

**[Report 1948] / Medical Officer of Health, Cork County Borough.**

**Contributors**

Cork (Ireland). County Borough Council.

**Publication/Creation**

1948

**Persistent URL**

<https://wellcomecollection.org/works/qv7qdg5k>

**License and attribution**

You have permission to make copies of this work under a Creative Commons, Attribution license.

This licence permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See the Legal Code for further information.

Image source should be attributed as specified in the full catalogue record. If no source is given the image should be attributed to Wellcome Collection.



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

AC 4765

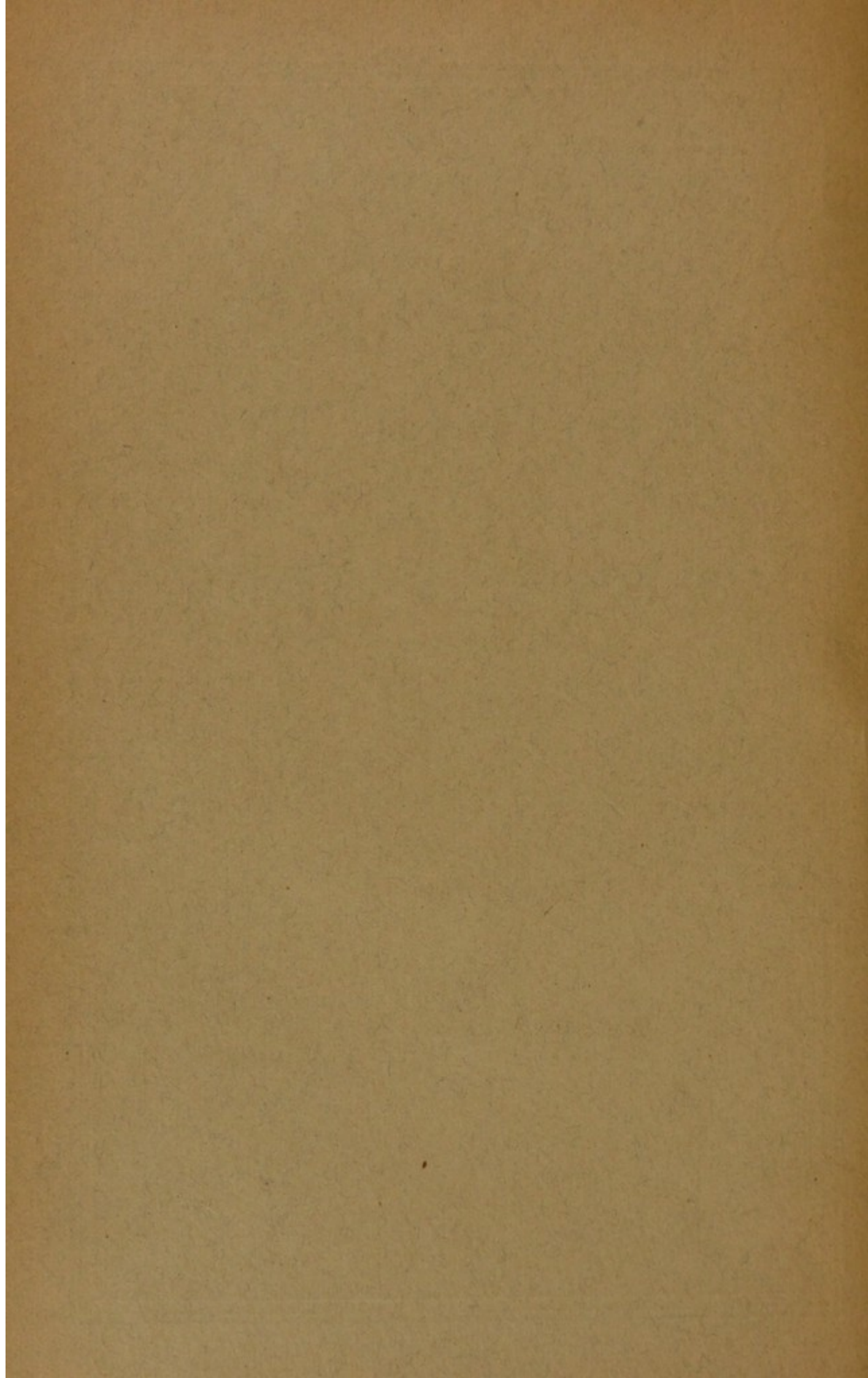
COUNTY BOROUGH OF CORK

REPORT OF THE  
CITY  
MEDICAL OFFICER

FOR THE YEAR

1948





COUNTY BOROUGH OF CORK



REPORT OF THE  
CITY  
MEDICAL OFFICER

FOR THE YEAR

1948

---

J. C. SAUNDERS, M.D., D.P.H.,  
City Medical Officer.

---

CORK:  
EAGLE PRINTING COMPANY, LTD., SOUTH MALL

1949

# PUBLIC HEALTH STAFF

---

## **City Medical Officer**

J. C. Saunders, M.D., D.P.H.

## **Assistant City Medical Officer**

Patrick F. Fitzpatrick, M.B., B.Ch., B.A.O., D.P.H.

## **School Medical Officer :**

Annie M. Sullivan, M.B., B.Ch., B.A.O., D.P.H.

## **School Dentists :**

Mr. R. F. Twomey, B.D.S.

Miss B. Cronin, B.D.S., (Temporary).

## **Public Analyst :**

Daniel J. O'Sullivan, M.Sc., F.I.C.

## **Chief Veterinary Officer :**

S. R. J. Cussen, D.V.S.M., M.R.C.V.S.

## **Assistant Veterinary Officer :**

P. A. Meegan, M.R.C.V.S.

## **Head Sanitary Officer :**

John O'Brien.

## **Health Inspectors :**

Timothy Newman

James V. Nerney

Daniel J. Murphy

Thomas F. Murray

Leo. J. Woodnutt

James C. Dineen (Temporary)

Miss N. Dunn

## **Tuberculosis Nurse:**

Miss L. Lyndon.

## **Maternity and Child Welfare Nurses :**

Miss M. Gillespie

Miss H. Neville

Miss E. McSweeney

## **School Nurses :**

Miss M. Lordan

Miss M. O'Sullivan

Miss C. Curran.

## **School Dental Nurse :**

Miss M. Bowen.

## **Clerk and Inspector to Port Sanitary Authority :**

J. P. Kieran

## CONTENTS.

	Page
Foreword .....	1
Vital Statistics .....	16
Infectious Diseases .....	25
Tuberculosis .....	41
Maternity and Child Welfare .....	63
School Medical Service .....	73
Control of Food Supplies .....	85
Water Supply .....	102
Sanitary Department .....	105
Housing .....	108
Port Sanitary Administration .....	109
Meteorology .....	117
APPENDICES :	
I.—Venereal Disease .....	127
II.—Welfare of the Blind .....	130
III.—Physical Features of Area .....	134

---

## SUMMARY OF STATISTICS.

Area (in Acres) .....	2,618
Population (Census of Population 1946) .....	75,595
Density of Population (persons to the acre) .....	28.9
Rateable Value .....	£240,479
Sum represented by a Penny Rate .....	£1,002
Number of Births .....	1,823
Birth Rate .....	24.5
Number of Deaths .....	1,001 *
Death Rate .....	13.3
Maternal Mortality Rate .....	0.5
Infantile Mortality .....	47
Zymotic Death Rate .....	0.1
Tuberculosis Death Rate .....	1.1

\* Includes 7 deaths over and above corresponding figure in body of report. These represent transfers to area by Registrar General of which we have no particulars.

*To the Lord Mayor, Aldermen and Councillors,  
of the County Borough of Cork.*

MY LORD MAYOR AND GENTLEMEN,

I have pleasure in submitting herewith my report on the state of the health of the City for the year 1948. In general the statistics for this year are the best that have ever been recorded. Low records have been achieved in general mortality, mortality from tuberculosis, infant deaths, deaths from infectious disease and maternal deaths. For the third year in succession the city has been completely free from typhoid fever and for the second year in succession there were no deaths from diphtheria, while the number of cases of the latter disease was the lowest ever recorded. In general then it may be stated that, so far as one can judge from the statistical evidence, the past year was the best in our Public Health annals.

Once more I have to acknowledge the assistance of those who have contributed to this report : Dr. P. F. Fitzpatrick, Prof. W. J. O'Donovan, Prof. H. N. Walsh, Mr. D. J. O'Sullivan (City Analyst), Mr. S. R. J. Cussen (Chief Veterinary Officer), Mr. M. J. Riordan (Water Engineer), and Capt. J. P. Kiernan whose capable administration in the Port Health Department is deserving of special tribute. I am indebted to Miss F. Corcoran for her invaluable help in the preparation of material and the correction of proofs. Once again I have to thank Mrs. Dorothy West for her very interesting and informative monthly weather reports from Ballinacurra. These reports have been included in the section on Meteorology.

The main observations are incorporated in the foreword which precedes the body of the report.

I have the honour to remain,

Your obedient servant,

J. C. SAUNDERS.

## FOREWORD

## Vital Statistics.

The favourable trend of the figures for 1948 was in direct contrast to that for 1947, and in general may be stated to have been the best so far recorded. The birth-rate (24.5) was well up to the average for the past 40 years while the death-rate (13.2) was the second lowest (it was 13.1 in 1939). The figures for 1947 were exceptionally bad and were, in my opinion, to be associated with the very unfavourable weather experienced in that year so that it was in the nature of things to anticipate a rebound for the current year. This expectation has been borne out by the event. The general trends of mortality for the past 10 years is shewn as follows :

Year	No. Deaths	Death Rate
1939	1060	13.1
1940	1172	14.6
1941	1259	16.1
1942	1221	15.9
1943	1270	16.5
1944	1372	18.1
1945	1128	14.9
1946	1035	13.7
1947	1277	16.9
1948	994	13.2
Average	1175	15.2

It will be noted that both the number and the *rate* are well below the average for the period and, in actual fact, it is the first time in our statistical history that the former was below the 1000 mark. The figure for 1939 is based on a population some 5000 greater than our present estimated population. Reductions occurred in all age-groups but in particular in that of infants under one year and in 65-75 years group. Similar reductions were recorded under the heading of *causes*, the principle being under tuberculosis (126 to 81); cerebral haemorrhage (102 to 58); broncho-pneumonia (42 to 20) and so on. The conditions named are those more especially susceptible to unfavourable climatic circumstances which seems to bear out the suggestion that the conditions experienced in 1947 were largely responsible for poor returns for that year.

The *infant mortality* rate revealed a remarkable reduction (from 87 to 47 per 1000) and was the lowest ever recorded. The history of infant mortality in this city is set out in Table 8, which goes back to the year 1881. It will be noted that a considerable reduction has been effected in the figure and that this reduction *has not been accompanied by a reduction in the birth-rate* such as that which characterises many areas boasting of low infant mortality rates. The highest figure recorded for this area was 157 in 1897 (with 150 in 1892 and 1894) so it is apparent that striking

reduction has been effected over the whole period. The fall for 1948, however, is too sharp to be attributed to the effects of administrative action and, accordingly, one must expect a somewhat poorer shewing perhaps for the next year or two. Be that as it may, however, it is very gratifying to be able to point to such a low one for the current year.

*Maternal mortality* also was very low. The figure (0.5) represented one death. The general trend is shewn in Table 42, which goes back to 1924 (when the rate was 6.11 per 1000). That pregnancy has now become so relatively safe may be very largely attributed to the introduction of the sulphonamide group of drugs and of penicillin.

It will be noted that *heart disease* heads the list of the principal causes of death. It has done so since we have been collecting statistics under this heading. It is by far the greatest cause of death but the ages at which it strikes make it apparent that it is not heart disease in the sense of a rheumatic or other bacterial condition but rather a degenerative process largely associated with advance of years. There has been some fluctuation in the figure over the past 18 years (see table 5) but the tendency appears to be definitely upwards. *Cancer* and *tuberculosis* contend for second place and for the current year the former takes precedence. Figures for deaths from cancer in this area are available from 1906 (see table 9) in which year the figure was 62. In the current year it was 130. The figures, naturally, vary from year to year and making allowance for increased facilities for diagnosis in recent years there seems to be a definite upward trend in the figure of deaths from this cause which makes melancholy reading when we compare it with the tendency for other common causes of death. There is, however, the compensatory satisfaction in the fact that deaths from all causes set out in this table are now less than half those recorded in the year with which it begins (1878) and that the *death rate* too has halved itself during this period.

### Infectious Disease

Once again the most outstanding feature under this heading is related to *diphtheria* since, for the second year in succession, there was no death recorded from this disease. In alluding to this matter in last year's report I drew attention to the fact that it was the first time in our statistical history that we had achieved such a happy state of affairs. It is most satisfactory therefore to record a second year without a death. Our records of this disease go back to 1890 (see table 11) at no time during this period was such a condition achieved. It is true that during the first twenty years of this period the toll of diphtheria was relatively light, but the disease apparently took on an increased severity in the decade 1920-30 during which there was a very marked increase in the number of cases and an intensification in its severity. During the past year 10 cases of the disease were notified: This may be taken as the lowest number so far, notwithstanding the apparent evidence of table 10 which records lower figures for three years. I have had occasion before to draw attention to the fact that these earlier figures are by no means reliable. For example, in the 10-year period 1881-90, 53 cases of diphtheria were notified while no less than 73 deaths from it were recorded. It is obvious

therefore that notification was very defective during this period and that no reliance can be placed on the figures which purport to represent the general incidence of the disease as it affected this community. On the contrary, the *fatality rates* set out in the fifth column of the table afford direct evidence that it afflicted it very grievously. Furthermore we may assume that the great majority of the cases and deaths attributed to *croup* were really due to diphtheria so that, all in all, the present record of 10 cases without any death may be regarded as the lowest reached so far.

In this part of last year's report I expressed the view that now it only remains to strive for the entire elimination of diphtheria from the city. It is too soon yet to predict the advent of such a state of affairs although we appear to be on the way. Whether we achieve it or not depends entirely on the parents of Cork. Given their entire co-operation we should be able to reach the goal within two or three years. The requirements are simple enough and should not be beyond the possibility of achievement. They are that :

1. All children born during the next and the succeeding years should be immunised by the time they are one year old or by 15 months at the latest.
2. All children under 5 years, who have not been immunised, should be so protected immediately.
3. All children who have been immunised for more than 3 or 4 years should be brought again for test and further treatment if necessary

Theoretically such a programme should be easy to carry out but, since it depends for its success on the goodwill of parents, it does not work in practice. Unfortunately so many parents are indifferent to the welfare of their children and of the community as to render the complete implementation impossible. In this connection I would once more bring to your notice the significant fact in connection with our immunisation scheme that *to date we have treated over 27000 without a single fatality from diphtheria*. This is a good record but it could be improved on if we had complete co-operation for then, we have no hesitation in saying, diphtheria would be completely eliminated from this community.

*Scarlet fever* continued in mildly epidemic form. There were 86 cases and 1 death. The last previous death from this disease occurred in 1940 (when there were 143 cases). This disease has been of a mild character for many decades and has been associated with a low fatality rate. *Whooping cough*, on the other hand accounted for 5 deaths (out of 109 cases recorded). 25 cases of *measles* were reported. This disease last occurred in epidemic proportions in 1946 and since it occurs in this area in cycles of two or three years we may anticipate a full epidemic during 1949. There was no occurrence of *typhoid fever* during the year. This is the third year in succession during which the disease was entirely absent from the city and the fifth time in the past seven years that it has been free from it. An examination of table 18 reveals the remarkable improvement which has been effected in regard to typhoid over the years and in

particular from the year 1929. The increase in 1941 was almost entirely due to an outbreak which occurred in one family during that year. An interesting investigation was made during the year concerning the carrier-state state of persons who had formerly suffered from typhoid. The results obtained are referred to in the body of the report (section on infectious diseases.) In the case of typhus an even more remarkable improvement has been effected (vide table 19). It is now 20 years since a case of this disease was last reported. Formerly it was one of our most serious problems.

### Epidemic Diarrhoea.

In contradistinction to the other diseases referred to above it has to be noted that diarrhoea continues to be the principal killer of children. It is true that 1948 was marked by a substantial reduction in the figures for incidence as well as for mortality. 64 notifications were received (111 in 1947) and 19 deaths were recorded (32 in 1947) but the case fatality rate remained more or less stationary at 28 per cent. which is a very high figure. It illustrates the lethal nature of this disease. If one excludes such causes as prematurity and congenital debility (which are not so amenable to administrative action) diarrhoea is the principal factor in infant mortality. In the year under review 18 out of the 52 deaths occurring in infants over four weeks old were due to this cause. In the six years 1943-48 there were 514 deaths in this age group of which no less than 207 were due to diarrhoea.

Many factors contribute to the causation of this disease but so far as *deaths* from it are concerned there is an outstanding one—artificial feeding. Of the 207 deaths just referred to no less than 204 occurred among bottle-fed babies. That feeding is a factor too in *causation* is revealed by the findings of our enquiries. Over a period of 14 years 2076 cases of gastro enteritis have been investigated of which 1955 were found to have been bottle-fed and only 121 breast-fed. These figures speak for themselves. Bad social and environmental conditions too contribute materially to the incidence and mortality but perhaps not so much as maternal ignorance. Of the former I am compelled to rate high as a causative factor the numerous piggeries which we still permit in our city and especially in the more congested areas. Almost invariably they are in the last degree unhygienic and are really a great reproach to our reputation as a progressive city. Economically no case can be made for them and if the whole lot were extirpated overnight it is certain that the effect on bacon production would be imperceptible. Hygienically they are a menace of the first magnitude and a perennial source of anxiety to those responsible for the maintenance of the public health. Prosecutions for infringement of the bye-laws are of little avail because fines do not appear to act as deterrents. To anyone familiar with the ramshackle construction of most of the styres, the defective drainage and the accumulation of offal, (in hot weather crawling with maggots and flies of every description) it will appear no exaggeration to hear them described as festering sources of infection. Pig-rearing should (as I have often stressed) be regarded as a purely rural calling and there should not be any place for it in urban areas. It seems foolish and futile to incur great expenditure in pressing forward

with schemes for improving the public health when such an obvious (and remediable) source of disease is permitted to flourish unchecked.

### Tuberculosis.

The main feature of the statistics in regard to this disease has been a most welcome retrocession in the figure for deaths as a result of which we have achieved the lowest death-rate so far recorded (*vide* table 22). This is in marked contradistinction to the figures for the previous year when the deaths totalled no less than 147 (they were 97 for the year now under review). The reduction affects both pulmonary and non-pulmonary deaths but was more striking in the former. Pulmonary deaths fell from 126 to 81 and non-pulmonary from 21 to 16. Table 21 shows in a striking manner the reduction in deaths which has occurred over the period from 1891 (when there were 295 deaths from pulmonary tuberculosis or "consumption") to the present year. The reduction has been more than threefold. Figures for the combined deaths are only available from 1906 because, apparently, deaths from non-pulmonary tuberculosis were not published as such, for this locality, before that year. Of the 81 deaths from pulmonary disease 51 occurred among males and 30 among females.—This is somewhat of the usual proportion—the figures have not always worked out this way for Cork City as will be seen by an examination of table 24 which covers a period of 23 years. The total number of deaths recorded in this period was 2429 of which 1277 were males and 1152 females representing an almost equal distribution between the sexes. It will be noted that up to the age-groups 25/35 the females exceed the males and that thereafter the male deaths are considerably in excess.

The active and energetic measures now being undertaken by the Central Health Authority, in co-operation with local authorities to open up institutions for the reception of cases of tuberculosis and, in particular, the rapid strides made in implementing plans for thoracic surgery should go a long way towards solving our problem in regard to tuberculosis. The outlook now is certainly most hopeful. If and when we achieve sufficient number of beds to accommodate all our open infectious cases we may look forward to a still more striking and a permanent reduction in the numbers of deaths and new cases. It cannot be too often stressed that it is the open case moving unsupervised among the community that is the source of new cases and now that such generous financial assistance is available for dependent relatives there should be every inducement for prolonged and full treatment for such cases.

Nevertheless I should like to stress to the fact that it is not *every* open case that is a disseminator of the disease but rather the careless and heedless one who coughs and spits indiscriminately, who frequents unsuitable localities such as dance halls and theatres and who generally conducts himself with a disregard for the welfare of others. Until public opinion declares spitting to be taboo we will always have a tuberculosis problem to face.

The following article, read before the Irish Tuberculosis Society on 8th Sept., 1948 is, by permission of the Editor, reproduced from the *Irish Journal of Medical Science*, May 1949.

## SOME CONSIDERATIONS ON CASE-FINDING.

By P. F. Fitzpatrick (Cork).

It has been stated with some truth that we have in our hands all the knowledge necessary for the complete eradication of tuberculosis, and that, if conditions were such that this knowledge could be applied in its entirety, then tuberculosis would cease to exist. This is obviously a utopian state to which our people, in the present state of economy, ignorance and failure on the part of the public to co-operate, can scarcely hope to attain.

We have been slow to face openly and fully the implications of this very infectious disease and to acknowledge it as such in spite of its now well-known incubation period, its causative organism, its cutaneous manifestations and its period of infectivity. Yet we have no quarantine for tuberculosis, no organised system of contact examination and no systematic isolation of the infectious case. Tuberculosis affects a community by a series of minor epidemics, and the origin of the epidemic is the open case. The problem of prevention, instead of ceasing with the discovery and isolation of the open case, has really only begun to be enunciated.

Many years ago a child died of tuberculosis meningitis. Some ten years later this child's sister got pleurisy with effusion. She, too, subsequently died. At this time our contact examination consisted of something more than a routine inquiry and a clinical examination which rarely revealed anything, and we had an x-ray examination made of the mother. This woman, who was without symptoms, had a lesion in the apex of one lung, which was apparently healed. Some years later the disease extended and she died, but not before she had been responsible for two known deaths and no one knows how many more. Perhaps at that time, if we had been doing, as we are now, the cultural examination of sputum, we would not have felt so confident that this woman's disease was healed. Once immunity is established, the tuberculous focus in the lung can continue in a state of smoulder without unduly harassing the host. It is not active in that it does not cause symptoms. It is not quiescent in that it voids bacilli. The condition answers practically all the requirements of the true carrier state. Essentially in the same category as the quasi-arrested is the condition of florid disease which the tuberculosis officer so often encounters. Recently I saw, in one of our local infirmaries, the mother of a large family. She was in an advanced state of phthisis. In the subsequent contact examination of the family two of the children were found to be affected. One of these, a girl of nine years, had a primary focus with a haemic spread in the lungs. The other, also a girl, aged 16 years, had bilateral infiltration. Neither of these admitted to complaining in any way. Within four days, the younger, who was then in hospital, developed a high temperature. We believe her life has been saved by streptomycin. The elder girl is in the

sanatorium and is not doing well. The father of the family is in hospital with a tuberculosis spine. He had this long before his wife was compelled to seek the advice of her doctor. It is instructive and salutary to dwell on the epidemiological problem presented by this unfortunate family. The father had been for two years under medical care before the mother finally failed. If a source was sought for *his* disease, the searcher would not have had far to look.

The success of the invasion of the bacilli against the human host depends on the frequency of the bombardment rather than haphazard risk. We have, for example, by experience come to regard as most serious the occupation of a bedroom by an open case.

The families whose cases I have quoted are examples of circumstances which are repeated a hundredfold in communities such as ours. Their repercussions are limited only by the extent of their contacts.

The case of the second woman is typical of a state of affairs which we have come to regard as commonplace, indicating as it does the insidious and so often symptomless progress of this disease, if we regard the symptom as an alarming episode. This woman's disease had arrived at its fulminant stage before recognition. For six months she had been gradually failing, and it is hard to estimate what damage she did during that time, but she was able to continue to work at a calling which needs the expenditure of more effort than many of the trades from which our cases are recruited.

It has been our custom in Cork City since our present Medical Officer took office to analyze and record the stage of the disease at which we found our patients when they presented themselves for examination for the first time. Table I shows that record since 1930. Seventeen years of observing the same set of circumstances should serve appreciably to eliminate gross error in the compilation of results. The patients were classified in three categories, viz.: Stage I, Stage II, and Stage III. The classification into these stages is based on the extent of the disease judged by *x-ray* examination. In Stage I the disease is in a state and of such extent that a favourable response to treatment may be anticipated. In Stage II the disease is moderately advanced and the response to treatment cannot be forecast with any degree of accuracy; at this stage of the disease the patient is regarded as seriously ill. Stage III is the stage of advanced disease; recovery in this category is rare.

TYPE	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
Stage I (Early)	15%	8%	9%	6%	14%	13%	6%	9%	5%	8%	6%	3%	4%	9%	4%	4%	3%
Stage II (Moderately Advanced)	36%	50%	38%	39%	28%	30%	43%	38%	33%	32%	44%	46%	34%	44%	12%	34%	40%
Stage III (Far Advanced)	49%	42%	53%	55%	58%	57%	51%	53%	62%	60%	50%	51%	62%	47%	64%	49%	47%
*In 1944 an additional classification <i>Sputum Negative</i> was added															20%	13%	10%

It will thus be seen that in most years over 50 per cent. of our patients had little prospect of cure when they first came under the notice of a doctor. The reason why the cases were so advanced when we saw them was something which we felt should be enquired into and, with this in mind, the custom was adopted of closely enquiring from each patient what illness he had suffered from during the previous two years and how frequently a doctor had been consulted. The two-year period was decided on because it was felt that to have arrived at a moderate stage of advancement the disease must have been present at least six months and probably had begun within the period of two years. The disease must unquestionably have given rise to some symptoms, and we were curious to know if these symptoms were serious enough to keep the patient in bed or to compel him to seek a doctor's advice. There are, of course, obvious implications in this type of investigation. When one thinks that one half of our cases are far advanced when we see them one cannot help reflecting that a crippling disease like tuberculosis caused serious upset and inconvenience during its progress, that a doctor had been consulted and that the patient had been allowed to return to work without a chest investigation. The result of our enquiries served only to confirm what had long been an impression. The very great majority of these cases did not during the previous two years have an illness which compelled them to remain in bed or seek the advice of a doctor. For the purpose of case-finding, conditions of living in Cork may be regarded as industrial; and the same principles govern this problem as in any other city of its size or larger. The majority of the people do not work hard; in the main our cases come from the clerical classes and the factory workers. The work is not laborious, continuous muscular effort is not called for, the life does not provoke the rapid progress of an insidious disease. Often, to be sure, there were symptoms, sometimes troublesome symptoms, an irritating cough, chronic pain in one or other shoulder, an increasing lassitude, an unaccountable irritability of disposition. But these inconveniences, for they are little more, are not sufficient to compel cessation of work and in the absence of a startling interruption, such as a haemoptysis, the sufferer continues to lead, on the surface at any rate, a normal life, gradually accustoming himself to the increasing demands on his energy and patience until he can no longer sustain himself or until he resigns himself to the entreaties of his family to have himself looked after. These facts indicate that the lateness of the disease in which patients find themselves when they are examined for the first time by a tuberculosis officer is certainly not the fault of the private doctor and scarcely the fault of the patient. The train of events is inexorable. The disease of itself has the character of insidiousness, and our way of life encourages that feature. This preponderance of advanced cases is a condition of affairs which is remediable and we, who are engaged in the practice of preventive medicine, have grave responsibilities in the matter.

The behaviour of the disease and the reactions to environment which characterise the sufferers have been described for Cork City, as they are the conditions with which I am familiar. Comparing the tuberculosis death rate for our city with that of Dublin, Limerick and Waterford, our rate shows in a not unfavourable light. It is natural to assume, therefore, that the same factors are concerned with the spread of the disease in these cities as in our own.

Table 9.

Summary of Births and Deaths Registered during the Years 1878 to 1944, inclusive, in the Cork Urban Sanitary District with the number of Deaths from some of the principal causes.

YEAR	POPULATION	Rate per 1,000 persons represented by		NUMBER REGISTERED																								
				DEATHS		BIRTHS	DEATHS.																					
							NUMBER CAUSED BY																					
							TOTAL NUMBER	Under 1 year of age	At 65 years & upwards	Smallpox	Measles	Scarlet Fever	Typhus	Whooping Cough	Diphtheria	Etiotic Fever	Diarrhoea	Influenza	Pneumonia	Tuberculous Disease	Other forms	Cancer	Violence	Inquest Cases	No. in Public Institutions	Number of Uncertified		
BIRTHS	All Causes	Principal Zymo- tic Diseases	BIRTHS	TOTAL NUMBER	Under 1 year of age	At 65 years & upwards	Smallpox	Measles	Scarlet Fever	Typhus	Whooping Cough	Diphtheria	Etiotic Fever	Diarrhoea	Influenza	Pneumonia	Pulmonary	Other forms	Cancer	Violence	Inquest Cases	No. in Public Institutions	Number of Uncertified					
1878...	31.7	27.0	—	2,546	2,464	350	681	81	1	...	59	1	...	75	...	...	...	...	...	...	23	87	853	...				
1879...	33.5	29.0	3.8	2,707	2,689	319	711	...	49	65	...	19	2	...	48	...	...	...	...	...	30	113	977	...				
1880...	28.5	30.8	5.9	2,620	2,837	376	624	...	73	204	...	47	13	...	88	...	...	289	...	...	23	99	1026	...				
1881...	80,124	27.7	26.8	4.1	2,107	2,101	271	611	...	36	30	88	61	4	4	87	...	...	237	...	...	14	82	673	...			
1882...		28.2	24.7	2.3	2,212	1,935	282	490	...	20	8	54	25	5	4	55	...	...	274	...	...	11	77	574	...			
1883...		27.0	24.9	2.0	2,161	1,993	236	572	...	35	8	46	5	10	11	38	...	...	271	...	...	9	50	646	...			
1884...		27.4	26.7	2.8	2,199	2,139	253	553	...	41	27	37	45	6	13	51	...	...	292	...	...	12	50	671	...			
1885...		25.6	26.2	2.3	2,054	2,098	247	614	...	6	48	21	55	5	9	35	...	...	287	...	...	7	36	587	...			
1886...		25.4	22.1	2.1	2,037	1,769	225	430	...	12	30	17	5	8	42	50	...	...	263	...	...	11	40	525	...			
1887...		25.5	22.4	1.8	2,042	1,792	252	490	...	34	1	12	6	2	20	67	...	...	236	...	...	15	43	490	...			
1888...		25.7	24.1	3.5	2,058	1,934	288	501	...	146	6	21	49	18	0	30	...	...	231	...	...	7	32	499	...			
1889...		25.2	22.3	1.9	2,023	1,786	253	497	...	1	10	5	88	7	9	32	...	...	278	...	...	8	34	433	...			
1890...		25.0	22.2	1.0	2,005	1,778	214	571	...	1	5	7	14	8	12	29	...	...	295	...	...	20	43	479	...			
1891...	75,345	26.9	26.9	1.4	2,021	2,025	281	630	...	—	4	5	29	11	17	34	...	...	295	...	...	15	35	557	...			
1892...		24.6	26.4	1.9	1,978	1,988	297	560	...	40	—	23	42	3	17	17	...	...	203	...	...	17	65	682	...			
1893...		27.8	24.5	1.3	2,092	1,844	268	517	...	6	2	7	14	3	14	51	...	...	314	...	...	15	58	596	...			
1894...		27.4	24.9	1.8	2,062	1,874	310	517	...	51	15	2	16	4	13	52	...	...	296	...	...	31	63	609	...			
1895...		28.9	23.9	1.6	2,179	1,798	287	494	...	1	3	8	65	2	18	28	...	...	261	...	...	24	68	657	...			
1896...		29.2	22.6	1.2	2,144	1,706	229	477	...	2	2	7	18	1	24	40	...	...	299	...	...	14	66	619	...			
1897...		27.5	24.7	2.7	2,073	1,858	316	452	...	75	1	3	59	10	9	47	...	...	260	...	...	22	64	680	...			
1898...		28.7	23.7	1.9	2,160	1,787	285	493	...	3	1	11	25	4	13	86	...	...	283	...	...	14	75	640	...			
1899...		27.3	26.3	2.8	2,060	1,980	276	525	...	34	1	6	33	5	8	121	...	...	320	...	...	9	79	749	...			
1900...		25.8	24.2	1.4	1,944	1,821	235	496	...	9	22	4	1	2	5	59	...	...	281	...	...	7	51	597	...			
1901...	76,122	25.6	23.0	1.9	1,942	1,745	272	440	...	3	17	2	36	11	5	73	...	...	289	...	...	13	54	558	...			
1902...		26.2	21.5	1.3	2,031	1,667	258	430	...	21	3	—	30	4	5	34	...	...	287	...	...	25	65	564	...			
1903...		27.1	19.4	1.3	2,086	1,476	232	336	...	2	4	—	44	4	5	37	...	...	279	...	...	19	46	518	...			
1904...		27.4	21.6	1.0	2,089	1,642	249	408	...	9	1	1	27	6	8	27	...	...	352	...	...	39	75	563	...			
1905...		27.6	21.7	1.0	2,099	1,650	276	468	...	14	—	2	—	7	8	47	...	...	103	294	...	18	50	605	...			
1906...		27.5	20.2	1.7	2,094	1,635	279	406	...	—	—	4	14	11	5	92	...	...	85	261	81	62	20	54	593	...		
1907...		25.6	20.6	1.5	1,946	1,570	254	427	...	—	2	6	52	5	4	48	...	...	77	278	84	77	14	53	609	84		
1908...		27.3	22.3	1.9	2,084	1,700	281	472	...	13	6	6	13	9	16	79	...	...	62	245	93	59	12	53	651	83		
1909...		26.3	22.1	2.3	2,000	1,580	251	457	...	3	15	5	72	11	15	54	...	...	105	264	78	62	13	75	673	91		
1910...		25.8	19.3	0.9	1,955	1,459	189	489	...	—	2	3	7	11	13	34	...	...	71	233	75	73	25	50	630	77		
1911...	76,673	26.0	21.2	1.9	1,992	1,622	277	377	...	17	2	—	28	10	5	78	...	...	91	252	73	64	28	61	627	81		
1912...		24.8	19.1	0.7	1,903	1,464	204	412	...	6	5	—	11	6	6	18	...	...	69	231	71	66	16	56	560	58		
1913...		24.2	21.5	1.9	1,853	1,645	253	424	...	16	4	2	—	3	6	114	...	...	110	202	79	95	14	57	643	60		
1914...		24.3	19.9	2.1	1,897	1,551	228	367	...	9	9	1	64	13	4	67	...	...	85	231	79	74	15	48	581	60		
1915...		23.1	20.7	1.5	1,778	1,584	235	418	...	14	12	—	22	14	5	49	...	...	152	211	72	66	13	50	590	79		
1916...		22.6	18.2	1.0	1,732	1,394	182	387	...	6	6	1	11	9	8	35	...	...	97	189	69	66	14	31	564	51		
1917...		20.2	17.5	0.8	1,552	1,340	169	395	...	—	1	1	14	3	3	34	...	...	74	202	78	62	24	40	51	60		
1918...		20.8	20.5	2.2	1,599	1,570	189	326	...	88	1	1	27	6	8	40	...	...	247	187	75	61	20	29	596	43		
1919...		23.8	20.2	1.1	1,825	1,551	183	414	...	1	2	3	7	32	1	40	...	...	248	156	58	69	19	26	564	50		
1920...		28.3	17.5	1.9	2,169	1,341	173	355	...	2	5	—	40	60	13	22	...	...	69	159	46	86	30	32	574	59		
1921...		24.6	15.4	1.4	1,887	1,181	144	313	...	—	—	1	1	56	4	1	...	...	40	125	34	75	71	82	482	59		
1922...		24.2	18.0	1.06	1,853	1,383	173	392	...	38	—	—	—	42	2	—	...	...	37	128	176	39	70	39	28	571	67	
1923...		26.2	14.0	0.7	2,007	1,071	133	332	...	—	—	—	—	—	—	—	...	...	4	55	130	32	84	28	38	446	42	
1924...		25.5	17.8	1.4	1,990	1,386	175	396	...	—	—	—	—	81	12	2	10	...	...	25	146	164	32	94	18	29	568	40
1925...		23.8	15.5	0.8	1,827	1,185	136	397	...	—	2	—	—	2	6	5	45	...	...	8	60	134	31	92	25	38	457	32
1926...	78,490	21.5	17.3	2.4	1,687	1,359	220	361	...	75	6	1	32	18	2	53	...	...	126	46	82	25	27	501	37			
1927...		21.7	14.7	0.5	1,101	1,152	148	343	...	1	6	—	—	—	9	2	24	...	...	17	63	129	35	78	28	27	449	52
1928...		21.7	15.0	0.8	1,767	1,179	135	398	...	—	4	—	—	8	22	2	28	...	...	17	80	109	29	101	27	34	459	34
1929...		20.9	16.7	1.4	1,816	1,308	156	404	...	15	3	1	30	33	1	25	...	...	12	81	141	17	92	26	44	552	42	
1930...		25.4	16.1	1.8	1,998	1,264	155	399	...	22	8	—	—	—	5	64	...	...	37	5	88	117						



I have studied our register seeking to ascertain the response to treatment which our patients show. Upwards of 50 per cent. of them died before the lapse of two years from the time they came under our observation. All these practically had institutional treatment; indeed the great majority of our deaths occur in institutions; and while very many had no surgical interference, because they were unsuitable, most had the management and discipline which are essential for these cases and which should at least prolong life. It will thus be seen that cases in the main are far advanced when we see them. This is sad to contemplate, when we think of the hardship and suffering inflicted not only on the patient, but also on those who are nearest and dearest; it is also a source of constant anxiety to those whose duty it is to deal intimately with the problems created by the disease, as we realise for how much damage to the community at large these cases are responsible before coming under notice, how much time and money (which could be so much better used) are involved and how little return there is for this expenditure in either the saving of life or limiting the mass of infection. It is saddest of all to contemplate that we have in our hands the knowledge necessary to change all this.

The death rate from tuberculosis over fifty years shows a steady decline, just such a decline in fact which one would expect having regard to the normal interplay which takes place between resistance and infection and the general behaviour of epidemic diseases. The observation has been made that this decline began before systematic tuberculosis schemes were begun; we have tried to show, some say with success, that this downward trend has been accelerated by the introduction of these schemes and other public health legislation. It is difficult to see how we by our efforts have influenced this trend to any considerable extent. No startling reduction has occurred at any time; nothing approaching what happened in New York when pasteurisation came into force. Neither can we expect anything to happen while search for cases on a grand scale is neglected.

As time goes on tuberculosis officers become more and more familiar with the difficulty of influencing appreciably the incidence and mortality of tuberculosis. In time we become accustomed, perhaps inured would be more expressive, to the steady flow of advanced cases, and in turn we are not surprised when we can trace to these people new cases, which have been their contacts, or find in their immediate associates primary cases in all stages of spread or retrogression. At times, too, we are obsessed with a sense of futility and frustration at the thought that this and that would never have arisen or could have been avoided if certain measures had been taken at certain times. We feel that the working hours of the tuberculosis officer could be put to better use than they are at present. The tuberculosis clinic is a centre where investigation is made of people with symptoms who attend of their own accord or are sent by doctors. Routine management and refills are catered for, and an attempt is made at a sympathetic approach to their social problems. The contacts are examined immediately and perhaps, if they consider it worth their while, they attend for another examination later. But how can perfectly healthy people, for that is what they are, whether

they are free from disease or in the initial stages, be persuaded to subject themselves more than once to the embarrassment and tediousness of a medical examination without apparent cause? So much of the time of the tuberculosis officer is occupied very largely in work that shows no real profit. Contact examination is notoriously unsatisfactory unless the radiological approach is available, and even when this is used the disease may not become manifest until long after the known source has been eliminated and the contact removed from the records. The duty of the tuberculosis officer is primarily preventive. In order to qualify for his position he must show experience which gives him skill as a diagnostician of diseases of the chest. I am afraid we continue to derive more pleasure from the elucidation of the clinical problem than from a consideration of the means whereby such problems might be prevented from arising. Given time and facilities and an energetic disposition to the principles of case-finding, our death rate should show dramatic change, but more time must be given to this work.

In the absence of high speed radiological examinations conducted every year on everyone, we might make an appreciable contribution by concentrating as much as time will allow on those groups which experience has taught us provide the greatest number of cases. I was very interested years ago when the M.O.H., in his report on the need for demolition and rehousing, indicated by means of a map those areas where epidemic disease was rife. These areas were called "plague spots." They were centres where infectious disease flourished and from which these diseases were broadcast. Our approach to the problem of case-finding, on a scale short of the grand manner, should, I suggest, be on the same lines. We are aware of the value of contact examination, but our evaluation of the individual case rarely includes contacts beyond the family. Tuberculosis officers not un-usually see the family of a case escape and the friend infected. The hospital in which advanced cases are catered for is not unknown to some patients when we first see them. They have been frequent visitors to some friend in the hospital and their visits were not of short duration. The bombardments are long and frequent and the fire more concentrated perhaps than would occur in the patient's house. A particular factory provided a number of cases. The working conditions in factories allow contact for a longer period and of a more intimate character than is usual in the home. The modern young adult factory worker spends far more time out of his home than in it. Cases occurring in factories will not be isolated ones. No matter where infection was picked up in the first instance it will spread in the factory, and the first person infected may not be the first person to complain. We have known instances where a small business house had some of its employees infected while the families escaped. For the purpose of tuberculosis control the business house, no matter how small, becomes under such conditions the unit for investigation.

How much consideration do we give to cases of tuberculous meningitis. To what grade of importance do we promote these cases in our policy of case-finding and control of tuberculous infection? Yet these cases will, by and large, yield more success in a systematic scheme of case-finding than, I believe, any other single method of approach. These are the cases

which, because they occur in the so very young, have their source of origin in the home. The infant depends on the home for, among other things, his early immunological experiences. His environment outside is unimportant. If he develops tuberculous meningitis it is as a direct and often immediate sequel to a primary complex of human origin, and the human responsible can very often be found in the home at the same time.

We must search for the new cases where infection is known to exist. This should be the main plank in the platform of control. We can deal routinely with the age groups on which the disease falls heaviest. Hospital employees are notoriously unfortunate in the matter of tuberculous infection. Every tuberculosis officer, since war conditions descended on England, must have noticed the number of our young girls (nurses) who have returned from that country either to die or for management. The incidence amongst nurses has been commented on also in other countries. Many of our cases are notified to us from the general hospitals to which they have been admitted for investigation and before a diagnosis is made. This is something which cannot be avoided. The result is that open cases constantly find their way to these institutions to the ever-recurring danger of the hospital staff. The life of the probationer nurse is not without its trials, strenuous and otherwise; and she is of an age group that reacts unfavourably to the disease. The medical student of a similar age has similar hazards, though to a lesser extent. They should receive our special attention, for we can ill afford to lose either, and the search must be repeated. The scope of this contribution does not extend to the origin of pulmonary tuberculosis in those who are tuberculin-positive or to the value of B.C.G. inoculation or to a hypothetical play on the risks of exogenous infection, to which one who is so fortunate as to be tuberculin-positive may expose himself. Suffice it to say that the routine standards of sanitary practice demand the isolation of the infected and the protection of those who are free from disease.

In our enthusiasm for case-finding we err, I think, in attaching too much importance to the children to the detriment of the consideration in this regard that adults merit. The child recovers from its primary complex and no one as a rule knows that anything at all has happened. If the primary complex behaves itself in an unusual manner its presence is soon discovered. There are few physicians nowadays who are not primary-complex-minded. Should the disease extend and become open someone will see that the child has a medical examination. Pulmonary tuberculosis in a child is one of the least common of diseases. Among the contacts of the ascertained case, while all should be examined, the adults should receive much more attention than the children. Things are different when adults are affected. Adults are much more likely to be the carriers of infection, and it is in the older age groups that this type of stagnation is most likely to take place.

Neither should we dismiss lightly as a potential source of infection the person discovered in surveys with small calcified lesions and without symptoms. We assess complete healing of a lung focus by the absence of symptoms, by *x*-ray appearances and by the blood sedimentation rate. Farther than that we cannot go. The direct examination of the sputum,

when sputum can be obtained, in these cases is worthless. The examination of the digested and concentrated specimen may show nothing. But the bacilli may reveal themselves in a culture medium. These carriers, for that is what they really are, may, and often do, continue to old age to lead lives in no way inconvenienced by their small tuberculous ulcer in the lung, but they are a menace to those about them.

A fruitful source for cases of chronic pulmonary tuberculosis will be found in the wards of our general hospitals. I have already referred to this matter. In the absence of an *x*-ray film of the chest the tuberculous element of the case may remain undiscovered. In a routine examination in the general hospitals in New York State 1.1 per cent. of the patients were found to have pulmonary tuberculosis. In half of these cases there was no suspicion on admission that such a condition was present. The point I wish to make is that during the course of a year a general hospital will have cases of pulmonary tuberculosis passing through unrecognised unless some form of *x*-ray examination of the chest is carried out.

Within the walls of the buildings devoted to the practice of preventive medicine a close liaison between the tuberculosis department and the other services may, and to my knowledge does, uncover many cases long before they would otherwise come to notice. Child welfare nurses are in the confidence of the mothers in their districts and they have the entry into the homes of those who provide us with the major proportion of our cases. A complaint of a mother that the husband is out of sorts has not infrequently, through the help of a health visitor, brought a case for treatment. The same may be said for those health visitors whose duties are concerned only with schoolchildren. Indeed, no one outside the immediate relatives has closer access to the household than the health visitors. The knowledge they possess can often be used with advantage by the tuberculosis officer.

My remarks so far have been concerned in the main with the fact that cases of pulmonary tuberculosis exist in considerable numbers and remain undiscovered. The technique to be adopted for the rapid scrutiny of masses of people, whether the masses be large or very small, is subject-matter for special thought. My duty is to call your attention to certain aspects of the problem of tuberculosis control which occupy the time of the tuberculosis officer, but which may not impinge with the same acuity on those who are not so entirely engaged. Among the considerations which I, with great deference, submit to you is the use to which screen examinations may be put. I am aware that this is delicate ground and I am fully alive to the limitations that the absence of a film of some size must impose, but I do wish to state that, while a screen examination alone cannot be regarded as fully adequate, it can, in the hands of those who are accustomed to working with it, be a very great help. It may be said, I think, that the amount of visualisation one may obtain by a properly conducted screen examination is only limited by the thickness of the chest wall. It must be assumed, therefore, that this method is suitable for children and for those who have thin chests. Unless the disease is of appreciable extent screen examinations for the detection of infiltration is unreliable in those who have their chests covered with much muscular or

adipose tissue. There are, of course, other objections. The work is tiring and it is not possible for long to maintain the keenness which it is necessary to bring to bear in order that an assessment of any value may be given to a succession of new cases. In our own experience infiltration, when present, may be detected in the great majority of cases by screen examination. At any rate, sufficient will be seen to raise suspicion and to lead to a film. Some minimal cases will be missed. The minimal cases, however, are very few. Nevertheless, the weakness of a screen examination will be shown up here. The marshalling necessary for mass radiography takes time and organisation and there is a publicity about it which cannot be avoided. There are some who prefer to be examined under less open conditions and who would submit to x-ray examination in a hospital or tuberculosis clinic. I suggest screen examination for families in which open cases exist. The family can be seen by arrangement with the tuberculosis officer. The rooms will not be crowded, for the amount of work of this nature which a tuberculosis officer can get through must necessarily be small at any one sitting and there is a personal contact which is less obvious in the bigger schemes. The important feature, to my mind, is that these screen examinations are conducted only on selected groups, the contact groups which we know are most likely to be infected, and the small and intimate organisation which is set in motion to bring these people to the clinic seldom fails to collect all those we want to see. The alternatives to screen examination are full-scale x-ray examination (which is prohibitive in price) and miniature radiography. In the absence of a plant for miniature radiography the preventive side of tuberculosis control is not neglected by the discreet use of a fluorescent screen in experienced hands. In our clinic it has been of very great value.

The tradition of fear of tuberculosis has been inculcated in our people. Our proneness to the disease is a byword and we have in England, which is the only country I can speak of, a reputation concerning tuberculosis which, while not wholly deserved, is not without its grain of truth. The tuberculosis household is something which tradition tells us should be avoided. While no scientific reason has been forthcoming to explain this susceptibility of certain families to tuberculous disease, there is little doubt that it exists and members of certain families succumb in a degree which cannot be fully explained away by contact infection. The examination and follow-up of that type of family (and every family that produces *de novo* a case of pulmonary tuberculosis must be regarded as coming under that category) is a problem which must be faced both by the family itself and the family doctor or the tuberculosis officer, should he become the family physician for the purposes of such investigation. The household will have to be considered as a unit, and the work is specially suitable as a clinic undertaking. All the members will come under scrutiny. Concerning the type of scrutiny involved I should like to make suggestions. If one begins with the assumption that the family will probably react unfavourably to the primary complex precautions will be taken and probably much concern avoided later. It is not easy to conduct an x-ray examination on a very young child, and in the absence of a positive tuberculin test it is scarcely necessary. Very young children should, therefore, be tested at regular intervals and further investigation carried out if the reaction becomes positive. A tuberculin test should be per-

formed on these children whenever an illness of doubtful aetiology arises. After the test becomes positive the danger period passes until puberty. From puberty until twenty-five x-ray examination of the chest should be carried out at intervals not less frequent than two years. After that age vigilance may be relaxed, but the persons concerned should be made aware of symptoms that call for enquiry. I do not think that attention of this kind will make the tuberculous family over-watched and self-conscious. I believe the members of such families are that already. On the contrary, the full facing of their problems in this regard will give them confidence and allay their introspection.

These then are some of the considerations I suggest that should guide us in the search for the open case :

(1) Pulmonary tuberculosis does not in the majority of cases promote symptoms in the patient until long after the case has become open and infectious. By that time others have become infected and many of them may be open cases too. This is the minor epidemic to which I have made reference. The presence of these minor epidemics and the cumulative effects of these outbreaks are responsible for the high (appalling would be a better description) rate of tuberculous mortality and morbidity. The fact that our racial immunity is as yet low does not change the facts or alter their significance. It is to the contacts of the ascertained cases we must look in order to find the curable ones. Thus may we in large and appreciable measure reduce the reservoirs of infection.

(2) The primary case has a significance far beyond its clinical importance. There is nothing dramatic in the clinical sense in primary tuberculosis. In the epidemiological sense it is full of interest, for these cases can unquestionably lead us to the reservoirs. Our exceptionally high rate of positive reactors in primary schools must in part be due to infection contracted in the school, where so many of the child's waking hours are spent. Three years ago I commented on the case of a child of 8 years with bilateral disease and positive sputum who was apparently in normal health. She certainly was not complaining. This child's class mates of the same age were investigated and all were found to be positive reactors. This child had no institutional treatment (the parents were unwilling), and it may interest some of those who read the contribution at that time to know that the child is no worse now than she was then. We have no reason to presume that such a set of circumstances represented an isolated episode. Pulmonary tuberculosis can and does often remain chronic in a child. It is not always catastrophic. The very extensive tuberculin survey carried out by the Irish Red Cross Society in Cork taught us many lessons. This survey dealt with the children in primary schools and orphanages. In a total of over 7,300 children, aged 1 to 16 years, 66.7 per cent. were found to be positive reactors. Between the ages of 5 and 10 years 3,784 showed a positive rate of 60.1 per cent., and 3,254 children between the ages of 10 and 15 years gave a positive rate of 76 per cent. I quote the actual figures. They represent widespread uncontrolled dissemination of infection.

(3) The tuberculosis officer is advantageously placed and suitably equipped for the finding of cases. No one else is in the same unique posi-

tion. Indeed, it is not easy to justify his function if this aspect of the work is overlooked. The segregation of cases and the curative aspects of his activities are routine and can be learned quickly. The technique of case-finding, tuberculosis control proper, is something that calls for a longer period of probation, and the tuberculosis officer devotes too little time to it.

(4) Our search for cases must be systematic. It should be concentrated and frequent among those in whom disease is found—the tuberculous households, the contacts, the particular factory, the hospital admission, the susceptible vocational groups.

(5) Generalised tuberculosis in children is due to intense exposure. In consequence the origin of the disease will almost constantly be found in the family environment, and should be sought for there. The discovery and isolation of such open-cases will most appreciably reduce the incidence of fatal infections. In one investigation of this description the provision of extra beds and isolation of infected patients reduced the fatalities from meningitis to one half within two years, and later to one quarter.

(6) The role of the radiologist is of paramount importance in any scheme of case-finding. His functions should be clearly understood and defined. Now that the era of mass miniature radiography has arrived his importance is further emphasised and I make the point that there is grave danger his valuable aid may be abused. The tendency exists to ascribe to shadows a pathological significance without sufficient cause and in the absence of other equally important avenues of search. Those whose business it is to interpret films are often pressed for opinions in advance of what would be justified under the circumstances and, while it may be pleasant to indulge in conjecture, one's conjecture may be translated into a considered opinion. The radiologically calcified and hence presumably arrested lesions will often yield bacilli if bacilli are looked for, and the sputum has been known to prove positive in cases where the film appearances were negligible. The problems which mass miniature radiography will uncover will be many and their solution will occupy a great deal of time. Its great use in preventive work will be to focus attention on those who, on investigation, will turn out to be carriers. These are the real menace in our programme of control and they will not be easy to deal with. Let the rôle of the radiologist include that which directs the physician to further effort in the investigation of such cases.

Finally, some mention must be made of propaganda. The conception of case-finding, searching among healthy people for cases of tuberculosis, is something quite new to our people. Their complete co-operation (anything less is of no value) can be obtained only if the approach to their sensibilities is the correct one. During the next five years case-finding programmes on a big scale will be launched on the public. It will be our duty to see that the ground is not ill prepared for the reception of such schemes.

## Section I.—Vital Statistics.

### 1.—Population.

Figures in this report (and the computations arising from them are based on the Preliminary Report of the Census of Population (taken on 12th May, 1946) which indicated that the population of this city was 75,595. The corresponding figure in the Census of 1936 was 80,765. The number of females in the population has been estimated to be 41,060 as against 34,535 males, the ratio of females per 1,000 males being 1,188. Figures are not yet available which would enable us to designate the age and sex constitution of the population.

The fluctuations in the population figure is shewn in the following table which indicates the totals in the various census and in years in which the Registration of Population was taken (1941 and 1943).

1881	.....	.....	80,124
1891	.....	.....	75,345
1901	.....	.....	76,122
1911	.....	.....	76,673
1926	.....	.....	78,464
1936	.....	.....	80,765
1941	.....	.....	76,834
1943	.....	.....	75,484
1946	.....	.....	75,595

### 2.—Births.

According to the Annual Summary of the Registrar General 1,848 births were *registered* in Cork during the past year (this figure is subject to correction). The number of births *notified* to the Local Authority (in accordance with the provisions of the Notification of Births Acts) was 1,785. In addition to the latter figure 38 still-births were notified, bringing the total of *notified* births to 1,823. On the basis of the Registrar General's figure the birth-rate for the year was 24.5. The general trend of the birth-rate is seen in the following table.

1881-90	...	...	...	26.2
1891-1900	...	...	...	27.2
1901-10	...	...	...	26.0
1911-20	...	...	...	24.7
1921-30	...	...	...	23.5
1931-40	...	...	...	22.6
1941	...	...	...	21.8
1942	...	...	...	22.2
1943	...	...	...	23.2
1944	...	...	...	24.7
1945	...	...	...	22.4
1946	...	...	...	24.0
1947	...	...	...	23.9
1948	...	...	...	24.5

FIG. 1—BIRTH AND DEATH RATES FROM 1881 TO PRESENT YEAR

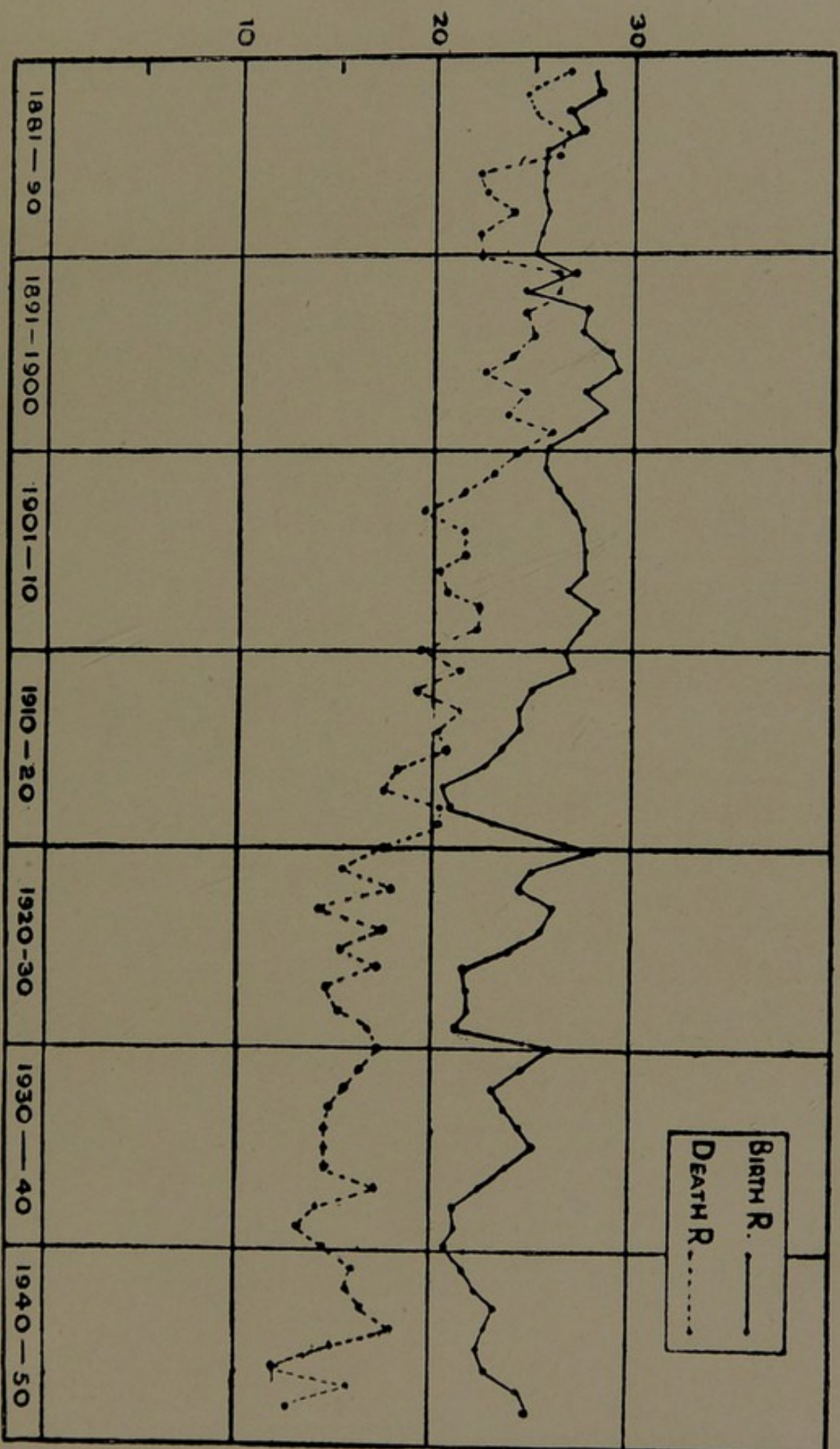




Table 1.—Birth Rates for Cork City and Éire from 1881.

Year	Cork	Éire	Year	Cork	Éire
1881	27.7	24.0	1915	23.2	22.0
1882	28.2	23.8	1916	22.6	21.1
1883	27.0	23.4	1917	20.2	20.0
1884	27.4	23.5	1918	20.8	19.9
1885	25.6	23.1	1919	23.8	19.9
1886	25.4	22.7	1920	28.3	21.6
1887	25.5	22.5			
1888	25.7	22.1	1921	24.6	19.7
1889	25.2	22.0	1922	24.2	19.5
1890	25.0	21.6	1923	26.2	20.5
			1924	25.5	21.0
1891	26.9	22.3	1925	23.8	20.8
1892	24.6	21.7	1926	21.5	20.6
1893	27.8	22.1	1927	21.7	20.3
1894	27.4	22.1	1928	21.7	20.1
1895	28.9	22.3	1929	20.9	19.8
1896	29.2	22.7	1930	25.4	19.9
1897	27.5	22.5			
1898	28.7	22.3	1931	24.4	19.4
1899	27.3	22.1	1932	23.0	19.0
1900	25.8	21.8	1933	23.7	19.3
			1934	24.4	19.5
1901	25.6	21.8	1935	24.8	19.6
1902	26.2	22.2	1936	23.7	19.6
1903	27.1	22.1	1937	22.3	19.1
1904	27.4	22.7	1938	21.1	19.4
1905	27.6	22.6	1939	21.1	19.1
1906	27.5	22.8	1940	20.7	19.1
1907	25.6	22.4			
1908	27.3	22.7	1941	21.8	18.9
1909	26.3	22.9	1942	22.2	22.0
1910	25.8	22.8	1943	23.2	21.8
			1944	24.7	22.2
1911	26.0	22.8	1945	22.4	22.4
1912	24.8	22.7	1946	24.0	22.6
1913	24.2	22.6	1947	23.9	23.2
1914	24.3	22.3	1948	24.5	21.9*

\* From *Annual Summary* of Register General.

Examination of the notifications as to place of birth shewed that 1,130 took place in the mothers' homes the balance having occurred in various institutions and private hospitals.

The number of illegitimate births notified during the year was 27 representing 1.4 per cent. of the total notified births. The corresponding figure for the previous year was 17 being 0.9 per cent. of the total registered births.

\* \* \* \* \*

" . . . Can there be values greater than the mere attainment of health? One reason why we have not been more successful in directing people toward healthful living is that subconsciously many have decided, and quite correctly, that there are more important things than merely being healthy."—W. W. BAUER, M.D., director bureau of health education, American Medical Association, in *Motivation in Health Education*. London, 1948; p. 20.

### 3.—Deaths.

1,001 deaths have been assigned to this area in the *Annual Summary* of the Registrar General for 1948. This is equivalent to a crude death rate of 13.3 per 1,000 of the population. The figures for 1947 were 1,290 deaths and the rate 17.1 per 1,000. There is some discrepancy between our figures collected locally (shewn in Table 3) and those of the Registrar General. This discrepancy has persisted in successive years and has been previously alluded to. According to our records the number of deaths was 994 (compared with 1,277 in the previous year). The difference, it is to be assumed, is explained by the occurrence of deaths in other places of persons normally resident in Cork, of which deaths we would be unaware. Actually the difference between ours and those of the Registrar General are not of statistical significance. The information to be obtained from our age-grouping is slightly more detailed than that of the Registrar General and a comparison has been made in the following table of the number of deaths in each age-group as recorded from locally collected statistics for the years 1947 and 1948.

Table. 2. Deaths arranged according to age-groups shewing percentage decrease in 1948 as compared with 1947 :—

Age Group	1947	1948	Difference	Percentage Decrease
Under 1 year	160	87	— 73	54.4
1 - 5 years	25	26	+ 1	
5 - 15 „	17	13	— 4	23.5
15 - 25 „	35	27	— 8	22.9
25 - 35 „	43	34	— 9	20.9
35 - 45 „	76	59	— 17	22.4
45 - 55 „	110	99	— 11	10.0
55 - 65 „	207	169	— 38	18.4
65 - 75 „	372	259	—113	30.5
75 - 85 „	199	194	— 5	2.6
85 upwards	34	27	— 7	20.6
Males	640	525	—115	17.9
Females	637	469	—168	26.4
Totals	1277	994	—283	22.2

\* \* \* \* \*

“ . . . Regardless of where the responsibility rests, the facts are that hordes of people are being given the impression that they need the services of psychiatrists ; they are then being advised that the shortage of psychiatrists makes it quite impossible for them to get psychiatric help. They are being warned that one out of twenty or twenty-five persons will wind up in a mental hospital ; they are then being presented with the terrifying picture of the horrible conditions in mental hospitals. We have every right to ask if this overall situation is not creating an anxiety that cannot be easily liquidated.”—Dr. C. C. BURLINGAME, in 125th Annual Report of the *Institute of Living*, Hartford, U.S.A.

Table 3.—Analysis of Causes of Death at different age-periods during the year 1948.

Causes of Death	TOTAL	Sex		Un. 1 yr.	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and up
		M.	F.											
Latina .....	1	1	—	—	1	—	—	—	—	—	—	—	—	—
Whooping Cough .....	5	3	2	3	2	—	—	—	—	—	—	—	—	—
Influenza .....	3	2	1	—	—	—	—	—	—	—	—	2	1	—
Encephalitis .....	2	1	1	—	1	—	—	—	1	—	—	—	—	—
Ebbero-Spinal Fever .....	1	—	1	1	—	—	—	—	—	—	—	—	—	—
Pulmonary Tuberculosis .....	81	51	30	—	1	1	12	22	18	18	6	4	—	—
Other Tuberculosis :—														
a) Meningitis .....	12	8	4	1	7	1	3	—	—	—	—	—	—	—
b) Abdominal .....	3	1	2	—	—	—	1	—	1	1	—	—	—	—
c) Bone and Joint .....	1	—	1	—	1	—	—	—	—	—	—	—	—	—
Cancer .....	130	60	70	—	—	1	—	3	10	14	34	49	16	3
Diabetes .....	4	1	3	—	—	—	—	—	—	—	—	2	2	—
Paralysis :														
a) Hemorrhage .....	49	17	32	—	—	—	—	1	2	6	7	16	13	4
b) Thrombosis .....	17	5	12	—	—	—	—	—	—	1	3	6	7	—
Heart Disease .....	311	167	144	—	—	2	2	2	6	27	74	111	77	10
Arterio-Sclerosis .....	17	7	10	—	—	—	—	—	—	—	3	7	6	1
Leishmaniasis .....	51	27	24	—	2	—	—	—	—	4	9	19	15	2
Cholera-Pneumonia .....	20	14	6	9	4	1	—	—	—	1	1	2	2	—
Scarlet Pneumonia .....	15	8	7	2	2	—	3	—	1	1	1	1	3	1
Other Respiratory Diseases .....	22	19	3	2	1	—	—	1	2	5	4	4	3	—
Stomatitis .....	11	8	3	—	—	—	—	1	1	5	2	2	—	—
Gastro-Enteritis .....	19	13	6	19	—	—	—	—	—	—	—	—	—	—
Appendicitis .....	2	1	1	—	—	—	—	2	—	—	—	—	—	—
Nephritis .....	22	13	9	—	1	—	2	—	5	3	7	3	1	—
Periperal Causes .....	1	—	1	—	—	—	—	1	—	—	—	—	—	—
Immaturity, etc. ....	37	21	16	36	1	—	—	—	—	—	—	—	—	—
Accidents .....	2	2	—	—	—	—	—	—	—	2	—	—	—	—
Other Violent Deaths .....	21	11	10	—	1	3	1	—	3	2	1	5	4	1
Other Defined Causes:														
1) Senility .....	42	17	25	—	—	—	—	—	—	—	—	10	27	5
2) Genito-Urinary .....	12	12	—	—	—	—	—	—	—	—	1	5	6	—
3) Blood Diseases .....	12	4	8	—	—	1	1	—	2	—	4	3	1	—
4) Rheumatism .....	10	4	6	—	—	—	1	—	—	—	4	1	4	—
5) Central Nervous System .....	10	4	6	—	—	—	1	—	2	—	1	1	5	—
(6) Marasmus .....	7	4	3	6	1	—	—	—	—	—	—	—	—	—
(7) Gastro-Intestinal .....	6	3	3	—	—	1	—	—	—	3	—	2	—	—
(8) Hypertension .....	6	1	5	—	—	—	—	—	1	1	4	—	—	—
(9) Septicaemia .....	4	3	1	—	—	1	—	—	—	1	—	1	1	—
(10) Convulsions .....	4	3	1	4	—	—	—	—	—	—	—	—	—	—
(11) Gangrene .....	3	2	1	—	—	—	—	—	1	—	1	1	—	—
(12) Intracranial Haemorrhage .....	2	1	1	2	—	—	—	—	—	—	—	—	—	—
(13) Meningitis .....	2	—	2	—	—	1	—	—	1	—	—	—	—	—
(14) Goitre .....	2	—	2	—	—	—	—	—	—	1	1	—	—	—
(15) Miscellaneous .....	12	6	6	2	—	1	—	1	2	3	1	2	—	—
TOTALS .....	994	525	469	87	26	13	27	34	59	99	169	259	194	27

The figures in this table are computed from returns of weekly deaths by the District Registrars, they have not been corrected for *inward transfers* and accordingly do not correspond with the returns of the Registrar General.

Table 3, which is based on Abstract V. of the Registrar-General's Annual Report, is an analysis of the causes of death during the year. It differs from Abstract V. in this respect that the age-groups are more extended and that the causes of death have been sub-divided in some instances. For example, under the headings "other forms of tuberculosis" and "other defined diseases" the various causes of death are more fully set out. This table is compiled from the weekly returns collected by us from the local Registrars and the totals do not correspond with those of the Registrar-General in his *Summary*, which are not fully corrected. The number of deaths in this table amounts to 994 (as compared with 1,001 in the *Summary*) so that the error is but slight and probably due to deaths in other places which have been allocated by the Registrar-General to this area. Once again I have to acknowledge the assistance received from the Registrar-General in the compilation of these figures.

Table 4 sets out the death rates per 1,000 persons living in Cork City, Éire and in England and Wales, during the period 1881 to the present. These figures do not necessarily represent the relative healthiness of the communities concerned since they are based on crude death rates. In order to compare such conditions the figures would have to be based on standardised death-rates. The general trend of the death-rate is, however, indicated by this table.

Table 4.—Crude Death Rates per 1,000 living for Cork City, Éire and England and Wales, from 1881.

Year	Cork	Éire	E. & W.	Year	Cork	Éire	E. & W.
1881	26.8	17.1	18.9	1915	20.7	17.5	15.7
1882	24.7	16.9	19.6	1916	18.2	16.5	14.3
1883	24.9	18.6	19.6	1917	17.4	16.9	14.2
1884	26.7	17.4	19.7	1918	20.4	17.5	17.3
1885	26.2	18.0	19.2	1919	20.2	17.9	14.0
1886	22.1	17.4	19.5	1920	17.5	14.7	12.4
1887	22.4	17.9	19.1	1921	15.4	14.3	12.1
1888	24.1	17.4	18.1				
1889	22.3	16.9	18.2	1922	18.0	14.7	12.8
1890	22.2	17.6	19.5	1923	14.0	14.0	11.6
				1924	17.8	15.0	12.2
1891	26.9	17.6	20.2	1925	15.5	14.7	12.2
1892	26.4	18.7	19.0	1926	17.3	14.0	11.6
1893	24.5	17.3	19.2	1927	14.7	14.8	12.3
1894	24.9	17.7	16.6	1928	15.2	14.2	11.7
1895	23.9	17.7	18.7	1929	16.9	14.6	13.4
1896	22.6	15.9	17.1	1930	17.3	14.1	11.4
1897	24.7	17.8	17.4	1931	16.4	14.5	12.3
1898	23.7	17.7	17.5				
1899	26.3	17.0	18.2	1932	15.7	14.4	12.0
1900	24.2	19.1	18.2	1933	14.9	13.6	12.3
				1934	14.7	12.9	11.8
1901	23.0	17.1	16.9	1935	14.8	13.9	11.7
1902	21.5	17.0	16.3	1936	14.7	14.3	12.1
1903	19.4	17.0	15.5	1937	17.4	15.3	12.4
1904	21.6	17.6	16.3	1938	14.1	13.6	11.6
1905	21.7	16.4	15.3	1939	13.1	14.2	12.1
1906	20.2	16.2	15.5	1940	14.6	14.1	14.0
1907	20.6	17.0	15.1				
1908	22.2	17.1	14.8	1941	16.1	14.6	12.9
1909	22.1	16.8	14.6	1942	15.9	14.0	11.6
1910	19.3	16.6	13.5	1943	16.5	14.7	12.1
				1944	18.1	15.4	12.7
1911	21.2	16.3	14.6	1945	14.9	14.4	11.4
1912	19.1	16.2	13.4	1946	13.7	13.9	11.5
1913	21.5	16.8	13.8	1947	16.9	14.9	12.0
1914	20.2	16.1	14.0	1948	13.2	12.2	

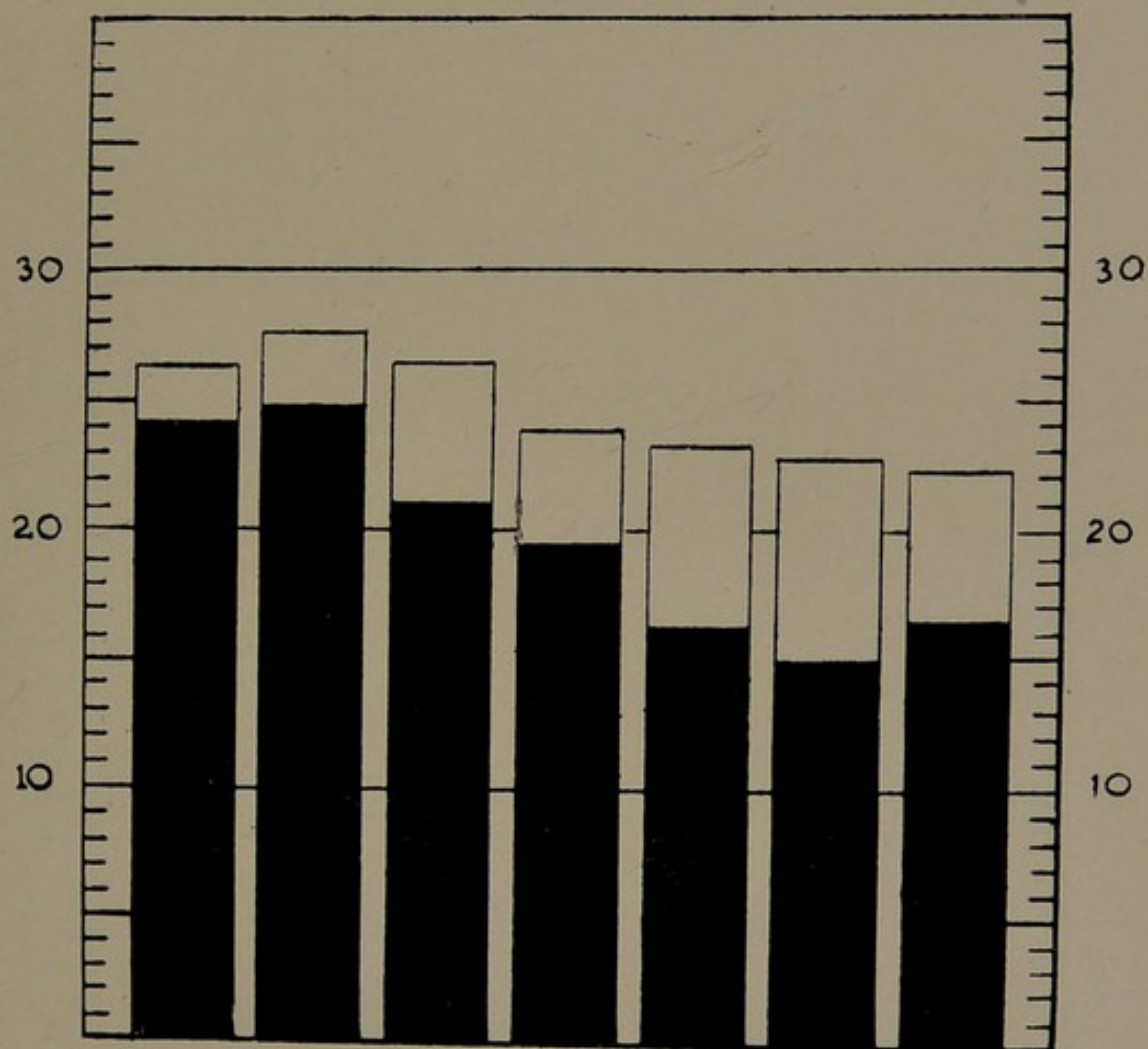


FIG. II.—BIRTH AND DEATH RATES AS DECENNIAL AVERAGES FROM 1881 TO PRESENT YEAR.

The lower (black) portion of each column represents the death rates, the total height of column the birth rates.

FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

The principal causes of death (in order of importance) were as follows :—

1.	Heart Disease	...	311	(362)
2.	Cancer ...	...	130	(120)
3.	Pulmonary Tuberculosis	...	81	(126)
4.	Cerebral Haemorrhage	...	58	(102)
5.	Bronchitis	...	51	(92)
6.	Senile Decay	...	42	(55)
7.	Premature Birth, etc.	...	37	(67)
8.	Violence ...	...	23	(31)
9.	Nephritis	...	22	(29)
10.	Broncho-pneumonia	...	20	(42)
11.	Diarrhoea and Enteritis	...	19	(32)
12.	Lobar Pneumonia	...	15	(20)

The figures in brackets denote the corresponding numbers last year.

**Cardiac Disease.** As usual this condition accounts for the great bulk of the deaths. Stress has been laid on deaths from heart disease and allusion made to the fact that the majority of them are found to be recorded in the later age-groups which gives rise to the supposition that they represent a degenerative condition rather than an infective one. This feature has been reproduced this year as shewn in the following table.

Table 5.—Analysis of deaths from heart disease from 1931.

Year	Under 5 years	5/15 years	15/25 years	25/35 years	35/45 years	45/55 years	55/65 years	65/75 years	75 yrs and up	Total
1931	—	6	3	5	18	31	66	87	34	250
1932	—	6	2	9	17	39	50	99	36	258
1933	—	2	4	5	15	31	58	83	42	240
1934	1	3	4	5	20	17	66	103	39	258
1935	2	3	1	7	11	29	63	93	36	245
1936	4	3	3	7	6	32	64	98	48	265
1937	—	5	6	9	16	24	72	112	64	308
1938	1	2	2	2	12	35	67	106	76	304
1939	—	1	4	2	12	27	63	108	61	278
1940	2	—	5	4	12	21	66	109	74	293
1941	—	3	2	6	12	22	82	108	71	306
1942	1	1	1	5	11	25	74	131	60	317
1943	—	1	7	4	16	28	81	133	79	349
1944	1	1	3	5	13	35	63	155	114	390
1945	—	3	6	4	12	24	62	123	83	317
1946	1	1	7	8	14	18	65	115	81	330
1947	—	1	3	5	13	31	71	146	92	362
1948	—	2	2	2	6	27	74	111	87	311

The general trend of deaths from heart disease is shewn in the following table in which a comparison is made with deaths from cancer and pulmonary tuberculosis.

Table 6.—Trend of mortality from the three principal causes of death in Cork City from 1931.

Year	Condition		
	Heart Disease	Cancer	Pulmonary Tuberculosis
1931	250	124	103
1932	258	98	111
1933	240	114	106
1934	258	111	107
1935	245	133	115
1936	265	121	85
1937	308	117	96
1938	304	106	99
1939	278	143	86
1940	293	114	96
1941	306	125	88
1942	317	149	106
1943	349	120	107
1944	390	123	118
1945	317	116	86
1946	330	92	79
1947	362	120	126
1948	311	130	81

**Cancer.** The number of deaths attributed to this disease recorded by us was 130 as compared with 120 in the previous year. The corresponding figures of the Registrar-General are 123 (uncorrected) and 111. The discrepancy observable here, no doubt, is due to a difference in classification, all forms of malignant disease being classed by us under this heading. For comparative purposes the Registrar-General's are the more correct figures. On the basis of 130 deaths the rate was 1.7 per 1,000 of the population.

**Phthisis Death Rate.** The deaths from pulmonary tuberculosis numbered 81 equivalent to a rate of 1.07 per 1,000 of the population. The corresponding figures for last year were 120 and 1.6 per 1,000 respectively.

**Infant Mortality.** The number of deaths of children under one year of age was 87 which is equivalent to a rate of 47 per 1,000 live births. In the previous year the number of deaths was 160 and the rate 87 per 1,000. The contributory factors are discussed in Section IV.

**Maternal Mortality.** There was 1 death from causes under this heading during the year. The maternal mortality rate was 0.5.

**Infectious Disease Death Rate.** The number of deaths from the principal infectious diseases was 12 equivalent to 0.1 per 1,000 of the population. Of the deaths so recorded, 3 were due to influenza, 5 to whooping cough and 1 to cerebro-spinal fever.

Table 7.—Showing the number of deaths from the principal epidemic diseases during the past ten years.

Year	Typhus Fever	Typhoid Fever	Scarlatina	Puerperal Fever	Diphtheria	Measles	Diarrhoea	Whooping Cough
1937	—	—	10	—	17	—	52	12
1938	—	1*	3	—	7	—	33	3
1939	—	—	1	1	3	—	39	6
1940	—	—	1	—	5	21	52	—
1941	—	—	—	—	5	6	36	—
1942	—	—	—	—	21	—	52	2
1943	—	—	—	1	17	—	52	4
1944	—	—	—	2	5	6	65	28
1945	—	—	—	—	3	—	50	—
1946	—	—	—	—	2	4	18	—
1947	—	—	—	—	—	—	32	5
1948	—	—	1	—	—	—	19	5

\* Infection in this case was incurred outside the City area.

**Uncertified Deaths.** No uncertified death was recorded during the year.

**Deaths from Violence.** In the 23 recorded instances the cause of death was as follows :—

Falls	9
Motor Vehicles	4
Drowning	3
Burns	1
Suicide	2
Miscellaneous	4

The number of deaths attributed to motor car accidents in previous years is as follows :—

1934	4	1942	4
1935	7	1943	3
1936	6	1944	1
1937	6	1945	0
1938	2	1946	6
1939	2	1947	6
1940	3	1948	4
1941	3		

Table 8.—INFANT DEATH RATE.

Year	Births	Deaths under 1 year	Deaths per 1000 Births	Year	Births	Deaths under 1 year	Deaths per 1000 Births
1881	2167	271	124	1915	1778	235	132
1882	2212	283	127	1916	1732	182	105
1883	2161	236	109	1917	1552	169	108
1884	2199	253	110	1918	1559	189	118
1885	2054	247	120	1919	1825	183	100
1886	2037	225	110	1920	2169	173	79
1887	2042	252	123	1921	1887	144	76
1888	2058	288	139	1922	1853	173	93
1889	2023	253	125	1923	2007	133	66
1890	2005	214	106	1924	1990	175	87
1891	2024	281	138	1925	1827	136	74
1892	1978	297	150	1926	1687	220	130
1893	2092	268	132	1927	1701	148	87
1894	2063	310	150	1928	1764	135	76
1895	2179	287	131	1929	1816	156	85
1896	2144	229	106	1930	1998	155	77
1897	2073	316	152	1931	1921	138	71
1898	2160	285	131	1932	1819	168	89
1899	2060	276	133	1933	1852	165	89
1900	1944	235	120	1934	1922	139	72
1901	1942	272	139	1935	1945	162	83
1902	2031	258	127	1936	1921	154	80
1903	2066	232	112	1937	1818	187	103
1904	2089	249	118	1938	1708	129	76
1905	2099	276	131	1939	1711	125	73
1906	2094	279	133	1940	1670	153	92
1907	1946	254	139	1941	1680	142	85
1908	2084	281	134	1942	1706	171	100
1909	2000	251	125	1943	1781	197	113
1910	1965	189	96	1944	1721	188	108
1911	1992	277	139	1945	1690	156	89
1912	1903	204	106	1946	1756	109	62
1913	1853	253	136	1947	1824	160	87
1914	1897	226	119	1948	1848	87	47

## Section. II.—Infectious Diseases

The various enactments, referred to in previous reports, covering the notification of infectious disease have been repealed by the Public Health Act 1947 and have been replaced by the Infectious Diseases Regulations, 1948, the second schedule of which specifies the following diseases to be infectious diseases : (Art 7).

Acute Anterior Poliomyelitis	Paratyphoid B.
Anthrax	Pemphigus Neonatorum
Brucellosis (undulant fever)	Plague
Cerebro-Spinal Fever	Primary Pneumonia
Cholera	Psittacosis
Diphtheria	Puerperal Pyrexia
Dysentery	Puerperal Sepsis
Encephalitis Lethargica	Rubella
Epidemic Diarrhoea and Enteritis	Scabies
Erysipelas	Scarlet Fever
Gonorrhoea	Smallpox
Haemorrhagic Jaundice	Soft Chancre
(Weil's Disease)	Streptococcal Sore Throat
Impetigo Contagiosa	Syphilis
Infective Hepatitis	Tinea Capitis
Infective Mononucleosis	Tuberculosis
Influenza	Trachoma
Influenzal Pneumonia	Typhoid
Malaria	Typhus
Measles	Whooping Cough
Ophthalmia Neonatorum	Yellow Fever
Paratyphoid A.	

### General.

Notifications of infectious disease received during the year amounted to 440 (the corresponding figure for the previous year being 711). The principal reduction was in scabies (273 to 69). There was a further substantial reduction in cases of diphtheria (18 to 10). The principal increase was in the case of scarlatina (63 to 86). Generally speaking the incidence of infectious disease was low and the mortality rate of 0.1 per 1,000 was equal to the lowest ever previously recorded (1945-47).

In previous reports reference was made to the fact that certain diseases which continue to appear in our statistical tables are now but of academic interest. They serve as a useful reminder of the debt which the community owes to sanitary science. In the field of preventive medicine one cannot point to dramatic results such as those achieved in individual cases by curative methods, but taken over long periods of time the conquest of pestilence and death has been no less impressive. Typhus fever, typhoid, smallpox, continued fever all took heavy toll of life in this community at one time. Now they are only memories. Trachoma is another disease which has disappeared completely while cholera has not been recorded within living memory.

## DIPHThERIA.

In the opening section of this report it has been noted that for the second year in succession there was no death from diphtheria and that the number of cases recorded constitutes a low record. In the previous year the number of cases was 18 which was at the time also a low record so that the present position may be regarded with some satisfaction. In table 11, following, certain figures are given from which it may be deduced that there have been better showings than the present but these must be considered in the light of the remarks in the opening section from which it is apparent that no great reliance can be placed upon them as indicators of the prevalence of diphtheria.

In the report for 1946 I alluded to the fact that there had only been two deaths from diphtheria and in this connection observed (as I had remarked in many previous reports) that there had never been a death of an immunised child in this city. We can therefore now claim that out of a total of 27,150 children immunised *there has not been a single death from diphtheria*. The number of deaths of non-immunised children which have occurred since our scheme began amounts to 266.

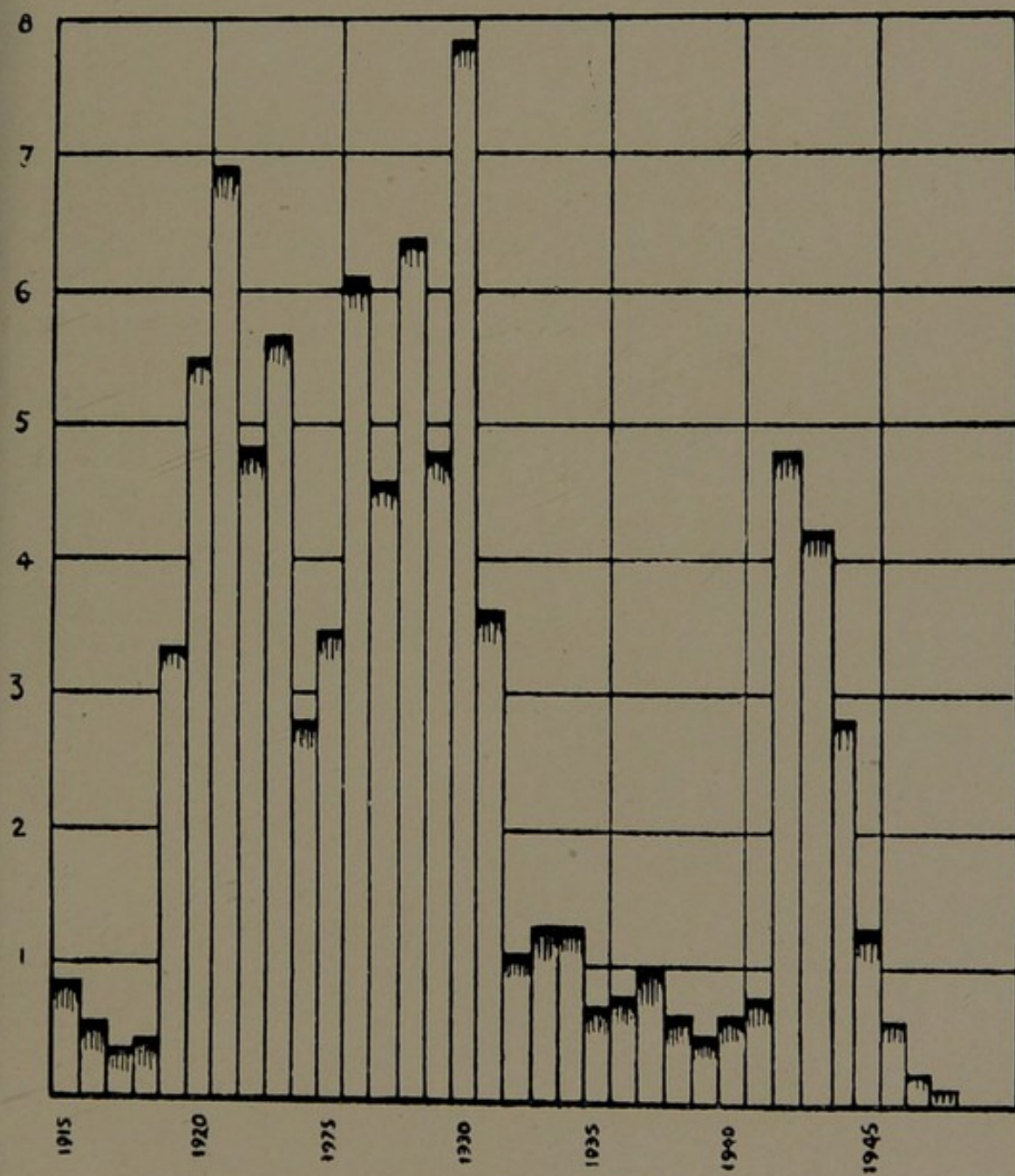
We hope that the present happy position will not induce a sense of false security among parents of the city. Unfortunately it is true that in the past, our experience has been that when the incidence of the disease falls to a low level there is a corresponding reduction in the numbers of the children attending the clinic. In such circumstances it is only a question of time as to when the disease will again assume serious proportions.

Table 10.—Analysis of cases and deaths.

Age Groups	CASES		DEATHS
	Number	Proportion of Total	Number
0-2 years	—	— per cent.	
2-4 „	2	20 „	
4-6 „	2	20 „	
6-8 „	1	10 „	
8-10 „	1	10 „	
10-15 „	—	— „	
15-25 „	1	10 „	
25 & over	3	30 „	
Total ...	10	100 per cent.	None

The incidence (per 1,000 of population) and the case-fatality rates of diphtheria from 1890 to the present year are set out in Table 11.

FIG. III.—DIPHTHERIA INCIDENCE (PER 1000 POPULATION) FROM 1915





In a proportion of cases the reports received transpired not to be diphtheria. The actual number was 50 (approximately 83 per cent. of all notifications received). The age distribution of these was as follows :—

0-2 years	...	...	1 cases
2-4 "	...	...	11 "
4-6 "	...	...	2 "
6-8 "	...	...	3 "
8-10 "	...	...	8 "
10-15 "	...	...	9 "
15-20 "	...	...	6 "
Over 20 "	...	...	10 "
Total			50

\* \* \* \* \*

We live in an age of acute fat shortage from the wholesome sources that we previously used. Substitutes have to be found, and applied chemistry has developed so much that the chemical constituents can be extracted from inedible products—often of doubtful origin—and re-combined into apparently innocuous substitutes. Mineral oil is, apparently, too useful to be entirely discarded, despite its undesirability. Science can even produce fatty acids from the hydrogenation of water-gas and coal tar oils, which can be synthesised into fats and greases. It is not beyond the resources of this age to produce fats from the growth products of yeasts and moulds—even from moulds growing in sewers. And of course we can synthesise our own fat out of carbohydrates, and possibly out of protein (if we can get enough), so that “sweets off the ration” may indirectly help to solve the problem.

But it is doubtful if some of the oils and fats produced are identical in glyceride structure with the natural products, although it is claimed that from a physiological point of view, and as far as nutriment is concerned, this change in glyceride structure is immaterial. Economically and physiologically, the use of substitute fats may be justified; we have yet to learn of their long-range pathological effects. Obviously, control and supervision of fat distribution for food is required.

Meanwhile, we may be permitted to sigh for the good beef dripping and prime butter of the golden age, which ended when the golden sovereign turned into a paper substitute.—Dr. S. I. A. LAIDLAW, M.O.H. City and Port of Glasgow—*Public Health*, June, 1949.

\* \* \* \* \*

The present shortage from which we are suffering has given rise to a demand for substitutes, either to take the place of or to supplement our present meagre ration. Because of this many housewives have yielded to the temptation to use liquid paraffin as an emulsifier in baking. The value of such a mineral oil from the nutritional point of view is *nil*, though it does render easier the operation of making edible pastry and cakes. This oil is not ordinarily absorbed from the digestive tract, though after prolonged use it may be found deposited in the liver and intestines. It contains no vitamins, and indeed, interferes with the absorption of carotene and vitamin A, calcium, phosphorus and vitamin K. Although it has been reported that pure mineral oils are non-carcinogenic, yet if they are sufficiently finely divided in the finished food or are impure, or are damaged by high temperatures, it would be unwise to disregard the possibility of carcinogenetic properties arising. On the evidence available, the use of even refined oil in cookery should be condemned. Unrefined oils are dangerous. Dr. S. A. I. LAIDLAW, M.O.H. City and Port of Glasgow—*Public Health*, June, 1949.

Table 11.—Incidence and Case Fatality of Diphtheria from 1890.

Year	Cases	Rate per 1000 Population	Deaths	Fatality Rate
1890	20	0.26	8	40.0
1891	37	0.49	11	30.0
1892	11	0.14	3	27.3
1893	18	0.23	3	16.6
1894	14	0.18	4	28.6
1895	6	0.07	2	33.3
1896	7	0.09	1	14.3
1897	21	0.27	10	47.6
1898	18	0.23	4	22.2
1899	18	0.23	5	27.8
1900	23	0.30	2	0.8
1901	26	0.34	11	42.3
1902	8	0.10	4	50.0
1903	17	0.22	4	17.5
1904	29	0.38	6	20.6
1905	18	0.23	6	33.3
1906	37	0.48	11	29.7
1907	37	0.48	5	13.5
1908	40	0.56	9	22.5
1909	66	0.86	11	16.6
1910	51	0.65	11	19.3
1911	70	0.91	10	14.3
1912	52	0.67	6	11.5
1913	24	0.31	3	12.5
1914	54	0.70	13	24.1
1915	68	0.88	14	20.6
1916	43	0.55	9	20.9
1917	26	0.33	3	11.5
1918	34	0.43	6	17.6
1919	262	3.37	32	12.2
1920	428	5.50	60	14.0
1921	541	6.93	56	10.4
1922	379	4.86	42	11.1
1923	440	5.68	23	5.2
1924	217	2.85	12	5.4
1925	265	3.50	6	2.2
1926	469	6.10	18	3.7
1927	344	4.55	9	2.5
1928	385	6.37	19	4.7
1929	369	4.81	32	8.4
1930	627	7.86	59	10.0
1931	288	3.66	24	8.6
1932	85	1.08	17	20.0
1933	109	1.32	14	12.8
1934	109	1.32	25	22.1
1935	56	0.71	7	12.5
1936	25	0.31	8	32.0
1937	80	0.99	17	21.2
1938	54	0.66	7	12.8
1939	41	0.50	3	7.4
1940	52	0.67	5	9.6
1941	62	0.80	5	8.1
1942	372	4.84	21	5.6
1943	326	4.25	17	5.2
1944	172	2.27	5	2.9
1945	95	1.24	3	3.1
1946	46	0.61	2	4.3
1947	18	0.25	—	—
1948	10	0.10	—	—

Note :—The Infectious Disease (Notification) Act, 1889, was adopted on 7th February, 1890.

## DIPHTHERIA IMMUNISATION.

The total number of children who completed the full course of treatment during the year was 922, of whom 198 were children who were negative to the primary Schick test.

Table 12.—Attendance of new cases at Diphtheria Prevention Clinic.

Year	Primary Schick Negative	Completed Full Course	Total	Not Completed Course
1929	—	1,802	1,802	—
1930	154	2,857	3,011	505*
1931	324	1,777	2,101	436
1932	91	422	513	208
1933	159	592	751	61
1934	826	1,716	2,542	432
1935	173	1,118	1,291	8
1936	458	1,741	2,199	22
1937	165	960	1,125	212
1938	106	708	814	205
1939	87	355	442	69
1940	87	552	639	90
1941	109	576	685	60
1942	367	3,795	4,162	891
1943	306	1,081	1,387	321
1944	80	654	734	99
1945	106	622	728	145
1946	67	454	521	103
1947	154	633	787	103
1948	198	724	922	178
<b>Totals</b>	<b>4,017</b>	<b>23,139</b>	<b>27,156</b>	<b>4,148</b>

\* Includes figures for both 1929 and 1930.

The figures for primary Schick tests in this table do not represent the *total* number of such tests performed but merely the number that proved *negative*. They are stated here for the purpose of estimating the number of children who have passed through our hands and who may be regarded as presumably immune. The total number of primary tests performed during the year is set out in the following table.

Table 13.—Primary Schick Tests performed during the year.

Age Group	Number of Cases	Positive	Negative	Proportion <b>Positive</b>
0-5 years	480	432	48	90.0 %
5-10 "	138	41	97	29.7 %
10 and over	55	2	53	3.6 %
<b>Totals</b> ...	<b>673</b>	<b>475</b>	<b>198</b>	<b>70.5 %</b>

Table 14.—Primary Schick Tests. Analysis showing proportion positive in each year.

Year	Number Tested	Positive	Negative	Proportion Positive
1929-30	1170	916	254	78.2 per cent.
1931	598	274	324	45.8 "
1932	301	210	91	69.7 "
1933	435	276	159	63.4 "
1934	1474	648	826	44.0 "
1935	309	136	173	44.0 "
1936	626	168	458	26.8 "
1937	266	101	165	38.0 "
1938	152	46	106	30.2 "
1939	110	23	87	20.9 "
1940	131	34	87	25.9 "
1941	146	37	109	25.3 "
1942	686	319	367	46.5 "
1943	306	107	199	34.9 "
1944	108	28	80	25.9 "
1945	181	75	106	41.4 "
1946	86	19	67	22.1 "
1947	659	505	154	76.8 "
1948	673	475	198	70.5 "

Apart from record purposes this table is of little value as, obviously, the proportion of *positive* reactions will depend almost entirely on the age constitution of the groups of children tested and as this factor will fluctuate widely from year to year, so also will the results vary from one year to another. In this respect the next table is more informative as the results in the different years have been analysed in accordance with the age groups of the children.

Table 15.—Primary Schick Tests. Proportion positive in the age-groups :—

Period	Proportion POSITIVE (expressed as percentages)			
	0-5 years	5-10 years	10 and over	Whole Group
1929/30	—	—	—	78.2
1931	—	—	—	45.8
1932	88.4	60.1	37.7	69.6
1933	79.7	63.3	28.9	63.4
1934	65.8	44.2	27.5	44.0
1935	66.6	49.5	30.3	44.0
1936	66.6	41.5	15.5	25.2
1937	—	43.8	33.0	37.9
1938	—	25.0	35.7	30.2
1939	50.0	28.6	18.4	20.9
1940	25.0	20.4	32.9	25.9
1941	—	30.9	22.2	25.3
1942	25.0	45.2	47.6	46.5
1943	83.0	28.0	34.8	34.9
1944	—	12.0	29.2	25.9
1945	55.5	30.7	42.4	41.4
1946	50.0	28.5	19.0	22.1
1947	91.9	28.5	5.4	76.8
1948	90.0	29.7	3.6	70.5

The high proportion of *positive* reactors in the 0/5 years group this year is evidence that a very large porportion of the children tested in this group were young infants, that is, about 1 year old or younger.

The *total number of cases* dealt with, (according to age-groups) is shewn in the following figures.

(1) Treatment Incomplete—

0 - 1	.....	.....	.....	16
1 - 2	.....	.....	.....	46
2 - 3	.....	.....	.....	33
3 - 4	.....	.....	.....	28
4 - 5	.....	.....	.....	21
5 - 10	.....	.....	.....	32
10 and over	.....	.....	.....	2
				<hr/> 178

(2) Treatment Complete—

0 - 1	.....	.....	.....	91
1 - 2	.....	.....	.....	330
2 - 3	.....	.....	.....	124
3 - 4	.....	.....	.....	80
4 - 5	.....	.....	.....	51
5-10 years	.....	.....	.....	47
10 and over	.....	.....	.....	1
				<hr/> 724

Total New Cases Treated	...	...	902
No. of Primary Schick Negatives	...	...	198
Old cases tested and treated	...	...	563

Total 1,663

Table 16.—Secondary Schick Tests.

Year	Total	Negative	Positive	Proportion Negative
1930	805	752	53	94.6 per cent.
1931	1166	991	175	85.2 "
1932	913	858	55	92.8 "
1933	893	801	92	89.0 "
1934	1105	1058	47	95.7 "
1935	1405	1388	17	98.8 "
1936	1272	1259	13	98.9 "
1937	732	722	10	98.6 "
1938	581	498	83	85.7 "
1939	215	205	10	95.3 "
1940	353	350	3	99.1 "
1941	488	464	24	95.0 "
1942	2,409	2,248	161	93.3 "
1943	1,232	1,178	54	97.2 "
1944	398	378	20	94.9 "
1945	484	479	5	98.9 "
1946	295	292	3	98.9 "
1947	364	360	4	98.9 "
1948	647	644	3	99.5 "
Totals ...	15,757	14,925	832	94.7 per cent.

In addition to alum-precipitated toxoid (A.P.T.) and toxoid anti-toxin floccules (T.A.F.), aluminium phosphate toxoid (P.T.A.P.) was used. This was found to be a satisfactory antigen.

## SWAB EXAMINATIONS.

The following figures indicate the number of swabs examined in connection with the control of diphtheria since 1928.

Year	No. Examined	Year	No. Examined
1928	980	1938	1,124
1929	1,353	1939	714
1930	2,872	1940	747
1931	1,936	1941	711
1932	1,022	1942	3,509
1933	878	1943	3,237
1934	1,203	1944	1,546
1935	924	1945	1,363
1936	633	1946	856
1937	1,092	1947	520
		1948	499

## EPIDEMIC DIARRHOEA

64 notifications were recorded during the year. This figure is a decrease of 47 over that for the previous year. It represents a morbidity rate of 0.85 per 1,000 which is an average figure for this locality. The deaths numbered 19 yielding a fatality rate of 28.1 per cent. of cases notified and a mortality rate of 0.25 per 1,000 population. The main factors in the causation of this disease, one of the most serious in childhood, have been referred to repeatedly in these reports and need not be laboured again. The principal exciting cause is, of course, the substitution of bottle-feeding for breast-feeding and the subsidiary causes arising from this are unhygienic milk production and distribution, unsuitable methods of feeding, ignorance or carelessness in the preparation of feeds, insanitary surroundings and over-crowding. The dangers arising from these secondary causes can be entirely eliminated by the adoption of breast feeding. Seasonal variation was rather more pronounced than is usual in this area. The bulk of the cases occurred in the third and fourth quarters, August and October supplying the greatest number of cases with an unusual interregnum in September. The results obtained by distributing the figures into months and quarters (according to date of occurrence) is shewn in the sub-joined tables :—

Month	Cases	Deaths	Month	Cases	Deaths
Jan. ....	3	3	July ....	6	0
Feb. ....	1	2	Aug. ....	13	0
March ....	1	1	Sept. ....	4	1
April ....	0	1	Oct. ....	12	2
May ....	7	2	Nov. ....	7	1
June ....	4	2	Dec. ....	4	4

\* \* \* \* \*

" . . . The ordinary citizen sees little connexion between the advance of science and the fact that he is healthy ; it is, he feels, a quality that other people may lack, but is his by right of a superior heredity or habit. Ill health, on the other hand, while a fault in other people, is a misfortune in himself and a serious reflection on the state of medical science." Sir HENRY TIZARD, *Nature*, Sept. 11, 1948, p. 396.

The distribution according to *quarters* was as follows

	Cases	Deaths
1st Quarter	5	6
2nd    ,,	11	5
3rd    ,,	25	1
4th    ,,	23	7

Many cases of gastro-enteritis are indeed not true cases of epidemic disease but arise from dietetic indiscretions on the part of those responsible for the feeding of the infant. Cow's milk, once more, has been associated in marked degree with the incidence of the disease.

It has already been stated that 64 notifications were received but of these we failed to trace 10 in the investigations which followed. This has been a constant feature, as alluded to in previous reports, and is due to the mother tendering wrong particulars to the notifying doctor. This is the method adopted by such mothers to secure the attention of the doctor of their choice. Subtracting this number we were left with a residue of 54 cases traced and investigated. Of this 54 only 2 were breast-fed. These figures speak for themselves. In conjunction with the corresponding figures for each year since 1935 they are analysed in the next table.

Year	Number of Cases according to Manner of Feeding			Cases Untraced	Total
	Breast	Cow's Milk	Dried Milk		
1935	18	128	6	26	178
1936	7	198	5	16	261
1937	18	204	8	51	246
1938	14	108	5	15	142
1939	9	148	13	27	197
1940	13	202	9	62	286
1941	4	173	6	35	218
1942	11	168	24	24	227
1943	10	90	18	30	148
1944	5	128	17	29	179
1945	4	84	11	13	112
1946	2	56	4	7	69
1947	4	73	17	16	110
1948	2	45	7	10	64
Totals ...	121	1805	150	361	2437

During the fourteen years covered by this table 2,076 cases have been investigated and in 94 per cent. *artificial feeding* was the method employed. It is to be noted that these figures do not pretend to complete accuracy and since we do not know the actual number of children at risk in each year we cannot postulate the relative danger of each method of feeding but taken together, the evidence is clear enough that any child subjected to artificial feeding is greatly imperilled thereby and further it can be stated that when artificial feeding is adopted the danger is very much greater when cow's milk is employed. This no doubt is due to faulty methods in preparing feeds and unhygienic conditions generally in the homes. There seems to be much greater risk from cow's milk than from dried milk. Considering the better nutritive

value of the former this is unfortunate, but taking facts as we find them we are forced to the conclusion that, in the hands of the average mother, ordinary cow's milk is a highly dangerous article.

In Table 17 are shewn the numbers of cases and deaths from diarrhoea which have occurred in the City since 1907, the year in which the disease was first made notifiable here. The *morbidity* rate is based on the number of cases notified in proportion to the population, the *mortality* rate on the number of deaths per 1,000 of the population while the *case fatality* rate represents the deaths registered per 100 cases notified.

Table 17.—Epidemic Diarrhoea. Return of Cases notified and Deaths registered, together with the Mortality, Morbidity and Case-fatality Rates arising therefrom.

Year	No. of Cases	Rate per 1000 Population (Morbidity)	DEATHS		
			Number Recorded	Mortality Rate	Case Fatality Rate*
1907	413	5.42	48	0.63	11.1
1908	524	6.85	79	1.03	15.0
1909	514	6.72	54	0.71	10.3
1910	159	2.07	34	0.44	21.3
1911	352	4.56	78	1.01	22.1
1912	71	0.92	18	0.23	25.3
1913	320	4.13	114	1.48	35.6
1914	188	2.43	67	0.86	35.6
1915	177	2.29	49	0.63	27.6
1916	139	1.79	35	0.45	25.1
1917	83	1.07	34	0.43	40.9
1918	121	1.55	40	0.51	33.0
1919	85	1.09	40	0.51	47.0
1920	54	0.69	22	0.28	40.7
1921	105	1.35	1	0.01	0.94
1922	19	0.24	—	—	—
1923	35	0.44	24	0.30	68.5
1924	30	0.38	10	0.12	33.3
1925	142	1.81	45	0.58	31.6
1926	108	1.37	53	0.67	49.1
1927	76	0.96	24	0.30	31.5
1928	79	1.00	28	0.35	35.4
1929	78	0.98	25	0.31	32.0
1930	59	0.74	37	0.46	62.7
1931	85	1.06	34	0.42	40.0
1932	178	2.22	46	0.57	27.8
1933	189	2.35	45	0.56	23.8
1934	80	0.99	36	0.44	45.0
1935	178	2.21	56	0.69	31.4
1936	261	3.23	41	0.50	15.7
1937	246	3.04	52	0.64	21.1
1938	142	1.76	33	0.41	23.2
1939	197	2.44	39	0.48	19.8
1940	286	3.54	52	0.64	18.4
1941	218	2.85	36	0.46	16.5
1942	227	2.95	52	0.68	22.9
1943	148	2.00	52	0.68	35.1
1944	179	2.37	65	0.61	36.3
1945	114	1.45	50	0.50	43.8
1946	71	0.94	19	0.25	26.7
1947	111	1.45	32	0.42	28.6
1948	64	0.85	19	0.25	28.1

\* The fatality rates in this table must be read with extreme caution.

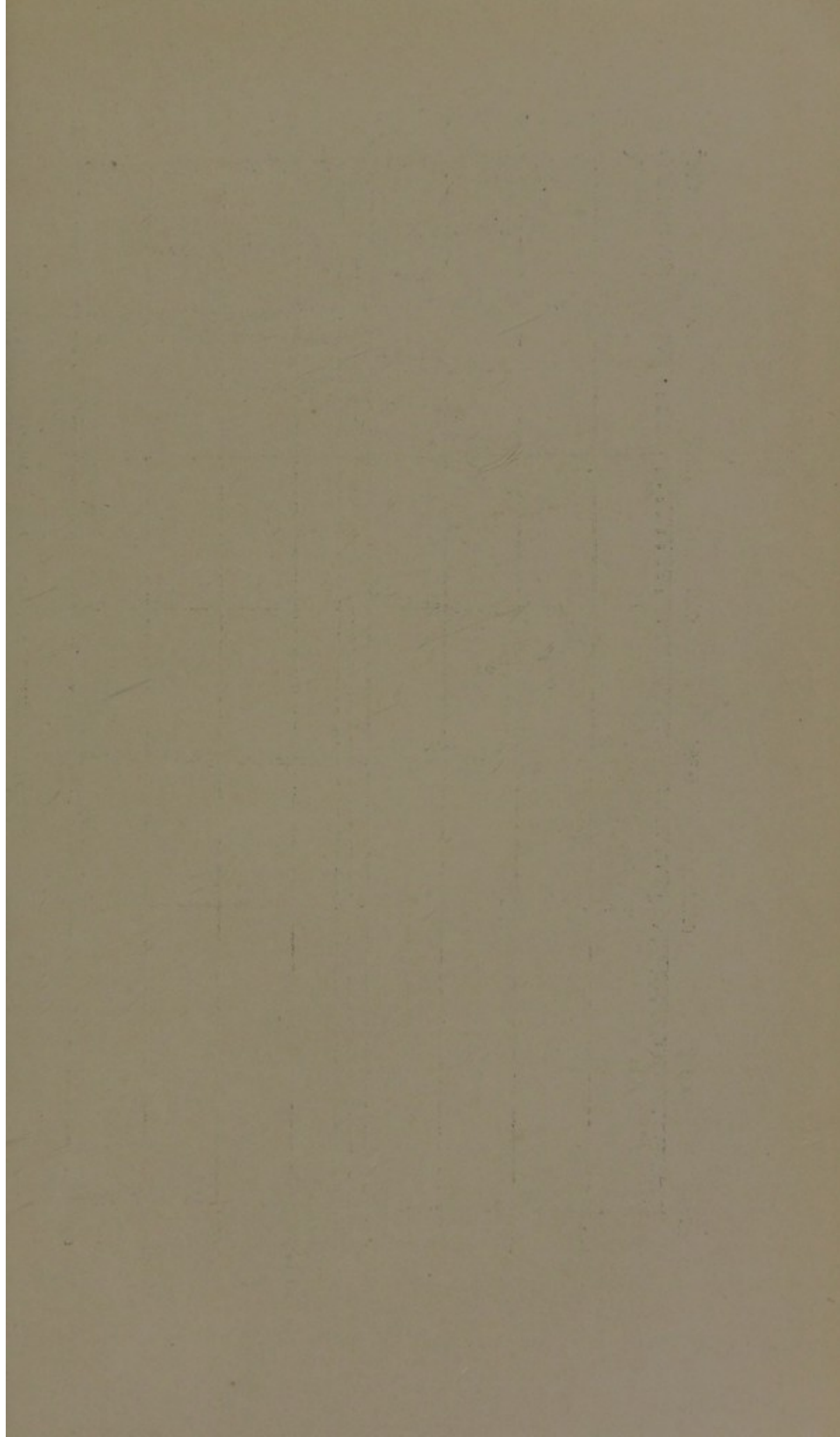
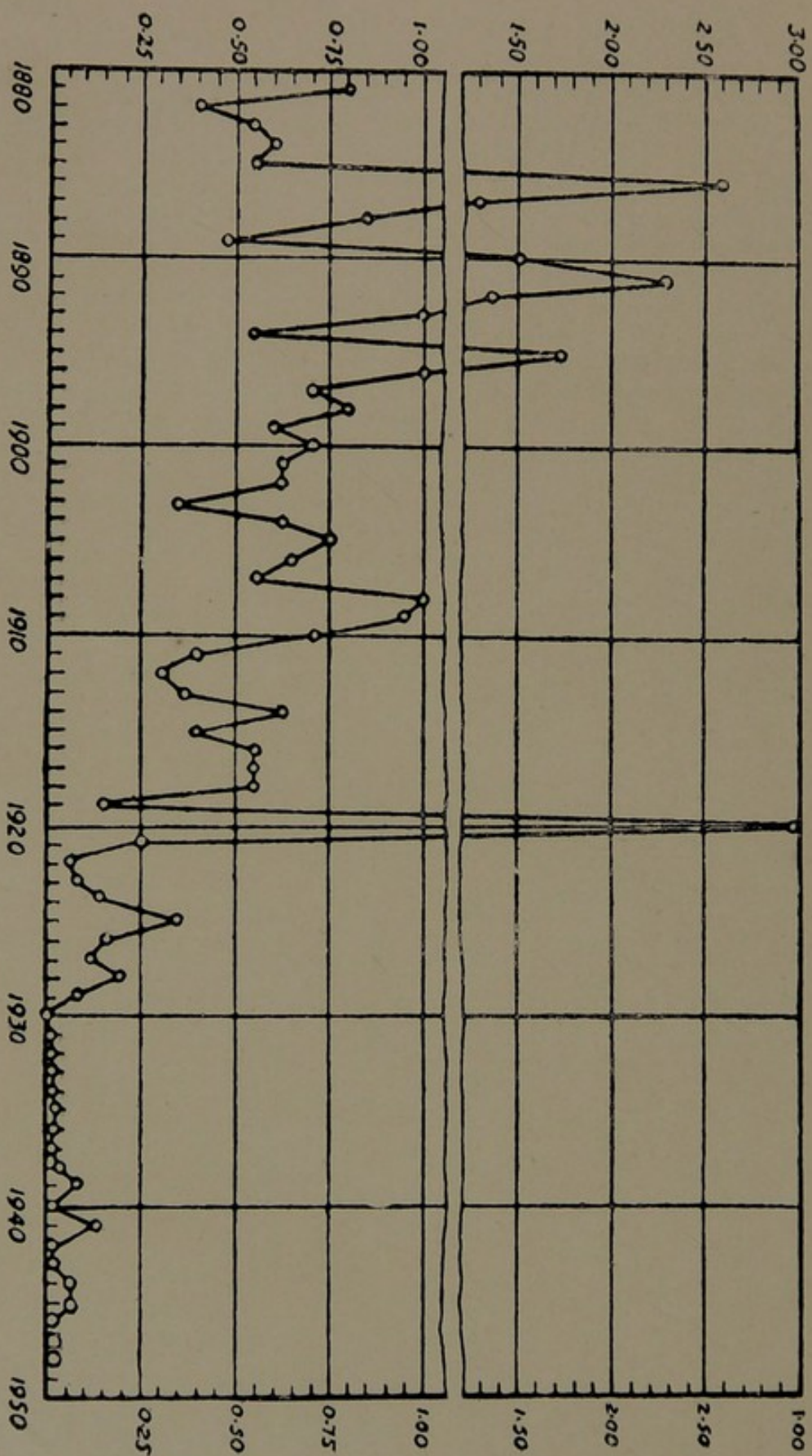


FIG. IV.—ENTERIC FEVER. INCIDENCE (PER 1000 POPULATION) FROM 1880



The fluctuation from year to year is so extreme that it is apparent that notification must have been very defective in the years with abnormally high rates. It is obvious, nevertheless, that this is a most fatal disease of early childhood and the figures lend point to the remarks which have been made above in regard to the prime contributory cause.

### TYPHOID FEVER.

No case of this disease occurred in the city during the year. This is the sixth occasion on which this satisfactory state of affairs has had to be referred to—the previous years being 1930, 1942, 1943, 1946 and 1947. Since 1930 there have been only three deaths from this disease and the general incidence shews a very marked reduction in comparison with former years. The features become apparent by an examination of table 18 in which the general trend of the disease is set out from the year 1881.

At the instigation of the Department of Health and as a part of a country-wide plan for the control of enteric fever, an investigation was made during the year into all previously known cases of the disease. The aim of this enquiry was to ascertain the existence of chronic carriers (if any) in the area and it had as its basis the determination of the existence of the so-called Vi antigen in the blood of the persons examined. This development in bacteriological technique has afforded remarkable assistance in tracking down sources of infection in outbreaks of typhoid, the persistence of the Vi antibody has made the identification of the carrier a much simpler matter than formerly. The first clue in the search for the carrier comes from the laboratory where it is found that the antibodies in the blood cause clumping of the typhoid bacilli. Three such anti-bodies are known and they have been designated "H", "O" and "Vi". "H" is generally present in the blood of persons who have had enteric or have been immunised against it. "O" is found in patients actually suffering from the disease or convalescent. The "Vi" antigen is found in 90% of persistent carriers and for this reason the "Vi" test has become an essential feature in the detection of the typhoid carrier.

Furthermore the procedure of "bacteriophage typing" by which the several strains of typhoid bacilli can be more accurately differentiated has narrowed the search still further. These refinements have greatly assisted in the tracing of sources of infection. It is actually on record that a number of cases of typhoid which occurred in England between 1941 and 1943 were due to a carrier who contracted his infection in South Africa during the Boer war in the beginning of the century. It has been further possible to show that the same strain of typhoid bacilli which this man had been excreting is still present in inhabitants of that part of South Africa where he contracted his infection more than 40 years ago, by drinking water from a river. Knowledge of this type is of course of great importance and the idea behind this investigation was to collect information from all over the country as to the type (or strain) of the typhoid bacillus which may be harboured and excreted by carriers so that records may be kept at a central source for reference.

It could very easily happen that a person might incur infection in a given part of the country and not sicken from the disease until some two or even three weeks later, when far removed from the source of infection, so that when symptoms arise the significance of the real place of infection might very easily be overlooked. This is the stage at which precise identifi-

cation of the infecting organism and its correlation with known existing sources of the same strain is of such great importance. This identification narrows down the field of enquiry enormously. Hence the importance of ascertaining, if possible, (1) all persistent carriers and (2) identifying the type of organism which they are excreting. We are aided in this search by the detection of the Vi antigen in the blood.

The procedure adopted in the present instance was to trace all persons who, during the past 15 years, were reported to have been suffering from typhoid fever. Our records shewed that there had been 40 such patients, but enquiries revealed that between death and migration only 21 remained. The nature of the proposed undertaking was explained to these persons and their co-operation was invited. In all but one instance this co-operation was willingly given. In the first instance samples of blood were taken from each individual and transmitted to the Bacteriology Department, University College, Cork for the determination of Vi antigen titre. Those who gave a titre of 1 in 20 or over were regarded as positive and those yielding under 1 in 20 as negative. In positive cases the procedure was to make an examination of mixed specimens of urine and faeces for the presence of typhoid bacilli (and the typing of same if found). Three specimens were taken in each case at intervals of three weeks before deciding that bacilli were not present. The results of this investigation are shewn in the following table. It was found that 6 cases yielded a positive titre in regard to Vi antigen but in no case were any typhoid bacilli found in the excreta. It will be noted that the cases are arranged in chronological order in regard to the occurrence of the disease.

Table 17(a).—Result of investigation into the Vi antigen status of persons known to have suffered from typhoid fever.

Sex	Present Age	Date of Infection	Result	Examination of Urine and Faeces		
				First	Second	Third
M	45	1933	Neg.			
M	51	1933	Neg.			
F	34	1934	Pos. (1/40)	Neg.	Neg.	Neg.
F	29	1935	Neg.			
F	41	1935	Neg.			
M	35	1936	Neg.			
M	49	1938	1/10			
F	39	1939	1/10			
F	16	1939	Neg.			
M	13	1939	1/10			
M	10	1939	Pos. (1/20)	Neg.	Neg.	Neg.
F	54	1941	Pos. (1/40)	Neg.	Neg.	Neg.
M	21	1941	Neg.			
M	14	1941	Neg.			
M	58	1941	Pos. (1/40)	Neg.	Neg.	Neg.
F	48	1941	Neg.			
F	58	1944	Pos. (1/40)	Neg.	Neg.	Neg.
F	41	1944	Neg.			
F	26	1945	Pos. (1/40)	Neg.	Neg.	Neg.
F	19	1945	Neg.			

In addition to the above there was a further case who could only be induced to co-operate to the extent of submitting one specimen of urine and faeces (which proved negative).

Table 18.—Incidence and Case Fatality of Enteric Fever in Cork City from 1881.

Year	Cases	Incidence per 1,000	Deaths	Fatality Rate
1881	66	0.82	4	6.5
1882	37	0.46	4	10.8
1883	45	0.56	11	24.4
1884	48	0.61	13	27.0
1885	43	0.55	9	20.9
1886	180	2.57	42	23.3
1887	100	1.30	20	20.0
1888	66	0.86	9	13.6
1889	37	0.48	9	24.3
1890	113	1.50	12	10.6
1891	165	2.33	17	10.3
1892	104	1.37	17	18.3
1893	78	1.03	14	17.9
1894	43	0.57	13	30.2
1895	132	1.74	16	12.1
1896	94	1.00	24	25.5
1897	51	0.70	9	17.6
1898	62	0.81	13	20.9
1899	47	0.62	8	17.0
1900	50	0.70	5	10.0
1901	51	0.67	5	9.8
1902	49	0.64	5	10.2
1903	27	0.35	5	18.5
1904	50	0.64	8	16.0
1905	58	0.76	8	13.8
1906	48	0.66	5	10.4
1907	44	0.57	4	9.1
1908	88	1.02	16	18.2
1909	74	0.95	15	20.2
1910	54	0.70	13	24.0
1911	32	0.41	5	15.6
1912	26	0.33	6	23.0
1913	29	0.38	6	20.7
1914	50	0.64	4	8.0
1915	32	0.41	5	15.6
1916	42	0.54	6	14.3
1917	43	0.55	3	6.9
1918	42	0.54	8	19.0
1919	12	0.15	1	8.3
1920	244	3.13	13	5.3
1921	21	0.26	4	19.0
1922	6	0.07	2	33.3
1923	7	0.09	1	14.2
1924	11	0.14	2	18.1
1925	27	0.34	5	18.5
1926	11	0.14	2	18.2
1927	10	0.12	2	20.0
1928	17	0.21	2	11.7
1929	6	0.08	1	16.6
1930	—	—	—	—
1931	1 (a)	0.01	1	100.0
1932	1 (a)	0.01	1	100.0
1933	2 (a)	0.02	—	(b)
1934	1	0.01	—	—
1935	3	0.03	—	—
1936	2	0.02	—	—
1937	1	0.01	—	—
1938	3 (a)	0.03	1	33.3
1939	7	0.08	—	—
1940	2	0.02	—	—
1941	12	0.15	—	—
1942	—	—	—	—
1943	—	—	—	—
1944	3	0.03	—	—
1945	3	0.03	—	—
1946	—	—	—	—
1947	—	—	—	—
1948	—	—	—	—

(a) Infection in all these cases was incurred outside the City.

(b) Two deaths were recorded in Cork Mental Hospital (Co. Area) of inmates who formerly resided in the City.

## SCARLET FEVER.

86 cases were reported. There was one death.

## TYPHUS.

For the nineteenth year in succession there has been no case. As a matter of interest the table relative to this disease, first published in 1935, is reproduced in this report.

Table 19.—Incidence and Case Fatality of Typhus Fever in Cork City from 1881.

Year	Cases	Incidence per 1,000	Deaths	Fatality Rate
1881	1406	17.42	88	6.2
1882	683	8.57	54	7.9
1883	844	10.66	46	5.4
1884	456	5.65	37	8.1
1885	159	2.03	21	3.2
1886	83	1.06	17	18.0
1887	67	0.86	12	17.9
1888	72	0.93	21	27.7
1889	48	0.63	5	10.4
1890	54	0.71	7	12.9
1891	24	0.30	5	20.8
1892	162	2.28	23	14.1
1893	92	1.20	7	7.6
1894	25	0.33	2	8.0
1895	29	0.38	8	31.0
1896	22	0.29	7	31.8
1897	30	0.39	3	10.0
1898	61	0.80	11	18.0
1899	9	0.10	6	66.6
1900	28	0.36	4	14.3
1901	13	0.17	2	15.38
1902	6	0.07	—	—
1903	7	0.09	—	—
1904	11	0.14	1	9.1
1905	9	0.11	2	22.2
1906	6	0.07	4	66.6
1907	10	0.13	6	60.0
1908	23	0.30	6	26.1
1909	18	0.24	5	27.7
1910	8	0.10	3	37.5
1911	10	0.13	—	—
1912	1	0.01	—	—
1913	5	0.06	2	40.0
1914	1	0.01	1	100.0
1915	—	—	—	—
1916	1	0.01	1	100.0
1917	3	0.04	1	33.3
1918	1	0.01	1	100.0
1919	15	0.19	3	20.0
1920	2	0.03	—	—
1921	1	0.01	1	100.0
1922	—	—	—	—
1923	1	0.01	1	100.0
1924	1	0.01	—	—
1925	—	—	—	—
1926	3	0.04	1	33.3
1927	4	0.05	—	—
1928	1	0.01	—	—
1929	1	0.01	1	100.0

There has been no case since 1929.

Table 20.—Yearly Summary of Infectious Diseases.

Year	Small Pox	Typhus	Enteric Fever	Simple Contd. Fever	Scarlatina	Puerperal Fever	Membraneous Group	Diphtheria	Erysipelas	Measles	Diarrhoea	Chicken Pox	Cerebro-Spinal Meningitis	Poliomyelitis	Pneumonia	
															Acute Primary	Acute Influenza
1881	—	1406	66	364	103	—	—	—	31	240	5	—	—	—	—	—
1882	—	683	37	239	25	—	—	3	11	146	3	—	—	—	—	—
1883	—	844	45	164	105	—	—	6	—	109	1	—	—	—	—	—
1884	—	456	48	221	158	—	—	2	14	106	3	—	—	—	—	—
1885	1	159	43	94	143	—	—	2	17	35	—	—	—	—	—	—
1886	—	83	180	70	86	—	—	1	14	24	—	—	—	—	—	—
1887	—	67	100	46	17	—	—	4	25	182	1	—	—	—	—	—
1888	—	72	66	40	55	—	—	7	25	232	—	—	—	—	—	—
1889	—	48	37	24	90	—	—	9	12	—	—	—	—	—	—	—
1890	—	54	113	36	128	5	3	20	27	3	2	—	—	—	—	—
1891	1	24	165	46	64	3	3	37	27	2	—	—	—	—	—	—
1892	1	162	104	53	19	—	3	11	45	74	1	—	—	—	—	—
1893	—	92	78	26	91	3	—	18	70	4	2	—	—	—	—	—
1894	—	25	43	29	301	5	6	14	65	11	2	—	—	—	—	—
1895	—	29	132	23	53	3	1	6	45	2	—	—	—	—	—	—
1896	—	22	94	29	69	6	—	7	54	3	2	—	—	—	—	—
1897	—	30	51	23	34	7	4	21	35	9	—	—	—	—	—	—
1898	—	61	62	30	30	6	7	18	20	2	—	—	—	—	—	—
1899	—	9	47	14	22	2	10	18	60	23	—	—	—	—	—	—
1900	—	28	50	27	401	2	2	23	36	—	—	—	8	—	—	—
1901	—	13	51	29	288	3	12	26	38	—	—	—	8	—	—	—
1902	—	6	49	16	119	4	1	8	49	8	—	7	3	—	—	—
1903	3	7	27	16	51	2	6	17	58	5	—	49	1	—	—	—
1904	1	11	50	33	29	4	3	29	43	2	—	39	4	—	—	—
1905	1	9	58	47	35	7	8	18	50	7	—	33	4	—	—	—
1906	—	6	48	31	23	10	1	37	48	8	—	49	3	—	—	—
1907	—	10	44	44	50	6	4	37	42	4	413	63	8	—	—	—
1908	—	23	88	55	114	4	6	40	26	379	524	14	1	—	—	—
1909	—	18	74	42	119	10	4	66	25	44	514	21	—	—	—	—
1910	—	8	54	24	38	4	6	51	26	14	159	16	—	—	—	—
1911	—	10	32	22	39	4	13	70	31	433	352	1	1	—	—	—
1912	—	1	26	17	93	6	5	52	29	53	71	7	—	—	—	—
1913	—	5	29	13	81	4	10	24	28	254	320	2	—	—	—	—
1914	—	1	50	12	230	11	15	54	38	161	188	8	—	—	—	—
1915	—	—	32	4	245	2	8	68	44	160	177	10	6	—	—	—
1916	—	1	42	9	112	8	11	43	41	86	139	13	6	—	—	—
1917	—	3	43	6	46	1	9	26	24	28	83	8	3	—	—	—
1918	—	1	42	10	21	2	18	34	16	750	121	19	4	—	—	—
1919	—	15	12	3	16	4	21	262	18	3	85	26	2	—	—	37
1920	—	2	244	8	70	6	3	428	18	9	54	30	—	—	—	—
1921	—	—	21	1	14	4	8	541	17	2	105	28	—	—	—	—
1922	—	—	6	—	29	1	5	379	14	324	19	29	—	—	—	—
1923	—	1	7	1	44	1	4	440	45	10	35	30	—	—	—	—
1924	—	1	12	—	41	3	3	217	30	5	30	54	—	—	—	—
1925	—	—	27	—	81	4	9	265	35	94	142	117	—	—	—	5
1926	—	4	11	2	278	4	11	469	34	534	108	59	—	—	—	—
1927	—	4	10	1	205	14	11	344	25	7	76	76	1	1	—	—
1928	—	1	17	—	208	7	15	385	24	6	79	64	1	—	—	12
1929	—	1	6	—	216	6	4	369	24	226	78	80	—	—	—	7
1930	—	—	—	1	238	6	5	588	38	241	59	72	—	—	—	3
1931	—	—	1	—	98	1	1	288	19	3	85	71	1	—	49	41
1932	—	—	1	—	80	9	1	85	13	242	178	99	—	—	28	7
1933	—	—	2	—	181	9	—	109	24	49	189	79	—	—	3	2
1934	—	—	1	—	118	10	—	109	28	126	80	158	—	—	2	1
1935	—	—	3	—	52	11	1	56	24	300	178	53	—	—	5	2
1936	—	—	2	—	437	12	1	24	18	233	261	69	3	—	14	14
1937	—	—	1	—	454	6	—	79	26	88	246	218	5	1	21	45
1938	—	—	3	—	228	1	—	54	18	12	142	83	14	—	19	3
1939	—	—	7	—	158	4	—	41	31	3	197	28	1	—	14	1
1940	—	—	2	—	143	1	—	52	23	1613	286	52	2	1	27	1
1941	—	—	12	—	42	1	—	62	29	94	218	254	2	—	21	1
1942	—	—	—	—	50	—	—	372	38	1	227	65	2	—	32	2
1943	—	—	—	—	76	2	—	326	45	6	148	47	3	—	35	2
1944	—	—	3	—	85	—	—	172	57	370	179	—	5	3	37	—
1945	—	—	3	—	33	—	—	95	20	7	114	—	7	1	8	—
1946	—	—	—	—	41	2	—	46	26	396	71	—	1	6	34	—
1947	—	—	—	—	63	1	—	18	19	41	111	—	—	1	64	—
1948	—	—	—	—	86	—	—	10	27	25	64	—	—	1	40	—

\* No longer notifiable.

## OTHER INFECTIOUS DISEASES.

Notifications in regard to other infectious diseases during the year were as follows :—

Scabies	...	...	69	(273)
Whooping Cough	...	...	109	(119)
Puerperal Pyrexia	.....	.....	4	(0)
Dysentery	.....	.....	2	(0)
Impetigo	.....	.....	2	(0)
German Measles	.....	.....	1	(0)

Figures in brackets indicate corresponding notifications in the previous year.

## Particulars of Articles Disinfected during the year.

	Bed Ticks	Mat- tresses	Articles of Bedding	Articles of Wearing Apparel	Miscel- laneous Articles	Total No. of Articles
January ...	3	26	132	44	27	232
February ...	3	21	104	21	19	168
March ...	2	64	136	23	26	251
April ...	—	22	126	5	15	168
May ...	2	16	117	18	46	199
June ...	1	21	122	44	62	250
July ...	—	6	42	12	10	70
August ...	—	4	4	—	9	17
September ...	1	12	60	26	49	148
October ...	—	13	72	10	17	112
November ...	1	16	114	4	16	151
December ...	2	10	83	—	19	114
	15	231	1,112	207	315	1,880

## VACCINATION.

The figures appended herewith, which are taken from the Annual Summaries of the Registrar General, relate to the number of persons vaccinated in each locality concerned.

Year	CORK			DUBLIN			LIMERICK			WATERFORD		
	Births	Vaccin- ations	Pro- portion	Births	Vaccin- ations	Pro- portion	Births	Vaccin- ations	Pro- portion	Births	Vaccin- ations	Pro- portion
1936	1,921	1,833	95%	11,582	3,903	34%	975	622	64%	661	54	8%
1937	1,706	1,898	110%	11,652	3,199	27%	1,006	672	67%	696	71	10%
1938	1,761	1,532	87%	11,534	4,076	35%	1,030	579	55%	626	27	4%
1939	1,632	1,591	97%	11,384	3,051	27%	1,073	596	55%	614	16	3%
1940	1,670	1,050	63%	11,064	2,700	24%	984	601	61%	677	43	6%
1941	1,753	1,138	65%	11,305	3,412	30%	1,007	558	55%	613	30	5%
1942	1,706	1,065	62%	12,528	3,517	28%	1,115	763	68%	807	47	6%
1943	1,781	1,233	69%	12,673	2,005	15%	1,075	748	69%	737	58	7%
1944	1,712	1,272	74%	12,074	1,525	12%	1,002	856	85%	644	34	5%
1945	1,690	1,238	73%	12,508	1,170	9%	1,051	893	85%	676	25	4%
1946	1,756	343	19%	13,159	350	2%	1,055	487	37%	718	5	0.7%
1947	1,824	188	10%	13,643	241	1%	1,208	625	50%	673	—	—

Information as to vaccination is not available in the *Annual Summary* for 1948. Since the repeal of the Vaccination Acts the by Health Act 1947 vaccination has fallen to negligible proportions.

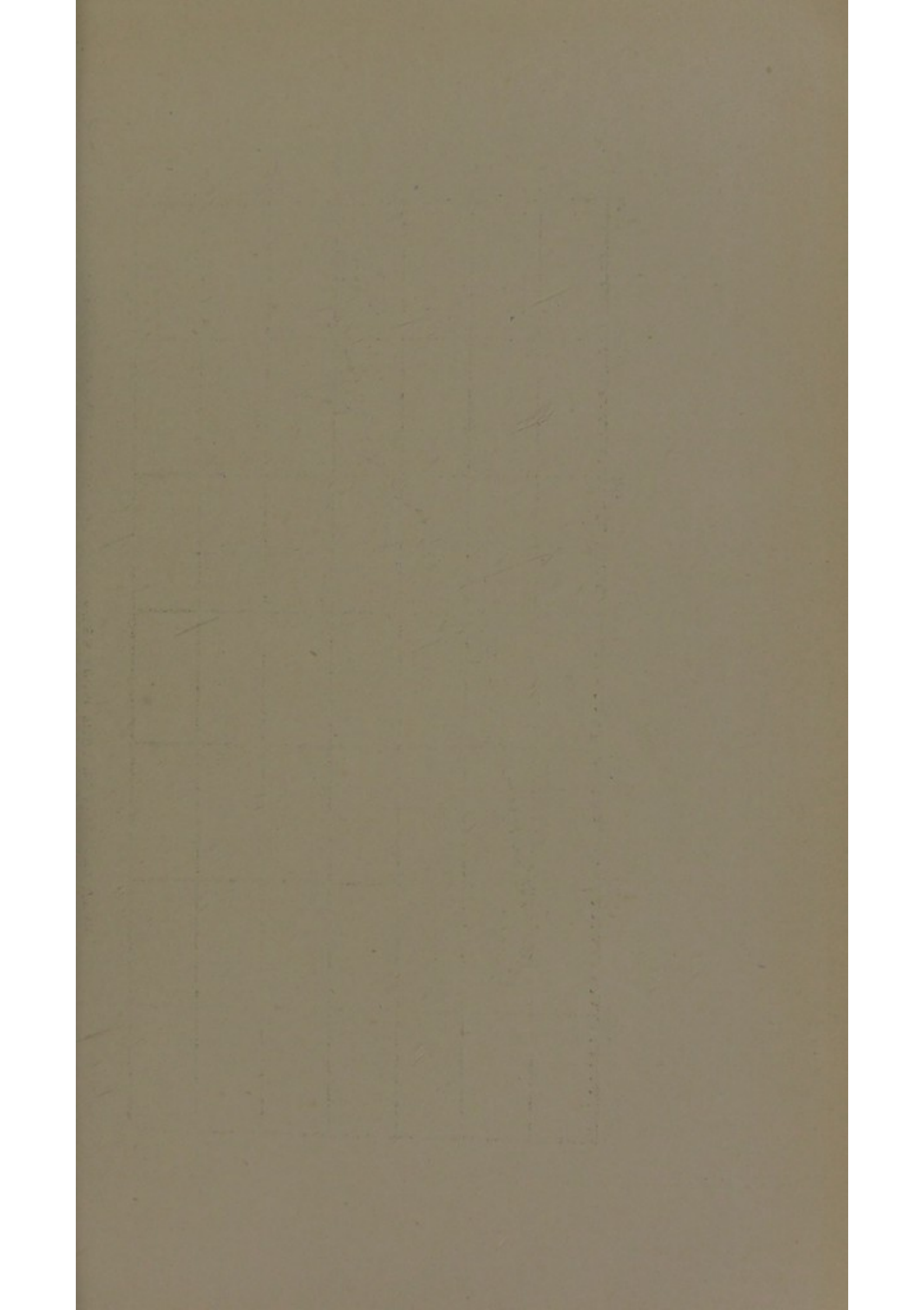
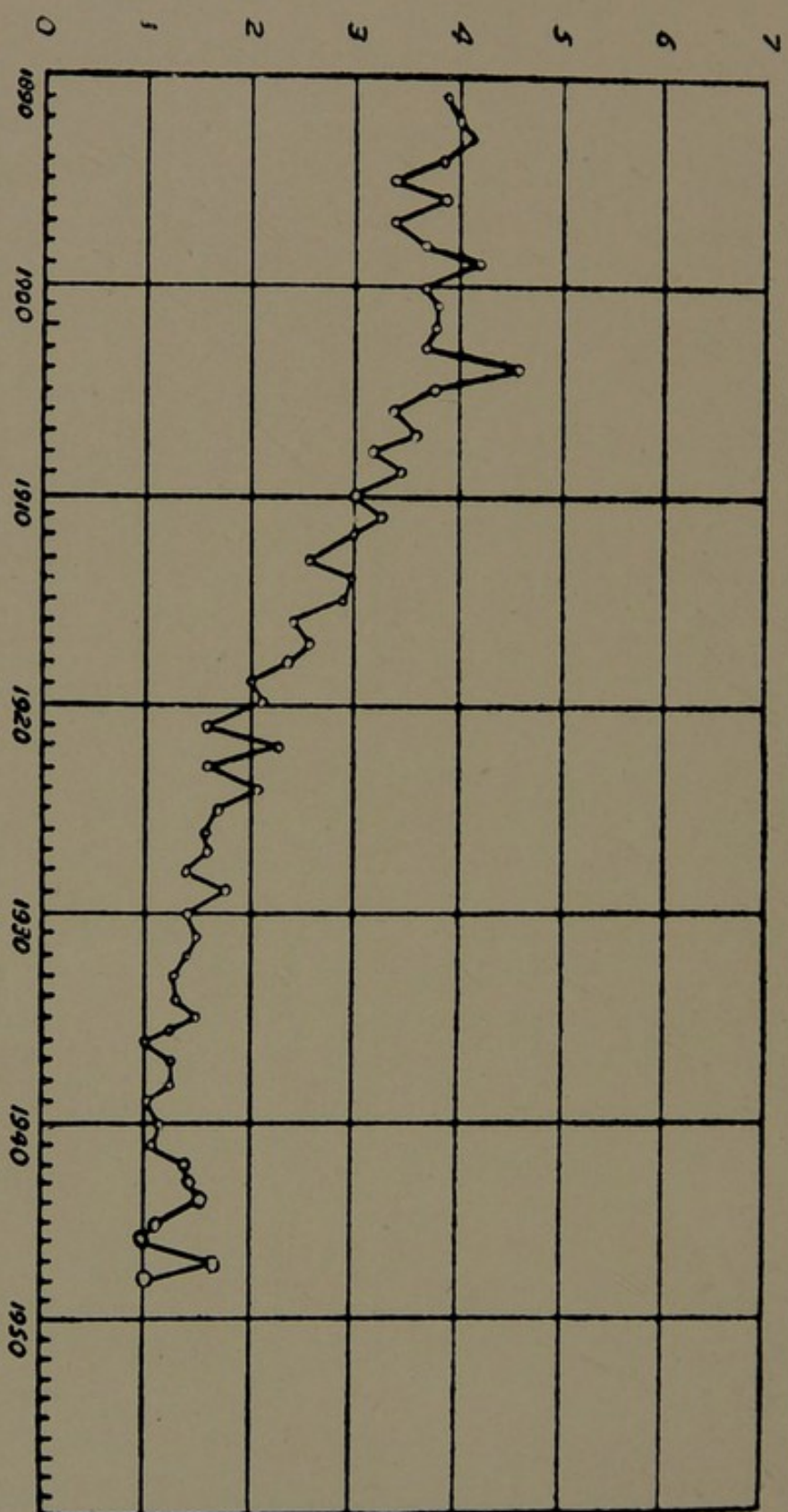


FIG. V.—PULMONARY TUBERCULOSIS. DEATH RATES FROM 1891 TO PRESENT YEAR



## Section III.—Tuberculosis

The tuberculosis death-rate for the year was 1.15 per 1,000 which is the lowest figure so far achieved. The number of deaths represented by this figure is 97 (in comparison with 147 in the previous year). The figures for tuberculosis and those under various other headings are all considerably lower than in 1947 and have been discussed in the opening section of this report and do not call for further comment. The tables which follow give us a statistical picture of the disease. The principal ones are three in number (21 to 23). The first of them (table 21) deals with deaths from the *pulmonary* form of the disease only and it is necessary to stress that the figures in the third column (rates per 1,000) do not represent the tuberculosis death rate. They represent the *phthisis* death rate. (The tuberculosis death-rate is set out in table 22). It may well be asked what is the point in recording figures which do not constitute a recognised statistical rate. The principal justification is that these figures represent a definite *trend* in this area and since they go very much further back than those in table 21 they are of value.

Table 21.—Deaths and Death Rates *Pulmonary* Tuberculosis.

Year	No. of Deaths	Rate per 1,000 pop.	Year	No. of Deaths	Rate per 1,000 pop.
1891	295	3.93	1920	159	2.07
1892	303	4.04	1921	125	1.64
1893	314	4.18	1922	176	2.30
1894	296	3.94	1923	130	1.64
1895	261	3.48	1924	164	2.09
1896	299	3.98	1925	134	1.71
1897	260	3.46	1926	126	1.60
1898	283	3.77	1927	129	1.60
1899	320	4.26	1928	109	1.39
1900	281	3.74	1929	141	1.79
1901	289	3.80	1930	114	1.45
1902	287	3.79	1931	124	1.56
1903	279	3.67	1932	111	1.40
1904	352	4.63	1933	106	1.35
1905	294	3.86	1934	104	1.34
1906	261	3.43	1935	115	1.46
1907	278	3.65	1936	85	1.06
1908	245	3.22	1937	96	1.20
1909	264	3.47	1938	99	1.21
1910	233	3.06	1939	86	1.06
1911	252	3.29	1940	96	1.17
1912	231	3.01	1941	86	1.12
1913	202	2.62	1942	106	1.38
1914	231	3.01	1943	107	1.38
1915	211	2.88	1944	118	1.56
1916	189	2.46	1945	86	1.13
1917	202	2.63	1946	79	1.04
1918	187	2.43	1947	126	1.67
1919	156	2.04	1948	81	1.07

In table 22 the combined figures for pulmonary and non-pulmonary deaths are set out. The combined rate represents the figure generally utilised for comparative purposes.

Table 22.—Combined Deaths and Death rates from Pulmonary and Non-pulmonary Tuberculosis.

Year	Pulmonary Deaths	Non-pulmonary Deaths	Total	Rate per 1,000 pop.
1906	261	81	342	4.49
1907	278	84	362	4.74
1908	245	93	338	4.42
1909	264	78	342	4.47
1910	233	75	308	4.01
1911	252	73	325	4.23
1912	231	71	302	3.92
1913	202	79	381	3.64
1914	231	79	310	4.02
1915	211	72	383	3.66
1916	189	69	258	3.33
1917	202	78	280	3.61
1918	187	75	262	3.37
1919	156	58	214	2.75
1920	159	46	205	2.64
1921	125	34	159	2.03
1922	176	39	215	2.75
1923	130	32	162	2.05
1924	164	32	196	2.50
1925	134	31	165	2.10
1926	126	46	172	2.18
1927	129	35	164	2.08
1928	108	29	138	1.74
1929	141	17	158	2.00
1930	117	25	142	1.78
1931	124	46	170	2.13
1932	111	45	156	1.95
1933	106	19	125	1.56
1934	107	21	128	1.59
1935	115	29	144	1.78
1936	85	20	105	1.29
1937	96	24	120	1.48
1938	99	13	112	1.38
1939	86	14	100	1.23
1940	96	29	125	1.54
1941	86	20	106	1.38
1942	106	18	124	1.57
1943	107	23	130	1.69
1944	118	27	145	1.92
1945	86	29	115	1.52
1946	79	22	101	1.34
1947	126	21	147	1.95
1948	81	16	97	1.15

The tuberculosis death-rate of 1.15 per 1,000 compares with corresponding rates for other urban areas (according to *Annual Summary of the Registrar-General*) as follows: Dublin, 1.3; Limerick, 1.1; Waterford, 1.6 (vide also table 30).

The figures for *non-pulmonary* tuberculosis are set out in table 23. It will be noted that they do not extend farther back than 1906, which is the earliest year for which figures for this form of the disease are available. On the other hand figures for *pulmonary* tuberculosis go back to 1891.

Table 23.—Deaths and Death Rates from *non-pulmonary* Tuberculosis.

Year	No. of Deaths	Rate per 1,000 pop.	Year	No. of Deaths	Rate per 1,000 pop.
1906	81	1.06	1928	29	0.36
1907	84	1.10	1929	17	0.21
1908	93	1.08	1930	25	0.31
1909	78	1.02	1931	46	0.57
1910	75	0.97	1932	35	0.44
1911	73	0.95	1933	20	0.24
1912	71	0.92	1934	21	0.25
1913	79	1.02	1935	29	0.36
1914	79	1.02	1936	20	0.25
1915	72	0.93	1937	24	0.29
1916	69	0.89	1938	13	0.16
1917	78	1.00	1939	14	0.17
1918	75	0.96	1940	29	0.35
1918	58	0.74	1941	20	0.26
1920	46	0.59	1942	18	0.24
1921	34	0.43	1943	23	0.30
1922	39	0.50	1944	27	0.35
1923	32	0.40	1945	29	0.38
1924	32	0.40	1946	22	0.29
1925	31	0.39	1947	21	0.29
1926	46	0.58	1948	16	0.21
1927	35	0.44			

The selective effect of age on mortality from pulmonary tuberculosis has been as marked as in previous years. An attempt has been made to present this feature in the tables which follow. In table 24 we note that the figures for a period of twenty three years yield a total of 2,429 deaths which have been sub-divided into age and sex-groups and which exhibit a slight excess of males over females (1,277 as compared with 1,152). There is a very steep rise in mortality after the 15 year group has been passed, with a further increase in 25/35 group, a slight decline in the 35/45 group, followed by a further increase in the 45/55 and then a sharp decline. This is a fairly typical picture and we note too that at all ages from 15 to 35 years there is a definite excess of female deaths. Thereafter there is a substantial excess in the number of male deaths. It is necessary to repeat the remarks made in previous reports that, in regard to this table, it has to be observed that there are certain discrepancies as compared with other tables in the report, particularly tables 21 to 23 inclusive, which may need explanation.

In table 24 the figures from 1926 to 1936 inclusive are taken from the Annual Reports of the Registrar-General for the appropriate years. Prior to 1929 the figures in tables 21 and 23 are taken from the records

of this Department over a great number of years (see table 9). From 1937 onwards the figures are taken from the records of deaths compiled in the Department itself from the District Registrar's weekly returns. With the exception of one or two years the discrepancies are not very great and since the main object of such tables is to display the *trend* of deaths the conclusions which may be drawn from them are not vitiated to any material extent. Similar observations apply to table 26 in which deaths from non-pulmonary tuberculosis are arranged into age and sex groups except that in this case all are compiled from the District Registrar's returns and accordingly may be said to represent the facts with a reasonable degree of accuracy. In the case of *non-pulmonary* tuberculosis, however, it is necessary to advert to the fact that there is reason to doubt the accuracy of some of the returns. The principal factor in non-pulmonary deaths is meningitis and it has been the practice to classify deaths under this heading as due to tuberculosis only when the certifying physician specifies "tuberculosis meningitis." One feels reasonably sure that a good many deaths certified simply as meningitis are probably tuberculosis in origin; but here again the important fact is that it is the *trend* which matters most.

\* \* \* \* \*

"The isolation of *known open* cases is placed first because it is the most direct method that we have for reducing the prevalence of tubercle bacilli in our environment; the measure which, applied to the smallest number of people, gives the maximum of protection to the community. It is also one of the measures at present often neglected or compromised by makeshift attempts at home isolation. But the broader reason for giving first place to the isolation of open cases is that if this is carried out thoroughly it leads up to all the other measures indicated. For it is in the household associates of the open case that the search for additional cases should begin, with the certainty of finding some that are in need of medical care; and, if prevention of tuberculosis is the aim, nowhere is generous financial aid more urgently needed or better justified than in the families of the tuberculous poor who bear the double risk of intimate exposure to the tubercle bacillus and poverty.

Thus the known open case is the logical center from which to develop protective measures of all kinds. And merely to carry out *thoroughly* this one item in the program, the institutional isolation of all known open cases, is no simple matter. It involves much more than diagnosing the cases and providing beds for them at public cost. It equally involves inducing the patients not only to enter the institutions, but to remain there as long as may be necessary, and making it possible for them to do so. The medical and social organization which best meets all these needs in all discovered cases of open tuberculosis will, I think, be the organization best prepared to spread its activities more widely from this center.

How far the tuberculosis control program should extend in the direction of general social betterment is a question which, perhaps, need not be answered. Probably nothing has been more influential in bringing about the decline of tuberculosis than progressive improvement in the social order as a whole; and nothing, perhaps, is more essential to the further effective control of the disease than to hold up, and so far as possible to improve, the standards of living, of the lower economic strata. Obviously, the tuberculosis control program cannot expand to include the whole system of social betterment; but it can, and I think it should, be concerned with raising the standards of living of those groups who are in most imminent danger of tuberculosis, beginning with the families of the tuberculous, and extending thence as far as practicable."—Frost, W. H.

Table 24.—Deaths from *Pulmonary Tuberculosis* distributed according to sex and age groups.

Year	Sex	All Ages	Under 1 year	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65 and over
1926-30	M	299	2	6	7	61	71	80	47	17	8
	F	325	—	6	16	75	96	67	38	18	9
1931	M	62	—	1	—	12	16	11	13	8	1
	F	61	—	1	4	15	17	14	6	3	1
1932	M	58	—	—	1	7	22	15	8	4	1
	F	54	—	1	3	14	21	5	7	3	—
1933	M	52	—	—	—	8	17	14	11	1	1
	F	53	—	—	—	18	12	10	9	3	1
1934	M	53	—	—	2	6	13	16	12	3	1
	F	50	—	—	1	14	12	16	3	3	1
1935	M	58	1	1	—	10	9	20	13	4	—
	F	54	—	—	2	11	18	9	11	3	—
1936	M	48	—	—	2	7	11	15	8	5	—
	F	34	—	1	—	6	8	7	5	6	1
1937	M	56	—	—	—	9	10	14	13	8	2
	F	40	—	—	2	10	9	10	4	5	—
1938	M	61	—	—	—	12	12	13	17	4	3
	F	38	—	—	—	4	15	10	7	2	—
1939	M	53	—	—	1	10	6	13	16	6	1
	F	33	—	—	2	11	4	6	6	4	—
1940	M	48	—	—	—	12	9	10	9	8	—
	F	48	1	—	—	12	13	14	4	2	2
1941	M	46	—	—	—	8	11	12	9	6	—
	F	42	—	—	—	5	10	14	9	4	—
1942	M	61	—	—	1	9	13	12	16	5	5
	F	45	—	—	1	17	10	7	6	4	—
1943	M	61	—	1	—	4	15	14	14	9	4
	F	46	—	—	2	15	10	8	3	6	2
1944	M	61	—	1	—	12	9	16	11	7	5
	F	57	1	—	1	13	20	8	4	8	2
1945	M	45	—	1	1	7	9	8	8	7	4
	F	41	—	—	2	6	15	7	6	1	4
1946	M	44	—	—	2	1	4	12	15	6	4
	F	35	—	—	3	10	7	9	3	2	1
1947	M	60	1	2	1	7	7	13	15	10	4
	F	66	—	—	2	16	16	16	8	4	4
1948	M	51	—	—	—	5	14	10	15	5	2
	F	30	—	1	—	7	8	8	3	1	2
Totals	M	1277	4	13	18	207	278	318	270	123	46
	F	1152	2	10	41	279	321	245	142	82	30
Persons		2429	6	23	59	486	599	563	412	205	76

The causes of the increased deaths noted in previous years were again examined. So far as the figures for the current year are concerned little can be added to the remarks made in the appropriate reports. Once again the great bulk of deaths occur in the age group between 15 and 45 years. This tendency has prevailed for many years as will be seen in table 24. The actual figures for the last twelve years, are as follows. These figures refer to *pulmonary* deaths only.

	15/25	25/35	35/45	45/55	55/65
1937	19	19	23	17	13
1938	16	27	23	24	6
1939	21	10	19	22	10
1940	24	22	24	13	10
1941	13	21	26	18	10
1942	26	22	19	21	9
1943	19	25	22	17	16
1944	24	30	24	15	15
1945	13	24	15	14	8
1946	11	11	21	18	8
1947	23	23	29	23	14
1948	12	22	18	18	6

In the following table these age-groups have been sub-divided into the sexes :-

Year	15/25		25/35		35/45		45/55		55/65	
	M	F	M	F	M	F	M	F	M	F
1937	9	10	10	9	13	10	13	4	8	5
1938	12	4	12	5	13	10	17	7	4	2
1939	10	11	6	4	13	6	16	6	6	4
1940	12	12	9	13	10	14	9	4	8	2
1941	8	5	11	10	12	14	9	6	6	4
1942	9	17	13	9	12	7	15	6	5	4
1943	4	15	15	10	14	8	14	3	9	6
1944	11	13	9	21	16	8	11	4	7	8
1945	7	6	9	15	8	7	8	6	7	1
1946	1	10	4	7	12	9	15	3	6	2
1947	7	16	7	16	13	16	15	8	10	4
Average	8.0	10.9	8.6	10.9	12.3	9.9	12.9	5.2	7.0	3.8
1948	5	7	14	8	10	8	15	3	5	1

\* \* \* \* \*

" Thus, the conditions which limit the propagation of the tubercle bacillus are : (1) that in order to escape from its host it must cause a lesion which breaks through to the surface—in general an extensive lesion which severely damages the host—and (2) that it succeeds in producing such lesions in only a limited proportion of infected persons.

The combination of these two limiting conditions is the peculiarity of the tubercle bacillus which makes it more amenable to control by case isolation than are diseases such as diphtheria, scarlet fever, and measles. For notwithstanding that the tubercle bacillus infects nearly everybody sooner or later, most of the infections are "sterile", in the sense that although the bacilli multiply within the body they do not escape to reach other hosts. Only the relatively small proportion of infections which progress to the stage of open lesion are successful in spreading the infection to others, and it is only these sputum-positive cases that need to be isolated in order to prevent the spread of infection."

—FROST, W. H. *Papers on Epidemiology*.

Table 25.—Proportion of Deaths from Tuberculosis (*all forms*) to Deaths from all causes in 1948.

Age Group	No. of Deaths (all causes)	Deaths from Tuberculosis	Proportion
0/1	87	1	1.1 per cent.
1/5	26	9	34.7 " "
5/15	13	2	15.3 " "
15/25	27	16	59.2 " "
25/35	34	22	64.7 " "
35/45	59	18	30.5 " "
45/55	99	19	19.2 " "
55/65	169	19	11.2 " "
65 and over	649	10	1.5 " "
Totals.....	994	97	9.7 " "

This table was computed for the first time for the year 1945. The periods covered are too short to institute any useful comparison. Some points do emerge. In the first place it would appear that the proportions are subject to considerable fluctuation from year to year in the various age-groups and secondly that the proportion of deaths from tuberculosis to all deaths has been tending, for many years, to fall. In the quinquennium 1906-1910 the ratio was over 20 per cent. It has fallen steadily from that time. The ratio for the past four years is shewn in the following table :—

Age Group	<i>Proportion of Tuberculosis Deaths to all Deaths</i>			
	1945	1946	1947	1948
0/1	1.9 per cent.	1.8 per cent.	1.2 per cent.	1.1 per cent.
1/5	34.7 " "	20.8 " "	22.7 " "	34.7 " "
5/15	46.1 " "	52.9 " "	41.1 " "	15.3 " "
15/25	54.3 " "	44.8 " "	74.2 " "	59.2 " "
25/35	62.5 " "	36.1 " "	60.4 " "	64.7 " "
35/45	30.0 " "	32.8 " "	40.5 " "	30.5 " "
45/55	14.1 " "	21.2 " "	20.5 " "	19.2 " "
55/65	4.9 " "	6.6 " "	17.7 " "	11.2 " "
65 and over	2.4 " "	2.4 " "	1.9 " "	1.5 " "
Totals	10.4 " "	9.7 " "	11.5 " "	9.7 " "

In 1893 the number of recorded deaths from *pulmonary* tuberculosis was 17 per cent. of the total deaths and excepting the year 1904 when the ratio rose to 21.4 per cent., it fell more or less steadily to minima of 6.8 per cent. in 1937 and 6.9 per cent. in 1941. Apart from the year 1893, there were three occasions on which the ratio either reached or slightly exceeded 17 per cent. These were the years 1905-07 inclusive. During 1938-40 the ratio was slightly over 8 per cent. and again in the war years from 1942 to 1944. When computing this ratio in the case of deaths from *all forms* of tuberculosis a picture was produced which differs only in detail from that of the *pulmonary* form of the disease. As mentioned above combined figures are available only from 1906 and in that year the highest ratio (25.3 per cent. was recorded) the lowest ratio (8.55 per cent.) was attained in 1937 and 1941. When one considers the fact that in the first decade of this century no less than a quarter of all the deaths were due to tuberculosis and that they now represent some 10 per cent. one is impressed by the important part played in the reduction of the general death-rate by reduced deaths from tuberculosis.

The findings presented in these two tables represent the proportion of all deaths occurring which are due to tuberculosis, but they do not tell us the exact risk to which each age-group is exposed. Much, of course, depends on the number of persons in each group and it remains but to work out the actual death-rate in the individual groups by comparing the number of deaths with the number of persons in each group. This was done in the 1945 report, the various rates being computed in the population in the different age-groups as set out in the Register of Population, 1941. The figures for the 1946 Census are not yet available for this purpose and so it is not possible to reproduce this feature in the current report. In general it may be said that the principal feature brought to light by the investigation was that while the preponderance of deaths was in 25/35 group, there was a very marked smoothing out of the discrepancies apparent for the various age groups as compared with the curve based solely on the proportion of deaths from tuberculosis to all deaths in the various groups.

\* \* \* \* \*

" . . . The social standing of the medicine man is of interest to us. He was, of course, greatly feared and on the whole hated rather than loved by the tribe, just as the modern medicine man may be hated and feared as a member of a powerful sect, though he may be loved and trusted by a few. The obvious way to deal with such a dangerous power was to rope it in and enlist it in the service of the tribe. What could be better than to employ and to pay the magician and thus hold him in the power of the tribe to do its bidding? These conditions were sufficient to induce the tribe to have its official medicine man, and no doubt similar feelings in society to-day account for the priority which the medical profession enjoys in schemes of nationalization."

—HUGH McLELLAND, *Med. J. Aust.*, March, 12 p. 333.

\* \* \* \* \*

In fairness to the tuberculous, those concerned with the prevention of tuberculosis must make a radical change in their propaganda. The fullest possible publicity should be given to such facts as the low incidence of the disease among children in tuberculosis colonies, and the comparative rarity of marital infection. Those who have wide experience in the examination of contacts can state that the diagnosed case rarely spreads the disease, and that even the patient with a positive sputum is harmless if he takes simple precautions. The patients themselves should be taught to observe these safeguards not merely as an attempt to make themselves less infectious, but because, if they do so, they need have no anxiety whatever about infecting others. If everyone in the community could be taught to cough into a handkerchief, there is little doubt that pulmonary tuberculosis would be drastically reduced, if not eliminated.—A. F. FOSTER-CARTER, *The Lancet*, 30th July, 1949.

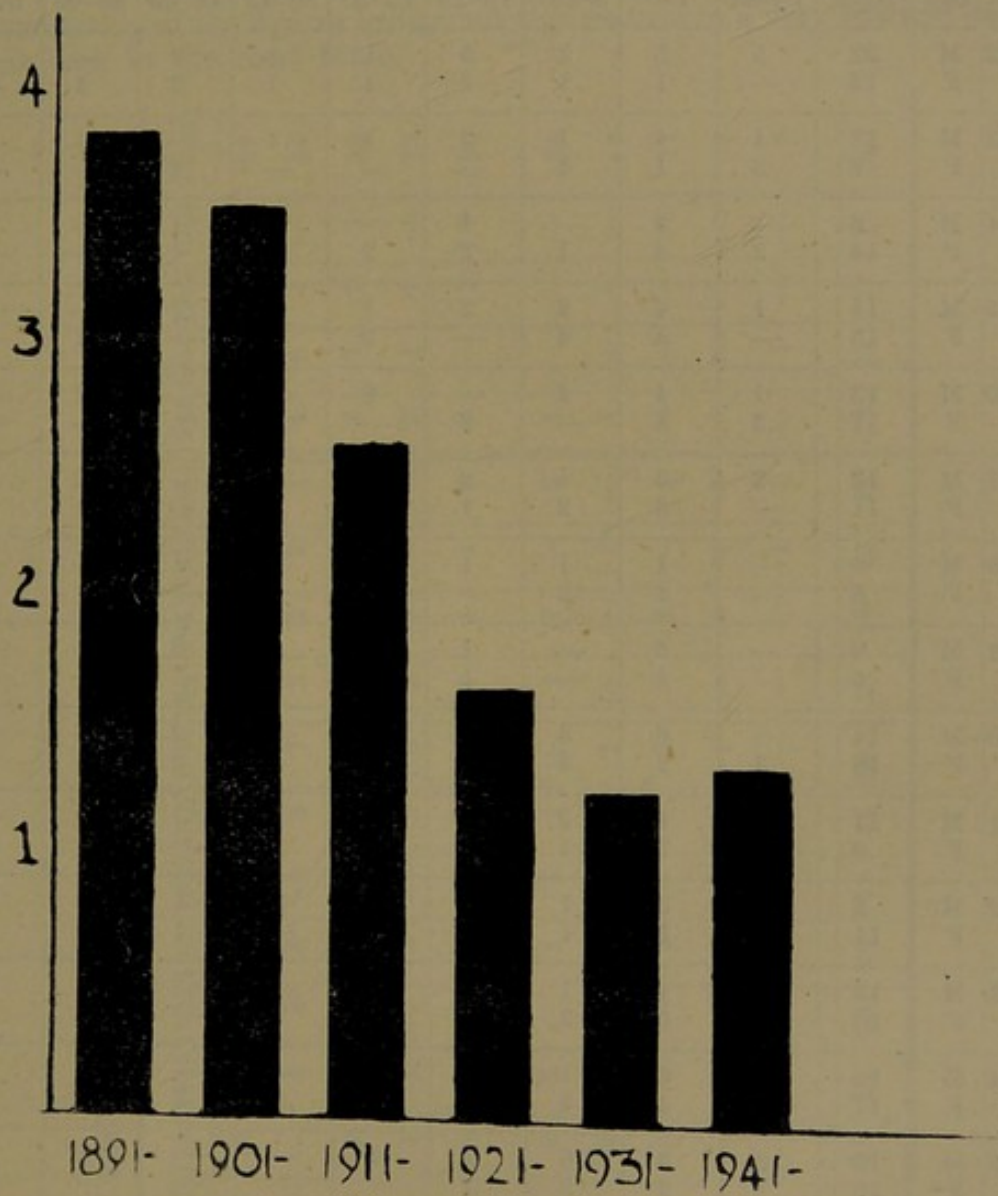


FIG. VI—PULMONARY TUBERCULOSIS. DEATH RATES EXPRESSED AS DECENNIAL AVERAGES.

16 deaths from non-pulmonary tuberculosis were recorded during the year. This is five less than the figure for the previous year (21). The distribution of these deaths in regard to age and sex groups is shown in Table 26.

Table 26.—Deaths from non-pulmonary Tuberculosis arranged into sex and age groups.

Year	Sex	All Ages	Under 1 year	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65 and over
1932	M	22	5	5	2	5	1	2	2	—	—
	F	13	—	1	1	2	4	1	2	2	—
1933	M	11	1	4	1	2	1	1	—	1	—
	F	9	3	1	4	—	—	—	1	—	—
1934	M	8	—	4	—	1	—	2	1	—	—
	F	13	2	4	1	2	2	1	1	—	—
1935	M	14	1	4	2	2	1	3	1	—	—
	F	15	—	4	4	—	2	4	—	1	—
1936	M	13	1	4	2	—	2	2	—	2	—
	F	7	3	1	—	2	—	1	—	—	—
1937	M	13	2	3	1	2	1	1	—	2	1
	F	11	—	3	2	1	2	1	—	—	2
1938	M	5	—	1	1	1	1	—	1	—	—
	F	8	—	2	2	—	—	2	—	—	2
1939	M	9	—	5	—	1	1	—	2	—	—
	F	5	—	4	—	1	—	—	—	—	—
1940	M	14	—	6	3	1	2	—	2	—	—
	F	15	3	2	3	1	1	1	2	1	1
1941	M	11	1	1	3	2	3	1	—	—	—
	F	9	1	2	1	2	—	1	—	—	2
1942	M	8	1	3	1	—	1	—	1	—	1
	F	11	2	3	1	2	—	—	1	1	1
1943	M	13	3	4	1	4	1	—	—	—	—
	F	10	—	5	2	1	—	1	—	—	1
1944	M	10	2	6	1	—	—	—	—	—	1
	F	17	2	4	4	1	—	1	2	2	1
1945	M	19	2	5	6	3	1	—	—	1	1
	F	10	1	2	3	3	—	—	—	—	1
1946	M	12	2	3	3	—	—	1	—	3	—
	F	10	—	2	1	2	2	—	2	1	1
1947	M	12	1	2	4	1	1	1	—	—	2
	F	9	—	1	—	2	2	—	—	2	2
1948	F	9	—	5	1	2	—	—	1	—	—
	M	7	1	3	—	2	—	1	—	—	—
Totals	M	203	22	65	32	27	17	14	11	9	6
	F	179	18	44	29	24	15	15	11	9	14
Persons		382	40	109	61	51	32	29	22	18	20

An examination of the causes of the 16 deaths attributed to non-pulmonary tuberculosis yields the following figures.

Tuberculous meningitis ...	...	12
Bones and joints ...	...	1
Abdominal disease ...	...	3

The preponderant role of meningitis is very obvious. A further examination of the figures brings out this feature in a very marked degree as is seen in the next table.

Table 27.—Classification of Deaths from non-pulmonary Tuberculosis.

Cause of Death	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	Totals
Meningitis...	9	10	10	12	10	12	8	6	15	9	10	16	11	15	7	12	12	184
Peritonitis	4	4	—	3	3	2	—	3	7	2	2	2	1	4	6	1	—	44
Bones and Joints	4	3	2	4	4	4	2	1	2	5	1	1	7	4	7	6	1	58
Genito-urinary ...	3	1	1	1	—	—	—	1	2	2	2	—	—	2	1	1	—	17
Abdominal ...	4	—	—	3	2	2	—	1	—	1	1	1	2	2	—	1	3	23
Generalised Tuberculosis ...	6	1	5	3	—	1	2	1	—	1	1	—	2	1	—	—	—	24
Glands ...	—	1	2	—	1	1	—	—	1	—	—	1	—	1	—	—	—	8
Addison's Disease ...	—	—	1	2	—	2	—	1	1	—	2	—	2	—	—	—	—	11
Skin ...	2	—	—	—	—	—	1	—	1	—	—	1	—	—	—	—	—	5
Miscellaneous ...	3	—	—	1	—	—	—	—	—	—	—	1	2	—	1	—	—	8
Totals ...	35	20	21	29	20	24	13	14	29	20	19	23	27	29	22	21	16	382

Tuberculous meningitis is almost invariably of human origin. With the exception of glandular disease and, possibly, abdominal tuberculosis most of the conditions listed in table 27 may be said to be of haematogenous origin and due, in the first instance, to pulmonary infection of human origin from which it would seem clear that the control of the human carrier or case must be the prime consideration in the attack on tuberculosis.

Table 28.—Non-pulmonary tuberculosis. Analysis of certified deaths, shewing same distributed into sex and age-groups, from 1932 to 1948 (inclusive).

Cause of Death	Sex	All Ages	Under 1 Yr.	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65 and over
Meningitis ...	M	96	12	45	18	15	3	2	1	—	—
	F	90	12	34	22	11	6	3	1	—	1
Peritonitis ...	M	26	4	10	5	2	1	3	—	1	—
	F	17	2	5	1	1	1	4	1	—	2
Bone and Joint ...	M	27	—	2	5	4	4	4	1	5	2
	F	31	—	1	6	6	4	2	2	4	6
Genito-urinary ...	M	13	—	—	—	1	4	3	3	1	1
	F	4	—	—	—	—	1	1	2	—	—
Abdominal ...	M	10	—	3	1	1	2	—	2	1	—
	F	12	3	3	—	1	1	1	—	2	1
Generalised Tuberculosis ...	M	16	2	4	2	3	2	2	—	—	1
	F	8	1	1	—	1	2	1	1	1	—
Supra-renal Gland	M	6	—	—	—	1	1	—	2	1	1
	F	6	—	—	—	—	—	1	2	1	2
Miscellaneous ...	M	8	3	1	1	—	—	—	2	—	1
	F	12	—	3	—	2	—	2	2	1	2
TOTALS	M	202	21	65	32	27	17	14	11	9	6
	F	180	18	47	29	22	15	15	11	9	14
PERSONS		382	39	112	61	49	32	29	22	18	20

The preponderant role of meningitis in deaths from non-pulmonary tuberculosis is again apparent in this aggregate table accounting for nearly half the deaths in the period of fourteen years covered. It will be noted that the earlier years are those most affected. The other forms of non-pulmonary tuberculosis are more evenly distributed.

## TUBERCULIN SURVEY.

In 1944 the Cork Branch of the Irish Red Cross undertook a systematic survey of the schools in the city. The survey lasted 27 months and was completed in 1946 by which time some 7,300 children were tested in elementary day schools. (A further 1,382 children were tested in industrial schools and orphanages, with whom we are not concerned). The findings of this enquiry appeared in the *Irish Journal of Medical Science*, April 1947. I am indebted to the editor of the journal and to the Irish Red Cross for permission to reproduce the following findings. The Mantoux intra-dermal test was employed and the procedure entailed in the first place the use of a dilution of 1-10,000, negative reactors being then further tested with 1-1,000, followed by 1-100 where necessary. The main findings of the enquiry are incorporated in the following table :—

Table 29.—Cork City. Results of Tuberculin Test—1944-46.

Age Group	Number Tested	Positive	Negative	Proportion Positive
0 - 4 years	35	11	24	31.4 per cent
4 - 5 "	201	77	124	38.3 "
5 - 6 "	481	213	268	44.3 "
6 - 7 "	737	398	339	54.0 "
7 - 8 "	819	507	312	61.9 "
8 - 9 "	918	601	317	65.5 "
9 - 10 "	823	549	274	66.7 "
10 - 11 "	863	609	254	70.6 "
11 - 12 "	822	627	195	76.3 "
12 - 13 "	743	575	168	77.4 "
13 - 14 "	625	507	118	81.1 "
14 - 15 "	201	164	37	81.6 "
15 - 16 "	44	38	6	86.4 "
16 - 17 "	8	7	1	87.5 "
Totals	7,320	4,883	2,437	66.7 "

Amongst the parents of some of the children tested there was undoubtedly considerable concern as to the interpretation of the results obtained. It is necessary therefore to explain that these figures do not by any means represent children suffering from tuberculosis. They merely represent children who have been *exposed* to infection and who have developed their *primary reaction*. It is obvious that the great majority of primary infections run a benign course and heal themselves. It has, in fact, been estimated that for every hundred cases who become infected with tuberculosis 97 to 99 per cent. fail to develop the disease. One is struck by the steady increase in the proportion of *positive* reactors as the age of the children increases. This is of course the general experience but in Cork the ratio of such reactors in the older groups appears to be

out of proportion to that found in other places. Under 5 years the proportion positive is 37.3 per cent., between 5 and 10 years it increases to 60 per cent., between 10 and 15 it is 76.2 per cent. and over 15 the ratio increases to 86.5 per cent. The number in this last group is, unfortunately, small (52) and the findings must be regarded as inconclusive. The results obtained by this enquiry, so far as it went, have been extremely valuable and the Irish Red Cross is to be congratulated on sponsoring it and on carrying it to such a successful termination. It is a pity it does not go further and extend to secondary schools. If it had the findings, no doubt, would have been still more informative.

By themselves the figures are not so valuable, they indicate the proportion of our children who have been exposed to infection. It remains to be seen whether this proportion is unduly high in comparison with other areas because, if so, it would clearly shew that the incidence of the disease itself was also unduly high. In the following table such a comparison is made.

Year	City	Number Tested	Proportion Positive
1944-46	Cork .....	7320	66.7 per cent.
1926	Philadelphia .....	2678	61.0 "
1930-31	London .....	1003	40.8 "
1930-32	New York .....	8045	19.2 "
1925-26	S. Francisco .....	3500	24.6 "
1930-31	Chicago .....	1000	14.4 "

Figures, other than those for Cork, are from *Pulmonary Tuberculosis* (Kayne, Pagel and O'Shaughnessy, 1939, p.530).

The figures cited indicate a definitely high proportion of positive reactors in this area, from which we must infer a correspondingly high proportion of open cases of tuberculosis. It may also be inferred that practically all, if not actually all, of these actively infecting cases are suffering from the pulmonary form of the disease. We have no comparable figures to indicate our position in relation to other urban areas in this country. Such information would be valuable. It would show, for example whether Cork presents certain features in regard to tuberculosis different from the remainder of the country and whether special efforts should be made here to deal with them.

Table 30.—Tuberculosis (all forms). Comparative Statement of annual death rates.

Year	Éire	Cork	Dublin	Limerick	Waterford
1936	1.17	1.29	1.59	1.40	1.57
1937	1.23	1.48	1.59	1.49	1.57
1938	1.09	1.38	1.47	1.10	1.32
1939	1.13	1.23	1.48	1.27	1.25
1940	1.25	1.54	1.63	2.05	1.43
1941	1.24	1.38	1.56	1.58	1.40
1942	1.47	1.57	1.90	2.12	1.65
1943	1.46	1.69	1.84	1.95	1.86
1944	1.34	1.92	1.60	2.10	1.40
1945	1.20	1.52	1.60	1.80	1.80
1946	1.10	1.34	1.50	2.00	1.80
1947	1.20	1.95	1.60	1.80	1.80
1948	1.0*	1.15	1.30*	1.10*	1.60*

\*These figures are taken from the *Annual Summary* of the Registrar General and are subject to correction.

### NOTIFICATIONS.

The number of notifications received during the year was 174. Prior to 1930 such notifications were for the period from the 1st April to 31st March following. Notifications for previous years were as follows :

1925-26	...	...	110	1937	...	...	166
1926-27	...	...	108	1938	...	...	147
1927-28	...	...	73	1939	...	...	128
1928-29	...	...	116	1940	...	...	114
1929-30	...	...	179	1941	...	...	173
1930 (April-Dec.)	...	...	133	1942	...	...	159
1931	...	...	196	1943	...	...	173
1932	...	...	136	1944	...	...	161
1933	...	...	164	1945	...	...	169
1934	...	...	112	1946	...	...	183
1935	...	...	154	1947	...	...	183
1936	...	...	154	1948	...	...	174

In the following table notifications, from the year 1930, have been analysed as to age and sex distribution.

Table 31.—Notifications of Tuberculosis distributed according to Sex and Age.

Year	Total	Sex	All Ages	Under 5 yrs	5-15	15-45	45-60	60 and up
1930	133	M	77	4	11	50	11	1
		F	56	5	11	37	2	1
1931	196	M	114	9	24	64	15	2
		F	82	7	19	53	3	—
1932	136	M	71	5	11	42	11	2
		F	65	1	6	48	7	3
1933	159	M	89	5	10	59	14	1
		F	70	5	8	48	8	1
1934	112	M	43	1	6	26	9	1
		F	69	4	10	41	9	5
1935	154	M	83	7	14	43	14	5
		F	71	5	15	40	7	4
1936	154	M	76	9	10	33	16	8
		F	78	3	12	55	6	2
1937	166	M	91	5	10	47	25	4
		F	75	2	10	52	5	6
1938	147	M	78	4	6	52	15	1
		F	69	4	10	49	5	1
1939	128	M	60	5	9	33	10	3
		F	68	3	3	54	6	2
1940	114	M	56	1	6	35	14	—
		F	58	5	4	41	6	2
1941	173	M	90	8	13	48	19	2
		F	83	8	14	51	7	3
1942	159	M	80	8	13	43	16	—
		F	79	3	18	48	6	4
1943	173	M	83	1	14	45	14	9
		F	90	1	10	66	10	3
1944	161	M	76	2	10	83	16	10
		F	85	6	18	50	3	8
1945	169	M	78	6	15	38	16	3
		F	91	7	14	56	6	8
1946	183	M	89	3	18	46	13	9
		F	94	5	11	71	6	1
1947	183	M	87	8	16	39	18	6
		F	96	7	13	60	13	3
1948	174	M	86	2	13	54	14	3
		F	88	9	14	57	4	4

## SPUTUM EXAMINATIONS.

Examination of specimens of sputum is carried out in the laboratory attached to the Tuberculosis Clinic. 392 such specimens were examined during the past year, of which 106 were found to contain tubercle bacilli

while 286 were negative. Of the 392 specimens examined 71 were submitted by medical practitioners. The following table shows the number of specimens examined, and the results obtained since 1931.

Year	Total	Positive	Negative
1931	375	90	285
1932	440	94	346
1933	502	118	384
1934	519	121	398
1935	512	94	418
1936	467	93	374
1937	511	73	438
1938	336	49	287
1939	228	51	177
1940	336	88	248
1941	276	68	208
1942	295	81	214
1943	277	61	216
1944	325	67	258
1945	321	87	234
1946	325	116	209
1947	435	121	314
1948	392	106	286
Totals ...	6872	1608	5294

Where tubercle bacilli exist in very small numbers the usual direct examination of specimens may not be sufficient to demonstrate their presence and a more elaborate technique becomes necessary. This technique consists of digestion of the specimen (with caustic soda) in an incubator at body temperature, centrifugalisation, neutralisation of the deposit and culture on a selective growth medium. The medium we are using at present is Lowenstein's. A typical culture appears in three to four weeks. Cultural methods, with other lines of investigation, are demanded when we wish to find out that arrest of disease has taken place and this method along with animal inoculation must be regarded as the supreme test of active tuberculous infection. All the examinations recorded in the above table were examined by the ordinary routine Ziehl-Nielson staining method. The newer method of examining for tubercle bacilli was used by us for the first time in 1945. 30 specimens were dealt with during the past year of which 4 were positive.

#### CLASSIFICATION OF NEW CASES.

As in former years the new cases dealt with at the Tuberculosis Dispensary who presented signs of advanced disease was disproportionately high. 30 per cent. of such were found to be in Stage III. and 47 per cent. in Stage II.; in other words, no less than 77 per cent. of the new cases were suffering from definitely established disease recognisable by ordinary clinical methods. These figures are similar to those of former years and must be regarded with considerable dissatisfaction,

as little or nothing can be done in regard to the treatment of such advanced cases apart from palliative methods. The main factor in the production of this state of affairs appears to be the failure of patients to seek treatment sufficiently early.

At a conference of Tuberculosis officers held in Dublin in November 1944, a new method of classification was adopted according to which cases were graded, in the first instance, into those in which tubercle bacilli could not be detected in the sputum and those who had positive sputum. The latter are further subdivided into grades corresponding to those previously recognised. According to the new classification the stages found on the examination of new cases were as follows:—

	1948	1947	1946	1945	1944	
Sputum Negative ...	8	7	10	13	20	per cent.
Sputum Positive—Stage I.	15	12	3	4	4	„ „
„ „ Stage II.	47	40	40	34	12	„ „
„ „ Stage III.	30	41	47	49	64	„ „

The fact that 8% of the new cases were classified as sputum negative does not necessarily mean that all these were good cases for treatment or that the disease was of little extent. While specimens from some were examined and found negative others had no sputum for investigation. Treatment is not withheld from patients who come under this category for the diagnosis can usually be clearly established by other methods of approach. The examination of the sputum remains, however, the most valuable aid we possess in the diagnosis of the disease, the estimation of risks to which contacts are exposed and the assessment of progress of the patient.

The cases reported as sputum negative were made up of:—

- (a) Cases of tuberculous pleural effusion.
- (b) Cases who came on transfer under our scheme after treatment elsewhere.
- (c) Cases who had X-Ray evidence of infiltration in which there was doubt whether complete arrest had taken place, and
- (d) Cases of advanced disease of a miliary type.

In all these categories but the last the probable behaviour of the disease is regarded at the outset as favourable. (a) Tuberculous pleural effusion needs the rigorous care that all cases of pulmonary tuberculosis require. (b) Cases who come under treatment to us with a negative sputum and a history of treatment elsewhere are regarded as quiescent and if treatment is persevered in there is every prospect of final arrest of the disease. These cases have shown a favourable response to treatment and immunity to the disease is becoming established. (c) The third category requires careful review. They represent the type of case that may be uncovered by the mass radiological survey of healthy groups and it is the business of the tuberculosis officer to decide whether these cases are active or not. (d) The miliary group represents a condition of widespread disease in the body. The lungs are involved with other organs in a blood borne dissemination which arises as a result of an escape of a lethal dose of bacilli into the blood stream. These cases may die of intense toxæmia before the lung lesions break down to excrete the organisms.

The following table, which is introduced for comparative purposes, gives the corresponding proportions for previous years.

Table 32.—Showing the proportion of early, moderately advanced and advanced cases attending the Tuberculosis Clinic for the first time (1930 to 1943).

TYPE	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
Stage I. (Early)	15%	8%	9%	6%	14%	13%	6%	9%	5%	8%	6%	3%	4%	9%
Stage II. (Moderately Advanced)	36%	50%	38%	39%	28%	30%	43%	38%	33%	32%	44%	46%	34%	44%
Stage III. (Advanced)	49%	42%	53%	55%	58%	57%	51%	53%	62%	60%	50%	51%	62%	47%

### COLLAPSE THERAPY.

During the year Pneumoperitoneum, a new form of collapse therapy, was continued. This treatment consists in the introduction of air into the peritoneal cavity. The air presses on the diaphragm, causing that organ to take a higher position than normal and, consequently, the capacity of the thorax is diminished. It is customary to combine this form of treatment with an operation on one phrenic nerve. This operation causes paralysis of the side of the diaphragm supplied by this nerve and results in a further elevation of the diaphragm on that side, with consequent further reduction of the space available for lung expansion. The combination of pneumoperitoneum and phrenic paralysis allows the lung to enjoy relaxation to a lesser degree than that produced by a successful pneumothorax. Pneumoperitoneum has now an established place in the treatment of many cases which prove unsuitable for pneumothorax.

Thirteen new cases received Artificial Pneumothorax. These cases had their inductions carried out at Heatherside Sanatorium by the Resident Medical Officer.

Fifteen cases are having refills and management at the Tuberculosis Clinic.

The number of cases treated during the year was 27. 375 refills were given.

### X-RAY EXAMINATION

X-Ray examination is essential for diagnosis and assessment of progress in all cases of pulmonary and bone and joint tuberculosis. Very many of the cases reaching us are accompanied by films. All the cases that come for chest examination are screened. 89 films for cases attending the dispensary were obtained on the recommendation of the tuberculosis officer.

In 1943 an X-Ray Screen was added to the equipment of the clinic. This apparatus, which enables the Tuberculosis Officer to visualise the lung fields has been a very great help.

Screen examinations of the lungs are made :—

- (1) To define the extent of lung involvement by disease.
- (2) To observe the progress of cases undergoing artificial pneumothorax treatment.
- (3) To help in the examination of those who have been in contact with tuberculosis patients.

It is scarcely necessary to add that the approach to diseases of the chest cannot be regarded as competent unless an X-Ray examination is made. The methods of examination of the lungs at our disposal other than X-Rays are not sufficiently sensitive to define the extent of the tuberculous disease. In many cases they are not sufficient to detect the disease at all.

*The number of screen examinations made during the year was 888.*

### ADMINISTRATION.

The routine administrative work of the Tuberculosis Dispensary is summarised in the following paragraphs.

The number of new patients examined at the Tuberculosis Dispensary during the year amounted to 391, of whom 224 were adults and 167 children. 120 of the adults and 58 of the children were found to be suffering from tuberculosis in one form or another and appropriate treatment was afforded.

### INSTITUTIONAL TREATMENT.

In the tables which follow statistical details are given of the various institutions which have been utilised for the treatment of our cases during the past year. Early and moderately early cases of pulmonary disease have, almost all, been referred to the Cork Sanatorium at Heatherside.

\* \* \* \* \*

" . . . For the eventual eradication of tuberculosis it is not necessary that transmission be *immediately* and *completely* prevented. It is necessary only that the rate of transmission be held permanently below the level at which a given number of infection-spreading (i.e., open) cases succeed in establishing an equivalent number to carry on the succession. If, in successive periods of time, the number of infectious hosts is continuously reduced, the end result of this diminishing ratio, if continued long enough, must be extermination of the tubercle bacillus."—FROST, W., H. *Papers in Epidemiology*.

Table 33.—Particulars of Institutional Treatment afforded during the Year.

	Under treatment 1st Jan., 1948	New Cases Admitted during 1948	Discharged during 1948	Under treatment 31st Dec., 1948	Number of cases treated during year
<b>SANATORIUM</b>					
Males ....	8	33	20	21	41
Females ....	15	39	28	26	54
<b>TOTAL</b> ....	23	72	48	47	95
<b>ST. PATRICK'S HOSPITAL</b> ....					
Males ....	15	24	37	12	49
Females ....	11	19	20	10	30
Children ....	1	2	1	2	3
<b>TOTAL</b> ....	27	45	58	24	82
<b>ST. JOSEPH'S HOSPT.</b>					
Males ....	12	16	17	11	28
Females ....	5	13	10	8	18
Children ....	1	1	1	1	2
<b>TOTAL</b> ....	18	30	28	20	48
<b>DISTRICT HOSPITAL</b>					
Males ....	4	34	25	13	38
Females ....	7	21	24	4	28
Children ....	1	16	15	2	17
<b>TOTAL</b> ....	12	71	64	19	83
<b>NORTH INFIRMARY</b>					
Males ....	1	3	3	1	4
Females ....	—	—	—	—	—
Children ....	—	1	1	—	1
<b>TOTAL</b> ....	1	4	4	1	5
<b>SOUTH INFIRMARY</b>					
Males ....	1	4	4	1	5
Females ....	—	1	1	—	1
Children ....	—	7	4	3	7
<b>TOTAL</b> ....	1	12	9	4	13
<b>MERCY HOSPITAL</b>					
Children ....	—	1	1	—	1
<b>VICTORIA HOSPT.</b> ....					
Children ....	4	18	19	3	22
<b>ST. MARY'S, CAPPAGH</b>					
Children ....	3	4	3	4	7
<b>ST. JOSEPH'S, COOLE</b>					
Children ....	7	1	3	5	8
<b>ST. RAPHAEL'S PREVENTORIUM</b>					
Children ....	—	10	—	10	10

Table 34.—Return of number of patients treated under the Tuberculosis Scheme, during the year ended 31st December, 1948.

	Pulmonary Tuberculosis			Non-Pulmonary Tuberculosis			Total
	Children under 15 years	Other Persons		Children under 15 years	Other Persons		
		Males	Females		Males	Females	
(i) No remaining under treatment							
(a) On 1st Jan., 1948 ...	5	97	89	42	9	14	256
(b) on 31st Dec., 1948 ...	14*	107	106	21	8	11	267
(ii) No. of new patients treated during year ...	25†	60	59	26	4	8	182
(iii) No of cases under observation at close of year 1947 ...	—	1	2	—	—	—	3

\*Including 9 cases of primary tuberculosis.

†Including 20 cases of primary tuberculosis.

#### PROVISION OF EXTRA NOURISHMENT, CLOTHING, Etc.

In a Departmental letter (P.H. circular 53/43) dated 31st March, 1943, the principal provisions of which are outlined below, the Minister approved for recoupment from the National Tuberculosis Grant of:—

- Free allowance of extra nourishment in the form of eggs, butter and milk to patients while they are awaiting admission to institutions or following discharge after an approved term of institutional treatment. Allowance per patient not to exceed:  $3\frac{1}{2}$  pints of milk,  $\frac{1}{2}$ -lb. of butter, 7 eggs per week.
- A separate bed and, where necessary, bedding for infective patients receiving domiciliary or dispensary treatment. Expenditure by the L.A. should not exceed £4 in any one case (this amount was subsequently raised to £15).
- In the case of necessitous patients undergoing treatment in institutions, suitable clothing if such be necessary to derive the full benefit of treatment.

The following particulars relate to the number of persons who benefitted under the scheme during the year:

Number of Recipients	Amount Spent
<i>Extra Nourishment</i> —129	£747 5 2
<i>Clothing</i> —120	£594 0 1
<i>Beds and Bedding</i> —13	£45 7 9

Expenditure under this heading amounted to £1,386 13s. 0d. as compared with £1,167 15s. 1d. in the previous year.

#### INFECTIOUS DISEASES (MAINTENANCE) REGULATIONS, 1948.

This enactment came into force on 1st March, 1948 and from that date to 31st December following the number of beneficiaries was 174 and the amount granted was £5,456 0s. 0d.

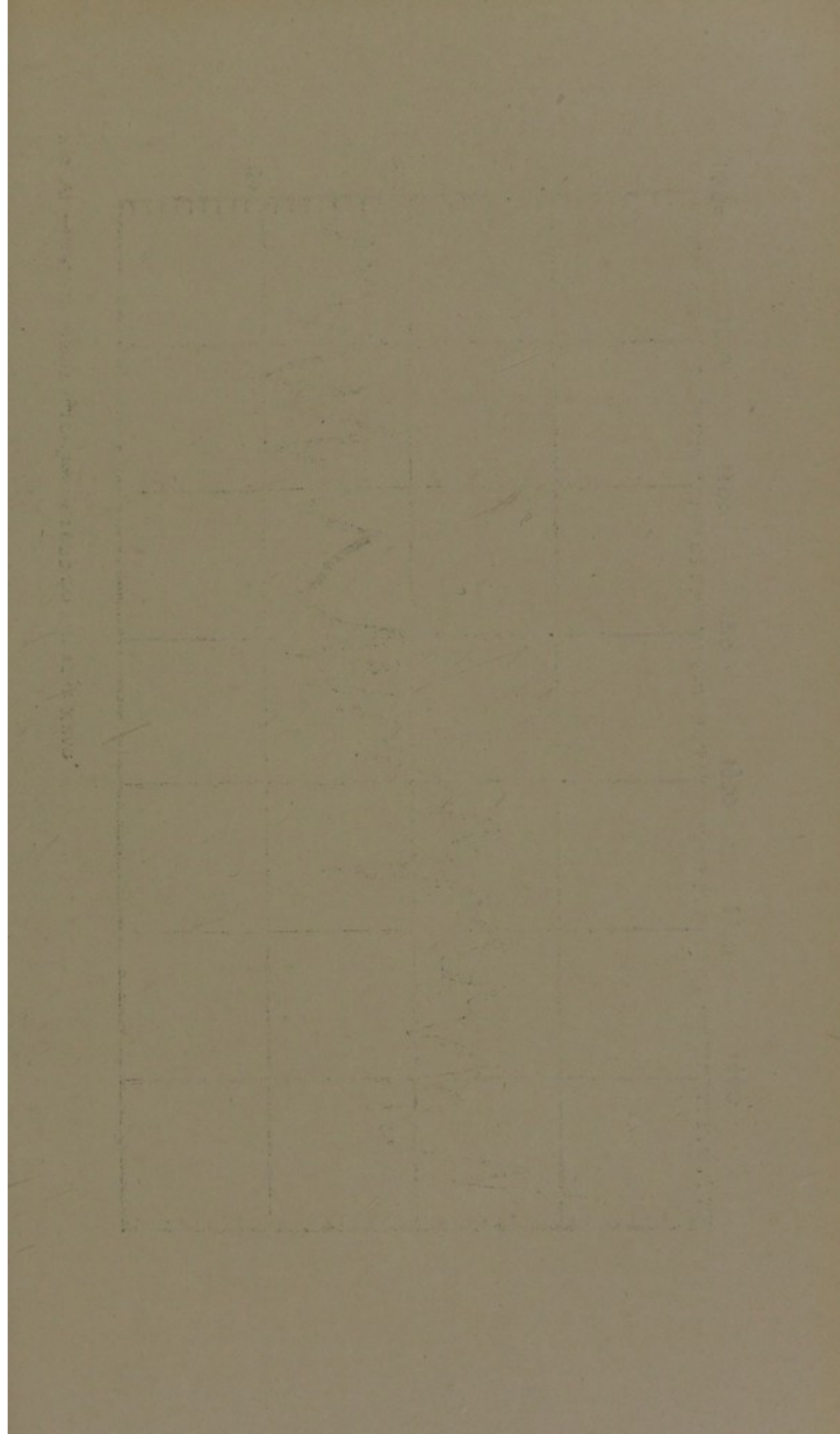
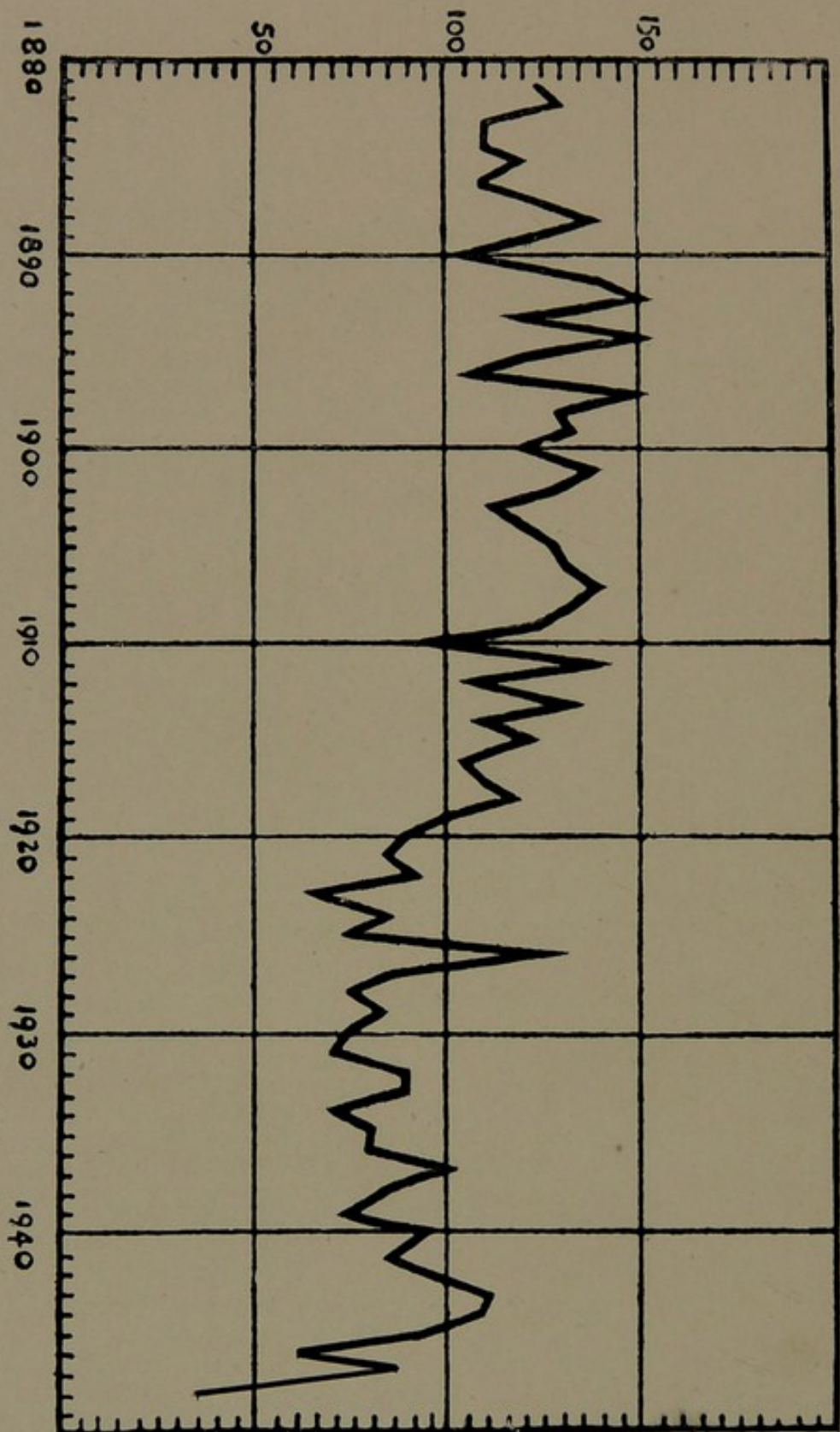


FIG. VI. —INFANT MORTALITY FROM 1880 TO PRESENT YEAR.



## Section IV.

## Maternity and Child Welfare.

## (A) INFANT MORTALITY.

The number of deaths of children under one year of age amounted to 87. This is equivalent to an infant mortality rate of 47 per 1,000. The figures for last year were 160 and 87 per 1,000 respectively. The corresponding figure for the whole country (Registrar-General's Annual Summary—subject to correction) was 49. The principal contributory factors were as follows :—

Premature birth and congenital debility	.....	37
Diarrhoea and Enteritis	.....	19
Broncho-pneumonia	.....	9
Convulsions	.....	4
Marasmus	.....	6
Whooping Cough	.....	3
Intra-cranial haemorrhage	.....	2
Cerebro-Spinal Fever	.....	1
Congenital Syphilis	.....	1

The actual figure for infant deaths and the rate per 1,000 births are both the lowest ever achieved here. In tables 8 and 35 we have a chronological record of infant mortality as it has affected this locality and we note the remarkable change which has taken place in the period of 67 years covered by these tables. The fluctuation in the figures for 1947 and 1948 is rather too great to be regarded as of a permanent character and we may perhaps expect to find some increase next year. This tendency to fluctuate from year to year has been a characteristic of our infant mortality figures but the downward tendency is, nevertheless, quite distinct. Reductions during the past year have been effected under all headings, those under prematurity, etc., gastro-enteritis and broncho-pneumonia being remarkable. Once again (in the case of gastro-enteritis) the factor of *artificial feeding* was paramount, all the deaths occurring amongst infants who were bottle-fed. Table 40 shews strikingly the rôle of this mode of feeding, not alone in the case of gastro-enteritis but in infant mortality generally, for of the 514 deaths recorded in the six years covered by the table no less than 474 were among artificially fed infants. Of the 207 deaths from gastro-enteritis only 3 children were breast fed. These are very important facts for they teach us that the infant is exposed to quite considerable risk if circumstances dictate a departure from nature's way of feeding. This is a lesson that can hardly be overstressed.

Table 35.—Infant Mortality, Cork City, Éire, and England and Wales from 1891.

Year	Cork	Éire	E. & W.	Year	Cork	Eire	E. & W.É
1881	124	89.4	139	1915	132	85.2	110
1882	127	94.9		1916	105	81.3	91
1883	109	95.0		1917	108	84.0	96
1884	110	91.9		1918	118	80.2	97
1885	120	91.3		1919	100	84.4	89
1886	110	93.9	145	1920	79	77.5	80
1887	123	93.6		1921	76	72.6	83
1888	139	96.0	136				
1889	125	92.0	144	1922	93	68.9	77
1890	106	91.6	151	1923	66	66.4	69
				1924	87	71.6	75
1891	138	91.4	149	1925	74	67.9	75
1892	150	99.9	148	1926	130	74.4	70
1893	132	99.8	159	1927	87	70.8	70
1894	150	97.4	137	1928	76	67.9	65
1895	131	98.0	161	1929	81	70.4	74
1896	106	91.0	148	1930	77	68	60
1897	152	104.0	156	1931	71	69	66
1898	131	105.2	160				
1899	133	103.2	163	1932	89	71	65
1900	120	105.3	154	1933	89	65	64
				1934	72	63	59
1901	139	95.5	151	1935	84	67	57
1902	127	95.2	133	1936	80	74	59
1903	112	92.2	132	1937	103	73	58
1904	118	95.8	145	1938	75	66	53
1905	131	90.2	128	1939	73	65	50
1906	133	88.0	132	1940	92	66	56
1907	139	88.5	118	1941	85	73	59
1908	134	91.2	120				
1909	125	87.3	109	1942	100	68	49
1910	96	89.1	105	1943	113	83	49
				1944	108	79	46
1911	139	91.3	130	1945	89	71	46
1912	107	82.1	95	1946	62	63	43
1913	136	93.1	108	1947	87	68	41
1914	119	81.0	105	1948	47	49	—

In Table 36 is set out a comparative statement of infant mortality in Cork, Dublin, Belfast, Limerick and Waterford from 1920.

Table 36.—Infant mortality in Cork and other Irish Cities from 1920.

Year	Cork	Dublin*	Belfast†	Limerick*	Waterford*
1920	79	152	132	109	96
1921	76	143	115	113	102
1922	93	120	94	108	94
1923	66	117	101	128	78
1924	87	119	107	90	93
1925	74	117	104	91	106
1926	130	127	112	146	114
1927	87	123	101	102	83
1928	76	102	103	117	105
1929	81	106	112	118	110
1930	77	97	78	114	91
1931	71	94	90	120	92
1932	89	100	111	91	132
1933	89	83	102	126	103
1934	72	80	80	76	92
1935	84	94	112	106	126
1936	80	114	102	95	90
1937	102	102	94	68	97
1938	75	96	96	70	99
1939	73	90	86	59	73
1940	95	91	122	70	111
1941	85	118	91	95	88
1942	100	98	90	77	91
1943	113	126	111	76	100
1944	108	125	89	136	84
1945	89	111	84	88	74
1946	62	96	61	75	67
1947	87	85	60	90	77
1948	47	48	45	80	66

\* Figures for current year obtained from *Annual Summary* of Registrar-General. Those for previous years have been corrected from figures in the *Annual Reports* of the Registrar-General for the appropriate years.

† Figures obtained from Superintendent Medical Officer of Health.

*Neo-natal Mortality.* The role of neo-natal mortality (i.e., deaths of infants under one month old) in the production of infant mortality is shewn in the following table.

Table 37.—Deaths of infants *under one month* in Cork City and the ratio of same to the total number of infant deaths (i.e., under one year), together with the comparative figures for the whole country.

Year	CORK CITY		ÉIRE. Relation of deaths under one month to all infant deaths
	Deaths under one month	Proportion to all infant deaths	
1931	41	30.1 per cent	38.4 per cent.
1932	47	29.6 " "	35.9 " "
1933	56	33.3 " "	39.7 " "
1934	43	29.9 " "	38.7 " "
1935	39	26.2 " "	39.9 " "
1936	56	36.8 " "	40.5 " "
1937	58	31.4 " "	41.7 " "
1938	34	27.2 " "	42.4 " "
1939	47	39.8 " "	44.1 " "
1940	45	29.4 " "	42.0 " "
1941	52	30.9 " "	41.2 " "
1942	52	32.9 " "	39.5 " "
1943	91	46.4 " "	40.2 " "
1944	58	31.0 " "	41.9 " "
1945	61	39.3 " "	44.5 " "
1946	59	54.1 " "	45.5 " "
1947	68	42.5 " "	43.2 " "
1948	35	40.2 " "	" "

Table 38.—Cork City—Deaths of Infants under one year from conditions which constitute the principal causes of Infant Mortality.

Year	Number of Births Registered	DEATHS OF INFANTS UNDER ONE YEAR FROM												Whooping Cough	Rate per 1000 Births
		Congenital Debility	Rate per 1000 Births	Prematurity	Rate per 1000 Births	Congenital Malformations	Rate per 1000 Births	Diarrhoea and Enteritis	Rate per 1000 Births	Pneumonia	Rate per 1000 Births	Convulsions	Rate per 1000 Births	Bronchitis	Rate per 1000 Births
1931	1,963	18	9.1	20	10.2	9	4.5	28	14.2	8	4.1	16	8.1	5	2.5
1932	1,820	28	15.4	13	7.1	6	3.3	39	21.4	13	7.1	19	10.4	8	4.4
1933	1,884	19	10.1	27	14.3	7	3.7	38	20.1	17	9.0	13	6.9	13	1.0
1934	1,846	17	9.2	24	13.0	6	3.2	32	17.3	12	6.5	9	4.8	8	4.3
1935	1,915	18	9.4	19	9.9	5	2.6	50	26.1	23	12.0	6	3.1	5	2.6
1936	1,913	12	6.2	28	14.6	5	2.6	36	18.8	27	14.1	10	5.2	6	3.1
1937	1,799	18	10.0	13	16.7	7	3.9	45	25.0	27	15.0	18	10.0	4	2.2
1938	1,761	13	7.4	19	10.8	7	3.9	31	17.6	21	11.9	9	5.1	3	1.7
1939	1,632	24	14.1	16	9.8	8	4.9	34	20.8	9	5.5	10	6.1	3	1.8
1940	1,670	17	10.2	25	14.9	4	2.4	45	26.9	15	8.9	8	4.8	5	2.9
1941	1,680	15	8.9	25	14.9	10	5.9	33	19.6	16	9.5	11	6.5	6	3.5
1942	1,842	14	7.6	18	9.7	17	9.2	49	26.6	16	8.7	10	5.4	5	3.2
1943	1,781	12	6.2	46	25.8	11	6.1	52	29.2	25	14.0	8	4.5	4	2.2
1944	1,721	5	2.9	29	16.8	9	5.2	63	36.0	28	16.2	7	4.0	3	1.7
1945	1,690	6	3.5	32	18.9	10	5.9	50	29.5	16	9.4	6	3.5	3	1.7
1946	1,756	8	4.5	37	21.0	4	2.4	17	9.6	8	4.5	6	3.4	3	1.7
1947	1,824	16	8.8	37	20.3	8	4.4	31	17.0	9	4.9	8	4.4	2	1.1
1948	1,785	8	4.4	18	10.0	10	5.6	19	10.6	11	6.1	4	2.3	—	—

\* Including broncho pneumonia.

Note :—Figures in this table are based on returns of the Registrar-General. They do not correspond to the figures in table 39 which have been readjusted by transfers as explained in text.

Table 39.—Deaths of infants under 1 year, shewn as neo-natal and other deaths.

Cause of Death	Neo-Natal	Others	Total
Prematurity ...	16	2	18
Congenital Debility ...	7	1	8
Congenital Malformations†	7	3	10
Diarrhoea and Enteritis ...	1	18	19
Broncho-pneumonia*	—	13	13
Marasmus ...	1	3	4
Congenital Syphilis ...	—	1	1
Tuberculosis ...	—	1	1
Convulsions ...	—	4	4
Whooping Cough ...	—	3	3
Intra-cranial Haemorrhage	3	—	3
Miscellaneous ...	—	3	3
Totals ...	35	52	87

† Including congenital cardiac disease.

\* Including pneumonia and bronchitis.

(Note—The figures in this table do not necessarily agree with the corresponding figures in table 3. This is due to the fact that, on investigation, transfers from one disease to another have been found to be necessary. Figures in table 3 are based entirely in District Registrar's returns of registered causes of death).

Table 40.—Relationship between the *mode of feeding* and infant deaths occurring **between ages 1 month and 12 months** (computed for the years 1943 to 1948 inclusive).

Cause of Death	No of Deaths	Feeding	
		Breast	Artificial
Gastro enteritis .....	207	3	204
Broncho-pneumonia	101	16	85
Whooping Cough	22	1	21
Marasmus .....	27	2	25
Congen-Syphilis	14	—	14
Tuberculosis .....	10	—	10
Prematurity, etc.*	53	6	47
Meningitis .....	6	3	3
Infect. Diseases .....	5	—	5
Convulsions .....	21	—	21
Septic Infection .....	3	1	2
Miscellaneous .....	45	8	37
Total .....	514	40	474

\* Including congenital debility and congenital malformations.

In previous reports I adverted to the findings of the Medical Research Council into the relationship between gastro-enteritis and artificial feeding and to the findings of one Dublin hospital which lead to the conclusion that *breast milk contains some active principle which prevents neo-natal infection*. This conclusion has been amply confirmed in connection with the outbreaks of neo-natal diarrhoea which occurred in institutions. These outbreaks were almost entirely confined to bottle-fed babies. It will be remarked from the above table that the protection afforded by breast-feeding is not confined to gastro-enteritis alone. It is markedly present in the case of broncho-pneumonia also. It will be noted that of 101 babies who died from this condition in no less than 85 instances the victims were bottle-fed. The problem resolves itself into the question why mothers cannot or will not nurse their babies. We see, therefore, the importance of an educational campaign to foster the adoption of natural methods of feeding on a much wider scale. Such a campaign should by no means be confined to the mothers themselves. There is only too good reason to conclude that many medical practitioners and nurses do not realise the fundamental importance of this question.

Table 41.—**Éire.** Principal causes of Infant Deaths (ratio per 1,000 Births). The corresponding figures for Cork City are shewn in Table 38.

Year	Congenital Debility	Prematurity	Diarrhoea and enteritis	Pneumonia	Convulsions	Congenital Malformations	Bronchitis	Whooping Cough
1931	16.00	8.58	8.27	7.72	6.78	3.38	3.17	1.16
1932	16.46	8.53	9.33	8.44	6.54	3.40	3.96	2.60
1933	14.38	9.59	8.92	6.99	5.61	3.59	2.79	2.54
1934	13.78	8.05	7.50	6.72	5.41	3.54	3.26	2.97
1935	14.19	9.76	10.65	8.08	4.50	3.90	3.40	1.05
1936	14.44	11.31	10.38	8.96	5.32	4.44	2.96	2.20
1937	13.65	12.16	9.95	8.34	4.99	4.39	2.92	2.46
1938	12.79	10.96	9.12	8.43	4.43	4.38	2.71	1.74
1939	12.68	11.02	9.33	7.67	4.48	4.82	2.35	1.37
1940	13.25	10.67	9.67	7.70	3.55	4.59	2.62	1.77
1941	14.14	11.57	14.18	7.93	4.23	5.57	2.34	1.46
1942	13.66	9.24	14.32	7.11	4.05	5.13	2.51	1.18
1943	15.20	11.58	18.26	8.91	3.99	5.85	2.93	2.87
1944	14.55	11.72	15.82	8.60	4.40	5.30	2.16	2.19
1945	10.89	11.32	15.58	8.44	3.53	5.31	1.62	1.36
1946	9.57	11.80	13.11	7.54	2.61	5.20	1.19	0.96
1947	11.38	11.83	10.34	8.61	2.93	5.38	1.52	2.97

#### (B) NOTIFICATIONS OF BIRTHS.

The Acts bearing on this subject are the Notification of Birth Acts, 1907, which was adopted by the Corporation in September, 1922, and the Notification of Births (Extension) Act, 1915. These Acts place an obligation on certain individuals to notify to the Medical Officer of Health within thirty-six hours, births which have occurred in the area. The object of the Acts is to enable the Local Authority to afford advice and assistance to parents on the care and upbringing of children.

The general procedure in connection with the notification of births was outlined in my Report for the year 1942. The total number of such notifications received during the year amounted to 1,785. The number of *live* births registered during the same period, according to the Annual Summary of the Registrar-General was 1,848.

## (C) MATERNAL MORTALITY.

There was 1 death under this heading during the year.

Table 42.—The number of deaths of women directly attributable to or associated with pregnancy or childbirth, together with the rate per 1,000births during each of these years, for the City of Cork. (Corrected for Births and Deaths in public institutions).

Year	Deaths from Puerperal Septic Diseases		Deaths from accidents of Pregnancy or Childbirth		Total Deaths from Puerperal Septic Diseases and accidents of Pregnancy or Childbirth		Deaths from causes associated with Pregnancy or Childbirth (not included in foregoing)		Total Deaths caused by, or associated with Pregnancy or Childbirth	
	No.	Rate per 1000 Births	No.	Rate per 1000 Births	No.	Rate per 1000 Births	No.	Rate per 1000 Births	No.	Rate per 1000 Births
1924	5	2.55	6	3.05	11	5.60	1	0.51	12	6.11
1925	5	2.54	5	2.54	10	5.08	1	0.51	11	5.59
1926	3	1.66	8	4.42	11	6.08	—	—	11	6.08
1927	5	2.74	6	3.28	11	6.02	—	—	11	6.02
1928	3	1.64	9	4.92	12	6.56	1	0.55	13	7.11
1929	—	—	4	2.24	4	2.24	—	—	4	2.24
1930	1	0.46	3	1.37	4	1.83	—	—	4	1.83
1931	1	0.52	7	3.63	8	4.10	—	—	8	4.10
1932	1	0.55	8	4.28	9	4.95	—	—	9	4.95
1933	1	0.54	8	4.32	9	4.85	1	0.54	10	5.40
1934	5	2.60	2	0.52	7	3.60	—	—	7	3.60
1935	1	0.51	5	2.56	6	3.08	—	—	6	3.08
1936	1	0.52	4	2.08	5	2.60	—	—	5	2.60
1937	—	—	—	—	—	—	—	—	—	—
1938	—	—	6	3.51	6	3.51	—	—	6	3.51
1939	1	0.58	3	1.75	4	2.3	—	—	4	2.3
1940	—	—	8	4.6	8	4.6	—	—	8	4.6
1941	—	—	5	2.9	5	2.9	—	—	5	2.9
1942	—	—	3	1.7	3	1.7	—	—	3	1.7
1943	1	0.56	2	1.12	3	1.6	—	—	3	1.6
1944	2	1.14	6	3.42	8	4.56	—	—	8	4.56
1945	—	—	4	2.36	4	2.36	—	—	4	2.36
1946	—	—	2	1.10	2	1.10	—	—	2	1.10
1947	—	—	1	0.50	—	—	—	—	1	0.50
1948	—	—	—	—	—	—	1	—	1	0.50

\* \* \* \* \*

"The tendency nowadays is to exaggerate the economic difficulties of motherhood, to depict its tribulations and to belittle its compensations and rewards. Much that passes for social aid to mothers is construed in a way which raises their fears and undermines their confidence. They are relieved of their children when they should be relieved of their chores. They are tempted to wage-earning when they should be paid to make a home. The core of the trouble is that our economic system is not based on a philosophy of human welfare which recognizes the right of every mother of a family to possess the means of home-making if she so desires it. To use Sir William Beveridge's words, 'A family still remains the greatest single cause of poverty', and it will continue to be so in spite of the family allowance which is shortly to be given. The trend of our political and social life still tempts parents to prefer a motor-car instead of a child, and this will not be altered by dangling before their eyes the bogey of a declining population."—SPENCE, J. C. *The Purpose of the Family*.

\* \* \* \* \*

"The complexity of modern society commits us to an increasing arrangement of our lives by the State. Anglo-Saxon civilization will decline unless people re-create natural neighbourliness, and unless the State bases its actions on a philosophy of human welfare which recognizes that the unit of society is not the isolated individual but the family. To that end the function and the purpose of the family must be known and realized, and our social legislation, our methods of education, our spontaneous mutual aid, and our public spending of money must be adjusted to that purpose."—SPENCE, J. C., *The Purpose of the Family*.

Table 43.—Maternal Mortality in different areas.

Year	Whole Country		Cork City		City of Dublin		Belfast		Limerick County Borough		Waterford County Borough	
	No. of deaths	Rate per 1000 births	No. of deaths	Rate per 1000 births	No. of deaths	Rate per 1000 births	No. of deaths	Rate per 1000 births	No. of deaths	Rate per 1000 births	No. of deaths	Rate per 1000 births
1920	326	4.8	13	5.8	55	6.0	95	7.7	3	2.9	2	2.7
1921	336	5.5	8	4.0	53	6.5	53	4.7	1	1.0	3	5.1
1922	370	6.3	7	3.6	61	7.1	55	5.1	12	11.8	—	—
1923	328	5.3	4	1.9	46	5.5	58	5.3	16	5.6	3	4.9
1924	330	5.2	12	6.1	46	5.0	46	4.4	1	0.9	4	5.9
1925	312	5.0	11	5.6	42	4.9	29	2.8	3	2.8	4	6.4
1926	329	5.4	11	6.1	31	3.5	57	5.5	5	4.8	—	—
1927	291	4.8	11	6.0	23	2.8	36	3.7	5	4.8	3	4.7
1928	318	5.4	13	7.1	31	3.5	43	4.6	5	4.5	2	3.0
1929	283	4.9	4	2.2	30	3.4	43	4.8	7	6.2	1	1.6
1930	294	5.0	4	1.8	43	4.1	44	4.6	4	3.7	3	4.6
1931	272	4.7	8	4.1	29	2.1	54	5.7	4	3.5	3	4.5
1932	236	4.9	9	4.9	33	3.1	49	5.5	8	4.0	6	8.6
1933	255	4.4	10	5.4	22	2.1	42	5.2	7	7.1	2	2.8
1934	304	5.2	7	3.6	41	3.7	57	6.3	2	1.9	—	—
1935	272	4.6	6	3.0	38	3.3	54	6.0	6	5.5	4	4.0
1936	273	4.7	5	2.6	42	3.5	57	6.2	2	2.0	3	4.5
1937	204	3.3	—	—	33	2.8	56	6.1	3	2.9	4	5.8
1938	204	3.6	6	3.5	29	2.5	48	5.2	4	4.0	3	4.8
1939	150	2.7	4	2.3	23	2.0	—	4.4	1	1.0	1	1.6
1940	227	4.0	8	4.6	21	1.9	37	4.2	3	3.0	7	10.3
1941	209	3.7	5	2.9	21	1.8	31	3.6	3	3.0	1	1.6
1942	163	2.4	3	1.7	20	1.6	31	3.2	1	0.9	2	2.5
1943	162	2.5	3	1.6	15	1.2	32	2.9	1	0.9	—	—
1944	176	2.7	7	3.8	18	1.4	24	2.3	1	0.9	2	2.8
1945	159	2.4	4	2.4	17	1.3	18	1.8	4	3.5	1	1.4
1946	132	2.0	2	1.1	14	1.1	23	2.2	2	1.6	—	—
1947	130	1.8	1	0.5	12	0.9	13	1.2	7	5.4	—	—
1948	93	1.4	1	0.5	8	0.6	13	1.3	3	2.7	1	1.5

The above figures were obtained from the *Annual Reports* of the Registrar-General with the exception of those for the year 1948 (which were taken from the *Annual Summary* for that year) and those for Belfast, from 1922 onwards, which were kindly supplied by the Superintendent Medical Officer of Health. All figures include deaths from sepsis arising from abortion and miscarriage.

## (D) SUPERVISION OF MIDWIVES.

1. Number of Midwives in Practice :—				
Certificate of C.M.B.	...	...	...	64
Other recognised certificates	...	...	...	19
				—
Total	...	...	...	83
2. Number of Midwives according to type of practice :—				
Attached to public institutions	...	...	...	9
Conducting only private maternity or nursing homes	...	...	...	10
Dealing with less than five cases per year	...	...	...	8
Monthly nurses	...	...	...	25
Others	...	...	...	31
				—
Total	...	...	...	83
3. Number of visits of inspection of midwives	...	...	...	369
4. Disinfection of appliances	...	...	...	1
5. Reasons for summoning Medical help :—				
Abnormal presentation	...	...	...	9
Obstructed and delayed Labour	...	...	...	12
Post partum haemorrhage	...	...	...	—
Ante partum haemorrhage	...	...	...	3
Rise of Temperature	...	...	...	1
Ruptured perineum	...	...	...	9
Thrombosis	...	...	...	1
Retained (&c.) Placenta	...	...	...	4
Miscellaneous	...	...	...	3
6. Notifications of still births	...	...	...	55
7. Notifications of artificial feeding	...	...	...	127
8. Notifications of having laid-out dead bodies	...	...	...	—
9. Suspensions for twenty-four hours on account of contact with cases of infectious disease	...	...	...	1
10. Notifications of liability to be a source of infection	...	...	...	1
11. Notifications of deaths	...	...	...	54
12. Puerperal Pyrexia	...	...	...	4

It was unnecessary to undertake any legal proceedings against midwives during the year.

## ARTIFICIAL FEEDING.

Cracked or inverted nipples	...	...	...	...	47
Health would not permit	...	...	...	...	17
Insufficient	...	...	...	...	14
Refusals (no cause assigned)	...	...	...	...	59
Illegitimate births	...	...	...	...	—

127

The above figures refer to all notifications received during the year and include County cases treated in City Nursing Homes.

**(E) WORK OF THE MATERNITY AND CHILD WELFARE  
SCHEME.**

The following is a summary of the work carried out during the year by the staff of the Centre.

**Attendances of children under one year :—**

(a) New Cases	...	...	2734
(b) Old Cases	...	...	3923

Attendances of Mothers with Children	...	8580
--------------------------------------	-----	------

**Cases seen by the Medical Officer :—**

(A) Under one year			
(1) New Cases	...	...	807
(2) Old Cases	...	...	865
(B) One to two years			
(1) New Cases	...	...	265
(2) Old Cases	...	...	494
(C) Two to five years			
(1) New Cases	...	...	211
(2) Old Cases	...	...	450
(D) Expectant Mothers			
(1) New Cases	...	...	570
(2) Old Cases	...	...	216

**Ante-natal work—**

Number of cases dealt with	...	570
Number of attendances ...	...	786

**Return of Health Visitors' work—**

(A) Under one year			
(1) Primary visits	...	...	1742
(2) Secondary visits	...	...	4075
(B) One to two years			
(1) Primary visits	...	...	1385
(2) Secondary visits	...	...	1532
(C) Two to five years			
(1) Primary visits	...	...	893
(2) Secondary visits	...	...	2399
(D) Expectant Mothers			
(1) Primary visits	...	...	887
(2) Secondary visits	...	...	688

The following cases were dealt with at the artificial sunlight clinic during the year :—

Debility	...	...	...	32
Rickets	...	...	...	8
Number of cases treated	...	...	...	40
Number of Exposures	...	...	...	753

## Section V.

### School Medical Service.

The medical inspection of the following groups was carried out during the year :—

*Entrants*—Pupils born in 1942 and pupils born in 1940 and 1941 if not previously examined.

*Second Age Group*—Pupils born in 1939 and pupils born in 1936, 1937 or 1938 who had been absent for periodic examination or had not been examined previously.

*Third Age Group*—Pupils born in 1935 and pupils born in 1933 or 1934 who had been absent for periodic examination or had not been examined previously.

*Other Inspections*—Those pupils who, at the last periodic inspection, had been marked down for further observation or treatment, also those pupils examined at the request of Head Teachers, School Nurses, Parents, etc.

#### Number of Children Inspected.

I. Periodic Inspections	.....	.....	.....	3,544
Entrants	.....	.....	1,425	
Second Age Group	.....	.....	1,229	
Third Age Group	.....	.....	890	
II. Other Inspections	.....	.....	.....	4,314

Table 44—Return of Defects found by Medical Inspection for the Year ended 31st December, 1948.

Disease or Defect	Periodic Inspections	Other Inspections
	Number of Defects	Number of Defects
<b>SKIN :</b>		
Ringworm—Scalp .....	3	—
Ringworm—Body .....	7	—
Scabies .....	44	—
Impetigo .....	24	—
Other Diseases (Non-Tuberculous) .....	9	—
<b>EYE :</b>		
Defective Vision .....	422	176
Strabismus .....	94	97
Blepharitis .....	106	36
Conjunctivitis .....	62	65
Corneal Opacities .....	2	—
Other Conditions .....	42	57
<b>EAR :</b>		
Defective Hearing .....	33	7
Otorrhoea .....	64	98
Other Conditions .....	16	45
<b>NOSE AND THROAT :</b>		
Enlarged Tonsils and Adenoids .....	608	58
Other Conditions .....	19	16
<b>HEART AND CIRCULATION :</b>		
Heart—Organic .....	40	18
Heart—Functional .....	24	—
Anaemia .....	60	8
<b>LUNGS :</b>		
Bronchitis .....	89	20
Other Diseases (Non-Tuberculous) .....	10	5
<b>NERVOUS SYSTEM :</b>		
Chorea .....	8	2
Epilepsy .....	2	—
Other Conditions .....	—	—
<b>TUBERCULOSIS :</b>		
Pulmonary .....	—	1
Healed Primary Complex .....	1	—
Glands .....	3	3
Bones and Joints .....	—	—
<b>DEFORMITIES :</b>		
Surgical Tuberculosis.... ..	3	—
Congenital .....	5	—
Other Forms .....	7	—
Hernia .....	12	—
Other Diseases and Defects .....	103	2
<b>MISCELLANEOUS :</b>		
Minor Injuries, etc. ....	7	—

**Defective Nutrition.**

Percentage of mal-nourished children	.....	.....	3.2
--------------------------------------	-------	-------	-----

**Uncleanliness.**

Percentage of verminous children	.....	Boys and Girls	8.9
" " " "	.....	Girls	14.0
" " " "	.....	Boys	4.1

Table giving Percentage of Conditions of Uncleanliness

	Head Nits Present	Head Pediculi Present	Body Pediculi Present
Girls	13.1	1.2	1.6
Boys	1.5	0.5	2.6

**Unsatisfactory Clothing and Footgear.**

Boys and Girls	.....	8.0%
Boys	.....	8.9%
Girls	.....	7.2%

Table 45—Proportion of principal Diseases and Defects found by periodic Medical Inspection

Disease or Defect			Percentage
Defective Nutrition	.....	.....	3.2
Verminous Conditions	.....	.....	8.9
Skin (Non-Tuberculous Disease)	.....	.....	2.5
Eye	Defective Vision requiring Refraction		19.5
	Other Diseases and Defects		6.0
Ear	.....	.....	3.2
Nose and Throat	Enlarged Tonsils and Adenoids		17.2
	Other Conditions		0.5
Heart and Circulation	.....	.....	3.5
Lungs (Non-Tuberculous Disease)	.....	.....	2.8
Tuberculosis	.....	.....	0.1
Nervous System	.....	.....	0.3
Deformities	.....	.....	0.4
Other Diseases and Defects	.....	.....	2.9

Table 46—Average Height and Weight of Children inspected and Comparison with the Average Standard. (Baldwin and Woods Tables)

## BOYS

Age last B'day Years	No. of Children examined	Average Height in ins.	Average Weight in lbs.	Average Standard Weights for Height	Percentage over or under Weight according to Standard
5	156	42	42	39	7.7% over
6	442	43	45	41	9.8% over
7	90	45	48	45	6.7% over
8	217	48	55	53	3.8% over
9	289	50	58	58	—
12	162	55	76	74	2.7% over
13	212	56	79	78	1.3% over

## GIRLS

Age last B'day Years	No. of Children examined	Average Height in ins.	Average Weight in lbs.	Average Standard Weight for Height	Percentage over or under Weight According to Standard
5	94	42	41	39	5.1% over
6	399	44	43	42	2.4% over
7	57	45	46	45	2.2% over
8	175	48	52	52	—
9	344	49	56	55	1.8% over
12	138	55	76	75	1.3% over
13	293	57	82	84	2.4% under

Table 47—Rheumatic Children found during medical inspection\*

## I. Periodic Inspections.

## GIRLS

Age Group	Number examined	Number Rheumatic	Percentage Rheumatic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Entrants .....	646	10	1.5	—	4	1	2	1	—	2
Second Age Group .....	607	16	2.6	2	3	—	1	8	2	—
Third Age Group .....	462	13	2.8	—	7	—	—	5	—	1
Total .....	1,715	39	2.0	2	14	1	3	14	2	3

## BOYS

Age Group	Number examined	Number Rheumatic	Percentage Rheumatic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Entrants .....	779	4	0.5	—	1	—	—	3	—	—
Second Age Group .....	622	10	1.6	1	4	—	1	1	—	3
Third Age Group .....	428	12	2.8	—	7	—	1	1	—	3
Total .....	1,829	26	1.4	1	12	—	2	5	—	6

## BOYS AND GIRLS

	Number examined	Number Rheumatic	Percentage Rheumatic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
	3,544	65	1.8	3	26	1	5	19	2	9

\* The classification used in the above tables is as follows :

*Group 1.*—Children without a history of acute rheumatism or chorea who present physical signs of a definite heart lesion (obvious valvular disease) which cannot be attributed to any cause other than rheumatism.

*Group 2.* Children with a history of acute rheumatism and with one or all of the following signs and symptoms :—

- (a) Physical signs indicating carditis
- (b) Suspicious nervous signs and symptoms
- (c) Suspicious constitutional signs and symptoms
- (d) A history of growing pains and sore throats.

*Group 3.* Children without a history of acute rheumatism, but with physical signs indicating carditis, especially if associated with “ (b) ”, “ (c) ” or “ (d) ”.

*Group 4.* Children with a history of chorea and with any of the above physical signs and symptoms.

*Group 5.* Children without a history of acute rheumatism or chorea, but with suspicious heart signs associated with “ (b) ”, “ (c) ” or “ (d) ”.

*Group 6.* Children as above, but without suspicious heart signs.

*Group 7.* Children with a history of acute rheumatism or chorea who do not present any suspicious signs and symptoms.

## II. Special Inspections.

	Number examined	Number Rheumatic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Boys and Girls ....	199	42	6	12	1	4	12	3	4

The following signs (in the proportions stated) were detected in children found to be suffering from rheumatism.

Endocarditis .....	29.0%
Suspicious Heart Signs.....	35.5%
Suspicious Nervous Signs and Symptoms.....	20.6%
Growing Pains and Sore Throats .....	19.6%
Growing Pains .....	34.6%
Recurrent Sore Throats .....	15.0%
Unhealthy and Enlarged Tonsils .....	33.6%
Tonsils Removed .....	26.2%
History of Acute Rheumatism .....	26.2%
History of Chorea .....	11.2%

## Treatment of Defects

The following figures do not include treatment of children who attend City Schools but who reside in the County and are therefore referred to the County School Medical Service for treatment.

## Enlarged Tonsils and Adenoids

## Operative Treatment

Under the School Medical Service Scheme	By Private Practitioners	Total
388	3	391

## Other Defects and Diseases of Nose and Throat

Treated at :—

Intern Dept. of Hospitals associated with S.M.S. Scheme	27
Extern Dept. of Hospitals associated with S.M.S. Scheme	14
Intern and Extern Depts. of Hospitals associated with S.M.S. Scheme .....	—

Total Number Treated ..... 41

## Defective Vision

Submitted to Refraction		Glasses Prescribed			Change of Glasses Not necessary	Glasses not Prescribed
Under the School Medical Service Scheme	By Private Prac- titioners	Under the School Medical Service Scheme	By Private Prac- titioners	Total		
370	7	341	7	348	22	7

### Other Defects and Diseases of Eye

Treated at :—

Intern Dept. of Hospitals associated with S.M.S. Scheme	10
Extern Dept. of Hospitals associated with S.M.S. Scheme	209
Intern and Extern Depts. of Hospitals associated with S.M.S. Scheme .....	5
Total Number Treated .....	224

### Ear Diseases and Defects

Treated at :—

Intern Dept. of Hospitals associated with S.M.S. Scheme	13
Extern Dept. of Hospitals associated with S.M.S. Scheme	184
Intern and Extern Depts. of Hospitals associated with S.M.S. Scheme .....	7
Total Number Treated .....	204

### Review of Defects treated under the School Medical Service Scheme

#### Skin.

1,107 cases were treated at the School Clinic. They consisted of Scabies 856, Impetigo 130, Ringworm Scalp 22, Ringworm Body 37 and others 62. The number of cases of scabies shows an increase over last year as it is now being treated at the School Clinic since the closure of the Treatment Centre, South Mall in August, 1947.

Of the 59 cases of ringworm the majority were among the pupils of one school. The number of cases of ringworm of the scalp treated at the School Clinic was 22. While this number was small, it was quite obvious that the diagnosis and control of ringworm of the scalp presents many difficulties. Examination of contacts by ordinary methods is wholly unsatisfactory, the only satisfactory method being examination by Woods light apparatus. By this means missed cases among contacts can be discovered and an epidemic nipped in the bud. It is the only certain method of assessing cure and preventing children still infected being allowed back to school.

#### Eye—Defective Vision.

370 cases were refracted at the hospitals associated with the Scheme. Lenses (and frames when obtainable) were supplied by Messrs. James Mangan, Ltd., and were given free of charge to 306 children. The number of children who do not wear their glasses regularly and who fail to have them repaired is very high. I have found at school medical inspections that 50% of cases who should be wearing glasses do not do so. It is most disheartening to find so many defaulters and I would appeal to parents and teachers for their co-operation regarding the regular wearing of glasses and immediate repairs to them when necessary.

#### EXTERNAL EYE.

224 cases were treated at the hospitals associated with the Scheme and 170 at the School Clinic. The former included surgical treatment of 8 cases of strabismus, other cases included corneal ulcer 40, meibomiam cyst 1, retinal detachment 1 and 8 cases had orthoptic treatment.

**Ear.**

204 cases were treated at the hospitals associated with the Scheme. They included surgical treatment of 5 cases of mastoiditis, the majority of the other cases were otitis media. Penicillin was given to 12 cases.

**Nose and Throat—Tonsils and Adenoids.**

388 cases had operative treatment at the hospitals associated with the Scheme, of these 14 had antra lavage also.

**Other Diseases and Defects.**

41 cases were treated at the hospitals associated with the Scheme. They included 16 cases of sinusitis (5 of which had operative treatment and 5 antral lavage), 3 cases of deflected septum (2 of which had sub-mucous resection), 1 case of fractured nasal bones, 1 osseous tumour of maxillary sinus and 1 infected thyroglossal cyst. Penicillin was given to 2 cases.

**Cleanliness.**

Nits were present in 13.1% of girl's heads and in 1.5% of boys' heads. 219 cases attended the School Clinic. The parents were instructed in the treatment and prevention of this condition and were supplied with D.D.T. Emulsion.

**Minor Injuries, Septic Sores, etc.**

435 cases were treated at the School Clinic.

**Children referred to Tuberculosis Clinics**

	County Borough Clinic		County Clinic	
	Suspects	Contacts	Suspects	Contacts
Referred .....	23	3	4	—
Active Lesions .....	3	—	1	—
Healed Primary Complex .....	—	1	—	—
Did not attend .....	1	1	—	—

**“ Following up ” of Children Inspected**

(a) In connection with those found to be suffering from physical defects :

Number of Children visited ..... 3,196  
 Number of visits paid ..... 3,971

(b) In connection with those who did not attend for treatment :

Number of Children visited ..... 102  
 Number of Attendances at the School Clinic..... 8,679

The number who attended for treatment of minor ailments was 3,261, of those 1,725 were for scabies.

Children residing in the County and attending Schools within the Borough.

Referred to the County School Medical Service for treatment :

For Nose and Throat Defects ..... 70  
 For Eye Defects ..... 54  
 For Ear Defects ..... 2  
 For Dental Defects { Group A ..... 328  
                               Group B ..... 236

### Dental Section.

Up to recently dental inspection was carried out entirely by the School Medical Officer during the course of routine medical inspection in the schools. Any children found to require treatment were referred to the school dentist. With the appointment of a second dentist an attempt has been made to institute a systematic dental inspection of the children in the schools commencing with the entrants and following up each child examined during the course of his school life. This programme could only be followed to a limited extent (due to factors beyond our control). While these inspections were being carried out by the *school dentist* ordinary routine dental examination was carried out by the *school medical officer* so that two categories are referred to in the ensuing tables, group A represents children examined by the school doctor and group B children inspected by the school dentist. It is hoped eventually to transfer the entire responsibility for dental hygiene to the dental department.

	Number Inspected	Number with Carious Teeth
<b>Group A</b>		
(a) <b>Routine Inspections.</b> Made during the course of periodic medical inspection with the exception of the three age groups coming under routine dental inspection by School Dentist	2,391	1,590 or 66.5%
(b) <b>Special Inspections, i.e. inspection of cases not included under (a) considered to be especially in need of dental treatment or for whom parents applied for treatment.</b>	774	774
<b>Total Group A</b>	<b>3,165</b>	<b>2,364</b>
<b>Group B.</b> Children inspected by School Dentist.		
<b>FIRST INSPECTIONS.</b>		
(a) Routine inspection of the 5 to 6 year old group	728	549 or 75.4%
(b) Routine inspection of the 6 to 7 year old group who were absent for or refused inspection last year	422	353 or 83.6%
(c) Routine inspection of the 7 to 8 year old group who were absent for or refused inspection for the past two years	73	61 or 83.6%
<b>SECOND INSPECTIONS.</b>		
(d) Routine Inspection of the 6 to 7 year old group who had dental supervision by School Dentist in 1947	444	306 or 68.9%
(e) Routine inspection of the 7 to 8 year old group who had dental supervision by School Dentist in 1946 or 1947	151	116 or 76.8%
<b>THIRD INSPECTIONS.</b>		
(f) Routine Inspection of the 7 to 8 year old group who have been under annual dental supervision by School Dentist since 1946	61	44 or 72.1%
<b>Total Group B</b>	<b>1,879</b>	<b>1,429 or 76.1%</b>

(The above figures include children who reside in the County. These were referred to the County School Medical Service for treatment).

## Treatment of Dental Defects.

Table 48.—Dental Caries. Particulars of Treatment Carried out.

## GROUP A.

No. of Children treated	No. who completed treatment	Extractions			Fillings			Sealings Dressings, Silver Nitrate and Chromic Acid Treatments
		Temp. Teeth	Perm. Teeth	Total	Temp. Teeth	Perm. Teeth	Total	
1,085	460	1,597	621	2,218	13	404	417	929

## GROUP B.

Sub-group	No. of Children treated	No. who completed treatment	Extractions			Fillings			Sealings, Dressings, Silver Nitrate and Chromic Acid Treatments
			Temp. Teeth	Perm. Teeth	Total	Temp. Teeth	Perm. Teeth	Total	
(a)	400	304	1,514	6	1,520	95	1	96	59
(b)	178	124	762	7	769	50	8	58	46
(c)	32	19	128	6	134	8	—	8	13
(d)	276	195	665	15	680	87	47	134	83
(e)	65	44	167	2	169	23	11	34	25
(f)	41	22	99	—	99	12	8	20	25
Total	992	708	3,335	36	3,371	275	74	350	251

Table 49.—Shewing the proportion of children (in Group B) found on inspection to require treatment, the proportion treated and the proportion of the latter who completed treatment.

Age Group		Percentage requiring treatment	Percentage treated	Percentage who completed treatment
(a)	5 to 6 yrs. (First Inspection)	76.7%	79.5%	76%
(b)	6 to 7 yrs. do.	84.9%	62.4%	69.7%
(c)	7 to 8 yrs. do.	86.7%	59.6%	59.4%
(d)	6 to 7 yrs. (Second Inspection)	67.2%	95.9%	70.7%
(e)	7 to 8 yrs. do.	75.8%	60%	67.7%
(f)	7 to 8 yrs. (Third Inspection)	71.2%	90.7%	53.7%
Total		76.2%	77%	71.4%

General Anaesthetics were given to 723 children.

Number of Visits to Defaulters 561.

Number who obtained Treatment as a result of such visits 279.

The actual figures to which this table relates will be found in the immediately preceding tables.

### School Meals.

The Grant for the Meals was £4,000 and the number of children catered for 4,416. The meals were given in twenty-four schools and were as follows:—

- A. Milk—North Presentation Convent Senior Girls, North Presentation Convent Infants Mixed, Central District.
- B. Milk with buns, bread, or bread and jam—The Cathedral, St. Mary's Eason's Hill, St. Francis' Girls, St. Francis' Boys, St. Joseph's Mardyke, St. Marie's of the Isle, SS. Peter and Paul's Infant Boys, SS. Peter and Paul's Infant Girls, SS. Peter and Paul's Senior Girls, South Presentation Monastery, Presentation Brothers' Monastery, Greenmount (from the 1st October to the 30th June).
- C. Milk and buns during the warmer months, cocoa and buns during the colder—South Presentation Convent Girls, South Presentation Convent Boys.
- D. Milk and bread and jam to Infants, bread and jam only to Senior Children—St. Nicholas' Girls Blackpool, St. Nicholas' Boys Blackpool.
- E. Milk and buns to 42% of the children, buns only to 58%—St. Mary's of the Rock.
- F. Cocoa and buns—Christian Brothers' Blarney Street, Clochar Chriost an Ri.
- G. Buns—Strawberry Hill Boys', Strawberry Hill Girls, St. Vincent's Convent.

In the large majority of schools the milk ration is very inadequate, being less than 1/3 pint. The great value of an additional milk ration to that given at home has been clearly demonstrated for all ages of school children. Milk is one of the essential foods that is often lacking in the diet of poorer children, and, on this account, it is desirable that they receive an adequate ration in school. Until such time as the Grant for School Meals is increased to cover the cost of an adequate milk ration plus bread or buns, I would recommend, as has already been recommended, that the money be spent on milk only. It is also important to ensure that each child has a clean drinking utensil, which should be kept in school.

### Hygiene of Schools.

Temporary additional classrooms, which are being used in some schools, are unsuitable as it is impossible to provide adequate heating and ventilation in such classrooms.

Some of the larger schools have no central heating plant. The fire in the grate, in such buildings, is unsatisfactory as a source of heat. It is difficult to visualise how ventilation can be properly availed of in these schools during the colder weather.

Cloakroom facilities are inadequate and unsuitable in many schools. Except in very few instances cloakrooms are unheated.

Arrangements for washing are unsatisfactory in most schools. Some of the newer schools have individual wash-hand basins. In no school, however, have liquid soap or paper towels been seen.

The standard of cleanliness in most schools is good. Some of the older buildings should be cleaned more frequently, especially those with rough interior walls.

The following improvements were made during the year :—

*Painting and Distempereing of School Premises*—The interior of St. Mary's Eason's Hill, North Monastery, Presentation Brothers' Greenmount and St. Mary's of the Rock. Clochar Chriost an Ri, two rooms. North Presentation Convent Senior Girls, three classrooms, staircase and balcony. South Presentation Convent Girls, one classroom and staircase. St. Marie's of the Isle, entrance gates, railings and wire netting of playground. Summerhill, cloakroom distempered, lavatories lime-washed, doors painted. North Presentation Convent Infants, interior of boys' and girls' lavatories painted.

*School Furniture*—Twenty-four new dual desks and 48 tables and chairs for South Presentation Convent Boys. New desks provided in South Presentation Convent Girls.

*Other Improvements*—Playground of SS. Peter and Paul's Schools re-concreted, school walls cleaned and repaired, Playground of St. Luke's drained and hedges cut, roofs, windows and outside walls also repaired. Cloakroom for Junior Infants, South Presentation Convent Girls re-constructed. Broken windows repaired at St. Nicholas' Cove Street.

Table 50.—Floor and Cubic Space per Pupil in average Attendance.

National School	Average Attendance	Square ft. per pupil in average Attendance	Cubic ft. per pupil in average Attendance
Angel Guardian, Mayfield	204.6	7.5	103.1
Clochar Chriost an Ri	515.1	8.6	105.8
Mainistir Chriost an Ri	453.4	9.5	109.6
North Monastery	748.4	9.5	155.8
St. Nicholas' Girls, Blackpool	340.6	9.9	142.1
St. Patrick's Infants	278.4	10.0	178.7
The Cathedral	387.4	10.4	122.9
Scoil Neasain Naomhtha	445.6	10.5	159.7
North Presentation Convent Infants	605.4	10.6	175.3
Strawberry Hill, Girls	157.8	10.8	129.6
North Presentation Convent Senior Girls	913.1	10.9	130.9
Christian Brothers', Blarney Street	474.7	11.1	109.8
St. Mary's of the Rock	274	11.4	194.4
Strawberry Hill, Boys	140.7	11.5	138.0
St. Nicholas Boys, Blackpool	466.6	11.6	144.7
St. Marie's of the Isle	1,116.5	12.1	166.1
South Presentation Convent Infant Boys'	180.5	12.5	137.5
St. Mary's, Eason's Hill	230.5	12.5	149.9
St. Vincent's Convent	1,329.1	12.5	182.0
SS. Peter and Paul's Senior Girls'	141.6	12.6	182.1
St. Francis' Boys	152.6	13.4	154.2
SS. Peter and Paul's Infant Girls	119.7	14.4	216.6
Presentation Brothers', Greenmount	488.7	14.7	300.2
St. Patrick's Senior Girls	221.3	15.0	246.1
St. Joseph's Monastery, Mardyke	316.9	15.4	215.4
St. Patrick's Senior Boys	218.5	15.8	204.8
South Presentation Convent Girls	1,110.9	16.5	181.8
SS. Peter and Paul's Infant Boys	105.4	17.0	254.8
South Presentation Monastery	311.9	19.8	297.0
Ard Scoil Gobnatan	122.8	22.0	659.6
Bun Scoil Gobnatan	127.1	23.3	697.9
St. Francis Girls	88.8	24.8	297.3
Scoil Barra	86.8	49.4	1,481.2
St. Finbar's, Dean Street	29.9	52.2	626.1
Central District	40.9	76.8	1,228.8
Summerhill	18.2	118.6	2,373.6
St. Nicholas', Cove Street	31.7	120.4	1,589.4
St. Mary Shandon	9.3	144.3	2,308.8

## Section—VI. Control of Food Supplies

The following report has been compiled by Mr. S. R. J. Cussen,  
Chief Veterinary Officer :—

### (A) SUPERVISION OF MILK.

585 samples of milk were examined in our laboratory during the year. These samples may be roughly divided into two groups :

1. Detailed bacteriological examination	...	308	samples
2. Dirt test only	... ..	277	„
Total	...	585	

1. The first group *i. e.*, those submitted to full examination comprised samples collected as follows (according to designation) with the addition of 13 samples of pasteurised milk.

Highest Grade	.....	3
Standard	... ..	24
New Milk	... ..	251
Pasteurised	... ..	15
*Pre-pasteurised	... ..	15
Total	...	308

The following tests were applied :—

#### (a) Sedimentation (or Dirt) Test.

The procedure was identical with that outlined in previous reports and the results obtained in the various grades were :—

	Highest Grade	Standard	New Milk	Pasteurised	Pre-Past.
Very Clean	3	14	17	9	—
Clean	—	8	207	5	4
Fairly Clean	—	2	131	1	9
Dirty	—	—	130	—	2
Very Dirty	—	—	43	—	—
	3	24	528	15	15

(Note—Col. 2, New Milk, comprises *all* samples submitted to the sedimentation test. This includes samples of ordinary market milk which were submitted to this test *only* as well as samples submitted to full bacteriological examination. Hence the discrepancy between the total for this column and the group above).

The Sediment (or Dirt) test is a simple and reasonably reliable one. It does not pretend to absolute scientific accuracy, but as a rough and ready index of general trends in the direction of cleanliness it maintains

\* The term *pre-pasteurised* denotes raw milk that has been collected at a pasteurising station and which is intended for pasteurisation

its position in the armamentarium of the dairy bacteriologist. Since its chief value is that of an indicator of general tendencies the results obtained over a number of years are set out below.

Table 51.—Result of Dirt Test.

Year	No. of Samples	Very Clean	Clean	Fairly Clean	Dirty	Very Dirty
1930	412	8	72	118	156	58
1931	408	23	61	82	139	103
1932	630	4	27	108	265	226
1933	485	3	27	105	221	129
1934	339	—	19	51	148	121
1935	223	—	7	21	103	92
1936	227	3	21	43	106	54
1937	206	5	31	80	70	20
1938	174	3	36	83	49	3
1939	714	61	184	224	193	52
1940	736	163	251	176	115	31
1941	440	120	162	82	59	17
1942	516	119	223	88	67	19
1943	534	138	248	87	53	8
1944	540	159	235	80	54	12
1945	839	45	292	331	143	28
1946	860	50	416	245	135	14
1947	518	27	199	177	96	19
1948	585	43	224	143	132	43
Totals	9386	974	2735	2324	2304	1048

In order to test the general tendency in regard to cleanliness the last two columns of this table have been taken together and further analysed. The results are shown in the next table.

Table 52.—Proportion of Samples classified as "Dirty,"

Year	No. of Samples	Dirty	Proportion
1930	412	214	51.9 per cent.
1931	408	242	59.3 "
1932	630	491	77.9 "
1933	485	350	72.2 "
1934	339	269	79.3 "
1935	223	195	87.4 "
1936	227	160	70.9 "
1937	206	90	43.6 "
1938	174	52	29.8 "
1939	714	245	33.9 "
1940	736	146	19.8 "
1941	440	76	17.2 "
1942	516	86	16.6 "
1943	534	61	11.3 "
1944	540	66	12.2 "
1945	839	171	20.3 "
1946	860	149	17.3 "
1947	518	115	22.2 "
1948	585	175	29.9 "

**(b) Microscopic Test.**

308 samples were submitted to routine microscopic examination. Acid-fast organisms were not detected in any of those samples, streptococci were present in 6 and pus cells in 10 and blood in 4. In 288 instances the samples were free from suspicious organisms.

**(c) Bacteria of Faecal Origin.**

Determination of organisms of this character has been a routine for a number of years. Included in this group is B.Coli, the presence of which may be regarded as proving carelessness in the production and handling of milk. A full account of the test has been given in previous reports. The findings for the year were as follows :—

Table 53.—Results of Tests for presence of B. Coli in Milk.

Designation	No. of Samples Examined	B. Coli Present	Proportion Free from B. Coli
Standard ...	24	0	100%

**(d) Pathogenic Bacteria.**

Under this heading our principal concern is the presence of the *tubercle bacillus* in milk. Other organisms (*e.g.*, streptococci) are also concerned in a minor role and have been alluded to under the heading of microscopic examination. The biological test (involving the use of guinea pigs) is the only reliable test for tubercle bacillus and the results obtained over a number of years are set out in columnar form as follows :—

Table 54.—Tubercle Bacilli in Milk—Results of Biological Tests.

Year	No. of Tests	Positive	Proportion Positive
1931	2	—	—
1932	14	1	7.1 per cent.
1933	63	—	—
1934	10	—	—
1935	25	4	16.0 „
1936	201	13	6.4 „
1937	23	—	—
1938	90	7	7.7 „
1939	71	5	7.0 „
1940	94	4	4.2 „
1941	96	4	4.1 „
1942	105	2	1.9 „
1943	75	6	8.0 „
1944	68	4	5.8 „
1945	99	4	4.0 „
1946	101	4	3.9 „
1947	77	4	5.2 „
1948	74	—	—
Total	1286	62	4.8 „

The figures for individual years are, on the whole, on the small side so far as reliable information is concerned. The sum total, however, of some 1286 tests yielding an approximate proportion of 4.8 per cent. positive may be regarded as a fairly accurate index of the amount of tubercle infection in the local milk supply. This is one aspect of the milk problem which recent legislation has done nothing to solve.

(e) **The Reductase Test.**

The modified method of Wilson has been used. As in the case of other tests mentioned, this method has been fully described in previous reports. Briefly, by means of a colour index which takes into account the rate of decolourisation of a standard solution of methylene blue added to given quantities of milk maintained at a standard temperature, the bacterial content (in numbers) can be estimated. The results obtained are set out below and in order to assist in the interpretation of these results it seems desirable to specify the values attached to the various grades :

Grade I	...	Less than 500,000 bacteria per c.c.
Grade II	...	500,000 to 4 million bacteria per c.c.
Grade III	...	4 million to 20 million bacteria per c.c.
Grade IV	...	Over 20 million per c.c.

Particulars of the various samples and the results obtained are set out below :

Highest Grade—

Grade I	.....	3
Grade II	.....	—
Grade III	.....	—
Grade IV	.....	—
		3

Standard Milk—

Grade I	...	18
Grade II	...	3
Grade III	...	2
Grade IV	...	1
		24

Ordinary Milk—

Grade I	...	210
Grade II	...	3
Grade III	...	4
Grade IV	...	2
		219

## BACTERIOLOGICAL EXAMINATIONS

In addition to the above samples, 44 samples were collected and submitted to the Authorized Bacteriological Examiner, to be examined to determine the number of bacteria in one cubic centimetre of the milk in accordance with the provisions of Section 52 of the Milk and Dairies Act, 1935.

The following is the results of the examination in each case :—

Sample No.	Bacteriological Count	Sample No.	Bacteriological Count
1	2,350,000 per c.c.	23	13,000 per c.c.
2	104,000 "	24	9,000 "
3	855,000 "	25	39,000 "
4	146,000 "	26	7,000 "
5	13,000 "	27	1,130,000 "
6	75,000 "	28	670,000 "
7	500,000 "	29	940,000 "
8	610,000 "	30	400,000 "
9	48,000 "	31	78,000 "
10	660,000 "	32	283,000 "
11	2,050,000 "	33	170,000 "
12	330,000 "	34	5,000 "
13	22,000 "	35	235,000 "
14	69,000 "	36	97,000 "
15	74,000 "	37	405,000 "
16	28,500 "	38	95,000 "
17	21,500 "	39	500,000 "
18	38,000 "	40	Exceeding 1,000,000 "
19	32,000 "	41	" 1,000,000 "
20	60,000 "	42	" 1,000,000 "
21	422,000 "	43	" 1,000,000 "
22	54,000 "	44	" 1,000,000 "

\* Thirteen samples did not comply with the provisions of Article 3 of the Milk and Dairies (Bacteriological Examinations) Regulations, 1936.

For *pasteurised* milk and *pre-pasteurised\** milk plating on nutrient media with direct colony counts was substituted for the Reductase test and by this method the following results were obtained :

Pasteurised		Pre-pasteurised*	
Sample Number	Bacteria per c.c.	Sample Number	Bacteria per c.c.
1	9,000	1	54,000
2	2,500	2	14,000
3	60,000	3	448,000
4	14,000	4	477,000
5	45,000	5	370,000
6	8,000	6	485,000
7	11,000	7	294,000
8	6,000	8	696,000
9	18,500	9	750,000
10	23,000	10	1,024,000
11	6,000	11	420,000
12	13,000	12	88,000
13	7,000	13	120,000
14	5,000	14	10,000
15	29,000	15	172,000

\*See footnote on page 66

154 Samples of milk collected in Creameries and examined in our laboratory on behalf of the Dept. of Agriculture were submitted as follows :—

By Kerry M.O.H.	.....	.....	.....	9 Samples
„ Cork Co. M.O.H.	.....	.....	.....	145 „

On behalf of the Dept. of Agriculture 42 samples of designated milk and 12 samples of pre-pasteurised milk were collected in the urban area and examined in our laboratory.

## PROSECUTIONS.

### (A) MILK AND DAIRIES ACT, 1935.

36 persons were prosecuted for non-observance of the above Act.

35 convictions were obtained and fines amounting to £15 13s. 6d. imposed. 1 case was marked proved.

With reference to the successful prosecutions.—

2 summonses were brought under Section 24

18	„	„	„	„	59
11	„	„	„	„	59 (3)
5	„	„	„	„	60

Section	Number Prosecuted	Number Convicted	Fines Imposed	Marked Proved	Withdrawn
24	2	2	10/- with costs	1 with costs	—
59	18	18	£9 17 6 „	—	—
59(3)	11	11	£4 7 6 „	—	—
60	5	4	18/6 „	—	—
Totals	36	35	£15 13 6 „	1 with costs	—

Maximum fine imposed was 20/- and costs.

Minimum „ „ „ 1/- „

Section 24 : Relates to the prohibition of the sale of milk by un-registered dairymen.

„ 59 : Relates to the prohibition of the sale of dirty milk.

„ 59 (3) : Relates to the sale of milk which has an offensive taste or smell, or which on being tested in any prescribed manner, is found to contain visible offensive matter, or bacteria to a number per unit volume greater than the prescribed number.

„ 60 : Relates to the sale of milk in public places and prescribes for the conspicuous inscription of the dairyman's name and address on the vehicle, car or receptacle and the words "Bainne ar díol, Uachtar ar díol or Blathach ar díol."

#### (B)—THE MILK AND DAIRIES REGULATIONS, 1936 :

Twenty-seven persons were prosecuted for non-observance of the above Regulations.

Twenty-one convictions were obtained and fines amounting to £5 19s. 6d. and costs imposed.

Six cases were marked "Proved" with payment of costs.

With reference to the successful prosecutions, particulars are appended herewith of the enactments concerned with the summonses which were undertaken :—

##### (a) The Milk and Dairies Regulations, 1936 :

1 under Article 6	1 under Article 34(a)
1 „ 8(2)	1 „ 34(b)
1 „ 20	1 „ 34(g)
8 „ 22(3)	1 „ 40
3 „ 22(5)	1 „ 41(4)
2 „ 27	1 „ 42(2)
4 „ 28	

PROSECUTIONS UNDER MILK AND DAIRIES  
REGULATIONS, 1936 :

Article	Number Prosecuted	Number Convicted	Fines Imposed	Marked Proved	Withdrawn
6	1	—	—	1 with costs	—
8(2)	1	—	—	1 „	—
20	1	1	20/- with costs	—	—
22(3)	8	7	33/6 „	1 with costs	—
22(5)	3	1	10/- „	2 „	—
27	2	1	5/- „	1 „	—
28	4	4	22/6 „	—	—
34(a)	1	1	2/6 „	—	—
34(b)	1	1	2/6 „	—	—
34(g)	1	1	2/6 „	—	—
40	2	2	13/6 „	—	—
41(4)	1	1	5/- „	—	—
42(2)	1	1	2/6 „	—	—
Totals	27	21	£5 19 6 „	6 with costs	—

Maximum fine imposed was 20/- with costs.

Minimum „ „ 2/6 „

- Article 6 : Provides for the keeping of all apparatus and utensils in good order and condition.
- 8 (2) : Relates to milk vendors or producers permitting employees having access to milk, or taking part in the handling of milk whilst their clothing is not in a cleanly condition.
- „ 20 : Provides that all reasonable steps be taken to ensure that the surface of the ground and of every yard and passage adjacent to any cowshed, milk store or milk shop be kept free from dung or other offensive matter, and be kept in a clean and wholesome condition.
- „ 22(3) : Relates to the cleansing of milk vessels and appliances.
- „ 22(5) : Relates to the storing of vessels and appliances.
- „ 27 : Provides that no person shall keep milk in any vessel which is not securely covered and protected against dust, dirt, flies, rats and mice.
- „ 28 : Relates to the cleanliness of persons having access to milk.
- „ 34(A) Relates to the cleanliness of persons taking part in the milking of cows.

Article 34(B): Provides for the wearing of clean aprons or overalls whilst taking part in the milking of cows.

- „ 34(G) Relates to the removal of all dirt from the tails, quarters, flanks udders and teats of cows before milking and the provision of potable water to wash udders and teats and clean cloths for the wiping of same.
- „ 40: Relates to vehicles used for conveyance of milk.
- „ 41(4): Relates to sale containers being composed of non-absorbent material and the cleanliness of such sale containers before being filled with milk.
- „ 42(2): Relates to the taking of milk from a sale receptacle otherwise than by means of a Tap in such sale receptacle.

The price of milk increased during the war years, not a great deal considering the cost of production and handling. The following was the average price per gallon for loose milk from Producer to Wholesaler :—

	s.	d.	
1939	0	11½	per gallon
1940	0	11½	„ „
1941	1	1½	„ „
1942	1	1½	„ „
1943	1	3	„ „
1944	1	5½	„ „
1945	1	6.83	„ „
1946	1	6.85	„ „
1947	1	10½	„ „
1948	1	11½	„ „

The Retail price of milk was fixed in September 1940. The price varied according to supplies available, being higher during the scarce period which occurred between the months of November and March.

The range of prices from 1940 to 1947 is as follows :—

	d.	d.	
1940	2½	to 3	per pint loose
1941	2¼	„ 3	„ „ „
1942	2½	„ 3¼	„ „ „
1943	2½	„ 3½	„ „ „
1944	2¾	„ 3½	„ „ „
1945	2¾	„ 3½	„ „ „
1946	2¾	„ 3¾	„ „ „
1947	3¼	„ 4¼	„ „ „
1948	3¼	„ 4	„ „ „

Table 55.—The consumption of milk increased during the period under review. The average daily consumption in gallons from 1939 to 1948 was as follows :—

Month	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948
January	8,400	8,184	7,731	8,416	8,547	8,714	8,799	9,082	9,133	9,099
February	8,604	8,443	8,130	8,615	8,796	8,917	9,074	9,296	9,158	8,282
March	8,661	8,260	8,090	8,696	8,929	8,936	9,143	9,360	9,088	9,351
April	8,602	8,916	8,442	8,582	9,037	8,986	9,279	9,457	9,272	9,597
May	8,933	8,642	8,309	9,004	9,342	9,266	9,623	9,806	9,786	10,025
June	9,119	8,836	8,938	9,232	9,633	9,422	9,879	9,866	10,178	10,236
July	8,616	8,381	8,485	9,042	9,473	8,975	9,555	9,704	9,560	10,307
August	8,437	8,367	8,660	9,678	8,903	8,881	9,194	9,443	9,856	9,464
September	8,586	8,371	8,926	9,079	9,232	9,178	9,649	9,717	9,960	9,993
October	8,456	8,673	8,900	9,054	8,949	9,113	9,639	9,640	9,778	9,833
November	8,407	8,015	8,552	8,728	8,912	9,074	9,418	9,340	9,368	9,534
December	8,180	8,178	8,793	8,563	8,691	8,869	9,021	9,015	9,149	9,438
Average	8,582	8,444	8,497	8,808	9,037	9,028	9,356	9,477	9,524	9,684

These figures apply to the Cork Milk Board Area. There are no figures regarding the amount of milk consumed available for Cork County Borough. I am indebted to the Secretary of the Cork Milk Board for the information.

## (B) MEAT INSPECTION.

**Meat Inspection Depot:**—4,977 bovine carcasses were examined. Of this number 950 (19.0%) were found to be affected with varying degrees of tuberculosis. It was found necessary that 8 such carcasses (0.18%) should be totally destroyed as unfit for consumption while 942 (18.9%) were partially condemned. In addition to the 4,977 bovine carcasses above referred to 2,741 sheep carcasses were also examined and of this number 3 carcasses (0.10%) were totally condemned for diseases other than tuberculosis.

1,657 veal carcasses were examined and of this number 4 carcasses were totally condemned and 37 partially condemned as being affected with tuberculosis. 602 pork carcasses were also examined and of this number 1 carcase (0.16%) was totally condemned and 56 (9.3%) partially condemned as being affected with tuberculosis. For diseases other than tuberculosis 2 bovine carcasses were totally condemned.

Table 56.—The amount (by weight) of meat examined and condemned at the Depot was as follows:—

Variety	Quantity Examined	Tuberculosis		Other Diseases	
		Quantity Condemned	Pro-portion	Quantity Condemned	Pro-portion
	lbs.	lbs.		lbs.	
Beef ...	2,488,000	8,810	0.35%	520	0.02%
Mutton ...	137,050	—	—	120	0.08%
Veal ...	66,280	220	0.33%	45	0.06%
Pork ...	120,400	645	0.53%	316	0.26%

The amount of offals condemned at the Depot for Tuberculosis and other conditions was as follows:—

Part	Tuberculosis	Other Diseases	Total
Lungs ...	1,542	8	1,550
Heart ...	698	4	702
Livers ...	247	358	605
Kidneys ...	26	2	28
Head and Tongues ...	304	4	308
Total	2,817	376	3,193

Meat seized in shops and voluntarily surrendered during the year:—

	Seized	Surrendered
Beef ...	269 lbs.	63,116 lbs.
Pork ...	—	39,188 „
Bacon ...	—	— „
Veal ...	—	1,088 „
Fish ...	—	712 „
Fruit ...	—	— „
Poultry ...	—	2,320 „

### Slaughterhouses and Bacon Factories.

Table 57.—**Tuberculosis.** Particulars of animals killed in local slaughterhouses and the incidence of tuberculosis therein :—

Species	Number	Affected	Totally Condemned	Partially Condemned
Cattle .....	4,977	763 (15.3%)	12 (0.26%)	751 (15.08%)
Sheep .....	9,939	—	—	—
Calves .....	1,654	47 (2.8%)	19 (1.1%)	26 (1.57%)

23,496 lbs. of Beef (representing 0.94%) of the quantity examined were condemned on account of tuberculosis.

*Bacon Factories* :—Particulars of pigs slaughtered in bacon factories and reserved for local consumption in the form of pork and sausages were supplied to us by the Veterinary Inspectors of the Department of Agriculture. The number of pigs was 1,656 of which 478 (28.8%) were found to be affected with tuberculosis. 12 of these (0.73%) were totally condemned and 466 (28.1%) partially condemned.

23,855 lbs. (3.6%) of pork were condemned on account of tuberculosis.

Table 58.—**Diseases other than Tuberculosis.**— Particulars of incidence found in slaughterhouse killings :—

Species	Number	Affected	Totally Condemned	Partially Condemned
Cattle .....	4,977	2 (0.04%)	2 (0.04%)	—
Sheep .....	9,939	5 (0.05%)	5 (0.05%)	—
Calves .....	1,654	8 (0.48%)	8 (0.48%)	—

520 lbs. of beef (representing 0.02%) of the quantity examined) were condemned on account of diseases other than tuberculosis.

*Bacon Factories* :—Less than 0.16% of pork was condemned on account of diseases other than tuberculosis.

Table 59.—Inspections carried out in *slaughterhouses* by our Veterinary Staff were as follows :—

Species	Carcases Examined	Condemned		
		Wholly	Partially	Meat & Offals
Cattle .....	4,977	14	751	30,955 lbs.
Sheep .....	9,939	5	—	120 „
Calves .....	1,654	19	28	1,198 „

## THE SLAUGHTER OF ANIMALS ACT, 1935.

The provisions of this Act were outlined in the 1937 Annual Report, it is not proposed to make further reference to them here.

The provisions of the Act were diligently observed by occupiers of slaughterhouses and slaughtermen, consequently there were no prosecutions under the Act during the period under review.

### PREPARATION OF MEAT AND MEAT PRODUCTS

The number of premises within the Cork Urban Sanitary District where meat and meat products are prepared for human consumption is as follows :—

#### Slaughter Houses—

Licenced (under the Public Health Act, 1878)	13
Registered (being in use before the 1878 Act)	2
Registered (under the Fresh Meat Act)	4

#### Bacon Factorles—

Where Pigs are slaughtered for Production of Bacon	4
Where Pigs are slaughtered for Bacon and Pork	4
Where Cattle are slaughtered in addition to Pigs	4

Sausage Factories	15
Triperies	6

Number of inspections made of premises where meat is prepared and sold :—

Slaughter Houses	2,833
Sausage Factories	732
Triperies	430
Meat Markets	1,113
Butcher Shops	3,083
Pork Shops	648

In addition to the above the following inspections were made :—

Provision Shops	784
Fish Shops	621
Fruit Shops	6
Hawkers' Stands	2,598

#### Prosecutions :

For the sale or exposure for sale of Tuberculous meat one person was prosecuted and a fine amounting to 5/- and costs imposed.

For the unseemly conveyance of meat 5 persons were prosecuted under the Bye-laws and fines amounting to £2 13s. 6d. and costs imposed.

For offences under the slaughterhouse Bye-laws 3 persons were prosecuted and fines amounting to 7/- and costs imposed.

The number of Notices served to abate nuisances and remedy defects in Slaughterhouses and Triperies, 27.

### Meat Inspection.

For a number of years a system of voluntary meat inspection has been carried out at the Inspection Depot. There are a number of butchers who still do not bring their meat for inspection. The following are now availing of the service :—

- Barrett, John V., 59/60, Grand Parade Market.
- Barrett, Michael, 64/65, Grand Parade Market.
- Barry, Joseph, 38 Dublin Street.
- Butler, John, St. Peter's Market.
- Carroll, Michael J., 85 Oliver Plunkett Street.
- Coughlan, John, 3 Thomas Davis Street.
- Coughlan, Ted, Grand Parade Market.
- Delicacies Ltd., 55 Oliver Plunkett Street.
- Desmond, Denis, 1/2 Grand Parade Market.
- Desmond, William, 347, Blarney Street.
- Dillon, Edward, 14A, Castle Street.
- Dineen, William, 74B, Oliver Plunkett Street.
- Economy Shop, Anglesea Street.
- Economy Shop, 33, Patrick Street.
- Fitzgerald, Michael, 2, Parliament Street.
- Griffin, Leo, 55, Grand Parade Market.
- Harris, Mrs. Mary, 101, North Main Street.
- Long, Peter P., 11, Douglas Street.
- Mackey, John, 86, Oliver Plunkett Street.
- Millard, Cornelius, 4, Coburg Street.
- Murphy, John, 19, North Main Street.
- Murphy, John, 22, South Main Street.
- Murphy, Bros., Metropole Buildings.
- Murphy, Patrick, 90, Oliver Plunkett Street.
- McNamara, Mrs. Nora, 73, Grand Parade Market.
- Nagle, John, 3, Market Lane.
- Nagle, Michael, 18/19, Grand Parade Market.
- Nagle, Mrs. Helena, 38, Oliver Plunkett Street.
- Nolan, Frank, 22/23 Shandon Street.
- O'Callaghan, Daniel, 16, McCurtain Street.
- O'Flynn & Sons, 61, Oliver Plunkett Street.
- O'Hare, Edmund, Coburg Street.
- O'Leary, Richard, Barrack Street.
- Ryan, Joseph, 36, Washington Street.
- Sheehan, John, 100, Douglas Street.
- Tracey, John, 7, Castle Street.
- Walsh, Bros., Gurranabraher Road.
- Waugh, John, J., Grand Parade Market.

**(C) SALE OF FOOD AND DRUGS ACTS.  
MILK.**

Appended herewith is the Report of the City Analyst (Mr. D. J. O'Sullivan, M.Sc., F.I.C.).

Table 60.—Showing the number of samples of Milk submitted for Analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adul- terated
March 31st, 1948 ...	129	120	9
June 30th, 1948 ...	143	126	17
Sept. 30th, 1948 ...	118	117	1
Dec. 31st, 1948 ...	118	117	1
Totals ...	508	408	28

**BUTTER.**

Table 61.—Showing number of Samples of Butter submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adul- terated
March 31st, 1948 ...	6	5	1
June 30th, 1948 ...	10	10	—
Sept. 30th, 1948 ...	6	6	—
Dec. 31st 1948 ...	10	10	—
Totals ...	32	31	1

**SPIRITS.**

Table 62.—Showing the number of samples of Spirits submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adul- terated
March 31st, 1948 ...	1	1	—
June 30th, 1948 ...	1	1	—
Sept. 30th, 1948 ...	1	1	—
Dec. 31st, 1948 ...	17	14	3
Totals ...	20	17	3

Table 63.—Showing the number of miscellaneous samples submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adul- terated
March 31st, 1948 ...	106	106	—
June 30th, 1948 ...	113	113	—
Sept. 30th, 1948 ...	102	102	—
Dec., 31st 1948 ...	141	141	—
Totals ...	462	462	—

Table 64.—Showing details in regard to miscellaneous samples examined during the year.

Articles	No. of Samples	Articles	No. of Samples
Wine ...	8	Patent Food ...	1
Margarine ...	54	Beetroot ...	1
Confectionery ...	18	Bisto ...	2
Custard Powder ...	18	Syrup ...	1
Pearl Barley ...	9	Currants ...	2
Sausages ...	12	Raisins ...	3
Drugs ...	8	Sultanas ...	2
Cheese ...	17	Browning ...	1
Cocoa ...	27	Sago ...	2
Beer ...	55	Pepper ...	2
Flour ...	18	Condensed Cream ...	1
Cornflour ...	51	Bovril ...	1
Coffee ...	8	Soap ...	1
Vinegar ...	5	Cider ...	3
Oatmeal ...	22	Milk pudding mixture	2
Cream ...	2	Gravy Powder ...	2
Pudding ...	6	Fish Paste ...	1
Barley ...	1	Meat Paste ...	1
Mineral Waters ...	9	Mustard ...	1
Jam ...	33	Sweets ...	7
Jelly ...	4	Cereal ...	1
Tapioca ...	9	Ice Cream ...	2
Corn toasties ...	1	Tinned Meat ...	1
Grapenuts ...	1	Fruit (tinned) ...	3
Bread ...	5	Salt ...	7
Semolina ...	7	Sardines ...	1
Honey ...	1	Salad-dressing ...	2
Sauce ...	3	Chocolate ...	2
Cocoanut ...	1	Pickles ...	1
Sugar ...	3	Beans ...	1
		TOTAL ...	462

Table 65. Return of Offences detected by the Food and Drugs Inspectors during the year.

Particulars of Offence					Results of Proceedings			
					Fines	—	Costs	—
Milk deficient in fat	5%	.....	.....	.....	"	—	"	—
"	6%	.....	.....	.....	"	3/6	"	16/10
"	6%	.....	.....	.....	"	5/-	"	18/10
"	6%	.....	.....	.....	"	5/-	"	18/10
"	10%	.....	.....	.....	"	5/-	"	15/6
"	10%	.....	.....	.....	"	5/-	"	16/6
"	13%	.....	.....	.....	"	5/-	"	15/10
"	15%	.....	.....	.....	"	2/-	"	18/9
"	16%	.....	.....	.....	"	2/6	"	18/9
"	16%	.....	.....	.....	"	2/-	"	18/9
"	16%	.....	.....	.....	"	2/-	"	18/9
"	18%	.....	.....	.....	"	7/6	"	15/10
"	20%	.....	.....	.....	"	7/6	"	15/10
"	20%	.....	.....	.....	"	5/-	"	18/9
"	23%	.....	.....	.....	"	5/-	"	18/10
"	25%	.....	.....	.....	"	7/6	"	17/4
"	33%	.....	.....	.....	"	20/-	"	18/9
"	43%	.....	.....	.....	"	7/6	"	15/10
In solids not fat	10%	.....	.....	.....	"	5/-	"	18/10
"	11%	.....	.....	.....	"	5/-	"	18/10
"	13%	.....	.....	.....	"	5/-	"	18/10
In fat and solids not fat	13% (fat)	2% (solids)	.....	.....	"	10/-	"	15/10
"	13%	4%	.....	.....	"	10/-	"	16/6
"	3%	15%	.....	.....	"	5/10	"	18/10
"	16%	10%	.....	.....	"	7/6	"	18/10
"	3%	10%	.....	.....	"	5/-	"	18/10
"	13%	14%	.....	.....	"	5/-	"	18/10
Butter (Informal)	11%	added water	.....	.....	"	—	"	—
Whiskey	2%	"	.....	.....	"	—	"	—
"	12.4%	"	.....	.....	"	Dismissed	"	—
"	24.7%	"	.....	.....	"	15/-	"	25/-

## Section VII.—Water Supply.

### BACTERIOLOGICAL EXAMINATIONS.

In the report for 1931 I outlined the procedure adopted in connection with the examination of the supply at the bacteriological laboratories of University College, Cork, by Prof. W. J. O'Donovan. In the year 1928 Dr. O'Donovan undertook a detailed and systematic examination in which a very large number of samples were studied. Our subsequent procedure has been based on his findings of that year and his recommendations have resulted in a supply of a consistently high degree of purity. In 1948, as in former years, samples were collected and examined on five days during each week. The procedure included an estimate of the number of bacteria growing at 37° C. in 48 hours. The total number of samples examined amounted to 257. The average number of bacteria in 1 c.c. was 2.24 and the number of samples sterile in 1 c.c. was 57.

The routine procedure in connection with these examinations is that samples are collected by the staff of the Public Health Department in special sterilised bottles. These samples are transmitted to the Laboratory for examination. A report is sent to the City Medical Officer who, in turn, sends a copy to the Water Engineer. In the event of an unsatisfactory sample coming to light in the laboratory the subsequent cycle of events is speeded up by telephonic communications between the various departments pending receipt of a subsequent formal report. In this manner there is exercised a triple check in the purification and distribution of the supply.

In the following tables are summarised the results of the various examinations carried out during the year (and previous years) at the Bacteriological Laboratories, U.C.C., by Prof. O'Donovan and his staff.

Table 66.—Summary of results of routine examinations of water

Total Routine Samples of Tap Water	Bacillus Coli Test					Average daily No. of Bacteria per c.c.	No. of Samples sterile in 1 c.c.
	100 c.c.'s —ive	100 c.c.'s +ive	50 c.c.'s +ive	10 c.c.'s +ive	1 c.c.'s +ive		
253	246	0	3	1	3	2.5	19

As stated above, the examinations carried out during the year included an estimation of the numbers of bacteria growing at 37° C. in 48 hours. The findings are set out in the following table and compared with those of the previous fourteen years.

Table 67.—Average number of bacteria per cubic centimetre growing at 37° C. from daily sample for each month.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1932	14.0	0.8	1.6	4.6	4.5	5.4	44.1	20.3	2.2	4.6	4.7	2.2
1933	1.8	1.0	1.1	1.5	1.8	4.1	19.2	14.6	2.7	2.1	1.3	3.9
1934	1.1	1.6	1.3	1.4	3.4	21.2	18.4	7.4	1.7	4.0	4.2	4.0
1935	2.9	2.7	1.6	1.0	2.7	2.1	2.9	5.2	8.9	7.9	4.4	1.2
1936	1.2	1.2	0.9	1.6	1.9	1.9	5.0	1.8	3.4	1.4	2.7	3.9
1937	4.1	2.8	1.4	1.2	0.7	0.2	3.7	1.0	2.8	6.4	2.8	5.4
1938	1.8	2.2	1.9	1.5	0.9	1.4	2.0	1.4	2.2	2.0	2.6	2.2
1939	1.7	1.4	2.9	2.6	1.7	21.5	6.6	6.7	3.0	30.8	9.4	3.5
1940	1.8	5.3	1.8	1.0	1.3	4.4	11.8	4.2	4.5	4.5	4.5	2.8
1941	2.2	0.7	2.8	1.6	10.1	7.3	4.6	4.1	1.4	1.6	7.2	1.4
1942	3.4	2.7	7.0	2.6	2.5	3.9	5.8	4.9	6.4	2.1	4.8	3.0
1943	2.3	1.2	1.3	1.7	2.4	6.0	5.1	1.2	4.7	2.3	1.9	2.5
1944	2.6	2.0	2.2	2.2	1.3	1.4	2.5	4.3	3.1	1.9	1.8	2.9
1945	2.2	2.3	2.4	2.3	1.8	2.1	3.7	3.7	2.7	3.2	2.4	2.1
1946	2.6	3.1	1.6	2.3	2.1	2.9	2.1	1.2	1.2	5.3	2.9	1.7
1947	2.7	1.8	2.2	2.2	3.5	1.1	1.7	2.3	2.4	2.0	2.6	2.4
1948	3.3	2.5	3.4	2.0	2.2	4.1	3.8	2.8	2.5	3.3	2.9	1.8

Table 68.—Showing average consumption of Water per Head, per Day (in gallons).

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1934	39.6	40.0	39.1	39.9	39.2	42.1	42.8	40.6	41.4	38.6	39.0	40.2
1935	38.5	40.2	40.1	41.2	41.2	43.6	46.8	48.1	46.5	43.5	43.4	35.2
1936	47.6	44.1	44.0	44.4	46.5	47.1	47.1	46.4	44.5	44.8	44.1	43.8
1937	42.7	43.1	41.8	41.6	45.1	45.9	45.9	46.3	45.7	45.0	43.1	42.7
1938	41.5	40.3	39.5	41.4	40.5	40.5	40.9	39.8	41.3	40.6	39.7	41.8
1939	45.6	40.9	39.9	40.1	40.0	44.2	42.8	41.6	41.8	39.5	37.5	37.2
1940	44.7	43.1	39.8	39.3	40.2	44.0	44.9	42.6	41.9	38.6	36.7	39.3
1941	38.5	39.1	39.2	37.9	38.9	40.8	43.1	42.6	42.0	40.4	38.8	37.5
1942	36.7	36.5	36.3	37.4	37.7	38.5	41.1	39.6	39.7	37.7	37.6	36.4
1943	35.5	35.6	36.4	38.0	37.7	39.3	43.3	40.4	42.1	40.2	35.7	37.8
1944	35.2	36.8	38.1	37.6	38.8	38.5	35.0	36.3	40.8	36.7	35.9	36.8
1945	38.8	50.0	40.3	41.0	41.2	43.2	44.2	42.6	44.0	41.3	39.0	40.0
1946	38.8	38.9	39.8	40.3	40.5	40.7	42.4	41.2	42.3	42.6	40.9	40.5
1947	42.9	45.3	44.5	42.0	43.5	46.4	46.0	47.8	46.9	44.8	43.9	46.8
1948	44.5	43.4	45.3	45.1	45.4	47.1	48.0	46.8	47.0	47.3	44.8	45.2

Table 69.—Comparative results of examinations of tap water made during each of the years from 1928 to 1948.

Year	Total number of samples examined	BACILLUS COLI TEST				
		100 c.c.'s -ive	100 c.c.'s +ive	50 c.c.'s +ive	10 c.c.'s +ive	1 c.c. +ive
1928	245	187 (76.3%)	10 (4.0%)	32 (13.1%)	14 (5.7%)	2 (0.8%)
1929	251	153 (60.9%)	44 (17.5%)	40 (15.9%)	9 (3.6%)	5 (2.0%)
1930	268	216 (80.6%)	15 (5.6%)	14 (5.6%)	13 (4.5%)	10 (3.7%)
1931	260	242 (93.0%)	9 (3.5%)	9 (3.5%)	—	—
1932	260	245 (94.2%)	3 (1.2%)	12 (4.6%)	—	—
1933	253	244 (96.4%)	4 (1.6%)	4 (1.6%)	1 (0.4%)	—
1934	261	249 (95.4%)	4 (1.5%)	6 (2.3%)	2 (0.8%)	—
1935	252	235 (93.2%)	3 (1.2%)	7 (2.8%)	5 (2%)	2 (0.8%)
1936	252	244 (96.8%)	2 (0.8%)	5 (2%)	1 (0.4%)	—
1937	253	235 (92.9%)	11 (4.3%)	6 (2.4%)	0 —	1 (0.4%)
1938	254	251 (98.8%)	1 (0.4%)	0 —	1 (0.4%)	1 (0.4%)
1939	259	254 (98.0%)	1 (0.4%)	3 (1.2%)	1 (0.4%)	—
1940	261	244 (92.7%)	2 (0.8%)	10 (3.8%)	5 (1.9%)	2 (0.8%)
1941	266	255 (92.1%)	10 (3.7%)	8 (3%)	1 (0.4%)	2 (0.8%)
1942	254	244 (96.1%)	3 (1.2%)	2 (0.8%)	5 (1.9%)	—
1943	255	253 (99.2%)	—	—	2 (0.8%)	—
1944	255	239 (93.7%)	—	6 (2.4%)	7 (2.7%)	3 (1.2%)
1945	255	246 (96.5%)	—	3 (1.2%)	4 (1.5%)	2 (0.8%)
1946	254	252 (99.0%)	—	1 (0.4%)	1 (0.4%)	—
1947	257	249 (96.9%)	1 (0.4%)	1 (0.4%)	6 (2.3%)	—
1948	253	246 (97.2%)	0 —	3 (1.2%)	1 (0.4%)	3 (1.2%)

The bacteriological results indicate that a high degree of purity was maintained during the year, indicating a corresponding degree of efficiency in the purification plant.

# Section VIII.—Sanitary Department.

Table 70—Return of work performed by Sanitary Inspectors.

District	INSPECTION OF											SERVED	
	Houses and Yards	Tenement Houses	Tenement Rooms	Infected Dwellings	Common Lodging Houses	Milk Shops	Bakeries	Work Shops	Slaughter Houses	Factories	Out-workers	Justices Orders	Notices to abate nuisance
No. 1 ...	5695	431	2083	23	—	59	1	84	—	—	—	3	385
No. 2 ...	3973	1701	6666	34	6	—	—	—	2	—	—	2	336
No. 4 ...	5978	830	2404	38	2	126	19	186	52	—	—	8	184
No. 5 ...	4804	3368	5182	24	76	3	25	7	—	—	—	3	157
No. 6 ...	1494	2666	4163	6	92	—	2	25	5	—	—	18	329
No. 7 ...	6877	2059	4982	24	—	—	1	26	6	—	—	14	337
Female Inspector	—	—	—	—	—	—	342	2282	—	1547	98	—	4
Totals ...	28,821	11,055	25,580	126	176	188	390	2610	65	1475	98	48	1728

District No. 3 is divided for purposes of supervision between Districts No. 2 and 4.

The number of inspections carried out by the Corporation Drain Tester was 3,932

Table 71.—Summary of Inspections, etc.

			No. of Inspections
Houses, yards, etc.	...	...	28,821
Tenement Houses	...	...	11,055
Tenement Rooms	...	...	25,580
Infected Dwellings	...	...	126
Common Lodging Houses	...	...	176
Bakeries	...	...	390
Workshops	...	...	2,610
Outworkers	...	...	98
Factories	...	...	1,475
Milk Shops	...	...	188
Slaughter Houses	...	...	65
Drains and W.C.'s Tested	...	...	3,932
Number of Notices to abate nuisances	...	...	1,728
Number of Justices' Orders	...	...	48
Amount of fines imposed in respect of same			£10 4 6

Table 72.—Return of Inspections made by **Veterinary Staff** during the year :—

Slaughter Houses	...	...	...	1,410
Butcher Shops	...	...	...	3,012
Tripe Houses	...	...	...	381
Meat Markets	...	...	...	994
Milk Shops	...	...	...	1,976
Milk Vans	...	...	...	1,943
Cowsheds	...	...	...	53
Sausage Factories	...	...	...	768
Hawkers' Stands	...	...	...	2,047
Provision Shops	...	...	...	1,679
Pork Shops	...	...	...	866
Fish Shops	...	...	...	525
Fruit Shops	...	...	...	15
Cold Stores	...	...	...	56
No of Prosecutions	} See Section V., Prosecutions			
Amount of Fines imposed				

## SHOPS (CONDITIONS OF EMPLOYMENT) ACT, 1938.

In the following table are set out particulars of the work done by the Shops Inspectors during the year.

Number of Inspections, 1,458

Particulars of Defects Found :

Insufficient Ventilation	.....	4
Insufficient Heating	.....	10
No Heating Provided	.....	4
No Seating Accommodation	.....	5
Insufficient Sanitary Accommodation		1
No Sanitary Accommodation	.....	1
No Washing Accommodation	.....	3
Total	.....	28

Exemption Orders served ( <i>re</i> Sanitary Accommodation)	.....	—
Works Notices served	.....	—
Verbal Notices	.....	16

As in former years recommendations of the inspectors have been generally complied with and, in fact, it was not found necessary in any instance during the year to initiate court proceedings.

## Section VIII.—Housing

Houses erected and let	...	...	...	2934
Houses erected and bought out	...	...	...	184
Houses erected and still repaying mortgage	...	...	...	138
Houses under construction	...	...	...	212

Assistance to private persons and Public Utility Societies :—

(a) Under Section 6 of the Housing Acts, 1925–28...	£4,685	0	0
(b) Under the Housing Acts	£10,405	0	0

Assistance under Small Dwellings Acquisition Acts :—

(a) To houses built by Public Utility Societies	£103,125	0	0
(b) To houses built by Private Individuals	£58,347	10	0

Amount expended by Corporation on Working Class Dwellings  
£1,332,371 0s. 0d.

Table 73.—The number and rents of the various houses built by the Corporation to date.

Location	No. of Houses	Year Built	Weekly Rents (Including Rates)
Madden's Buildings	76	1886	4/10 to 7/-
Ryan's Buildings	16	1886	2/7 to 5/11
Horgan's Buildings	126	1891	2/10 to 6/-
Roche's Buildings	128	1892	3/2 to 6/7
Corporation Buildings	33	1900	5/6
Sutton's Buildings	46	1905	6/2 to 7/-
Kelleher's Buildings	50	1906	6/2 to 7/1
Barrett's Buildings	89	1906	4/8 to 6/2
MacCurtain's Villas	76	1922	12/4d. to 13/-
McSwiney Villas	40	1923	12/-
Frenche's Villas	30	1923	10/- to 11/8
Capwell	148	1928	8/6 to 10/6 and 14/-
Turner's Cross	152	1930	8/-, 10/- and 13/-
Turner's Cross Extension	168	1932	12/5 and 13/6
Gurranebraher 1	252	1934	3/5 to 19/-
" 2	108	1935	3/5 to 19/-
" 3	78	1936	3/5 to 19/-
" 4	82	1936	4/6 to 19/-
Common's Road 1	170	1936	4/- to 19/4
" 2	106	1937	4/- to 18/8
Bandon Road	86	1936	3/10 to 18/10
Baker's Lane 1	266	1938	4/6 to 19/-
" 2	242	1940/1	4/- to 19/1
Farranferris 1	206	1939	4/- to 18/-
Assumption Road	70	1941	17/3, 17/4
Greenmount	210	1941/2	4/6 to 19/-
Cathedral Road	90	1946	21/- to 24/11
School Place	10	1947	21/-
St. Anne's Park	23	1948	21/-
Fuller's Road	23	1948	21/- and 25/-
Mount Eden Terrace	14	1948	21/-
Barrett's Terrace	42	1949	21/-
Total	3256		

## Section X.—Port Health.

The Cork Port Sanitary Authority ceased to function on the 31st March of this year. By an order made by the Minister for Health dated 1st July, 1948, the Cork Port Sanitary Authority was abolished and its functions transferred to the Health Authority (Cork County Borough). The Cork Port (Enforcement of Health Regulations) Order, 1948, provides that the Cork Corporation shall enforce the Health Regulations on behalf of the Cork County Council and that the Cork County Council shall contribute one third of the expenses incurred in the execution of the Regulations in the port.

### *Limits of Jurisdiction.*

These are defined in The Cork Port (Enforcement of Health Regulations) Order, 1948 as follows :—"The expression "the Port" means the whole of that part of the customs port of Cork which lies between Power Head and Cork Head in the County of Cork, together with the waters of the said port of Cork within such limits and all docks, basins, harbours, creeks, rivers, channels, bays and streams within the aforesaid limits and the places for the time being appointed as the customs boarding station or stations for such part of the said port and the places for the time being appointed under the Health Regulations for the mooring or anchoring of a ship.

### *Issue of Deratisation and Deratisation-exemption Certificates.*

By letter dated 12th Dec., 1942, the Minister for Local Government and Public Health authorised the issue of the above certificates in pursuance of the \*Public Health (Deratisation of Ships) Regulations, 1930. This is, therefore, now an approved port for the issue of such certificates. During the year 10 Deratization Exemption Certificates and 1 Deratization Certificates were issued.

It is gratifying to note that the health of the port remains at high level. A total of 5 cases of infectious disease were dealt with during the year. Of these, 2 cases were measles landed at Cobh ex New York whilst the remaining 3 were of tuberculosis repatriated from England.

### **Deratization and Deratization Exemption Certificates.**

The Quarantine Commission of the United Nations Health Organization Interim Commission at their session during October, 1946, discussed the very many difficulties that arose in the estimation of the rat population on board vessels with a view to the issue of deratization and deratization exemption certificates, and surveyed the possibility of laying down an "index" which would be a basis for this purpose. At the request of the Commission, Dr. M. T. Morgan, Medical Officer of Health, Port of London, undertook to investigate this complex problem. The work was published under the auspices of the U.N.H.O. on the 22nd September, 1947, in the form of a note. This indicates quite clearly the conditions under which exemption certificates might be granted together with conditions calling for fumigation. As it appears to be very desirable to obtain uniformity on these matters, certificates have been issued in this port during the past two years on the basis of the published "index". Different systems are in operation elsewhere as the following report indicates :—

\* These Regulations have now been revoked. Authority to issue certificates is given by articles 19 and 20 of the Infectious Diseases (Shipping) Regulations, 1948.

" A vessel of foreign nationality berthed at the Cork Quays on the 22nd June, 1948 to discharge for the first time. The deratization exemption certificate produced was found to have expired six days previously. On the request of the Master, arrangements were made for an inspection to be carried out when the cargo was almost completely discharged for the purpose of issuing the vessel with a current deratization exemption certificate. Subsequently it became clearly evident as the inspection progressed, that the sanitary conditions, especially in a compartment amidships in which impedimenta of the catering department was stored, were such that it completely ruled out the question of the issue of an exemption certificate. The Master was informed of this and advised to make arrangements for deratization. Later the Agent acting for the Master, requested one month's extension of the invalid certificate as the vessel was proceeding from Cork to its home port via the port of Emden. This request was granted.

On the 22nd August, 1948, this vessel again berthed at the Cork Quays to discharge. The deratization exemption certificate produced by the Master shewed that it had been issued at its home port one month previously, despite the refusal of the Local Authority at this port to issue a similar certificate. This document was incomplete by failing to record any reference to present or past evidence of rodent infestation. On arrival here a similar degree of infestation was found in the same compartment on which the previous refusal to issue an exemption certificate was based."

This matter was referred to the Department of Health which in turn had it brought to the notice of the Minister for External Affairs.

*A note on the use of hydrocyanic acid gas in the port for the deratization of vessels.*

During the year, hydrocyanic acid gas has again been successfully used in the port for the purpose of ship deratization. One foreign going vessel was treated with this agent and on completion of the operation issued with the appropriate certificate.

H.C.N. is put up for commercial use in two forms viz. liquid and dry. In the former, gas is generated by two methods: (1) by vaporisation under air pressure; (2) bottles containing the liquid are exposed directly to the atmosphere. In the dry method, an absorbent is used, e.g. infusorial earth, sawdust or woodpulp. The dry method has now superseded the liquid on all craft for deratization purposes. Sawdust, impregnated with H.C.N. is now in common use. It is put up in well sealed cans by the manufacturers and guaranteed to contain 98 per cent. pure H.C.N. This type was used in the port and was found to be easily distributed. Two ozs. per 1,000 cu. ft. of each hold space, etc., was exposed in order to obtain a concentration of 0.25 per cent. which is sufficient to kill rats and the fleas on them. Six ozs. per 1,000 cu. ft. was liberated in all cabins, foc'sles, messrooms and steward's storerooms. It is claimed that this concentration will kill all types of vermin and their eggs. Not less than 3 hours exposure is recommended for cargo holds, engine room, etc., and 6 hours for crew's quarters and food storerooms.

Wood pulp discs are put up in small sealed containers, the smaller type of disc contains  $\frac{1}{4}$ -oz. of H.C.N.

The most important advantages of H.C.N. over S.O.<sub>2</sub> as a deratization agent are: (1) complete absence of fire hazard; (2) greater penetrative powers; (3) simplicity of operation; (4) may be used on board vessels laden with cereals (if found necessary); (5) non-injurious to interior furnishings of cabins, dining rooms, etc. Being a deadly and dangerous gas, H.C.N. should only be handled by skilled personnel wearing well-fitting masks fitted with a special type of filter. Being readily diffused in the atmosphere under normal weather conditions, a vessel under H.C.N. should be certified gas free within the time limit recommended by Sub-Section 6, Article 25 of the International Sanitary Convention of Paris, 1926.

It is of the utmost importance that all mattresses, settees and settee backs should be taken out on deck after exposure to H.C.N. and given a vigorous beating in the open air.

Regulations governing the safety measures to be taken by H.C.N. operators, which should include the minimum amount of First Aid equipment to be carried, would be welcomed from the department dealing with matters of this nature.

### *Cuskinny Intercepting Hospital.*

The intercepting hospital is situated about two miles east of the town of Cobh and about half-a-mile from Cuskinny Strand on the northern shore of the harbour. The hospital was built in the year 1880 by the old Cork Board of Guardians and was acquired by the Port Sanitary Authority in the year 1902 from the Commissioners of Public Works (Ireland) and since has been kept in good repair and condition. The function of the hospital is to deal with the more serious types of infectious disease (e.g., small pox, plague, cholera, typhus, etc.) should any such cases arrive in the port necessitating hospital treatment or isolation. Infected vessels would moor at the quarantine anchorage, the patient being removed by motor launch and landed at Cuskinny Strand or some suitable slipway and transferred to the Authorities' ambulance for transport to the hospital.

### **Infectious Diseases (Shipping) Regulations, 1948.**

These Regulations became operative from 1st July, 1949 and are designed to prevent the importation of the conventional diseases, smallpox, plague etc., together with diseases listed in the first schedule of the Regulations. It is now necessary for the Master of every vessel entering the district from a foreign port to complete and sign a declaration of health form which must be handed to the boarding officer of the customs and excise, the City Medical Officer or other officer of the health authority whoever should board the vessel first. Free pratique will not be granted if the answers to any of the questions set out on the face of this form are in the affirmative. Unauthorised boarding or leaving a vessel from a foreign port is strictly forbidden until it is free from control under these Regulations, and the Master shall take all steps necessary to secure compliance with this provision. A list of foreign ports and seaboard which are infected or believed to be infected with plague, cholera, yellow fever, typhus or smallpox must be kept up to date and a copy supplied to each pilot and officer of customs and excise employed in the port. Flags and signal lights must now be exhibited under the provisions of the fourth schedule by a vessel entering the district and until it is free from control under the Regulations. Sections 19 and 20 deals with the issue of deratization and deratization exemption certificates and repeals the Public Health (Deratization of Ships) Regulations, 1930.

### *Measures against Rodents.*

All vessels from foreign ports are boarded immediately on arrival by the Port Health Officer who, after satisfying himself as to the documents relative to health and deratisation certificates proceeds to the examination of the vessel in regard to rat infestation, particular attention being paid to cargo surfaces as soon as the holds have been opened up. The various cargo compartments are searched for sick or dead rats, which, if found, are submitted at once for bacteriological examination. So far a positive result has not been obtained, but such a result would necessitate suspension of discharge of cargo. In addition, traps are laid in various parts of the ship and rats caught are submitted to examination. Precautions adopted to prevent migration of rodents ashore, comprise the placing of rat guards on all mooring ropes and wires of all except cross-channel vessels. In addition, vessels from plague infected areas have to keep their gangways lime-washed daily and well lighted at night whilst alongside the quays.

The following measures would be adopted in this port in the event of a vessel being found effected with human or rodent plague to prevent egress from ship to shore :—

- (1) Vessel would be breasted off at least six feet from the quayside by placing wood floats between it and the quay wall.
- (2) Besides the adjusting of rat guards, moorings would be parcelled with old canvas on shore side of rat guards and same smeared with Stockholm tar.
- (3) Gangway would be required to be lifted from sunset to sunrise.
- (4) Intensive trapping and examination of rodents caught in the immediate neighbourhood of the ship's berth.

Of all diseases liable to be introduced by shipping, *plague* is without doubt the most to be feared, hence the necessity for the stringent precautions in regard to its prevention. Several of the ports from which shipping arrives in Cork are situated in countries in which plague is endemic, even though the ports themselves may not actually be infected at the time of departure. There is, however, the ever present danger of the importation of *plague infected rats* from such ports and it is in consequence of this danger that so much importance is attached to the systematic trapping and examination of rats taken on vessels coming into this port. As there is always a certain amount of migration of rats from ships to the shore while vessels are tied up at their moorings it is also necessary to maintain a constant sampling and examination of the shore rats taken in warehouses adjacent to the quays. It will be noted from the appropriate tables that of 51 rats taken during the past year, 34 were submitted to post-mortem examination and that all gave negative results. In the previous year 56 were trapped, of which 31 were examined, also with negative results. The rats are examined in the first instance by the Inspector, under the supervision of the Chief Veterinary Officer. In the event of a suspicious finding, the carcass would be referred to the Bacteriological Department of University College for a further examination.

The fact that so many rats have been examined and found negative is not by any means an indication for relaxation in the measures which have been adopted in connection with their reduction and the prevention of plague. One infected rat coming ashore might be the cause of an outbreak among the shore population and from time to time we are reminded of this ever present danger by the discovery of plague infected rats in other ports. Plague is rarely transferred from one human being to the other, such transfer requires an intermediary and the agent is almost always the rat flea. It is only when an epizootic breaks out among the rats and large numbers die that the infecting flea seeks a new host and may transfer his attention to human beings. In countries where the disease is endemic, outbreaks among human beings are always heralded by excessive mortality among rats. Excessive rat mortality on board ship is a very suspicious sign of plague infection and masters are bound to notify any such happening at the port of arrival. Plague is such a deadly disease that no relaxation in preventive measures can be tolerated and for this reason it is necessary to keep up a constant watch over vessels arriving from foreign parts and for systematic examination and extermination of rats.

*Water Supply.*

Drinking and boiler water is obtained directly from the public supply. There are upwards of 80 such hydrants available in this port. As mentioned in the section dealing specifically with the supply to the City, the water is subjected to systematic sampling and bacteriological examination throughout the year. 255 samples were examined during the year and the results indicated that the water was of first-class quality.

*Infectious Diseases Regulations 1948.*

6½ cwts. of second hand clothing and cleaning rags were disinfected by steam under the Infectious Diseases Regulations, 1948.

Table 74.—Return of Shipping—other than vessels not shipping or unshipping cargo—entering the Port since 1932.

Year	Number of Arrivals			Tonnage		
	Foreign	Coastwise	Totals	Foreign	Coastwise	Totals
1932	315	1,375	1,690	352,459	602,509	954,968
1933	399	893	1,292	371,757	462,047	833,804
1934	404	817	1,221	407,188	463,169	870,357
1935	285	1,015	1,300	323,631	525,062	848,693
1936	249	1,053	1,302	277,779	583,922	861,701
1937	250	1,098	1,348	300,730	594,396	895,126
1938	239	1,084	1,323	280,403	598,114	878,517
1939	202	1,074	1,276	274,660	521,801	796,461
1940	116	1,053	1,169	174,087	373,841	547,928
1941	—	522	522	Nil	203,976	203,976
1942	Figures not available.					
1943	do.					
1944	do.					
1945	do.					
1946	83	653	736	92,416	307,694	400,110
1947	148	535	683	276,194	283,626	559,820
1948	149	787	936	245,967	510,986	756,953

Table 75.—Summary of Inspections, Defects and Nuisances.

Description	Number of Arrivals	Tonnage of Arrivals	Number Inspected	Number Defective & Nuisances Found	No. of Defects & Nuisances Remedied
<i>Foreign</i> Steamers	149	245,967	122	24	20
Direct & Indirect <i>Coastwise</i> Motor & Steam	787	510,986	511	125	139
Total	936	756,953	433	149	119

Table 76.—Return of Vessels entering the Port which were dealt with by the Department each month during 1948.

Month	Foreign Direct & Indirect	Coastwise	Total
January ...	10	44	54
February ...	15	45	60
March ...	14	26	40
April ...	11	44	55
May ...	11	38	49
June ...	8	36	44
July ...	6	52	58
August ...	12	49	61
September ...	5	21	26
October ...	5	61	66
November ...	14	53	67
December ...	11	42	53
Totals ...	122	511	633

Table 77.—Return of Imports and Exports from 1932.

Year	Imports (tons)	Exports (tons)
1932	890,377	104,884
1933	710,149	89,319
1934	784,174	66,606
1935	743,939	63,219
1936	788,545	73,673
1937	829,704	78,530
1938	802,238	65,147
1939	900,644	105,659
1940	734,888	74,517
1941	262,222	37,448
1942	Figures not available	
1943	do.	do.
1944	do.	do.
1945	do.	do.
1946	375,494	36,159
1947	557,566	35,293
1948	651,848	48,884

## Sanitary defects and nuisances dealt with during 1947.

Dirty Focsles	.....	.....	.....	.....	59
Dirty Galleys	.....	.....	.....	.....	3
Dirty Store Rooms, Wash Places and Lockers	.....	.....	.....	.....	16
Dirty Mess Rooms and Cabins	.....	.....	.....	.....	28
Dirty Bedding	.....	.....	.....	.....	2
Damp Quarters	.....	.....	.....	.....	12
Leaky Deckheads	.....	.....	.....	.....	16
Defective Port Frames Discs and Prisms	.....	.....	.....	.....	26
Defective W.C. Fittings	.....	.....	.....	.....	24
Defective Bogie Stoves	.....	.....	.....	.....	2
Defective Fore Peak Tank Top	.....	.....	.....	.....	1
Defective Ventilation	.....	.....	.....	.....	1
Defective Lockers	.....	.....	.....	.....	3
Defective Shell Plating	.....	.....	.....	.....	2
Defective Steam Heater	.....	.....	.....	.....	1
Defective Doors	.....	.....	.....	.....	3
Verminous Quarters	.....	.....	.....	.....	4
Foul Water Closets	.....	.....	.....	.....	27
Ships' Gear in Accommodation	.....	.....	.....	.....	2
Defective Spurling Pipes	.....	.....	.....	.....	1
Defective Hawse Pipes	.....	.....	.....	.....	1
Smoke Nuisance	.....	.....	.....	.....	1
Choked Waste Pipes	.....	.....	.....	.....	4
Inadequate Lighting	.....	.....	.....	.....	1
Total ...					240
Verbal Notices Given	...	...	...	...	98
Written Notices Left on Board	...	...	...	...	52
Letter to Owners	...	...	...	...	1
Total ...					151

A total of 1244 inspections of vessels were carried out during the year.

TABLE 78—RATS TRAPPED ASHORE.

Month	No.	Mus Decumans	Mus Alexandrinus	Mus Rattus	Species Unknown	No. of P.M. Exam.*
Jan. ...	6	1	—	5	—	4
Feb. ...	2	—	—	2	—	1
March ...	1	1	—	—	—	—
April ...	4	—	1	3	—	3
May ...	4	2	1	1	—	4
June ...	6	—	2	4	—	4
July ...	2	1	—	1	—	2
August ...	8	2	2	4	—	3
Sept. ...	—	—	—	—	—	—
Oct. ...	2	—	1	1	—	—
Nov. ...	3	1	2	—	—	2
Dec. ...	1	—	1	—	—	1
Total ...	39	8	10	21	—	23

\* All P.M. Examinations proved Negative.

TABLE 79—RATS TRAPPED ON VESSELS

Month	No.	Mus Decumans	Mus Alexandrinus	Mus Rattus	Species Unknown	No. of P.M. Exam.*
January	—	—	—	—	—	—
Feb. ...	—	—	—	—	—	—
March	1	—	—	1	—	1
April	3	—	1	2	—	3
May ...	2	—	—	2	—	2
June ...	2	—	—	2	—	2
July ...	—	—	—	—	—	—
August	—	—	—	—	—	—
Sept. ...	—	—	—	—	—	—
October	1	—	—	1	—	1
Nov. ...	3	—	—	3	—	2
Dec. ...	—	—	—	—	—	—
Totals	12	—	1	11	—	11

\* All P.M. Examinations proved negative.

## Section XI—Meteorology.

I am indebted to Prof. H. N. Walsh, University College, for the following particulars concerning the weather conditions during the year, and more especially for the trouble which he has gone to to bring up to date the Tables which follow.

Table 80.—Rainfall in inches for each quarter and for each year from 1901 to present year.

Year	I.	II.	III.	IV.	Total
1901	10.07	7.62	10.75	10.12	38.56
1902	9.29	7.80	7.31	12.88	37.28
1903	16.89	8.80	14.95	12.13	52.77
1904	13.63	5.71	10.41	7.47	37.22
1905	11.70	6.59	9.82	9.14	37.25
1906	9.46	5.76	5.58	9.03	29.83
1907	4.06	10.10	7.40	16.02	37.58
1908	7.67	5.28	10.16	9.53	32.64
1909	7.61	9.94	2.62	9.74	29.91
1910	10.70	7.24	8.64	11.98	38.56
1911	5.94	6.89	7.87	18.47	39.17
1912	13.46	7.07	9.30	7.05	36.88
1913	13.92	10.32	7.73	12.49	44.46
1914	13.72	3.60	9.85	15.20	42.42
1915	11.62	6.27	9.26	15.68	42.83
1916	8.68	9.19	7.37	21.11	46.35
1917	8.75	6.93	9.40	7.25	32.33
1918	14.75	5.59	13.37	13.73	47.44
1919	10.78	7.11	6.77	6.97	31.63
1920	11.75	14.12	8.90	13.24	48.01
1921	8.04	2.22	8.71	9.90	28.87
1922	13.08	5.45	10.57	8.15	37.25
1923	14.41	5.38	10.71	10.54	41.04
1924	12.32	9.76	11.82	17.66	51.56
1925	10.31	10.49	8.43	11.92	41.15
1926	15.42	8.19	4.68	9.55	37.84
1927	12.20	6.16	11.45	16.06	45.87
1928	16.14	13.86	8.31	17.35	55.66
1929	11.28	6.72	7.27	20.91	46.18
1930	14.98	5.91	12.67	14.35	47.91
1931	12.30	10.35	8.34	13.27	44.26
1932	8.54	8.11	7.31	13.62	37.58
1933	8.61	8.74	5.22	6.47	29.04
1934	9.66	7.13	11.49	13.75	42.03
1935	5.33	9.33	9.98	10.97	35.61
1936	16.77	4.51	9.13	9.88	40.29
1937	19.67	6.12	7.90	8.52	42.21
1938	9.22	7.38	7.99	15.14	39.73
1939	13.01	4.94	7.43	16.53	41.91
1940	14.74	6.64	3.80	17.96	43.14
1941	12.82	5.47	5.73	14.40	38.42
1942	11.39	8.43	8.21	8.17	36.20
1943	11.59	7.47	8.80	10.99	38.85
1944	4.79	5.16	11.43	16.34	37.72
1945	8.90	6.23	10.30	12.25	37.68
1946	9.50	7.84	12.52	15.82	45.68
1947	21.07	12.36	6.38	11.29	51.10
1948	13.06	6.02	7.53	23.80	50.41

The mean temperature for 1948 was: 51.2°F. The warmest days were 28th and 29th July, with a maximum shade temp., of 80°F. The warmest night was July 29th with a minimum shade temp. of 64°F. The coldest nights were: January 24th and 25th, with a minimum shade temp. of 25°F.

## SUNSHINE.

Total bright sunshine for 1948 was 1,333.5 hours.

	Hours		Hours
1930	... 1,478.1	1939	... 1,393.1
1931	... 1,313.8	1940	... 1,493.9
1932	... 1,282.5	1941	... 1,246.5
1933	... 1,465.8	1942	... 1,482.5
1934	... 1,480.1	1943	... 1,093.8
1935	... 1,442.0	1944	... 1,209.1
1936	... 1,357.5	1945	... 1,263.8
1937	... 1,259.4	1946	... 1,274.4
1938	... 1,350.9	1947	... 1,252.9

Table 81.—Mean Temperature (°F.) for each quarter and for each year from 1901 to present year.

Year	I.	II.	III.	IV.	For whole year
	°	°	°	°	°
1901	37.5	50.4	57.2	41.9	46.8
1902	40.4	48.1	55.3	43.3	46.5
1903	41.1	49.4	54.4	41.4	46.6
1904	38.3	49.1	55.4	45.6	47.1
1905	42.1	52.4	56.9	42.4	48.4
1906	40.6	50.6	57.9	44.0	48.3
1907	41.3	49.1	57.5	42.1	47.5
1908	40.6	50.4	57.0	46.6	48.6
1909	40.2	50.6	56.9	41.8	47.5
1910	39.5	50.3	56.3	43.2	47.4
1911	39.7	51.3	58.5	42.4	47.5
1912	40.9	50.4	53.5	47.9	48.2
1913	43.0	49.4	57.4	48.7	49.6
1914	40.3	51.4	56.7	43.5	48.1
1915	38.3	49.2	52.7	39.2	44.9
1916	40.0	45.9	53.7	39.7	44.8
1917	36.7	48.1	54.2	43.9	45.7
1918	40.0	51.3	55.0	42.0	47.0
1919	37.6	48.5	54.4	40.0	45.5
1920	40.3	48.9	52.6	42.0	45.9
1921	39.6	48.3	54.3	42.7	46.2
1922	40.2	49.9	57.8	46.4	48.6
1923	44.0	50.7	58.4	43.8	49.2
1924	42.6	51.4	56.7	47.6	49.6
1925	43.3	51.8	57.9	44.5	49.4
1926	45.1	52.1	61.1	44.0	50.6
1927	44.1	52.2	58.5	45.5	50.1
1928	44.7	52.0	58.0	46.4	50.3
1929	43.2	52.3	59.4	45.7	50.1
1930	40.7	52.9	57.8	46.5	49.5
1931	42.3	53.1	58.2	46.7	50.1
1932	43.2	52.1	59.7	46.4	50.4
1933	42.3	54.5	62.1	44.9	51.0
1934	42.4	52.8	59.8	47.6	50.6
1935	44.1	52.7	59.4	44.2	50.1
1936	42.8	52.6	59.9	47.1	50.5
1937	42.6	53.8	59.2	44.9	50.1
1938	45.3	52.3	58.4	46.6	50.6
1939	44.6	53.9	59.8	45.9	51.0
1940	43.2	55.6	58.9	45.4	50.8
1941	40.4	51.8	60.0	47.5	49.9
1942	42.6	53.4	59.6	45.5	50.2
1943	44.9	53.8	57.0	46.3	50.5
1944	44.4	53.9	58.7	45.3	50.5
1945	43.9	52.5	60.3	49.3	51.5
1946	44.3	52.5	57.4	46.7	50.2
1947	39.1	52.6	59.0	47.9	49.6
1948	44.7	52.3	58.8	48.9	51.2

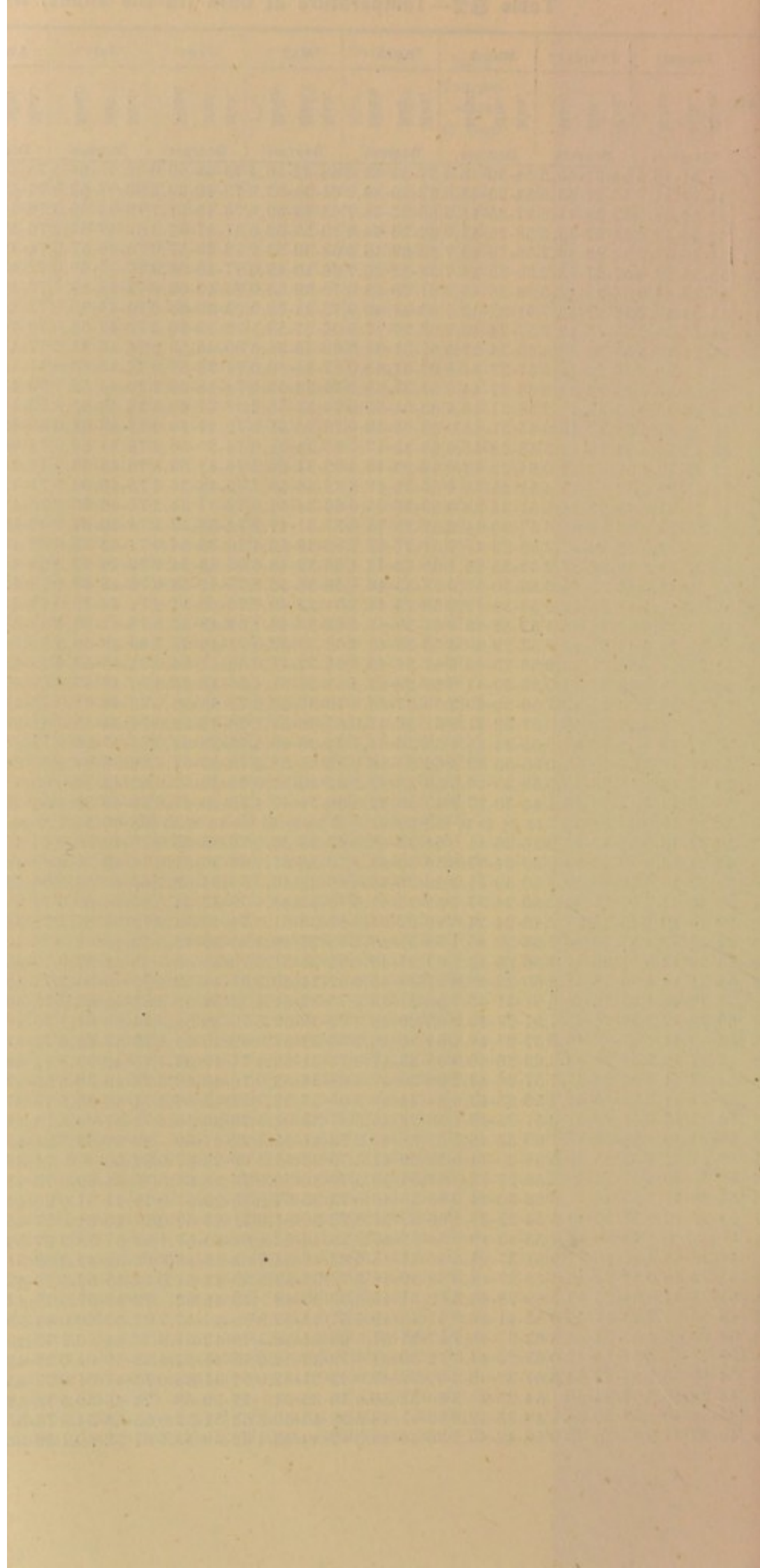
## BAROMETER.

The mean reading for 1948 was 29.95 ins. The highest reading was 30.81 ins. on the 26th April. The lowest was 28.74 ins. on Jan. 26th.

Table 82—Temperature at Cork (in the Shade) from 1884 to Present Year.

118a

YEAR	January			February			March			April			May			June			July			August			September			October			November			December			Mean Temper ature of Year
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean				
	Degrees			Degrees			Degrees			Degrees			Degrees			Degrees			Degrees			Degrees			Degrees			Degrees			Degrees						
1884	55-31-45.5			54-31-46.5			54-30-45.5			57-34-48.5			68-37-55.5			73-40-59.0			72-45-61.5			74-44-62.2			71-45-58.5			60-34-52.2			60-28-45.2			55-28-41.3			51.8
1885	54-27-41.7			50-27-43.5			54-30-43.5			62-30-48.2			61-34-52.0			73-42-59.2			80-43-62.0			74-46-60.5			65-36-55.2			57-35-46.7			58-31-46.7			54-25-39.5			49.9
1886	52-23-38.0			52-28-41.5			57-25-41.5			65-32-46.7			65-33-50.5			76-45-57.7			79-44-59.5			76-45-60.5			65-39-56.5			64-37-51.5			58-29-45.0			50-22-39.0			49.0
1887	54-30-43.0			54-27-43.5			58-25-42.0			62-26-44.5			70-35-52.5			81-47-62.5			80-47-64.2			76-42-60.7			69-39-55.0			61-28-48.2			54-24-42.0			55-25-39.7			50.0
1888	54-26-43.0			52-26-38.2			56-26-40.7			59-28-46.5			68-39-53.2			73-39-57.0			70-40-57.5			74-42-60.0			66-37-55.5			63-31-50.5			58-27-48.0			56-28-44.7			49.6
1889	58-26-43.0			57-27-42.2			59-29-44.7			58-32-46.7			68-40-48.0			77-46-58.0			77-45-60.0			72-43-58.7			70-38-57.2			59-32-48.2			60-29-48.2			56-29-44.2			49.9
1890	55-29-44.0			54-29-42.5			58-28-45.2			61-29-48.0			70-39-53.0			73-45-58.0			72-43-58.4			72-40-58.4			75-42-50.2			66-34-53.0			60-24-44.6			52-25-39.0			50.3
1891	53-23-40.3			56-31-45.7			61-22-42.1			60-31-46.9			73-34-50.0			78-40-58.6			75-44-59.0			73-40-58.0			71-39-56.5			61-29-48.5			53-28-42.6			55-26-44.0			49.4
1892	55-20-39.2			55-25-42.3			57-24-40.0			62-27-47.2			66-37-53.1			73-39-56.2			73-44-59.0			70-44-60.0			68-37-55.0			56-28-45.0			56-31-47.2			53-27-42.7			49.7
1893	53-21-40.5			53-24-42.5			60-34-47.5			67-31-51.5			69-43-56.5			80-46-59.8			74-46-61.2			77-45-61.7			71-33-55.2			63-31-49.0			59-30-43.0			53-26-42.5			50.9
1894	53-11-39.5			56-28-44.6			57-33-44.8			62-37-49.0			67-34-50.0			71-38-57.0			72-45-69.0			71-44-57.5			66-36-53.5			66-33-49.5			59-28-46.0			54-29-44.5			49.6
1895	47-23-36.5			48-22-34.5			63-27-44.0			61-31-48.2			70-33-53.0			74-40-58.7			70-44-58.7			70-43-59.0			71-46-58.9			62-28-46.0			56-30-45.0			54-26-42.5			48.7
1896	53-26-43.0			55-32-45.2			56-31-46.5			65-34-50.0			74-33-56.2			82-47-60.5			75-42-60.0			73-41-57.5			68-41-55.0			65-30-43.2			53-29-42.0			53-23-40.0			49.9
1897	50-22-37.5			56-32-46.0			55-31-44.0			58-29-46.0			70-35-51.0			77-41-59.0			77-43-61.0			80-45-59.5			67-38-53.2			61-37-52.2			58-32-47.2			53-29-44.0			50.1
1898	55-32-45.8			54-26-41.5			58-28-41.0			60-31-47.7			67-34-51.0			74-39-56.8			78-44-59.5			73-46-69.5			72-40-58.7			64-34-51.3			59-30-44.0			55-27-45.4			50.3
1899	53-26-40.1			52-29-43.0			64-22-43.0			63-29-46.6			65-34-50.6			78-41-59.5			76-45-60.0			76-46-62.3			71-31-54.1			60-29-47.9			55-39-47.2			51-24-40.0			49.5
1900	54-27-39.5			52-14-35.4			51-25-38.6			65-33-47.8			68-36-50.7			75-42-56.8			75-45-60.1			71-42-57.0			67-38-55.1			63-32-48.1			57-29-41.7			52-26-42.3			47.9
1901	49-24-37.8			49-22-35.8			51-34-38.9			59-39-45.0			68-34-51.9			72-37-54.2			76-46-60.2			75-41-57.5			67-39-54.0			61-31-47.0			54-19-41.2			51-26-37.5			46.8
1902	50-25-40.6			52-19-36.6			57-30-44.0			57-29-44.0			67-31-47.3			74-38-53.1			74-40-56.0			68-40-56.2			68-36-53.6			62-34-57.4			55-30-43.5			52-25-39.0			46.8
1903	50-22-39.5			52-29-42.7			52-29-41.1			57-27-43.7			69-36-50.4			70-35-54.0			74-43-56.6			68-40-54.3			64-36-52.4			60-28-46.2			55-24-41.0			48-22-37.0			46.4
1904	49-27-38.5			49-24-37.2			52-25-39.1			60-32-44.4			65-32-48.6			69-49-54.2			73-40-57.3			69-41-56.4			63-38-52.5			63-35-50.2			57-25-43.5			52-28-43.0			47.4
1905	51-29-42.0			55-23-41.6			53-30-42.6			58-33-46.4			68-36-52.6			75-42-58.0			76-45-60.0			70-42-55.5			68-39-53.6			62-26-45.0			52-23-39.0			50-30-43.3			48.3
1906	50-28-41.1			47-25-38.0			58-30-42.6			59-29-44.3			64-33-49.7			75-42-57.8			74-44-59.0			73-44-59.8			71-40-55.0			63-29-49.0			55-29-44.0			53-20-39.0			48.4
1907	49-18-39.6			52-25-38.4			57-32-45.8			64-30-45.4			65-35-48.7			69-49-53.5			78-41-58.6			68-43-57.0			68-38-57.0			60-28-45.9			52-29-49.8			49-27-39.5			47.5
1908	52-23-38.5			53-31-43.0			52-29-40.4			56-26-43.4			68-37-52.0			71-40-55.7			80-46-59.5			74-44-58.2			67-38-53.5			64-33-53.0			56-28-45.7			51-30-41.1			49.0
1909	51-28-40.3			52-22-39.6			56-23-40.6			61-31-46.8			66-33-51.0			69-41-54.0			71-45-58.6			79-43-59.7			65-37-52.3			64-26-49.0			55-20-38.2			50-24-38.3			47.4
1910	50-25-38.5			53-27-39.0			55-30-41.0			60-29-43.9			68-34-51.4			66-44-55.5			70-45-57.5			69-46-57.0			68-37-54.5			62-34-49.0			53-24-39.0			50-28-41.5			47.3
1911	50-27-39.2			53-22-39.7			56-29-40.3			59-27-40.9			70-37-52.2			72-45-56.7			79-44-61.0			73-45-60.2			73-39-54.3			57-31-48.0			53-26-39.9			49-27-39.3			48.0
1912	50-27-40.8			50-32-40.0			57-32-41.8			61-32-47.0			63-36-51.2			66-32-52.9			74-44-55.7			61-36-51.3			68-36-53.5			61-31-50.1			59-33-49.2			54-30-44.3			48.1
1913	52-27-40.6			54-32-43.6			55-34-45.0			59-29-44.7			64-36-49.5			75-38-54.0			74-47-55.9			74-40-58.8			72-44-57.6			61-32-51.5			60-34-48.9			56-33-45.6			49.6
1914	54-43-48.5			55-50-53.0			55-50-52.4			60-53-56.9			62-55-58.2			70-59-64.4			69-53-64.8			67-63-64.6			66-60-62.6			62-55-58.4			58-50-53.4			53-46-50.0			47.2
1915	50-37-43.5			45-25-35.0			58-35-46.5			50-35-42.5			62-40-51.0			64-40-52.0			62-42-52.0			65-43-54.0			62-40-51.0			55-37-4-									







# SUMMARY OF WEATHER OBSERVATIONS AT CHARLESTON, BALLINACURRA

## JANUARY

BAROMETER :	Highest .....	29.95 on the 3rd
	Lowest .....	28.85 „ 26th
	Mean for the month .....	29.52
THERMOMETER :	Highest .....	57°F. on the 1st
	Lowest .....	28°F. „ 16th & 17th
	Mean for the month .....	42.°6F.
RAINFALL :	7.33" which is 3.46" above average.	
SUNSHINE :	63.1 Hours which is 17.1 hours above average.	
WINDS :	Mainly from the South and West and varying greatly in intensity. Gales were recorded on the 13th, 17th, 25th, 26th, 30th and 31st.	

REMARKS : January was a month of extremes. It opened with a day of almost summer temperatures (maximum 57°F. and the high minimum of 52 at night) but night temperatures fell rapidly and between the 15th and the 27th there were days of snow and frequent ground frosts. Barometer readings were low through the month and the winds were strong and squally reaching gale force no less than 5 times between the 17th and 31st.

The most remarkable feature of January was its frequent rainfall. In addition to 7 days of heavy rain, in each of which more than  $\frac{1}{2}$  inch fell, there were 22 other "rain" days—in fact the only days on which rain was not recorded were the 15th and 23rd ! There have, however, been several Januarys with a greater amount of rain to their credit (or discredit) and January 1943 still holds the record with 8.39 inches. What is surprising is to find that in this year of such incessant rainfall the sunshine is 17.1 hours more than normal.

## FEBRUARY

BAROMETER :	Highest .....	30.60 on the 19th
	Lowest .....	29.70 „ 2nd
	Mean for the month .....	30.20
THERMOMETER :	Highest .....	56°F. on the 13th
	Lowest .....	29°F. „ 15th, 21st and 22nd
	Mean for the month .....	43.0°F.
RAINFALL :	1.88" which is 1.23" below average.	
SUNSHINE :	46.7 hours which is 20.3 hours below average.	

## WINDS :

Were Westerly strong in the first fortnight of the month, but then veered to the East and remained light and cold. A South-west gale was recorded on the 1st and 2nd, and North-west squalls reached gale force on the 6th and 8th.

REMARKS : The first half of February was remarkable for its strong westerly winds, frequent rainfall, high temperatures and unusually low sunshine. During this mild and unsettled period the ground was so wet that it was exceedingly difficult to cultivate land or make any preparations for sowing corn, but the first stirrings of spring were manifest. A sharp drop in temperature on the night of the 15th to 29°F. (the minimum on the 14th was 49°F.) heralded a cold spell of harsh, easterly winds which brought in very severe but dry conditions lasting into March ; there was a series of ground frosts and an extensive fall of snow on the 21st and 22nd. Although the severity of this cold spell was very trying to both man and beast, its drying winds were most beneficial in both farm and garden and enabled the critical and much over-due preparation of the seed bed to be pushed ahead.

## MARCH,

BAROMETER :	Highest	.....	30.80 on the 10th
	Lowest	.....	29.05 „ 31st
	Mean for the month		30.35

THERMOMETER :	Highest	.....	60°F. on the 9th and 10th
	Lowest	.....	32°F. „ 11th and 23rd
	Mean for the month		47.95°F.

RAINFALL : 2.26" which is .86" below average.

SUNSHINE : 160 hours which is 45 hours above average.

WINDS : Easterly in the first and last weeks of the month ; veering South-west between the 7th and 23rd. The last three days of March were wild and stormy, and wind reached gale force on the 29th and 31st.

REMARKS : This has been the best March for many years. The average temperature of 47.95°F. is the highest registered here since records were begun in 1905, while it has also created a sunshine record with 160 hours. This is an extraordinary figure for a spring month, representing an average of over five hours sunshine per day. Last June's total sunshine only amounted to 135 hours, while that of July was 116 hours, or an average of 3.73 hours per day.

March was a most favourable month for work on farm and in garden and following the good weather of February, provided excellent conditions for the preparation and cultivation of land and for the sowing of seed. Young plants have developed rapidly, tender shoots and budding leaves have come out boldly, grass has sprung well ; and 1948 has produced a magnificent crop of daffodils.

## APRIL,

BAROMETER :	Highest .....	30.75 on the 26th
	Lowest .....	29.25 „ 1st
	Mean for the month	30.05
THERMOMETER :	Highest .....	65°F. on the 26th
	Lowest .....	32°F. „ 5th
	Mean for the month	48.0°F.
RAINFALL :	2.0" which is .39" below average.	
SUNSHINE :	188.5 hour which is 32.5 hours above average.	
WINDS :	Were moderate to strong and Northerly during the first 10 days of April, but very light during the remainder of the month; and veering from East to West.	

REMARKS : April's first 10 days were cool and broken, with harsh northerly winds and severe conditions producing hail showers on five days, though sunshine was bright in intervals. A shift of wind brought fine weather, higher temperatures and warm sunshine for a week. Rain between the 19th and 22nd was followed by a foretaste of summer—maximum temperatures in the screen rose as high as 65°F. on the 28th there were 42½ hours bright sunshine between the 24th and 28th; but temperatures dropped sharply as the month closed with hail showers and harsh conditions.

This has been the sunniest April for eleven years and has followed the sunniest March since records began here in 1905. It has been a splendid month for work on the land and farmers and gardeners have been able to get well ahead with their spring sowings and cultivations. Rain came when the need for it was becoming apparent, but the drop in temperatures which accompanied it robbed it of some of its kindness, and late sown corn suffered several checks.

## MAY

BAROMETER :	Highest .....	30.55 on the 7th
	Lowest .....	29.60 „ 1st
	Mean for the month	30.15.
THERMOMETER :	Highest .....	73°F. on the 17th and 22nd
	Lowest .....	33°F. on the 3rd
	Mean for the month	51.75°F.
RAINFALL :	1.26" which is 1.37" below average.	
SUNSHINE :	214.8 hours which is 28.8 hours above average.	
WINDS :	Light and Westerly during the first half of the month, but Easterly and stronger during the third week of May, since when they have been very variable.	

REMARKS : After heavy rain on the 3rd May weather settled down to a 20 day anti-cyclone, cool at first but developing in the middle of the month into typical summer weather with maximum temperatures in the seventies, long hours of brilliant sunshine and warm nights. After the 22nd temperatures dropped sharply (the maximum dry temperatures from 73 on the 22nd to 55 on the 23rd), particularly at night and savage hail showers introduced an unsettled period, remarkable for the variations in temperatures from hour to hour and for its lack of rain.

After the excessive sunshine of both March and April, it is surprising that this should be the sunniest May since 1935, and by the middle of the month the country was too dry. The harsh conditions brought in by the fierce hail showers of the 23rd were damaging to late setting orchards and to potatoes and small fruits and kindly rain is urgently needed to soften the land and stimulate the growth of grass and corn now much stunted.

### JUNE

BAROMETER :	Highest .....	30.45 on the 25th
	Lowest .....	29.55 „ 6th
	Mean for the month .....	30.05.

THERMOMETER :	Highest .....	74°F. on the 25th
	Lowest .....	40°F. „ 17th
	Mean for the Month .....	55°F.

RAINFALL : 22.8" which is .18" above average.

SUNSHINE : 145.1 hours which is 39.9 hours below average.

WINDS : North-Westerly throughout the month and very strong during June's first five days and again between the 16th and 20th.

REMARKS : June was a disappointing and unsettled month, during which there were only seven days without some fall of rain and there was much sunless, oppressive weather. Temperatures were cool in the first week, particularly at night, but tended to rise as the month progressed. June brought a marked advance in both farm and garden ; small fruit has been plentiful and new potatoes were generally early. Cereals have come very early into ear but are very short. Hay matured early but, owing to the frequent showers and poor drying between them, has been most troublesome to save. Sunshine is much needed.

### JULY

BAROMETER :	Highest .....	30.55 on the 2nd
	Lowest .....	29.70 „ 21st
	Mean for the month .....	30.15.

THERMOMETER :	Highest .....	77°F. on the 28th
	Lowest .....	42°F. „ 23rd
	Mean for the Month .....	59.4°F.

RAINFALL : 2.35" which is .53" below average.

SUNSHINE : 157.4 hours which is 12.6 hours below average.

WINDS : Were mainly from the North and West light at first but squally and strong in the third week of the month.

REMARKS : The first half of July was most disappointing with little sun and over-cast skies though it was dry. The 16th ushered in a week of strong winds, heavy rainfall and very broken weather, but on the 26th an anti-cyclone began, temperatures jumped, skies became blue and cloudless and the month ended in a burst of summer glory.

### AUGUST

BAROMETER : Highest ..... 30.35 on the 27th  
and 29th  
Lowest ..... 29.45 ,, 7th  
Mean for the month .... 30.00.

THERMOMETER : Highest ..... 70°F. on the 1st  
Lowest ..... 42°F. ,, 18th  
and 19th.  
Mean for the month .... 58.85°F.

RAINFALL : 3.08" which is .08" below average.

SUNSHINE : 143.6 hours which is 14.4 hours below average

WINDS : Mainly from the West and light during the first 10 days of August, strengthening somewhat in the middle of the month and reaching gale force on the 20th after which they were moderate.

REMARKS : The pleasant anti-cyclone which began at the end of July continued for nearly three weeks in August, but came to a violent end on the night of the 20th with 1.28 inches of rain, backed by a South-Westerly gale and, for the remainder of the month, weather remained very broken.

Harvesting, which began unusually early started under excellent conditions, but the last ten days of the month made the saving of uncut and stooked corn exceedingly difficult and fine, settled weather is urgently needed.

### SEPTEMBER

BAROMETER : Highest ..... 30.55 on the 30th  
Lowest ..... 29.55 ,, 3rd  
Mean for the month .... 30.10.

THERMOMETER : Highest ..... 69°F. on the 18th  
 Lowest ..... 37°F. „ 21st  
 Mean for the month ..... 56.05°F.

RAIN : 1.77" which is .91" below average.

SUNSHINE : 140.6 hours which is 8.6 hours above average.

WINDS : Were mainly from the South and West, and were strong in the first and middle weeks of the month.

REMARKS : The first eleven days of September were very broken and during this critical period harvesting was much hampered by frequent rainfall, though very strong winds helped drying between the showers. From the 12th a welcome anti-cyclone set in, and both farm and garden benefited greatly. Day temperatures remained high, though autumn's "nip" was apparent in the early mornings, and at night.

### OCTOBER

BAROMETER : Highest ..... 30.45 on the 1st  
 Lowest ..... 29.30 „ 18th  
 Mean for the month ..... 30.10.

THERMOMETER : Highest ..... 66°F. on the 10th and 11th.  
 Lowest ..... 30°F. „ 26th  
 Mean for the month ..... 51.°3F.

RAIN : 5.03" which is 1.26" above average.

SUNSHINE : 64.1 hours which is 30.9 hours below average.

WINDS : These were mainly from the South and West and light, but veered East between the 5th and 10th when they strengthened considerably and went Easterly again in the last week of the month, rising to gale force on the 27th and 28th.

REMARKS : October began with a continuance of September's very mild weather conditions. This fine spell continued until the 8th when the anti-cyclone broke, bringing torrential rain on the 8th and 9th, which, by its suddenness and great force, was responsible for extensive flooding of rivers and streams.

On the 10th temperatures rose abruptly and weather continued fine until the last week of the month when temperatures dropped again, bringing bitterly cold conditions accompanied by a biting south-easterly gale, thunder and lightning on the 27th. There were only eight rainless days throughout the whole month ; the total rainfall for the 8th, 9th, 27th and 31st amounted to 3.82 inches and the 9th and 27th between them show a record of approximately three inches.

## NOVEMBER

BAROMETER :	Highest .....	30.50 on the 9th
	Lowest .....	29.70 „ 4th
	Mean for the month .....	30.15.
THERMOMETER :	Highest .....	61°F. on the 1st
	Lowest .....	30°F. „ 6th
	Mean for the month .....	50.4°F.
RAIN :	3.75" which is .16" below average.	
SUNSHINE :	34.8 hours which is 28.2 hours below average.	
WINDS :	Were light and mainly Southerly, veering South-East in the last week of the month. Heavy squalls on the 4th heralded a gale on the night of the 6th and wind again reached gale force early on the 15th.	

REMARKS : November was remarkable for its high temperature and humidity, and very low sunshine. Rain was recorded on twenty of its thirty days, but, with the exception of heavy falls on the 11th and 12th and very heavy rain on the 6th, and 14th, it was its frequency rather than its volume and the lack of drying between showers, that made the month seem so wet—many readers will be surprised to learn that the total rainfall is slightly below November's average.

Temperatures were extraordinarily high ; the mean between the daily maximum and minimum is the highest ever recorded for November since records were begun here in 1903 and amounts to 50.4°F. against an average figure of 45 °F. in the last 43 years. It is remarkable that, in a month of record-breaking high temperatures, sunshine should be so conspicuous by its absence and set up a new record in the opposite direction, for the 34.8 hours which November produced is the lowest figure ever entered here for this month which averages 63 hours.

The mild moist conditions produced a soft, steamy atmosphere ; a hard dry spell, though more severe, would be more wholesome and more bracing.

## DECEMBER

BAROMETER :	Highest .....	30.71 on the 20th
	Lowest .....	29.01 „ 11th
	Mean for the month .....	29.97
THERMOMETER :	Highest .....	57°F. on the 1st, 2nd, and 3rd
	Lowest .....	31°F. on the 21st and 28th.
	Mean for the month .....	45.15°F.

RAIN : 8.670 which is 4.540 above average.

SUNSHINE : 37.5 hours which is 4.5 hours below average.

WINDS : Were variable, wild and squally during the first fortnight of the month and again at its close, but, from the 15th to the 28th there was a spell of light easterly winds. Gale force was reached on no less than five occasions, namely, on the nights of the 1st, 3rd, and 6th, 7th, the 10th, the 11th and the 30th.

REMARKS : December was remarkable for its extraordinary rainfall. Following the great humidity and high temperatures of November the first fortnight of the month produced relatively mild weather and heavy rain each day, amounting to no less than 6.07 inches. There followed an easterly anti-cyclone when weather became much colder and dry but overcast ; on the 26th this came to a violent end and the following days brought frequent and heavy rain again. The total rainfall for the month was 8.67 inches, the greatest recorded for any December since 1914, which set up a record of 8.98 inches.

This astonishing rainfall was responsible for extensive damage and a sorry tale of bursting river banks, floods and disaster representing great misery and loss. Flooding was general in all low-lying districts and at the stormy end of the year farm work was much behind schedule with land sodden and heavy and no drying.

# Appendix I.

## OPERATION OF THE SCHEME FOR THE TREATMENT OF VENEREAL DISEASES.

Table 84.—Record of Work Done in the V.D. Treatment Centre.

	Cork City		Cork County		Other Districts		Total		Total Male and Female Cases
	M.	F.	M.	F.	M.	F.	M.	F.	
<i>New Cases (1st time) ...</i>									
Syphilis ...	7	19	9	13	2	—	18	32	50
Soft Chancre ...	—	—	—	—	—	—	—	—	—
Gonorrhoea ...	15	3	12	3	6	—	33	6	39
Not V.D. ...	40	37	18	4	—	—	58	41	99
Total ...	62	59	39	20	8	—	109	79	188
<i>Total Attendances :—</i>									
Syphilis ...	415	1645	169	764	4	—	588	2409	2997
Soft Chancre ...	—	—	—	—	—	—	—	—	—
Gonorrhoea ...	78	25	43	14	9	—	130	39	169
Not V.D. ...	64	40	33	5	—	—	97	45	142
Total ...	557	1710	245	783	13	—	815	2493	3308
<i>Cured :—</i>									
Syphilis ...	5	4	3	—	—	—	8	4	12
Soft Chancre ...	—	—	—	—	—	—	—	—	—
Gonorrhoea ...	14	3	9	2	3	—	26	5	31
Not V.D. ...	—	—	—	—	—	—	—	—	—
Total ...	19	7	12	2	3	—	34	9	43
<i>Pathological Exams. :—</i>									
Wassermann ...	130	106	68	13	—	—	198	119	317
Gonococci ...	45	13	23	—	1	—	69	13	82
Exam. for T.P. ...	3	—	1	—	—	—	4	—	4
Kahn ...	16	35	6	3	—	—	22	38	60
Total ...	194	154	98	16	1	—	293	170	463
<i>Therapy :—</i>									
Arsenicals ...	232	1055	97	423	4	—	333	1478	1811
Bismuth Preparations ...	193	441	81	234	—	—	274	675	949
Irrigations ...	—	—	—	—	—	—	—	—	—
Douches ...	—	—	—	1	—	—	—	1	1
Sulphonamides ...	13	5	—	3	—	—	13	8	21
Penicillin... ...	48	33	26	36	7	—	81	69	150
S.V.C. ...	1	—	—	—	—	—	—	1	1
Total ...	486	—	204	697	11	—	701	2232	2933

Table 85.—Record of *new cases* treated annually at Centre.

Period	Syphilis	Soft Chancre	Gonorrhoea	Not V.D.	Total
1937	29	2	34	30	95
1938	29	—	42	34	105
1939	37	1	27	42	107
1940	34	8	30	46	118
1941	25	6	42	68	141
1942	54	4	63	67	188
1943	113	4	79	101	297
1944	81	1	49	116	247
1945	59	—	63	107	229
1946	73	—	48	130	251
1947	46	—	39	91	176
1948	50	—	39	99	188

Table 86.—Record of new cases treated during 1948 (non V.D. Cases not included).

Period	Males	Females	Total
Jan.	5	2	7
Feb.	2	4	6
Mar.	3	8	11
Apr.	6	6	12
May	4	0	4
June	14	3	17
July	2	5	7
Aug.	4	2	6
Sept.	4	1	5
Oct.	4	1	5
Nov.	2	5	7
Dec.	1	1	2
Totals	51	38	89

Table 87.—Monthly attendances at V.D. Centre, 1948.

Period	Males	Females	Total
Jan.	92	201	293
Feb.	79	189	268
Mar.	61	255	316
Apr.	39	266	305
May	58	240	298
June	66	185	251
July	64	223	287
Aug.	71	161	232
Sept.	61	184	245
Oct.	83	188	271
Nov.	56	216	272
Dec.	85	185	270
Totals	815	2493	3308

The total number of new cases (male and female) of Gonorrhoea and Syphilis treated during the year was 89. This represents an increase of 4 cases (Syphilis) on last year's figure. In 1946 121 new cases were treated and in 1943, when a serious outbreak of these diseases was recorded, 192 new cases were noted. It will be seen that no significant increase in the incidence of venereal disease has taken place during 1948.

The facilities afforded to private practitioners under the scheme were availed of by eight doctors during the year. The particulars set out in table 88 relate to the patients treated by them and the results obtained. The number of ampoules supplied to them was 877 (in comparison with 600 provided in 1947).

Table 88.—Particulars of cases treated by Private Practitioners.

Form of Disease	Number of Cases		Cured	Discontinued Treatment	Remaining under Treatment	Wassermann or other Tests
	Males	Fem's				
Syphilis ...	32	12	11	20	13	97
Gonorrhoea ...	18	3	21	—	—	—
S. Chancre ...	1	—	1	—	—	—

## Appendix II.

### OPERATION OF THE COUNTY BOROUGH SCHEME FOR THE WELFARE OF THE BLIND

The following are the terms of the Scheme drafted for this purpose and now in operation within the Borough :—

In this scheme the term " Blind Person " shall mean any inhabitant of the County Borough who is so blind as to be either unable to perform any work for which eyesight is essential, or unable to continue his or her ordinary occupation ; the term " The Corporation " shall mean the Lord Mayor, Aldermen and Burgesses of the County Borough of Cork, acting by the City Manager ; the term " The Minister " shall mean the Minister for Local Government and Public Health.

2. The Corporation will establish and maintain a Register in which shall be entered the name and address, age, sex, religion and other necessary particulars of every blind person who shall produce a certificate from a recognised Ophthalmic Surgeon that the acuity of vision of such person (refractive error being corrected) is below 1/20th normal (3/60th Snellen), or that such person is so blind as to be unable to continue his or her ordinary occupation. Any person between the ages of 30 and 70 may, however, be registered without producing such certificate on furnishing evidence of being in receipt of a pension in pursuance of Section 6 of the Old Age Pensions Act, 1932. The Register shall be kept written up-to-date, and shall be revised annually in the month of January. The Corporation shall be empowered to pay reasonable fees to Ophthalmic Surgeons for certifying in cases of necessitous persons.

3. Arrangements will be made by the Corporation with the Authorities of one or more of the Institutions for the Blind mentioned in the Schedule hereto on such terms as may be approved by the Minister for the following purposes :—

- (a) the education or industrial training of suitable blind persons between the ages of five years and thirty years ;
- (b) the employment in workshops for the Blind of blind persons suitable for such employment, their maintenance in a Hostel, and the augmentation of their wages ;
- (c) the maintenance in Homes of blind persons who, owing to age or infirmity, are incapable of work.

4. The Corporation may in cases of unemployed and necessitous blind persons ineligible for education or industrial training under Article 3 (a) of this Scheme and living in their own homes or in lodgings, grant assistance to such persons in accordance with the following scale :—

Classification of Blind Persons	Amount of weekly allowance*
(a) Blind person over 15 years and under 30 years of age	12s. 6d.
(b) Blind person 30 years of age and upwards	6s. 0d. (with pension)
(c) Married man under 30 years of age with wife dependent on him	19s. 0d.
(d) Married man 30 years of age and upwards with wife dependent on him	12s. 0d. (with pension)
(e) Additional allowance for each child	2s. 6d.

In considering the grant of allowances on this scale to the classes of blind persons at (a) and (c) above, the Corporation will not take into account casual earnings of any such person where they are satisfied that such earnings do not exceed six shillings per week.

5. Nothing in this Scheme is to be construed as giving blind persons irrespective of their means or conduct, a right absolute to assistance. The Corporation will not grant an allowance under Article 4 above to any blind person under 30 years of age who is capable of instruction and who declines without a satisfactory reason to take advantage of the facilities for education, training or employment under the Scheme, or who is by conduct or otherwise deemed unsuitable for assistance. No habitual mendicant shall be granted an allowance under the Scheme unless the practice of mendicancy is discontinued. No person shall be eligible to receive assistance under this Scheme who shall not have been resident within the County Borough for two years previous to date of application for assistance.

6. The Corporation may incur such expenditure in the execution of this Scheme as the Minister may from time to time approve.

7. This Scheme shall come into operation on the 1st October, 1932, and shall continue for a period of three years, but may during the period with the consent of the Minister be modified, extended or revoked by the Corporation, and with the like consent may be continued for such further time as may be deemed necessary. Any question, dispute or difference arising in connection with the interpretation of this Scheme shall be determined by the Minister whose decision shall be final.

\* In addition to the above Food Vouchers to the value of 4/- per week have been granted to recipients of blind pensions, since 1st June, 1946.

## SCHEDULE

Institutions for the Blind Approved by the Minister	Class of Blind Persons Received
1. St. Mary's Institution for Female Blind, Merrion, County Dublin .....	Females, also boys up to 7 years of age
2. St. Joseph's Asylum for Male Blind, Drumcondra, Dublin .....	Males
3. Richmond National Institution for Industrious Blind, 41, Upper O'Connell Street, Dublin .....	Males
4. Cork County and City Asylum for the Blind, Infirmary Road, Cork .....	Males and Females

The number of persons receiving weekly allowances in their own homes from the Corporation during the year was 227, and the disbursements under the heading amounted to £6,613 0s. 4d. 15 applications were received for allowances. Other disbursements amounted to £144 8s. 8d. (examinations, grant to National Council and other expenses). In addition to the above-mentioned, 23 cases maintained in Institutions by direct grants from the Corporation, viz. :—Cork Blind Asylum (8 males and 6 females) ; St. Mary's, Merrion (9 females). The total cost of the maintenance amounting to £616 12s. 5d.

The following note is contributed by the Hon. Secretary of the local branch of the National Council for the Blind of Ireland.

### Home Teaching for the Blind.

Under the National Council for the Blind, this very essential service has been inaugurated in Cork City, to which the Corporation has granted a small annual contribution towards the expenses incurred by employing trained and qualified Home Visitors and Teachers.

The work of the Home Visitor is varied and broad, embracing social as well as mental instruction. She must help the blind to become active members in their homes, teach them to read embossed type, various handicrafts, such as knitting and rugmaking, and to bring an interest and hope into their otherwise hopeless lives.

The Home Visitor can help to prevent blindness in children, who often, through parental ignorance and negligence, or want of interest, lose their sight, which under proper care and supervision can be cured by seeing that they are provided with glasses where necessary and sent for treatment. She also gives her assistance and advice over pension applications, appeals and better accommodation.

Wireless sets are distributed on loan where most required, entertainments organised and free seats at musical shows secured.

Voluntary visitors also give their services to read and spend some time talking to the lonely blind, who greatly appreciate these visits.

Classes are held weekly for instruction in basket making, chair-caning and other forms of handicraft. The finished articles are presented for sale only if up to standard—no inferior goods labelled “ Made by the Blind ” are passed for sale. Efficiency is the definite aim.

The Home Teacher becomes a real friend of the Blind, who turn to her in all their difficulties, knowing that they will obtain help and encouragement to become as useful and important as their sighted brothers and sisters.

Suitable cases are urged to enter institutions for the blind and arrangements made for this purpose.

The Home Teacher has office hours daily where any blind or defective sighted person can get in touch with her and make enquiries. Over the Home Visitor is an Executive Council who meet monthly, receive the reports of the Home Visitor, deal with various cases, arrange the financial side of the work and follow closely and with interest the progress which is being made.

The following is a resume of the work done by the Home Visitors of the National Council for the Blind.

Number of Cases on Register on 31st December	390
Visits paid to Blind	2,546
Visits paid on behalf of the Blind	436
Interviewed at office, City Hall	859
Number of Braille readers	22
Number of Moon readers	6
Number attending Men's Handicraft Class	8
Number attending Women's Handicraft Class	10
Number of Home Workers whose work is of saleable standard	29
Number helped with Artificial Eyes and Spectacles	10
Number given Fuel and Christmas Gifts	81
Number given help to buy Dentures	7
Number given Nourishment and Relief	66
Helped to purchase Furniture and Bedding	2
Individuals issued with Penny Dinner Tickets	—
Sent to Institutions for the Blind	1

## Appendix III.

### Physical Features of the Area

The City of Cork is situated on the river Lee, fifteen miles from its mouth in Cork Harbour. On the north bank of the river there is steep rising ground almost prohibiting building development, save in the form of hillside roads and open building of large houses, with the exception of the marked break of the Blackpool valley, very full use of which has been made. Next comes the flat island comprising the centre of the City. This island is almost entirely artificial, and consists of six feet of filled-in material, with ten feet of slob below that and then gravel overlying old red sandstone. Southwards is a gently undulating tract of land about one and a half miles wide enclosed by a range of hills. There is a considerable amount of land liable to flood in the Lee Valley, west of the city, towards Carrigrohane, and the flatness of the islands on which the city is built and the height to which unusual tides ascend being nearly to the crown of the arches of the old bridges, render certain portions of the city itself also liable to flooding.

The geological formation of the city region is simple and clearly marked in its effect on the landscape. There are only two systems visible, both paleozoic rocks, the carboniferous limestone and the older underlying Devonian, representing the old red sandstone. Each of these formations is in two series; the carboniferous in a crystalline limestone and in a dark shale (with some 10 feet slate); The Devonian in the upper old red sandstone (yellowish and reddish) and in the lower, old red sandstone (red and purple). The characteristic aspect of the countryside has been caused by the crinkling of these strata into regular parallel folds. Further the limestone which should have formed the ridge of the anticlines has been denuded or dissolved away, so that the highest ground consists of old red sandstone, and even the lower series of this; the hollow folds, floored by limestone, have been subsequently protected from further denudation by a covering of boulder clay. In this immediate region there are thus three old red sandstone ridges and two limestone valleys, in the northern of which the city stands under the brow of the northern sandstone ridge. If this sandstone ridge had possessed its original limestone capping, it would probably have been at least 2,000 feet high.



