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COUNTY BOROUGH OF CORK

REPORT OF THE MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1947

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J. C. SAUNDERS, M.D., D.P.H.,
Medical Officer of Health.

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Miss M. O'Sullivan
Miss C. Curran.

School Dental Nurse :
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Clerk and Inspector to Port Sanitary Authority :
J. P. Kieran

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SUMMARY OF STATISTICS.

Area (in Acres)	2,618
Population (Census of Population 1946)	75,361
Density of Population (persons to the acre)	28.9
Rateable Value	£237,429 13 0
Sum represented by a Penny Rate	£989
Number of Births	1,800
Birth Rate	23.9
Number of Deaths	1,290 *
Death Rate	17.1
Maternal Mortality Rate	0.5
Infantile Mortality	87
Zymotic Death Rate	0.1
Tuberculosis Death Rate	1.9

* Includes 13 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 presenting my Annual Report for the year 1947. The main findings are once again summarised in the Foreword which precedes the body of the Report. There has been an increase in the general death-rate and increases in the tuberculosis and infant mortality rates which, in part at least, were probably associated with the exceptionally bad weather conditions experienced during the last four months of 1946 and the first three of 1947. These increases are in some degree offset by the fact that (for the first time in our public health history) there was no death from diphtheria.

I desire to thank those who have contributed to this report: Dr. P. F. Fitzpatrick, Prof. W. J. O'Donovan, Prof. H. N. Walsh, Mr. M. J. Riordan (Water Engineer), Mr. D. J. O'Sullivan (City Analyst) and Mr. Cussen (Chief Veterinary Officer) have all contributed to their appropriate sections. Once more I have found the assistance of Miss F. Corcoran indispensable in preparing the report. In particular I would wish to thank Mrs. Dorothy West for sending monthly reports on the weather observations made at Charleston, Ballinacurra, during the year. At all times interesting and informative these reports have been invaluable in the present instance in affording evidence of correlation between the adverse weather conditions and increased mortality during the year.

I have the honour to remain,

Your obedient servant,

J. C. SAUNDERS.

FOREWORD

Vital Statistics.

From the statistical point of view the year 1947 can only be regarded as one of most disappointing set-backs. The total number of deaths recorded was 242 in excess of the previous year and the death-rate jumped from 13.7 to 16.9 per 1,000. These figures represent a substantial increase in mortality and naturally call for enquiry. One possible explanation which presents itself rather forcibly is the exceptionally adverse weather conditions which prevailed over a very large portion of the year and especially in the earlier months. Before this suggestion can be accepted it is necessary to examine the relevant factors and see how they fit in with the theory.

It would be necessary, in the first instance, to see how the various age-groups fared and to ascertain whether there was excessive mortality at the extremes of the scale (as one would expect if climatic conditions were to blame). Next it would appear to be necessary to examine the various causes of death and see if there was excessive mortality in any special categories (the respiratory diseases suggest themselves in this connection). Then it would follow that the deaths should be analysed as to the time of occurrence and to determine if there were any relationship between periods of excessive mortality and known periods of bad weather as ascertained by accurate weather observations and records. Fortunately it was possible to do this and it would seem that the results of the enquiry are not without interest.

At the outset it may be well to stress again the really dreadful weather conditions which were experienced during the first three months of 1947 (in common with the rest of the country and, indeed, with most other countries as well). It is no exaggeration to say that they were unprecedented and it has been freely admitted that they were the worst within living memory. Fortunately we have very accurate factual records of the prevailing conditions (more particularly as they affected this locality) from the weather observations at Ballinacurra, Midleton which have been placed at our disposal through the courtesy of Messrs. J. H. Bennett, Ltd. These records have proved invaluable and they will be referred to in detail at a later stage.

An examination of the death returns as they fall into the various age-groups has shewn that the greatest increases were recorded in 0-1 year groups (the increase in this instance amounting to 51 over the previous year) and in the 65 to 75 years (increase 109). Substantial increases were also recorded in the 55/65 and 75/85 groups, although a slight reduction (11) occurred at ages over 85 years. It is apparent therefore that the extremes of life bore the brunt of the increase. The relevant figures are set out in table 3. In this table we note, also, that the increased deaths were distributed unevenly as regards sex. There was an increase of 151 among males as against 91 among females.

The principal increases in regard to *causes* of death were as shewn herewith :—

Disease	Number of Deaths		Rate of Increase
	1946	1947	
Pulmonary Tuberculosis	79	126	59 per cent
Cancer	92	120	27 ,, ,,
Hemiplegia	68	101	48 ,, ,,
Bronchitis	68	92	35 ,, ,,
Broncho-Pneumonia	21	41	100 ,, ,,
Gastro-enteritis	19	32	68 ,, ,,
Nephritis	17	29	70 ,, ,,
Senile Decay	33	55	66 ,, ,,

The total increased number of deaths in this table amounts to 197 and of this number 89 are represented by deaths from respiratory causes. We have also 22 additional deaths attributed to old age. Cancer and hemiplegia represent deaths occurring also in elderly people, and these factors bulk largely in the increase recorded. Respiratory diseases are of course notoriously prone to an unfavourable termination under bad weather conditions and the same observation applies to the reduced resistance of elderly persons to cold and wet, as it also does in the case of persons suffering from nephritis. Persons in these categories are unable to adjust themselves to extremes and the inference here is that the very bad weather conditions recorded must have been a decisive factor in determining the increased number of deaths in these various groups. Deaths from gastro-enteritis occur very largely in the first year of life. Here the increased number of deaths recorded in 1947 does not appear to be related to weather conditions, they were distributed more or less evenly through the year. Any increase over the average was at the end of the year, long after the worst period of bad weather.

While the largest gross increase in deaths was in the case of tuberculosis (45) it is to be noted that the greatest *rate* of increase was in deaths from broncho-pneumonia (100 per cent.). The preponderance in this group of diseases particularly vulnerable to weather conditions does suggest that these may have played a positive part in determining the increased mortality.

It next remained to examine the *time* of death and to ascertain if this had any relationship to the known facts in regard to the weather.

In this connection it should be explained that the method adopted was to examine each death return (confining ourselves to the categories already enumerated) and to allocate it to the particular four-weekly period in which it occurred. As a result of this distribution the following table was constructed :—

Four-weekly period ended	Puly. Tb.	Cancer	Hemi-plegia	Bronch-itis	Broncho-pneum.	Gastro-enteritis	Neph-ritis	Senile Decay	Total
25th Jan.	8	9	8	3	5	0	4	2	39
22nd Feb.	17	12	12	24	7	2	2	11	87
22nd Mar.	9	8	21	12	9	4	7	5	75
19th Apr.	8	14	11	8	6	2	2	11	62
17th May	7	12	7	4	0	1	3	5	39
14th June	13	8	4	6	1	4	3	3	42
12th July	9	5	6	0	2	2	1	1	26
9th Aug.	10	12	7	6	0	3	1	2	41
6th Sept.	10	10	4	1	3	1	2	3	34
4th Oct.	8	7	3	3	4	3	1	2	31
1st Nov.	3	6	4	9	2	6	1	2	33
29th Nov.	9	4	5	6	1	0	1	2	28
27th Dec.	15	13	10	10	2	5	1	6	62

It was during the last week of January that the really harsh weather commenced, it persisted unabated through the whole of February and well into the month of March. It will be recalled too that the last six months of 1946 were phenomenally bad—a dreary succession of wet sunless days that seriously interfered with harvesting operations and that, no doubt, played its part in undermining the vitality of the population. It will be noted from the above table that there has been some correlation between the peak period of bad weather and maximum mortality. One does not expect exact correspondence between such events, there is always a time lag and the relationship must of necessity be approximate. The maximum figures for seven of the eight diseases listed certainly correspond to the period in question. The greatest number of deaths from tuberculosis was during the four weeks ended 22nd February but there were four further peaks at different periods in the following months. The maximum for cancer was the period ending 19th April. In the cases of hemiplegia, bronchitis, broncho-pneumonia, nephritis and senile decay the correlation with the worst period of weather conditions seems to be established. As already remarked there was no apparent relationship so far as gastro-enteritis is concerned.

It is not likely that the weather conditions experienced during the opening months of 1947 will be easily forgotten, nevertheless, with the passage of time all but the broad effects tend to recede in the memory. It is important to have accurate records, made at the time, on which to base opinions and observations. As I have before remarked, we are fortunate in having such records and I am indebted to Mrs. Dorothy West for the particulars which follow and which are taken from the weather records compiled at Charleston, Ballinacurra :—

> January was wild and broken and began badly with low temperature and a ground frost, a south-easterly gale and over an inch of rain within its first 48 hours after which temperatures rose considerably. There were only two days between the 1st and 20th on which rain was not recorded, but the last ten days brought a hard easterly spell with cold, drying winds, very severe to man and beast ; but of immediate benefit in drying up the saturated surface of the land. August, September, November, December and January have been remarkable for excessive rainfall. The figure recorded from 1st August to 31st January amounts to 29.77 inches or 7.7 inches more than normal. The wet and cold of such a long autumn and winter, coming after a very poor summer, have been responsible for much of the prevailing illness and have conspired to undermine resistance to colds, chill and 'flu. The chill damp of so many months seems to have eaten through shoe leather and into the very bones of pedestrians everywhere.
>
> February was remarkable for the intensity of the cold weather which it inherited from January and which lasted with intermission during its 28 days. A spell of this duration is without precedent in this country and the month's average temperature of 34.55°F. is the lowest ever recorded since weather observations began here in 1904. The normal February figure is 46.2 (over 11° higher than the 1947 record). During the whole month biting easterly winds gave a sting to sharp frosts and snow fell on 12 days although in the immediate neighbourhood it did not lie long. Within a short distance snow and ice seem to have been worse. In spite of the intense cold and 13 ground frosts February was a wet month ; in its first 24 hours torrential rains fell, backed by a very cold S.E. gale, and amounting to 3 inches. Heavy falls were also recorded on 10th, 11th, 22nd and 23rd and there was a marked deficiency in sunshine, in which the 1947 figure is also the lowest on record. The month may therefore be summarised as the coldest and most sunless of Februarys.
>
> March opened with two days of sunshine and the promise of spring, but then reverted to the bitterly cold weather of the preceding five weeks, with frequent falls of snow which, in some places in the area, formed drifts higher than motor vans. This gave way to rising temperatures and extraordinarily heavy falls of rain and on the 16th the level of streams and rivers rose so rapidly that overflowing of the banks became general and there was extensive flooding, even on high well-drained land. Between the 9th and 27th of the month there were 8.60 inches of rain and during the whole month there were only five rainless days. With August, September, November, December, January and February all yielding more than their normal rainfall (the total from 1st August to 28th February was 34.57 inches against an average of 25.3 inches), and the added effects of thaw water, March's rainfall of 9.33 inches, the highest ever recorded in Ballinacurra, has been disastrous. The preparation of land for the sowing of crops, potatoes and vegetables has had set-back after set-back, and the gravity of the position is acute.

These are the extracts which correspond in time with the worst climatic periods. The remainder of these most valuable and interesting records will be found in the section on meteorology. It is of interest to note the long succession of wet and sunless months which culminated in the disastrous climax of February and March. We are reminded once more, in

the last of the three extracts, of the very critical position in regard to the harvest of 1946 and the providential intermission of fine weather in October, coming as it were at the last moment, which eventually enabled the harvest to be saved. It is impossible to picture what might have happened but for this, as in the existing state of world supplies it seemed to be useless to look to outside sources for our food supplies. In addition there was the hardship imposed by an insufficiency of fuel and an acute shortage of certain foodstuffs, particularly fats which, no doubt, played a part in our high mortality rates. In the very worst of the period it was a pitiable sight to see the attempts made by poor people to keep fires going with lumps of wet turf—a legacy of the previous wet summer and conditions were greatly aggravated in these parts of the city subjected to flooding. It was necessary, too, at perhaps the worst period to reduce the butter ration to 2 ozs. a person per week. At the same time gas rationing commenced and it is indicative of the fuel situation that all main line trains had to be suspended and the electricity ration further cut.

It is not possible at this stage to indicate accurately whether experience of this character has been common to other administrative areas in the country. The only information available at the moment is that contained in the Annual Summary of the Registrar General (issued as an appendix to the report on the fourth quarter of 1947) and this is very limited. All one can infer for the time being is that there has been some increase in general mortality (an increase of 1.0 per 1,000 being recorded in the general death rate) ; tuberculosis mortality is also slightly raised as was infant mortality. These figures relate to the country as a whole and are general in character. Apart from one or two specified diseases they do not particularise nor is there any classification as to age-groups. More precise information will be available when the *Annual Report* of the Registrar General is available, but by that time it is more than likely that the subject will no longer be one of interest. There is, however, one table in the current issue of the *Summary* which does afford information on which a slight degree of comparison may be founded. This is the table of Births and Deaths registered for the principal towns which may be compared with the corresponding table which appeared for 1946. The information obtainable from this source is not very striking though it does indicate that there has been an all round increase in mortality but not as sharp in character as that experienced locally. For all the towns, taken in the aggregate, mortality rose from 13.3 in 1946 to 14.4 in 1947 representing totals of 10,800 and 11,900 deaths respectively. In Limerick, Wexford and Kilkenny there were increases in the general death-rate on a par with that experienced in Cork, that is of a range from 2.5 to 3 per 1,000. Only in Dun Laoghaire and Kilkenny were there increases in deaths from pulmonary tuberculosis analogous to Cork but there were marked rises in deaths from pneumonia and other respiratory diseases recorded in several towns. Limerick, Waterford, Sligo, Wexford, Kilkenny and Tralee all recorded very sharp increases under this heading and, while one must of necessity exercise caution in the interpretation of these figures, it does appear that the climatic conditions of late 1946 and early 1947 left their mark on the community generally. It would be desirable, of course, that more extended and accurate figures should be available in order to institute a comparison ; for the figures recorded for 1947 are so strikingly above the average as to call for closer enquiry.

Infectious Diseases.

The outstanding feature in connection with this aspect of our public health records is that for the first time in the statistical history of the city there has been no death from *diphtheria*. It is, in fact, now considerably over a year since such a death has been recorded. To some extent this offsets the gloomy picture drawn in the preceding pages and it is with gratification that attention is drawn to it, for it may be regarded as the second last landmark towards the ultimate objective—the complete elimination of the disease. In addition, the number of *cases* of the disease notified was one of the lowest recorded (being equal to the previous lowest number). In the appropriate section of this report I have adverted to the fact that one must go back to the early years of the present century to find figures comparable to these and I have also shewn that there is the strongest presumptive evidence for inferring that *notification* during those years was defective and that more cases occurred than were actually recorded. We may assume therefore that not only have we achieved the happy position of having had no deaths from diphtheria but that the figures for the actual disease itself were the lowest on record.

It now remains to bend ourselves to the task of eliminating diphtheria entirely from Cork city and we have every encouragement to undertake it as there is reason to believe that that achievement is at last within measurable distance. Given the wholehearted co-operation of the parents of the city I believe the goal could be reached in two years or, at most, three. What is necessary? (1) That all children born during next and the succeeding years should be immunised by the time they are one year old or 15 months at the latest. (2) That all children under 5 years, who have not been immunised, should be so protected immediately and (3) that all children who have been immunised more than 3 or 4 years should be brought again for test and further treatment if necessary. Of all diseases, diphtheria is now pre-eminently the most preventible and it does not seem to be too much to ask of the parents of this city that they should make the required effort.

In this connection it does seem appropriate to refer again to one very remarkable feature of our diphtheria campaign. During the period of twenty years which it has been going on over 26,000 children have been protected and of this very large number *there has not been a single death from diphtheria*. I have alluded to this fact year after year (as I do also in the body of this report), but it seems to me a fact of such importance that it cannot be over-stressed or too frequently laboured. It is, after all, a very striking testimony to the efficacy of diphtheria immunisation when carried out on reasonably controlled lines—that is the insistence on the Schick test whenever possible after the appropriate treatment has been administered. I should like to stress also that, in my experience, there has never been a *case* of diphtheria among immunised children who have come up for re-inforcing injections after the expiry of three or four years. I recall well that during the secondary epidemic of 1942-43 there were a number of children whose protection obviously had waned and who developed the disease. These were only a small fraction of all the immunised children and a small fraction of the children who contracted

diphtheria during the epidemic, but there was not a single case of the disease among those children who received re-inforcing injections during this period. Hence the importance attached to this adjunct of normal immunising procedure.

With regard to the other infectious diseases, *whooping cough* reached epidemic proportions during the year, 115 cases having been reported, compared with 5 in the previous year. Five deaths were recorded as due to this condition. Apart from this disease the condition of affairs was satisfactory and the general incidence of infectious disease was low, while the mortality rate (0.1 per 1,000) was equal to the lowest ever previously recorded which was in the year 1945. There was no occurrence of *typhoid fever* during the year. This has been the fourth time in the past six years that the city has been free from typhoid while there has only been one death from the disease in the past fifteen years. The history of this disease can be traced in Table 17. An examination of this table in conjunction with that which follows it (relating to typhus) demonstrates the improvement which has taken place in respect of these two diseases, once so prevalent here.

Tuberculosis.

The increased general mortality experienced during 1947 fell heavily upon those suffering from tuberculosis. It is improbable that this increase was due to adverse economic conditions as it was too steep to be explained by such circumstance. There are certain features connected with the figures for this area which call for attention, in particular the sharp increase of deaths among young females. This matter is alluded to in the appropriate section in the body of the report and it will suffice to say here that it is a very marked feature. Indeed the increase can almost be accounted for in its entirety by deaths in this category. Taken by themselves, statistics for such a circumscribed area are rather too small to justify general conclusions but they certainly do lend weight to the findings of other enquiries covering much wider areas and considerably larger numbers of persons. The findings of Laidlaw and McFarland in 1941 and other workers subsequently were strongly suggestive that wrong use of leisure may have been a determining factor in the war-time increase of tuberculosis. These authors were forced to the conclusion that undue hours spent in cinemas and dance halls played a significant part in the increase. The limited figures at our disposal do not lend themselves to general conclusions, nevertheless they do show a very marked preponderance of young female deaths over other groups which suggest that the factor referred to may have been at play.

One of the principal factors in the spread of tuberculosis is, of course, the number of open cases of the disease among the community. That this number has been unduly large in this locality is strongly suggested by the high proportion of positive reactors found in the tuberculin survey sponsored by the Irish Red Cross Society. The results of this survey are embodied in the tuberculosis section of this report—66.7 per cent. were found to be positive at ages from 0 to 17 years and a further table gives comparative figures for other areas which go to shew an unduly high rate in this area. It is not necessary at this juncture to go into the various

causes which have contributed to this state of affairs beyond referring to the fact that the principal one is, probably, the lack of bed accommodation for sufferers from pulmonary tuberculosis. The determined efforts which are now being made to meet this need must be a source of gratification to everyone interested in the reduction of the disease. So far as Cork City and County are concerned the opening of Mallow Hospital as an auxiliary to Heatherside Sanatorium marks a new epoch, one result of which should be a substantial decrease in the tuberculosis mortality rates in the years to come. W. H. Frost, in his celebrated papers on the epidemiology of tuberculosis, has laid the greatest stress upon the immediate isolation of the tuberculous subject *for the longest possible period of time* as the greatest single measure in the eradication of tuberculosis. With this he couples a generous measure of financial assistance for the patient and his dependents. Both these conditions are now well on the way to fulfilment in this country —certainly the latter, but emphasis must be laid on the fact that financial aid is to be looked upon from the communal point of view rather than that of the individual sufferer. In other words the community should continue to aid the sufferer for so long as he comports himself in such a way that he is not a danger to others. In effect this means, if he is in an infectious condition, for so long as he remains isolated and for no longer. It would be a tragedy if the granting of financial aid were regarded from a purely sentimental standpoint as we would thereby have missed one of the greatest opportunities of effecting a real and lasting reduction in the incidence of tuberculosis.

As I have already indicated, our figures for tuberculosis mortality during 1947, have been depressing but one feels that now a really substantial advance has been made in the attack against the disease which, if properly utilised, should result in more permanent gains in the near future. Our waiting list has practically been liquidated by the opening of Mallow Hospital and this affords us, we hope, a much more prolonged period of active treatment and isolation for infectious cases. The appointment of a chest surgeon puts at our disposal measures of treatment hitherto unavailable which, in addition to affording relief to individual sufferers, should also go a long way to reducing infection in the community. These additional beds also enable us to embark with much greater confidence on a campaign of case-finding than could be hoped for previously and we therefore look forward more optimistically to the inauguration of the mass radiology service than we have before.

Ice Cream.

The preparation and distribution of this commodity was dealt with at length in last year's report. The enormous increase in its consumption justifies further consideration. As in the case of milk it must be examined from two aspects ; its value as a food and its potentialities as a spreader of disease. The food value of ice-cream is determined by the fat content and total solids while the bacterial content serves as an indicator of its hygienic standard.

It was pointed out in these columns last year that the standard of quality appears to be a fat-content of not less than 7½ per cent. in the final product and that an examination of large number of samples in England

and elsewhere shewed this standard was attained in only some 15 per cent. of cases. It was suggested that the term *water ice* should be applied where a reasonably nutritive standard for fat and solid had not been reached. It would seem clear that the profits from the ice-cream trade are enormous. Dr. C. W. Martine (Birmingham) has shewn that they ranged *from just under* 75 *per cent. to over* 90 *per cent.* and on the basis of these figures rigid standards of purity are demanded—standards well within the reach of every producer as indicated by the profitable nature of the trade.

Further interest is lent to this subject by the publication of the findings in an investigation carried out locally during the months of April, May and June 1946 by Mr. B. J. O'Neill and Dr. M. Grimes, of the Dairy Bacteriology Department, University College, Cork.* The investigation was undertaken primarily to ascertain the quality (microbiological and chemical) of ice-cream sold in Cork City for human consumption, that is, the quality of the product as it reaches the consumer. To this end, penny or twopenny wafers were purchased over the counter in the ordinary way in various retail establishments. It was sought to secure four or five samples of each of the principal manufacturers. The ice-cream actually purchased was made in many types of premises from the large-scale factory to the small shop which uses what is termed a " cold mix ice-cream powder."

The technical methods employed in this careful investigation do not call for mention here. They have been worked out in detail and those interested in this aspect of the work are advised to consult the original paper. We are more concerned with the ultimate findings and these are of considerable interest. The authors mention that, on the basis of standards enforced in the United States of America, the average total bacterial count of a sample of ice-cream examined under standard conditions should be 250,000 per gram. The ice-cream examined fell far below this the average working out at practically 3,000,000 *bacteria per gram* (the highest count was over 53 millions and the lowest 47,000). There was a similar variation in the *fat-content* and *total solids*. The averages were 4.65 per cent. (range 1.88 per cent. to 11.65 per cent.) and 22.5 per cent. (range 17.03 per cent. to 34.15 per cent.) respectively. On the basis of *butter-fat content* the ice-cream could be segregated into three groups:—

1. *Dairy ice-cream* made from cream, butter, milk powder and gelatine (with or without flavouring) and containing not less than 8 per cent. of butter fat. 26 per cent. of makers came up to this standard.
2. *Ice-cream*, whose composition came up to group 1 but with a fat content of less than 8 per cent. This group represented 6 per cent. of the samples.
3. *Ice-custard* the ingredients here consisted simply of cornflour, milk and sugar (with or without the addition of butter-fat. 66 per cent. of the samples were in this class.

It is to be noted that no less than two-thirds of the samples examined fall in to the category of " ice custard." This term may well compete with

* A Study of Ice Cream sold in Cork City.
Éire Jour. of Dept. Agric., 1947. XLIV. 47.

that of " water ice " suggested above and is, perhaps, a more accurate designation. It is quite obvious that the time has come for a clear legal definition of the term " ice cream " and that it should be limited to products falling into the category of group 1. Seeing that the other groups are little more than frozen cornflour paste " ice-custard " would appear to be a very appropriate designation.

The authors recommend that the solids content of the pasteurised mix should consist of 10 per cent. to 12 per cent. butter fat ; at least 12 per cent. of milk solids other than butter fat ; 12 to 16 per cent. sugar and not more than 0.5 per cent. gelatine or other stabiliser. Ice cream made under these conditions and conforming to these standards would contain at least 22 per cent. milk solids as well as an easily available source of energy in the form of sugar and would thus be a good foodstuff and have the advantage of taste appeal *provided, of course, that it reached the consumer in a hygienic condition.* On the basis of the findings in this paper it is to be feared that the great majority of the samples examined did not come up to these standards by a very wide margin. The authors further suggest that ice-cream of high quality should have a clean, creamy flavour, a firm, smooth, velvety body and texture and the natural colour of the flavouring substance used. Of the 90 odd samples examined only those from ice-cream made by a few large-scale manufacturers measured up to these standards. Those from ice-cream made in small establishments often were lacking in sweetness, coarse in texture and weak and soggy in body. *Many of them were unfit for consumption as a consequence of insanitary modes of manufacture, storing and sale.* (The average bacterial content worked out at 2.943,000 per gram instead of 250.000 per gram as recommended above). The *Clostridium* group which was found in 33 per cent. of samples should not be present. The presence of this group can be linked with outbreaks of gastro-enteritis in hot weather. Two tables accompany this report, the following single table has been constructed from the material contained in them :—

Maker	Average Fat Content	Average Total Solids	Bacterial Count		Coliform Group Present	Anaerobic Spore Formers (Clostridium Group)
			21°C.	37°C.		
1	3.11 per cent	21.59 per cent	1,355,000	160,000	40 per cent	80 per cent
2	2.37 ,,	17.03 ,,	34,068,000	13,818,000	60 ,,	60 ,,
3	2.80 ,,	18.71 ,,	10,177,000	1,217,000	20 ,,	40 ,,
4	11.65 ,,	34.15 ,,	47,000	22,000	0 ,,	0 ,,
5	2.09 ,,	19.31 ,,	9,110,000	882,000	20 ,,	20 ,,
6	3.85 ,,	25.98 ,,	6,924,000	2,554,000	20 ,,	0 ,,
7	3.72 ,,	23.72 ,,	1,370,000	388,000	66 ,,	50 ,,
8	2.28 ,,	18.83 ,,	126,000	14,000	40 ,,	20 ,,
9	2.42 ,,	22.27 ,,	53,278,000	11,712,000	16 ,,	66 ,,
10	1.96 ,,	20.22 ,,	11,703,000	2,000,000	60 ,,	60 ,,
11	8.10 ,,	25.51 ,,	237,000	29,000	60 ,,	20 ,,
12	3.21 ,,	24.15 ,,	3,447,000	712,000	0 ,,	16 ,,
13	4.00 ,,	24.82 ,,	13,821,000	6,180,000	0 ,,	40 ,,
14	3.45 ,,	18.78 ,,	25,489,000	11,696,000	20 ,,	20 ,,
15	1.88 ,,	19.77 ,,	1,909,900	696,000	0 ,,	20 ,,
16	9.01 ,,	22.97 ,,	288,000	7,000	40 ,,	20 ,,
17	8.53 ,,	24.28 ,,	2,110,000	465,000	0 ,,	20 ,,
18	9.29 ,,	23.25 ,,	5,324,000	427,000	40 ,,	50 ,,
Average	4.65 ,,	22.52 ,,	10,040,000	2,943,000	28 ,,	33 ,,

It is disappointing to have to record the bad showing made by the small manufacturers. There is no reason why their record should be so bad. Mr. R. S. Cross* states that " the small trader who is keen can and will turnout an ice-cream which is bacteriologically as clean as that from our largest manufacturers with equipment and premises costing hundreds of pounds. The explanation of this is that the work is not entrusted to employees—he does it himself." Unfortunately the small maker in this area (and, in the existent state of legislation, he is entirely unsupervised) in most cases makes up his product without the slightest idea of the general principles of hygiene and in premises totally unsuited to the purpose. In the vast majority of such cases the ingredients used are of the poorest quality and the finished article would invariably come under the heading of " ice-custard " or " water ice " which (as was shewn in last year's report) is in reality a much dearer article than that made up from recognised ingredients. It has been pointed out that the profits accruing from this trade are very great and there seems to be no reason why the small producers should not invest some of these profits in better premises and equipment.

Unfortunately, the whole subject is bristling with difficulties not the least of which is impressing on the makers of ice-cream of the dangers inherent in it and the importance of rigid standards of cleanliness. How this is to be brought about will have to be worked out in the near future. Meanwhile the most urgent necessity is the conferring of powers on local authorities to insist on reasonable standards of cleanliness in premises and on the protection of the public against unscrupulous traders who are only too eager to cash in on the public craving for ice-cream by foisting on it products which are entirely useless from the nutritive standpoint.

* Journal of Royal Sanitary Institute, Jan. 1947

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 75,361. The corresponding figure in the Census of 1936 was 80,765. The recent figure indicates a decline of 6.7 per cent. The number of females in the population has been estimated to be 40,916 as against 34,445 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	75,361

2.—Births.

According to the Annual Summary of the Registrar General 1,800 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 1,824. In addition to the latter figure 26 still-births were notified, bringing the total of *notified* births to 1,850. On the basis of the Registrar General's figure the birth-rate for the year was 23.9. 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

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

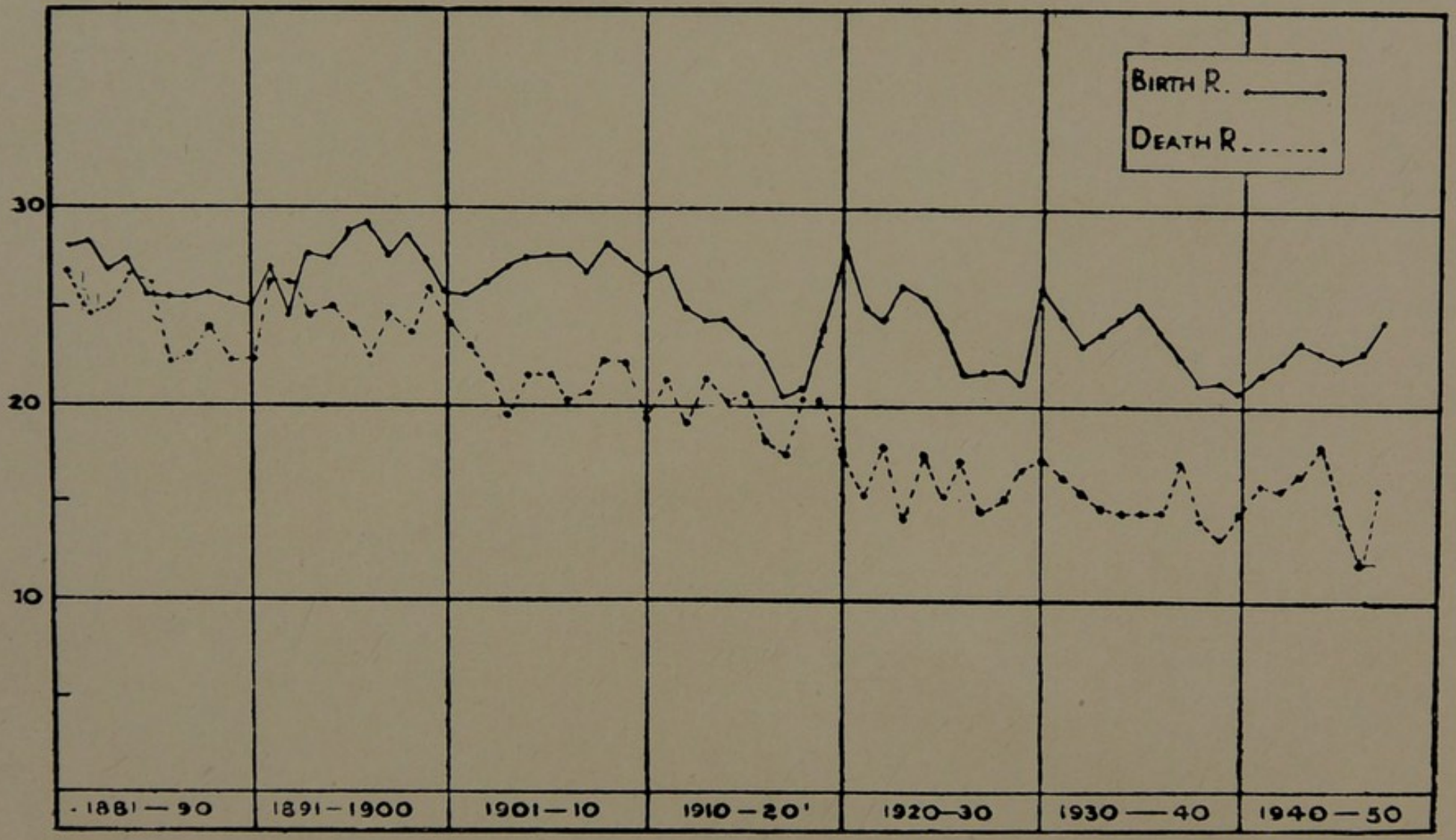


Table 1.—Birth Rates for Cork City and Éire from 1881.

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

* From *Annual Summary* of Register General.

Examination of the notifications as to place of birth shewed that 1,021 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 17 representing 0.9 per cent. of the total notified births. The corresponding figures for the previous year were 37 births being 2.0 per cent. of the total registered births.

3.—Deaths.

1,290 deaths have been assigned to this area in the Annual Summary of the Registrar General for 1947. This is equivalent to a crude death rate of 17.1 per 1,000 of the population. The figures for 1946 were 1,072 deaths and the rate 14.2 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 1,277 (compared with 1,035 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 1946 and 1947.

Table. 2. Deaths arranged according to age-groups shewing percentage increases in 1947 as compared with 1946 :—

Age Group	1946	1947	Difference	Percentage Increase
Under 1 year	109	160	+ 51	46.8
1 - 5 years	24	25		
5 - 15 ,, ...	17	17		
15 - 25 ,, ...	29	35	+ 6	20.6
25 - 35 ,, ...	36	43	+ 7	19.4
35 - 45 ,, ...	67	76	+ 9	13.4
45 - 55 ,, ...	94	110	+ 16	17.0
55 - 65 ,, ...	181	207	+ 26	14.9
65 - 75 ,, ...	263	372	+ 109	41.4
75 - 85 ,, ...	170	199	+ 29	17.1
85 upwards	45	34	— 11	
Males	489	640	+ 151	30.8
Females	546	637	+ 91	16.6
Totals	1035	1277	+ 242	23.5

ble 3.—Analysis of **Causes of Death** at different age-periods during the year 1947.

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.											
rior Poliomyelitis	1	1	–	–	1	–	–	–	–	–	–	–	–	–
oping Cough	5	2	3	5	–	–	–	–	–	–	–	–	–	–
enza	2	–	2	–	–	–	–	–	–	–	1	–	1	–
ro-Spinal Fever	2	1	1	2	–	–	–	–	–	–	–	–	–	–
onary Tuberculosis	126	60	66	1	2	3	23	23	29	23	14	6	2	–
r Tuberculosis :—														
Meningitis	12	7	5	1	3	3	2	2	–	–	–	1	–	–
Bone and Joint	6	3	3	–	–	–	1	1	1	–	1	2	–	–
Intestinal	2	1	1	–	–	1	–	–	–	–	1	–	–	–
Other Forms	1	1	–	–	–	–	–	–	–	–	–	1	–	–
er	120	52	68	–	–	1	–	1	9	17	36	43	13	–
etes	4	2	2	–	–	–	–	–	–	1	2	–	1	–
iplegia :														
Haemorrhage	89	33	56	–	–	–	–	1	1	6	21	36	21	3
Thrombosis	13	8	5	–	–	–	–	–	–	–	3	7	3	–
t Disease	362	169	193	–	–	1	3	5	13	31	71	146	80	12
rio-Sclerosis	13	6	7	–	–	–	–	–	–	–	–	10	1	2
chitis	92	55	37	2	–	–	–	1	1	9	20	37	19	3
cho-Pneumonia	42	24	18	25	9	–	–	–	–	1	1	3	2	1
r Pneumonia	20	13	7	3	–	2	–	3	–	–	4	5	3	–
r Respiratory Diseases	23	10	13	1	–	–	–	1	–	3	5	8	5	–
ic Ulcer	14	11	3	–	–	–	–	–	2	5	4	2	1	–
ro-Enteritis	32	21	11	31	1	–	–	–	–	–	–	–	–	–
endicitis	2	1	1	–	–	–	–	–	1	–	–	1	–	–
aritis	29	12	17	–	–	–	1	2	4	5	3	10	4	–
peral Causes	1	–	1	–	–	–	–	1	–	–	–	–	–	–
enital Debility, Prema-														
re Birth, etc.	67	39	28	67	–	–	–	–	–	–	–	–	–	–
de	1	1	–	–	–	–	1	–	–	–	–	–	–	–
r Violent Deaths	30	22	8	3	2	2	2	1	2	2	2	9	5	–
r Defined Causes:														
) Gastro-Intestinal	7	2	5	–	2	1	–	–	1	1	1	1	–	–
) Convulsions	8	5	3	8	–	–	–	–	–	–	–	–	–	–
) Central Nervous System	18	11	7	–	–	–	1	–	4	1	5	5	2	–
) Blood Diseases	11	5	6	–	–	1	1	–	1	2	2	4	–	–
) Genito-Urinary	10	10	–	–	–	–	–	–	–	–	–	9	1	–
) Marasmus	7	6	1	6	1	–	–	–	–	–	–	–	–	–
) Rheumatism	9	3	6	–	–	–	–	–	1	–	2	5	1	–
) Hepatic Diseases	7	3	4	–	–	–	–	–	–	1	1	5	–	–
) Septicaemia	7	6	1	1	–	–	–	–	–	1	2	2	1	–
) Gangrene	4	3	1	–	–	–	–	–	–	1	–	2	1	–
) Senile Decay	55	18	37	–	–	–	–	–	–	–	1	11	30	13
) Syphilis (Cong.)	2	1	1	2	–	–	–	–	–	–	–	–	–	–
) Meningitis	3	3	–	2	1	–	–	–	–	–	–	–	–	–
) Hernia	3	2	1	–	–	–	–	–	–	–	2	–	1	–
) Hypertension	4	4	–	–	–	–	–	1	1	1	1	–	–	–
) Intra Cranial Haemorrhage	2	–	2	2	–	–	–	–	–	–	–	–	–	–
) Miscellaneous	9	4	5	–	–	2	–	–	3	1	1	1	1	–
TOTALS	1277	640	637	162	22	17	35	43	74	112	207	372	199	34

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 1,277 (as compared with 1,290 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, Eire and in England and Wales, during the period 1881 to 1947. These figures do not necessarily represent the relative healthiness of the 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, Eire and England and Wales, from 1881.

Year	Cork	Éire	E. & W.	Year	Cork	Éire	E. & W.
1881	26.8	17.1	18.9	1914	20.2	16.1	14.0
1882	24.7	16.9	19.6	1915	20.7	17.5	15.7
1883	24.9	18.6	19·6	1916	18.2	16.5	14.3
1884	26.7	17.4	19.7	1917	17.4	16.9	14.2
1885	26.2	18.0	19.2	1918	20.4	17.5	17.3
1886	22.1	17.4	19.5	1919	20.2	17.9	14.0
1887	22.4	17.9	19.1	1920	17.5	14.7	12.4
1888	24.1	17.4	18.1	1921	15.4	14.3	12.1
1889	22.3	16.9	18.2				
1890	22.2	17.6	19.5	1922	18.0	14.7	12.8
				1923	14.0	14.0	11.6
1891	26.9	17.6	20.2	1924	17.8	15.0	12.2
1892	26.4	18.7	19.0	1925	15.5	14.7	12.2
1893	24.5	17.3	19.2	1926	17.3	14.0	11.6
1894	24.9	17.7	16.6	1927	14.7	14.8	12.3
1895	23.9	17.7	18.7	1928	15.2	14.2	11.7
1896	22.6	15.9	17.1	1929	16.9	14.6	13.4
1897	24.7	17.8	17.4	1930	17.3	14.1	11.4
1898	23.7	17.7	17.5	1931	16.4	14.5	12.3
1899	26.3	17.0	18.2				
1900	24.2	19.1	18.2	1932	15.7	14.4	12.0
				1933	14.9	13.6	12.3
1901	23.0	17.1	16.9	1934	14.7	12.9	11.8
1902	21.5	17.0	16.3	1935	14.8	13.9	11.7
1903	19.4	17.0	15.5	1936	14.7	14.3	12.1
1904	21.6	17.6	16.3	1937	17.4	15.3	12.4
1905	21.7	16.4	15.3	1938	14.1	13.6	11.6
1906	20.2	16.2	15.5	1939	13.1	14.2	12.1
1907	20.6	17.0	15.1	1940	14.6	14.1	14.0
1908	22.2	17.1	14.8				
1909	22.1	16.8	14.6	1941	16.1	14.6	12.9
1910	19.3	16.6	13.5	1942	15.9	14.0	11.6
				1943	16.5	14.7	12.1
1911	21.2	16.3	14.6	1944	18.1	15.4	12.7
1912	19.1	16.2	13.4	1945	14.9	14.4	11.4
1913	21.5	16.8	13.8	1946	13.7	13.9	
				1947	16.9	14.9	

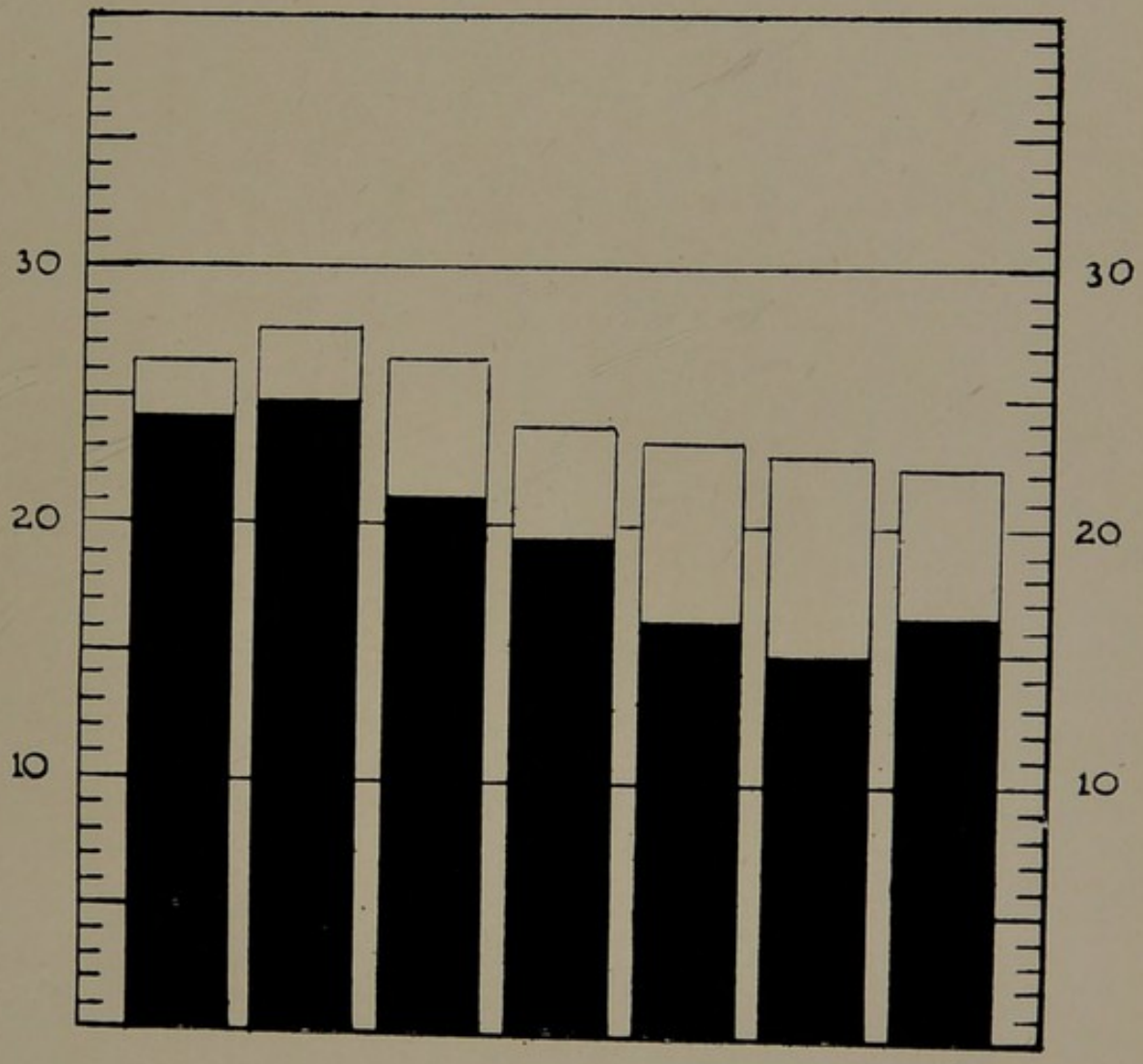


FIG. II.—BIRTH AND DEATH RATES AS DECENNIAL AVERAGES FROM 1881 TO PRESENT YEAR

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

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

1.	Heart Disease	362	(330)
2.	Pulmonary Tuberculosis ...	126	(79)
3.	Cancer	120	(92)
4.	Cerebral Haemorrhage ...	102	(68)
5.	Bronchitis	92	(68)
6.	Premature Birth, etc. ...	67	(56)
7.	Senile Decay	55	(33)
8.	Broncho-pneumonia	42	(21)
9.	Diarrhoea and Enteritis ...	32	(19)
10.	Violence	31	(26)
11.	Nephritis	29	(17)
12.	Lobar Pneumonia	20	(17)

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

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.

	Condition		
Year	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

Cancer. The number of deaths attributed to this disease recorded by us was 120 as compared with 92 in the previous year. The corresponding figures of the Registrar-General are 111 (uncorrected) and 97. 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 111 deaths the rate was 1.4 per 1,000 of the population.

Phthisis Death Rate. The deaths from pulmonary tuberculosis numbered 126 equivalent to a rate of 1.6 per 1,000 of the population. The corresponding figures for last year were 79 and 1.0 per 1,000 respectively.

Infant Mortality. The number of deaths of children under one year of age was 160 which is equivalent to a rate of 87 per 1,000 live births. In 1946 the number of deaths was 109 and the rate 62 per 1,000. The contributary factors are discussed in Section V.

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 10 equivalent to 0.1 per 1,000 of the population. Of the deaths so recorded, 2 were due to influenza, 5 to whooping cough, 1 to poliomyelitis and 2 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
1936	—	—	7	1	8	10	41	5
1937	—	—	10	—	17	—	52	12
1938	—	1*	3	—	7	—	33	3
1939	—	—	1	1	3	—	39	6
1941	—	—	1	—	5	21	52	—
1940	—	—	—	—	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

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

Uncertified Deaths. Two uncertified deaths were recorded during the year as compared with eight in 1946.

Deaths from Violence. In the 31 recorded instances the cause of death was as follows :—

Falls	16
Motor Vehicles	6
Drowning	4
Asphyxia (infants)	3
Burns	1
Suicide	1

There has been a marked increase in the number of deaths in which mechanically-propelled cars were involved. The number of deaths attributed to motor car accidents in previous years is as follows :—

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

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				

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.																				
			DEATHS from						NUMBER CAUSED BY																	
		BIRTHS	All Causes	Principal Zymotic Diseases	BIRTHS	TOTAL NUMBER	Under 1 year of age	At 65 years & upwards	Smallpox	Measles	Scarlet Fever	Typhus	Whooping Cough	Diphtheria	Enteric Fever	Diarrhoea	Influenza	Pneumonia	Tubercu-lous Disease: Pulmonary	Tubercu-lous Disease: Other forms	Cancer	Violence	Inquest Cases	No. in Public Institutions	Number of Uncertified
1878...		31.7	27.0	—	2,546	2,464	350	681	...	61	1	...	59	1	...	75	...	...	...	...	...	23	87	863	...
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	...	86	...	...	289	...	...	23	99	1026	...
1881...		27.7	26.8	4.1	2,167	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	3.3	2,054	2,098	247	614	...	6	48	21	55	5	9	35	...	...	287	...	...	7	36	587	...
1886...	80,124	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	9	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...		26.9	26.9	1.4	2,024	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	32	...	...	296	...	...	31	63	609	...
1895...		28.9	23.9	1.6	2,179	1,798	287	494	...	1	3	8	65	2	16	28	...	...	261	...	...	24	68	657	...
1896...	75,345	29.2	22.6	1.2	2,144	1,706	229	477	...	2	2	7	16	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...		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	2,066	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	...	8	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...	76,122	27.5	20.2	1.7	2,094	1,535	279	406	...	...	...	4	14	11	5	92	...	65	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	1,680	251	457	...	3	15	5	72	11	15	54	...	106	264	78	62	13	75	673	91
1910...		25.8	19.3	0.9	1,955	1,469	189	489	...	...	2	3	7	11	13	34	...	71	233	75	73	25	50	630	77
1911...		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	226	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	6	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...	76,673	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	...	...	...	1	...	23	1	24	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...		21.5	17.3	2.4	1,687	1,359	220	361	...	75	6	1	32	18	2	53	13	116	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	25	96	22	36	584	25
1931...	78,490	24.4	16.2	0.5	1,921	1,275	138	388	...	...	...	...	5	24	1	34	34	96	124	46	107	26	24	515	33
1932...		23.0	15.8	0.7	1,819	1,239	163	400	...	1	1	...	18	17	1	46	11	82	111	45	98	27	40	607	18
1933...		23.7	14.9	0.8	1,852	1,168	165	367	...	1	1	...	3	14	†2	45	20	60	106	19	104	22	43	557	22
1934...		24.4	14.7	1.0	1,922	1,151	139	403	...	3	2	...	16	25	...	36	6	61	107	21	111	21	43	542	13
1935...		24.8	14.8	0.9	1,945	1,158	162	386	...	11	...	...	1	7	...	56	5	29	115	29	133	24	29	552	19
1936...		23.8	14.7	0.9	1,921	1,188	154	404	...	7	7	...	5	8		41	6	35	85	20	121	32	49	628	10
1937...		22.5	17.4	1.2	1,818	1,403	187	493	...	10	10	...	12	17	...	52	55	36	96	24	117	44	47	706	19
1938...	80,765	21.1	14.1	0.6	1,708	1,140	129	430	...	...	3	...	3	7	*1	33	6	33	99	16	106	28	47	590	18
1939...		21.1	13.1	0.5	1,711	1,060	125	418	...	...	1	...	6	3	...	39	2	24	86	14	143	22	40	558	19
1940...		20.7	14.5	1.0	1,670	1,172	153	433	...	21	1	...	...	5	...	52	8	17	96	29	114	21	35	508	8
1941...	76,834	21.9	16.1	0.5	1,680	1,239	142	502	...	6	...	...	...	5	...	36	32	17	88	19	125	29	41	658	18
1942...		22.2	15.9	1.0	1,706	1,221	171	489	...	...	...	...	2	21	...	52	...	27	106	16	149	25	42	692	10
1943...		23.2	16.5	0.8	1,781	1,270	202	496	...	...	...	...	4	17	...	52	7	23	107	23	120	23	38	725	8
1944...	75,484	22.2	18.1	0.6	1,867	1,372	202	597	...	6	...	...	28	5	...	65	4	23	118	27	123	29	38	736	11
1945...		22.4	14.9	0.1	1,690	1,128	156	498	...	...	...	...	...	3	...	50	...	16	86	28	116	16	36	589	6
1946...	75,361	23.2	13.7	0.3	1,756	1,035	109	478	...	4	...	...	...	2	...	19	11	17	79	22	92	26	41	682	8
1947..		23.9	16.9	0.1	18,24	1,277	160	609	..	..	..	..	5	..	..	32	2	20	126	21	120	31	39	682	2

*Infection incurred outside City area.

†Both were resident in Mental Hospital (outside City area) for several years

Section. II.—Infectious Diseases

The following diseases are compulsorily notifiable in this area :—

Small Pox	Acute Influenzal Pneumonia
Cholera	Malaria
Typhus	Dysentry
Typhoid (Enteric Fever)	Encephalitis Lethargica
Simple Continued Fever	Cerebro Spinal Fever
Scarlatina	Poliomyelitis
Puerperal Fever	Ophthalmia Neonatorum
Diphtheria	Pemphigus Neonatorum
Membranous Croup	Puerperal Pyrexia
Erysipelas	Trachoma
Measles	Undulant Fever
Diarrhoea	Whooping Cough
Acute Primary Pneumonia	

The last six diseases were made notifiable by the Public Health (Infectious Diseases) Regulations 1941.

The Infectious Disease (Notification) Act, 1889, was by a resolution of the Corporation, dated 7th February, 1890, adopted in the County Borough.

The Act was subsequently made to apply to the following diseases :—

Name of Disease	Date of Resolution making Act applicable	Period in force
Cerebro-Spinal Meningitis ...	13 July, 1900 ...	Till 31st December, 1900
do. ...	22 February, 1907	Till revoked
Measles	26 May, 1905 ...	do.
Diarrhoea	14 December, 1906	1 July, 1907, to 31 Oct.,1907
do.	12 February, 1909	1 July, 1909, until revoked
Poliomyelitis or Infantile Paralysis	10 November, 1916	Till revoked

The Infectious Disease (Prevention) Act, 1890, was, by a resolution of the Corporation, dated 11th March, 1892, adopted and put into force in the County Borough.

The Public Health Acts Amendment Acts, 1907, was adopted and put into force by a resolution dated the 24th January, 1908, save as regards Sections 21, 24 to 33, 48, 66, 78 to 86, and 91 to 95.

The Public Health (Ireland) (Pneumonia, Malaria, Dysentry, etc.) Regulations, 1919 were revoked and are replaced by the " Public Health (Infectious Diseases) Regulations, 1929." Trench Fever, which was included in the 1919 Regulations, has been withdrawn in the new order.

The Emergency Powers (No. 46) *Order*, 1940 still remains in force. The provisions of this Order were fully reported on in the 1941 report.

It is more than likely that the powers conferred by the Health Act 1947 will be invoked to clarify the position and to bring under one single piece of legislation all the infectious diseases which are notifiable.

General.

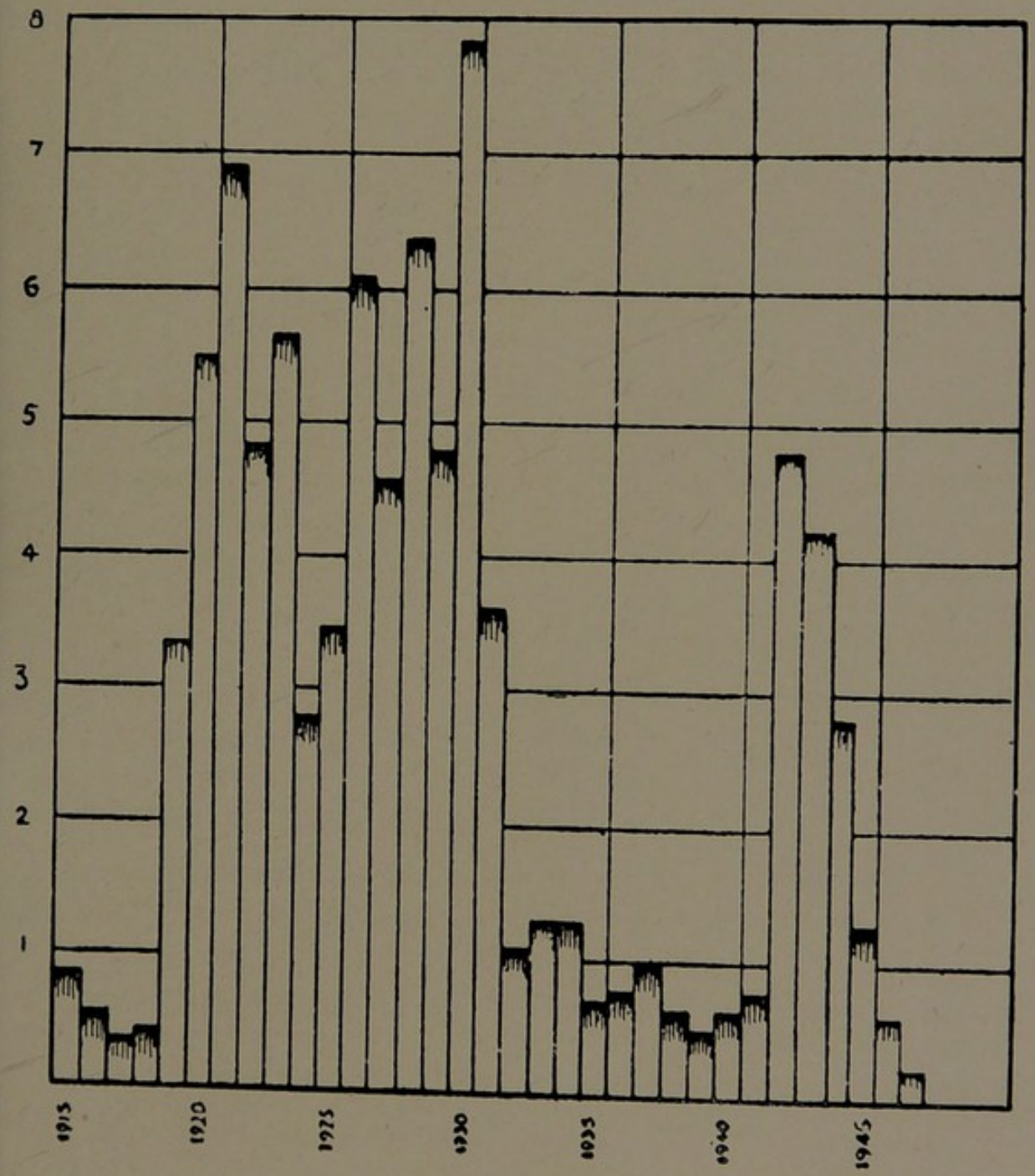
Notifications of infectious disease received during the year amounted to 711 (the corresponding figure for the previous year being 918). The principal reduction was in measles (396 to 41). There was also a substantial reduction in cases of diphtheria (46 to 18). The principal increase was in the case of whooping cough (5 to 119) indicative of epidemic prevalence. Increases also occurred in the cases of epidemic diarrhoea (71 to 111), scarlatina (41 to 63) and pneumonia (34 to 64). 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).

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 disease 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.

As will have been noted in an earlier section of this report the outstanding feature in regard to diphtheria is that for the first time in the period covered by our statistical records there has been no death from this disease. It is a matter of much gratification to have been able to put this fact on record. The number of *cases* recorded during the year amounted to 18. This also is a satisfactory figure. It is by far the lowest since diphtheria assumed serious epidemic proportions in this city in the year 1919 (vide table 10). Indeed one must go back to the early years of the present century for lower figures. It may be assumed that in those early years notification was relatively defective and that the actual number of cases was considerably higher than the recorded notifications would indicate. This conjecture is confirmed by examination of the appropriate records. From Table 19 it will be seen that in the ten year period from 1881 to 1890, 53 cases of diphtheria were notified while in the same period (vide table 10) no less than 73 deaths from the disease were recorded. It is obvious then these earlier figures for notification are not reliable and that we may infer that we have achieved a record low figure for cases as well as a previously unattained position in regard to deaths.

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



In last year's report 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 26,200 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—a grim and formidable total.

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. Indeed the figures for the past year are not very encouraging but a hopeful feature has been the very large proportion of very young children brought for treatment.

Table 10.—Analysis of cases and deaths.

Age Groups	CASES		DEATHS
	Number	Proportion of Total	Number
0–2 years	3	16.7 per cent.	
2–4 ,,	3	16.7 ,,	
4–6 ,,	2	11.1 ,,	
6–8 ,,	—	— ,,	
8–10 ,,	1	5.5 ,,	
10–15 ,,	—	— ,,	
15–25 ,,	3	16.7 ,,	
25 & over	6	33.3 ,,	
Total ...	18	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 10.

In a proportion of cases the reports received transpired not to be diphtheria. The actual number was 76 (approximately 80 per cent. of all notifications received). The age distribution of these was as follows :—

0–2 years	...	...	15 cases
2–4 ,,	...	...	7 ,,
4–6 ,,	...	...	6 ,,
6–8 ,,	...	...	5 ,,
8–10 ,,	...	...	7 ,,
10–15 ,,	...	...	14 ,,
15–20 ,,	...	...	8 ,,
Over 20 ,,	...	...	14 ,,
	Total	...	76

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	—	—

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 717, of whom 154 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
Totals	3,819	22,415	26,234	3,970

* 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 **Positive**
0–5 years	521	479	42	91.9 %
5–10 ,,	82	23	59	28.5 %
10 and over	56	3	53	5.4 %
Totals ...	659	505	154	76.8 %

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 ,,

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

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 proportion of such children were higher last year than in any previous year.

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

(1) Treatment Incomplete—		
0 - 1	12	
1 - 2	36	
2 - 3	17	
3 - 4	19	
4 - 5	9	
5 - 10	7	
10 and over	3	
		103
(2) Treatment Complete—		
0 - 1	57	
1 - 2	286	
2 - 3	148	
3 - 4	68	
4 - 5	35	
5–10 years	34	
10 and over	5	
		633
Total New Cases Treated		736
No. of Primary Schick Negatives		154
Old cases tested and treated		493
	Total	1,383

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 ,,
Totals ...	15,110	14,281	829	94.5 per cent.

In addition to alum-precipitated toxoid (A.P.T.) and toxoid antitoxin floccules (T.A.F.) a new prophylactic, aluminium phosphate toxoid (P.T.A.P.) was used. This was found to be a satisfactory antigen and it is hoped that the results obtained may be available for publication in the near future.

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

EPIDEMIC DIARRHOEA

111 notifications were recorded during the year. Of this number, on investigation one was found not to be suffering from the disease. This figure is an increase of 39 over that for the previous year. It represents a morbidity rate of 1.45 per 1,000 which is an average figure for this locality. The deaths numbered 32, yielding a fatality rate of 28.5 per cent. of cases notified and a mortality rate of 0.42 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 not very pronounced. The largest numbers of case were recorded in January (11), June (12), July (19) and October (16). The number in August (7) was relatively small and it will be recalled that in 1947 this was one of the finest months on record. In the total hours of sunshine broke all previous records. In ordinary circumstances one would have anticipated a large increase in cases during this period and well into September, as the fine hot and dry spell was maintained well into that month, but this anticipation did not materialise. 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.	11	—	July	19	4
Feb.	3	2	Aug.	7	2
March	6	4	Sept.	7	3
April	5	2	Oct.	16	4
May	8	2	Nov.	8	1
June	12	3	Dec.	8	5

The distribution according to *quarters* was as follows

	Cases	Deaths
1st Quarter	20	 6
2nd ,, ...	25	 7
3rd ,, ...	33	 9
4th ,, ...	32	 10

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, and the distribution of cases throughout the year is suggestive of dietetic error as an important causative factor.

It has already been stated that 111 notifications were received (of which one was cancelled) but of these we failed to trace 16 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 (plus the one cancelled) we were left with a residue of 94 cases traced and investigated. Of this 94 only 4 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
Totals ...	119	1760	143	351	2373

During the thirteen years covered by this table 2,022 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

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

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.

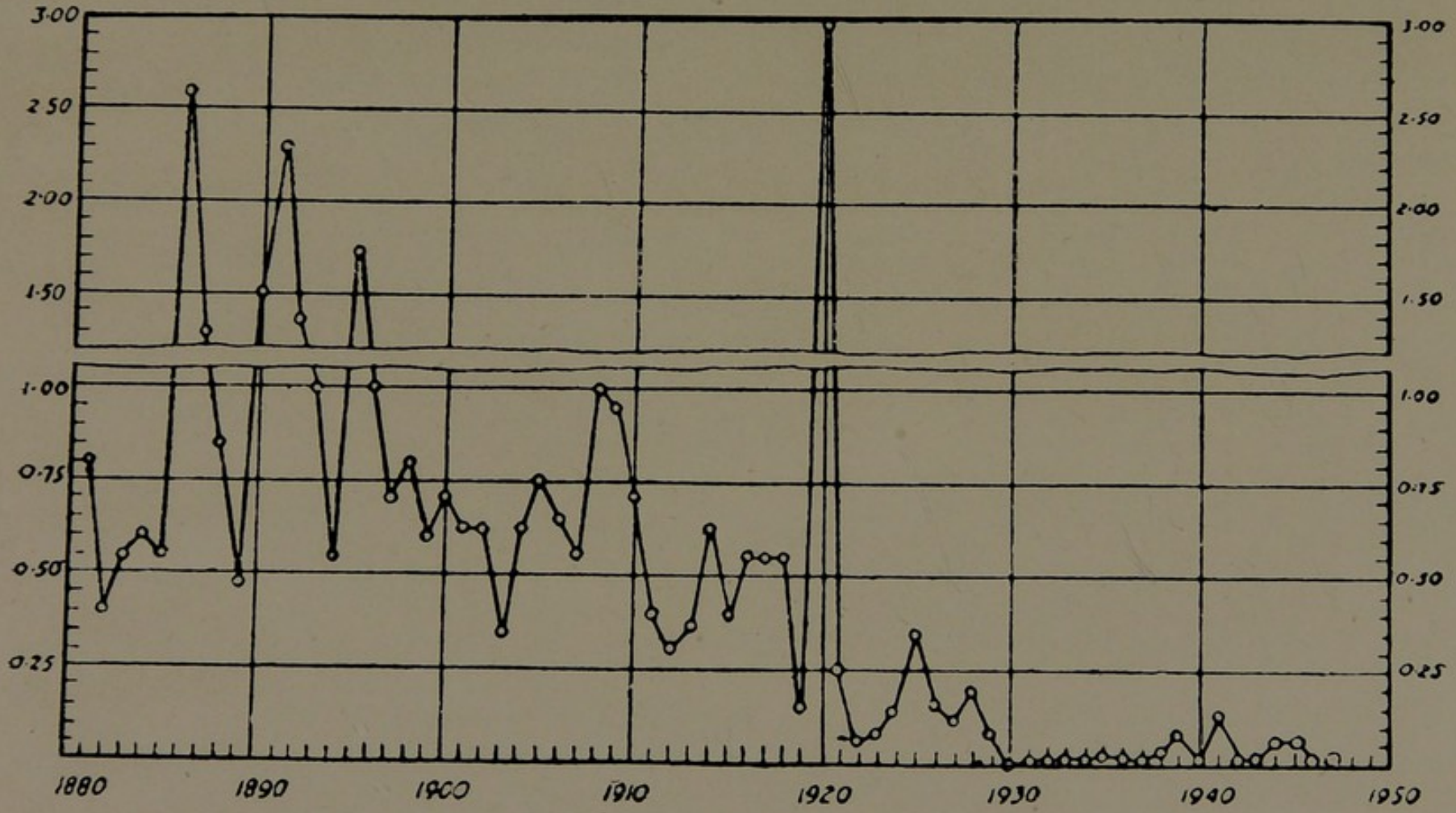
No case of this disease occurred in the city during the year. This is the fifth occasion on which this satisfactory state of affairs has had to be referred to—the previous years being 1930, 1942, 1943 and 1946. Since 1930 there have been only three deaths from this disease and the general incidence shews 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.

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	—	—	—	—

(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

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



SCARLET FEVER.

63 cases were reported. There was no death.

TYPHUS.

For the eighteenth 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 Croup	Diphtheria	Erysipelas	Measles	Diarrhoea	Chicken Pox	Cerebro-Spinal Meningitis	Poliomyelitis	Pneumonia: Acute Primary	Pneumonia: 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	—	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	—

* No longer notifiable.

OTHER INFECTIOUS DISEASES.

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

Scabies	273	(290)
Whooping Cough	119	(5)
Ophthalmia Neonatorum ...	1	(0)

Figures in brackets indicate corresponding notifications in the previous year.

Particulars of Articles Disinfected during the year.

	Bed Ticks	Mattresses	Articles of Bedding	Articles of Wearing Apparel	Miscellaneous 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	Vaccinations	Proportion	Births	Vaccinations	Proportion	Births	Vaccinations	Proportion	Births	Vaccinations	Proportion
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%	1,2[illegible]8	625	50%	673	—	—

Section III.—Tuberculosis

The tuberculosis death-rate for the year was 1.95 per 1,000 and represents a marked and most disappointing set-back in post-war progress. The actual number of deaths represented by this figure is 147 and examination of table 22 shews that this is an increase of 46 over the previous year an increment of 59 per cent. which is an altogether exceptional experience. It will be seen that one has to go back to the year 1932 for analogous figures. I believe that this increase in deaths must be attributed to the frightful weather conditions which prevailed during the last five months of 1946 (incessant rain, cold winds and absence of sunshine) which culminated in the unprecedented cold of February and March of 1947, coupled with the almost complete absence of proper fuel and the scarcity of fats in the national dietary during this period. These matters are discussed in the opening pages of this report and need not be laboured further now. It will have to suffice to say that 1947 was a disastrous year so far as mortality from tuberculosis in Cork City is concerned. There has been a very marked increase in the figure and as I have frequently, in these reports, warned against undue optimism when there has been a pronounced reduction in mortality in any given year (a caution almost invariably justified by the event) so, I take it, we may regard this exceptional event as one which is unlikely to be repeated for some time to come. It is in the nature of things, therefore, to expect that next year we will be in a position to record a decline in the figures. Tuberculosis was not the only disease concerned; there was an increase in the general mortality rate and several other individual diseases shewed a very markedly increased number of deaths—some of them were more marked than the tuberculosis death-rates. All these matters are (as mentioned above) discussed earlier in this report and various possible causative factors are gone into. Here we are concerned solely with tuberculosis and it will be necessary to examine the situation a little more deeply to see if any further light can be thrown on the subject. Such examination will include the distribution of the deaths among the sexes and in the various age-groups, which will be alluded to in its proper place. For the moment we are concerned with the statistical records of the disease as set out in the tables which immediately follow.

It will be noted that these tables are mainly three in number. 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 definite value.

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

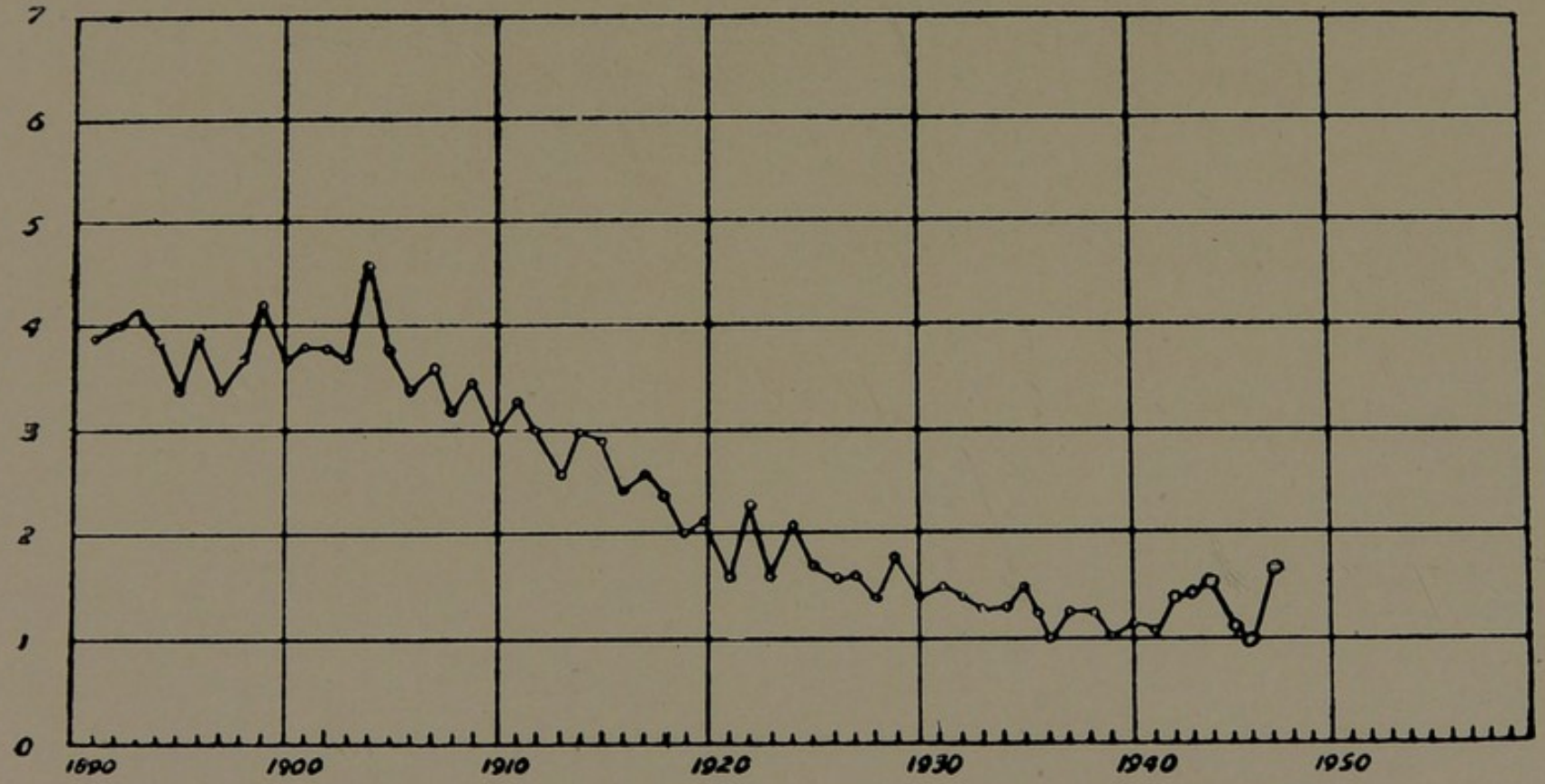


Table 21.—Deaths and Death Rates *Pulmonary* Tuberculosis.

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			

It will be noted that the rate for 1946 was the lowest ever recorded. This makes the increase for 1947 all the more disappointing. In table 22 the combined figures for pulmonary and non-pulmonary deaths are set out. The combined rate represents the figure generally utilised for comparitive 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

The tuberculosis death-rate of 1.9 per 1,000 compares with corresponding rates for other urban areas (according to *Annual Summary* of the Registrar-General) as follows : Dublin, 1.6 ; Limerick, 1.6 ; Waterford, 1.5 (vide also table 29).

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. It will be noted also that the number of deaths recorded is actually one less than the previous year so that the whole of the increased mortality is in respect of the respiratory form of the disease.

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	1927	35	0.44
1907	84	1.10	1928	29	0.36
1908	93	1.08	1929	17	0.21
1909	78	1.02	1930	25	0.31
1910	75	0.97	1931	46	0.57
1911	73	0.95	1932	35	0.44
1912	71	0.92	1933	20	0.24
1913	79	1.02	1934	21	0.25
1914	79	1.02	1935	29	0.36
1915	72	0.93	1936	20	0.25
1916	69	0.89	1937	24	0.29
1917	78	1.00	1938	13	0.16
1918	75	0.96	1939	14	0.17
1918	58	0.74	1940	29	0.35
1920	46	0.59	1941	20	0.26
1921	34	0.43	1942	18	0.24
1922	39	0.50	1943	23	0.30
1923	32	0.40	1944	27	0.35
1924	32	0.40	1945	29	0.38
1925	31	0.39	1946	22	0.29
1926	46	0.58	1947	21	0.29

The selective effect of age on mortality from pulmonary tuberculosis has been even more marked than 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-two years yield a total of 2,348 deaths which have been sub-divided into age and sex-groups which exhibit a slight excess of males over females (1,226 as compared with 1,122). 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 45 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.

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
Totals	M	1226	4	13	18	202	264	308	255	118	44
	F	1122	2	9	41	272	313	237	139	81	28
Persons		2348	6	22	59	474	577	545	394	199	72

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 eleven 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

It will be noted that there were substantial increases in all the groups, particularly in the first two. In each of these groups the increase amounts to over 100 per cent. 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
Average	8.3	10.3	9.8	11.3	12.3	9.3	12.7	4.9	6.6	3.8
1947	7	16	7	16	13	16	15	8	10	4

This table is of some interest. Based on the average figures for the previous ten years it would seem that the main increase has fallen on the young female groups. In the 15/25 and 25/35 groups the average figures of 10.3 and 11.3 are raised both to 16 while the corresponding male deaths record a reduction on the average. Similarly in 35/45 group there is a substantial increase over the average in female deaths accompanied by a reduction among males. In the 45/55 group there is an increase recorded for both sexes of somewhat substantial dimensions. In the 55/65 group the increased mortality in males is definitely more marked than that among females. This is the only group in which the average has not been considerably exceeded in female deaths. The figures here, of course, are too small to draw definite conclusions from but they do tend to support the view that the wartime increase in tuberculosis mortality has been largely conditioned by the wrong use of leisure. It would seem that the cinema and dance hall (while they both afford an escape from the drabness and monotony of factory life) are by no means the best from the hygienic point of view. They lend support also to the importance of tackling these groups from the preventive point of view, i.e. by mass radiology, tuberculin testing and intensive case finding. It is a very difficult problem and it would be a mistake to assume that just because these services are set up they are bound to be successful. A great deal of spade work will first have to be done, more particularly by way of educating the public to the importance of such matters.

Table 25.—Proportion of Deaths from Tuberculosis (*all forms*) to Deaths from all causes in 1946.

Age Group	No. of Deaths (all causes)	Deaths from Tuberculosis	Proportion
0/1	162	2	1.2 per cent.
1/5	22	5	22.7 „ „
5/15	17	7	41.1 „ „
15/25	35	26	74.2 „ „
25/35	43	26	60.4 „ „
35/45	74	30	40.5 „ „
45/55	112	23	20.5 „ „
55/65	207	16	17.7 „ „
65 and over	605	12	1.9 „ „
Totals....	1277	147	11.5 „ „

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. This year we note that it has risen to 11.5 per cent. The ratio for the past three years is shewn in the following table :—

Age Group	*Proportion of Tuberculosis Deaths to all Deaths*		
	1945	1946	1947
0/1	1.9 per cent.	1.8 per cent.	1.2 per cent.
1/5	34.7 ,, ,,	20.8 ,, ,,	22.7 ,, ,,
5/15	46.1 ,, ,,	52.9 ,, ,,	41.1 ,, ,,
15/25	54.3 ,, ,,	44.8 ,, ,,	74.2 ,, ,,
25/35	62.5 ,, ,,	36.1 ,, ,,	60.4 ,, ,,
35/45	30.0 ,, ,,	32.8 ,, ,,	40.5 ,, ,,
45/55	14.1 ,, ,,	21.2 ,, ,,	20.5 ,, ,,
55/65	4.9 ,, ,,	6.6 ,, ,,	17.7 ,, ,,
65 and over	2.4 ,, ,,	2.4 ,, ,,	1.9 ,, ,,
Totals	10.4 ,, ,,	9.7 ,, ,,	11.5 ,, ,,

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 have not yet been sub-divided into age- and sex-groups 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 smoothening 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.

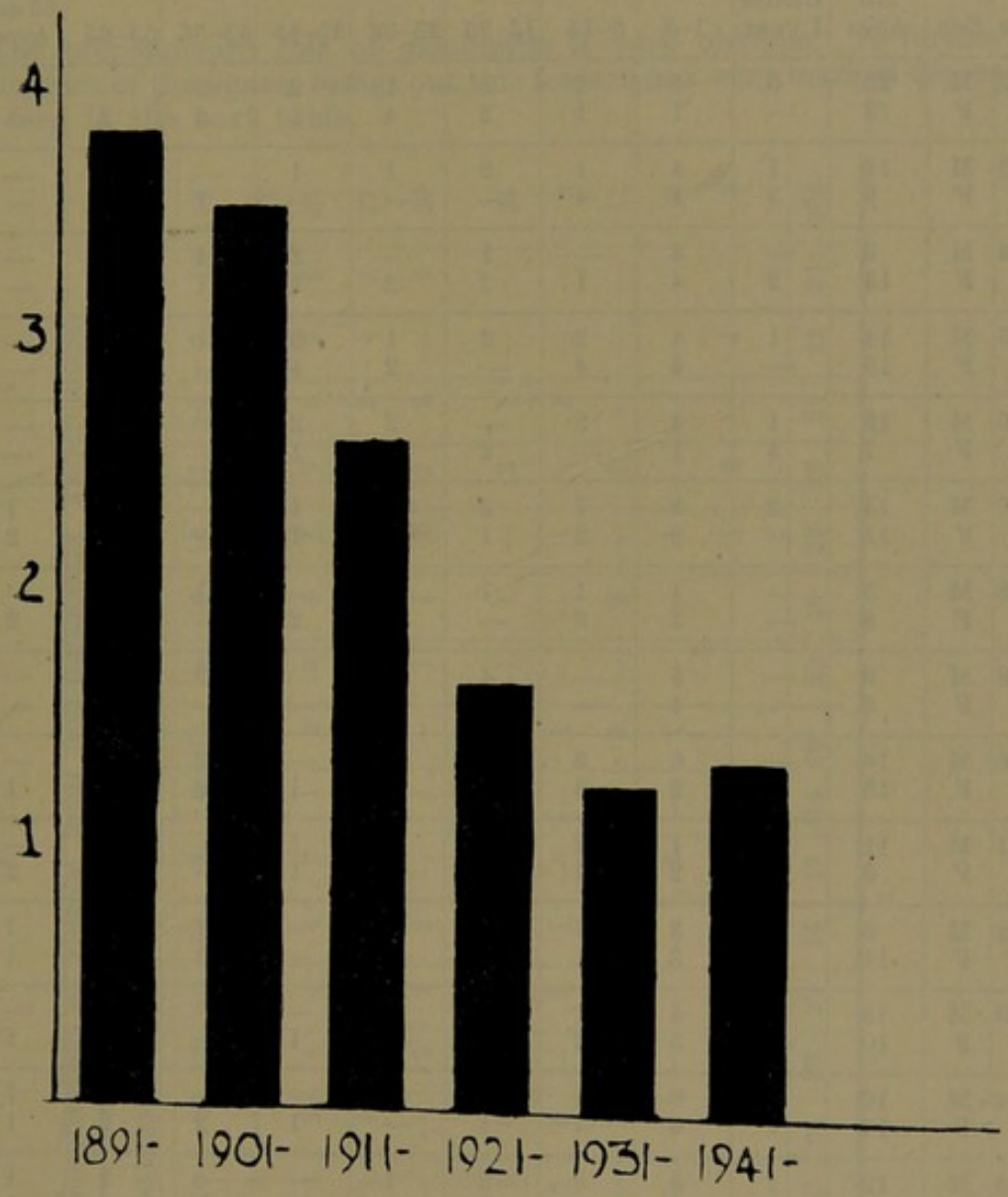


FIG. VI—PULMONARY TUBERCULOSIS. DEATH RATES EXPRESSED AS DECENNIAL AVERAGES

21 deaths from non-pulmonary tuberculosis were recorded during the year. This is one less than the figure for the previous year (22). The distribution of these deaths in regard to age and sex groups is shewn in Table 25.

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
Tot	M	194	22	60	31	25	17	14	10	9	6
	F	172	17	41	29	22	15	14	11	9	14
Persons		366	39	101	60	47	32	28	21	18	20

An examination of the causes of the 21 deaths attributed to non-pulmonary tuberculosis yields the following figures.

Tuberculous meningitis	...	...	12
Bones and joints	...	...	6
Abdominal disease	...	...	2
Miscellaneous	...	...	1

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	Totals
Meningitis...	9	10	10	12	10	12	8	6	15	9	10	16	11	15	7	12	172
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	57
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	20
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	366

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 1947 (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	89	12	40	17	13	3	2	1	—	—
	F	83	11	32	22	10	6	3	1	—	1
Peritonitis ...	M	26	4	10	5	2	1	3	—	1	—
	F	18	2	5	1	1	1	3	1	—	2
Bone and Joint ...	M	27	—	2	5	4	4	4	1	5	2
	F	30	—	—	6	6	4	2	2	4	6
Genito-urinary ...	M	13	—	—	—	1	4	3	3	1	1
	F	4	—	—	—	—	1	1	2	—	—
Abdominal ...	M	9	—	3	1	1	2	—	1	1	—
	F	11	3	3	—	—	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	194	22	60	31	25	17	14	10	9	6
	F	172	17	41	29	22	15	14	11	9	14
PERSONS		366	39	101	60	47	32	28	21	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. In the report for 1944 I indicated what I considered to be the main headings of an effective programme for the control of tuberculosis. It may be well to recapitulate these views. They were based on the discovery, treatment and isolation of open cases and included a plan of *social assistance*. The main headings of such a scheme were summarized as follows :—

1. The isolation of all known cases of pulmonary tuberculosis, continuing isolation as long as the cases remain infective.

2. Adequate medical care, preferably in institutions, for the known cases of tuberculosis which are active but not infective, such cases being most likely to become infective in the immediate future.

3. More vigorous methods to find cases of tuberculosis earlier and to bring them promptly under medical care and under isolation if they are infectious.

4. Special protection, including medical observation and advice, and financial assistance as needed, for groups, who though not at the time suffering from tuberculosis, are most especially endangered. This refers particularly to immediate contacts of open cases.

5. A vigorous educational campaign, directed towards eliminating as far as possible sources of infection.

There is no doubt whatever that *isolation of the known open cases* is greatest single measure of prevention at our disposal and two main factors have militated against its implementation hitherto, lack of sufficient bed accommodation and the sense of economic insecurity induced in the breadwinner by prolonged stay in an institution. It is therefore with feelings of keen satisfaction that one notes the efforts now being made to overcome the first deficiency by the provision of additional beds in existing institutions pending the construction of new permanent sanatoria. All our measures are subsidiary to provision of such accommodation. It has been pointed out that intensive case-finding is useless unless the beds are there to put the cases into when discovered and it must be admitted that there is more than a good deal of truth in this contention

With regard to the second point, the implementation of Section 44 of the Health Act 1947, by the introduction of the Infectious Disease (Maintenance) Regulations 1948, should suffice to meet the needs of the case. This far-reaching measure provides for a generous grant of financial assistance for tuberculous persons. It would be the gravest possible mistake, however, to regard this grant as being unconditional. If sufficient beds are available it should, in my opinion, be made conditional on the acceptance of institutional treatment. I have in the past alluded to the fact that what has most militated against the more extensive isolation of open cases has, in the case of breadwinners, been the natural anxiety as to the welfare of their dependents and, in the case of mothers, anxiety as to the moral and physical welfare of their children. These factors can now be met and although, to some extent, it has been a case of putting the cart before the horse, there is no longer any reason for premature and unreasonable termination of treatment on the part of patients. Already the measure has given us a good deal of additional control over the unsatisfactory type of patient and when sufficient beds have been provided to accommodate all open cases we should indeed have gone a long way towards the effective control of the disease. This grant (taken in conjunction with the granting of extra nourishment, beds and bedding and of extra clothing) indicates the liberal nature of the provisions now made for the tuberculous patient and it is to be expected that he will respond to them by conformity to the reasonable measures imposed upon him.

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*	1.90*	1.90*
1947	1.20*	1.95	1.60*	1.60*	1.50*

*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 169. 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		

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

The number of home visits made by the Tuberculosis Nurse was 450.

SPUTUM EXAMINATIONS.

Examination of specimens of sputum is carried out in the laboratory attached to the Tuberculosis Clinic. 435 such specimens were examined during the past year, of which 121 were found to contain tubercle bacilli

while 314 were negative. Of the 435 specimens examined 47 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
Totals ...	6480	1502	5008

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. 32 specimens were dealt with during the past year of which 2 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. 41 per cent. of such were found to be in Stage III. and 40 per cent. in Stage II.; in other words, no less than 81 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 :—

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

The fact that 7% 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 shewn 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 toxaemia 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 undertaken. 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 those cases which prove unsuitable for pneumothorax.

Fourteen new cases received Artificial Pneumothorax and 4 new cases received Pneumoperitoneum during the year. These cases had their inductions carried out at Heatherside Sanatorium by the Resident Medical Officer.

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

The number of cases treated during the year was 23. 280 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. 74 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 931.

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 339, of whom 191 were adults and 148 children. 94 of the adults and 54 of the children were found to be suffering from tuberculosis in one form or another and appropriate treatment was afforded.

The number of cases admitted to sanatorium during the year was as follows :—

		Males	Females	Total
Insured ...	...	19	19	38
Uninsured	...	3	17	20
Children ...	...	—	—	—
Total ...	...	22	36	58

The number of patients discharged from sanatorium during the year was as follows :

		Males	Females	Total
Insured ...	...	25	20	45
Uninsured	...	6	16	22
Children ...	...	—	—	—
Total ...	...	31	36	67

Advanced cases who are not likely to derive benefit from sanatorium treatment who cannot receive adequate treatment in their own homes are admitted to St. Patrick's Hospital and St. Joseph's Hospital. This following cases were admitted during the year :—

		Males	Females	Total
Insured ...	...	24	11	35
Uninsured	...	11	37	48
Total ...	...	35	48	83

The following cases died or were discharged from these Institutions.

		Males	Females	Total
Insured ...	...	31	16	47
Uninsured	...	9	36	45
Total ...	...	40	52	92

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.

Table 33.—Particulars of patients who received sanatorium treatment during the year.

	Under treatment on 1st. Jan. 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st. Dec. 1947	No. of Cases treated during the year
Insured Males ...	12	18	23	7	30
,, Females ...	9	19	20	8	28
Uninsured Males ...	4	3	6	1	7
,, Females	6	17	16	7	23
Ex-Service men ...	1	1	2	—	2
Male Children ...	—	—	—	—	—
Female Children ...	—	—	—	—	—
Totals ...	32	58	67	23	90

Table 34.—Particulars of cases treated at Cork District Hospital.

	Under treatment on 1st. Jan. 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st. Dec., 1947	No. of Cases treated during the year
Male Adults ...	8	34	38	4	42
Female Adults ...	6	19	18	7	25
Male Children ...	—	5	5	—	5
Female Children ...	1	8	8	1	9
Totals ...	15	66	69	12	81

Table 35.—Particulars of patients treated in St. Patrick's Hospital during 1947.

	Under treatment on 1st. Jan. 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st. Dec. 1947	No. of Cases treated during the year
Insured Males ...	13	13	19	7	26
,, Females ...	2	5	5	2	7
Uninsured Males ...	5	8	6	7	13
,, Females ...	9	21	21	9	30
Ex-Servicemen ...	1	3	3	1	4
Male Children ...	—	—	—	—	—
Female children	—	1	—	1	1
Totals ...	30	51	54	27	81

Table 36.—Particulars of cases treated in the North Infirmary during 1947.

	Under treatment on 1st. Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st. Dec., 1947	No. of Cases treated during the year
Male children ...	—	1	1	—	1
,, adults ...	—	1	—	1	1
Female children ...	—	2	2	—	2
,, adults ...	—	1	1	—	1
Totals ...	—	5	4	1	5

Table 37.—Particulars of cases treated in the South Infirmary during 1947.

	Under treatment on 1st Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec., 1947	No. of Cases treated during the year
Male children ...	1	15	12	4	16
,, adults ...	1	3	3	1	4
Female children ...	4	5	5	4	9
,, adults ...	1	1	2	—	2
Totals ...	7	24	22	9	31

Table 38.—Particulars of cases treated in St. Mary's Open-Air Hospital, Cappagh, Co. Dublin.

	Under treatment on 1st Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec., 1947	No. of Cases treated during the year
Female children ...	1	2	—	3	3
Male children ...	—	—	—	—	—
Totals ...	1	2	—	3	3

Table 39.—Particulars of cases treated at St. Joseph's Hospital, Mount Desert, during 1947.

	Under treatment on 1st Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec., 1947	No. of Cases treated during the year
Insured Males ...	8	7	8	7	15
,, Females ...	5	6	10	1	11
Uninsured Males ...	5	3	3	5	8
,, Females ...	4	15	15	4	19
Male children ...	1	—	1	—	1
Female children ...	1	1	1	1	2
Totals ...	24	32	38	18	56

Table 40.—Particulars of cases treated at Coole Open-Air Hospital Co. Westmeath.

	Under treatment on 1st Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec., 1947	No. of Cases treated during the year
Male children ...	6	2	1	7	8
Total ...	6	2	1	7	8

Table 41.—Particulars of cases treated at Mercy Hospital.

	Under treatment on 1st Jan., 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec., 1947	No. of Cases treated during the year
Male Adults ...	—	1	1	—	1
,, Children ...	—	1	1	—	1
Female Adults ...	—	—	—	—	—
,, Children ...	—	—	—	—	—
Totals	—	2	2	—	2

Table 42.—Particulars of Patients treated in Victoria Hospital during 1947.

	Under treatment on 1st Jan. 1947	New cases admitted during the year	Cases discharged during the year	Under treatment on 31st Dec. 1947	No. of Cases treated during the year
Male Children	2	2	3	1	4
Female Children	2	4	3	3	6
TOTAL	4	6	6	4	10

Return of number of patients treated under the Tuberculosis Scheme, during the year ended 31st December, 1947.

	Pulmonary Tuberculosis			Non-Pulmonary Tuberculosis			Total
	Children under 15 years	Other Persons		Childern under 15 years	Other Persons		
		Males	Females		Males	Females	
1.—*Insured Patients:*							
(i) No. remaining under treatment							
(a) On 1st Jan., 1947 ...	—	74	40	—	5	2	121
(b) On 31 Dec., 1947 ...	—	69	38	—	6	5	118
(ii) No. of new patients treated during year ...	—	32	16	—	3	1	52
(iii) No. of cases under observation at close of year 1947 ...	—	3	1	—	—	—	4
2.—*Other Patients:*							
(i) No remaining under treatment							
(a) On 1st Jan., 1947 ...	7	36	58	27	1	7	136
(b) on 31st Dec., 1947 ...	5	28	51	42	3	9	138
(ii) No. of new patients treated during year ...	3	29	44	47	1	2	126
(iii) No of cases under observation at close of year 1947 ...	—	1	1	—	—	—	2

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 :—

(a) 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 : 3½ pints of milk, ½-lb. of butter, 7 eggs per week.

(b) A separate bed and, where necessary, bedding for infective patients receiving domicilary or dispensary treatment. Expenditure by the L.A. should not exceed £4 in any one case (this amount was subsequently raised to £15).

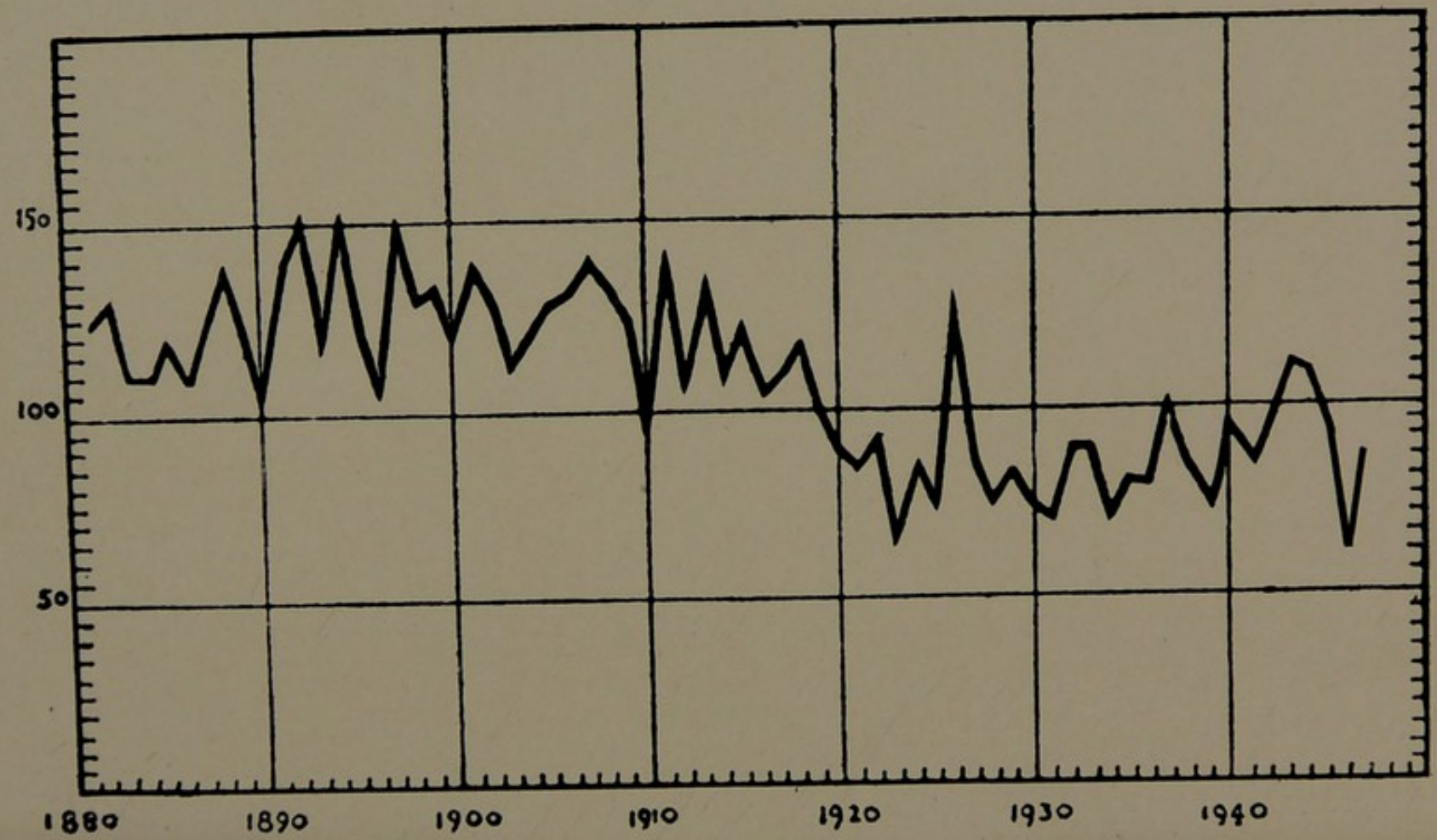
(c) In the case of necessitous patients undergoing treatment in institutions, suitable clothing if such be necessary to derive the full benefit of treatment.

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

Number of Recipients	Amount Spent
Extra Nourishment—111	£597 11 1
Clothing—127	£421 12 7
Beds and Bedding—17	£148 11 5

Expenditure under this heading amounted to £1,167 15s. 1d. as compared with £1,209 6s. 0d. in the previous year.

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 160. This is equivalent to an infant mortality rate of 87 per 1,000. The figures for last year were 109 and 62 per 1,000 respectively. The corresponding figure for the whole country (Registrar-General's Annual *Summary*—subject to correction) was 67. The principal contributory factors were as follows :—

Premature birth and congenital debility	67
Diarrhoea and Enteritis	31
Bronco-pneumonia	25
Convulsions	8
Marasmus	6
Whooping Cough	5
Intra-cranial haemorrage	2
Cerebro-Spinal Fever	2
Congenital Syphilis	1

The principal increases have been recorded under the headings of prematurity (and cognate causes), gastro-enteritis and broncho-pneumonia. The increase under the latter heading is, relatively, the greatest (over 100 per cent). The relationship of this particular increase to the adverse climatic conditions experienced during late 1946 and early 1947 has been discussed in an earlier section of this report. The factor of artificial feeding has, once again, been very prominent as may be noted from examination of tables 49 and 50. This feature is particularly emphasized in table 50 which covers a period of five years. Neo-natal deaths are excluded from this table since they have little if any relationship to feeding. The total of deaths analysed now amounts to 462 of which there is a history in no less than 429 instances (93 per cent.) of the substitution of artificial feeding for breast feeding. It is to be noted that figures do not relate to gastro-enteritis alone but cover the whole range of deaths at this age-group from which it would appear that there is some factor in mother's milk which has a disease-resistant effect and which is lacking in all forms of artificial feeding. The whole problem of infant mortality is the problem of promoting breast-feeding.

Table 43.—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		1915	132	85.2	110
1882	127	94.9	139	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	67	—
1914	119	81.0	105				

In Table 44 is set out a comparative statement of infant mortality in Cork, Dublin, Belfast, Limerick and Waterford from 1920.

Table 44.—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	88	60	98	79

* 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 45.—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 ,, ,,	—
1947	68	42.5 ,, ,,	—

Table 46.—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															
		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	Whooping Cough	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	3	1.5
1932	1,820	28	15.4	13	7.1	6	3.3	39	21.4	13	7.1	19	10.4	8	4.4	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	6.9	2	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	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	5	2.8
1938	1,761	13	7.4	19	10.8	7	3.9	31	17.6	21	11.9	9	5.1	3	1.7	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	2	1.2
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	1	0.6
1942	1,842	14	7.6	18	9.7	17	9.2	49	26.6	16	8.7	10	5.4	5	3.2	1	0.5
1943	1,781	12	6.2	46	25.8	11	6.1	52	29.2	25	14.0	8	4.5	4	2.2	2	1.1
1944	1,721	5	2.9	29	16.8	9	5.2	63	36.0	28	16.2	7	4.0	3	1.7	13	7.5
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	5	2.7

* 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 47 which have been readjusted by transfers as explained in text.

Table 47.—Deaths of infants under 1 year, shewn as neo-natal and other deaths.

Cause of Death	Neo-Natal	Others	Total
Prematurity ...	33	4	37
Congenital Debility ...	11	5	16
Congenital Malformations†	5	3	8
Diarrhoea and Enteritis ...	1	29	30
Broncho-pneumonia* ...	3	24	27
Marasmus	—	4	4
Congenital Syphilis ...	1	1	2
Tuberculosis ...	—	—	—
Convulsions	3	6	9
Icterus	1	—	1
Intra-cranial Haemorrhage	6	—	6
Miscellaneous ...	4	16	20
Totals	68	92	160

† 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).

The findings of the enquiry (referred to above) into the factors concerned with infant mortality are enumerated in the two succeeding tables. The first concerns neo-natal deaths (i.e., deaths occurring in the first month of life) and the second all other infant deaths. In the case of neo-natal deaths enquiry has not been made into the manner of feeding as this can scarcely be regarded as influencing the outcome since the great bulk of such deaths come under prematurity and its cognate headings. In the present instance 49 out of the total 68 deaths are accounted for under these designations. The general design of the undertaking was outlined in the report for 1943 and, accordingly, need not be detailed further.

The investigation was pursued along lines similar to those of previous years and was based on personal enquiries made by experienced health visitors. It is to be noted that the deaths have been divided into two categories—those occurring in the first month of extra-uterine life (neo-natal deaths) and those occurring between this period and 1 year. There were 68 neo-natal deaths out of a total of 160 (42 per cent.), of these 68 deaths 49 came under the headings of prematurity, congenital debility and malformations. Deaths from these causes shew little or no variation over a number of years and certainly no settled tendency towards reduction. Nutrition of the mother and social environment are believed to play an active part in the causation of such deaths. The chances of foetal survival are greatly influenced by these factors. The general findings of the enquiry as they relate to the current year as set out in the two next succeeding tables. The first of these (Table 48) relates to neo-natal deaths.

Table 48.—Neo-natal deaths. Analysis of factors concerned.

Cause of Death	Number of Deaths	Efficiency of Mother			Previous Health of Mother		Economic Circum-stances			Pre-natal Super-vision	
		Good	Avg.	Bad	Good	Poor*	Good	Avg.	Bad	+	—
Prematurity	33	9	20	4	15	18	5	13	15	18	15
Congen. Debility	11	5	4	2	9	2	3	6	2	7	4
Congen. Malformations	5	2	3	—	4	1	1	3	1	4	1
Gastro-enteritis	1	—	—	1	—	1	—	—	1	—	1
Icterus	1	—	1	—	—	1	—	—	1	1	—
Convulsions	3	1	2	—	2	1	—	3	—	1	2
Intra-Cranial Haemorrhage	6	1	5	—	4	2	1	2	3	3	3
Broncho-pneumonia	3	—	3	—	2	1	1	1	1	2	1
Congen. Syphilis	1	—	—	1	—	1	—	—	1	—	1
Miscellaneous	4	1	2	1	3	1	1	2	1	4	—
TOTALS	68	19	40	9	39	29	12	30	26	40	28

* Included under this heading are cases in which there has been a history of falls. This occurred in six instances. Health otherwise may have been good.

In the next table deaths at the later period are analysed. We note here once more the preponderant rôle of gastro-enteritis and broncho-pneumonia and the evil influence of artificial feeding.

Table 49.—Infant deaths (at ages over 1 month and under 12 months) Main factors :—

Cause of Death	No. of Deaths	Feeding		Efficiency of Mother			Economic Circum-stances			Legit-imacy	
		Breast	Artificial	Good	Avg.	Bad	Good	Avg.	Bad	Legit.	Illegit.
Gastro-enteritis	29	1	28	6	12	11	—	18	11	25	4
Broncho-penumonia	24	4	20	5	16	3	—	17	7	22	2
Prematurity, Congen. Malformations, etc.	12	3	9	4	5	3	2	8	2	12	—
Convulsions	6	—	6	2	3	1	—	5	1	6	—
Marvasmus	4	—	4	1	2	1	1	2	1	4	—
Congen. Syphilis	1	—	1	—	—	1	—	—	1	1	—
Miscellaneous	16	3	13	2	12	2	—	11	5	4	2
TOTALS	92	11	81	20	50	22	3	61	28	84	8

As the findings in any one particular year are too restricted to justify general conclusions the total figures for the past five years have been collected and appear in the next table in which the cumulative effect of one aspect of the problem (method of feeding) becomes strikingly apparent.

Table 50.—Relationship between the *mode of feeding* and infant deaths occurring between ages 1 month and 12 months (computed for the years 1943 to 1947 inclusive).

Cause of Death	No of Deaths	Feeding	
		Breast	Artificial
Gastro enteritis	189	3	186
Broncho-pneumonia	88	10	78
Whooping Cough	19	1	18
Marasmus	24	2	22
Congen-Syphilis	13	—	13
Tuberculosis	9	—	9
Prematurity, etc.*	47	6	41
Meningitis	6	3	3
Infect. Diseases	5	—	5
Convulsions	17	—	17
Septic Infection	3	1	2
Miscellaneous	42	7	35
Total	462	33	429

* 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 88 babies who died from this condition in no less than 78 instances the victims were bottle-fed. The problem therefore 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 51.—**Éire.** Principal causes of Infant Deaths (ratio per 1,000 Births). The corresponding figures for Cork City are shewn in Table 46.

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

The figures for 1946/1947 not yet available.

(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 1,824. The number of *live* births *registered* during the same period, according to the Annual Summary of the Registrar-General was 1,800.

(C) MATERNAL MORTALITY.

There was 1 death under this heading during the year.

Table 52.—The number of deaths of women directly attributable to or associated with pregnancy or childbirth during each of the years from 1924, together with the rate per 1,000 births 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

In Table 53 is set out the comparative maternal mortality for Cork, Dublin, Belfast, Limerick and Waterford County Boroughs, and for the whole country.

Table 53.—Maternal Mortality in different areas from 1920.

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	235	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	119	1.8	2	1.1	12	0.9	23	2.2	1	0.9	—	—
1947	112	1.7	1	0.5	12	0.9	13	1.2	7	5.7	—	—

The above figures were obtained from the *Annual Reports* of the Registrar-General with the exception of those for the years 1946 and 1947 (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.	68
Other recognised certificates	19
Total	87
2. Number of Midwives according to type of practice :—	
Attached to public institutions	6
Conducting only private maternity or nursing homes	11
Dealing with less than five cases per year ...	9
Monthly nurses	25
Others	36
Total	87
3. Number of visits of inspection of midwives	354
4. Disinfection of appliances	—
5. Reasons for summoning Medical help :—	
Abnormal presentation	15
Obstructed and delayed Labour	11
Post partum haemorrhage	3
Ante partum haemorrhage	5
Rise of Temperature	2
Ruptured perineum	3
Thrombosis	2
Retained (&c.) Placenta	3
Miscellaneous	6
6. Notifications of still births	54
7. Notifications of artificial feeding	147
8. Notifications of having laid-out dead bodies ...	—
9. Suspensions for twenty-four hours on account of contact with cases of infectious disease	—
10. Notifications of liability to be a source of infection ...	—
11. Notifications of deaths	93
12. Puerperal Pyrexia	1

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

ARTIFICIAL FEEDING.

Cracked or inverted nipples	61
Health would not permit	25
Insufficient	35
Refusals (no cause assigned)	26
Illegitimate births	—
	147

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	2801
(b) Old Cases	3794
Attendances of Mothers with Children ...	8797
Cases seen by the Medical Officer :—	
(A) Under one year	
(1) New Cases	1174
(2) Old Cases	2267
(B) One to two years	
(1) New Cases	554
(2) Old Cases	757
(C) Two to five years	
(1) New Cases	349
(2) Old Cases	518
(D) Expectant Mothers	
(1) New Cases	415
(2) Old Cases	375

Analysis of cases dealt with by the Medical Officer :—

Consultations on infant feeding	1089
Diseases of respiratory system	197
,, new born ...	3
,, reproductive system	—
,, urinary system ...	9
,, nervous system ...	3
,, circulatory system ...	2
,, alimentary system ...	578
,, skin	83
,, ears	44
,, eyes	4
Exanthemata	28
Mental defects	2
Congenital defects ...	—
Orthopoedic defects ...	6
Rickets	13
Avitaminosis	15
Number of cases dealth with ...	2077
Number of attendances ...	5619

Ante-natal work—

Number of cases dealt with ...	415
Number of attendances	790

Return of Health Visitors' work—

(A) Under one year		
(1) Primary visits	...	1669
(2) Secondary visits	...	3988
(B) One to two years		
(1) Primary visits	...	1299
(2) Secondary visits	...	1479
(C) Two to five years		
(1) Primary visits	...	851
(2) Secondary visits	...	2111
(D) Expectant Mothers		
(1) Primary visits	...	783
(2) Secondary visits	...	596

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

Avitaminosis ...	...	...		15
Debility	...	...	...	17
Rickets	...	...	...	13
Anaemia	...	...	...	3
Number of cases treated		...	...	48
Number of Exposures		...	...	473

Section—V. Control of Food Supplies

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

(A) SUPERVISION OF MILK.

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

1. Detailed bacteriological examination ...	230	samples
2. Dirt test only	288	,,
Total	518	

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.

Standard	24
New Milk	182
Pasteurised	12
*Pre-pasteurised	12
Total ...	230

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 :—

	Standard	New Milk	Pasteurised	Pre-Past.
Very Clean	12	11	4	—
Clean ...	10	180	8	1
Fairly Clean	2	165	—	10
Dirty ...	—	95	—	1
Very Dirty	—	19	—	—
	24	470	12	12

(*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 54.—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
Totals	8801	931	2511	2181	2172	1005

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 55.—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 ,,

(b) **Microscopic Test.**

230 samples were submitted to routine microscopic examination. Acid-fast organisms were detected in 3 of those samples, streptococci were present in 5 and pus cells in 11, and blood in 2. In 209 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 56.—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	4	83.4 „

(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 57.—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 „
Total	1212	62	5.1 „

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 1212 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 tc 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 :

Standard Milk—		
Grade I	...	22
Grade II	...	1
Grade III	...	1
Grade IV	...	—
		24
Ordinary Milk—		
Grade I	...	138
Grade II	...	32
Grade III	...	8
Grade IV	...	4
		182

BACTERIOLOGICAL EXAMINATIONS

In addition to the above samples, 59 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	75,000 per c.c.	31	30,000 per c.c.
2	6,000 ,,	32	6,000 ,,
3	9,000 ,,	33	116,000 ,,
4	3,000 ,,	34	27,000 ,,
5	20,000 ,,	35	66,000 ,,
6	4,000 ,,	36	8,000 ,,
7	9,000 ,,	37	94,000 ,,
8	20,000 ,,	38	316,000 ,,
9	25,000 ,,	39	240,000 ,,
10	6,000 ,,	40	159,000 ,,
11	65,000 ,,	41	52,000 ,,
12	71,000 ,,	42	16,000 ,,
13	7,000 ,,	43	40,000 ,,
14	6,000 ,,	44	89,000 ,,
15	4,500 ,,	45	14,000 ,,
16	8,500 ,,	46	13,000 ,,
17	19,500 ,,	47	88,000 ,,
18	4,000 ,,	48	5,000 ,,
19	52,000 ,,	49	33,000 ,,
20	222,500 ,,	50	12,000 ,,
21	110,000 ,,	51	59,000 ,,
22	140,000 ,,	52	960,000 * ,,
23	59,000 ,,	53	12,000 ,,
24	29,000 ,,	54	578,000 * ,,
25	82,000 ,,	55	1,020,000* ,,
26	4,000 ,,	56	87,000 ,,
27	3,000 ,,	57	57,000 ,,
28	36,000 ,,	58	144,000 ,,
29	5,000 ,,	59	2,000 ,,
30	48,000 ,,		

* Three 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	5,500	1	92,000
2	7,500	2	281,000
3	72,000	3	307,000
4	10,000	4	71,000
5	14,000	5	484,000
6	34,000	6	384,000
7	53,000	7	63,000
8	45,000	8	750,000
9	14,500	9	250,000
10	24,000	10	386,000
11	4,000	11	34,000
12	12,000	12	154,000

*See footnote on page 66

168 Samples of milk collected in Creameries and examined in our laboratory on behalf of the Local Govt. Department were submitted as follows :—

By Kerry M.O.H. .... 2 Samples
,, Cork Co. M.O.H. .... 168 ,,

On behalf of the Local Govt. Dept. 36 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.

25 persons were prosecuted for non-observance of the above Act.
24 convictions were obtained and fines amounting to £10 12s. 0d. imposed. 1 case was marked proved.

With reference to the successful prosecutions.—

4 summonses were brought under Section 24
16 ,, ,, ,, ,, 59
3 ,, ,, ,, ,, 60
1 ,, ,, ,, ,, 65
1 ,, ,, ,, ,, 59 (3)

Section	Number Prosecuted	Number Convicted	Fines Imposed	Marked Proved	Withdrawn
24	4	3	25/6 with costs	1 with costs	—
59	16	16	£7 18 0 ,,	—	—
59(3)	1	1	15/- ,,	—	—
60	3	3	10/- ,,	—	—
65	1	1	3/6 ,,	—	—
Totals	25	24	£10 12 0 ,,	1 with costs	—

Maximum fine imposed was 20/- and costs.

Minimum ,, ,, ,, 1/- ,,

Section 24 : Relates to the prohibition of the sale of milk by unregistered 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."

,, 65 : Relates to any person who wilfully obstructs or impedes an inspector or a medical officer, or any other officer of a sanitary authority, or fails to give such inspector or officer all reasonable assistance in his power, or, fails to furnish such inspector or officer with any information he may reasonably require.

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

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

Thirty-three convictions were obtained and fines amounting to £5 19s. 0d. and costs imposed.

Four 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	8(2)	2	under Article	25(1)
1	,,	20	1	,,	25(4)
2	,,	21	9	,,	27
14	,,	22(3)	2	,,	28
2	,,	22(5)	1	,,	40
1	,,	24(b)	1	,,	42(1)

PROSECUTIONS UNDER MILK AND DAIRIES REGULATIONS, 1936 :

Article	Number Prosecuted	Number Convicted	Fines Imposed	Marked Proved	Withdrawn
8(2)	1	1	5/- with costs	—	—
20	1	1	1/6 ,,	—	—
21	2	1	3/6 ,,	1 with costs	—
22(3)	14	12	46/6 ,,	2 ,,	—
22(5)	2	2	4/6 ,,	—	—
24(b)	1	—	—	1 with costs	—
25(1)	2	2	3/- ,,	—	—
25(4)	1	1	2/6 ,,	—	—
27	9	9	35/6 ,,	—	—
28	2	2	10/- ,,	—	—
40	1	1	2/- ,,	—	—
42(1)	1	1	5/- ,,	—	—
Totals	37	33	£5 19 0 ,,	4 with costs	—

Maximum fine imposed was 5/- with costs.
Minimum ,, ,, 6d. ,,

Article 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.

Article 21 : Provides that a dairyman shall cause every part of the interior of every milk store or milk shop occupied by him and the fixtures, furniture, fittings and appliances therein to be thoroughly cleansed as often as may be necessary to secure the reasonable maintenance of cleanliness and he shall cause the floor to be thoroughly washed at least once in every day.

„ 22(3) : Relates to the cleansing of milk vessels and appliances.

„ 22(5) : Relates to the storing of vessels and appliances.

„ 24(B) : Provides that a dairyman shall not allow to be kept in or conveyed through a milk store or milk shop any substance which is dirty or likely to collect dust.

„ 25(1) : Relates to the depositing or keeping milk in any place where it is likely to become infected or contaminated.

„ 25(4) : Relates to the depositing or keeping of milk in any part of a building which is used as a kitchen or scullery or in which there is a direct inlet to a drain or sewer.

„ 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.

„ 40 : Relates to vehicles used for the conveyance of milk.

„ 42(1) : Provides that every sale receptacle be provided with a tap.

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	11⅙	per gallon
1940	0	11⅙	,, ,,
1941	1	1⅓	,, ,,
1942	1	1⅓	,, ,,
1943	1	3	,, ,,
1944	1	5⅙	,, ,,
1945	1	6.83	,, ,,
1946	1	6.85	,, ,,
1947	1	10½	,, ,,

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	,, ,, ,,

Table 58.—The consumption of milk increased during the period under review. The average daily consumption in gallons from 1939 to 1947 was as follows :—

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

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 :— 5,128 bovine carcases were examined. Of this number 1098 (21.4%) were found to be affected with varying degrees of tuberculosis. It was found necessary that 16 such carcases (0.31%) should be totally destroyed as unfit for consumption, while 1082 (21.1%) were partially condemned. In addition to the 5,128 bovine carcases above referred to 2,470 sheep carcases were also examined and of this number 7 carcase (0.28%) were totally condemned and 2 carcases (0.08%) were partially condemned for diseases other than tuberculosis. 407 veal carcases were examined and of this number 2 carcases were totally condemned and 25 carcases partially condemned as being affected with tuberculosis. 1,019 pork carcases were also examined and of this number 1 carcase (0.09%) was totally condemned and 57 (5.7%) partially condemned as being affected with tuberculosis. For diseases other than tuberculosis 2 bovine carcases were totally condemned and 1 partially condemned.

Table 59.—The amount (by weight) of meat examined and condemned at the Depot was as follows :—

Variety		Tuberculosis		Other Diseases	
	Quantity Examined	Quantity Condemned	Proportion	Quantity Condemned	Proportion
	lbs.	lbs.		lbs.	
Beef ...	2,564,000	9,565	0.37%	830	0.03%
Mutton ...	123,500	—	—	370	0.29%
Veal ...	81,400	400	0.49%	260	0.31%
Pork ...	203,800	1,202	0.58%	—	—

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

Part	Tuberculosis	Other Diseases	Total
Lungs	1,652	18	1,670
Heart	818	9	827
Livers	280	481	761
Kidneys	38	6	44
Head and Tongues ...	360	4	364
Total	3,148	518	3,666

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

	Seized	Surrendered
Beef	764 lbs.	68,280 lbs.
Pork	—	51,637 ,,
Bacon	—	— ,,
Veal	—	1,813 ,,
Fish	—	680 ,,
Fruit	—	905 ,,
Poultry	—	3,058 ,,
Rabbits	—	36,960 ,,

Slaughterhouses and Bacon Factories.

Table 60.—**Tuberculosis.** Particulars of animals killed in local slaughterhouses and the incidence of tuberculosis therein :—

Species	Number	Affected	Totally Condemned	Partially Condemned
Cattle	3,219	992 (30.8%)	7 (0.21%)	985 (30.6%)
Sheep	9,395	—	—	—
Calves	3,496	150 (4.5%)	22 (0.65%)	128 (3.6%)

23,554 lbs. of Beef (representing 1.4%) 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 1,889 of which 595 (31.5%) were found to be affected with tuberculosis. 11 of these (0.58%) were totally condemned and 584 (30.9%) partially condemned.

23,241 lbs. (3.07%) of pork were condemned on account of tuberculosis.

Table 61.—**Diseases other than Tuberculosis.**— Particulars of incidence found in slaughterhouse killings :—

Species	Number	Affected	Totally Condemned	Partially Condemned
Cattle	3,219	4 (0.12%)	4 (0.12%)	—
Sheep	9,395	4 (0.04%)	4 (0.04%)	—
Calves	3,496	28 (0.83%)	28 (0.83%)	—

1,920 lbs. of beef (representing 0.12%) of the quantity examined) were condemned on account of diseases other than tuberculosis.

Bacon Factories :—Less than 1.00% of pork was condemned on account of diseases other than tuberculosis.

Table 62.—Inspections carried out in *slaughterhouses* by our Veterinary Staff were as follows :—

Species	Carcases Examined	Condemned		
		Wholly	Partially	Meat & Offals
Cattle	3,219	11	985	37,300 lbs.
Sheep	9,395	4	—	220 ,,
Calves	3,496	49	128	1,816 ,,

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)	15
Registered (being in use before the 1878 Act)	3
Registered (under the Fresh Meat Act)	5

Bacon Factories—

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	2,618
Sausage Factories	782
Triperies	803
Meat Markets	1,030
Butcher Shops	5,677
Pork Shops	866

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

Provision Shops	1,688
Fish Shops	508
Fruit Shops	202
Hawkers' Stands	1,826

Prosecutions :

For the sale or exposure for sale of tuberculous meat two persons were prosecuted and fines amounting to £2 0s. 0d. and costs imposed.

For the unseemly conveyance of meat seven persons were prosecuted under the Bye-laws and fines amounting to £2 18s. 6d. and costs imposed.

The number of Notices served to abate nuisances and remedy defects in Slaughterhouses and Triperies, 42.

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 in the city who still do not bring their meat for inspection. The following are now availing of the service :—

Buckley, Daniel J., 19, George's Quay.
Barrett, John V., 59/60, Grand Parade Market.
Barrett, Michael, 64/65, Grand Parade Market.
Barry, Joseph, 38, Dublin Street.
Carroll, Michael J., 85, Oliver Plunkett Street.
Coughlan, John, 3, Thomas Davis Street.
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.
Milliard, 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 and 23, Shandon Street.
Nolan, Thomas V. 43, South Main Street.
O'Callaghan, Daniel, 16, McCurtain Street.
O'Flynn, Benjamin, 70, Grand Parade Market.
O'Neill, John J., 25, Grand Parade Market.
O'Leary, Daniel, 17, Gerald Griffin Street.
O'Flynn & Sons, 61, Oliver Plunkett Street.
O'Hare, Edmund, Coburg Street.
O'Reilly, John J., Dillon's Cross.
O'Hare, James, 44, Princes 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 63.—Showing the number of samples of Milk submitted for Analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adulterated
March 31st, 1947 ...	111	109	2
June 30th, 1947 ...	148	141	7
Sept. 30th, 1947 ...	117	111	6
Dec. 31st, 1947 ...	109	106	3
Totals ...	485	467	18

BUTTER.

Table 64.—Showing number of Samples of Butter submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adulterated
March 31st, 1947 ...	4	4	—
June 30th, 194 7 ...	2	2	—
Sept. 30th, 1947 ...	1	1	—
Dec. 31st 194 7 ...	3	3	—
Totals ...	10	10	—

SPIRITS.

Table 65.—Showing the number of samples of Spirits submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adulterated
March 31st, 1947 ...	5	4	1
June 30th, 1947 ...	4	4	—
Sept. 30th. 1947 ...	4	4	—
Dec. 31st, 1947 ...	12	12	—
Totals ...	25	24	1

Table 66.—Showing the number of miscellaneous samples submitted for analysis during the year and the results thereof.

Quarter ended	No. of Samples	Genuine	Adulterated
March 31st, 1947	100	99	1
June 30th, 1947 ...	140	138	2
Sept. 30th, 1947 ...	92	92	—
Dec., 31st 1947 ...	97	97	—
Totals ...	429	426	3

Table 67 —Showing details in regard to miscellaneous samples examined during the year.

Articles	No. of Samples	Articles	No. of Samples
Carrigeen Moss ...	1	Puddena	1
Margarine ...	34	Beetroot ...	1
Confectionery ...	20	Bisto	7
Custard Powder ...	34	Snuff	1
Pearl Barley ...	12	Currants ...	1
Sausages	18	Raisins	1
Drugs	12	Sultanas	2
Cheese	22	Browning	1
Cocoa	27	Anchovies ...	1
Beer	28	Pepper	3
Flour	15	Condensed Cream ...	1
Cornflour ...	33	Bovril	1
Coffee	10	Sausage-Roll ...	3
Vinegar	6	Cider	3
Oatmeal	13	Milk pudding mixture	2
Cream	3	Gravy Powder ...	2
Pudding	8	Fish Paste ...	3
Barley Flakes ...	1	Meat Paste ...	1
Mineral Waters ...	21	Mustard	4
Jam	4	Sweets	7
Jelly	1	Cereal	1
Tapioca	6	Ice Cream ...	2
Corntoasties ...	1	Tinned Meat ...	11
Blancmange ...	1	Fruit (tinned) ...	4
Bread	3	Salt	4
Semolina	5	Sardines	1
Honey	1	Salad-dressing ...	2
Sauce	6	Chocolate	4
Glucose	1	Pickles	3
Tinned Salmon ...	1	Peas	2
Sugar	1		
		TOTAL ...	429

Table 68. Return of Offences detected by the Food and Drugs Inspectors during the year.

Particulars of Offence	Results of Proceedings
Milk deficient in fat 3%	Fines — Costs —
,, ,, ,, 3%	,, — ,, —
,, ,, ,, 6%	,, — ,, —
,, ,, ,, 6%	,, — ,, —
,, ,, ,, 6%	,, — ,, —
,, ,, ,, 8%	,, 5/- ,, 15/10
,, ,, ,, 10%	,, 10/- ,, 15/9
,, ,, ,, 10%	,, 5/- ,, 15/9
,, ,, ,, 11%	,, 5/- ,, 15/10
,, ,, ,, 13%	,, 10/- ,, 15/9
,, ,, ,, 13%	,, 2/6 ,, 15/9
,, ,, ,, 16%	,, 5/- ,, 15/6
,, ,, ,, 16%	,, 1/- ,, 15/9
,, ,, ,, 18%	,, 5/- ,, 15/9
,, ,, ,, 20%	,, 7/6 ,, 15/9
In solids not fat 7%	,, 30/- ,, 15/10
,, ,, 12%	"Proved" ,, 15/10
,, ,, 15%	P.O. Act Applied ,, 15/10
Pearl Barley infested with cereal mites	10/- ,, 16/8
do.	10/- ,, 16/6
Barley Flakes infested with cereal mites	7/6 ,, 17/-
Whiskey had 6% added water	30/- ,, 22/-

Section VI.—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 1947, 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 Medical Officer of Health 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 69.—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		
257	249	1	1	6	—	2.24	57

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. A count of 402 on February 7th is excluded as it is obviously due to external contamination.

Table 70.—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

Table 71.—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

Table 72.—Comparative results of examinations of tap water made during each of the years from 1928 to 1947.

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%)	—

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. The positive B.Coli findings occurred in one test in May, six tests in August and one test in September. The types isolated were :—Faecal type nil, Type II four, Intermediate I three

Section VII.—Sanitary Department.

Table 73—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	Baker-ies	Work Shops	Slaughter Houses	Factories	Out-workers	Justices Orders	Notices to abate nuisance
No 1 ...	7805	299	926	23	—	77	—	118	—	—	—	17	460
No. 2 ...	5403	1450	8402	25	15	—	—	—	7	—	—	40	235
No. 4 ...	7143	716	1827	31	5	145	13	207	63	—	—	47	339
No. 5 ...	4970	3353	2159	3	62	—	7	2	—	—	—	1	305
No. 6 ...	2695	2318	3234	45	80	—	4	13	—	—	—	48	651
No. 7 ...	7960	2016	4954	29	—	—	—	6	11	—	—	48	505
Female Inspector	—	—	—	—	—	—	335	1923	—	1265	77	—	4
Totals ...	35976	10152	21502	156	162	222	369	2269	81	1265	77	201	2499

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 3,670

Table 74.—Summary of Inspections, etc.

	No. of Inspections
Houses, yards, etc.	35,976
Tenement Houses	10,152
Tenement Rooms	21,502
Infected Dwellings	156
Common Lodging Houses	162
Bakeries	369
Workshops	2,269
Outworkers	77
Factories	1,265
Milk Shops	222
Slaughter Houses	81
Drains and W.C.'s Tested	3,670
Number of Notices to abate nuisances	2,499
Number of Justices' Orders	189
Amount of fines imposed in respect of same	£26 5 0

Table 75.—Return of Inspections made by **Veterinary Staff** during the year :—

Slaughter Houses	2,618
Butcher Shops	5,677
Tripe Houses	803
Meat Markets	1,030
Milk Shops	2,534
Milk Vans	2,112
Cowsheds	63
Sausage Factories	782
Hawkers' Stands	1,826
Provision Shops	1,688
Pork Shops	866
Fish Shops	508
Fruit Shops	134
Cold Stores	71
No of Prosecutions Amount of Fines imposed } See Section V., Prosecutions	

DETAILS OF DISINFESTATION SCHEME

January to March, 1947.

HOUSES TREATED					PERSONS TREATED			
Tene-ments	Lodgings	Private	Total	Rooms	Male	Fe-male	Chil-dren	Total
63	26	651	740	3,053	35	8	125	168

(Scheme for Disinfestation of houses was terminated 31st March, '47).

Details of Disinfestation of Yards and Manure Heaps—*Summer* 1947 :

District No.	Stalls	Manure Heaps	Piggeries	Yards
1	130	17	2	—
2	277	48	33	25
4	187	69	81	3
5	155	15	—	—
6	72	34	17	—
7	373	42	10	3
	1,194	225	143	31

Particulars of D.D.T. issued at Dispensaries—1947 :—

Dispensary District	Powder	Emulsion
South	$117\frac{1}{12}$ doz pkts.	$118\frac{3}{4}$ pints
North	$80\frac{1}{12}$,,	$62\frac{1}{2}$,,
Mahony's Avenue	$\frac{11}{12}$,,	$\frac{1}{4}$,,
	$198\frac{1}{12}$ doz. pkts.	$181\frac{1}{2}$ pints

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, 2,420

Particulars of Defects Found :

Insufficient Ventilation	2
Insufficient Heating	9
No Heating Provided	8
No Seating Accommodation	15
Insufficient Sanitary Accommodation	12
No Sanitary Accommodation	1
No Washing Accommodation	3
Total	50

Exemption Orders served (*re* Sanitary Accommodation)	—
Works Notices served	2
Verbal Notices	21

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	2832
Houses erected and bought out	167
Houses erected and still repaying mortgage	155
Houses under construction	102

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 £1,240,139 0s. 0d.

Table 76.—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	4/6 to 6/8
Ryan's ,, ...	16	1886	2/6 to 5/2
Horgan's ,, ...	126	1891	2/9 to 6/6
Roche's ,, ...	128	1892	3/- to 6/9
Corporation ,, ...	33	1900	5/2
Sutton's ,, ...	46	1905	5/11 to 6/9
Kelleher's ,, ...	50	1906	5/9 to 6/9
Barrett's ,, ...	89	1906	4/5 to 5/11
MacCurtain Villas ...	76	1922	11/9 to 12/3
McSwiney ,, ...	40	1923	11/4
French's ,, ...	30	1923	10/4 to 11/-
Capwell	148	1928	*8/6, 10/6 and 14/-
Turner's Cross	152	1930	*8/-, 10/- and 13/-
Turner's Cross Extension ...	168	1932	11/10 and 12/10
Gurranabraher 1 ...	252	1934	†2/9 to 18/4
,, 2 ...	108	1935	†2/9 to 18/4
,, 3 ...	78	1936	†2/9 to 18/4
,, 4 ...	82	1936	†3/10 to 18/4
Commons Road 1 ...	170	1936	†3/9 to 18/3
,, 2 ...	106	1937	†3/9 to 18/3
Bandon Road	86	1936	†3/3 to 18/3
Baker's Lane 1 ...	266	1938	†3/10 to 18/4
,, 2 ...	242	1940/1	†3/10 to 18/4
Farranferris 1 ...	206	1939	†3/9 to 18/3
Assumption Road ...	70	1941	16/6
Greenmount	210	1941/2	†3/10 to 18/-
Cathedral Road ...	90	1946	20/4 and 24/-
School Place	10	1947	20/4
Total ...	3154		*Exclusive of Rates. †Differential Rents

Section IX.—Port Sanitary Administration

Constitution of the Port Sanitary Authority.

The port was constituted a port sanitary district by the Local Government Board (Ireland) on 27th April, 1903. The Authority consists of twenty members chosen by the respective riparian authorities who elect representatives to the joint board as follows :—

By the Lord Mayor, Aldermen and Councillors of the County Borough of Cork	12
By the Cork County Council	6
By the Urban District of Cobh	2

The Minister for Health proposes to make orders under Section 107 of the Public Health Act 1947, abolishing Port-sanitary authorities and that the functions now discharged by them will become proper to the appropriate Health authorities as from 1st April, 1948.

The South Cork Board of Public Health was dissolved by virtue of Section 36 of the County Management Act of 1940 and its powers, functions and duties transferred to and vested in the Cork County Council.

Apportionment of Expenses.

Cork County Borough contributes ...	62½ per cent. of the total
Cork County Council	27½ ,,
Cobh Urban District Council ...	10 ,,

Limits of Jurisdiction.

These are defined in Act 18 of the Cork Port Sanitary Order No. 3 as follows :—"The jurisdiction of the said Port Sanitary Authority shall extend to the whole of that part of the customs port of Cork that 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 for the mooring or anchoring of ships for such part of the said port under any regulations for the prevention of the spread of diseases issued under the authority of the statutes in that behalf."

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 2 Deratization Certificates were issued.

Deratization Exemption Certificates.

It is to be regretted that despite the recommendation of the International Permanent Committee, International Office of Health, regarding the conditions under which deratization exemption certificates be granted, a certificate was produced in this port indicating that it had been issued to a fully laden vessel at an approved port on the Panama Canal. The Master confirmed that his vessel was fully loaded when application was made for the new certificate and that he was of the opinion the Health Authority which issued the certificate was influenced by the good sanitary condition of the vessel indicated on the surrendered expired certificate.

Obviously it is impossible to examine a vessel so laden and at the same time obtain a true picture of its sanitary condition. No information could be obtained as to whether an inspection was ever carried out. On the negative results of the examination carried out at this port, the exemption certificate was accepted.

An authorative direction from the International Office of Health restricting the issue of exemption certificates to fully laden vessels would clarify article 28(b) of the International Sanitary Convention, 1926.

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

During the year, hydrocyanic acid gas has been successfully used in the port for the purpose of ship deratization. Two foreign going vessels were treated with this agent and on completion of the operation were issued with the appropriate certificates.

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 superceded 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 ¼-oz. of H.C.N.

The most important advantages of H.C.N. over S.O.2 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.

Procedure for granting Pratique.

Deepladen vessels arriving in the lower harbour and bound for Cork may be detained there for tide. Such vessels are boarded by an officer of the Customs and Excise, who puts the usual questions to the master in regard to the prevalence of illness on board and especially in relation to cholera, plague and yellow fever or as to the prevalence of same at any ports of call en route. If the answers are in the *negative*, free pratique is granted and the vessels allowed to proceed to her moorings. If any answers are in the affirmative, pratique is not granted until the vessel has been visited by the Port Medical Officer. Vessels of light draught able to proceed to the City at any state of the tide are hailed while passing Cobh and if the answers are satisfactory are allowed to proceed to Cork where they are boarded by the Customs Officer and the usual questions are put. In addition, instructions have been sent to all shipping agents for companies using the port of Cork that masters of vessels approaching the port with cases of infectious disease on board are to notify the Authority by wireless.

Measures against Rodents.

All vessels from foreign ports are boarded immediately on arrival by the Port Sanitary Officer who, after satisfying himself as 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 examnation. 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 56 rats taken during the past year, 31 were submitted to post-mortem examination and that all gave negative results. In the previous year 52 were trapped, of which 25 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 carcase 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. 257 samples were examined during the year and the results indicated that the water was of first-class quality.

D.D.T. and Cockroaches.

Reference was made in the Annual Report of 1946 regarding the successful eradication of a heavy infestation of cockroaches on board a vessel operating from this port. Twelve months have now elapsed since the *last young cockroaches* were seen indicating a 100 per cent. extermination in this case.

Table 77.—Return of Shipping—other than vessels not shipping or unshipping cargo—entering the Port since 1930.

Year	Number of Arrivals			Tonnage		
	Foreign	Coastwise	Totals	Foreign	Coastwise	Totals
1930	297	1,636	1,933	364,650	617,783	982,433
1931	272	1,566	1,838	345,430	647,327	992,757
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.			do.		
1944	do.			do.		
1945	do.			do.		
1946	83	653	736	92,416	307,694	400,110
1947	148	535	683	276,194	283,626	559,820

Table 78.—Summary of Inspections, Defects and Nuisances.

Description	Number of Arrivals	Tonnage of Arrivals	Number Inspected	Number Defective & Nuisances Found	No. of Defects & Nuisances Remedied
Foreign Steamers Direct & Indirect	139	Figures not available	139	30	27
Coastwise Motor & Steam	446	Figures not available	446	126	117
Total	585	Figures not available	585	156	144

Table 79.—Return of Vessels entering the Port which were dealt with by the Department each month during 1947.

Month	Foreign Direct & Indirect	Coastwise	Total
January ...	7	55	62
February ...	4	26	30
March ...	3	35	38
April ...	12	21	33
May ...	12	35	47
June ...	15	48	63
July ...	14	41	55
August ...	16	50	66
September ...	10	26	36
October ...	18	43	61
November ...	16	28	44
December ...	12	38	50
Totals ...	139	446	585

Table 80.—Return of Imports and Exports from 1930.

Year	Imports (tons)	Exports (tons)
1930	906,340	120,610
1931	861,782	85,704
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

Sanitary defects and nuisances dealt with during 1947.

Dirty Focsles	69
Dirty Galleys	2
Dirty Store Rooms, Wash Places and Lockers	26
Dirty Mess Rooms and Cabins	18
Damp Quarters	9
Leaky Deckheads	16
Defective Port Frames and Discs	14
Defective W.C. Fittings	16
Defective Bogie Stoves, Galley Stoves and Funnels ...	7
Overcrowding	1
Defective Lockers...	2
Accumulation of Offensive Rubbish	1
Verminous Quarters	8
Foul Water Closets	30
Ships' Gear in Accommodation	4
Dirty Ice Boxes	1
Defective Spurling Pipes	1
Choked Soil Pipes	4
Choked Waste Pipes	2
Choked Scuppers	4
Total ...	235
Verbal Notices Given	100
Written Notices Left on Board	52
Total ...	152

A total of 1164 inspections of vessels were carried out during the year.

TABLE 81—RATS TRAPPED ASHORE.

Month	No.	Mus Decumans	Mus Alexandrinus	Mus Rattus	Species Unknown	No. of P.M. Exam.*
Jan. ...	2	—	—	2	—	2
Feb.	1	1	—	—	—	1
March ...	3	—	1	2	—	2
April ...	4	3	—	1	—	2
May ...	3	1	—	2	—	2
June ...	6	3	—	3	—	2
July ...	6	1	—	3	2	3
August	3	2	—	1	—	2
Sept. ...	1	1	—	—	—	—
Oct. ...	5	1	3	1	—	3
Nov. ...	6	1	1	4	—	2
Dec. ...	7	2	—	5	—	2
Total ...	47	16	5	24	2	23

* All P.M. Examinations proved Negative.

TABLE 82—RATS TRAPPED ON VESSELS

Month	No.	Mus Decumans	Mus Alexandrinus	Mus Rattus	Species Unknown	No. of P.M. Exam*
January	—	—	—	—	—	—
Feb. ...	3	2	1	—	—	2
March	—	—	—	—	—	—
April	—	—	—	—	—	—
May ...	2	—	—	2	—	2
June ...	—	—	—	—	—	—
July ...	—	—	—	—	—	—
August	3	—	—	3	—	3
Sept. ...	1	—	—	1	—	1
October	—	—	—	—	—	—
Nov. ...	—	—	—	—	—	—
Dec. ...	—	—	—	—	—	—
Totals	9	2	1	6	—	8

* All P.M. Examinations proved negative.

Section X—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 83.—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

The mean temperature for 1947 was: 49.7°F. The warmest day was August 17th, with a maximum shade temp., of 85°F. The warmest nights were : July 28th and August the 2nd and 27th with a minimum shade temp. of 61°F. The coldest nights were : January 31st and February 1st, with a minimum shade temp. of 20°F.

Table 84—Temperature at Cork (in the Shade) from 1884 to Present Year.

YEAR	January			February			March			April			May			June			July			August			September			October			November			December			Mean Temperature 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	Max.	Min.	Mean	
	Degrees			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	75	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	46.0	48	28	38.0	40	28	34.0	44.9
1916	50	36	43.3	47	30	39.1	45	30	37.8	49	36	42.6	60	34	47.4	55	40	47.8	66	40	53.4	65	49	57.7	60	40	50.0	56	36	46.4	47	32	40.4	40	24	32.5	44.8
1917	52	22	36.0	50	24	35.0	52	28	39.25	59	30	41.5	70	32	50.25	66	40	52.25	68	40	55.4	70	46	56.12	66	26	51.25	56	36	40.8	58	30	44.5	56	26	38.4	45.7
1918	50	22	36.0	54	32	43.0	56	26	41.0	64	32	48.0	67	33	50.0	76	36	56.0	76	40	58.0	74	40	57.0	64	36	50.0	62	30	46.0	54	26	40.0	54	26	40.0	47.0
1919	54	24	36.0	50	26	39.0	50	24	37.8	56	30	43.2	72	34	51.2	68	36	51.0	74	40	56.0	80	40	57.5	64	34	49.7	62	36	44.6	56	14	34.5	54	28	41.0	46.0
1920	52	30	40.0	50	30	39.8	50	30	41.3	56	36	46.3	66	28	46.3	68	34	53.7	66	42	53.5	66	40	53.2	68	32	51.2	60	36	48.5	56	24	41.6	50	20	36.0	45.9
1921	60	25	44.7	50	24	36.2	50	24	37.5	58	26	41.5	70	34	48.4	76	32	55.0	80	40	60.0	74	38	54.2	64	32	48.2	62	28	47.4	46	20	39.7	50	28	41.2	46.2
1922	56	20	49.1	48	24	37.2	46	24	34.5	48	22	34.8	80	30	61.0	74	40	54.0	72	38	67.2	72	36	54.0	66	36	52.3	60	20	56.0	66	30	44.0	54	26	39.2	48.6
1923	54	27	43.4	55	29	43.6	56	30	45.1	58	31	46.2	65	33	49.3	65	33	49.3	79	48	62.2	78	42	59.6	69	37	53.4	61	30	49.5	58	20	38.8	53	25	43.0	49.2
1924	53	29	43.8	51	26	41.4	56	25	42.5	62	27	46.0	65	35	51.5	70	41	56.7	68	42	57.9	70	40	57.8	71	40	54.4	64	57	50.8	59	29	46.0	56	33	46.0	49.6
1925	55	31	44.4	55	28	41.8	60	29	43.8	57	30	45.6	62	34	50.3	81	44	59.5	75	45	60.2	74	43	60.2	68	35	53.3	69	32	52.5	59	24	41.2	56	21	39.8	49.4
1926	53	28	43.1	57	32	46.5	61	31	45.7	63	31	49.8	75	33	51.1	72	39	55.5	83	45	63.3	75	46	61.8	72	37	58.2	74	25	48.3	57	27	42.3	55	21	41.5	50.6
1927	60	28	42.3	57	26	44.1	57	27	45.9	65	29	48.4	72	36	53.5	70	38	54.5	74	50	61.1	76	46	59.9	70	36	54.5	65	35	52.2	61	23	43.5	52	26	40.8	50.1
1928	55	30	44.1	57	33	45.6	57	27	44.4	64	30	46.2	75	37	54.0	69	40	55.8	78	43	60.6	72	41	58.8	70	34	54.7	65	32	50.8	58	27	46.5	55	28	41.9	50.3
1929	54	23	39.8	56	28	43.5	69	26	46.3	65	33	47.9	75	31	52.4	71	41	56.7	75	42	59.8	72	44	59.6	74	39	58.9	63	31	49.5	59	24	44.8	56	27	42.7	50.2
1930	53	26	41.3	52	24	37.7	57	26	43.2	66	30	47.4	68	36	53.0	76	40	58.3	78	45	59.3	69	42	57.5	70	40	56.5	61	35	51.6	60	27	44.6	54	29	43.3	49.5
1931	53	27	41.2	55	30	42.2	56	25	43.5	64	34	48.3	65	35	52.7	72	43	58.4	71	43	59.5	76	37	59.4	65	23	49.8	61	29	45.8	58	27	44.5	58	27	44.5	50.1
1932	56	27	45.6	51	29	41.0	57	25	43.1	58	33	45.5	67	33	51.5	76	39	59.4	75	47	60.5	78	44	63.1	72	34	55.4	66	30	48.3	58	30	46.5	53	31	44.4	50.4
1933	56	23	39.1	58	24	41.7	60	33	46.3	61	30	49.2	68	41	54.4	72	47	60			82	47	63.7	81	45	62.6	78	35	60.1	67	34	51.0	58	25	43.4	51	26	40.4	51.0
1934	56	27	42.5	53	26	39.5	58	30	44.0	63	30	41.5	70	33	51.5	76	38	57.0	82	50	6.0	71	38	54.5	72	38	55.0	63	33	48.0	55	29	42.0	55	33	44.0	48.3
1935	55	26	40.5	57	24	40.5	59	27	43.0	67	34	50.5	70	30	50.0	75	48	61.5	76	44	60.0	76	41	58.5	70	40	55.0	65	55	50.5	55	24	39.5	52	19	35.5	48.7
1936	54	29	41.5	53	30	41.5	58	30	44.0	60	30	45.0	73	35	54.0	75	39	57.0	70	44	57.0	80	44	62.0	72	34	53.0	65	34	49.5	57	27	42.0	55	27	41.0	48.9
1937	58	26	42.0	57	30	43.5	54	25	39.5	66	37	51.5	72	30	51.0	71	43	57.0	77	45	61.0	77	45	61.0	70	40	55.0	65	29	47.0	56	25	40.5	54	24	39.0	49.0
1938	49	4	37	43.3	49	38	43.7	55	43	49.0	58	37	47.8	59	45	52.0	64	50	57.1	65	51	58.2	67	53	60.1	64	49	57.0	58	45	51.4	54	42	48.4	48	32	40.0	50.6
1939	46	36	41.4	55	40	47.9	51	37	44.5	56	41	48.5	63	46	54.7	68	48	58.6	65	52	59.3	69	54	62.0	64	51	58.1	56	39	48.1	54	43	48.8	64	35	40.8	51.0
1940	54	22	38.0	57	24	40.5	59	27	43.0	63	30	48.5	70	37	53.5	80	42	61.0	74	45	59.5	78	42	55.0	79	36	57.5	62	27	44.5	60	27	48.5	55	25	40.0	49.1
1941	51	23	37.0	58	25	42.5	59	28	43.5	62	31	46.5	66	30	48	79	45	62	73	42	57.5	78	44	61	75	42	58.5	66	32	49.0	56	28	42.0	55	35	45	49.3
1942	48	35	41.2	46	34	40.0	52	41	46.6	57	43	49.7	61	45	52.9	66	49	57.7	67	53	60	0	68	55	62.6	35	30	56	4	57	42	49.8	48	35	41.0	51	40	45.8	50.2
1943	54	28	43.4	57	32	45.3	63	27	46.2	67	34	51.5	68	31	52.1	79	43	57.8	77	44	56.1	72	43	59.4	69	35	55.6	62	30	51	0	59	28	45.8	53	29	42.3	50.5
1944	56	27	46.5	58	24	42.0	63	25	44.7	72	30	51.4	79	32	52.9	73	41	57.4	73	49	61.0	77	42	61.4	69	34	53.8	63	34	48.6	58	26	45.3	58	27	42.2	50.5
1945	54	15	35.5	57	32	44.5	61	32	46.5	69	29	49.0	73	31	52.0	71	41	56.0	75	47	61.0	77	45	61.0	72	44	58.0	67	40	53.5	59	31	45.0	57	32	44.5	50.6
1946	53	28	40.5	56	24	40	64	25	4	.5	69	32	50.5	73	35	54	77	39	58	74	45	59.5	72	43	57.5	66	43	54.5	63	35	49	60	32	46	53	24	38.5	49.3
1947	45	34	40.1	38	30	34.5	48	36	42.8	55	41	48.6	59	45	52.3	63	51	57.0	65	53	54.3	74	55	64.8	65	51	58.0	59	46	52.7	52	45	48.6	48	37	42.5	49.7

Table 85.—Showing Monthly Rainfall in Cork from 1878 to Present Year.

| Months | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---

SUNSHINE.

Total *bright sunshine* for 1947 was 1252.9 hours.

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

Table 86.—*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

BAROMETER.

The mean reading for 1947 was 29.92 ins. The highest reading was 30.80 ins. on the 17th December. The lowest was 28.91 ins. on the 23rd March.

SUMMARY OF WEATHER OBSERVATIONS AT CHARLESTON, BALLINACURRA

JANUARY, 1947 :

BAROMETER :	Highest	30.70 on the 24th
	Lowest	29.25 ,, 8th
	Mean for the month	29.95
THERMOMETER :	Highest	53°F. on the 14th
	Lowest	20°F. ,, 31st
	Mean for the month	40.05°F.
RAINFALL :	5.97″ which is 2.06″ above average.	
SUNSHINE :	49 Hours which is 1.1 hours above average.	
WINDS :	Mainly from the East and South-east ; variable and strong in frequent squalls and reaching gale force on the 2nd, 3rd, 5th, 6th and 8th, but tending to moderate in the latter part of the month.	

REMARKS : January was wild and broken and began badly with low temperature and a ground frost, a South-Easterly gale and over an inch of rain within its first 48 hours after which temperatures rose considerably. There were only two days between the 1st and the 20th on which rain was not recorded, but the last ten days of January brought a hard easterly spell with cold, drying winds, very severe to man and beast and of immediate benefit in drying up the saturated surface of land. August, September, November, December and January have each been remarkable for excessive rainfall ; October was slightly below average. The figure recorded from 1st August to 31st January amounts to 29.77 inches or 7.7 inches more than normal. Small wonder therefore, that land has been almost impassable in heavy soils and that all farm work, autumn and winter cultivations have been suspended for weeks on end ; the situation is particularly serious where farmers have been waiting for a chance to sow winter wheat.

The wet, and cold of such a long autumn and winter, coming after a very poor summer, have been responsible for much of the prevailing illness, and have conspired to undermine resistance to colds, chill and 'flu. The chill damp of so many months seems to have eaten through shoe leather and into the very bones of pedestrians everywhere.

FEBRUARY, 1947 :

BAROMETER :	Highest	30.31 on the 16th
	Lowest	29.26 ,, 3rd
	Mean for the month	29.82

THERMOMETER :	Highest	49°F. on the 2nd
	Lowest	21°F. ,, 23rd
	Mean for the month	34.55°F.
RAINFALL :	4.8″ which is 1.66″ above average.	
SUNSHINE :	34.2 hours which is 35.8 hours below average.	
WINDS :	Easterly and very strong in the first 10 days of the month. Gales were recorded on the 1st, 2nd, 7th, 8th and 25th.	

REMARKS : February was remarkable for the intensity of the cold weather which it inherited from January and which lasted with intermission during its 28 days. A spell of this duration is without precedent in this country and the month's average temperature of 34.55°F. is the lowest ever recorded since weather observations began here in 1905. The normal February figure is 46.2, over 11° higher than the 1947 record. During the whole month biting Easterly winds gave a sting to sharp frosts and snow fell on 12 days although in the immediate neighbourhood it did not lie long. Within a short distance snow and ice seem to have been worse since.

In spite of the intense cold and 13 ground frosts, February was a wet month ; in its first 24 hours torrential rains fell, backed by a very cold S.E. gale, and amounting to 3″ ; heavy falls were also recorded on the 10th, 11th, 22nd and 23rd, and there was a marked deficiency in sunshine in which the 1947 figure is also the lowest on record. The month may therefore be summarised as the most sunless and coldest of Februarys.

The continued effect of the wet, cold snow and ice has been to bring farm work to a standstill again ; the cultivations and preparation of the seed has been impossible and 1947 looks like being one of the latest sowing seasons on record.

MARCH, 1947 :

BAROMETER :	Highest	30.10
	Lowest	29.00
	Mean for the month	29.60
THERMOMETER :	Highest	55°F. on the 28th
	Lowest	23°F. ,, 2nd
	Mean for the month	42.45°F.
RAINFALL :	9.33″ which is 6.29″ above average.	
SUNSHINE :	85.9 hours which is 16.1 hours below average.	
WINDS :	Very variable and reaching gale force on the 4th and 5th.	

REMARKS : March opened with two days of sunshine and the promise of spring, but then reverted to the bitterly cold weather of the preceding five weeks, with frequent falls of snow which, in some places in the area, formed drifts higher than motor vans. This gave way to rising temperatures and extraordinarily heavy falls of rain, and on the 16th the level of streams and rivers.rose so rapidly that overflowing of banks became general and there was extensive flooding, even on high, well drained land. Between the 9th and the 27th March there were 8.60 inches of rain, and during the whole month there were only five rainless days.

With August, September, November, December, January and February all yielding more than their normal rainfall (the total from 1st August to 28th February was 34.57 inches against an average of 25.3 inches and the added effects of thaw water, March's rainfall of 9.33 inches, the highest ever recorded in Ballinacurra, has been disastrous. The preparation of land for the sowing of crops, potatoes and vegetables has had set back after set back, and the gravity of the position is acute.

APRIL, 1947 :

BAROMETER :	Highest	30.67 on the 10th
	Lowest	29.23 ,, 23rd
	Mean for the month	30.05
THERMOMETER :	Highest	62°F. on the 15th
	Lowest	34°F. ,, 3rd
	Mean for the month	48.05°F.
RAINFALL :	3.30″ which is .87″ above average.	
SUNSHINE :	168.4 hours which is 8.4 hours above average.	
WINDS :	April was a month of very strong winds, with the exception of a spell from the 9th to the 18th after which conditions were very wild and stormy. Gale force was recorded on the 5th, 21st and 25th, while a gale of exceptional violence swept over the area on the 23rd leaving in its wake an unprecedented trail of damaged roofs and buildings, fallen trees, blocked roads and dislocated telephone and electric wires.	

REMARKS : After much rain in its first week, April brought a welcome anti-cyclone from the 8th to the 18th, and during this spell there was a rise in temperatures which actually touched 62°F. on the 15th. Weather again broke and after a fall of .62″ on the 22nd there was a very violent gale and conditions remained wild and unsettled, with brilliant sunshine in intervals and rapidly fluctuating temperatures.

During the fine periods in the month a tremendous amount of work was put into farm and garden ; the preparation of the land was tackled

vigorously and the sowing of seed was general. The severity of the long prevailing winds has been very hard on young shoots, buds and corn, and growth has been slow, a serious matter in such an exceptionally late season.

MAY, 1947 :

BAROMETER :	Highest	30.446 on the 21st
	Lowest	29.642 ,, 24th
	Mean for the month	30.036.
THERMOMETER :	Highest	69°F. on the 30th
	Lowest	37°F. on the 1st and 3rd
	Mean for the month	51.65°F.
RAINFALL :	4.81″ which is 2.17″ above average.	
SUNSHINE :	183.3 hours which is 6.7 hours below average.	
WINDS :	Strong between the 5th and 8th but otherwise light and mainly veering from the South-east early in the month to South-west later. The South-easterly winds were biting and severe.	

REMARKS : May was a month of weather variations. The first ten days were cold, with night temperatures as low as 37°F. and harsh easterly winds ; temperatures then rose gradually until they reached 69°F. on the 30th with a maximum night temperature as high as 56 on the last night of the month.

Rain was recorded on 18 days, on six of which the falls were very heavy, so that the total May rainfall has only twice been exceeded since records were begun here in 1905 (1925-4.92 inches ; 1942—4.90 inches) Readers may therefore be surprised to learn that, in this very wet month our total sunshine was only 6.7 hours less than the average figure for May, one of the two sunniest months in a normal year.

After a period of close and sultry weather there was a thunderstorm of long duration on the night of the 28th-29th. The storm, which was widespread, passed from South-west to North-east directly over this immediate district : animals were struck and killed in fields 1½ miles away from each other ; about two miles further in the path of the storm a house was struck, and electricity and telephones were affected over a wide area.

The severity of the South-easterly winds in the early part of the month was very hard on young corn, shoots, buds and fruit blossom in its critical stages, and plant development was slow; but from the middle of the month soft South-west winds and frequent rain alternating with hot sunshine, and helped by warm, close nights, gave a tremendous stimulous to growth and provided splendid conditions for farm and garden.

JUNE, 1947.

BAROMETER :	Highest	30.48 on the 10th
	Lowest	29.568 ,, 5th
	Mean for the month	30.024.
THERMOMETER :	Highest	68°F. on the 30th
	Lowest	45°F. ,, 14th
	Mean for the Month	56.45°F.
RAINFALL :	5.4″ which is 3.33″ above average.	
SUNSHINE :	135.6 hours which is 36.4 hours below average.	
WINDS :	Were mainly from the South and West and were squally and strong in the second week of the month.	

REMARKS : June was a very disappointing month ; there were only four consecutive days without rain and only 6 " rainless " days altogether. After the excessive rainfall recorded in January, February, March, April and May, the heavy rain of June has set up a new record for 1947—this year of weather breaking phenomena. For the first 6 months of the year we have had 33.61 inches of rain, just double the average figure which is 16.85. The greatest rain for this period in any other year since records were begun here in 1905 was in 1928, when 26.16 inches were recorded. Following the extraordinarily heavy rainfall of last autumn, and the rigours of the winter, this new record has an even more grave significance in its accompanying lack of sunshine : we have only once had so little sun in the month of June, that was in 1937. In a year when the vitality of human, animal and plant life has been subjected to such prolonged and severe testing, this lack of sunshine may prove very serious. The heat waves of which we have heard so much in neighbouring countries have so far been conspicuous here by their absence.

JULY, 1947 :

BAROMETER :	Highest	30.40 on the 1st
	Lowest	29.55 ,, 8th
	Mean for the month	30.05.
THERMOMETER :	Highest	74°F. on the 28th
	Lowest	44°F. ,, 17th
	Mean for the Month	58.5°F.
RAINFALL :	2.84″ which is .12″ below average.	
SUNSHINE :	116.9 hours which is 58.1 hours below average.	
WINDS :	Were mainly light and from the South and West.	

REMARKS : July began with a continuance of June's very broken weather, but made several short-lived attempts to improve, and with the exception of heavy rain on the 25th, the last 10 days of the month were fine and delightfully warm, with rising temperatures and very hot sunshine. During this welcome spell work on the land was very active and the making of hay was general.

Readers may be surprised to learn that, in spite of the lovely weather at the end of July, the month was no less than 58 hours short of its normal sunshine. This enormous deficiency,coming after a lack of 85½ hours in the first 6 months of the year, is highly significant ; want of sunshine will put a tell-tale mark on the quality and flavour of fruit, corn and vegetables and there has been little or no opportunity for the citizens of this country to absorb the health-giving ar d beneficial rays of the sun.

AUGUST, 1947 :

BAROMETER :	Highest	30.47 on the 24th
	Lowest	29.80 ,, 4th
	Mean for the month	30.20.
THERMOMETER :	Highest	82°F. on the 18th
	Lowest	48°F. ,, 8th, 26th and 29th.
	Mean for the month	63.0°F.
RAINFALL :	1.82″ which is 1.44″ below average.	
SUNSHINE :	259.7 hours which is 99.7 hours above average	
WINDS :	Very light and Westerly at first, but Easterly in the second half of the month.	

REMARKS : August opened with thunder and heavy rain amounting to 1¼ inches in twenty-four hours, but an anti-cyclone began on the 5th which developed into a heat wave on the 11th and during the remainder of the month maximum screen temperatures were over 70°F. every day, while with the exception of one cloudy day on the 23rd, sunshine was almost unbroken, reaching 231 hours in 21 days. The enormous sunshine figure of 259.7 hours is 99.7 hours above the August average of 160 hours and is a record breaking figure, bringing tardy compensation for the lack of sunshine earlier in the year. The nearest approach to it was in August 1909 when 235 hours were recorded.

This delightful month with its brilliant sunshine and day warmth was of great benefit to the whole community, and particularly to holiday makers. Much work was accomplished on farm and in garden and late hay was saved under wonderfully good conditions. Corn crops, beset by so many adversities this year, have in many cases ripened prematurely in the hot dry weather, and early harvesting has been general under ideal conditions.

It would seem as if August, 1947 tried to make some amends for the singularly bad twelve months initiated by August, 1946. Readers may remember that weather broke last year in the second week of August and with the exception of three good weeks in October, was extremely bad and wet until the end of the year. The intensity and duration of the cold spell in January, February and March set up new weather records in this and many other areas while from January to June each month showed unusually high rainfall. July rounded off a very bad year with a disappointing record of broken conditions and enormous sun deficiency.

Our average annual rainfall since observations were begun here in 1905 has been 38.41 inches. From 1st August, 1946, to 31st July, 1947, rainfall amounted to 50.25 inches. This figure breaks all our previous records: the nearest approach to it was from 1st August, 1927, to 31st July, 1928, when 48.73 inches were recorded.

At the same time sunshine for the twelve months—1st August, 1946, to 31st July, 1947, is the lowest ever recorded here, only amounting to 1,160 hours. The nearest approach to this was 1,208 hours between 1st August, 1940, and 31st July, 1941, to be compared with the average sunshine of 1,458 hours per annum.

SEPTEMBER, 1947 :

BAROMETER :	Highest	30.60 on the 30th
	Lowest	29.75 ,, 16th
	Mean for the month	30.15.
THERMOMETER :	Highest	73°F. on the 1st and 2nd.
	Lowest	38°F. ,, 30th
	Mean for the month	57.45°F.
RAIN :	2.29″ which is .46″ below average.	
SUNSHINE :	123.7 hours which is 11.3 hours below average.	
WINDS :	Very light at the beginning and end of the month, rather stronger between the 9th and 23rd, and mainly from the West.	

REMARKS : August's glorious summer weather continued into September though cooler temperatures, particularly at night, were evident early in the month, and there was a quick drop in sunshine. The brilliant and warm spell lasted from the 11th August to the 2nd September, but the anti-cyclone was of longer duration, from the 5th August to the 10th September. The middle of the month was very broken, with frequent rain, but weather took up again on the 21st and day temperatures remained high, though autumn's nip made itself felt in the mornings and evenings and, on the last night of the month, temperatures dropped as low as 38°F.

The beginning and end of September provided excellent conditions for work in farm and garden. The break in the middle of the month delayed harvesting and made handling of corn more troublesome.

OCTOBER, 1947 :

BAROMETER :	Highest	30.55 on the 3rd and 4th.
	Lowest	29.75 ,, 22nd
	Mean for the month	30.25.
THERMOMETER :	Highest	64°F. on the 4th, 5th, 10th.
	Lowest	34°F. ,, 31st
	Mean for the month	52.75°F.
RAIN :	3.11″ which is .77″ below average.	
SUNSHINE :	88.7 hours which is 9.3 hours below average.	
WINDS :	Light to moderate, Westerly in the first half of the month, but mainly from the East later.	

REMARKS : October was a kind month. Its first three weeks were fine and bright with higher temperatures than usual and less than ¾-inches of rain ; during this period threshing conditions were excellent, and there was opportunity for much useful work on the land, lifting of roots and autumn cultivation. Very heavy rain on the 21st and 22nd introduced a broken spell, and temperatures dropped considerably.

NOVEMBER, 1947 :

BAROMETER :	Highest	30.55 on the 24th
	Lowest	29.35 ,, 2nd
	Mean for the month	30.05.
THERMOMETER :	Highest	62°F. on the 5th
	Lowest	28°F. ,, 29th and 30th.
	Mean for the month	47.3°F.
RAIN :	3.61″ which is .4″ below average.	
SUNSHINE :	59.3 hours which is 4.7 hours below average.	
WINDS :	Mainly from the West ; strong in the first 11 days of the month and again on the 21st and 22nd. Southerly gales were recorded on the 2nd and 11th and 12th.	

REMARKS : Continuing the broken weather of the last 10 days of October, November began with very unsettled conditions, frequent

showers and high temperatures, particularly at night. In the middle of the month temperatures dropped sharply but on the 19th rose again almost to summer level and for five days the maximum records were from 58° to 60°F. while minimum were as high as 56 and 57. These temperatures were in themselves remarkable for the month of November but they were accompanied by an almost unprecedented humidity ; during this period moisture seemed to appear everywhere : extraordinary dampness prevailed such as has not been experienced since observations began here in 1905, water ran down normally dry, interior walls while concrete floors became wet and out-of-doors everything was soaking.

There followed a sudden change to very cold dry conditions with five successive nights of ground frosts and light northerly winds. This bracing weather was more seasonable and more healthy than the warm clammy dampness of the previous week, but the suddenness of the change was severe.

DECEMBER, 1947 :

BAROMETER :	Highest	30.85 on the 17th
	Lowest	29.05 ,, 5th
	Mean for the month	30.15
THERMOMETER :	Highest	54°F. on the 20th, 24th, 26th, 31st.
	Lowest	20°F. ,, 1st
	Mean for the month	42.3°F.
RAIN :	3.01″ which is 1.24″ below average.	
SUNSHINE :	20.8 hours which is 23.2 hours below average.	
WINDS :	Variable.	

REMARKS : December opened with a heavy ground frost and minimum temperature as low at 20 deg. F. but this gave way to heavy rain, amounting to over 1 inch on the 1st and within 48 hours minimum temperatures had risen 20 degrees, only to drop sharply again for a week of frosty nights and sunny days. From the 10th weather was delightfully mild and fine, though there was little sunshine, but a wet spell began on Christmas Day with temperatures again dropping: during this period humidity was pronounced, and there was so much condensation that the interiors of houses became damp, concrete floors " sweated " and out of doors the ground was sloppy and wet with no drying.

JOHN BENNETT, LTD.

Appendix I.

OPERATION OF THE SCHEME FOR THE TREATMENT OF VENEREAL DISEASES.

Table 87.—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.	
New Cases (1st time) ...									
Syphilis	8	13	7	10	8	–	23	23	46
Soft Chancre ...	–	–	–	–	–	–	–	–	–
Gonorrhoea ...	22	2	11	4	–	–	33	6	39
Not V.D.	46	23	17	5	–	–	63	28	91
Total ...	76	38	35	19	8	–	119	57	176
Total Attendances :—									
Syphilis	417	1245	248	450	10	–	675	1695	2370
Soft Chancre ...	–	–	–	–	–	–	–	–	–
Gonorrhoea ...	110	24	57	35	–	–	167	59	226
Not V.D. ...	86	40	35	9	–	–	121	49	170
Total ...	613	1309	340	494	10	–	963	1803	2766
Cured :—									
Syphilis	7	3	2	–	–	–	9	3	12
Soft Chancre ...	–	–	–	–	–	–	–	–	–
Gonorrhoea ...	23	4	10	2	–	–	33	6	39
Not V.D. ...	–	–	–	–	–	–	–	–	–
Total ...	30	7	12	2	–	–	42	9	51
Pathological Exams. :—									
Wassermann ...	111	99	61	15	2	–	174	114	288
Gonococci ...	33	12	15	3	–	–	48	15	63
Exam. for T.P. ...	4	–	–	–	–	–	4	–	4
Total ...	148	111	76	18	2	–	226	129	355
Theraphy :—									
Stabilarsan or other Arsenicals ...	241	784	148	276	5	–	394	1060	1454
Bismuth Preparations	200	381	121	153	3	–	324	534	858
Irrigations ...	10	–	4	–	–	–	14	–	14
Douches	–	13	–	6	–	–	–	19	19
Sulphonamides	22	1	11	6	–	–	33	7	40
Penicillin... ...	80	6	35	11	–	–	115	17	132
Total ...	553	1185	319	452	8	–	880	1637	2517

Table 88.—Record of *new cases* treated annualy 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
1844	81	1	49	116	247
1945	59	—	63	107	229
1946	73	—	48	130	251
1947	46	—	39	91	176

Table 89.—Record of new cases treated during 1947 (non V.D. Cases not included).

Period	Males	Females	Total
Jan.	4	3	7
Feb.	3	1	4
Mar.	4	2	6
Apr.	5	4	9
May	5	6	11
June	1	3	4
July	2	3	5
Aug.	2	2	4
Sept.	7	2	9
Oct.	8	-	8
Nov.	9	2	11
Dec.	6	1	7
Totals	56	29	85

Table 90.—Monthly attendances at V.D. Centre, 1947.

Period	Males	Females	Total
Jan.	87	194	281
Feb.	64	130	194
Mar.	71	125	196
Apr.	73	125	198
May	77	161	238
June	45	207	252
July	70	135	205
Aug.	63	142	205
Sept.	110	131	241
Oct.	108	168	276
Nov.	102	134	236
Dec.	93	151	244
Totals	963	1803	2766

The total number of new cases (male and female) of Gonorrhoea and Syphilis treated during the year was 85. The figure for 1946 was 121. In 1943, when a serious outbreak of these diseases was recorded, 192 new cases were treated. It will be seen, therefore, that the decline in the incidence of venereal diseases is continuing.

The facilities afforded to private practitioners under the scheme were availed of by four doctors during the year. The particulars set out in table 93 relate to the patients treated by them and the results obtained. The number of ampoules supplied to them was 600 (in comparison with 675 provided in 1946).

Table 91.—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 ...	22	10	4	3	25	48
Gonorrhoea ...	13	2	15	—	—	—
S. Chancre ...	—	—	1	—	3	—

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	456
Visits paid to Blind	2,842
Visits paid on behalf of the Blind	428
Interviewed at office, City Hall	886
Number of Braille readers	21
Number of Moon readers	5
Number attending Men's Handicraft Class	8
Number attending Women's Handicraft Class	11
Number of Home Workers whose work is of saleable standard	28
Number helped with Artificial Eyes and Spectacles	15
Number given Fuel and Christmas Gifts	81
Number given help to buy Dentures	5
Number given Nourishment and Relief	62
Helped to purchase Furniture and Bedding	6
Individuals issued with Penny Dinner Tickets	4
Sent to Institutions for the Blind	2

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.