	37	23	8	3
April	26	33	4	1
May	46	31	7	1
June	31	14	10	3
July	31	16	7	0
August ...	60	23	12	1
September ...	44	27	8	1
October ...	47	15	10	0
November ...	30	25	6	1
December ...	47	25	22	2
Totals	471	296—767	107	16 -123

Dundee	767
Other Areas	123
Total	890

Of these there were :—

DUNDEE.—Males.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	7	12	0	4	15
February ...	4	18	1	1	10
March ...	4	11	0	9	13
April ...	10	7	0	3	6
May ...	8	18	1	5	14
June ...	2	17	3	3	6
July ...	3	17	1	3	7
August ...	7	24	3	5	21
September ...	5	20	0	5	14
October ...	8	23	2	3	11
November ...	5	12	1	2	10
December ...	6	19	1	8	13
Totals ...	69	198	13	51	140

Females.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	12	2	1	0	17
February ...	9	8	3	0	12
March ...	9	6	0	0	8
April ...	14	10	1	0	8
May ...	19	2	2	0	8
June ...	6	2	0	0	6
July ...	9	1	1	0	5
August ...	8	4	2	0	9
September ...	12	5	2	0	8
October ...	9	1	2	0	3
November ...	9	5	3	0	8
December ...	12	3	4	0	6
Totals ...	128	49	21	0	98

OTHER AREAS.—Males.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	2	4	0	0	1
February ...	1	4	0	0	1
March ...	2	5	0	0	1
April ...	1	3	0	0	0
May ...	0	4	0	2	1
June ...	1	4	0	3	2
July ...	2	1	3	1	0
August ...	3	4	0	3	2
September ...	5	3	0	0	0
October ...	0	8	0	1	1
November ...	1	3	0	0	2
December ...	5	6	0	5	6
Totals ...	23	49	3	15	17

Females.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	1	0	0	0	0
February ...	0	1	0	0	1
March ...	1	0	0	1	1
April ...	0	0	0	0	1
May ...	0	0	0	0	1
June ...	1	1	0	0	1
July ...	0	0	0	0	0
August ...	1	0	0	0	0
September ...	1	0	0	0	0
October ...	0	0	0	0	0
November ...	0	0	0	0	1
December ...	0	2	0	0	0
Totals ...	5	4	0	1	6

TOTAL NEW CASES.

	Males.	Females.
Syphilis	92	133
Gonorrhœa	247	53
Mixed Infections	16	21
Other V.D.	66	1
Not suffering from V.D.	157	104
Totals	578	312—890

AGE PERIODS.—Males.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
Under 1 year	6	0	0	0	4
1- 5 years	5	0	0	0	4
5-15 ,,	4	0	0	0	8
15-25 ,,	9	71	6	24	50
25 yrs. and up.	68	176	10	42	91
Totals ...	92	247	16	66	157
Grand Total					578

Females.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
Under 1 year	3	1	0	0	3
1- 5 years	2	3	0	0	7
5-15 ,,	22	6	3	0	30
15-25 ,,	34	23	10	1	22
25 yrs. and up.	72	20	8	0	42
Totals ...	133	53	21	1	104
Grand Total					312

ATTENDANCES.

	Dundee.		Other Areas.	
	Males.	Females.	Males.	Females.
January ...	1,057	958	51	63
February ...	1,029	1,044	38	67
March ...	1,139	1,166	59	79
April ...	980	1,049	48	61
May ...	913	1,207	61	53
June ...	933	838	67	46
July ...	1,023	838	60	52
August ...	1,039	1,009	107	53
September ...	1,106	949	55	54
October ...	1,434	1,053	88	52
November ...	1,306	1,071	85	51
December ...	1,247	911	71	55
Totals ...	13,206	12,093—25,299	790	686—1,476
Dundee				25,299
Other Areas				1,476
Total				26,775

DUNDEE.—Males.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	173	762	55	32	35
February ...	220	727	28	17	37
March ...	227	795	43	41	33
April ...	227	690	7	38	18
May ...	249	555	9	64	36
June ...	216	640	11	37	29
July ...	136	763	92	13	19
August ...	158	751	54	32	44
September ...	161	784	102	19	40
October ...	222	936	202	35	39
November ...	205	883	164	15	39
December ...	214	834	128	37	34
Totals ...	2,408	9,120	895	380	403

Females.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	388	421	106	0	43
February ...	386	440	150	0	68
March ...	415	482	194	0	75
April ...	386	477	141	0	45
May ...	453	524	174	0	56
June ...	310	365	126	0	37
July ...	372	322	122	0	22
August ...	412	417	133	0	47
September ...	388	402	120	0	39
October ...	439	450	140	0	24
November ...	460	406	151	0	54
December ...	402	293	169	0	47
Totals ...	4,811	4,999	1,726	0	557

OTHER AREAS.—Males.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	17	31	1	0	2
February ...	17	20	0	0	1
March ...	18	35	2	0	4
April ...	19	28	1	0	0
May ...	19	36	0	6	0
June ...	13	44	1	6	3
July ...	10	33	15	2	0
August ...	28	69	9	1	0
September ...	30	16	7	2	0
October ...	31	43	4	8	2
November ...	34	41	3	3	4
December ...	21	25	4	14	7
Totals ...	257	421	47	42	23

Females.

	Syphilis.	Gonorrhœa.	Mixed Infections.	Other V.D.	No V.D.
January ...	26	37	0	0	0
February ...	23	41	0	0	3
March ...	18	57	0	1	3
April ...	20	35	0	5	1
May ...	24	28	0	0	1
June ...	19	24	0	0	3
July ...	21	31	0	0	0
August ...	30	23	0	0	0
September ...	34	20	0	0	0
October ...	42	10	0	0	0
November ...	36	11	0	0	4
December ...	33	14	0	0	8
Totals ...	326	331	0	6	23

TOTAL ATTENDANCES.

	Males.	Females.
Syphilis	2,665	5,137
Gonorrhœa	9,541	5,330
Mixed Infections	942	1,726
Other V.D.	422	6
Not suffering from V.D.	426	580
Totals	13,996	12,779—26,775

SPECIAL TREATMENT ADMINISTERED.

Number of Intravenous and Intramuscular Injections given :—

	Neokharsivan				Kharsulphan		
	.15	.3	.45	.6	.075	.15	.3
January	12	60	12	46	2	3	40
February	5	56	15	37	8	19	31
March	16	60	15	40	4	11	70
April	11	67	14	30	0	15	68
May	28	104	18	25	5	15	69
June	7	106	7	25	8	8	62
July	7	90	14	15	5	6	53
August	3	73	28	12	0	6	62
September	15	102	15	17	1	11	66
October	10	119	21	39	11	22	94
November	1	100	20	44	3	18	114
December	5	98	19	24	1	15	90
Totals	120	1,035	198	354	48	149	819

Other Salvarsan Substitutes 67

	Bismuth.			Other Drugs.
	.15	.3	.45 gm.	
January	69	87	41	29
February	86	76	32	32
March	116	99	45	40
April	123	89	39	53
May	117	116	44	42
June	81	106	32	33
July	74	99	14	21
August	86	116	30	20
September	106	114	41	29
October	127	113	61	39
November	108	132	54	46
December	112	104	34	42
Totals	1,205	1,251	467	426

Totals—Neokharsivan	1,707
Kharsulphan	1,016
Other Salvarsan Substitutes	67
Bismuth	2,923
Other Drugs	426
Grand Total ...	6,139

PATHOLOGICAL WORK.

NUMBER OF SPECIMENS EXAMINED:—

	Wassermann Test.	Special Wassermann Test.	Gonococcus Complement Fixation Test.
January	151	17	63
February	186	16	85
March	132	9	54
April	134	15	45
May	204	18	86
June	117	13	54
July	136	23	73
August	163	19	75
September	139	15	58
October	182	30	87
November	127	29	65
December	206	49	119
Totals	1,877	253	864

	Dark Ground Test.	Microscopic Smears.	Urines.
January	4	85	11
February	1	121	17
March	2	176	9
April	2	114	25
May	3	123	19
June	1	81	12
July	1	131	7
August	3	42	11
September	4	136	5
October	1	138	13
November	6	201	10
December	3	214	16
Totals	31	1,562	155

C. AVERILL, M.A., B.Sc., M.D., D.P.H.

BACTERIOLOGICAL REPORT.

Professor Tulloch's Report.

REPORT OF WORK CARRIED OUT IN THE DEPARTMENT OF BACTERIOLOGY, UNIVERSITY COLLEGE, DUNDEE, ON BEHALF OF THE DUNDEE PUBLIC HEALTH AUTHORITIES, FROM 1ST JANUARY, 1928, TO 31ST DECEMBER, 1928.

The report is presented in the same fashion as in previous years, so that continuity of arrangement may be maintained.

I. Control of Venereal Diseases.

(a) Control of Syphilis.

1. Dark Ground Examinations.
2. Wassermann Reactions (Routine).
3. Special Wassermann Reactions.
4. Examinations of cerebro-spinal fluids.

(b) Control of Gonorrhœa.

1. Microscopical examination of discharges and urines.
2. Gonococcus Complement Fixation tests.
3. Supply of Vaccine.

II. Control of Other Communicable Diseases.

(a) Diphtheria.

1. Throat swabs from cases and contacts.
2. Virulence tests.

(b) Enteric Fever.

1. Widal Reactions.

2. Examination of fæces in convalescents.

3. Blood Cultures.

(c) Tuberculosis.

III. Special Investigations.

(a) Examination of Milks for contamination.

(b) Examination of Milks for grading.

(c) Routine examination of Milks for tuberculosis.

(d) Examination of Milks for tuberculosis under the Tuberculosis Order.

(e) Food Poisoning.

(f) Primary Meningitis.

(g) Fæces for Amœbic Dysentery.

(h) Bacillary Dysentery.

(i) Examination of Crusts for Smallpox.

(j) Examination of Material from Cases of Puerperal Sepsis.

(k) Prophylaxis of Anthrax.

(l) Miscellaneous investigations.

1. Control of Venereal Diseases.

(a) Control of Syphilis.

1. Microscopical examinations of material to demonstrate the presence of Treponema pallidum.

During 1928, 31 examinations were made for the presence of T. Pallidum in suspected syphilitic sores. This number is less than that of the previous year, and is much too small, and as none of these were from private practitioners it appears probable that there is still a large number of cases of this

disease whose diagnosis is unnecessarily delayed. The success of preventive and therapeutic measures in this, as in most other communicable diseases, is largely dependent upon early and accurate diagnosis. Delay in diagnosis and treatment means greater danger of spread of the disease, for, with modern methods of treatment, the infectivity of a case of syphilis can be markedly reduced in a very short time.

It is repeated that it cannot be sufficiently emphasised that the Wassermann test, reliable though it be, cannot give the same unequivocal evidence of syphilitic infection as does the demonstration of T. Pallidum in morbid exudates.

Moreover, postponement of treatment means prolonged treatment, which is more costly, and the end results of which are much less satisfactory than when active treatment is commenced in the primary stage of the disease.

To call upon the Venereal Diseases Officers to treat late cases of syphilis in which the diagnosis could have been established with certainty during the early phases of the infection is to place upon these officers a burden of work and a responsibility which is quite unnecessary, and defeats, to a large extent, the object of the scheme for the control of Venereal Diseases.

The importance of early diagnosis and early active treatment cannot be over-emphasised.

2. Wassermann Reactions.

The further improvements in the technique for conducting the Wassermann reaction, elaborated during 1926-27, now form the basis of the routine method of conducting that test in this laboratory, and continued observation shows definitely that these improvements have greatly enhanced its reliability, and it may be said that the test now is as reliable as it is possible to make it.

The total number of tests carried out was 3,852, of which 1,877 were from the clinic, 322 from private practitioners, and 1,653 from institutions other than the clinic.

To the total number there must be added 121 tests in which the material examined was cerebro-spinal fluid, and in such cases a reinforced method is always employed, so that the total of qualitative Wassermann reactions conducted is 3,973 for 1928.

3. Special (Quantitative) Wassermann Tests.

The special quantitative Wassermann reaction elaborated in 1925 continued in use during 1928 in order to control the treatment of cases attending the clinics.

It has proved extremely valuable in determining the value of treatment, in determining the progress of treatment, and in the continued observation of Wassermann-fast cases. The number of investigations of that nature carried out during the year was 255, all being from the clinic, so that the grand total of Wassermann reactions for the year under consideration was 4,228.

4. Examination of Cerebro-spinal fluids.

During 1928, the complete investigation of cerebro-spinal fluids from cases of suspected neuro-syphilis was continued, the examination in each instance being as complete as possible. In addition to the ordinary Wassermann test and reinforced Wassermann test, a complete chemical and cytological examination was performed, while the Lange gold test was employed as a routine.

Of the 121 investigations, 37 were carried out on material submitted for examination by the venereal diseases officers, and 84 on material sent by consultant physicians. The increase is largely accounted for by the number sent from the venereal diseases clinics, and shows that the officers responsible for the conduct of the clinic are alive to the dangers of the remote manifestations of syphilis in their patients.

(b) Control of Gonorrhœa.

One is pleased to note that the interest in this disease is being maintained, for the fact must not be lost sight of that gonorrhœa may be even a more serious malady than syphilis,

1. Microscopical examination of discharges for the diagnosis and control of treatment in Gonorrhœa.

During 1928, 2,015 microscopical examinations of material for the diagnosis and control of gonorrhœa were carried out. Of these, 1,846 were examinations of discharges and 169 were examinations of urines. These are distributed thus :—

	Discharges.	Urines.
From the Clinic	1,562	155
From Private Practitioners	107	14
From institutions other than the Clinic..	177	0

2. Investigation of cases of Gonorrhœa by the Complement Fixation Reaction.

During 1928, 918 complement fixation tests have been carried out with a view to the control of treatment or diagnosis of gonorrhœa. These were distributed thus :—From the clinic 864, from institutions other than the clinic 30, and from private practitioners 24. This shows a considerable increase as compared with 1927.

The grand total, then, of examinations conducted for the diagnosis and control of Venereal Diseases is as follows :—

Dark Ground Examinations	31
Wassermann reactions (ordinary)	4,228
Special quantitative Wassermanns	255
Special examinations of cerebro-spinal fluids ...	121
Microscopical examinations of discharges and urines	2,015
Gonococcus Complement Fixation Tests ...	918
	7,568

3. Gonococcal Vaccine.

During 1928 the laboratory has continued to supply both male and female clinics with gonococcus vaccines upon a large scale.

II.—Examinations for the Control of other Communicable Diseases.

(a) Diphtheria.

1. Cultural examination of throat swabs.

Although during 1928 there has been no notably serious outbreak of diphtheria in Dundee, nevertheless a considerable number of cases have occurred, and the total number of swabs examined was 1,883.

In connection with the examination of throat swabs, two points call for comment, viz. :—(1) The result of the bacteriological examination of the throat is of great importance to the public health officer, and its value to the practitioner is no less great when he is dealing with doubtful cases, but when the clinical features suggest diphtheria, it is unwise to delay the administration of anti-toxin until the result of the bacteriological examination is available. A case which is clinically diphtheria should be treated as diphtheria. If complete investigation negatives the diagnosis, no harm is done, but harm *is* liable to be done to cases of diphtheria when the administration of serum is delayed. In cases which are clinically diphtheria it is well to have the diagnosis verified by bacteriological examination, but it is especially important that treatment be initiated *forthwith*. In order that no misunderstanding should arise from this cause, every report on the examination of a throat swab which is negative is specially marked with the following notice :—

"*IMPORTANT*.—Please note that a negative swab result does not exclude diphtheria. The laboratory findings pre-suppose that the suspicious lesion *has been touched with the swab*—NOT ALWAYS POSSIBLE IN CERTAIN TYPES OF DIPHTHERIA ESPECIALLY LARYNGEAL DIPHTHERIA. CLINICALLY SUGGESTIVE CASES SHOULD BE TREATED WITHOUT AWAITING RESULT OF SWAB. DELAY IS DANGEROUS."

2. Virulence Tests.

In all, during 1928, 14 tests have been made to determine the virulence of diphtheria bacilli present in the throats of suspected carriers and of convalescents. Of these, 12 were from patients in King's Cross Hospital, and 2 from institutions other than King's Cross Hospital. As in the previous years, these tests have proved of value in expediting the discharge of patients from the Isolation Hospital.

(b) Control of Enteric Fever.

1. Widal Reactions.

A small number of cases of Enteric Fever occurred in the City during 1928, but there has been no extensive or serious outbreak of this disease.

In all, 106 tests were carried out on 53 specimens of blood. The duplicate test against both typhoid and para-typhoid Beta continues to be employed as a routine, and again proved valuable as the majority of the cases were due to the para typhoid Beta bacillus, and these are often of a mild type, the clinical diagnosis of which presents some difficulty.

2. Blood Cultures.

The most satisfactory of all methods for diagnosing enteric fever is blood culture, as by this means an early and accurate diagnosis can be established. In the past, this method has not found much favour among the practitioners of the city, but each year sees an increased number of such investigations in cases of continued fever in which diagnosis on clinical grounds may be difficult to make.

3. Examination of fæces and urine from Enteric convalescents.

During 1928, 26 examinations of fæces and blood cultures, 1 examination of urine from convalescents, and 1 examination each of gall bladder and appendix removed at operation have been made. The para-typhoid bacillus was recovered from a number of these, but none of the patients became carriers, and in no instance did the micro-organisms persist in the fæces for a lengthy period after convalescence.

(c) Control of Tuberculosis.

310 specimens of sputum were examined from cases in Dundee during 1928—a slight increase on the previous year. The ratio of negative to positive findings remains much as before.

Research on tuberculosis still continues to occupy the staff of the laboratory, and encouraging results are now being obtained in the use of a new method of prevention. Much work will, however, have to be done before certain technical difficulties are overcome, and the value of the method assessed with accuracy.

In addition to the investigations conducted on behalf of the City Health Authority to assist in the control of tuberculosis, numerous specimens of morbid material submitted from patients in institutions are of such nature that it is necessary to exclude tuberculosis. During 1928, 195 such specimens have been investigated, comprising :—

Urines	59	Specimens
Cerebro-spinal fluids	51	,,
Pus	44	,,
Pleural fluid	29	,,
Fluid from joints	7	,,
Miscellaneous	5	,,
	195	,,

III. Special Investigations.

(a) Examination of Milks for Contamination.

During 1928, 72 specimens of milk were examined to determine the degree of bacterial contamination and the presence of organisms of fæcal origin. Of the 72 specimens, 64 were investigated by routine methods, and 8 were specially examined for grading.

The results of these examinations in 64 routine specimens are as follows :—

1. Test for presence of B. Coli.

Bacillus Coli test positive in .001 c.c. or less—Unsatisfactory, ...	11
Bacillus Coli test positive in .01 c.c. negative .001—Doubtful, ...	9
Bacillus Coli test positive in 0.1 c.c. negative .01 —Good, ...	14
Bacillus Coli test positive in 1. c.c. negative 0.1 —Very Good, ...	14
Bacillus Coli test negative in 1 c.c. —Excellent,... ...	16
Total	64

So far, then, as the B. Coli test is concerned, 44 of these milks are up to the standard of Grade A. milk, while 30 pass the more severe test for certified milk.

2. Total Number of Micro-organisms.

(a) Over 5,000,000 per c.c.	0
(b) Over 3,000,000 but less than 5,000,000 per c.c.	0
(c) Over 1,000,000 but less than 3,000,000 per c.c.	1
(d) Over 700,000 but less than 1,000,000 per c.c.	0
(e) Over 500,000 but less than 700,000 per c.c.	3
(f) Over 300,000 but less than 500,000 per c.c.	4
(g) Over 200,000 but less than 300,000 per c.c.	2
(h) Over 100,000 but less than 200,000 per c.c.	7
(i) Over 50,000 but less than 100,000 per c.c.	8
(j) Over 30,000 but less than 50,000 per c.c.	4
(k) Over 10,000 but less than 30,000 per c.c.	19
(l) Over 5,000 but less than 10,000 per c.c.	12
(m) Less than 5,000 per c.c.	4

Therefore, from the standpoint of total content of all micro-organisms, 54 of these 64 specimens are really very clean indeed, while 35 have a bacterial content so low that in this respect they would qualify as certified milks.

(b) Examination of milks for Grading.

In addition to the milks tested by routine methods there were 8 specimens for special examination with a view to grading and certification of milk. The investigation in such circumstances is conducted according to a standard method advised by the Scottish Board of Health, these milks being submitted by dairies in Dundee for grading under the Milks (Special Designations) Order, 1922, and Amendment Order (Scotland), 1923. All 8 milks were remarkably clean, in that bacillus coli could not be demonstrated even in 1 c.c., while a total bacterial count of each is as follows:—

		Total count.
Colon test positive in		
Colon test negative in 1 c.c.	February,	700
Colon test negative in 1 c.c.		1,200
Colon test negative in 1 c.c.	May,	650
Colon test negative in 1 c.c.		700
Colon test positive in 1 c.c., neg. in .1 c.c.	August,	112,000
Colon test positive in 1 c.c., neg. in .1 c.c.		200,000
Colon test positive in 1 c.c., neg. in .1 c.c.	November,	9,800
Colon test positive in 1 c.c., neg. in .1 c.c.		6,700

The months during which each investigation was made

are noted, and it is observed that, as is to be expected, during the hot weather the total count is somewhat higher than at other periods of the year.

(c) Routine Examination of Milk for the Presence of Tubercle Bacilli.

During the year 1928, 24 routine specimens were submitted for special examination with a view to the demonstration of tubercle bacilli in milk. Two were found to contain tubercle bacilli, while in two instances the examination was unsatisfactory.

(d) Examination of Milks for Tuberculosis under the Tuberculosis Order.

During 1928, no specimens of milk were investigated for the presence of tubercle bacilli under the Tuberculosis Order.

(e) Food Poisoning.

During 1928 there were no outbreaks of food-poisoning in the City. There were, however, three small outbreaks of gastro-enteritis resembling bacterial food-poisoning of the salmonella type, but in one instance no evidence of such infection was established either from examination of the suspected food-stuff—meat sandwich—nor of the dejecta of the only patient affected, while in the other two instances the condition proved to be bacillary dysentery. (*Vide* section dealing with bacillary dysentery.)

(f) Primary Meningitis.

During 1928, 10 cases of such nature that they might be primary meningitis occurred in Dundee, and all were made the subject of extensive bacteriological examination. Of these, four proved to be cases of true cerebro-spinal (meningococcal) meningitis, each of which was examined several times during the progress of the illness. Two cases proved to be primary pneumococcal meningitis, while the remaining four, although at first sight apparently primary, were really secondary streptococcal meningitis.

The number of cases of meningococcal meningitis is practically the same as in the previous year, and although the number is small, it should be noted that sporadic cases continue to occur, so that in view of this it would be well to bear in mind the possibility of the reappearance of this malady in our population.

(g) Amœbic Dysentery.

During 1928, 11 specimens of fæces from 9 suspected cases of amœbic dysentery were submitted to the laboratory for examination. These were fully examined both for the presence of the amœba and for the presence of dysentery bacilli, and the following results obtained :—

(1) In two patients the disease proved to be true amœbic dysentery, entamœba histolytica or its cysts being definitely demonstrated.

(2) In one case entamœba coli only was demonstrated.

(3) In one case the condition proved to be due to the presence of large numbers of thread worms.

(4) In one case tubercle bacilli were demonstrated in the fæces.

(5) In the remaining four cases nothing of pathological significance could be demonstrated notwithstanding very extended investigation.

(h) Bacillary Dysentery.

During 1928 two definite outbreaks of bacillary dysentery occurred in the city, both being mistaken for food-poisoning. The nature of the infection in these two outbreaks was determined post-mortem, as the first case in each outbreak was rapidly fatal.

(1) The first outbreak involved one family, and its full investigation involved the examination of 28 specimens, the majority of these being investigations of fæces from unaffected members ot the family in order to trace if possible the source of the infection in order to prevent further spread of infection in the community.

(2) The second outbreak consisted of a single sporadic and unfortunately fatal case, and its investigation involved four examinations. The source of the infection was not traced, and no further cases occurred.

(3) Four other suspected cases of sporadic bacillary dysentery occurred in Dundee during 1928, and in three of these the findings were entirely negative, while the fourth was doubtful.

In the two instances in which the diagnosis was definitely established—(1) and (2) *supra*—the causal micro-organism proved to be one of the Flexner group of dysentery bacilli.

The materials examined for the presence of dysentery bacilli are as follows:—

1. Fæces and post-mortem material	27
2. Serological tests	9

(i) Examination of Crusts by the Variola-Vaccinia Flocculation Test.

During 1928 this reaction was performed for diagnostic purposes five times, the reaction being negative in two doubtful cases which ultimately proved to be chickenpox, and positive in three cases where the crusts were derived from cases of smallpox minor, which occurred in the City during July, 1928.

During 1928 all the crusts from cases of smallpox minor and chickenpox which had been collected during the outbreak of 1927 were investigated by the flocculation reaction in order that by its application to a significant body of clinical material the practical value of the reaction as an aid to diagnosis might be assessed.

These tests were carried out in the laboratory by Dr. Petrie, of King's Cross Hospital, and his findings may be summarised as follows:—95 specimens of crusts from 92 different sources have been investigated, the discrepancy of 3 being due to the fact that in three cases duplicate examinations were made.

These crusts were derived from :—

(i) Smallpox minor	52 cases ...	Test positive in all.
(ii) Confluent smallpox ...	1 case ...	Test positive.
(iii) Vaccinia	11 cases ...	Test positive in all.
(iv) Chickenpox	26 cases ...	Test negative in all.
(v) Septic rash	2 cases ...	Test negative in both.
(vi) Material not suitable ...	3 cases.	

In every instance, then, in which the test could be satisfactorily carried out the result obtained was in accordance with the clinical characters and epidemiological relationships of the case.

Work designed further to assess the value of this reaction, and if possible to improve its technique, is at present being conducted in the Department of Bacteriology, University College, Dundee, by Dr. James Craigie, and already much valuable information has been obtained both in respect of the purely scientific problems which are raised by the test, and also in respect of its practical application upon a large scale.

This work is of exceptional importance at the present time because of the widespread distribution of smallpox minor in this country and because of the difficulty that is experienced in establishing a diagnosis in mild cases of that condition.

A joint report from the Department of Public Health, City of Dundee, and the Department of Bacteriology, University of St. Andrews, University College, Dundee, in which are correlated the clinical findings, epidemiology, administrative measures, and laboratory investigation of the 1927 Dundee outbreak, is at present in the press. This is being published as one of the Special Report Series of the Medical Research Council in order that the information which was obtained from the study of this outbreak may be available to all who are interested in the diagnosis and prevention of smallpox, a subject of grave economic importance to all public health authorities.

It is of interest to note that the test is applicable equally to material from smallpox minor and the classical type of smallpox, for unequivocal reactions have been obtained with crusts derived from several of the cases which occurred recently on the liner " Tuscania."

(j) Examination of Material from cases of Puerperal Sepsis.

During the last few months of 1928 a scheme for the bacteriological examination of cases of puerperal sepsis was instituted in order that the quality and degree of bacterial invasion in such cases treated at King's Cross Hospital might be determined.

Twenty-four specimens of morbid material were submitted for examination, 12 being blood cultures and 12 uterine swabs.

Investigation of this nature is of importance more from the standpoint of prognosis than diagnosis, and the information obtained points to the more severe type of puerperal sepsis, being due to a well-defined variety of the streptococcus.

(k) Prophylaxis in Anthrax.

As in previous years, a supply of Sclavo's serum has been available in the laboratory for the prevention and treatment of anthrax.

During the year no cases of anthrax occurred in the City.

(l) Miscellaneous Investigations.

In addition to the work categorised under the above headings, a number of miscellaneous tests, preparation of vaccines, etc., have been undertaken on behalf of the public health authority of the city; while the less frequently used therapeutic sera have been available and supplied at short notice to the various hospitals in the city. Among these miscellaneous investigations are the following:—

(1) Examination of faeces from Dundee Infant Hospital and other institutions for infantile diarrhœa, 7 cases.

In investigating these, especial note was taken of the possible presence of a micro-organism known as the Sonne III. bacillus, which has lately been found to give rise to infantile diarrhœa of a severe type. In none of the specimens

submitted for examination was the Sonne III. bacillus demonstrated.

(2) Special Investigations from King's Cross Hospital.

(a) Examination of throat swabs for micro-organisms other than bacillus diphtheriæ	1
(b) Examination of pus from empyema	3
(c) Examination of pus from surgical conditions other than empyema	5
(d) General examination of urine	3
(e) Blood culture in case of chronic meningococcal septicæmia	1

(3) Preparation of vaccine for Tuberculosis Dispensary.

The work of the laboratory on behalf of the Public Health Authority of the City has shown an increase in almost all departments of its activity, and this work has been carried out successfully largely because of the ready, willing and helpful co-operation of the staff of the Public Health Department and of the various clinics.

This co-operation does much to lighten the work and to make it more interesting by increasing efficiency and by offering educational facilities to the Department and its ancillary clinics.

KING'S CROSS HOSPITAL

Dr. Petrie's Report.

During the year 1928, 1,073 cases of ordinary infectious disease and 98 cases of tuberculosis were admitted to the Hospital.

The average daily number in cases of ordinary infectious disease was 85.5 and in cases of tuberculosis 56.6.

The highest daily number of all patients in Hospital was 209 on February 19th, and the lowest was 108 on August 10th.

Below is a table of all patients treated in Hospital during the past year :—

DISEASE.	In Hospital on 31st Dec., 1927.	Admitted during 1928.	Discharged during 1928.	Died during 1928.	Remaining in Hospital on 31st Dec., 1928.
Diphtheria	120	558	614	28	36
Diphtheria and Measles...	—	1	1	—	—
Diphtheria and Whooping Cough	—	1	1	—	—
Diphtheria and scarlet fever	—	1	1	—	—
Scarlet fever	16	125	126	1	14
Scarlet Fever and Chickenpox	—	1	1	—	—
Chickenpox	—	6	5	—	1
Smallpox	—	6	5	—	1
Erysipelas	1	51	44	6	2
Measles	—	21	20	1	—
Whooping Cough ...	—	13	11	2	—
Mumps	—	1	1	—	—
Rubella	—	8	8	—	—
Cerebro-Spinal Fever ...	—	7	1	6	—
Enteric fever	1	2	3	—	—
Dysentery	—	3	3	—	—
Puerperal Fever ...	3	28	20	4	7
Venereal Disease ...	—	11	11	—	—
Ophthalmia Neonatorum	1	10	11	—	—
Lobar Pneumonia ...	2	14	12	2	2
Broncho-pneumonia (all causes)	5	204	142	51	16
Membranous Conjunctivitis	—	1	1	—	—
Total Infectious Diseases	149	1,073	1,042	101	79
Tuberculosis	55	98	49	52	52
Total	204	1,171	1,091	153	131

The case mortality for the ordinary infectious diseases was 8.83 per cent and for tuberculosis 51.5 per cent.

Scarlet Fever.

One hundred and twenty-five cases were admitted with a diagnosis of scarlet fever; there were no deaths.

The ages and sexes were as follows:--

Age.	Cases admitted. Male.	Female.
Under 1 year	—	—
1- 2 years	6	3
2- 5 ,, ...	17	8
5-15 ,, ...	31	33
15-25 ,, ...	5	18
25-45 ,, ...	1	3
	60	65
	125	

In 20 cases the diagnosis was not confirmed, and the following are details of the diagnosis finally arrived at:—

No apparent disease	2
Bronchitis	4
Tonsilitis	6
Septicæmia	1
Diphtheria	1
Picric dermatitis	1
Broncho pneumonia	1
Drug rash	2
Adenitis	1
Chickenpox (prodromal rash) ...	1

The following were the chief complications:—

Arthritis	1
Cervical adenitis	12
Otitis media with otorrhœa... ...	7
Rhinitis and Rhinorrhœa	62
Nephritis and albumenuria... ...	3
Broncho pneumonia and bronchitis	3
Empyema	1

None of these required operative treatment. Mr. Mathers made 37 examinations of scarlet fever patients having ear, nose, or throat complications.

The routine administration of the specific anti-serum continues to be of great value in the prevention of the more serious complications, but has little or no effect on the occurrence of rhinorrhœa in the later stages of the disease. In a number of cases this complication proved so resistant to treatment as to unduly lengthen the patient's stay in hospital. Bacteriological examinations of the nasal discharge showed the presence of streptococcus scarlatinœ in a few cases even after the 50th, and, in one case, after the 80th, day of disease.

Diphtheria.

During the year 558 cases were admitted with a diagnosis of diphtheria; 614 were discharged and 28 died, there having been 120 in hospital on January 1st. The case mortality was 4.36 per cent. Five cases died within twenty-four hours of admission, and when these are deducted from the total deaths the case mortality becomes 3.6 per cent., the lowest recorded in the hospital.

The following table shows the age and sex of the cases:—

Age.	Cases. M.	Cases. F.	Deaths. M.	Deaths. F.
Under 1 year	10	4	3	2
1- 2 years ...	18	9	1	1
2- 5 ,, ...	77	70	6	2
5-15 ,, ...	111	178	1	10
15-25 ,, ...	19	36	—	1
25-45 ,, ...	2	19	—	—
45 and over ...	1	4	—	1
Total ...	238	320	11	17
	558		28	

In 77 cases the provisional diagnosis of diphtheria was not confirmed. The following are details of the diagnosis finally arrived at:—

Tonsilitis	39
Quinsy	2
Thrush	1
Slough of tonsillar fossa	1
Simple Laryngitis	4
Bronchial Asthma	1
Bronchitis	3
Broncho-Pneumonia	1
Measles	1

Lobar Pneumonia	2
Marasmus	2
Carrier only	11
Nephritis	1
Rheumatic fever	1
Conjunctivitis	2
Blepharitis	1
No apparent disease	2
Adenitis	1
Erysipelas	1

Twenty-three cases were of purely laryngeal type and 34 of mixed laryngeal and faucial. Of the 57 cases, 8 died. Six required tracheotomy, and of these 3 died.

The main complications were :—

Cervical adenitis	15
Cervical Abscess	3
Cancrum Oris	1
Secondary throat	3
Rhinorrhœa	3
Otitis Media	16
Epistaxis	6
Bronchitis	4
Broncho Pneumonia	3
Various forms of paralysis... ...	59
Cardiac complications	73
Albuminuria	10
Jaundice	2
Pyuria	3

Details of the different forms of paralysis are :—

Palatal	28
Paralysis of limbs	7
Ocular	11
Facial	4
Pharyngeal	7
General	2

Mr. Mathers made 63 examinations of diphtheria patients suffering from ear, nose, and throat complications.

Diphtheria antitoxin had already been administered to 43 of the 558 cases admitted—*i.e.* to 7.7 per cent.—and all of these recovered. An increase in this percentage would be of great value in reducing the case mortality, especially in those cases where the diagnosis is made only after the result of a nose or throat swab has been obtained. Death from

diphtheria is almost entirely due to delay in administering the specific remedy, in most cases as a result of failure on the part of the parents to consult a physician until the disease has reached an advanced stage.

Broncho-Pneumonia.

204 cases of broncho-pneumonia were admitted, this number including primary broncho-pneumonia and cases secondary to measles and whooping-cough. The case mortality was 26.42 per cent., there being 51 deaths. The great majority of deaths were in children under five years of age, as the following table shows:—

Age.	Cases admitted.		Deaths.	
Under 1 year	38	16	9	4
1- 2 years	28	26	11	9
2- 5 years	37	31	9	5
5-15 years	17	10	4	—
15-25 years	—	—	—	—
25-45 years	—	1	—	—
	120	84	33	18
	204		51	

About one-third of the cases were treated by anti-serum therapy with encouraging results. Mr. Mathers made 41 examinations of broncho-pneumonia patients having ear, nose, or throat complications.

Five cases required operation for empyema.

Erysipelas.

Fifty-one cases were admitted with a provisional diagnosis of erysipelas. In six cases the diagnosis finally arrived at was:—

Cellulitis of leg and foot	2
Abscess of face	1
Dermatitis	1
Diphtheria and Pleurisy	1
Urticaria and Enteritis	1

There were six deaths, including the last two in the above list and four aged and debilitated patients, three males and one female.

An age and sex table of admissions follows :—

	Cases admitted.	
	Male.	Female.
Under 1 year	2	1
1- 2 years	—	—
2- 5 years	1	—
5-15 years	—	4
15-25 years ...	1	6
25-45 years ...	4	6
45 and over ...	7	19
...	—	—
Total ...	15	36
	51	

Puerperal Fever.

During the year 28 cases were admitted with a diagnosis of puerperal fever. Twenty were discharged cured and 4 died, giving a case mortality of 16.66 per cent.

An analysis of the various conditions found to be responsible for the pyrexia is as follows :—

Streptococcal Septicæmia	10
Sapræmia of Perineal or Pelvic Origin ...	13
Phlegmasia Alba Dolens	2
Acute Constipation	2
Mastitis	1

The cases were investigated with a view to finding the responsible organism by means of repeated blood cultures and broth cultures of intra-uterine smears, the material being examined by Professor Tulloch.

Complications of the above were :—

Breast Abscess	2
Pelvic Cellulitis	2
Pelvic Abscess	1
Salpingitis	1
Multiple Abscess	2
Cystitis	1
Albumenuria	1
Endocarditis	1
Gonorrhœa	1

Smallpox.

The Smallpox Hospital was opened on October 19th, and was still in use at the end of the year, having been closed for three days only in November.

Six cases were admitted with a diagnosis of smallpox, and in five this was subsequently confirmed. The type of disease was the same as that of the epidemic of 1927.

Tuberculosis.

Ninety-eight cases were admitted to the sanatorium wards, 48 males and 50 females; 49 were discharged, 25 males and 24 females; and 52 died, 24 males and 28 females, giving a case mortality of 51.5 per cent.

Mr. Mathers made 79 routine examinations of tuberculosis patients and advised treatment in those having ear, nose, or throat complications.

Bacteriological Laboratory.

During the year investigations carried out in the laboratory of the Hospital were as follows:—

Cultural investigations of throat or nose swabs—

In-patients	5,395
Contacts	773
Total ...	6,168

Specimens of sputum examined microscopically, 330.

Cross Infection.

The incidence of cross infection having lately been the subject of enquiry, a short account of the methods employed in dealing with it may be of interest.

A patient admitted to hospital is immediately isolated, alone, or in a ward confined to cases of the same infectious disease. Should he subsequently become infected with a disease other than that with which he was admitted he is regarded as a case of cross infection. The sources of such infection may be divided into four main groups:—

(1) Cases admitted wrongly diagnosed.
(2) Cases admitted with a correct diagnosis, but having a double infection.
(3) Carriers.
(4) Members of the hospital staff.

These are dealt with, firstly, by general measures aimed at the prevention of spread of infection, such as strictly hygienic methods of nursing, including the immediate destruction of all infective material and the sterilization of feeding and other utensils by boiling; and, secondly, by particular measures appropriate to the type of infection involved. The latter may be dealt with in more detail under the above headings.

(1) Cases Admitted Wrongly Diagnosed.

As reference to the preceding paragraphs on diphtheria and scarlet fever will show, this is by no means as uncommon an occurrence as might be expected. During the year cases have been admitted, *e,g.* as diphtheria, which were subsequently diagnosed as pneumonia, measles, rheumatic fever, erysipelas, etc.; and as scarlet fever, subsequently diagnosed as diphtheria, pneumonia, chicken-pox, etc. These cases were of course admitted to the wards corresponding to their provisional diagnosis, and might quite well have given rise to the spread of infection therein. In order to obviate this risk as far as possible, all cases are carefully examined by a medical officer immediately on admission, and where there is any reason to suspect that the case may be a danger to other patients it is isolated in a side ward until a final diagnosis can be made. When it is known that some doubt exists as to the nature of the patient's condition, the examination is made in the ambulance before admission.

(2) Double Infection.

This group includes (a) patients admitted in the prodromal and acute stages of a second disease in addition to that of the provisional diagnosis, (b) patients admitted in the convalescent stage of a second disease the acute signs and symptoms of which may not have been recognised, and (c) patients admitted in the incubation stage of a second disease and so showing no signs or symptoms thereof.

Cases (a) and (b) are usually detected on admission, and are dealt with as above. Case (c) presents much greater difficulty, and is the source of most of the cross infection which occurs. A history of recent exposure to a second disease is an occasional help. The control of spread of

infection from this source depends to a great extent upon our knowledge of the disease involved. Cross infection with diphtheria or scarlet fever is now completely under control, and this is all the more fortunate since these two diseases are endemic in the city and formerly furnished the greatest number of cases of cross infection. By means of skin tests (the Schick test for diphtheria and the Dick test for scarlet fever), the susceptibility of each patient admitted is determined. Should a ward become exposed to infection, susceptibles are immediately protected by means of passive immunization. Since the institution of this method no second case of cross infection from either of these diseases has occurred.

When such diseases as measles, whooping cough, and chicken-pox are epidemic, however, it is extremely difficult to prevent outbreaks occurring in the wards, since these diseases spread very rapidly. All that can be done is to remove the first case to a side ward as soon as it is recognised, and to put the ward in quarantine until it is free from infection, or until all its patients have been discharged. It is hoped that the time is near when our increased knowledge of these diseases will allow of their being dealt with as effectively as diphtheria and scarlet fever.

(3) Carriers.

A carrier may be defined as an individual who harbours virulent pathogenic micro-organisms in his body without manifesting any of the usual evidence of infection; he is capable of transmitting the organisms to other individuals who may develop the disease caused by them. A carrier may be admitted to hospital suffering from some other disease and will form a dangerous source of infection, being unknown and unsuspected. The carrier may not be discovered even after a case infected by him has occurred. The nose and throat of every patient admitted is swabbed and cultures examined for the presence of diphtheria bacilli. Occasionally a diphtheria carrier is found in this way, but they may quite easily escape detection since the organism is often lodged in tonsillar crypts. No routine examination for carriers of other diseases is practicable.

(4) Members of Hospital Staff.

New members of the medical and nursing staff are tested for susceptibility to diphtheria and scarlet fever as soon after arrival as possible, and actively immunized if necessary. They are taught to report immediately any symptoms of illness so that an early diagnosis of infectious disease can be made if it exists. Cases of cross infection traced to members of the staff are very rare.

The methods employed in preventing the occurrence of cross infection may be summarised as follows :—

(1) Early examination and careful enquiry into clinical history of each patient admitted.

(2) Isolation of different diseases, and isolation in side wards of cases suspected of double infection.

(3) Examination for susceptibles to diphtheria and scarlet fever by the Schick and Dick tests.

(4) Routine examination for diphtheria carriers.

(5) Care of the health of the nursing staff.

On the occurrence of a case of cross infection in a ward the following measures are adopted :—

(1) Removal of the patient affected to a side ward.

(2) Investigation for the source of infection, and removal if found.

(3) Passive immunization of remaining susceptible patients in cases of cross infection with diphtheria or scarlet fever.

(4) Quarantine of the ward affected.

Each case of cross infection is carefully investigated by the Senior Medical Officer and a report made to the Medical Officer of Health.

During 1928 seven cases of cross infection occurred in the hospital, giving an incidence of .59 per cent. of the total

admissions. This must be considered as being extremely satisfactory, especially when it is realised that in patients admitted to hospital the general resistance is low and they will readily succumb if exposed to infection.

The following is an analysis of the cases which occurred in 1928:—

Primary Disease.	*Cross Infection.*	*No. of Cases.*
Broncho-pneumonia.	Diphtheria	1
Broncho-pneumonia.	Chickenpox	1
Diphtheria.	Rubella	2
Diphtheria.	Scarlet Fever	2
Whooping Cough.	Measles	1

Return Cases.

A return case is an individual admitted to hospital, known to have been in contact with a recent discharge convalescent from the same disease, and who may reasonably be supposed to have been so infected.

Every effort is made to ensure that patients discharged from hospital are free from infection, but there are few diseases in which this can be done with any degree of certainty. Smallpox and chicken-pox convalescents free from crusts are believed to be non-infective, but it is impossible to be quite sure of any other. The following are the methods employed to determine whether convalescents from the commoner infectious diseases are suitable for discharge. *Diphtheria.*—Cultural examinations of swabs from nose and throat are made for diphtheria bacilli, and when three consecutive negative results are obtained it is assumed that the patient is free from infection. From time to time convalescent carriers are detected in this way, but the method is unreliable. The organisms found are tested for virulence when discharge is unduly delayed. *Scarlet Fever.*—Convalescents are assumed to be free from infection when the condition of the fauces and naso-pharynx is normal and there is no nasal or aural discharge. When such discharge is present for any length of time it is examined bacteriologically for the presence of the specific micro-organism. *Enteric Fever and Dysentery.*—Three consecutive failures to demonstrate the presence of the specific mcro-organisms in the fæces by cultural methods are required in these diseases, the tests

being made at intervals of seven days. The urine is also examined. *Cerebro-Spinal Meningitis.*—When a case recovers the naso-pharynx is swabbed and cultures examined for the presence of the meningococcus.

Measles, whooping cough, mumps and rubella are isolated for that period of time at the end of which it is commonly supposed the patient is free from infection.

A more reliable procedure which can be adopted in a number of diseases is the active immunisation of susceptible individuals who will be in immediate contact with the convalescent on discharge. The immunisation is made while the patient is still isolated and although immunity may not be developed to a very high degree by the time the convalescent is discharged, it is usually sufficient to prevent or modify an attack of the disease. This method is adopted in smallpox, diphtheria and scarlet fever, but it is not always possible to obtain the consent of parents or guardians to the procedure.

All patients are carefully examined by the responsible medical officer on the day of discharge and notes made of the condition found.

A return case is investigated by the Senior Medical Officer with a view to discovering the cause of the infection, and an early opportunity is taken of re-examining the patient discharged.

A report, which includes the notes made on discharge and the present condition of the patient, is made to the Medical Officer of Health.

There were seven return cases during 1928, five infected with diphtheria and two with scarlet fever, giving an incidence of .64 per cent. of the total number of patients discharged.

REPORT

OF

Mr Ferrier, Veterinary Inspector.

DAIRIES.

During the year 233 visits of inspection were made by me to dairies, and 3,911 cows and 64 other animals were examined.

Twenty-two cows were slaughtered under the Tuberculosis Order, 1925, all of which under post-mortem examination proved to be suffering from tuberculosis to some degree. Fourteen of the afore-mentioned animals were affected with tuberculosis of the udder.

Eighteen of the above 22 were subjected to the Tuberculin Test and reacted. Four were slaughtered after clinical examination without testing with tuberculin, and all were found on post-mortem examination to have been suffering from tuberculosis.

Other 5 cows suspected of having tuberculosis of the udder were subjected to the Tuberculin Test, but failed to react, thus showing that they were free from tuberculosis, and their milk appeared to be normal.

Thirty-one visits were made to 22 cows which were tested with tuberculin for the purpose of supplying milk from cows certified by me to be free from tuberculosis; 15 passed the test and 7 failed.

Meat Inspection at Slaughterhouses and Dead Meat Market.

During the year 54,851 carcases were inspected.

The number of cases of tuberculosis detected during the year was 1,860, an increase of 308 cases as compared with 1927. Of the aforesaid number 571 were cows, an increase of 142 cows as compared with 1927.

The total amount of meat seized under this head during the year was 123,641 pounds, a decrease of 18,639 pounds as compared with 1927.

The number of carcases wholly or partially condemned for tuberculosis during each year for the last five years were as follows :—

Year	Bulls	Bullocks	Heifers	Cows	Calves	Sheep	Pigs	Total
1924	36	211	14	319	1	...	81	662
1925	87	602	14	550	2	...	88	1,343
1926	94	812	19	520	...	...	72	1,517
1927	113	908	16	429	...	...	86	1,552
1928	170	943	16	571	2	...	158	1,860

Other Diseases.

The detections under this head during the year amounted to 1,392, an increase of 27 as compared with 1927. The total amount of meat seized was 54,752 pounds, a decrease of 628 pounds as compared with 1927.

Animals Slaughtered at Public Slaughter-Houses.

The number of detections of disease during the process of slaughter for the year was 4,006, an increase of 109 cases as compared with 1927.

Carcases Dressed and Undressed Brought to the Slaughterhouses.

The number of detections of disease in consigned carcases during the year was 374, an increase of 20 cases as compared with 1927.

Numerous carcases are still consigned to the Dead Meat Market here from different towns and districts outwith the City, which are evidently animals slaughtered in emergency. Some of them bear traces of slight examination, yet they are often accompanied by a certificate from the District Meat Inspector certifying them to be fit for food. In many cases there is little or no attempt to carry out the provision of the Regulations of Meat Inspection to the extent necessary to arrive at a final decision, and some carcases come here with no offal or internal organs, which makes it more difficult to come to a decision. In many of these cases a great deal of time is taken up daily in completing the examination of carcases which ought to be done by the inspectors of the district from which they come before they are released, thus making it very apparent that we are still a very long way from having a uniform system of meat inspection.

Cattle, Sheep, and Pig Organs.

During the year 12,575 cattle, sheep, and pig organs were seized and condemned as compared with 12,533 during 1927, an increase of 42 organs for the year.

The following is a synopsis of the organs seized and condemned during the year:—

CATTLE ORGANS		SHEEP ORGANS		PIGS' ORGANS	
Cows' Udders ...	676	Livers	162	Udders	46
Livers	1,565	Plucks	365	Plucks	206
Lungs	1,814	Kidneys ...	553	Kidneys	119
Hearts	783	Lungs	792	Livers	159
Kidneys ...	1,933			Lungs	140
Heads	681	Total ...	1,872		
Tongues ...	724			Total ...	670
Skirts	1,857				
Total ...	10,033				

Tinned and Frozen Meat.

During the year 149 pounds of frozen meat, 25 pounds of frozen ox livers, and 54 pounds of tinned meat were seized for decomposition.

Cattle Market.

The Cattle Market was visited by me every market day (Tuesday), and all the cattle, sheep, and pigs exposed for sale inspected for the purpose of preventing animals showing symptoms of disease, and which are ultimately intended for human food, being sold. The Superintendent of the Market and I seize all suspicious animals exposed for sale in the fat stock market, under powers conferred by Section 43 of the Public Health (Scotland) Act, 1897, which renders the owners of the animals so seized liable to prosecution. The owners of such animals are given the option of sending them to the slaughter-house to be killed. There the carcases undergo a minute inspection, and are dealt with on their merits. In the event of the owner of such failing to comply with our request, the animal can be seized and the owner prosecuted under the Act above mentioned.

Anthrax.

There were no cases of anthrax during the year.

Swine Fever.

During the year seven visits were made to premises where an outbreak of swine fever occurred. There were 45 pigs on the premises; 5 died on the premises and their carcases were buried; 22 were sent to the slaughter-houses and killed, and on examination one of them was found to be infected and its carcase was destroyed. The remaining 18 were treated with a swine fever vaccine and the premises thoroughly disinfected. There were no more cases.

One visit was made to 5 pigs suspected by the owner of having swine fever, but on examination it was found that the feeding was at fault.

Three visits were made examining the carcases of 5 dead pigs, but there were no symptoms of infectious disease.

Parasitic Mange.

There were no cases of parasitic mange during the year.

One visit was made to a horse suspected to be infected with parasitic mange, but on examination it was found to be infected with lice, and was treated by the owner accordingly.

Foot and Mouth Disease.

There has been no outbreak of this disease in the City during the year.

Six visits were made to 120 cows which had been in contact with infection, and Form "D" was served on each owner, copies of which were forwarded to the Local Authority and Police.

One Restriction Order (Foot and Mouth) was served on the owner of cattle suspected of having been in contact with infection and copy sent to Local Authority and Police.

Importation of Animals Act, 1922.

Under this Order, 2,686 Irish and Canadian cattle were admitted into the City accompanied by licence, necessitating 319 visits of inspection; a decrease of 63 imported cattle as compared with 1927.

Transit of Animals Order of 1927.

Under this Order, all trucks, railway and motor vehicles used for the conveyance of live stock must be washed, scrubbed, thoroughly cleansed, and thereafter disinfected before they can be again used for this purpose or for the purpose of carrying food, litter, or any other thing intended to be used by or coming in contact with animals.

During the year, 723 motor and 6 horse floats bringing in cattle, sheep, and pigs to the market were washed, scrubbed, and disinfected at the slaughter-houses.

From periodical visits made by me to the various railway stations it was observed that the railway authorities are adhering to this Order.

For failing to comply with the above Order, a pig dealer was prosecuted and fined 10s.

Veterinary Attendance of Horses Belonging to the Corporation.

Two horses were examined for soundness before being purchased by the Horse and Provender Committee for the Cleansing Department.

The attendance during illness of horses belonging to the various Departments necessitated 83 visits during the year.

The quality of grain and fodder has been better this year, and the condition of the horses has accordingly improved since last year.

Other Work.

One visit was made to pony which was being worked with a wound under saddle.

One visit was made at the request of the Police to cow which was found in a dying condition, and was ordered to be taken to the slaughter-house and killed. The owner was prosecuted and fined.

Four visits were made at the request of the Police to 9 horses with a view to prosecutions.

One visit was made to 2 cows reported to be giving discoloured milk, and on examination this was found to be caused by a chill.

One visit was made to the dipping of 39 sheep.

HUGH FERRIER, M.R.C.V.S.,

Veterinary Inspector.

REPORT

OF

Mr Mitchell, Chief Sanitary Inspector.

SANITARY DEPARTMENT,
WEST BELL STREET,
DUNDEE, *20th May*, 1929.

To the Department of Health for Scotland; and
the Lord Provost, Magistrates, and Councillors—
the Local Authority of the City of Dundee.

GENTLEMEN,

I have the honour to submit my Annual Report showing the work of the Sanitary Department during the year 1928. The Report has been prepared in accordance with the circular of the Department of Health for Scotland dated 19th December last.

Introductory.

The sanitary (or insanitary) status of a large industrial City such as Dundee cannot be ascertained or estimated by a cursory or superficial glance. Neither can it be discovered from the environs; rather must we travel in where centres the main labours of the sanitarian. The outskirts of the City, with few exceptions as a rule, call for little of the attention of the Sanitary Inspector and his Staff. There the houses are mostly of the self-contained or semi-detached type, having to each ample ground space with unpolluted air. The majority of these dwellings are owner-occupied, with the result, so far as drainage, construction, and environment are concerned, they are kept in such a state as seldom to require official supervision. The Health Officials' time is not to any perceptible extent utilised there. Let us converge from all points and we gradually find ourselves in a vastly different atmosphere and living conditions, where buildings are huddled together, back to back, obstructive, every inch of space utilised—where even the air is denied freedom of circulation, and as it slowly moves becomes impregnated with noxious fumes from soil or faecal deposits.

Doubtless our forefathers in their building operations never looked forward to such a scheme as Town Planning where *open spaces* are the keynote of to-day—the paramount asset of the sanitarian. We have been bequeathed a legacy

which may aptly be termed the burden of those upon whom rests the improvement of housing conditions appertaining to the twentieth century. We accept of what has been handed down to us and do our best to alleviate the conditions presently existing—endeavour to pass on to a future generation a City (so far as new buildings, streets, open spaces, &c., are concerned) we need not be ashamed of. Yet the labours of our predecessors in the building and lay out of the Town cannot be looked upon as having been entirely in vain. If nothing else, it gives the present pioneers vast knowledge, so that pitfalls of the past may not be perpetuated in the activities of the morrow—in other words, it provides a guide (evolved from the hard taskmaster—experience) to the duty which lies in front.

But there are different views to the housing problems with us, and these without much doubt apply to every town where the subject is being tackled.

On the one hand we have the occupier of houses in slum and dilapidated properties putting forth the demand for better living conditions compatible with his or her financial resources, and on the other, the property owner. Many of the old properties may be looked upon as financial ruins (remnants of a once decent income) the whole asset, the meagre pittance upon which the owner has a very frail existence—to close and demolish may mean poverty or charity.

Or it may be that a property just at the last verge of being repairable and brought up to comply with the requirements of the Local Authority of one water closet and a separate supply of water for domestic purposes, sink, &c., in each house means, through added cost to the owner, a " white elephant " for years, mayhap bonded up to the hilt, producing little or no income.

Thus, finance—or rather the want of it—stares the reformer in the face—even in public health it strikes hard.

It can be said that the Official, and the Local Authority force behind him, have nothing whatever to do with these financial perplexities, but we cannot overlook the fact—they are strong factors in retarding improvements.

Doubtless, the citizen who irresponsibly calls for more houses or the reconstruction of premises presently used for human habitation neither knows of nor cares about such hardships. It is an element which cannot be lost sight of —in any case it is one which the Official will never be allowed to ignore.

Nevertheless we have to always keep before us the main issue—the general health, comfort, and welfare of a community.

Yet, however largely Housing may loom on the map of operations at the present moment, it is only one of the many duties placed upon this Department—in this connection I should imagine the Dundee Sanitary Inspector holds more varied appointments than any official in a similar position, in Scotland at least.

Amongst the other most important responsibilities are :—

The carrying through the stipulations of the many Food Acts and Orders, as well as the various Acts relative to Food Adulteration. The supervision of all shops where food is sold for human consumption.

The Acts regarding Dairies and Milk Supply.

The inspection of Workshops, Bakehouses, &c.

The Shops Acts, and the various Closing Orders made thereunder.

The prevention of the pollution of the atmosphere from the excessive emission of black smoke from chimneys of factories, &c.

Port Sanitary Inspector.—Inspection of ships and food arriving at the Port.

All the provisions of the Public Health (Scotland) Acts.

The Rats and Mice (Destruction) Act.

The Rent and Mortgage Interest (Restrictions) Acts, &c.,

&c.; and many other duties, particulars of which will be found in detail throughout this Report.

Death-Rate: Density of Population and Acreage.

The death-rate per 1,000, as calculated and corrected by the Medical Officer of Health, for 1928, was 15.1, as against 16.9 in 1927 and 14.8 in 1926.

The population, as estimated to the middle of 1928 by the Registrar-General, is 172,214.

The acreage of the City, excluding foreshore, is 6,548. This works out at 26.30 persons to an acre.

Staff.

The number and composition of the Staff are as follows:—

1	Chief Sanitary Inspector.
1	Superintendent.
1	Plumber Inspector.
1	Housing Inspector.
2	Food Inspectors and Sampling Officers.
4	District Inspectors.
1	Epidemic Inspector.
1	Port Sanitary Officer.
6	District Officers.
1	Epidemic Officer.
2	Junior District Officers.
2	Clerks.
Total 23	

Rainfall.

The total rainfall in Dundee, as noted at the Eastern Necropolis and reported by the Superintendent of Cemeteries, was 35.53 inches, as against 34.83 inches last year. The figures for each month are as follows:—

	1928.
January	4.43 inches.
February	1.83 inches.
March	4.67 inches.
April	1.01 inches.
May	1.36 inches.
June	4.08 inches.
July	1.09 inches.
August	5.18 inches.

September	...	...	...	...	2.52 inches.
October	...	...	...	...	3.80 inches.
November	...	...	...	...	3.26 inches.
December	...	...	...	...	2.30 inches.
			Total	...	35.53 inches.

This shows an average fall of 2.96 inches per month, as against 2.90 inches of the former year, and 3.20 inches in 1926.

Public Sewerage of the City.

Dundee is very happily situated for disposal of its sewage. It has direct discharge into the River Tay, thus obviating the vast expenditure which many inland towns have to bear when confronted with the problem of sewage disposal.

The work of constructing and maintaining sewers in the City is carried out by the Works Department under the City Engineer. During the past year approximately 1½ miles of new sewers were laid down, making the total length of sewers in the city 139.038 miles. In maintenance and repair the sum of £2,831 was spent.

Water Supply.

The Dundee Water Commissioners are responsible for the Water Supply of the inhabitants of the City.

The analyses undertaken at various times prove the water, so far as purity and wholesomeness are concerned, to be above suspicion and free from contamination, whilst its practically unlimited supply places the City head and shoulders above many other large cities and burghs.

The works are under the charge of Mr. Geo. Baxter, jun., who provides the undernoted particulars:—

"Practically the whole supply is drawn from Lintrathen Loch unless when one or other of the Lintrathen Trunk Mains is under repair, in which case the Monikie Reservoirs are drawn upon to augment the reduced quantity from Lintrathen.

The average quantities of water drawn daily from the various Reservoirs during the past year were as follows :—

Lintrathen	9,274,000	gallons.
Monikie	937,000	,,
Crombie (for the supply of Carnoustie)	379,000	,,
Total ...	10,590,000	,,

This Total is lower by 48,000 gallons than the figures for the previous year.

The above total represents a daily consumpt per head of 50.5 gallons for the population of the Water Area—approximately 210,000. Of this rate per head 13.9 gallons represents the Meter supply for trade and general Public Health purposes, including street and sewer flushing, leaving a balance of approximately 36.6 gallons per head for general domestic purposes. Although 36.6 gallons per head is the average consumpt in the City and District, the consumpt per head varies between exceedingly wide limits, and is least in those districts of the City where housing and congestion are worst, where it dwindles down to less than 10 gallons per head per day."

Water Supplies from Private Wells.

One sample of water used for domestic or culinary purposes in connection with cottar houses situated in the north-east district of the City was taken.

The water was taken from a well stated to be 15 ft. to 20 ft. deep, drystone sides, concrete top 1 yard square, cracked in places, drawn from iron pump.

The Public Analyst reports upon it as follows :—

" This water is nearly free from colour (yellow .4, blue .2, Lovibond's standard scale), and is practically free from suspended solids. The water presents a clear and clean appear ance. The yield of Free Ammonia is low, that for Albuminoid being moderate in proportion. Saline material is very high, rendering the water hard and unsuitable for washing purposes. Nitrates are present in noticeable proportion ; the amount having the Ammonia figures in view is not sufficient

to raise suspicion of ' Previous Sewage Contamination.' On incubation of the water at blood heat there was only a slight musty odour. A Sedgwick Rafter Plankton did not reveal anything of note. In my opinion, this water in its present condition is fit for drinking and general domestic purposes."

Sinks and Water Supplies.

At 20 Properties from which complaints were received regarding insufficient supply of water for culinary and domestic purposes larger main service water pipes have been introduced.

There is still a number of the older tenements with inadequate water supplies, due generally to the small diameter of the service pipes. At one time a half-inch diameter service pipe was the largest allowed. Eighty-six sinks have been installed in the same number of houses, with all necessary fittings, at 33 different properties where previously water for culinary and domestic purposes was obtained from outside taps situated in courts, plats, or staircases.

Previously waste water from such houses had to be carried outside, in some cases for a fairly long distance. This, of course, did not tend to cleanliness.

Occasionally, where water taps and sinks are required to be introduced into attic houses proprietors seem to be inclined to voluntarily close rather than lay out this extra expense. They contend there is little or no hope of securing a return for the £15 or so—the average cost per house.

Scavenging and General Nuisances.

The Scavenging of the City is under a Superintendent who is responsible to the Town Council for the work. Since taking up office this new official has brought in several innovations which are producing satisfactory results, and the Scavenging in general provides no necessity for adverse criticism.

About the middle of the year the Superintendent acquired the old quarry at the back of the Law Hill; it appeared to him to have potential possibilities as a dump for refuse, rubbish, &c.

No sooner was the idea mooted than complaints came along from those persons who ever anticipate the creation of a danger, in this case mainly to the chances of the water in the service reservoir situated nearby being contaminated. This dump and its danger opportunities have been kept under strict systematic and careful surveillance since the scheme was inaugurated.

Latterly, in company with the Medical Officer of Health, the Water Engineer, and the Superintendent of Cleansing, we went over it thoroughly, and the following report was submitted, signed by the Medical Officer of Health and myself:—

"In our opinion, the conditions under which the old quarry is being used as a dump are very satisfactory, and all possible precautions are being taken to prevent nuisance We gave careful consideration to the question of contamination of the water in the Lawton Reservoir, which is in proximity to the dump. Pollution of the water in this reservoir by percolation from the dump need not be considered, as the reservoir is constructed in such a fashion as to make pollution by percolation impossible. It is conceivable that dust from the dump might reach the water through the ventilators, but as great care is taken to avoid the dissemination of dust this need not be considered as a factor of importance.

"We are of opinion that the dump is a well-managed dump, and that there is no danger to the public health arising therefrom."

Further, the Superintendent assures us that no putrescible matter is put there, neither is anything burnt. As the refuse, &c., is deposited it is quickly covered up with soil from the field, and the tip is then covered up with clean boiler ashes or material of a similar nature.

A complaint was made regarding the tipping of refuse on ground adjoining Old Craigie Road. As this tip ground is within 50 yards of the public road it constitutes a statutory nuisance within the meaning of Section 16 of the Public Health (Scotland) Act, 1897.

This tip was visited by the Medical Officer and myself, and (with the exception of the 50 yards limit) we could find little to seriously complain of. The object is to form a recreation ground, and the Superintendent assured us the same method of dealing with the refuse, covering up, &c., as is in operation at the Law Quarry is being adopted. With the exception mentioned, we did not think there was ground for official interference.

No other nuisance of an outstanding nature has been discovered by the Inspectors, and no complaints unless of a petty nature have reached the Department—the nuisances are usually of a mixed variety, choked drains, water closets, filthy courts or stairs, accumulations of filth and rubbish, &c., predominating. As a rule they are quickly remedied or abated —especially when we get first information and early on the scene. This speedy nuisance removal is a greater asset to the health than is readily understood, because these nuisances, if allowed to remain for any length of time, would assume serious menaces and soon become far-reaching in their depredations.

A paltry and recurring nuisance (ever with us) is caused through what may be classed as "stairhead quarrels" amongst the tenants of stairs and passages used in common. One tenant from some cause unknown may miss the regular week of washing and sweeping—then the other occupiers get up in rebellion until we get the tenants again on to the even tenor of their way. All may go well for a time till some "backslider" comes along and puts a "cat among the pigeons" again. In contraventions such as these we find the quiet way is more conducive to tenement harmony than a Court prosecution; the latter leaves a feeling of "unrest" in the land.

For the discovery and removal of nuisances in general of this nature a perpetual day-by-day property-to-property visitation has to be maintained all over the City, 80,141 inspections having been made during the year—13,701 nuisances being discovered.

Whitewashing and Painting of Common Stairs and Passages.

Under Clause 354 of the General Police and Improvement

Act of 1862, which forms part of our Local Act of 1882, there were 1,006 intimations issued to owners or factors of properties all over the City requiring them within seven days to whitewash or oil paint the common staircases or passages leading to tenemental buildings used in common. The terms of these intimations were in a large number of instances promptly carried out. At a few properties the work was delayed, the general reason being alterations or repairs on the property or introduction of new lighting appliances, whilst some of the tradesmen specially arranged to hold up the work so that employment could be found for their employees during the mid winter.

4,681 whitewash brushes were given out on loan to the occupiers of dwelling-houses who were unable to buy such for the cleaning of some 9,124 rooms. Whiting and ochre were also given out to deserving cases recommended by the Inspectors.

Stables and Piggeries.

STABLES (numbering 407) received 647 visits. They have been kept in quite a satisfactory manner—limewashing being carried out when desired. Sawdust is now largely used in the smaller stables as bedding for the horses, straw used for packing purposes from abroad having now to be burned in accordance with the instructions of the Board of Agriculture. The most of the manure is regularly removed by arrangement with the Cleansing Department.

PIGGERIES.—There are 94 of these wherein are kept on an average round about 800 pigs. Their condition has given little cause for objection, and they may be looked upon as being in as satisfactory a state as can be expected. Inspections under this head numbered 509.

For over half a century there was a notable range of stys situated at the Law Hill—pigs kept there by various feeders. The business having been discontinued, opportunity was taken to have the stys and erections demolished, and the ground is now being used for allotment garden purposes.

Back Courts, Areas, Footways, &c.

In keeping these in a proper state of repair at private pro-

perties all over the City 12,837 square feet of pavement flags, concrete, or other impervious material were laid down, or lifted and properly relaid, with efficient drainage provided to carry off surface or storm water.

Schools.

The Schools call for little comment by me so far as their structural condition is concerned or in regard to their cleanliness. The officials of the Education Authority see that the buildings and sanitary appliances are kept in good working order.

Complaints.

Complaints received at the Office, either personally, by telephone, or by letter, numbered 3,418 as against 3,642 last year. These were all carefully enquired into, and further action was taken in regard to 3,220, whilst in 198 of the complaints it was found on investigation these were based on some trivial matters without foundation or the outcome of a neighbours' quarrel and no action required.

The Departments of the Chief Constable and the Superintendent of Cleansing co-operate in the matter of reporting to this Department all nuisances or irregularities found in the course of their officials' duties, which greatly assists in nuisance removal.

Statutory Intimations or Notices.

Under the Public Health (Scotland) Act of 1897; Local Acts; the Burgh Police (Scotland) Acts, and the Factory and Workshops Acts, &c., there were 9,121 notices or intimations, written or verbal, served upon the proprietors or agents of property or authors of nuisances, and under Section 20 of the first-named Act 14 notices were issued at the instigation of the Local Authority, after particulars had been laid before the Public Health Committee. These have received or are now in the course of receiving attention.

Infectious Diseases and Disinfection.

Visits of inquiry numbered 6,915, whilst 1,228 patients were removed to King's Cross Hospital. Under Sections 50 and 53 of the Public Health (Scotland) Act, 4,090 notices

were served upon householders directing their attention to the terms of these sections relative to the prevention of the spread of infectious disease. 1,095 intimations were sent to the Education Authorities, school teachers, &c., controlling the attendance of school children. Houses or premises disinfected numbered 565, whilst 1,276 sets of clothing, bedding, &c., were disinfected, or, where special authority was given by the owner, destroyed.

959 bales of jute, &c., for export to the Argentine, &c., were disinfected, and certificates to allow of exportation granted therefor.

Fuller details and statistics under this head are given in the Report of the Medical Officer of Health.

Plans Submitted to the Works Committee.

Plans of sanitary improvements on properties (for which this Department is primarily responsible) before being submitted to this Committee are examined by me.

Should occasion arise objections are lodged to the plans being passed as submitted.

Drainage and Structural Work.

The material used in additions and improvements to 190 properties throughout the City during the year consisted of :

280 Water Closets.
86 Sinks.
7 Baths.
12 Lavatory Basins.
58 Wash Tubs.
110 Lead Traps.
20 Cast Iron Traps.
9 Roof Ventilators.
1 Cellar Drainer.
3,326 feet Soil Pipe.
1,600 feet Flushing Pipe.
2,378 feet Waste Pipe.
7,859 feet Water Pipe.
5,041 feet Vent Pipe.
605 feet Cast Iron Drain Piping.

1,135 yards Fireclay Drain Piping.
91 Drain Traps.
42 Drain Inspection Chambers.
251 W.C. Apartments.
7 New Washing Houses.
3 Rooflights.

1,718 visits were made by the Plumber Inspector whilst the work was in progress.

Private Washing Houses.

7 new washing houses have been erected, provided with glazed fireclay tubs, gas boilers, wringer plates, etc., and 1 washing house has been reconstructed.

The provision of washing house accommodation is urgently required at a large number of properties. Where there is no such convenience washing of clothing has to be carried out in the home or at a public washing house. The latter may be a considerable distance away, and the weekly expense in some cases prohibitive.

Staircase Ventilation.

In the ventilation of internal staircases 9 roof ventilators have been used. The ventilation of these is constantly advocated.

Where there is no such ventilation tenants on the top floors are liable to all the noxious odours which may emanate from houses on the lower floors; more especially is this the case where water closet apartments ventilate into the staircase, which occurs in a fair number of the older tenements. With an upcast tube carried from the ceiling, through the roof, the staircase acts as a splendid ventilating shaft, and there is not the same tendency for condensation to occur on the walls as there is where ventilation is deficient.

Water Closets.

280 water closets, new or renewed, have been installed during the year in 112 different properties.

162 of these are new additional conveniences provided in outside positions, such as plats, staircases, courts, passages, etc., 10 are water closets renewed in similar positions, 82 are new additional water closets introduced into houses, and 8 renewed. 8 have been installed in workshops and 7 in sale-shops, 1 in an office and 2 in a welfare hut.

The survey of the various wards of the City, now in course of being carried out, reveals a fair number of properties still requiring additional water closet accommodation. These are gradually being tackled. Where tenants are a distance from such a convenience, a water closet installed in the house, if at all practicable, is recommended. It happens, however, at times that although the proprietors agree to this being done the tenants object and petition against it—some being still of the opinion that such an appliance in the house is insanitary and dangerous to health. Others object to the loss of space and increase of rent such a convenience would entail.

After being introduced these conveniences are greatly appreciated, especially by parents with young families.

Water Closets, Earth Closets, Privies and Privy Middens.

The instructions contained in the circular, dated 1st September, 1925, issued by the Scottish Board of Health regarding particulars as to (1) the number of common water closets in use within the Burgh, showing separately the number serving 2, 3, 4, and 5 or more tenants respectively; and the number of (*a*) dry closets; (*b*) privy middens, and (*c*) ashpits, showing for each separately the number serving 2, 3, 4, and 5 or more tenants respectively, are being gradually given effect to.

The work of surveying Wards 3, 4, and 9 was completed during the year and the particulars submitted to the Local Authority. The following are the details:—

WARD III.

(1) Number of common water closets in use, serving—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
442	210	277	136

(2) Number of houses without water supply and sink inside the house 248

(3) Number of (*a*) Dry Closets serving :—

1 Tenant.	2 Tenants (1 house & 1 Other Premises).	3 Tenants.	Premises other than Houses.	
5	1	1	1	8

(*b*) Privy Middens ... ... Nil

(*c*) Ashpits, serving :—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
10	9	4	128

In connection with the new survey of this Ward, I beg to submit further details which may be of interest.

The area is approximately 776.5 acres.

The resident population is 17,702, or equal to 22.79 persons per acre.

The total number of houses, including 26 shop houses, is 4,779, as follows :—

Number of houses of	1 room ..	734	and 13 shop houses
Do.	2 rooms ...	2,394	and 7 shop houses
Do.	3 rooms ...	1,165	and 2 shop houses
Do.	4 rooms ...	225	and 4 shop houses
Do.	5 rooms ...	86	
Do.	6 rooms ...	85	
Do.	7 rooms ...	20	
Do.	8 rooms ...	22	
Do.	9 rooms ...	5	
Do.	10 rooms ...	6	
Do.	11 rooms ...	5	
Do.	15 rooms ...	1	
Do.	20 rooms ...	2	
Do.	21 rooms ...	1	
Do.	22 rooms ...	1	
Do.	26 rooms ...	1	
		4,753	and 26 shop houses

Number of houses per acre, not including shops or non-residential premises	6.15
Number of Shops	292
Number of other premises (including workshops, offices, &c.)	234

WATER-CLOSETS.

Number of water closets for houses	2,625
Number of water closets for shops, &c.	140
Total number of water closets ...	2,765

Allocation of water closets to dwelling-houses :—

	No. of Households.		
One household to one water closet ...	1,560	or	33%
Two households to Do. ...	858	or	18%
Three households to Do. ...	610	or	13%
Four households to Do. ...	1,054	or	22%
Five or more Do. Do. ...	688	or	14%
Totals	4,770		100%

WATER SUPPLY.

4,531 houses, or 95%, have water laid on within the house, leaving 248 dwellings, or 5%, to derive their supply from taps on stairs, landings, back courts, or from outside wells.

REFUSE DISPOSAL.

(1) Ashpits.

1,875 of the houses, or 39%, are served by ashpits (184 in number).

33 houses have the sole use of one ashpit each.

In 151 instances, two or more tenants have the use in common of one ashpit, and this may be sub-divided to show :—

23	Ashpits each used in common by		2 to 4	households.
66	Do.	Do.	5 to 10	Do.
41	Do.	Do.	11 to 20	Do.
11	Do.	Do.	21 to 30	Do.
6	Do.	Do.	31 to 40	Do.
2	Do.	Do.	41 to 50	Do.
1	Do.	Do.	56	Do.
1	Do.	Do.	64	Do.

(2) Ashbins.

2,902 houses, or 61%, are served by 1,019 ashbins.
351 houses have the sole use of one bin each.
309 ashbins serve 2 households each.
66 ashbins serve 3 households each.
70 ashbins serve 4 households each.
223 ashbins serve 5 or more households each.

(3) Daily Collections.

2 houses are served by a daily collection.

WARD IV.

(1) Number of common water closets in use, serving :—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
241	248	235	106

(2) Number of houses without sink and water supply inside the house 184

(3) Number of (*a*) Dry Closets serving :—

1 Tenant 1

(*b*) Privy Middens serving :—

1 Tenant 2

(*c*) Ashpits, serving :—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
3	2	3	268

In connection with the new survey of this Ward, I beg to submit further details which may be of interest.

The area is approximately 455.1 acres.

The resident population is 17,795, or equal to 39.10 persons per acre.

The total number of houses, including 17 shop houses, &c., is 4,962, as follows :—

Number of houses of	1 room ...	607 and 7 shop houses
Do.	2 rooms ...	2,571 and 6 shop houses and 1 house laundry
Do.	3 rooms ...	1,158 and 3 shop houses

Do.	4 rooms ...	328
Do.	5 rooms ...	125
Do.	6 rooms ...	56
Do.	7 rooms ...	43
Do.	8 rooms ...	35
Do.	9 rooms ...	8
Do.	10 rooms ...	7
Do.	11 rooms ...	4
Do.	12 rooms ...	2
Do.	13 rooms ...	1

4,945 and 16 shop houses and 1 house laundry

Number of houses per acre, not including shops or non-residential premises 10.90

Number of shops 329

Number of other premises (including workshops, offices, &c.) 194

WATER CLOSETS.

Number of water closets for houses 3,056

Number of water closets for shops, &c. 124

Total number of water closets ... 3,180

Allocation of water closets to dwelling houses:—

	No. of Households.		
One household to one water closet ...	2,226	or	45%
Two households to Do. ...	474	or	9%
Three households to Do. ...	740	or	15%
Four households to Do. ...	923	or	19%
Five or more Do. Do. ...	596	or	12%
Totals	4,959		100%

WATER SUPPLY.

4,778 houses, or 96%, have water laid on within the house, leaving 184 dwellings, or 4%, to derive their supply from taps on stairs, landings, or back courts.

REFUSE DISPOSAL.

(1) Ashpits.

3,861 of the houses, or 78%, are served by 281 ashpits.
5 houses have the sole use of one ashpit each.

In 276 instances, two or more tenants have the use in common of one ashpit, and this may be subdivided to show :—

8	Ashpits	each used in common by	2 to 4	households.
142	Do.	Do.	5 to 10	Do.
73	Do.	Do.	11 to 20	Do.
33	Do.	Do.	21 to 30	Do.
12	Do.	Do.	31 to 40	Do.
5	Do.	Do.	41 to 50	Do.
1	Do.	Do.	54	Do.
1	Do.	Do.	61	Do.
1	Do.	Do.	62	Do.

(2) Ashbins.

990 houses, or 20%, are served by 340 ashbins.
207 houses have the sole use of one ashbin each.
15 ashbins serve 2 households each.
10 ashbins serve 3 households each.
22 ashbins serve 4 households each.
86 ashbins serve 5 or more households each.

(3) Daily Collections.

109 houses, or 2%, are served by a daily collection, bell cart, &c.

WARD IX.

(1) Number of common water closets in use, serving :—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
427	241	215	183

(2) Number of houses without water supply and sink inside the house 199

(3) Number of (*a*) Dry Closets serving 1 tenant ... 1*

(*b*) Privy Middens serving 1 tenant ... 1*

(*c*) Ashpits, serving :—

2 Tenants.	3 Tenants.	4 Tenants.	5 or more Tenants.
1	3	5	194

* These two houses are under Closing Orders.

In connection with the new survey of this Ward, I beg to submit further details which may be of interest.

The area is approximately 309 acres.

The resident population is 18,628, or equal to 60.28 persons per acre.

The total number of houses, including 12 shop houses, is 5,129, as follows:—

Number of houses of	1 room	840 and	2 shop houses
Do.	2 rooms	2,496 and	6 shop houses
Do.	3 rooms	796 and	4 shop houses
Do.	4 rooms	399	
Do.	5 rooms	142	
Do.	6 rooms	90	
Do.	7 rooms	127	
Do.	8 rooms	59	
Do.	9 rooms	54	
Do.	10 rooms	45	
Do.	11 rooms	27	
Do.	12 rooms	17	
Do.	13 rooms	7	
Do.	14 rooms	5	
Do.	15 rooms	3	
Do.	16 rooms	3	
Do.	17 rooms	2	
Do.	18 rooms	2	
Do.	23 rooms	1	
Do.	24 rooms	1	
Do.	48 rooms	1	
		5,117 and	12 shop houses

Number of houses per acre, not including shops or non-residential premises	16.6
Number of shops	325
Number of other premises (including workshops, offices, &c.)	177

WATER CLOSETS.

Number of water closets for houses	2,768
Number of water-closets for shops, &c.	155
Total number of water closets	2,923

Allocation of water closets to dwelling-houses :—

	No. of Households.		
One household to one water closet ...	1,702	or	33%
Two households to Do. ...	843	or	16%
Three households to Do. ...	703	or	14%
Four households to Do. ...	825	or	17%
Five or more Do. Do. ...	1,054	or	20%
Totals	5,127		100%

WATER SUPPLY.

4,930 houses, or 96%, have water laid on within the house, leaving 199 dwellings, or 4%, to derive their supply from taps on stairs, landings, back courts, or from outside wells.

REFUSE DISPOSAL.

(1) Ashpits.

2,989 of the houses, or 58%, are served by ashpits (215 in number).

12 houses have the sole use of one ashpit each.

In 203 instances, two or more tenants have the use in common of one ashpit, and this may be sub-divided to show :—

9	Ashpits each used in common by	2 to 4	households.
80	Do. Do.	5 to 10	Do.
77	Do. Do.	11 to 20	Do.
24	Do. Do.	21 to 30	Do.
8	Do. Do.	31 to 40	Do.
5	Do. Do.	41 and over	Do.

(2) Ashbins.

2,016 houses, or 39%, are served by 702 ashbins.

415 households have the sole use of one bin each.

14 ashbins serve 2 households each.

27 ashbins serve 3 households each.

82 ashbins serve 4 households each.

164 ashbins serve 5 or more households each.

(3) Privy Middens.

1 house is served by a Privy Midden.

(4) Daily Collection.

123 houses, or 3%, are served by daily collection, bell cart, &c.

This now gives six wards (Nos. 1, 3, 4, 6, 7, and 9) completed. These Wards were taken first, being looked upon as the worst, or most suitable for the purpose. The compilation of statistics for other Wards is now in course.

The carrying through of these surveys has naturally given a tremendous amount of additional work to the inspecting and clerical staffs. After all the particulars have been gathered by the Outside Staff they are then taken in hand and tabulated by the inside staff. The outside staff in property-to-property visitation have, during this year alone, put in 6,470 inspections. To thoroughly go over each building and obtain all the necessary information means a considerable time for each inspection.

List of Properties served by Privies, Earth Closets, &c., referred to above.

Situation.	Number of		To Serve.		
	Privies or Earth Closets.	Privy Middens	No. of Households.	Persons. M.	Persons. F.
Dighty Toll (East)	2	...	2	5	5
Dighty Toll House	1	...	1	3	5
Old Manse Mains	1	...	1	3	4
Castle Mains (North House)	1	...	1	...	3
Claverhouse Dairy	...	1	1	2	3
Claverhouse (Cottage)	1	...	1	1	2
Balgray Farm-House	1	...	1	...	1
The Manse (Lodge)	1	...	1	...	2
Kirkgate Mains	1	...	1	1	2
Trottick N.W. Cottages	2	...	6	10	11
,, N. ,,	2	...	6	9	11
,, N.E. ,,	2	...	5	12	14
,, N.E. ,,	1	...	1	2	3
,, S. ,,	2	...	6	10	11
Balmuir Cottage	1	...	1	3	3
Balmuir Smithy	1	...	1	2	...
Magdalene's Kirkton, Cotton	1	...	1	2	4
West March Farm	1	...	1	2	5
Balmuir, Cotton	1	...	1	2	3
Harestane Mill	1	...	2	2	4
Harestane Cottage	1	...	1	...	1
South Baldovan Farm	1	...	1	1	2
East Pitempton	1	...	1	2	2
Pitempton Railway Cottages	2	...	2	1	3
Pitempton Cottage	1	...	1	1	1
517 Strathmartine Road	1	...	1	1	5
Station Cottage, Cox Street	1	..	1	4	2
458 Strathmartine Road	1	...	1	1	2
West Kirkton Cottages, Kirkton Road	2	...	5	9	10

Situation.	Number of		To Serve.		
	Privies or Earth Closets.	Privy Middens.	No. of Households.	Persons. M.	Persons. F.
Backhill of Balgay	1	...	3	6	9
Balfield Farm House and Bothy	...	1	2	8	3
Balfield, Cotton	2	...	2	8	6
King's Cross Cottar Houses	2	...	2	4	5
Blackness Nursery (Cottages)	‡2	...	2	6	2
‡ Both houses under Closing Orders.					
125 Ferry Road	2	...	2	2	2
Bingham Terrace (Gallowhill)	1	...	1	3	3
208-210 Arbroath Road	...	2	2	5	6
399 Arbroath Road (Craigie North Lodge)	1	...	1	1	4
Gotterstone Cottar Houses (North)	...	5	5	15	12
do. do. do. (South)	2	...	2	6	7
do. do. do. (Kennedy)	1	...	1	2	2
51 Forthill Road (Pullar)	1	...	1	2	1
52 do. do. (McQuarrie's Houses)	3	...	3	6	5
Forthill Feus (Geekie)	1	...	1	1	1
Balgillo Road (Watt)	1	...	1	2	1
do. do. (Keillor)	1	...	1	3	3
do. do. (Grimmond)	1	...	1	2	1
East Balgillo Cottar House	1	...	1	3	1
do. do. do. do. (Grieve's House)	...	1	1	2	2
Barnhill Farm (Grieve's House)	1	...	1	1	2

Ashpits and Ashbins.

Considerable headway has been made in the demolition and removal of the old insanitary open ashpit and the provision of ash or dust bins instead.

During the year 335 ashpits which were insanitary, unsuitable, dilapidated, or not in keeping with modern requirements, were demolished. In their stead 586 new ash or dust bins were laid down. 875 new bins were provided in the upkeep or renewal of the bin accommodation already in existence, whilst 21 bins were laid down where no accommodation previously existed.

There is not the slightest doubt the bin system is an improvement upon the insanitary and filthy open ashpits—*if a regular and efficient method of emptying is kept in force.*

In many instances the bins get filled up to overflowing and the rubbish, etc., scattered about in courts, areas, footways, etc.—not by any means conducive to tidiness and cleanliness. In cases such as these sweeping up by the scavenger is an absolute necessity. The quickness with which the bins get dilapidated, broken and useless—requiring renewal, is a source of complaint by property owners and factors. The carelessness of the tenants is, in some cases, to blame. If we can discover the offenders they are severely warned. The washing and flushing out of ashpits also requires more stringent attention.

The district known as the " Terraces " has now a complete system of bins in operation.

One very acceptable aspect of the bin system is that domestic animals cannot rummage in the bins to any great extent—not at all if the lids are kept on—as they do in the open ashpit, mayhap thereafter being fondled by children in the homes, and disseminating disease.

Housing.

As a Designated Officer under the Housing Acts, I issued the Annual Report on Housing for the year 1928 under date 31st January, 1929. It was circulated amongst the members of the Town Council, Press, &c., and contained all the data available as at 31st December, 1928. Undernoted I give a few of the leading points and particulars therefrom.

GENERAL SURVEY OF THE HOUSING POSITION.

" In these Annual Reports there have been given from year to year (practically since the commencement of the agitation for more houses in 1919) full and detailed particulars of how the situation was being faced. The subject has been viewed and re-viewed from many aspects; the call for more houses and the various reasons therefor laid bare; statistics showing the position at the end of each year, since the Housing Scheme started, given, &c.—thus there is little if anything new now to add—the pathway under this head has been well traversed from end to end and the subject written of until it is threadbare. It is, therefore, not necessary here to take up space in telling what is, or ought to be, well known to all interested in the house shortage problem within the City.

Thus, to prevent the bringing in of a " tale that has been

SPECIMEN OF THE PHOTOGRAPHS USED IN THE HOUSING ANNUAL REPORT.

told," I am this year reproducing four photographs of the actual housing conditions under which sections of our community live and rear their young.

They will carry home to the sceptical or doubting more forcibly than any pen can record that the wail for better housing is an honest one, and show to the " man in the street " who has never peered behind the scenes, simply sees the buildings and their appearance from the streets, how certain sections of our citizens exist—the home and environment, certainly not over alluring.

The front buildings which the public see are, as it were, sometimes the " window dressing " of Housing. To the average man they may look fine, but away hidden in behind, never reached by sunlight or fresh air, minus even breathing space, are buildings used as homes which harrow those possessed of such inside information. It is there the student after knowledge of our housing conditions must search to find out the truth of how, will I say, our poor live. Not conducive to the raising of a " Grade A." population—tending rather to demoralisation and degeneration of health and physique—curbing ambition.

The story of Housing is one that is old, to-day made keener by the march of science, through years of education in hygiene; raising ambition to a higher standard of living conditions. In other words, what was acceptable and passable decades ago stand not for to-day.

These prints, from actual photographs taken under personal supervision along with a host of others of a like nature, depict congested areas and what is bad in housing conditions. This Department has done a considerable amount of spade work, mostly unseen, even to the selection of the chosen site on the sunny slopes of Easter Clepington, which culminated in the munificent gift to Dundee of

THE FLEMING TRUST HOUSES.

Here some 400 houses of a type to suit the working class purse are promised as a first instalment.

As time rolls on we hope to have more to write on the subject, but sufficient meantime to say how delighted we were to follow and work out on the clear-cut and business-like lines set by that local gentleman, Mr. George Bonar, to whom the public of Dundee owe much for this benefaction materialising.

Since the inauguration of the " New Houses Schemes " in 1919, we have a total of 3,990 houses provided, or an average contribution of 399 houses each year.

HOUSES PROVIDED.

The following tables and figures indicate the position as at

the end of the year.

Houses provided during 1928:—

	2 Rooms.	3 Rooms.	4 and over Rooms.	Total.
By the Corporation,	114	325	—	439
By Private Enterprise,	—	12	114	126
			Total,	565

The figures for the previous year were:—

	2 Rooms.	3 Rooms.	4 and over Rooms.	Total.
By the Corporation,	86	887	—	973
By Private Enterprise,	—	263	95	358
			Total,	1,331

Throughout this Report are tables showing the number of new Houses which have been provided by the Corporation and Private Enterprise (2,831 by the former and 1,163 by the latter) during the last fifteen years (1914 to 1928 inclusive), when it will be found that a total of 3,994 Houses have been erected, as follows:—

	2 Rooms.	3 Rooms.	4 and over Rooms.	Total.
By the Corporation,	518	2,185	128	2,831
By Private Enterprise,	3	499	661	1,163

giving an average of 266.26 separate dwelling-houses per annum.

There are 652 dwellings in course of erection as at the end of December, 1928.

HOUSING (SCOTLAND) ACT, 1925.
INSANITARY BUILDINGS.

Since the inauguration of the Post War Housing Policy adopted by the Town Council, the number of dwelling-houses dealt with and "Closed by Order" of the Local Authority or by "Counter Notice" from the Proprietors, including 132 houses previously closed and let as store-rooms, club-rooms &c., or standing empty and in an insanitary condition, is 722, and the position regarding these at the end of the year is as follows:—

132 Closed prior to present policy.
273 Still in occupation.
317 Vacated and closed, or permitted to be used as Stores, Club Rooms, &c.

722 and

of these 209 have been demolished.

The 273 houses still in occupation comprise :—

156 1-roomed houses or fully 57 per cent. of the lot.
93 2-roomed houses or fully 34 per cent. of the lot.
19 3-roomed houses or barely 7 per cent. of the lot.
5 4- and over 4-roomed houses or barely 2 per cent. of the lot.

The following table as required by the Department of Health for Scotland is here given in full :—

(a) Housing (Inspection of District) Regulations, 1928.

1.	Number of dwelling-houses inspected	420
2.	Number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	177
3.	Number of representations made to the Local Authority with a view to the making of closing orders	30
4.	Number of dwelling-houses in respect of which closing orders were made	177
5.	Number of dwelling-houses the defects in which were remedied without either the making of closing orders or the service of notices under Section 3 (1) of the Housing (Scotland) Act, 1925	105
6.	Number of dwelling-houses which, after the making of closing orders, were put into a fit state for human habitation	4

(b) Housing (Scotland) Act, 1925.

1.	Number of dwelling-houses in respect of which notices were served under Section 3 (1) ...	112
2.	Number of dwelling-houses rendered fit for human habitation under Section 3 (1) ...	57
3.	Number of dwelling-houses in respect of which closing orders were deemed to have become operative under Section 3 (1)	22
4.	Number of dwelling-houses rendered fit for human habitation by the Local Authority under Section 3 (2)	Nil.
5.	Number of cases where intimations were given under Section 20 (1) as to insufficient water-closet accommodation :—	These provisions do not apply in Burghs.
	(a) cases where requirement complied with by owner	
	(b) cases where works carried out by Local Authority after failure of owners to do so	
	(c) cases still pending	
6.	Number of houses of (a) one apartment, and (b) two apartments for the erection of which the consent of the Local Authority has been given in terms of Section 111	(a) Nil. (b) Nil

(c) Housing, Town Planning, &c. (Scotland) Act, 1919.

1. Number of cases where notices were served under Section 40 (1) to provide dwelling-houses with water supply:—	These provisions do not apply in Burghs.
(a) cases where requirements complied with by owners	
(b) cases where works carried out by Local Authority after failure of owners to do so	
(c) cases still pending	

General character of the defects found to exist:—

Inadequate lighting and ventilation; dampness in houses; houses not provided with sinks and inside water supply; insufficient water-closet accommodation; want of suitable storage for foodstuffs and fuel; insufficient ashpit or ashbin accommodation; lack of facilities for the washing and drying of household and wearing apparel; and open spaces around buildings restricted."

The Rent and Mortgage Interest (Restrictions) Acts. 1920 to 1925.

Applications made by tenants under the 1920 and 1923 Acts		5
Granted	4	
Refused	1	

The applicant who was refused a Certificate lived in a house recently Closed by Order, and the initial steps had already been taken to reduce the rent.

Applications made by Owners or Agents under 1920 to 1925 Acts		1
Granted	0	
Refused	1	

This application was refused owing to the House Agent failing to carry out the terms of the Certificate granted to the tenant.

Tents and Vans.

A considerable number of caravan dwellers congregated within the City on different occasions throughout the year.

At the beginning of the year a Carnival was pitched on the vacant ground at the corner of Strathmartine Road and Moncur Crescent, with about 30 occupied vans. The lessees of the ground provided suitable sanitary accommodation of a

portable nature and kept the place in a satisfactory condition. The Carnival, however, did not prove a success, and after five weeks the encampment took to the open road.

In the early spring a few van dwellers took up a stance in Constable Park in Fairmuir Street. This camp required a good deal of supervision to enforce the place being kept fairly clean—due to the fact that the Caravan Dwellers were squatters without an individual person in authority.

What has come to be an annual event—the Gussie Park Carnival—was held from 6th to 27th August. Here between 40 and 50 caravans for living in were quartered. As in former years the lessee of the ground did everything possible to comply with the requirements of the Department, and no real fault could be found with the conduct of the place from a sanitary point of view. After the Caravans had moved off the ground was cleaned up and left in a decent state.

About autumn three caravans and four motor cars took up a stance at 208 Strathmartine Road. A complaint was made by the proprietor of the adjoining property and her tenants. We managed to get this detachment moved into the open yard at No. 200. Water and sanitary conveniences being there, little or no further trouble was experienced. In fact, the yard has been pretty well occupied, and at the end of the year 8 caravans, 5 tents, and 5 motors were thereon—even onion sellers from Brittany finding sleeping accommodation in a bothy.

Vans have also been located on ground south of Kingsway, Fairmuir Street, Larch Street, and on several stances in Broughty Ferry.

Inspections under this head numbered 283.

Housing of Seasonal Workers.

The Bye-Laws anent the above class of workers have been well complied with.

Work of this nature is not largely in evidence in Dundee and many of the people so employed reside in houses within the City.

Common Lodging-Houses.

There is nothing of much importance to record under this head. These houses have been kept in quite a satisfactory state—the conduct giving no cause for complaint. The premises, beds and bedding have been well kept. The bed accommodation has been utilised nightly nearly to the full extent. This may be accounted for by the fact that the houses are all situated in the centre of the City, which is usually the stepping off place of the "birds of passage" who come and go, as well as the usual habitues of this class of accommodation. They are situated as follows:—

55	Commercial Street	242 Lodgers.
2/3	Craig Street	137 ,,
19	Overgate	42 ,,
43	Overgate	39½ ,,
25	North Lindsay Street	56½ ,,
*130	Overgate	38 ,,
*77	Overgate	34 ,,
*97	Overgate	91 ,,

(Those marked * have accommodation for both male and female lodgers.)

and to them 356 visits were made by day and 25 by night.

The Seamen's Boarding House and the Salvation Army Home and Metropole for Women have both been kept in a capital condition and well patronised. The former has beds for 63 and the latter 180 persons.

Houses Let in Lodgings.

There are 89 of these on the Register, which may be said to represent the most of the main permanent Keepers of this class of house. Under this head 82 visits were made by day and 315 by night. With the exception of overcrowding and want of proper sex separation (items specially dealt with later on in this Report) the premises so far as cleanliness, &c., are concerned, called for little or no official interference and may be written off as well conducted.

In former years in these Reports instances of flagrant cases of

Overcrowding, or Want of Sex Separation,

met with during the course of inspections have been given. Those mentioned hereafter may be considered as typical of

what is encountered and indicate these contraventions are still grave menaces to the health and morals of the community.

In the course of investigations amongst these cases of overcrowding we find certain of the factors, or property owners, are unwilling to let houses to parties with a numerous family, which, to a certain extent, would account for the overcrowding discovered with husband, wife, and family. At the same time, this savours too much of putting a premium on securing larger or more suitable housing accommodation. If this is to spread it does not augur well for the Registrar's Returns in the coming years showing an increase to our population.

Some years ago we started a Register of applicants wanting houses, or larger or better accommodation. This has been well taken advantage of, with, in many instances, satisfactory results. Each application is individually enquired into; the family particulars, income, etc., tabulated, and in what part of the City new houses are desired. If we fail through the ordinary channel of owners or house factors, the City Factor is then appealed to, the details laid before him, and his co-operation asked. In this way we have been able to place many families into good, healthy houses and surroundings where they have a happier view of life and better opportunities for decently raising the family.

But to the student of the social conditions prevailing in Dundee it must be apparent there is a something foreign to our understood code of living—a new element creeping in, neither touched nor diagnosed—which calls to be coped with, an undersurface current as it were.

During the last decade we have been liberally dealing with the cry of house shortage, and, to be just and candid, I personally think we have in this respect performed work which entitles us to be justly proud—given annually a quota of new houses, yet overcrowding is still with us and the evil which follows in its wake—free nightly (no privacy) mixing of the sexes. Before the war we did to a certain extent have overcrowding (nothing glaringly fit to write about), which we were, in a way, able to deal with and suppress, but we did not then have the free sex intermingling nightly in sleep we have now. Even the poorest or lowest of our community fifteen years ago looked upon the latter as a disgrace. They strove to maintain the decency of living traditions.

Under the present conditions (we have built 3,990 new houses during the last ten years), one cannot very well place the existence of either of these cankers wholly at the door-step of the lack of a sufficient number of houses.

Let us, therefore, direct our search elsewhere. We ask, can these slurs be solely attributable to unemployment? Let us gauge the City from the amount of money spent (quite in evidence) on what nowadays goes under the name of " having a good time," and we could not be blamed for imagining the cause is not altogether here either—in fact, the stranger in our midst would class Dundee as a well-financed city.

No, in my opinion, these do not provide a complete key. There is a new phase entering the community and penetrating deep down into our domestic welfare, and which I am here striving to properly or adequately write of and direct attention to.

Let us analyse the younger generation—say, those who were 18 when the war activities ceased and those of to-day of the same age. Is it not apparent there is an absence in them of what I will (for want of a more appropriate term) call a sense of *individual responsibility*.

We have instances of two and even three different families residing in the one house—of one, two, or three rooms—frequently with the parents of the man or the woman. A couple marry and settle down at the old home, but they have no domestic responsibility, and on this tide of tranquillity they drift, apparently secure, thinking " sufficient for the day is the evil thereof."

What really is wanted is an awakening up to individual responsibility in the younger generation. They do not seem to think for the future—the manifest spirit of independence of our ancestors is fast ebbing out. Let us retrieve that responsibility and independent character, a feature of our forefathers, when depending on others, or assistance, were dreaded and looked upon askance. Then such black spots in our midst (the cause of which is so conveniently attributed to the lack of housing, or unemployment) would, I think, have an opportunity of gradually passing away.

Instances of Overcrowding and Lack of Sex Separation.

(400 feet are allowed by law as cubic space for an adult and 200 for juveniles up to 10 years.)

No. 1.—House of two rooms (kitchen 1,276 c. f., room 1,592 c. f.). Husband and wife and nine of a family—all adults, except a daughter of 9 and a son of 7 years. The kitchen occupied by the husband and wife and the two juvenile members of the family. Room with two beds. One bed occupied by *three adult daughters and one adult son.* The other bed occupied by three adult sons. Overcrowded by three adults. No sex separation.

No. 2.—A single room of 1,262 c. f. Occupied by husband and wife, one daughter aged 18 years and four juveniles ages from 3 weeks to 9 years, *and a female lodger aged 30 years.* Overcrowded three adults. No sex separation.

No. 3.—A single-roomed house of 1,440 c. f., occupied by husband, wife, four sons ages 20, 16, 11, and 9 years and four juvenile daughters. House overcrowded to the extent of four adult persons—sex separation impossible. The eldest son had recently returned from Ashludie Sanatorium and in close contact with the family.

No. 4.—Single room of 1,400 c. f. Occupied by father 58 years, his daughter 32 years, and her illegitimate child (juvenile), *and two females ages 18 and 21 years as lodgers.* Overcrowded one adult—sex separation impossible.

No. 5.—House of 1 room (1,203 c. f.), occupied by *two families.* Husband and wife, adult son, and adult daughter and juvenile son and juvenile daughter, *and a mother, two daughters and one son* (juveniles). Overcrowded four adults and one juvenile. No sex separation.

No. 6.—A one-roomed house of 1,099 c. f., occupied by the mother, two adult sons, and one adult daughter, and two sons and one daughter (juveniles). Overcrowded three adults. No sex separation.

No. 7.—Single room (1,000 c. f.), occupied by husband, wife, two daughters ages 22 and 15 years, four sons ages

20, 11, 2 years, and 4 months. Overcrowded four adults and one juvenile. No possible sex separation.

No. 8.—A two-roomed house (2,079 c. f.), occupied by husband, wife, and sons ages 14, 8, and 3 years, and 4 months, daughters 13, 12, 7, 5, and 1½ years. Overcrowded three adults. Sex separation impossible.

No. 9.—A house of 2 rooms (2,200 c. f.), occupied by husband, wife, sons 14 and 5 years, and daughters 22, 20, 17, 11, and 7 years. Overcrowded two adults and one juvenile. Sexes mixed. This case is aggravated through certain members of the family being under treatment at the Tuberculosis Dispensary and the mother recently discharged from Ashludie Sanatorium.

No. 10.—A two-roomed house (2,400 c. f.), occupied by husband and wife, sons ages 16, 14, and 7 years, and daughters 21, 19, 12, and 9 years. Overcrowded two adults. No sex separation. An invalid daughter of 12 years occupies the bed in kitchen; most of the other members of the family have to sleep in the room. Two members of the family attend the Tuberculosis Dispensary.

No. 11.—House of two rooms (2,335 c. f.). Husband, wife, sons 23, 20, 17, 16, 9 and 3 years, and daughters 25, 21, 14, and 11 years. Overcrowded by five adults. No sex separation.

No. 12.—Two-roomed house (2,432 c. f., occupied by husband, wife, and daughters 23, 18, 14, 13, 6, and 1 year, and sons 22, 20, 16, 11, 9, and 2 years. Father, mother, and two youngest children occupy bed in kitchen, whilst remainder of family occupy three beds in room. Overcrowded to the extent of six adults. Sex separation impossible.

No. 13.—House of two rooms, occupied by two different families and a lodger. Kitchen occupied by father and three adult sons, along with a *female lodger;* room occupied by sub-tenant, wife, two adult daughters and one juvenile daughter. Cubic contents of two rooms, 2,208 c. f. Overcrowded by four adults. No sex separation.

Prior to the appointment of

Lady Health or Child Welfare Visitors.

the enforcement of cleanliness in dwelling-houses loomed largely in the duties of the Staff. In those days strong and stringent measures had to be adopted to enforce the cleansing of interiors of dwellings in what is called " weekly let " houses or houses in the slum quarters of the City. But nowadays this class of work does not call upon our resources to any outstanding perceptible extent—chiefly instances where compulsion is absolutely necessary being referred to the Inspectors. These Lady Visitors seem to have a " wonderful way with them " in getting this class of work carried through by tact, verbal suasion, and the giving of sound, practical advice.

In many of these houses there is a marvellous change now compared to what was met with some quarter of a century ago—they have the atmosphere and feeling of a home, with comfort, even although the surroundings may not be of the most salubrious. Thus we find homes within the worst of our slumdom with which even the most fastidious could not carp.

The Lady Inspectors have without doubt left their mark in creating ambition in the housewife, and incidentally a cleaner and sweeter family home existence. Their work is done quietly and little heard of, but they are of value in the domestic hygiene living conditions of a city.

Factories and Workshops.

One Notice to enforce the cleansing of a hairdresser's workshop was served—the terms being complied with.

One Notice was served relative to inadequate water-closet accommodation in connection with a factory and one served under the same head relative to a workplace. Sufficient accommodation was provided for the former and satisfactory arrangements made for the latter.

During the year 1,415 visits were made to Factories (so far as coming under the jurisdiction of this Department) and Workshops—except Factory or Workshop bakehouses.

They have all been found in a state which gave little cause for official interference—any nuisances or want of cleansing discovered being promptly attended to when attention was directed thereto.

The following Workshops, &c., are upon the Register at 31st December, 1928:—

Trade or Business.	Workshops	Domestic Workshops	Homework	Workplaces
Basket Makers, Feather Dressers, and Bedding Manufacturers	1	1	0	0
Blacksmiths, Cartwrights and Carriage Builders	23	0	0	0
Blacking and Chemical Manufacturers ...	2	0	0	0
Boot Repairers	78	8	0	0
Brush Makers	1	0	0	0
Cabinetmakers, Joiners, and French Polishers	63	0	0	2
Cycle and Motor Mechanics, Enamellers and Vulcanisers	23	1	0	2
Dental Mechanics	32	12	0	0
Dress, Mantle, and Corset Makers	44	31	0	0
Engineers	1	0	0	0
Electro-Platers, Wire Workers, Blind Makers and Bellhangers	4	0	0	0
Florists	0	0	0	9
Furriers	5	1	0	0
Glaziers	3	0	0	0
Granite and Marble Cutters, and Masons ...	0	0	0	30
Hairdressers and Wigmakers	2	1	0	101
Hosiers and Knitters	2	3	0	0
Hotels and Restaurants	0	0	0	36
Laundries	0	4	0	0
Milliners	34	1	0	0
Painters	0	1	0	49
Photographers	14	0	0	0
Piano and Gramophone Repairers	9	0	0	0
Picture Framers, Carvers and Gilders ...	8	0	0	0
Plasterers	0	0	0	16
Plumbers and Tinsmiths	49	1	0	0
Saddlers and Leather Cutters	14	0	0	0
Sewing Machine and Wringer Repairers ...	2	0	0	0
Slaters	0	0	0	21
Stamp Cutters, Engravers and Ticket Writers	5	0	0	0
Sugar Boilers	10	0	0	0
Tailors	61	10	5	0
Umbrella Makers and Repairers	5	0	0	0

Underclothing, Baby Linen and Blouse Makers	37	2	1	0
Upholsterers and Carpet Sewers	13	2	0	0
Waste, Rag and Metal Merchants	0	0	0	13
Watch and Jewellery Repairers and Opticians	38	4	0	0
Weighing Machine and Scale Makers ...	3	0	0	0
Miscellaneous, i.e., Gut Manufacturer, Mica Makers, Clay Pipe Makers, Paper Bag Makers, Bottlers, Potted Meat Manufacturers, Oil Refiners, Manufacturing Chemists, Sack Repairers, &c.	32	1	0	25
Totals ...	618	84	6	304

Bakehouses.

The following bakehouses are upon the Register:—

Occupied factory bakehouses	58
(Included in this number are 8 underground.)	
Factory bakehouses empty but fit for occupation ...	2
(Of which 1 is underground.)	
Occupied workshop bakehouses	39
(Included in this number are 5 underground.)	

The whole of these premises have received systematic inspection, 866 visits having been made.

Where deemed necessary oil painting or varnishing have been executed as often as found necessary, and all white-washing done in the stipulated months of April and October.

One intimation was received from H.M. Inspector of Factories regarding the lime or white washing of a bakehouse being overdue. The subject was taken up with the occupier and the work of cleansing immediately proceeded with.

These may be looked upon as having been maintained in quite a satisfactory condition during the year.

Dairies, Cow-Sheds and Milk-Shops.

At the end of the year the Register stood as follows:—

Dairymen or Cow-Keepers	49
Retail Purveyors of Milk	867

made up as under:—

Purveyors from shops	759
Producers (dairymen or cow-keepers)	49
Purveyors from vans	39
Purveyors resident outwith the City but registered to Purvey milk within it from vans on streets	28

Purveyors from shops or milkhouses together with vans on streets 41

and under the Milk (Special Designations) Order (Scotland), 1923, there are registered :—

2 Producers of Pasteurised Milk, and
212 Retail Sellers,
A total of 214 as against 172 last year and 158 in 1927;

and under the same Order :—

1 Producer of Grade A. (T.T.) and Certified Milk, and
3 Dealers in Grade A. (T.T.) and Certified Milk.

Within the 49 byres there are 727 cows housed.

Byres.—Taking the dairy premises and the necessary adjuncts thereto as a whole, they may be written off as in a fairly clean and satisfactory state. The animals are kept in good condition and well groomed, but there is yet room for some improvement in the cleaner handling of the milk.

The use of mill dust for the bedding of cows has now entirely disappeared. In a few instances sawdust is found—mainly in the channels—the use of such being excused through the scarcity of straw or high cost of such material for bedding purposes.

To cow-sheds there were 640 visits made, and any cleansing and limewashing required were invariably put into effect.

The following figures will show the decline of the milk production industry within the City which has been slowly creeping in during the last nine years at least.

Year.	Number of Cows kept within the various Cow-sheds.
1920	1156
1921	1041
1922	1003
1923	960
1924	993
1925	958
1926	872
1927	801
1928	727

With a population of 172,214, this will indicate to what extent the citizens of Dundee are dependent upon the milk supply from outside sources—large quantities coming daily from as far south as Dumfriesshire and as far north as Aberdeenshire.

By Article 48 of our local Dairy Bye-Laws it is *inter alia* enacted :—

" Where a Dairyman sells milk in Bottles he shall not use the bottles for milk unless and until they have been thoroughly cleansed before each sale. . . ."

It was discovered that the conditions of this Article 48 were not being adhered to, and the offenders when discovered were severely warned. This did not, however, have the effect of completely stopping the practice, and the undernoted letter was addressed to the Secretary of the Dundee and District Dairymen's and Milk Salesmen's Association :—

" It has come to the notice of this Department that several Dairymen or Milk Salesmen who sell milk in sealed bottles are in the habit of refilling with milk and sealing bottles (which have been immediately emptied to previous customers) on the public streets.

" I beg to specially point out this is a direct contravention of Article 48 of the Dairy Bye-Laws made under the Milk and Dairies (Scotland) Act, 1914—a copy of which is herewith sent you.

" No allowance for such a procedure is provided in the said Article 48.

" Will you please bring this irregularity forcibly under the notice of the members of your Association, several of whom have already been warned against the practice.

" Further, if contraventions of this nature are discovered in future they will be reported to the Procurator-Fiscal for him to take action against the offenders.

" I rely on your assistance in this matter."

I am pleased to say that satisfactory results have accrued, and the practice seems to have been entirely discontinued.

A strong complaint was received from the Secretary of the Dundee and District Dairymen's and Milk Salesmen's Asso-

ciation anent milk being sold for human consumption by the cattlemen in charge of Cows at the Cattle Market.

From enquiries we found the milk was drawn from " sale cows," *i.e.* cows taken to the Market on the Monday evenings or Tuesday mornings for sale. The practice was, I understand, for the cows to be milked either before or after the sale and the milk sold by the men in charge of the cows to shopkeepers.

In one particular case it was sold for the purpose of making ice-cream. A sample of the milk thus sold to a shopkeeper in the East End of the City was taken, when the City Analyst reported thereon :—

Water	89.60
Total solids	10.40
Fat	1.62
Solids	8.78

It also contained " dirt " above the arbitrary standard.

The milk thus produced was handled in a dirty way and conveyed to the shops in a dung barrow. Altogether the method was filthy and disgusting and could not be tolerated.

A considerable difficulty was experienced in getting the practice stopped, as the shopkeeper would not desist from receiving the milk—paying only a few shillings to the cattleman therefor. In fact, Court proceedings had to be instituted ere an end was put to the matter.

The milk must now be used for pig feeding ; if not utilised for this purpose to be destroyed.

Recently in several of the cow-sheds dairying operations have ceased.

A byre with accommodation for 56 cows in Hill Street, which was remodelled and brought up to the requirements of the new Regulations a couple of years ago, is standing empty. It is a pity to see a building so adaptable out of action whilst there are other premises now in use we would never miss. The old dairy premises in Cotton Road have been completely gutted out and now used as a garage. The

byres and outbuildings in connection therewith in Caldrum Street have been demolished and a modern retail milkhouse, &c., substituted therefor.

Improvements have been effected on dairy premises as follows:—

Forfar Road.—Opening in byre wall built up, dung-stance repaired, new scalding house erected, along with general repairs.

Fairfield Road.—New glazed fireclay troughs introduced into byre.

Newton of Baldovan.—New roof lights inserted in both byres.

Easter Clepington.—Very extensive alterations carried out. Stable overhauled; byre made to comply with the new Regulations; communication between house and byre built up; new brick-built scalding house erected; part of court paved; new dung-stance and water closet accommodation provided; roofs, rhones, and drains repaired.

Milkshops.—To those shops where milk is sold in retail 2,555 inspections were made. They were found in a satisfactory state, any cleansing required being promptly executed.

There are 7 cow-sheds or premises where milk cows are kept to the number of 20

Exempt from Registration

as per Section 2 of the 1914 Act "from which a person sells milk only in small quantities and for their own consumption, to persons in his employment or to neighbours."

So far as we are able to ascertain from Systematic Supervision the Requirements of Articles 5 to 16 of the Milk and Dairies (Scotland) Order, 1925, are Being Complied with Except Article 12.

Art. 12. For selling milk from a vessel belonging to another person one purveyor of milk was tried in Court. He pleaded guilty and was dismissed with an admonition, whilst several others have been warned.

Food Inspection.

FOODSTUFFS ARRIVING AT THE PORT OF DUNDEE, EITHER DIRECTLY FROM ABROAD OR BY COASTWISE TRAFFIC.

The following two tables show the kind and quantity of foods arriving by waterway at the Port during the year.

The total of 65,708 tons 8 cwts. 2 qrs., as against 47,461 tons 13 cwts. last year and 41,089 tons 14 cwts. during 1926.

TABLE No. I.

Shows the foodstuffs arriving coastwise at the Port by steamers plying between Dundee and the Ports of London, Hull, Liverpool, Aberdeen, Newcastle, Belfast, Southampton, Leith, &c., during 1928:—

	Tons.	Cwts.	Qrs.
Albumen	0	2	1
Bacon and Ham	12	8	3
Baking Powder	0	4	1
Biscuits	0	12	0
Butter	131	10	1
Cereals	375	2	0
Cheese	428	9	0
Chemical Food	7	11	1
Chicory	0	0	2
Cocoa and Cocoa Beans	82	15	2
Cocoa Butter	30	2	2
Cocoanuts, Cocoanut Stearine and Dessicated Cocoanut	62	18	2
Coffee	40	7	3
Confectionery	414	0	2
Corn Four	1	3	3
Cordials	1	3	0
Cream of Tartar	13	14	2
Custard Powder	7	0	0
Eggs	7	17	3
Eggs (Dried and Liquid)	0	5	2
Fish (Dried)	13	13	0
Fish (Tinned)	147	2	2
Flour	5,970	6	1
Fruit	1,024	5	1
Fruit (Dried)	632	7	1
Fruit (Pulp)	168	10	2
Fruit (Tinned)	554	3	0

Glucose	487	6	3
Lard and Lard Compound	434	5	2
Macaroni	10	15	0
Margarine	533	18	1
Meat Extract	4	19	2
Meat (Tinned)	368	1	2
Milk (Dried)	4	19	0
Milk (Tinned)	221	5	1
Mutton	1	1	3
Nuts	32	16	2
Peas, Beans, &c.	174	16	0
Pickles, Spices, Condiments and Sauces	51	13	2
Preserves	176	1	0
Rice	282	10	0
Sago	0	1[illegible]	
Semolina	0	8	
Suet	0	0	1
Sugar	668	2	3
Syrup	569	1	1
Tapioca	77	19	2
Treacle	388	3	0
Vegetables	1,094	0	2
Vegetables (Tinned)	70	11	0
Vinegar	58	9	0
	15,839	17	1

TABLE No. II.

Shows the amount and kind of foods arriving direct from abroad, for the year ending 31st December, 1928.

	Tons.	Cwts.	Qrs.
Bacon and Ham	13	6	0
Butter	1	16	0
Cereals	13	8	0
Cheese	112	12	0
Cocoa and Cocoa Beans	3	15	2
Cocoa Butter	23	12	0
Cocoanuts	81	9	3
Confectionery	5	4	1
Cream (Tinned)	0	7	2
Eggs	35	7	0
Fish (Tinned)	0	5	0
Flour	14,857	8	3
Fruit	31	19	1
Fruit (Dried)	9	1	0
Fruit (Pulp)	115	8	1
Fruit (Tinned)	1	9	2
Glucose	593	0	0
Lard	66	7	0
Margarine	0	19	2

Meat (Tinned)	76	14	2
Milk (Dried)	2	2	0
Milk (Tinned)	416	10	1
Peas, Beans, &c.	169	17	2
Rice	132	2	1
Sugar	32,164	6	0
Syrup	45	2	0
Treacle	99	6	0
Vegetables	634	13	3
Vegetables (Tinned)	161	0	3
	49,868	11	1
Total for Home Ports (Table I.) ...	15,839	17	1
Total	65,708	8	2

On no occasion was it found necessary to deal with or seize any of the food arriving in the City by waterway.

Public Slaughter Houses and Meat Inspection.

The Meat Inspection at the Public Slaughter Houses and Dead Meat Market conducted under the " Clearing House System " has been of the usual high satisfactory standard. The work is under the charge of the Superintendent (who is a qualified Meat Inspector), and the Veterinary Surgeon.

Public Health (Meat) Regulations (Scotland), 1924, Article 12.

There are two certificates of approval under the above Article in operation for persons who sell or offer for sale any meat or meat food product from any cart or other vehicle, &c. The certificates in operation apply to the Dundee Ice and Cold Storage Coy., Ltd.

Fish Inspection at the Fish Market, Carolina Port.

This Market is visited periodically in the mornings. During the year we have been completely immune from unsound fish being offered for sale.

The fish handled during 1928 were as follows :—

Fresh Fish	6,416,200 lbs.
Cured Fish	730,296 ,,
Total	7,146,496 lbs.

against 7,162,176 lbs. last year and 7,493,136 lbs. in 1926. If there is any suspicion about the freshness of the fish the Superintendent of the Market immediately telephones this Department, when an Inspector is despatched—the fish being retained until his arrival.

Food Inspection (Shops, Stalls, Barrows, &c.).

On 36 occasions it was necessary to seize food as unfit for the consumption of man. The undernoted table indicates the nature and quantities of the food :—

ARTICLES OF FOOD SEIZED.

ARTICLES.	WHERE SEIZED.	QUANTITIES OR WEIGHTS.				REASONS FOR SEIZURE.
		Tons.	Cwts.	Qrs.	Lbs.	
Meat (tinned)	Shops, or stalls, or barrows on streets, or food stores, or railway stations.	0	10	2	12	Decomposition, etc.
Fish (tinned)		0	0	0	13	
Fruit (tinned)		0	7	0	7	
Milk (tinned)		0	0	1	4	
Vegetables (tinned) ...		0	2	2	0	
Cereals		0	0	2	4	
Pork		0	0	0	15	
Mutton		0	0	0	7	
Beef		0	0	1	6	
Soup (tinned)		0	0	0	2	
Fish		0	1	0	0	
Fruit		0	6	1	2	
Fruit (dried)		0	0	1	1	
Confectionery		0	0	0	10	
Liquid Eggs		0	0	2	21	
Fruit (Pulp)		0	1	0	16	
Treacle		0	0	0	2	
And						
Sauce		7 bottles				

It will be noted that tinned meat and fruit, as in former years, form a big section of the foods found unfit. Large quantities of these were taken possession of on several occasions in premises of wholesale dealers. The stuffs were either brought to the office or submitted to the Inspectors when visiting the premises. The open stalls, &c., in the Public Market (held twice a week) and the barrows on streets also received attention, as well as the booths or stalls in the new Fruit, &c., Market.

The condition as to cleanliness of the premises and vehicles was also supervised—9,094 visits having been made.

Butter and Margarine Acts.

The persons registered in terms of Section 7 of the Sale of Food and Drugs Act, 1899, as wholesale dealers in Margarine or Margarine Cheese, are as follows :—

Registered during the year	8
On register at 31st December	40

Inspections (415) have been made of the premises. They have been kept in a satisfactory state, and give little or no cause for official interference.

Food and Drugs Acts.

Undernoted I give a statement of the number of samples purchased under these Acts during the last twenty-six years :—

	Purchased.	Certified to be Genuine.	Certified to be Adulterated.
1903 ...	144	130	14
1904 ...	200	170	30
1905 ...	199	170	29
1906 ...	201	169	32
1907 ...	215	184	31
1908 ...	257	234	23
1909 ...	304	274	30
1910 ...	455	414	41
1911 ...	445	415	30
1912 ...	435	411	24
1913 ...	484	449	35
1914 ...	607	566	41
1915 ...	615	588	27
1916 ...	619	590	29
1917 ...	610	578	32
1918 ...	629	598	31
1919 ...	607	582	25
1920 ...	602	578	24
1921 ...	663	629	34
1922 ...	671	650	21
1923 ...	669	634	35
1924 ...	684	659	25
1925 ...	693	661	32
1926 ...	666	645	21
1927 ...	675	640	35
1928 ...	669	637	32

The following is a synopsis of the samples purchased this year :—

I.—Samples taken in the ordinary course, with a view of following up by prosecution, if necessary, should adulteration be discovered.

	Purchased.	Certified to be Genuine.	Adulterated.
Sweet Milk	177	174	3
Do. (Pasteurised) ...	9	8	1
Do. (Sterilised) ...	4	4	0
Do. (Certified) ...	4	4	0
Tapioca	2	2	0
Margarine	15	15	0
Coffee	9	9	0
Whole Rice	10	10	0
Ground Rice	4	4	0
Ground Cinnamon	9	8	1
Cocoa	1	1	0
Whisky	1	1	0
Sago	1	1	0
Apples	1	1	0
Apple and Raspberry Jam ..	1	1	0
Apple Jelly	1	1	0
Black Currant Jam	1	1	0
Raspberry Jam	1	1	0
Strawberry Jam	2	2	0
Lard	4	4	0
Sausages	31	25	6
Sausage Meat	1	1	0
Mince	40	25	15
Black Pepper	1	1	0
White Pepper	8	8	0
Barley	9	8	1
Cream of Tartar	8	8	0
Ground Ginger	8	8	0
Baking Soda	2	2	0
Salted Butter	1	1	0
Total ...	366	339	27

II.—The following samples were taken in terms of Section 2 of the Butter and Margarine Act, 1907:—

	Taken.	Genuine.	Adulterated.
Sweet or Fresh Butter ...	2	2	0

III.—The undernoted "test" samples were purchased or taken:—

	Purchased. or Taken.	Certified to be Genuine.	Adulterated.
Sweet Milk	1	0	1
Do. (Pasteurised) ...	18	18	0
Do. (Grade A.T.T.)	10	10	0

Milk (Tinned)	26	26	0
Tapioca	5	5	0
Margarine	20	20	0
Coffee	8	8	0
Whole Rice	14	14	0
Ground Cinnamon	13	13	0
Lard	5	5	0
Sago	7	7	0
Black Pepper	2	2	0
White Pepper	21	21	0
Barley	32	29	3
Cream of Tartar	16	16	0
Ground Ginger	13	13	0
Baking Soda	9	9	0
Ground Rice	11	11	0
Vinegar	3	3	0
Flour	10	10	0
Oatmeal	8	8	0
Sweet or Fresh Butter ...	2	2	0
Salted Butter	2	2	0
Spice	1	1	0
Tomatoes (Tinned) ...	2	2	0
Sugar	2	2	0
Water	2	2	0
Apples	1	0	1
Oranges	2	2	0
Spirits of Nitre	1	1	0
Almond Oil	1	1	0
Borax	1	1	0
Boric Powder	1	1	0
Epsom Salts	1	1	0
Glycerine	1	1	0
Strawberry Jam	1	1	0
Black Currant Jam	2	2	0
Raspberry Jam	1	1	0
Whisky	2	2	0
Olive Oil	9	9	0
Castor Oil	7	7	0
Camphorated Oil	2	2	0
Linseed Oil	2	2	0
Turpentine	3	3	0
Total ...	301	296	5
Add Table I.	366	339	27
Add Table II.	2	2	0
Total ...	669	637	32

With a population of 172,214 this works out to 3.88 samples for every 1000 persons, as against 3.91 last year.

The lowest milk fat recorded this year in official samples

was 1.50 (as against 2.34 per cent. last year), and the highest 12.40 (as against 5.56 per cent. last year), whilst the average milk fat was 3.62 (as against 3.54 per cent. in 1927). The number of samples with milk fat below 3 per cent. was 4, and the number with milk fat of 4 per cent. and over, 27.

The average milk fat of the **official samples** taken each month was as follows:—

	No. of Samples Purchased.	Average Fat.
January	16	3.45
February	17	3.37
March	16	3.20
April	16	3.47
May	17	3.54
June	16	3.54
July	17	4.05
August	17	4.09
September	16	3.98
October	16	3.75
November	15	3.60
December	15	3.49
	194	3.62

Only two prosecutions for selling adulterated milk were instituted. One seller was found guilty and fined £3 whilst the other was found not guilty.

Mr. Andrew Dargie, B.Sc., A.I.C., Public Analyst, kindly supplies the following interesting figures:—

"The average quality of the Milk Supply for the year 1928 was as follows:—

Butter Fat	3.59 per cent.
Non-Fatty Solids	8.76 ,,

"The frequency distribution of these two constituents is given in the following table:—

Per Cent. Fat.	Number.	Per Cent. N.F.S.	Number.
1.50 ...	1	8.10—8.19 ...	1
1.62 ...	1	8.50—8.59 ...	31
2.05 ...	1	8.60—8.69 ...	35
2.20 ...	1	8.70—8.79 ...	46
2.70—2.79 ...	2	8.80—8.89 ...	55
3.00—3.09 ...	14	8.90—8.99 ...	25
3.10—3.19 ...	7	9.00—9.09 ...	15
3.20—3.29 ...	11	9.10—9.19 ...	6
3.30—3.39 ...	19	9.20—9.29 ...	7
3.40—3.49 ...	31	9.44 ...	1
3.50—3.59 ...	31		
3.60—3.69 ...	23		

3.70—3.79	...	...	15
3.80—3.89	...	...	20
3.90—3.99	...	...	12
4.00—4.09	...	...	15
4.10—4.19	...	...	3
4.20—4.29	...	...	4
4.30—4.39	...	...	4
4.40—4.49	...	...	2
4.50—4.59	...	...	1
4.60—4.69	...	...	1
4.70—4.79	...	...	1
5.47 and over		...	2
			222

222

" The lowest Fat was 1.50 per cent. and the highest 12.40 per cent. Altogether there were six samples below the presumptive standard of 3.0 per cent. There were 183 samples ranging from 3.00 and 3.99 per cent. of Fat, 31 between 4.00 per cent. and 4.99 per cent. and 2 over 5.00 per cent of Fat. The lowest Non-Fatty Solids for the year was 8.19 per cent. and the highest 9.44 per cent. Only 1 sample was below the presumptive standard, and 192 samples ranged between 8.50 and 8.99 per cent., and 29 were over 9.00 per cent. Non-Fatty Solids.

" The average Fat shows a slight improvement on those of the three preceding years, but the Non-Fatty Solids shows little variation.

" No colouring matter was found, and all were free from preservative.

Note.—The figures given by the City Analyst are for a year from November, whilst the figures of the Sanitary Inspector are for a year from 1st January.

" Full Cream Condensed Milk.

" All conformed to the Regulations. The results were as follows :—

Total Milk Solids per cent.		Fat per cent.
33.97		9.47
34.66		9.20
33.28		9.63
33.12		9.39
32.84		10.05
34.07		9.01
31.89		9.04
Average 33.40	Average	9.40

" Machine Skimmed Condensed Milk.

" All conformed to the Standard. The Total Solids ranged from 26.21 per cent. to 31.22 per cent., whilst the lowest Fat was 0.17 per cent., and the highest 0.43 per cent No preservative was found in any of the samples. The results were as follows :—

Total Milk Solids per cent.		Fat per cent.	
28.11		0.38	
28.54		.43	
29.99		.17	
28.32		.33	
29.23		.38	
27.54		.36	
27.25		.32	
27.53		.32	
28.43		.40	
28.95		.35	
29.03		.29	
28.39		.24	
29.63		.30	
30.88		.21	
31.22		.25	
26.21		.41	
28.99		.30	
28.46		.33	
28.91		.41	
Average 28.72		Average 0.32	"

" Preservatives in Food.

" Sausages and Mince.

" It is only during the months June, July, August and September that preservative is allowed in Mince.

" The following table is a summary of the amounts of SO_2 found.

SO_2 in parts per million.	Sausages.	Mince.
Absent	5	16
Below 50 parts SO_2 per million ...	2	1
From 50 to 99 " " ...	2	—
100 to 149 " " ...	2	—
150 to 199 " " ...	6	6
200 to 249 " " ...	4	2
250 to 299 " " ...	3	1
300 to 349 " " ...	—	2
350 to 399 " " ...	3	3
400 to 449 " " ...	1	1
450 to 499 " " ...	1	—

500 to 549	,,	,,	...	1	2
550 to 599	,,	,,	...	1	—
600 to 649	,,	,,	...	—	2
750 to 799	,,	,,	...	1	—
800 to 849	,,	,,	...	1	—
850 to 899	,,	,,	...	—	1
Over 1000	,,	,,	...	1	1
				34	38

" Loss of Sulphur Dioxide in Meat.

" As this preservative is rapidly oxidised, an experiment was made to find out the loss of SO_2 in Mince samples, when kept at ordinary temperatures and also in an ice chest. For this purpose a solution of the preservative was added to and thoroughly mixed with 5 lbs. of Mince. The Mince was divided into 15 equal parts, and placed in screw-capped jars —one set was kept in the Sanitary Office and the other set in an ice chest.

" The calculated percentage of SO_2 was 198 parts per million, but on analysis within a few hours of mixing, only 108 parts were found. At the end of a week there was only 20 parts present. No appreciable difference was found in the two sets of samples. Although an isolated experiment, the results indicate a considerable loss of SO_2 immediately the preservative is added to the Mince and at the end of a week the amount was only one fifth of the original determined proportion. Probably the loss will vary according to the relative amounts of preservative and Mince, and also to the capacity of the sample jar.

" In a disputed case, the second part of the sample may not be analysed until 10 or 14 days later, when only an infinitesimal amount may be found, and when the third part reaches the Government Analyst, all trace of the preservative may be lost, and no accurate method is known to find the original amount of preservative.

" Under these circumstances the decomposition clause ' that no change has taken place in the constitution of the sample that would interfere with the analysis ' cannot be inserted in the certificate of analysis.

Seventeen prosecutions for the selling of mince or sausages (contraventions under the Regulations governing Preservatives in Food) were instituted. All the sellers were found guilty when fines ranging from 15/- to 40/- were imposed.

" Butter and Margarine.

" All the samples under this heading were found to be genuine. The amount of water averaged 14.20 per cent in the case of Butter, and 12.65 per cent. for Margarine.

" The highest in the Butters was 15.80 per cent. and 5 of the Margarines were over 15.80 per cent., but below the 16 per cent. maximum limit. The following table shows the number of samples coming within the various limits.

Water.	Butter.	Margarine.
8.0 to 8.99%	—	1
From 10.0 to 10.99%	—	4
11.0 to 11.99%	—	2
12.0 to 12.99%	2	7
13.0 to 13.99%	—	6
14.0 to 14.99%	2	6
15.0 to 15.99%	2	10
	6	36 "

There is a slight decrease in the number of samples returned as adulterated (4.78 as against the number of samples purchased—the figure for 1927 being 5.18). It is gratifying to find a considerable reduction in the adulterated milk samples (5 this year as against 16 last year). Preservatives in sausages and mince (treated as adulteration) show a considerable increase.

An Experiment on Cinnamon Chips.

Within recent months a few samples of Ground Cinnamon taken in Dundee under the Sale of Food and Drugs Acts contained more than 2 per cent. of Sand and Silicious Matter. A recent sample contained 5.10 per cent. of Sand,

and the seller was warned. The seller communicated with the wholesale merchant in Dundee, and he in turn got into touch with the dealer in England who was also the Importer. The chain of facts may be stated thus:—The Cinnamon Chips are imported into this country packed tightly in bales which are stored in warehouses until required. The Importer gives instructions to the spice grinders in London to grind so many bales at a time and when ground to send in kegs or barrels to a specified destination. The spice grinders have absolutely no interest in the sale of the article, they are merely paid for the mechanical process of grinding. Two large granite stones are used in the process of grinding. The Importer visited the Spice Grinders in London for the purpose of finding out the source of the excessive amount of Sand. Bales of Chips were brought from the warehouse and opened. This particular batch was ground in the presence of the Importer. The following samples were taken and analysed by Dr. J. T. Dunn, D.Sc., F.I.C., Public Analyst for the City of Newcastle. Part of the samples were also given to Mr. Andrew Dargie, B.Sc., A.I.C., Public Analyst for the City of Dundee, but they were not mixed before dividing, and certain discrepancies may therefore arise between the two analyses.

No. 1. Original Chips without being handled in any way except taken from the solid bulk

No. 2. Original Chips ground—from No. 1 without sifting or washing

No. 3. Taken from the bulk and sifted through a wire sieve by machinery—Sifted Chips

No. 4. Sifted and ground—from No. 3 after again being sifted to take out the gruff

No. 5. Siftings as Gruff. These are the siftings from No. 4, but are again ground and further sifted so that it is not all loss

No. 6. Siftings—This is the waste sifted out in the first process of sifting, and is total loss as at present treated

No. 7. Washed Cinnamon Chips

No. 8. Ground sifted and Washed Cinnamon Chips.

		Dr. Dunn.		Mr. A. Dargie.	
		Ash.	Sand.	Ash.	Sand.
		Per cent.		Per cent.	
No. 1	Original Chips	4.14	0.72	3.89	0.64
No. 2	Original Chips, Ground ...	10.84	1.84	11.24	4.44
No. 3	Sifted Chips	4.02	1.04	4.08	0.44
No. 4	Sifted Chips, Ground ...	6.00	0.82	6.06	1.20
No. 5	Siftings, Gruff	4.68	1.56	4.93	2.00
No. 6	Siftings or Waste	53.34	39.06	51.67	41.62
No. 7	Washed Chips	3.70	0.20	3.41	0.30
No. 8	Washed Chips, Ground ...	4.40	0.44	5.24	1.05

It will be observed that in each case the ground Cinnamons contain much more sand than the chips from which they were ground, and in one case the sand increased from 0.64 per cent. to 4.44 per cent. which is excessive compared with the arbitrary standard of 2.0 per cent. One would naturally infer from these figures that at least, part of sand comes from the granite stones. On the other hand the heavier particles of sand and grit might conceivably collect in the bottom of a container or drawer in which many grocers store the spice. It might therefore be advisable for the grocer to keep these spices in small airtight tins and shake up the contents before each sale.

A consignment received by the wholesale merchant in Dundee was tested on these lines with the following results :—

	Dr. Dunn.			Mr. Dargie.		
		Ash.	Sand.		Ash.	Sand.
		Per cent.			Per cent.	
No. 1 Cask ...		5.90	0.80	Top of Cask ...	5.94	1.15
				Middle ,, ...	6.20	1.34
				Bottom ,, ...	5.74	1.87
No. 2 Cask ...		4.05	0.30	Top of Cask ...	5.33	0.73
				Middle ,, ...	5.61	0.60
				Bottom ,, ...	4.81	0.55
No. 3 Cask ...		4.80	0.45	Top of Cask ...	5.31	0.43
				Middle ,, ...	5.52	0.66
				Bottom ,, ...	4.64	0.66

One interesting point arises from these results, in the absence of a fixed standard for Sand in Ground Cinnamon, would it be a good defence to rely on Section 2 (2) (c) of the Food and Drugs (Adulteration) Act, 1928, which states that " an offence shall not be deemed to have been committed

where the Food or Drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.'

Milk or other Foods for Bacteriological Examination.

Samples were purchased or taken by the Food Inspectors for bacteriological examination, as follows:—

Sweet Milk	48
,, (Pasteurised)	16
,, (Grade A, T.T.)	4
,, (Certified)	4
	72

These were submitted to Prof. W. J. Tulloch at the University College, the duly appointed Bacteriologist.

The result of the examinations will be found fully dealt with by the Medical Officer of Health in his Report for the year.

Interments.

Under Section 69 of the Public Health (Scotland) Act, 1897.

49 applications were made for the burial of bodies of destitute persons whose friends or relatives declared they were unable to meet the cost of the funeral. After careful inquiry into the financial circumstances of each applicant 44 were granted. £12 17s. 6d. was refunded by relatives or societies and handed over to the City Collector.

Of the 44 interments carried through, 11 were adults and 33 juveniles.

Burial Grounds.

No material change has taken place on these as when referred to in my Report of last year. They have been well and satisfactorily kept.

The following interments were made in each:—

Eastern Necropolis	1,472
Western Necropolis	1,051
Western Cemetery (Perth Road)	137
Barnhill Cemetery	167
Parish Church Burying-Ground (Broughty Ferry)	10
Constitution Road Burying Ground	—
St. Luke's Episcopal Church, Downfield	—
New Mains Cemetery	32
Old Mains Cemetery	1
Total	2,870

Smoke Nuisance.

It is very gratifying to be able to record a considerable improvement under this head. It was only found necessary to make 17 observations (of one hour's duration each) of the smoke issuing from the chimney heads of mills, factories, or public buildings, out of which 12 warning letters against excessive smoke were issued. Credit may be here given to the scrapping of old dilapidated engines, plants, and boilers and the introduction of electric-driven machinery; adoption of smoke consumers; renewals of plant; improvement in the quality of coal used and more careful stoking on the part of firemen or the employment of experienced men.

The Inspectors in the course of their duties keep in touch with the firemen, advising as to the best methods of stoking.

This satisfactory state of affairs is still being maintained, as can be witnessed any day from the top of the Law Hill. If it continues little cause of complaint will be found.

A complaint was received from two shopmen going to their work one morning—their faces, hands and clothes having been grimed with soot and smuts. Enquiries brought the cause of the nuisance to be the careless handling of a soot extractor plant in connection with a works in the district.

Shops Acts.

In the carrying through of the provisions of the above Acts and the various Closing Orders framed thereunder 4,436 visits were made and 192 hours spent in patrol duty on the streets, the latter generally from 7 to 10 p.m.

The Shops (Hours of Closing) Act, 1928, came into force in August of that year. This led to quite a few changes in the hours of closing but with so many separate Closing Orders for different trades or businesses in operation within this City it did not make, for the Inspectors here, much, if any, curtailment of the work. The getting of this Act into proper working order entailed a little more activity and supervision amongst the businesses affected. The views of shop-keepers are generally contrary to the meaning of the Act, but with tact and explanations from the Inspectors any misunderstandings were usually swept away.

Places for Public Refreshment.

At the end of the year there were 269 shops registered in terms of the Burgh Police (Scotland) Act, 1903, and the Bye-Laws thereanent. They have been kept under supervision and no particular event of an outstanding nature falls to be recorded other than selling after Closing Hours. These contraventions were dealt with either by verbal warnings or by reporting to the Procurator Fiscal for prosecution.

In connection with the above and the Shops Acts there were 229 contraventions discovered. It was only deemed advisable to institute Court proceedings in 20 cases when fines ranging from 7/6 to 15/- were inflicted.

Theatres and Cinemas.

Through the instructions of the Police and Lighting Committee the inspection of these places of amusement is put upon this Department so far as their sanitary condition, ventilation, cleansing, &c., are concerned. They have been regularly visited throughout the year, 158 inspections having been made. Taking them all over they give little cause for action, they are well kept, the ventilation is good, and the sanitary condition and conveniences all that can be reasonably looked for.

Rag Flock Act.

During the year 6 samples of rag flock were taken in the premises of bedding factories, &c., and submitted to the Public Analyst, who reported all the samples to be within the standard of 30 parts of chlorine per 100,000 parts of flock.

The figures as reported by the Analyst on the samples submitted are as follows:—

One sample yielded	6.60 parts.
One sample yielded	5.00 parts.
One sample yielded	7.00 parts.
One sample yielded	12.00 parts.
One sample yielded	10.00 parts.
One sample yielded	8.30 parts.

Rats and Mice (Destruction) Act.

In the early part of the year a letter was submitted to the Public Health Committee from the Board of Agriculture for

Scotland asking the Local Authority to take part in an intensive campaign against rats in Scotland. In view of the destructive measures against the vermin which are kept up throughout the year by the Executive Officer in Dundee, it was agreed that no special effort be made.

Complaints of rat infestation were not numerous during 1928, and these were attended to with satisfactory results. The Officers of the Department give the depredations of these vermin regular attention—breeding grounds being discovered and burrows laid waste. Investigations of a complaint *re* infestation of rats at a property at N. Tay Street brought out the fact that two rooms " Closed by Order " had been broken open and used as sleeping accommodation. One of the rooms was in a disgustingly filthy state. These " sleepers " were warned by the factors to remove along with their goods; the room was cleaned out—and the rats in the property exterminated.

An epidemic of rats was experienced in the Overgate District in the late autumn—particularly in shops and a bake-house, access having been gained from the public sewer through a faulty drain, burrows therefrom leading through the adjoining shops, &c. A lot of damage was done in fish and butcher shops. Meat in the latter had to be seized as unfit for human food. A " kill " of close on 100 head was the result, after which the drain was made water-tight and the shops rendered rat-proof.

A serious complaint was received from a tenant of property in the Murraygate regarding rats coming from premises adjoining. These premises have been under suspicion of rat infestation for some considerable period and from time to time have received attention. On investigating this complaint the conditions found were exceptionally bad, evidences of vermin, runs, &c., being plainly visible. The owner shifted the movable furniture. An old brick oven was dismantled and removed, and all openings to chimneys bricked up; windows netted with fine mesh wire and the place rendered rat proof as far as possible, the premises cleansed and limewashed—a vast improvement being experienced.

Property owners and house factors are now taking more advantage of the services of the professional rat catchers, and together with trapping and the use of poison the operations of these unwelcome visitors may be said to be kept well down.

Offensive Trades.

No alterations fall to be recorded under this head.

The registered premises are situated as follows:—

62 East Dock Street—Tallow melter.
Marine Parade—Tanner.
1 Park Street—Tanner.
At Public Slaughter-Houses, East Dock Street—Gut Cleaner.
At Public Slaughter-Houses, East Dock Street — Hide Factors (2).
At Public Slaughter-Houses, East Dock Street—Slaughterer of Cattle (Corporation).
At Public Slaughter-Houses, East Dock Street — Tripe Cleaner.

and to them 38 visits were made. The businesses have been conducted in a manner quite compatible with the nature of the trade, and no official action was found necessary.

Port Inspection.

During the year 1928 the total number of ships arriving at the Port of Dundee was 1,109, an increase on the figure for 1927. Of these, 327 came from foreign ports, and 856 visits were paid to them. The number of vessels arriving direct from foreign ports was 121, whilst 206 called at ports in this country before reaching Dundee. In 99 cases vessels came from infected ports, 12 direct and 87 indirect.

The cargoes consisted of timber and flax from the Baltic Ports, food-stuffs and pitch from America, food-stuffs, fancy goods and steel plates from the Continent, and jute, gunnies, linseed, hemp, cotton seed and tea from India, &c. There were no consignments of Canadian cattle during 1928.

During the year a new trade was opened up at the harbour by the importation of sugar for refining purposes. The sugar is of excellent quality, and it is to be hoped the trade will continue, as it gives employment to a large number of men.

During the inspection of vessels arriving from foreign ports, 220 nuisances and defects were brought under the notice of the Officers in charge of the ships, all of which were remedied here.

Rat Notices to the number of 103 were issued to the Officers in charge of ships. Tar and canvas or rat guards were placed on the moorings of all vessels coming from infected ports. The fumigation of ships was found to be of frequent occurrence, and the use of traps was urged in any case where rats were reported.

During the year five cases of sickness were reported. Of these, 1 was removed to the Royal Infirmary and 3 to King's Cross Hospital, whilst 1 was treated by the doctor on the ship.

Total Number of Verbal Intimations	162
Total Number of Special Rat Notices Issued	103
Total Number of Visits to Ships	856
Total Number of Ships from Infected or Suspected Ports	99
Total Number of Ships from Infected or Suspected Ports (direct)	12
Total Number of Ships from Infected or Suspected Ports (indirect)	87
Total Number of Nuisances or Defects attended to ...	220
Viz. :—Forecastles Cleaned Out	17
Mess-rooms Cleaned Out	20
Galleys and Store-rooms Cleaned Out	36
Accumulations of Food Refuse	28
Dirty W.C.'s	51
Choked or Defective W.C.'s	20
Discharge of Foul Water on Quay	42
Dirty and Defective Baths	6
In addition the following work was carried out while the vessels were in Port :—	
Fresh Water Tanks Cleaned Out	19
Forecastles Washed or Repainted	12
Bathrooms or Wash-places Painted	6
W.C.'s Painted	14
Galleys Washed or Painted	20
Ships disinfected	1

Section 164 of the Burgh Police (Scotland) Act, 1892.

PROVISION AND RENEWAL OF RAIN WATER SPOUTS AND DOWNPIPES.

Under the above Section the following work was executed, viz. :—

Number of Properties where the rain water spouts and conductors have been overhauled, renewed or otherwise repaired.	Lineal feet of new rain water conducting channel rhones or gutter pipes used in the renewing or repairing of the same.	Lineal feet of new rain water conducting or downfall pipes used in the same way at the different properties.
687	11,084	4,757

General Prosecutions.

The prosecutions for the year were as under :—

Preservatives in Food (Sausages).	Preservatives in Food (Mince).	Food and Drugs Acts (Milk).
4	13	2

Shops Acts.	Dairies, Cowsheds and Milkshops, Art. 12.	Total.
20	1	40

Detailed particulars of each are given under the various heads.

I am, Gentlemen,

Your obedient Servant,

ROBERT MITCHELL,
Chief Sanitary Inspector.