Administration report of the Public Health Department of the City of Port-of-Spain.

ADMINISTRATION REPORT

OF THE

Public Health Department of the City of Port-of-Spain

for the Year

1948

BY

DR. RODERICK MARCANO, O.B.E., M.D. (Lond.), M.R.C.P. (Lond.), D.P.H. (Lond.),
MEDICAL OFFICER OF HEALTH

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Local Authority in the Urban Sanitary District of the City of Port-of-Spain
1947-48

The City Council

HIS WORSHIP THE MAYOR, ALDERMAN GEORGE CABRAL, J.P.

Deputy Mayor :

ALDERMAN N. TANG

Aldermen :

A. ALMANDOZ
P. QUAMINA
V. R. VIDALE

Councillors :

N. ALCANTARA
HON. V. BRYAN
F. T. FARFAN
C. Y. FLETCHER
J. HERRERA
A. E. JAMES
HON. A. P. T. JAMES
HON. RANJIT KUMAR
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R. MITCHELL
L. MONSEGUE
Q. O'CONNOR
R. QUEVEDO
C. WARD

Administration Report of the Public Health Department of the City of Port-of-Spain

Year 1948

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PUBLIC HEALTH DEPARTMENT,
35, FREDERICK STREET,
PORT-OF-SPAIN,
TRINIDAD, B.W.I.

18th October, 1949.

URBAN SANITARY DISTRICT OF THE CITY OF PORT-OF-SPAIN

SECRETARY, LOCAL AUTHORITY

SIR,

I have the honour to submit, for the information of the Local Authority, the Annual Report on the health and sanitary condition of the Urban Sanitary District of the City of Port-of-Spain for the year ended 31st December, 1948.

As the years roll by and as annual reports follow upon annual reports in almost endless succession it becomes a matter of some difficulty for a public health officer to find words with which to describe the events that occur from year to year especially when these events tend to take on a somewhat stereotype form.

In a sense this very fact is a source of encouragement in that, if anything, it indicates that no startling change or untoward occurrence has engaged the attention of the Department during the year under review, it being obvious that if any sudden change or unusual occurrence in the shape of an epidemic or other catastrophe had taken place there would, of course, be no difficulty in finding the appropriate language with which to record such a disturbing and disastrous event.

The health and sanitary condition of the Urban Sanitary District remained not unsatisfactory during the year 1948 and whilst no deterioration of any importance took place under any of the various headings covered in this report, only comparatively little progress can be recorded ; but even this is welcome, even if in large measure fortuitous, when one considers how comparatively small are the funds placed at the disposal of the Public Health Department and how consistently proposals directed to the amelioration of existing unsatisfactory conditions and to the extension of legitimate public health activities have had to be abandoned because of inability to provide the necessary wherewithal.

This has been such a common experience during the past ten years whenever estimates are being considered and the cry of lack of funds has been so monotonous that a feeling of frustration and despair pervades the Department and the most that can be undertaken is to maintain the *status quo* which I need hardly state becomes every year an increasingly difficult matter because of the increase in the population, the congestion of the Urban Sanitary District, and the acute shortage of housing accommodation.

The vital statistics again flatter the state of the public health, in that they portray an all round picture of slight but steady improvement without revealing the very unsatisfactory and potentially dangerous gaps.

The mean or mid-year population on which the various rates are based has been estimated by the Registrar General to be 98,911 souls representing a natural increase of population of 2,862 souls.

Total live births numbered 4,053 giving a birth rate of 40.98 and total deaths 1,191 giving a death rate of 12.04 per 1,000 population. These figures compare favourably with the figures 42.81 and 14.42 in the year 1947.

The infant mortality rate and the maternal mortality rate shewed a satisfactory decline from 56.16 and 3.40 in 1947 to 43.67 and 1.23 per 1,000 live births in the year under report. An unsatisfactory feature is the number of still births registered, 223, as compared with 220 in 1947 giving a still birth rate of 55.02 as against 53.49 in the year 1947.

In so far as death rates from individual diseases or groups of diseases are concerned, under three headings only was an increase registered and that only very slightly and perhaps not "significantly" from a statistical point of view, e.g., in cancer and the malignant diseases, in diseases of the nervous system including cerebral haemorrhage, and in influenza. Here the figures increased from .78, 1.38 and .01 per 1,000 population in 1947, to .88, 1.39 and .03 per 1,000 population in 1948.

In all the other diseases or groups of diseases there has been a satisfactory, if sometimes a small, decrease in the death rate per 1,000 population.

Notifiable infectious diseases as a whole were responsible in 1948 for a death rate of 1.75 as against 2.64 per 1,000 population in 1947 ; pulmonary tuberculosis 1.09 in 1948 as against 1.74 per 1,000 in 1947 ; enteric fever .05 in 1948 as against .07 per 1,000 in 1947 ; and diseases of the heart and blood vessels 1.80 in 1948 as against 2.21 per 1,000 population in 1947.

I cannot refrain from adverting once again to the many public health problems which confront the Local Authority a solution to which must be found if the Urban Sanitary District is to attain that degree of health and sanitation which other cities of similar size and population enjoy.

The sewering of the Belmont and East Dry River Districts is long overdue ; a more adequate supply of water to each and every citizen is a pressing necessity ; the unsatisfactory drainage system, the narrow lanes, the irregular, uneven, and poorly kept roads, the small and congested lots, and the antiquated and often insanitary cesspit system of the East Dry River District cry aloud for amelioration, which can be successfully tackled only on the basis of a comprehensive plan even though this plan must be carried out from year to year in piecemeal fashion only.

As I write a ray of hope flashes across the horizon. A Commission appointed by Government to enquire into the "financial relationship between Government and the Municipalities and to make recommendations" has arrived from the United Kingdom and is at the moment actively engaged in investigating the case of the Municipalities for additional revenue with which to carry out the duties imposed upon them by Ordinance.

The case of the Municipality of Port-of-Spain has been carefully prepared and adequately presented, and a special memorandum setting out the problems, difficulties, and requirements of the Local Authority has been prepared by the Medical Officer of Health with the help of the Chief Sanitary Inspector and the Chief Clerk, and forwarded to the Commission.

The results of this enquiry are anxiously awaited and sanguine hopes are entertained that the Local Authority is on the threshold of a new and invigorated life in which it is destined to play to the fullest extent the part that it deserves and desires sincerely to play and which, indeed, was meant for it when the Ordinance, Regulations and Bye-laws under which it functions were framed and passed.

It is the sincere wish of the Medical Officer of Health that the Local Authority of the Urban Sanitary District will so develop its services and extend its activities that it will in the not too distant future be deemed second to none of the great Local Authorities in the larger centres of the world which play such a large and beneficent part in the life, health, and well being of the citizens within their respective areas.

I am again to record my sincere and grateful thanks to the Mayor, Aldermen, and Councillors for the consistent support they have always given to the Public Health Department, for the keen interest they evince in all matters affecting the public health, and for the consuming desire they exhibit to ameliorate the health and sanitary condition of the Urban Sanitary District. It can truly be said that the meetings of the Council sitting as Local Health Authority are invariably the most productive and the least controversial of all the meetings of the Council.

As in the past, so in the year under review, the Public Health Department received the ready and fruitful co-operation of the City Engineer's and the Town Clerk's Department and I desire to express thanks to the City Engineer and the Town Clerk for their willingness and support without which very little useful work could have been accomplished.

I have the honour to be,

Sir,

Your obedient servant,

RODERICK MARCANO,
Medical Officer of Health.

NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT

For fully 10 years now the reclaimed area south of Wrightson Road extending southwards to the foreshore has been a sort of no-man's land, it never having been made clear whether that area was included within the limits of the City or not. As a matter of fact except for the purpose of sanitary supervision it would appear that Government for a long time took it for granted that the area in question was not included within the limits of the City in as much as no rates of any kind were ever levied by and none ever paid to, the Corporation.

From the point of view of sanitation, however, the Public Health Department always looked upon the sea as the southern boundary of the Urban Sanitary District and, in spite of uncertainty in regard to the service of Statutory Notices and of the difficulty in getting nuisances abated, some sort of sanitary supervision has always been exercised. To say, however, that the position was unsatisfactory and not conducive to effective sanitary supervision was to put it mildly and further, shortage of staff and equipment always militated against putting the area in the sanitary condition that should be expected in an area on the very threshold of the City.

An Ordinance redefining the southern and eastern boundaries of the City was passed by the Legislative Council in 1946 and some of the proposals were so revolutionary and so inimical to the interests of the City that a memorial protesting against these proposals and praying for the repeal of the Ordinance was forwarded to the Secretary of State for the Colonies. As a direct result further conversations in the matter were held with Government who have now declared that the southern boundary of the City is the Sea wherever it is and wherever it is likely to be in the future —a declaration which maintains fully the City's stand in the matter.

As I write a new Ordinance is now being prepared for submission to the Legislative Council which redefines in detail the boundaries of the City and which lays particular stress on the demarcation of the southern boundary, in the terms of the decision arrived at between the Government and the City Council. By this Ordinance an area of 168 acres will be added to the City and it is hoped that the necessary funds will be forthcoming to employ the staff and to provide the equipment necessary for putting this section of the City in the condition of health and sanitation that it so urgently needs.

SANITARY CIRCUMSTANCES

Water

Though Port-of-Spain was supplied during the year 1948 with a good supply of wholesome potable water it cannot be said that the water situation is entirely satisfactory and it cannot be denied that vagaries in volume and potability were the cause of a few anxious periods during the year under review.

Truth is that the demands on the water supply are, day by day, becoming greater and more insistent, and the calls for more and more water by every householder become louder and louder, whilst at the same time the opportunities for pollution of sources of supply multiply *pari passu* with the urbanisation of catchment areas, the result of the opening up of new building areas contiguous to the Urban Sanitary District.

In addition an outbreak in the year under report of typhoid fever in the Maraval Village through which the Maraval River courses and not far from which the intake of the Maraval Reservoir is located has brought home to us—if indeed there was any more need for bringing it home—the precarious position of the Maraval water supply and it was only by the maintenance of a fairly high residual chlorine in the Reservoir itself that any degree of safety could be guaranteed and anxiety alleviated. Briefly the facts are that all sources of supply are becoming increasingly subject to pollution and more and more sterilizing chemical has to be resorted to.

It cannot be long now—and the Corporation would be well advised to tackle the problem forthwith—before either new sources will have to be found with catchment areas that are beyond reproach, or new and expensive purifying and sterilising apparatus installed for dealing with existing sources.

There is, of course, no reason why, with deeper wells sunk in carefully selected areas and with impounding, storage and distribution reservoirs built at suitable points, given modern filtration, purifying and sterilising plants, a wholly sufficient and eminently potable product cannot be guaranteed every section of the Waterworks Area during all seasons of the year.

We take pleasure in again recording sincere thanks and the gratitude of the Municipality to Government which, through the prompt and efficient service of its Bacteriological Laboratory whose Senior Pathologist, Dr. W. Lamb, continues to carry on the tradition of helpful and fruitful co-operation achieved throughout the long years since the establishment of the Local Authority, and latterly through its Chemical Laboratory the head of which, Mr. L. S. Davis, the Government Chemist, has initiated a period of beneficial collaboration with the Municipality, is largely responsible for the very efficient check we are able to exercise on the various sources of water supply and on the distribution network of the Waterworks Area.

Bacteriological Examination of Water Supply

Where Derived	No. of Samples	Results of Examination	
		No. Safe	No. Unsafe (B. Coli present in 100 c.c.)
*Cocorite (Wells)	330	214	116
*Cocorite Wells (Raw Water)	2	—	2
*Diego Martin (Wells)	51	47	4
†St. Clair (Pumping Station)	49	47	2
‡St. Clair (Wells)	25	23	2
‡St. Clair (Wells) Raw Water	2	—	2
†Maraval (River)	54	45	9
§Cascade (River)	50	47	3
§St. Ann's (River)	52	44	8
‖Knaggs' Hill Reservoir (Intake)	4	4	—
‖Picton Reservoir	228	128	100
‖McShine Reservoir	16	13	3
‖Colonial Hospital (Tap) (Quare River Supply)	93	72	21
‖43, Charlotte Street (Tap) (Quare River Supply)	93	66	27
‖33, Henry Street (Tap) (Quare River Supply)	89	61	28
Microbiological Institute (Quare River Supply)	100	40	60
Yard taps on various premises in Sub-districts of City :—			
City proper	93	88	5
St. Clair	2	2	—
East Dry River	42	35	7
Belmont	44	39	5
Woodbrook	45	41	4
St. James	154	117	37
Total	1,618	1,173	445

*Chlorinated, not filtered.
†Filtered after Chlorination.
‡Chlorinated before distribution.
§Filtered before Chlorination.
‖Filtered before Chloramination.

Chemical Examination of Water

Samples examined by Government Chemist

Where Derived	No. of samples examined	No. of samples found safe
Picton Reservoir	67	67
Maraval Reservoir	14	14
Cascade Reservoir	13	13
St. Ann's Reservoir	12	12
Cocorite Pumping Station	19	19
Do. do. (for salinity)	351	351
Diego Martin Pumping Station	16	16
St. Clair Wells	14	14
Queen's Park Savannah Well	2	2
Total ...	508	508

Scavenging and Refuse Disposal

Whilst it must be admitted that the scavenging of the Urban Sanitary District and the disposal of the refuse collected are not unsatisfactory and that the City as a whole presents a clean, tidy appearance which seems to impress visitors, yet there are several gaps in this service which call for immediate closing.

For example scavenging on Sundays has been for so many years now such an obvious necessity that it is indeed surprising that up to now it still remains a pious wish ; in fact it can truly be said that it is only lack of funds which has prevented this from becoming an accomplished fact.

It is true that the down-town areas are scavenged on Sundays but this is not as thorough as it can be and a cursory inspection of the suburbs of the City will demonstrate that both streets and premises are full of rubbish by the time that Sunday evening arrives due to the fact that dustbins are already full and are often put out on the pavement on Saturday night, only to be searched and emptied on pavements and in streets by hungry dogs. What these areas look like on Monday morning can more easily be imagined than described.

It is to be hoped that the necessary funds will be forthcoming to enable this very necessary work to be undertaken without further delay.

Then again it has at last been realised that the gateways to the various premises of the City and the footpaths and the streets themselves are being consistently disfigured every day of the week with full and very often overflowing dustbins and in many cases with refuse which has escaped from an overturned dustbin. This is because the bye-laws state that dustbins must be deposited within the gateway to the houses not later than 7 o'clock in the morning and because the scavenging carts and trucks start their morning rounds so early that it is only by putting out dustbins overnight that their emptying the following morning can be assured.

It has been decided to change the bye-laws so that one hour more is allowed for putting dustbins out and also to start the early morning scavenging round later which will enable the householder to put his dustbin out early the same morning and even to synchronise the putting out of his dustbin with the arrival of the scavenging cart or truck. It is hoped and confidently expected that a cleaner and more presentable City will be the result.

In so far as scavenging vehicles are concerned it has been decided to modernise the fleet of collecting vehicles by the substitution of modern scavenging motor vehicles with closed tops for the old and unsatisfactory cart and open truck system and already three of these vehicles are doing service in various parts of the City. This change over has already effected quite a commendable improvement and also an appreciable saving in running costs as the old fleet was on the antiquated and obsolete side and the engines and parts were practically worn out.

Conditions at the Dump need Improvement

Controlled tipping which is the only satisfactory scientific way of dumping on any foreshore is not being practised through lack of hard surface roads and the necessary earth with which to cover the dumped refuse. The result is irregular and uneven surfaces, rat and fly nuisances, and often spontaneous fires.

It is hardly necessary to point out that dumping of refuse should not be done without covering with at least a six inch layer of earth and that unless this is done and refuse is, in addition, deposited at the very edge of the dump on the foreshore nuisances will always result.

Drainage and Sewerage

No new development took place in these services in the year under report and the position remains the same as has been detailed in previous reports.

It only needs to be repeated that the drainage and sewerage of the East Dry River and Belmont Districts cannot now be long delayed and it is only by the undertaking of major works of drainage and sewerage that the unsatisfactory health conditions in these districts can be and will be eliminated.

SANITARY INSPECTION OF THE DISTRICT

Premises used for human habitation, Houses let in Lodgings, Common Lodging Houses

The housing situation remains acute and no substantial amelioration took place in the year under review. In fact the situation has continued to grow worse each year for the past 10 years. Put briefly there is an insufficiency of housing accommodation for the multiplying population of the City and what little building there is is largely in the nature of providing accommodation for the carrying on of business. When this fact is integrated with the other unpalatable fact that existing dwelling houses have undergone substantial deterioration even to the point of unfitness for human habitation and when it is remembered that slum clearance is at the moment continuing even though it be on a reduced scale, it will be obvious that the situation is as difficult as it can be, and unless a determined attempt is made to provide more houses for the working classes a lowering of the standard of health and sanitation is bound to result.

It is true to say that there are numbers of people who have perforce to live under the most unsatisfactory conditions in the squares and the other open spaces, on the pavements, in backyards, sometimes under houses and the numbers that sometimes occupy a single 10' x 10' room can only be believed when seen.

Congestion and overcrowding in the City of Port-of-Spain is extreme and this state of affairs has now begun to spread to the suburbs.

When the question is asked why not more building of dwelling houses and less of business places private enterprise invariably gives the reply that, with the existing restrictions on rentals, with the high cost of material and labour, it is uneconomical to build for dwelling purposes. Herein lies a great opportunity for statesmanship. Is it impossible to devise means and ways whereby the building of houses for the working classes can be made economic and some measure of relief afforded hard pressed and often oppressed tenants ? Cannot more use be made of local building material or some relaxation of import duty afforded to genuine contractors who are willing to build dwelling houses ?

I must again refer to the reported slowing down and even stoppage of slum clearance activities. Certain it is that during the latter half of this year the pace of clearing and rebuilding of the slums has lessened and it would appear that large sections of the slum clearance areas are destined to remain unbuilt upon due to lack of funds, we are told. If this work is allowed to slacken through lack of funds it would be a major tragedy and a worst condition than obtained before would eventually arise in these clearance areas.

Government must realise the urgent necessity for the completion of this work for which the Slum Clearance Committee was appointed and which, it can truly be said, has been tackled by the Committee with commendable vigour and with very gratifying results.

Common Lodging Houses and Houses let in Lodgings are making their appearance in the Urban Sanitary District with disturbing frequency as cottages and dwelling houses are being more and more converted for the purpose of obtaining increased rental.

This is a direct result of the overcrowding and congestion that is so prevalent, and it is difficult to keep pace with landlords and agents who divide old garrets and dilapidated rooms into cubicles for which exorbitant rents are charged. In the majority of cases no adequate cooking, bathing, or washing accommodation is provided and the fire hazard which these conditions create is another source of anxiety to this Department, apart from the multiplicity of nuisances which are usually created and which are only with great difficulty and often, only after resort to the process of the law, abated.

The Department continues to do its best in the circumstances by regular spraying for vermin, by causing the removal of accumulated refuse, and by the clearing of choked sinks and sewer basins but the danger of a flare up of infectious diseases is an ever present one and is a constant source of anxiety.

Premises and Occupations controlled by Bye-laws and Regulations

Food

The food situation in the Urban Sanitary District is far from being satisfactory and constitutes one of the main problems that the Public Health Department has to face.

It is not only that the quality of the food supply leaves much to be desired and that more fresh foods are an immediate necessity, but what is urgently required is a greater consciousness of the dangers attendant on contaminated food, and a willingness and a determination to protect all foodstuffs particularly perishable foodstuffs which are eaten raw and uncooked as well as foodstuffs which are already cooked or baked and which are sold to the general public fit for consumption as such.

Then again it must be realised that the preparation and sale of foodstuffs to the public imposes a grave responsibility on the vendor, a responsibility which, if not properly and carefully discharged, may lead to the sickness and/or death of the consumer and only those people who are able and willing to discharge this responsibility should be permitted to ply the trade of a food handler or food vendor.

Too often it has been the experience of the Public Health Department that the preparation and sale of foodstuffs is being looked upon as a sort of ready standby for people who are out of work and have nothing else to do, too often the trend of thought and of action seems to be : buy a little raw foodstuff ; prepare it in some form or other in any old place using dirty and often makeshift utensils ; serve it up to the general public any where along the streets and on the pavements in vessels and containers that are old, filthy, and very often unserviceable ; collect the high charges that are made and don't worry about the rest ; nobody will come back to accuse me of having caused them foodpoisoning, dysentery or typhoid fever and so I can afford to go along my own sweet way.

A stop must be put to this highly unsatisfactory practice and a weeding out process has been undertaken and must be pursued notwithstanding where or whom it hits. It is a fact staring us in the face that a large number of premises where food is prepared and/or exposed for sale are not

fit for the purpose by reason of bad construction and sanitary defects, that a large number of people are unsuited to the trade of preparing, handling and selling food, and that a large number of vehicles, trays, pots and pans used for conveying, preparing and selling food are unfit for the purpose and must be speedily eliminated. The work goes on but with numerous attendant difficulties and not, of course, without tears and headaches and much misunderstanding.

The registration of food places and of itinerant vendors continues but the work is a slow up-hill one and often recourse to the law is deemed necessary. Hand in hand the campaign of education and medical examination goes on and all we ask for is co-operation and understanding.

There is, of course, no desire on the part of the Department to throw people out of work ; such a policy would be contrary to the best interests of the health of the City as better nutrition, better sanitation, better housing, &c., go hand in hand with full employment, but a dirty shop and a filthy vendor are a grave potential health menace and cannot be allowed to endanger the health of large numbers of the community because of the necessity for obtaining a livelihood at all costs.

Sale of Milk Bye-Laws

Dairies and Milk Shops

Sub-District	*Cowshed Licences Issued*
City proper	—
East Dry River (unsewered)	—
Belmont (unsewered)	—
Woodbrook (partly unsewered)	2
St. James (unsewered)	11
Total 1948	13
Total 1947	4

Dairymen's Licences

Dairymen's licences issued to cowkeepers and other purveyors of milk	13
Dairymen's licences issued to shops, milk bars and refreshment parlours	51
Total 1948	64
Total 1947	42

Milk Vendors' Licences and Badges

City and Out-Districts	*Milk Vendors' Licences*	*Cows Tuberculin Tested*	*Badges*
Port-of-Spain	64	176	16
Out-districts	57	205	65
Total 1948	121	381	81
Total 1947	89	257	62

Sale of Foodstuffs Bye-Laws

Registration of Shops, &c.

Provision, meat, and spirit shops, restaurants, hotels, refreshment parlours	466
Ground provision and fruit shops	12
Bakehouses	8
Confectionery shops	4
Aerated water factories	3
Other factories	5
Total 1948	498
Total 1947	592

Registration of Vendors

Bread and cakes	32
Confectionery	32
Cooked food including fries, souse, &c.	23
Meat, fish and cheese	2
Ice-cream and plates	22
Sweet drinks	14
Vegetables, greens, fruits	119
Miscellaneous	46
Total 1948	290
Total 1947	394

Number of badges issued to itinerant vendors	226	(382—1947)
Number of oyster vendors licensed under Sale of Oyster Bye-Laws	6	(7—1947)

FOODSTUFFS SEIZED OR SURRENDERED AND DESTROYED

Under Part X of the Public Health Ordinance, Ch. 12. No. 4.

Butter	tins	...	1
Cheese	pounds	...	2,508
	tins	...	3
Fish (fresh)	pounds	...	2,687
Fish (preserved)	boxes	...	4
	tins	...	4,296
Flour	bags	...	27
	pounds	...	60
Meats (preserved) including bacon, corned and pickled beef, lamb, ham and sausage	barrels	...	39
	cases	...	2
	pounds	...	835
	tins	...	277
Milk (preserved—sweetened and unsweetened)	tins	...	418
Onions	bags	...	1,004
Plantain	tierces		2
Potatoes	bags	...	2
	barrels	...	6
	crates	...	1
Vegetables (including Soups—(liquid and dried)	...	...	boxes 5
	...	...	tins 14

Anti-Rat Measures

The war against the rat continues to be waged and I need hardly state that it is likely to be a perpetual one. For no sooner than the numbers of rats have been reduced sufficiently to permit any slight relaxation on the part of the Anti-Rat Unit almost immediately it would appear that breeding intensifies and up goes the number of these rodents.

It might justifiably be asked why not an all out drive to exterminate these vermin once and for all to which the immediate reply would be that it is neither wise nor expedient to seek to exterminate rats, even if it were practicable to do so. In the first place it has been maintained and perhaps quite rightly that rats are great scavengers, that they kill snakes and other vermin and so subserve a useful function in the general economy, and in the second place it is agreed that they multiply so rapidly that unless a campaign is intensified for a number of years and in all sections of the City and in the areas contiguous to the City at the same time, the reduction in numbers would not be such that the term "extermination" could justly be applied.

Under normal circumstances the safest course would appear to be a daily routine campaign to reduce numbers and so prevent damage and disease with a concerted drive now and then when it appears that numbers in any particular set of premises or in any particular locality are tending to increase.

Just at the moment, however, in view of the fact that the Wharf Area has been declared to be within the City—an area in which only superficial anti-rat work was being done—and ships from all parts of the world come alongside, grain ships from India and Burma particularly, and in view of the fact that the suburban and rural areas surrounding the City are heavily infested and are without routine anti-rat services, Government and Municipality would be well advised to undertake a joint concerted drive to reduce numbers to reasonable and tractable limits.

In the meantime the daily work of poisoning, trapping and gassing continues after a preliminary survey of individual premises and blocks of premises.

There is really nothing more recent in the way of methods or poisons than what has been described in my last report except that we have been obtaining quite gratifying results with antu preparations.

DESTRUCTION OF RATS AND MICE

Rats caught by trappers	11,991
Rats bought	1
Total	11,992
Mice caught and destroyed	6,872

EXAMINATION OF RATS BY GOVERNMENT BACTERIOLOGIST

Rats examined for plague	11,985
Rats found infected with plague	—
Immature rats not examined	7

SPECIES

	Decumanus	*Rattus*	*Total*
Males	2,533	695	3,228
Females	7,048	1,709	8,757
Total	9,581	2,404	11,985

Anti-Mosquito Measures

Under this heading a cause of much concern to the Department is the high aedes index, 3 to 4 per cent., which is a constant finding on premises in the peripheral part of the City and which represents a potential danger of great magnitude in so far as the possibility of the introduction and spread of yellow fever is concerned.

It is true that we have been free from yellow fever since the beginning of the century but we are surrounded by countries in which cases of yellow fever occur and aeroplane and steam traffic has grown so intimate and so fast that the introduction of infected aedes mosquitoes into the City and the Colony is an ever present and serious danger.

If imported mosquitoes were to gain a foothold multiplication and spread of infected mosquitoes would be greatly facilitated by reason of the high aedes index which is now obtaining.

The lowering of the index to zero or to a percentage of 1 or 2 which ensures a reasonable margin of safety is not an impossible or difficult task. It can be done fairly easily, I feel, but there is need for more trained men and more equipment and material and here again a joint scheme which embraces the areas under municipal control and the areas under government control is a necessity and the teams, municipal and government, for complete success should work in contiguous areas outside and inside the limits of the City at one and at the same time.

It is to be hoped that with the provision of more funds for public health work which it is confidently expected will materialise as a result of the inquiry now taking place by the Commissioners

appointed to investigate the financial relationship between the Municipality and the Government that it will be possible to set in motion this necessary piece of work and so eliminate the uncertain element of luck and chance on which reliance is being placed.

Nothing new or unusual occurred in the routine anti-mosquito work of the Department in the year under review. The City continues to remain comparatively free from anopheline mosquitoes except at the extreme eastern and western limits where it is possible to pick up an occasional anopheline larva and see an occasional anopheline adult on a wall or in flight.

The daily routine work of the Department continues unabated—the oiling of stagnant pools and of watery cesspits, the flushing and cleansing of underground drains, filling in of depressions, the canalising and oiling of the Maraval River—and it is gratifying to be able to record that satisfactory success attends the carrying out of this highly important piece of work, to which many visitors to the City have testified.

INSPECTION OF EAVES GUTTERS, &c.

Number of inspections of premises (Anti-Mosquito Unit)	213,814
Number of inspections of eaves gutters	96,714
Number of occasions found in good order	92,823
Number of occasions found defective	3,891
Number of occasions found containing water only	982
Number of occasions found containing water and larvae	333
*Number of occasions mosquito larvae were found in tubs, anti-formicas, tin cans, &c.	13,194
Yards cleared of receptacles	8,795

N.B.—*Occasions on which mosquito larvae were found by sanitary inspectors, during the course of 94,412 inspections of premises, are included in above figure.

LARVAL INDEX

	Permises with mosquito larvae per cent. of number visited
Yearly average 1938-1942	2.1
Year 1943	3.3
1944	5.4
1945	6.9
1946	7.3
1947	5.8
1948	4.4

VITAL STATISTICS OF THE DISTRICT

Comparative Summary of Vital Statistics

(Unless otherwise stated, rates are per 1,000 population)

	1921	1946	1947	1948
Area of City—acres (pastures and open spaces included)	1,793	2,550	2,550	2,550
Estimated population (mean)	61,386	100,798	96,067	98,911
Density of population (persons per acre)	34.2	40	38	39.32
Total live births	1,687	4,133	4,113	4,053
Birth rate	27.28	41.00	42.81	40.98
Still births registered	154	225	220	223
*Still birth rate	91.3	54.44	53.49	55.02
Marriages registered	534	1,170	1,024	1,000
Marriage rate	8.64	11.61	10.66	10.11
Total deaths	1,659	1,396	1,385	1,191
Death rate	26.83	13.85	14.42	12.04
Natural increase of population	28	2,737	2,728	2,862
Deaths under one year	287	241	231	177
*Infant mortality rate	170.12	58.31	56.16	43.67
*Maternal mortality rate	—	1.45	3.40	1.23
Death Rates :				
Notifiable infectious diseases	6.21	2.45	2.64	1.75
Pulmonary tuberculosis	2.49	1.57	1.74	1.09
Tuberculosis (other forms)	.26	.14	.11	.06
Enteric fever	1.25	.08	.07	.05
Pneumonia (all forms)	1.97	.61	.67	.52
Bronchitis	1.36	.33	.47	.32
Diphtheria	.02	.02	.02	.01
Malaria	.89	.12	.05	.03
Syphilis	.21	.20	.22	.08
Diarrhoea and enteritis	1.91	.51	.41	.35
Influenza	.26	.03	.01	.03
Ankylostomiasis	.15	—	.01	—
Bright's disease and nephritis	2.09	.43	.62	.31
Diseases of the heart and blood vessels	2.65	2.02	2.21	1.80
Diseases of the nervous system including cerebral haemorrhage	1.70	1.47	1.38	1.39
Cancer and other malignant diseases	.63	.78	.78	.88

*Per 1,000 births.
Census population of City April, 1946 : 93,198.
Estimated Population of City to 31st December, 1948 : 100,251.
Colony's Mean Population : 594,757.

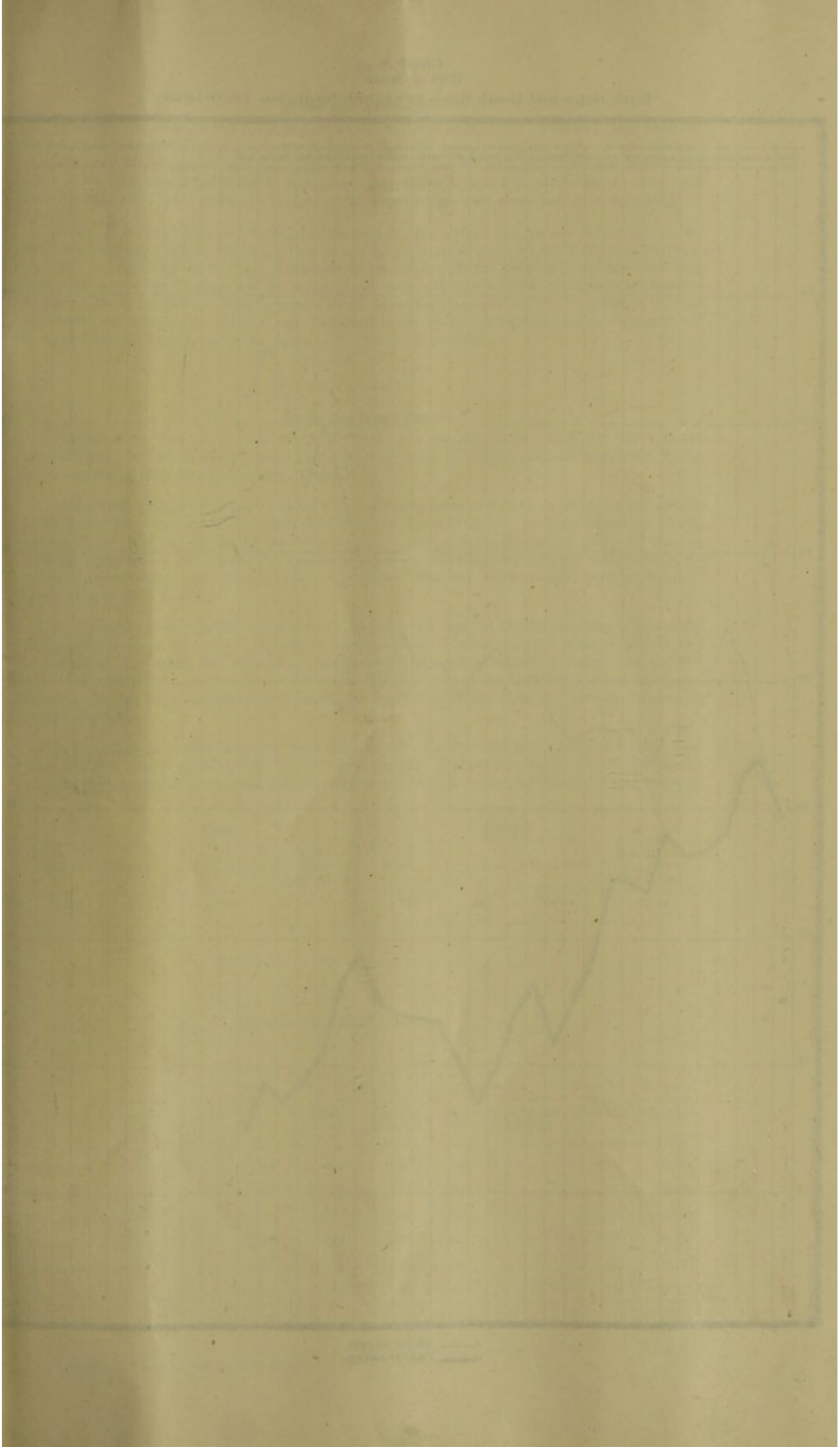


Chart A.
Port of Spain
Birth Rates and Death Rates per 1,000 Population 1920-1948

Births and Birth Rates

The birth rate of 40.98 per 1,000 population for the year 1948, is the lowest birth rate recorded for the three year period 1946-47-48, but is higher than the figure 37.34 for 1945. No conclusion, of course, can be arrived at from this single isolated figure for one year only, but if it means that a fall in the birth rate is beginning to take place, that will be a source of satisfaction to those who view the high birth rate, which is a feature of the West Indies, with alarm and even misgiving.

In fact it is as well to record that for the past 10 years there has been a steady rise in the birth rate from year to year starting with a rate of 30.69 in 1938, rising to a rate of 36.82 in 1943, and then to a rate of 40.98 in 1948. There can be no denying the fact that the population is a very fertile one and large families are the order of the day. How the heads of these large families manage to bring up their children in these difficult days of high prices and short supplies is a cause for wonder and admiration, which is only surpassed by the faith and fortitude which is encountered in these Christian homes where the motto is : "God will provide".

Death and Death Rates

Corresponding with the increase in the birth rate is a decrease in the death rate which is not unsatisfactory, but which is still much higher than in cities of similar size and population in the larger centres of tropical and temperate climes.

Actually the number of deaths recorded 1,191, giving a death rate of 12.04 per 1.000 population, is the lowest on record since the establishment of the Local Authority in 1917. Analysis of the returns shows that the decline in mortality applies to every single disease or group of diseases with the exception of cancer and the malignant diseases, diseases of the nervous system including cerebral haemorrhage, and influenza, and even here whatever increase has been recorded is comparatively little indeed.

I need hardly refer to what is now a well established fact that the highest mortality is invariably to be found in those areas where poverty is most pronounced, where there is most congestion and overcrowding, and where the disposal of excreta and refuse is less efficiently carried out and the same old story is here again recorded, viz., that the East Dry River, the Belmont and St. James Districts, are the most unhealthy and return the highest mortality from the various diseases or groups of diseases.

Is it not high time that something were done to put an end to this state of affairs ? How long must this blot on the public health of the Urban Sanitary District continue ? Surely the master plan for the sewering of these areas and the relaying out of these residential districts is long overdue.

Births				Deaths			
Males	Females	Both Sexes	Birth Rate per 1,000 population	Males	Females	Both Sexes	Death Rate per 1,000 population
2,092	1,961	4,053	40.98	595	596	1,191	12.04

Deaths in Sub-Districts of the City

Sub-District	Mean Population	Deaths				Total Deaths in Sub-Districts	Rate per 1,000 population
		Place of Occurrence					
		Home, &c.	Colonial Hospital	Royal Gaol	House of Refuge		
City Proper	34,031	184	136	5	...	325	9.55
St. Clair	1,659	9	1	...	...	10	6.03
East Dry River	21,953	138	121	...	...	259	11.80
Belmont	17,103	129	69	...	...	198	11.58
Woodbrook	12,551	54	28	...	...	82	6.53
St. James	11,614	105	48	...	164	317	* 27.29
Total	98,911	619	403	5	164	1,191	12.04

* *See* Table ; "Comparison of Death Rates".

Comparison of Death Rates

	No. of Deaths	Death Rate per 1,000 population
(1) City (St. James excluded)	874	10.01
(2) City, including St. James	1,191	12.04
(3) City, as in (2), but omitting House of Refuge	1,027	10.45
(4) St. James (House of Refuge excluded)	153	13.94

Age Distribution of Deaths

Period	Males	Females	Both Sexes	Percentage of Total Mortality at All Ages
Under 1 year	103	74	177	14.86
1- 5 years	27	18	45	3.78
6-10 do.	4	3	7	0.59
11-20 do.	23	26	49	4.11
21-30 do.	39	39	78	6.55
31-40 do.	45	42	87	7.30
41-50 do.	63	66	129	10.83
51-60 do.	72	56	128	10.75
Over 60 years	219	272	491	41.23
TOTAL	595	596	1,191	...

Comparison of Deaths at different Age periods, 1928-48

Period	Total Deaths at All Ages	Deaths under 1 Year		Deaths 1-5 Years		Deaths 56-60 Years		Deaths over 60 Years	
		No.	Percentage of Total Deaths	No.	Percentage of Total Deaths	No.	Percentage of Total Deaths	No.	Percentage of Total Deaths
Yearly Averages									
1928-32 ...	1,327	230	17.42	81	6.06	94	7.09	336	25.10
1933-37 ...	1,167	215	18.24	62	5.29	87	7.57	289	24.74
1938-42 ...	1,622	275	16.85	68	4.21	117	7.20	566	34.92
1943 ...	1,862	283	15.20	102	5.48	131	7.04	674	36.20
1944 ...	1,620	248	15.31	77	4.75	106	6.54	598	36.92
1945 ...	1,526	239	15.66	71	4.65	86	5.64	561	36.76
1946 ...	1,396	241	17.26	77	5.52	95	6.81	493	35.32
1947 ...	1,385	231	16.68	49	3.54	92	6.64	536	38.70
1948 ...	1,191	177	14.86	45	3.78	63	5.54	491	41.23

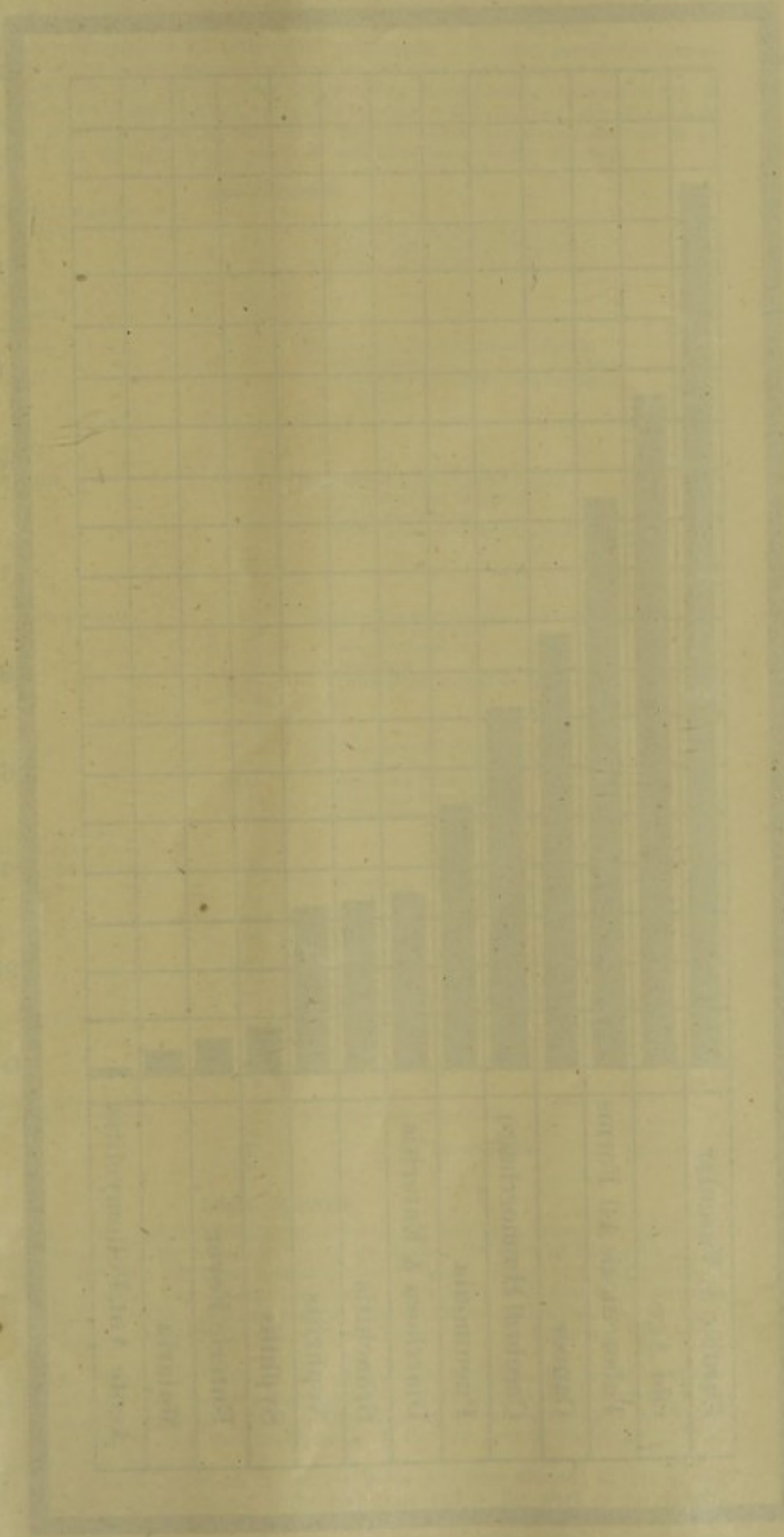
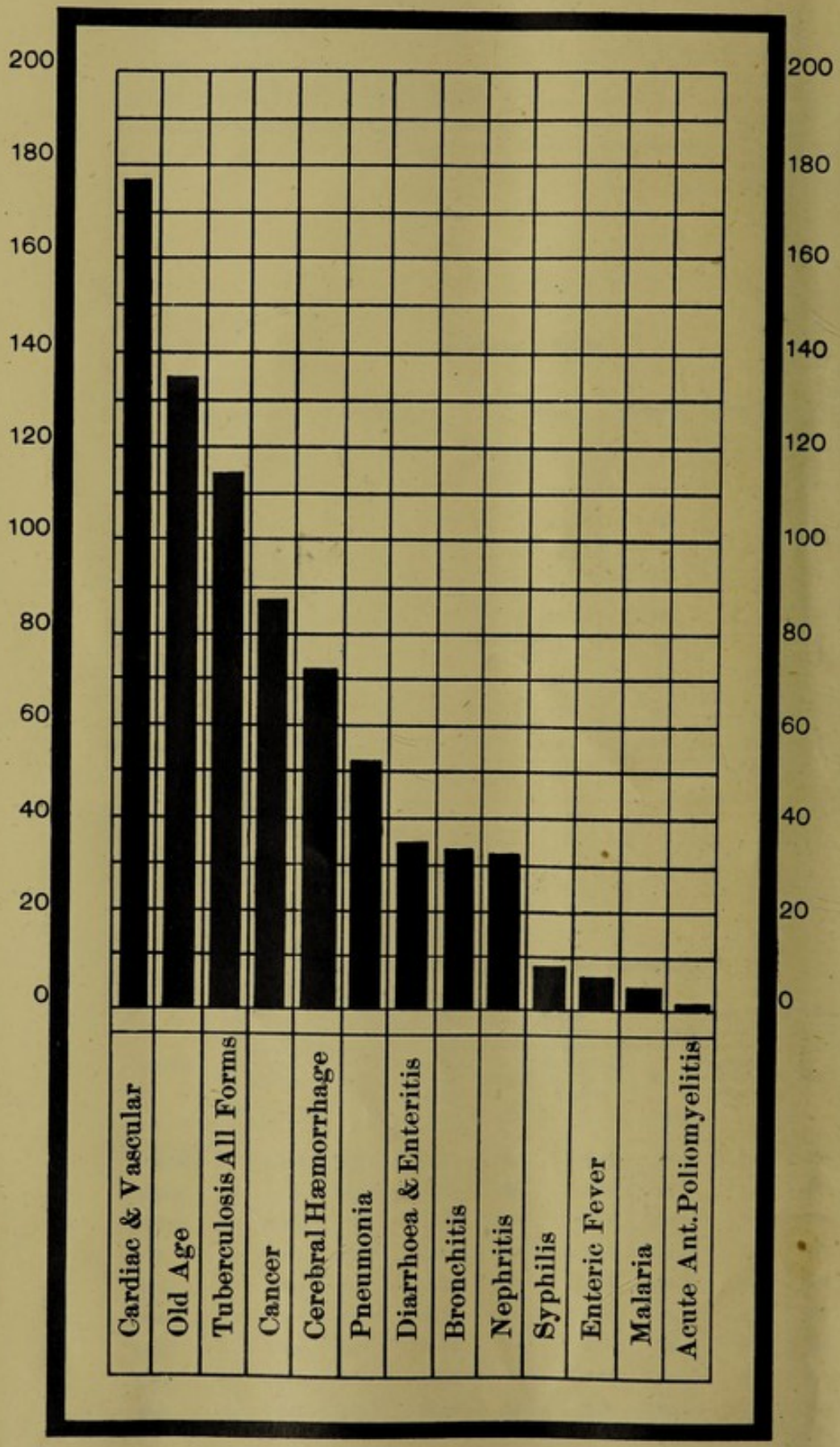


Chart B.
Port of Spain

Principal Individual CAUSES OF DEATHS 1948



Causes of Deaths

It is interesting to note that while diseases of the heart and blood vessels continue to hold pride of place in the list of causes of deaths, pulmonary tuberculosis has now been displaced by old age and diseases of early infancy has receded to fourth place : whilst no great reliance can be placed on, or conclusion drawn from, the figures for one year, it is gratifying to find that concomitant with this finding is an extension and intensification of the campaign directed to stemming the tuberculosis tide, a tide which has been flowing all too freely for the past ten years.

If coupled with this quickening of the tuberculosis programme it is found possible to increase the quality and quantity of the food supply and so improve the state of nutrition of the population, and also to relieve congestion and overcrowding by providing more housing accommodation for the working classes I have no doubt that a great stride forward will have been effected, and the havoc wrought and the suffering caused by this dread scourge which now constitutes one of our main health problems, if not the main health problem, will have been greatly lessened.

Causes of Deaths

I.—General Diseases

(a) *Notifiable Infectious Diseases*	
Enteric Fever	5
Diphtheria	1
Membranous Croup	—
Pulmonary Tuberculosis	108
Tuberculosis (other forms)	6
Pneumonia (all forms)	51
Ophthalmia Neonatorum	—
Plague	—
Cholera	—
Small Pox	—
Typhus Fever	—
Yellow Fever	—
Encephalitis Lethargica	—
Acute Poliomyelitis	2
Acute Ascending Myelitis	—
Cerebro-Spinal Fever	—
Puerperal Fever	—
Anthrax	—
	173
(b) *Non-Notifiable Infectious Diseases.*	
Malaria	3
Whooping Cough	1
Influenza	3
Measles	—
Dysentery	1
Ankylostomiasis	—
Syphilis	8
Other Venereal Diseases	3
Blackwater Fever	—
	19

II.—Other Diseases

(a) *General Diseases not included above*	
Cancer and other Malignant Diseases	87
Pellagra	—
Scurvy Rickets	—
Leprosy	—
Other General Diseases	35
	122
(b) *Diseases of the Nervous System and Organs of Special Sense*	
Simple Meningitis	5
Cerebral Haemorrhage	70
Apoplexy	2
Convulsions of Children under 5 years	4
Other diseases of the Nervous System	56
	137
(c) *Diseases of the Circulatory System*	
Cardiac and Vascular Diseases	178
Other Circulatory Diseases	2
	180
(d) *Diseases of the Respiratory System*	
Bronchitis	32
Other diseases of the Respiratory System	25
	57
(e) *Diseases of the Digestive System*	
Diarrhoea and Enteritis	35
Cirrhosis of Liver	5
Other diseases of the Digestive System	56
	96
(f) *Non-Venereal Diseases of the Genito-Urinary System*	
Bright's Diseases	—
Nephritis	31
Other Non-Venereal Diseases	41
	72
(g) *Diseases of the Puerperal State. (Other than Puerperal Fevers)*	
Puerperal Eclampsia	—
Puerperal Haemorrhage	1
Other Puerperal Diseases	4
	5
(h) *Diseases of Early Infancy*	111
(i) *Old Age*	136
(j) *Affections produced by External Causes.*	
Burns and Scalds	11
Accidents and Injuries	35
	46
(k) *Other Causes of Death*	37
Grand Total	1,191

Infant Mortality

In any public health report infant mortality must inevitably occupy a prominent place and rightly so because infant mortality truly reflects in a very special way the state of the public health in any community. Where there is a low infant mortality rate, there will always be found intelligent and educated parenthood, efficient and prompt ante-natal, intra-natal and post-natal services, adequate maternal and infant nutrition, sufficient housing accommodation and satisfactory environmental hygiene, for it is a well recognised fact that all these factors have an important bearing on the life of the infant.

In this Colony in general and in the City of Port-of-Spain in particular the infant mortality rate is showing a welcome decline from the very high figure which obtained at the beginning of the century. There is an increasing appreciation of the value of going all out to conserve infant life to the fullest possible extent, and to stem the great wastage in the first year of post-natal life that was at one time so great and so common.

That the present low figure of 43.67 per 1,000 live births has been attained is due to the consistent efforts of the Child Welfare League in the first place and to the work of the various Government Departments in the second place, and here in this field of combined effort lies an example that is at once fruitful and encouraging. Side and side and with mutual understanding a Voluntary Body of devoted workers labours hand in hand with Government's ante-natal and

midwifery services to bring care and attention to mothers, infants, and children. No difficulties arise which are not easily overcome, and the work of each is appreciated and understood by all, the Voluntary Body doing work which it considers a privilege to do for and on behalf of its own people and Government doing work which forms an integral part of its health services.

Surely such a combination is the ideal one and one which can be followed with fruitful results in other avenues of mutual endeavour. Failure to encourage such effort is tantamount to frustration of the hopes and ambitions of all voluntary workers which must inevitably retard the whole public health programme, for there can be no denying the great contribution to the improvement of the public health which voluntary workers have made. Where there is informed and intelligent interest on the part of those for whom a service is provided, the benefits of the service are more widespread and lasting than if the service were forced upon an unwilling community and so once again it becomes clear that the interest of the people in their own health and welfare, is an indispensable preliminary to efficient and successful service.

The infant mortality figure of 43.67 per 1,000 live births is the lowest on record and the number of deaths of infants under one year, 177, during the year 1948 is the smallest number ever recorded. In fact starting with the year 1943 the rate has shown a commendable reduction each year.

The neo-natal mortality rate of 18.75 per 1,000 live births is correspondingly on the low side and represents an improvement on the figure 22.28 for the year 1947. The neo-natal mortality represents 42.94 per cent. of the total infant mortality of the year under report. The still birth rate of 55.02 per 1,000 live births is higher than the corresponding rate for 1946 and 1947. Two hundred and twenty-three still births were recorded. This rate continues to give cause for anxiety and whilst it is clear that many systemic diseases, and the diseases, accidents, and abnormalities of pregnancy and confinement play an important part, there are still many obscure causes that affect the rate, causes which can only be elucidated by regular *post-mortem* examination and intelligent research.

Births and Deaths of Infants under 1 year, 1917-48

Period	No. of Births	No. of Deaths under 1 year	Infant Mortality Rate
Year 1917	1,770	412	232.77
Yearly Averages:			
1918-22	1,700	310	182.94
1923-27	1,862	274	146.96
1928-32	1,925	230	119.13
1933-37	2,248	215	96.05
Average 1918-37	1,901	288	155.57
Year 1938	2,591	204	78.73
1939	2,752	242	87.94
1940	2,937	291	99.08
1941	2,888	314	108.73
1942	3,399	322	94.73
Average 1938-42	2,913	275	93.84
Year 1943	3,751	283	75.45
1944	4,161	248	59.60
1945	3,972	239	60.17
1946	4,133	241	58.31
1947	4,113	231	56.16
1948	4,053	177	43.67

Causes of Deaths under 1 year

Causes of Deaths	Neo-Natal Deaths under 1 month	Deaths 1 month and under 1 year	Total	Percentage of Total Infant Mortality
Ante-Natal Causes:				
Prematurity	45	3	48	
Congenital Debility	3	8	11	
Marasmus	2	16	18	
Malnutrition	—	7	7	
Congenital Abnormalities	2	2	4	
Congenital Syphilis	—	1	1	
Congenital Heart Disease	2	—	2	
Total Ante-Natal	54	37	91	51.41
Intra-Natal Causes:				
Asphyxia Neonatorum	3	—	3	
Cerebral Haemorrhage	2	—	2	
Atelectasis	4	—	4	
Internal Haemorrhage	3	—	3	
Total Intra-Natal	12	—	12	6.78
Post Natal Causes:				
Pneumonia	—	15	15	
Diarrhoea and Enteritis	5	22	27	
Bronchitis	—	11	11	
Icterus Neonatorum	1	—	1	
Pulmonary Congestion	—	1	1	
Malaria	—	1	1	
Meningitis	—	1	1	
Other Post-Natal Causes	4	13	17	
Total Post-Natal	10	64	74	41.81
GRAND TOTAL	76	101	*177	—

* M. 103. F. 74

Chart C.
Port of Spain
Infant Mortality Rates-per 1,000 Live Births 1917-1948

Duration of Life of Infants dying under one year of Age

Duration of Life	No. of Infants	Percentage of total deaths under 1 year	Corresponding percentage 1947
Under 1 day	30	16.95	22.51
1 day and under 2 weeks	40	22.60	31.60
2 weeks and under 1 month	6	3.39	3.46
Total under 1 month ...	76	42.94	57.58
1 month to 3 months	36	20.34	16.02
Over 3 to 5 months	15	8.47	7.36
Over 5 to 7 months	21	11.86	6.49
Over 7 to 9 months	18	10.17	7.36
Over 9 to 11 months	11	6.21	8.19
Over 11 and under 1 year	—	—	—
Total	177	—	—

Neo-Natal Mortality (Deaths under 1 month), 1930-1948

Period	No. of Deaths under 1 month	Percentage of total deaths under 1 year	Neo-Natal Mortality Rate per 1,000 Births
Yearly Average : 1930-34	9.06	38.60	44.03
Year 1935	91	50.28	39.24
1936	61	40.94	26.58
1937	110	46.41	48.39
1938 1938	117	57.35	45.16
1939	122	50.41	44.33
Average 1935-39	100.2	49.08	40.74
Year 1940	132	45.36	44.94
1941	137	43.63	47.44
1942	134	41.62	39.42
1943	134	47.35	35.72
1944	117	47.18	28.12
1945	126	52.72	31.72
1946	136	56.43	32.91
1947	133	57.58	32.20
1948	76	42.94	18.75

Still Births

Year	Total Still Births	Rate per 1,000 Live Births
1948	223	55.02
1947	220	53.49
1946	225	54.44
1945	224	56.39
1944	265	63.69
1943	230	61.32
1942	257	75.61
1941	211	73.06
1940	214	72.86
1939	190	69.04
1938	171	66.00

The Pre-School Child

This period of the child's development seems to be a sort of "Cinderella period" which is notorious for the havoc which can be wrought by diseases when allowed to go unchecked, and for the neglect and lack of care which is such a pronounced feature in all parts of the Colony. The result is that the care, attention, and welfare which are so meticulously bestowed on infants in the post-natal period are all thrown to the winds during this period of the child's development. Often when the child is old enough to enter school irreparable damage has already been wrought and very little amelioration can be effected. This is a source of great anxiety to all concerned and it is a serious indictment of the inadequacy of the existing services.

The remedy is of course more and more crèches and nurseries and to this end the Child Welfare League and the Nursing Association should get together in a serious effort to fill this wide open gap.

Causes of Death at Ages 1-5

Groups	Group Total	Percentage of Total Mortality at ages 1-5
Diseases, &c., attributable to Ante-Natal Causes : Malnutrition 2, Marasmus 1, Prematurity 1, Hydrocephalus 1 ...	5	11.11
Communicable Diseases : Pneumonia 11, Tuberculosis 4, Diphtheria 1, Malaria 1, Poliomyelitis 2, Influenza 1	20	44.44
Diseases of the Nervous System : Cerebral Haemorrhage 1, Meningitis 1, Spinal Muscular Atrophy 1 ...	3	6.67
Diseases of the Respiratory System : Bronchitis 2, Pulmonary Infarct 1, Respiratory Failure 1	4	8.89
Diseases of the Digestive System : Gastro-Enteritis 4, Hepatitis 1	5	11.11
Other Causes : Burns 3, Anaemia 1, Nephritis 1, Emaciation 2, Skull Fracture 1 ...	8	17.78
Total	*45	—

* M. 26, F. 19.

Maternal Mortality

The maternal mortality rate for 1948 is the lowest ever recorded, 1.23 per 1,000 live births, and represents a welcome reduction of a rate which reflects the ready availability and the efficiency of the maternity and child welfare services.

It should be possible theoretically to reduce this rate to zero when a greater appreciation of the need for ante-natal care and prompt midwifery services has come about.

Causes of Maternal Deaths

Causes of Maternal Deaths	Under 16	16 to 25	26 to 35	36 and upwards	Total All Ages	Rate per 1,000 Births 1948	Rate per 1,000 Births Average 1943-47
Puerperal Sepsis	—	—	—	—	—	—	0.55
Eclampsia	—	—	—	—	—	—	0.49
Haemorrhage	—	1	—	—	1	.25	0.51
Pernicious Vomiting ...	—	—	—	—	—	—	—
*Other Causes	—	2	2	—	4	.99	1.20
Total	—	3	2	—	5	1.23	2.75

* "Other Causes" include Abortion, Retained Placenta, Toxaemia.

PREVALENCE OF AND CONTROL OVER INFECTIOUS DISEASES

Notifiable Infectious Diseases

The infectious diseases which are notifiable and to which therefore Part XIV of the Public Health Ordinance, Cap. 12. No. 4, applies are now 19 in number, puerperal fever having been added to the list in July 1941.

They are : diphtheria, membranous croup, the enteric fevers, pulmonary tuberculosis, tuberculosis (other forms) pneumonia, ophthalmia neonatorum, chicken pox, encephalitis lethargica, cerebro-spinal fever, acute anterior poliomyelitis (infantile paralysis), acute ascending myelitis and puerperal fever in addition to plague, cholera, yellow fever, small pox (including alastrim), typhus fever, typhoid fever, and anthrax which are dangerous infectious diseases and are quarantinable. Typhoid fever and anthrax were proclaimed dangerous infectious diseases in 1937 and 1938 respectively. (*Royal Gazette* 30th July, 1937 and 2nd June, 1938.)

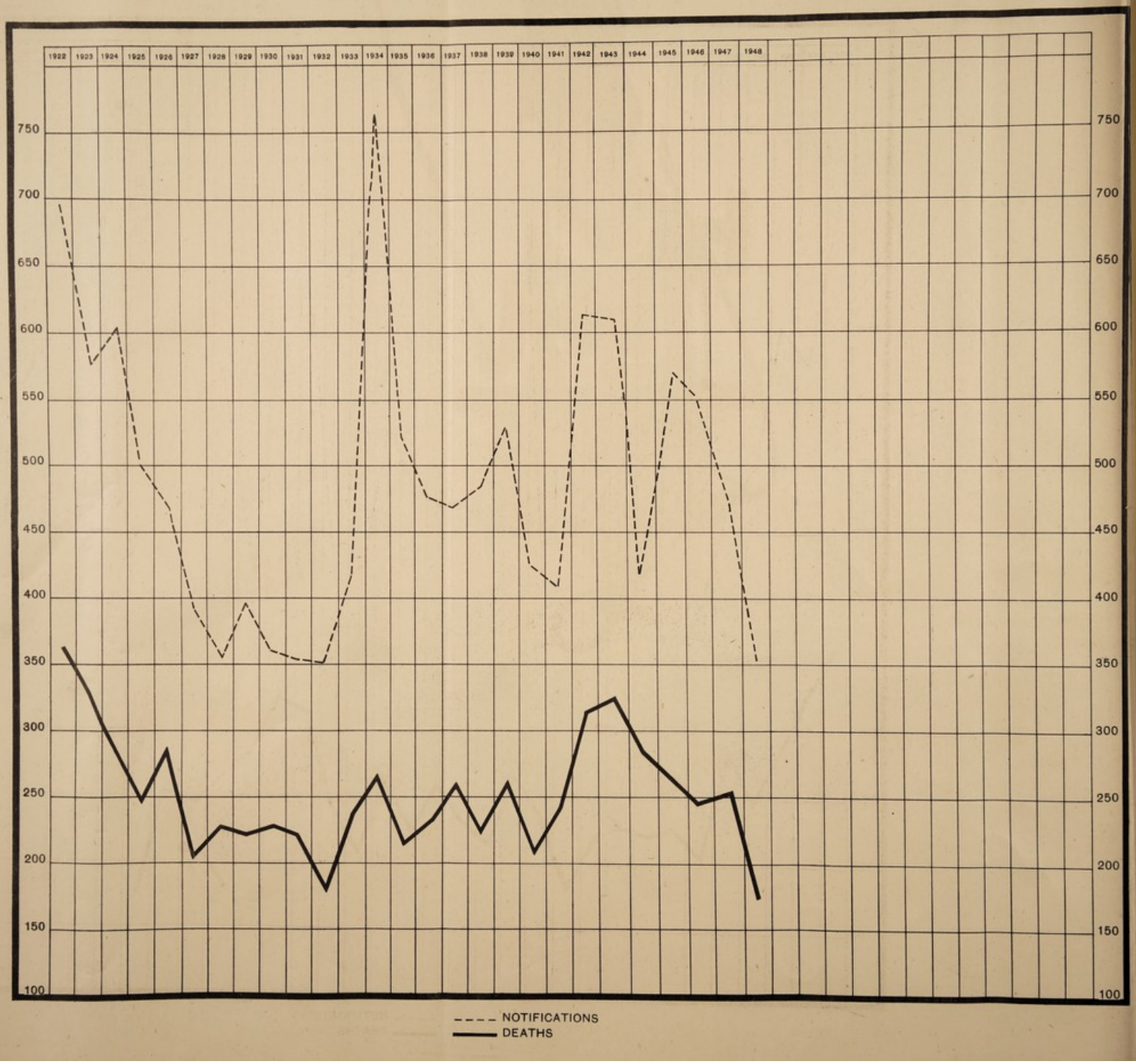
The year 1948 furnished the smallest number of cases of notifiable infectious diseases on record, only 349 cases being notified as compared with 469 in the previous year 1947, and an average of 523.6 for the quinquennium 1943-47.

There is indeed a gratifying experience and it is hoped that it does indicate the beginning of a downward trend in the occurrence of notifiable infectious diseases in the Urban Sanitary District. It may just be that there has been some laxity on the part of practioners in notifying cases of infectious diseases, but this is hardly likely as there is no special reason why all practitioners alike should suddenly neglect to perform a Statutory duty which they have been performing all along in previous years and to which is attached a penalty for "failure to comply". It is much more likely that 1948 was a "good" year from the point of view of freedom from infectious diseases and we do sincerely hope that this will be a continuing process.

Chart D

Port of Spain

Infectious Diseases – Notifications and Deaths 1922-1948



Whilst fewer notifications were received in the case of all the notifiable infectious diseases the most significant drop was in the case of Pulmonary Tuberculosis of which only 170 notifications were received as compared with 222 in 1947. Enteric fever declined from 68 to 42 notifications, pneumonia from 75 to 62, and chicken pox from 57 to 51.

If it is held that these results are attributable to "failure to notify", it cannot in the same way be held that a decrease in the number of deaths certified is due to "failure to certify" for nobody can be buried without a death certificate and on it must appear the cause of death. In fact it is a well recognized fact that death returns are much more accurate than notifications, so much more reliable conclusions can be drawn from them.

Corresponding with a decrease in the number of notifications received was a decrease in the number of death returns during the year under review, fewer deaths being recorded in the case of each notifiable infectious disease, but particularly in the case of pulmonary tuberculosis 108 as compared with 167 in 1947, pneumonia 51, as compared with 64, and in the case of enteric fever, 5 deaths as compared with 7 in 1947.

As regards distribution of cases and deaths we find again—as has so regularly occurred in the past and as has been remarked upon in previous annual reports—that the morbidity and mortality returns are highest in the East Dry River, St. James and Belmont Districts. The cause for this is so obvious when the state of sanitation, the methods of sewage disposal, the poor drainage, and the congestion in these areas are borne in mind that further reference to these disturbing facts is entirely superfluous. The remedy is obvious and has already been referred to in the beginning of this report.

Infectious Diseases—Notification and Deaths—1938 to 1948

Infectious Diseases	Notifications				Deaths			
	Average 1938-42	Average 1943-47	1947	1948	Average 1938-42	Average 1943-47	1947	1948
Diphtheria	32.4	24.8	23	9	2.4	3.2	2	1
Enteric Fever	59.4	46.0	68	42	13.6	9.2	7	5
Pulmonary Tuberculosis ...	146.8	193.8	222	170	134.6	156.2	167	108
Tuberculosis (Other forms) ...	7.2	13.6	12	8	9.4	11.4	11	6
Pneumonia (All forms)	149.4	128.0	75	62	86.4	90.0	64	51
Ophthalmia Neonatorum ...	22.6	11.2	6	1	.2	—	—	—
Chicken Pox	61.0	91.6	57	51	—	—	—	—
Encephalitis Lethargica ...	—	—	—	—	.2	.8	—	—
Acute Ant. Poliomyelitis ...	8.8	.4	1	3	1.4	.4	—	2
Puerperal Fever	3.4	12.8	4	1	1.8	2.2	3	—
Cerebro-Spinal Fever	—	1.4	1	2	—	1.0	—	—
Total	491	523.6	469	349	250	274.4	254	173
Rate per 1,000 population ...	5.30	5.14	4.88	3.53	2.69	2.69	2.64	1.75

Distribution of Cases and Deaths from Notifiable Infectious Disease

Diseases	City Proper		St. Clair		East Dry River		Belmont		Woodbrook		St. James	
	Cases notified	Deaths	Cases notified	Deaths	Cases notified	Deaths	Cases notified	Deaths	Cases notified	Deaths	Cases notified	Deaths
Diphtheria	3	—	—	—	2	—	4	1	—	—	—	—
Enteric Fever	4	—	1	—	9	—	15	4	2	—	11	1
Pulmonary Tuberculosis ...	55	40	—	—	57	29	25	16	6	6	27	17
Tuberculosis (Other forms)	4	3	—	—	1	1	1	1	2	1	—	—
Pneumonia (All forms) ...	18	12	—	1	20	9	6	11	5	5	13	13
Ophthalmia Neonatorum ...	—	—	—	—	—	—	—	—	1	—	—	—
Chicken Pox	15	—	1	—	12	—	13	—	8	—	2	—
Cerebro-Spinal Fever ...	1	—	—	—	1	—	—	—	—	—	—	—
Acute Poliomyelitis ...	—	—	—	—	1	—	—	—	—	—	2	2
Puerperal Fever	—	—	—	—	—	—	1	—	—	—	—	—
Encephalitis Lethargica ...	—	—	—	—	—	—	—	—	—	—	—	—
Total	100	55	2	1	103	39	65	33	24	12	55	33
Rate per 1,000 population in each Sub-district ...	2.94	1.62	1.21	0.60	4.69	1.78	3.80	1.93	1.91	0.96	4.74	2.84

Notifiable Infectious Diseases—Home and Hospital Deaths

Diseases	Deaths			Hospital Deaths per cent. of Total Deaths	Corresponding percentage for the year 1947
	At Home	At Hospital	Total		
Diphtheria	—	1	1	100.00	50.00
Enteric Fever	—	5	5	100.00	85.71
Pulmonary Tuberculosis	64	44	108	40.74	52.69
Tuberculosis (Other forms)	2	4	6	66.67	72.72
Pneumonia (All forms)	29	22	51	43.14	40.63
Puerperal Fever	—	—	—	—	100.00
Cerebro-Spinal Fever	—	—	—	—	—
Acute Poliomyelitis	—	2	2	100.00	—
Total	95	78	173	45.09	—

TUBERCULOSIS

Pulmonary Tuberculosis

Two outstanding events having a direct bearing on the tuberculosis problem occurred during the year 1949.

The first, the opening of the Masson Tuberculosis Hospital at Camp Ogden represents the practical expression of a line of policy that had been recognized and agreed upon for many years now, but which for one reason or another always seemed to defy achievement even when it seemed to be almost within our very grasp.

To my knowledge three attempts to locate the Tuberculosis Hospital on three different spots which were considered suitable from a scientific point of view had to be abandoned because of the force of public opinion, and it must be here recorded that it was only determination on the part of the Governor of the day, and the insistence on the part of the medical authorities concerned that there was no undue risk to the neighbourhood, that the plan to locate the Tuberculosis Hospital at Camp Ogden materialised. Today we see a hospital with all available beds occupied, a busy staff dispensing comfort, care and attention to the unfortunate victims of this dread disease, and patients with courage, hope, and expectation that their disease will eventually be arrested as a result of the various lines of treatment which have been adopted. No complaints have been received from the neighbours around and the hue and cry that was raised at the time has died down. The tuberculosis ward at the Colonial Hospital has now been converted into medical and surgical wards, and the unsatisfactory features of this ward for the housing of advanced cases of tuberculosis which have been the cause of anxiety to all concerned have now disappeared.

At the opening of the hospital appropriate tribute was paid to my predecessor-in-office, Dr. G. H. Masson, the pioneer of measures directed towards the care and control of tuberculosis in this Colony.

The second, the reorganisation of the Tuberculosis Association is the naturally corollary to the assumption by Government of full responsibility for the detection, prevention, and treatment of cases of tuberculosis. The Association has now undergone a reorientation in scope and outlook. Its role as a curative institution has been given over to the Tuberculosis Division of Government and it will now confine its attention to rehabilitation, welfare, &c., &c. and to the eventual provision of a preventorium. The Association has practically been reconstituted, a new chairman has been appointed, and new members added, and, as I write, it is functioning actively in keeping with its new role and at the same time formulating plans for extending its activities and furthering its usefulness along the lines which have been indicated above.

With the Association and the Tuberculosis Division of Government working in harmony and co-operation, the one appreciating and understanding the work of the other, there is no reason why the incidence of and mortality from tuberculosis, which has been the cause of much concern to the profession and laity alike, should not show a satisfactory decline.

It will, of course, be remembered that as in venereal disease so now in tuberculosis, it needed a war to stir up public opinion in regard to the ravages and suffering caused by these diseases and, of course, when public opinion is dormant and reticent, progress is slow and uneven. Now the machinery for providing the men and equipment for the battle is in full swing and it needs only the intelligent interest of the afflicted and the ready co-operation of parents, relatives, and friends for satisfactory results to be achieved.

The Tuberculosis Clinic at the Caribbean Medical Centre in Woodbrook, the Tuberculosis Hospital at Camp Ogden, and the Tuberculosis Association at Knox Street are actively functioning institutions for the care, treatment, and control of tuberculosis in the City of Port-of-Spain and patients are now able to see the silver lining and discern the ray of hope that they waited so long and so eagerly for.

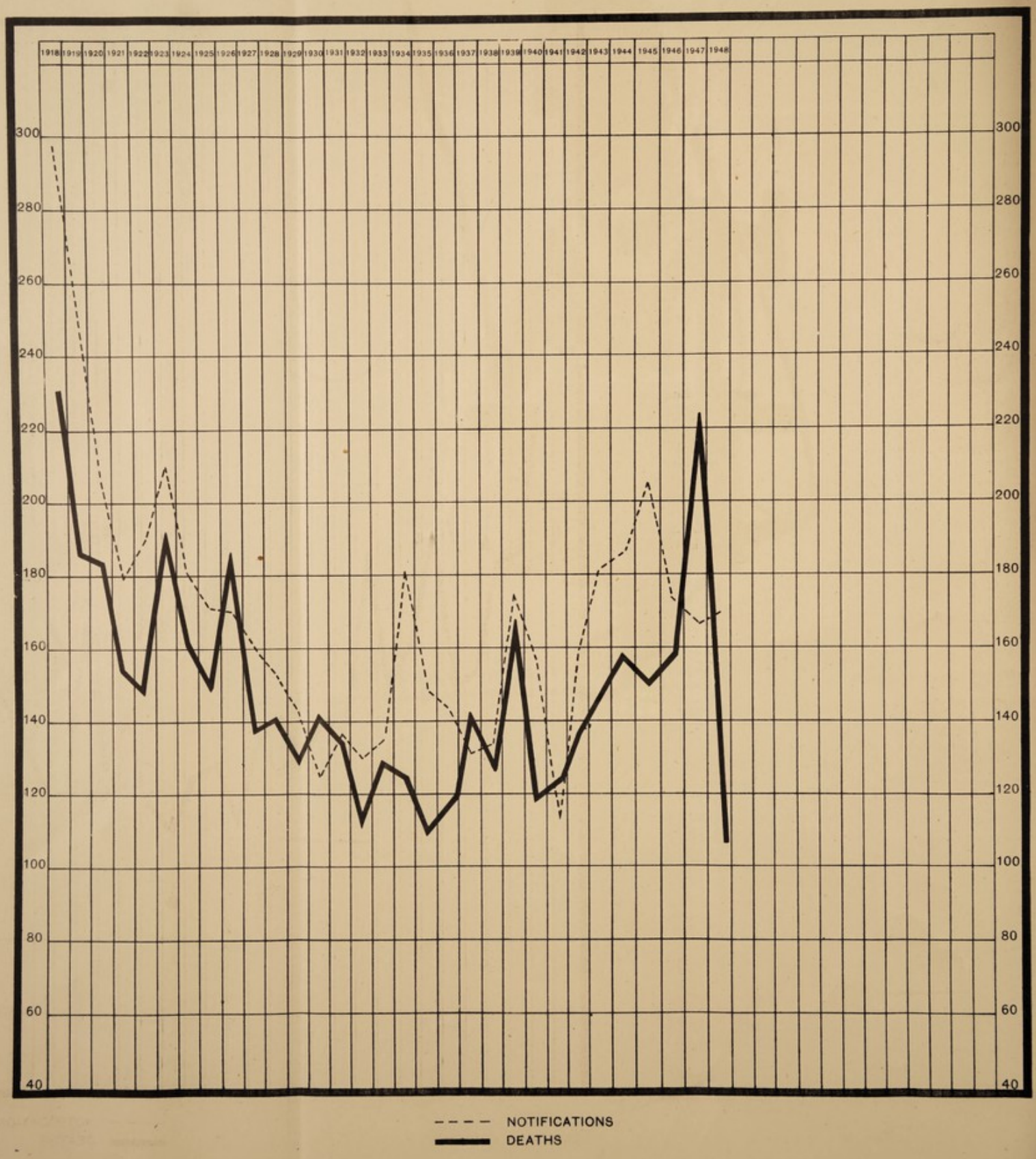
If these institutions are assisted by the provision of adequate and suitable housing accommodation, by the ready availability of essential basic foodstuffs at prices within the means of the ordinary working man, and particularly if the resistance of selected groups of the population is raised by vaccination with BCG, there is no reason why the tuberculosis morbidity and mortality curve should not take a downward trend.

There was a welcome decline in the number of notifications received and deaths certified to Pulmonary Tuberculosis in the year 1948, the number 170 and 108 respectively being substantially lower than the corresponding number 222 and 167 for the previous year 1947. The death rate worked out at 1.09 per 1,000 population as against 1.74 per 1,000 for the year 1947.

What exactly this means is difficult to say ; it is far too early yet to judge and no conclusion of statistical significance should be drawn from the figures for one year only.

The indigent and needy living in overcrowded dwellings in congested areas where sanitation is poor are the special prey of tuberculosis, and so it comes about that there are more victims of this scourge in the East Dry River and Belmont districts and in the slum areas of the City Proper, than in any other parts of the City, which is another reason why the work of the clearing of the slums and the sewering and the proper draining of the East Dry River and Belmont areas should be speeded up.

Chart E
Port of Spain
Pulmonary Tuberculosis — Notifications and Deaths 1918–1948



Pulmonary Tuberculosis—Notifications and Deaths, 1918-48

Period	Notifications	Deaths	Death Rate per 1,000 population
Year 1918	299	233	3.43
Yearly Averages:			
1919-23	207	173.2	2.65
1924-28	167.6	154.6	2.38
1929-33	133.6	129	1.85
1934-38	147.4	124.6	1.62
Average 1919-38	163.9	145.4	2.13
Year 1939	175	167	1.85
1940	155	118	1.28
1941	113	124	1.27
1942	157	136	1.37
1943	182	148	1.45
1944	186	158	1.52
1945	206	150	1.41
1946	173	158	1.57
1947	222	167	1.74
1948	170	108	1.09

Non-Pulmonary Tuberculosis

As with Pulmonary Tuberculosis in the year 1948, so with Non-Pulmonary Tuberculosis ; the number of notifications received was small and the number of death returns in which the cause of death was Non-Pulmonary Tuberculosis was also small, compared with the number recorded in the previous year 1947.

Eight notifications and six deaths were recorded in 1948 compared with 12 and 11 in the previous year. Again no undue importance should be attached to these figures ; they may very well be part of the ebb and flow which we know are characteristic of naturally occurring phenomena. What, however, is more certain is that a rise in the number of tuberculin-positive cattle is taking place, the milk from which is the main cause of non-pulmonary tuberculosis, and this figure is, I feel, somewhere in the vicinity of 5 to 6 per cent. instead of the 1 to 2 per cent. which it used to be. Testing with a new and more sensitive vaccine is making this increasingly clear to us and it would appear that additional legislative action may be needed to deal with this problem before it becomes too formidable.

I have already referred to the fact that without proper and reliable statistics no definite action can be taken and to this end a Colony-wide tuberculin testing campaign in which the City could with advantage participate is a pressing necessity and should be undertaken without delay.

Non-Pulmonary Tuberculosis—Forms, Notifications and Deaths

Forms	Notifications	Deaths
Miliary Tuberculosis	1	1
Tuberculosis of Hip	2	—
Do. Meninges	3	3
Do. Peritoneum	1	2
Do. Spine	1	—
Total	8	6

Deaths from Non-Pulmonary Tuberculosis 1924-48

Period	Deaths	Rate per 1,000 population
Yearly Averages:		
1924-28	15	0.23
1929-33	15.2	0.22
1934-38	10	0.13
Average 1924-38	13.4	0.19
Year 1939	15	0.17
1940	14	0.15
1941	6	0.06
1942	4	0.04
1943	9	0.09
1944	10	0.10
1945	13	0.12
1946	14	0.14
1947	11	0.11
1948	6	0.06

ENTERIC FEVER

Typhoid fever is a disease that can truly be said to be "well notified" by practitioners in the Urban Sanitary District.

By this I mean that because of the fact that practitioners are all well conversant with typhoid fever as it occurs in the City, and are bearing the possibility of the disease constantly in mind few cases escaped detection and notification ; and further, because of the fact that the Public Health Ordinance prescribes that cases of infectious diseases are to be notified on suspicion, the cases that are notified, in the final analysis, constitute a larger number than those which are eventually diagnosed serologically or by cultural methods, or on definite clinical grounds, as typhoid.

And so it can be taken for granted that the number of notifications and the death returns furnish a fairly accurate estimate of the actual number of cases occurring in the Urban Sanitary District.

This is of some importance as the incidence of typhoid fever is a fairly sensitive index of the general state of environmental hygiene of a community particularly that aspect of it which is concerned with the efficient disposal of sewage. For it is infected sewage contaminating the food of man and so reaching the intestines of those who are susceptible that is responsible for the incidence and spread of the disease. Where there is efficient disinfection and disposal of excreta, where foodstuffs particularly perishable foodstuffs which are eaten raw and uncooked are initially clean and are protected from contamination with the germs of disease, where the carriers of the disease are successfully isolated and eliminated from all food-preparing and food-selling establishments, there the incidence of typhoid will be low or non-existent.

In the City of Port-of-Spain enteric fever is showing a welcome and I feel sure a significant decline ; the cases notified are getting fewer every year as an examination of the table listed below will show, and, as with the notifications, so with the deaths attributable to the disease. More significantly still the incidence of the disease is greatest in the juvenile period when resistance and immunity are at their lowest point.

I venture to state that this is not a fortuitous circumstance but represents the result of a combination of measures directed to the improvement of sanitation generally and to the securing of better, cleaner, and less contaminated food prepared and sold by operatives who are healthy and free from infectious diseases, who are not carriers of the "bowel filth" diseases, and who understand and appreciate that filthy habits, uncleanliness and dirt go hand in hand with these diseases generally, and with typhoid fever and dysentery particularly.

The result is that we have been free from an outbreak of typhoid fever for over 15 years and the number of cases reported among City residents gets fewer and fewer. This is not unsatisfactory but constant care has to be exercised and a careful vigil kept. We are surrounded by areas where typhoid fever is endemic and sometimes takes on an epidemic form and any slackening of effort may precipitate a catastrophe among residents of the City.

The outbreak which occurred in the Maraval Village was particularly disturbing as the river from which the Maraval supply is taken courses through the village and is there an open sesame for all and sundry, for man as well as beast, and the intake of the reservoir is lower down the river beyond the village. That nothing serious occurred was due, I believe, to the frequent sampling of the water at the intake and to the high residual chlorine of one part per million which was constantly maintained in the reservoir, a residual which often diminished to as low a figure as .3 to .4 parts per million at the St. Clair Pumping Station, a distance of about two miles away.

ENTERIC FEVER
Notification and Deaths, 1918-48

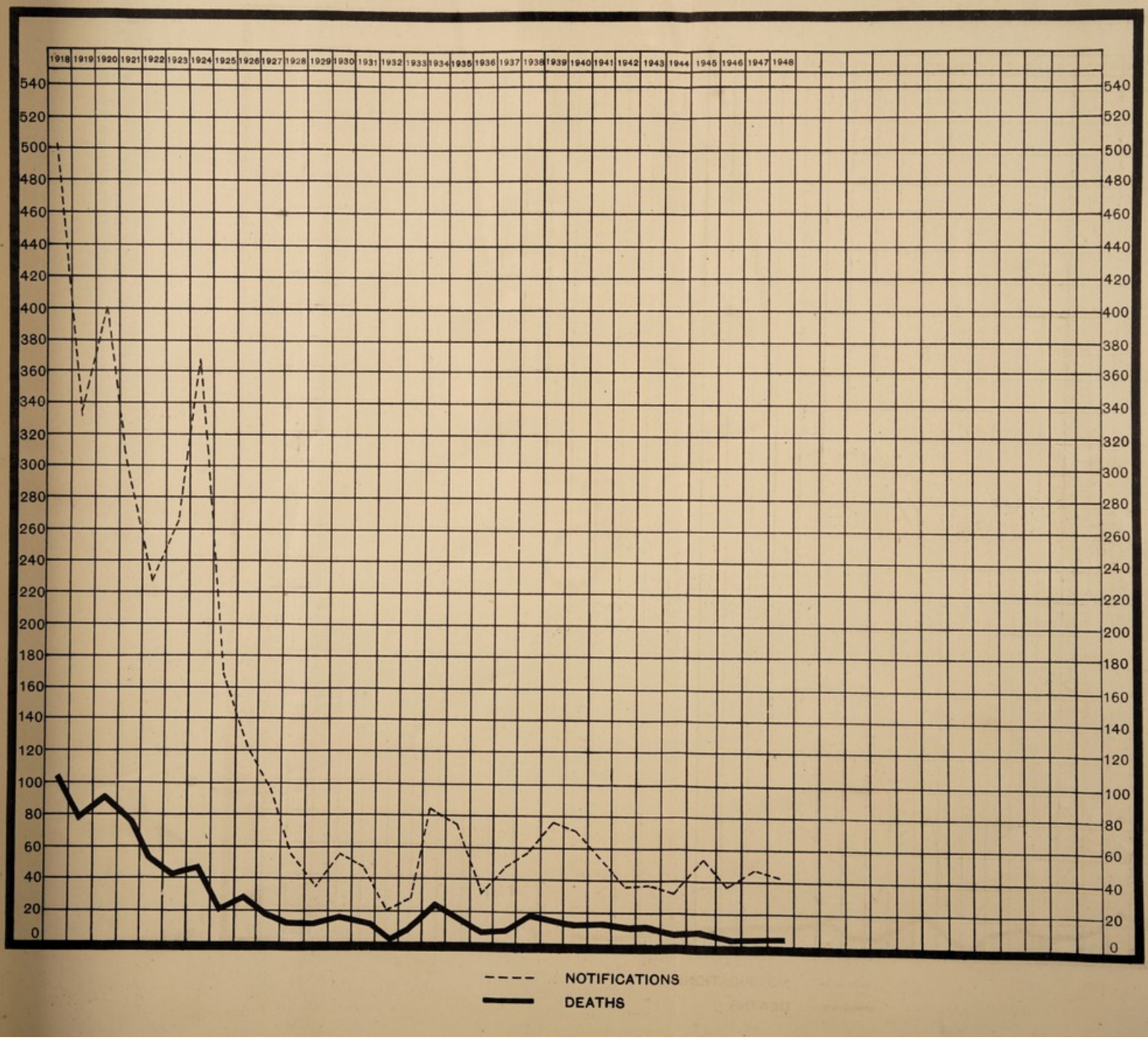
Period	Notifications	Deaths	Death Rate per 1,000 population
Year 1918	495	104	1.52
Yearly Averages:			
1919-23	301.8	67.8	1.03
1924-28	162.4	25.2	0.39
1929-33	37	10.8	0.16
1934	59.8	14.6	0.19
Average 1919-38	140.3	29.6	0.44
Year 1939	75	15	0.17
1940	70	11	0.12
1941	56	14	0.14
1942	37	12	0.12
1943	38	12	0.12
1944	32	9	0.09
1945	55	10	0.09
1946	37	8	0.08
1947	68	7	0.07
1948	42	5	0.05

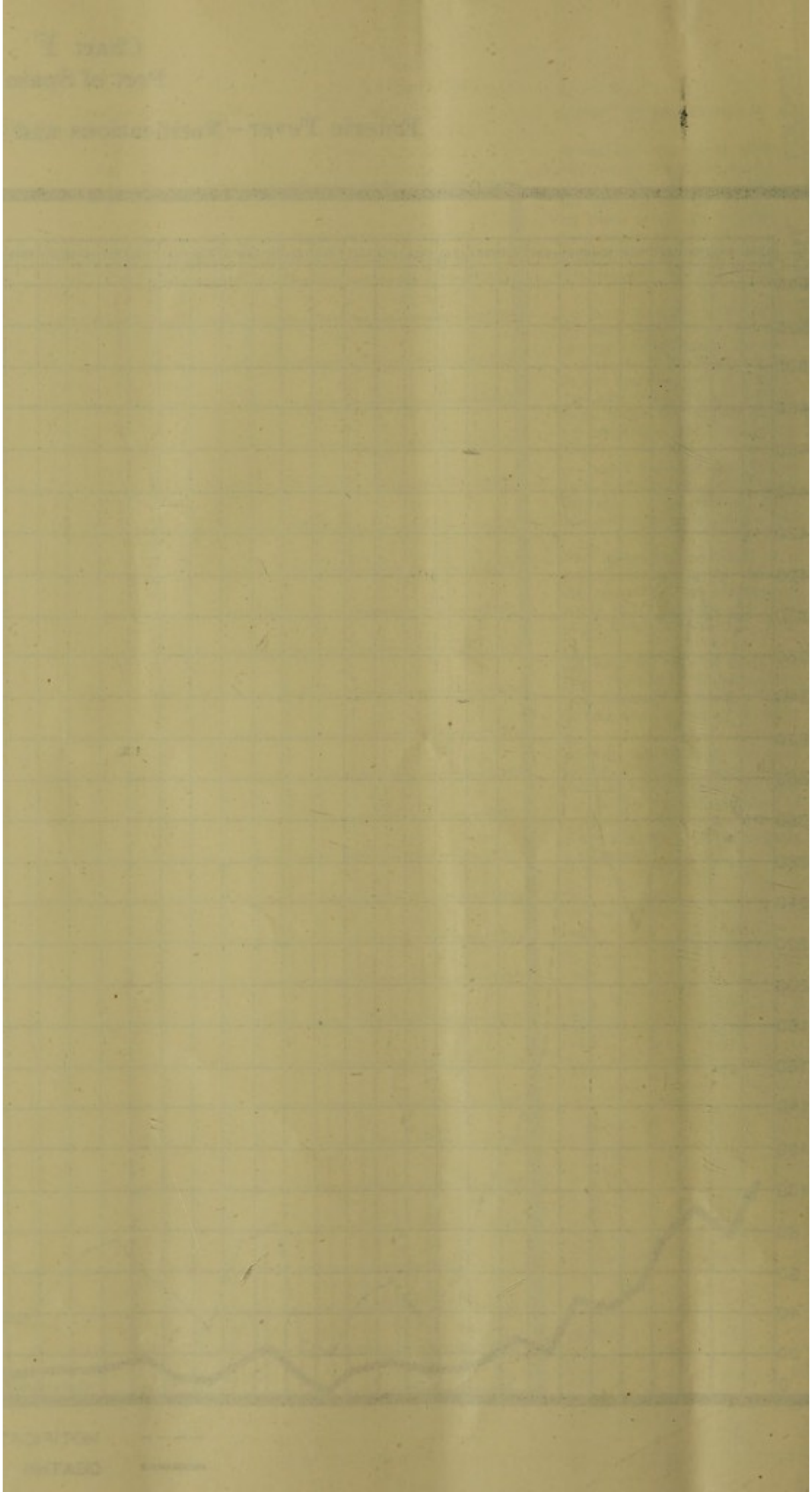
Inoculation of Enteric Fever Contacts
T.A. B. Infections

Number Receiving one Injection	Number Receiving two Injections	Total
Year 1946 74	29	103
Year 1947 250	222	472
Year 1948 85	61	146

Chart F
Port of Spain

Enteric Fever – Notifications and Deaths 1918–1948





PNEUMONIA

Pneumonia is of interest to the public health officer in the tropics because of the impression that exists in the minds of the uninformed that it is of uncommon occurrence—an impression which is of course false and not borne out by the facts—in the first place, and because of the congestion and overcrowding in the slum areas which is always stated to favour the spread of the disease in the second place.

There is no doubt that pneumonia in its various forms is common and that pneumonia of lobar distribution is as common as broncho-pneumonia if not more common, but I believe it is true to say that classical lobar pneumonia as described in the text books and as seen or used to be seen in the teaching hospitals of medical schools is a rare disease. As regards congestion and overcrowding there can be no doubt that slum conditions favour the incidence and spread of the disease, but it cannot be said with certainty that under the conditions obtaining in these areas these factors play such an important part.

In other words it cannot be said that medical officers are so impressed with the fact that a case of pneumonia in an overcrowded tenement room is such a potential danger to the contacts around, that immediate removal to hospital is considered a prime necessity. In fact it is the exception rather than the rule for a second case to occur which, of course, is just the opposite to what usually happens in cases of measles, chicken pox, typhoid or dysentery.

Another point of some importance is the close approximation of the number of deaths certified to pneumonia to the number of notifications received which points to the fact that pneumonia is not a "well notified" disease. The mortality from this disease has been showing a general decline over the last 30 years and a more rapid reduction latterly with the introduction of penicillin and the sulphonamides, and a case of mortality of 80 to 90 per cent. which the returns appear to indicate cannot therefore be accepted as bearing any relation to the facts. It must be that many cases of pneumonia are either missed or, as is much more likely, not notified.

PNEUMONIA—(All Forms)

Notifications and Deaths, 1922-48

Period	Notifications	Deaths	Death Rate per 1,000 population
Yearly Averages:			
1922-26	111.8	78	1.23
1927-31	69.8	53.4	0.79
1932-36	155.4	80.6	1.10
Average 1922-36	112.3	70.7	1.04
Year 1937	125	85	1.10
1938	101	70	0.83
1939	107	59	0.65
1940	69	63	0.68
1941	138	88	0.90
Average 1937-41	108	73	0.83
Year 1942	332	152	1.53
1943	251	149	1.46
1944	109	97	0.93
1945	118	79	0.74
1946	87	61	0.61
1947	75	64	0.67
1948	62	51	0.52

DIPHTHERIA

Diphtheria is usually of a mild type and as a rule occasions little anxiety except when the disease is of the laryngeal type, which it assumes occasionally. Due to delay and neglect such cases give rise to a high mortality.

Because of this and of the relative freedom from reaction of prophylactic vaccination it has become now a routine practice of the Department to actively immunise the contacts of cases particularly those under 10 years of age, starting with the more remote and working up to the more intimate contacts with a view to eliminating those who may be actually incubating diphtheria.

Because of the relatively few cases that occur and of their mild type it has not been considered feasible to undertake the generalised vaccination of school children.

DIPHTHERIA

Notifications and Deaths, 1917-48

Period	Notifications	Deaths	Death Rate per 1,000 population
Yearly Averages:			
1917-21	11.8	1.4	0.02
1922-26	14.8	2	0.03
1927-31	23.8	1.6	0.02
1932-36	29.8	2.2	0.03
Average 1917-36	20	1.8	0.03
Year 1937	30	4	0.05
1938	16	3	0.04
1939	61	2	0.02
1940	37	2	0.02
1941	30	2	0.02
Average 1937-41	34.8	2.6	0.03
Year 1942	18	3	0.03
1943	40	4	0.04
1944	19	3	0.03
1945	20	5	0.05
1946	22	2	0.02
1947	23	2	0.02
1948	9	1	0.01

Chicken Pox—Notifications, 1924-48

Period	Notifications	Period	Notifications
Yearly Averages:			
1924-28	19.8	Year 1944	33
1929-33	41	1945	122
1934-38	110.4	1946	196
1939-43	42.6	1947	57
		1948	51

ACUTE ANTERIOR POLIOMYELITIS

Three cases of this notifiable infectious disease were notified and two deaths certified in the year under report. An outbreak of the disease occurred in 1937 when 10 cases with one death were notified, and in 1941-42 a more serious outbreak occurred in which 41 cases with 7 deaths were notified. During the latter period the disease was epidemic in the Colony and a total of 194 cases was reported.

Because of the serious nature of this disease and of the very crippling after effects there is always a scare when a case of this disease occurs, and much concern is caused the Department by the numerous enquiries and requests that are made, and by the many false rumours that fly around.

ACUTE ANTERIOR POLIOMYELITIS

Notifications and Deaths, 1927-48

Year	No. of Cases reported	Deaths	Year	No. of Cases reported	Deaths	Year	No. of Cases reported	Deaths
1927-29 ...	—	—	1936 ...	3	—	1941 ...	15	4
1930 ...	5	1	1937 ...	10	1	1942 ...	26	3
1931 ...	—	2	1938 ...	2	—	1943-44 ...	—	—
1932 ...	3	—	1939 ...	1	—	1945 ...	—	1
1933-35 ...	—	—	1940 ...	—	—	1946 ...	1	—
						1947 ...	—	1
						1948 ...	3	2

NON-NOTIFIABLE INFECTIOUS DISEASES

The separation of infectious diseases into notifiable and non-notifiable may be said to be more a matter of convenience and expediency than of strict scientific classification, some of the diseases listed under the heading "non-notifiable" being more highly infectious and sometimes of greater public health importance than many listed under the heading "notifiable".

In fact it seems that, if for no other reason than for the purpose of collecting accurate statistics, the diseases now listed as "notifiable" may with advantage be added to by the inclusion of some of those listed under the heading "non-notifiable".

The infectious diseases usually classified as non-notifiable include malaria, whooping cough, influenza, dysentery, hookworm disease and syphilis. Only the death returns are available to give some idea of the toll of human life which is being exacted by these diseases but no accurate information as to their incidence on the human organism or of the suffering and invalidism they cause is at hand. It is obvious that resistance may be so lowered by these diseases that the victim may easily fall a prey to some other disease and die, the death return giving no indication of the underlying basic condition that was responsible for the loss of life.

The three diseases malaria, syphilis, ankylostomiasis, constitute public health problems of first rate importance, and dysentery is a close second.

Non-Notifiable Infectious Diseases—Home and Hospital Deaths

Diseases	Deaths			Hospital Deaths per cent. of Total Deaths	Corresponding percentage for the year 1947
	At Home	At Hospital	Total		
Malaria	1	2	3	66.67	40.00
Whooping Cough	1	—	1	—	—
Influenza	1	2	3	66.67	—
Dysentery	—	1	1	100.00	100.00
Ankylostomiasis	—	—	—	—	—
Syphilis	8	—	8	—	4.76
Total	11	5	16	31.25	13.79

MALARIA

There is no new development to record under this heading during the year under report. The situation remains the same as previously reported, viz. that there is very little malaria within the limits of the City and what there is, is due to importation from outside, i.e., cases who have acquired malaria outside the City and who come into the City for treatment, and old febricitants who once lived in a malarious area but who have now taken up residence within the City's limits and who get periodic recrudescences of an infection, due to lowering of resistance, which was really never eradicated.

It is of course possible to pick up anopheline mosquitoes in the peripheral areas of the City, particularly where these areas adjoin districts which were once highly malarious but which now, thanks to the efforts of the Malaria Division of Government, are being progressively freed from infection. These mosquitoes migrate into the City and at times they come from areas as much as two miles away from the limits of the City.

There can be no doubt that this Colony is being gradually freed from malaria by the intensive efforts now being pursued and all practitioners alike are remarking on the lowered incidence of this disease which at one time caused such havoc and entailed so much suffering to the inhabitants of the Colony.

A major public health problem is being tackled with energy and drive and the results so far obtained are gratifying. It is to be hoped that nothing untoward will supervene to cause a setback, either in the way of the provision of the necessary funds or in the obtaining of the necessary scientific data relating to the bionomics of the local mosquitoes on which to base intelligent and successful methods of control.

Malaria—Local Distribution of Deaths

Sub-districts	Deaths
City Proper	—
St. Clair	—
East Dry River	1
Belmont	1
Woodbrook	—
St. James	1
Total	3

SYPHILIS

The venereal disease problem continues to be tackled with vigour and success by Government's Venereal Disease Division with headquarters at the Caribbean Medical Centre.

The programme that was introduced by Government in 1943, with the help of Colonel O. C. Wenger of the United States Public Health Service, continues to be in full swing, though a certain falling off is anticipated due to the curtailing of funds provided by Development and Welfare, and to a shortage of trained personnel.

The clinics within the City as well as those in the various parts of the country continue to function satisfactorily and more and more cases are undergoing the full course of treatment necessary for clinical and serological cure which is the only certain way of avoiding the dangerous later heart, blood-vessel, and central nervous system complications which cause so much damage.

As a matter of fact, as the general public gets more and more educated to the dangers of venereal disease, more and more cases of blood vessel and central nervous system disease are making their appearance and the latter which were once comparatively rare in the Colony are now making their appearance in increasing numbers.

I need hardly state that the impact of syphilis on the central nervous system is very damaging and often results in permanent loss of function of the tissues involved, but it is felt that the state of affairs referred to above is largely due to the unsatisfactory and inadequate treatment that was received in the past which resulted in a superficial and partial cure only of the disease, and which is now making its presence felt by attacking these highly susceptible and very delicate tissues.

It is sincerely hoped that with the full and intensive courses of treatment now being given cardio-vascular and nervous system syphilis will disappear completely.

More and more cases and contacts are seeking help and advice as to treatment and control and it is felt that the Municipality would be advised not to delay unduly the establishment of the projected Health Centre in the City where the necessary help, advice, and information could be given and where cases and contacts could be sorted out for diagnosis and appropriate treatment at the nearest Government Clinic.

Deaths from Syphilis—1918-48

Period	Deaths	Rate per 1,000 population
Yearly Averages:		
1918-22	16.2	0.24
1923-27	56.8	0.88
1928-32	28.2	0.41
1933-37	21.8	0.29
Average 1918-37	24.6	0.37
Yearly Average 1938-42	24.6	0.27
1943	29	0.28
1944	36	0.35
1945	22	0.21
1946	20	0.20
1947	21	0.22
1948	8	0.08

DYSENTERY, DIARRHOEA AND ENTERITIS

Very little accurate information is available on which to base any kind of precise conclusion in regard to this important group of diseases. And yet it cannot be denied that the morbidity and mortality attributable to these diseases are of considerable significance. Dysentery itself is a somewhat vague term and the death returns show that this diagnosis is in many cases not made on strict and definite scientific grounds, but covers a number of diarrhoeic conditions caused by such diseases as cancer, tuberculosis, malaria, &c. Again diarrhoea and enteritis though used generally in a more strict and accurate sense, yet is made to embrace conditions which do not truly come under this heading, and confusion and misunderstanding result.

In fact there is no medical condition that is more ripe for scientific research under conditions existing in this Colony than the subject of dysentery, diarrhoea, and enteritis. Whilst much may be in doubt, there can be no question but that these diseases are intimately associated with the inefficient disposal of excreta with the consequent inevitable contamination of foodstuffs particularly those perishable foodstuffs eaten raw and uncooked, and with the congestion, overcrowding, and insanitation generally which make the former possible.

Deaths from the Dysenteries, 1918-48

Period	Deaths	Death Rates
Year 1918	43	0.63
Yearly Averages:		
1919-23	38.2	0.58
1924-28	32	0.49
1929-33	14.8	0.21
1934-38	5.4	0.07
Average 1919-38	22.6	0.34
Year:		
1939	2	0.02
1940	9	0.10
1941	11	0.11
1942	9	0.09
1943	6	0.06
1944	3	0.03
1945	5	0.05
1946	5	0.05
1947	1	0.01
1948	1	0.01

DIARRHOEA AND ENTERITIS

Deaths from Diarrhoea and Enteritis, 1918-48

Period	Deaths	Death Rates
Year 1918	193	2.84
Yearly Averages:		
1919-23	143.6	2.18
1924-28	72.8	1.12
1929-33	52.8	0.76
1934-38	40	0.52
Average 1919-38	77.3	1.15
Year:		
1939	45	0.50
1940	73	0.79
1941	104	1.07
1942	83	0.84
1943	87	0.85
1944	57	0.55
1945	42	0.39
1946	51	0.51
1947	39	0.41
1948	35	0.35

Diarrhoea and Enteritis—Deaths in Sub-districts

Sub-districts	Deaths
City Proper	9
St. Clair	—
East Dry River	15
Belmont	3
Woodbrook	—
St. James	8
Total	35

OTHER PRINCIPAL CAUSES OF DEATH

CARDIAC AND VASCULAR DISEASES

As a cause of death cardiac and vascular diseases hold pride of place having claimed more victims, 178, in the year under report than the whole group of notifiable infectious diseases, 173.

This is the reverse of the position that obtained in the year 1947, and it stresses the need for continued effort on the part of all agencies concerned to stem this tide which has been rising each year with monotonous and alarming regularity.

It illustrates the increasing susceptibility of the delicate tissues of the heart and blood vessels to the rising stress and strain of modern life, and to the poisons arising from chronic system diseases which have been inadequately treated.

The insufficiency of the medical education, and of the medical care and attention that characterised the past two decades is making itself felt by the ease with which the cardio-vascular system is falling a prey to disease. All ages are susceptible, but the high age groups shew the largest number of cases and the over 60 age group is the most vulnerable of all, as analysis of the table hereunder set out will show.

It has to be remembered, of course, that the expectation of life is increasing and an ever larger number of men and women in the age group over 60 now survive, the age group in which these tissues are just ripe and ready for attack.

Deaths from Cardiac and Vascular Diseases in Age Groups

Forms	0-20 years	21-40 years	41-60 years	Over 60 years	Total
Diseases of Arteries and Valves:					
Aneurism	—	4	7	2	13
Arterio-Sclerosis and Atheroma	—	—	—	8	8
Coronary Thrombosis	—	—	6	6	12
Mitral and Aortic Incompetence	2	—	6	5	13
Other Diseases of Arteries and Valves	1	—	1	7	9
Diseases of the Heart:					
Auricular Fibrillation	—	—	—	1	1
Endocarditis	—	1	1	2	4
Myocarditis	—	2	18	19	39
Myocardial Degeneration	—	5	2	25	32
Angina Pectoris	—	—	1	—	1
Other Cardiac Diseases	2	9	12	23	46
Total	5	21	54	98	178

CANCER AND OTHER MALIGNANT DISEASES

The toll of human life exacted by cancer and the other malignant diseases continues to rise and gets greater as the years pass by.

In fact every year since the establishment of the Local Authority when it became possible to collect and collate the returns, the deaths certified to these diseases have been increasing and yet nothing is being done to stem the tide.

It may be argued that since little is known as to the causation of these diseases, very little scientific advancement can be achieved and that may be perfectly true, but I have time and again referred to the fact that education and propaganda can do a lot to bring it home to victims that early detection and early treatment by operation or X-ray therapy are of definite value in prolonging life and of even eradicating the disease.

This is the only ray of hope at the moment, and I am of the opinion that it is well worth informing the public along these lines.

Deaths from Cancer and Other Malignant Diseases 1918-48

Period	Deaths	Rate per 1,000 population
Yearly Averages:		
1918-22	44.4	0.67
1923-27	45.6	0.71
1928-32	44.6	0.65
1933-37	556.8	0.76
Average 1918-37	47.9	0.70
Yearly Average 1938-42	75.4	0.82
1943	88	0.86
1944	84	0.81
1945	80	0.75
1946	79	0.78
1947	75	0.78
1948	87	0.88

Cancer and other Malignant Diseases—Forms, Sites and Deaths

Forms and Sites	Deaths	
	Males	Females
Carcinoma:		
Eye	—	1
Lung, Bronchu	6	1
Mouth, Tongue, Gullet Stomach, Liver, Gall Bladder, Pancreas		
Colon, Rectum	19	21
Breast Uterus	—	31
Penis, Prostate	2	—
Spine	—	1
Glands	1	—
Site not stated	1	—
Sarcoma:		
Peritoneum	1	—
Lymphatic Glands	1	—
Undefined Malignant Neoplasms:		
Site not stated	—	1
Total	31	56

SANITARY ADMINISTRATION

Staff

The full complement of workers assigned to the Public Health Department now total 145 of whom 28 are on the pensionable staff and 117 on the non-pensionable staff. In fact at the moment I write the actual number of pensionable employees attached to the Department comprises 26, there being 2 vacancies on the staff of the Sanitary Inspectors due to the retirement of S.I. Williams on account of his having attained the age limit, and to the suspension and subsequent resignation of S.I. Wilson, which vacancies cannot at the moment be filled due to the lack of suitable candidates.

The City is divided into 13 sanitary districts with a Sanitary Inspector in charge of each. The number of premises in these districts varies, but averages between 664 the lowest and 1,355 the highest, depending upon the location, sizes of premises, types of buildings, &c., &c.

For effective sanitary control many of these districts are too large extending, as a result, the cycle of house to house inspection to between 7 and 10 weeks which is too long a time in a tropical climate to leave any particular place uninspected. Smaller districts have been advocated for some time but due to lack of funds for employing additional staff this cannot as yet be implemented. Besides these 13 District Sanitary Inspectors 5 others are employed in the execution of specific duties of a special nature as follows :—

(1) The inspection of building sites ; reporting upon building plans, layouts, specifications, completion certificates, &c., the drafting and preparing of charts, graphs and diagrams for departmental use, &c., &c.

(2) (*a*) The collection of daily samples of the City's water supplies, and
(*b*) the supervision of the anti-bat unit, &c.

(3) The notification of and reporting upon all cases of notifiable infectious diseases, the supervision of the unit engaged in the disinfection and disinfestation of premises, including theatres, common lodging houses, &c., &c.

(4) The inspection of food supplies, food stores and shops, reporting and checking upon food handlers for their subsequent registration and the registration of food shops, &c.

(5) The preparation, recording and filing of Statutory Notices, Reminder Notices, Extension Notices, Complaints without Oath, typing of special reports, &c.

There are two overseers ; one in charge of the mosquito unit which comprises 27 mosquito inspectors and 20 ladder men or helpers, and the other in charge of the anti-rat which consists of 10 squad drivers or foremen and 27 trappers.

The 6 men employed in disinfecting and disinfesting premises work under the supervision of the Sanitary Inspector in charge of infectious diseases.

The operations of 6 others, the anti-bat unit, are directed by another Sanitary Inspector reference to whom has already been made under special duties.

The caretaking and maintenance of the Public Conveniences—a service transferred from City Engineer's Department to the Public Health Department in 1943—is carried out by 7 men.

As I have mentioned in my last annual report, additional responsibility entailing control and supervision was added to the Department when the unit maintained by the Corporation for the emptying of cesspits, cesspools and septic tanks was transferred from City Engineer's Department. This unit comprises one clerk, a checker, two chauffeurs, two gangs of cleaners each of 5 men, and a cooper and yard man at the Mucurapo Sewerage Works where the night soil is disposed of, and is under control of the Supervisor.

Actually the outdoor staff comprised in the year under report a complement of 16 Sanitary Inspectors, 2 overseers, 1 supervisor, together with 1 clerical assistant and 117 miscellaneous workers on the non-pensionable staff.

The indoor office staff which takes care of the purely clerical activities of the Department in so far as they affect correspondence, verbal and written reports, the preparation of the monthly, quarterly and annual reports, &c., and which is also concerned with the compilation of vital statistics, the keeping of the financial records of the Department and the various books, registers and minutes, &c., comprises 4 Sanitary Inspectors—the Chief Clerk and 3 others—and 1 clerical assistant and 1 messenger.

I have stated before and I repeat again that the indoor staff is totally inadequate for the multifarious duties which they have to perform particularly when the existing unsuitable and inadequate office accommodation and equipment are borne in mind.

There is no provision made for relief staff to carry out the duties of Sanitary Inspectors who may be away either on vacation leave, sick leave, jurors' leave or similar reasons, the duties then being performed departmentally and as such are a cause of increased strain on the rest of the staff. It often happens that as many as 5 of the outdoor pensionable staff are absent at the same time either on vacation or sick leave or jurors' service and on one occasion 8 were away all told. An addition of at least 10 qualified Sanitary Inspectors to fill existing vacancies, replace retired Sanitary Inspectors who have had to be recalled to duty, and provide for additional District Sanitary Inspectors to effect the redivision of large and unwieldy districts is an immediate necessity.

DISINFECTION

Premises, &c., Disinfected for Infectious Diseases and Vermin

Diseases	Premises sprayed
Pneumonia	50
Tuberculosis	114
Enteric Fever	30
Diphtheria	5
Puerperal Fever	1
Ophthalmia Neonatorum	1
Chicken Pox	41
Poliomyelitis	2
Cerebro-Spinal Fever	2
Total	246
Vermin	172

15,476 Cesspits were sprayed with a mixture of crude and distillate oils (free of charge) as a routine measure of prevention against spread of the bowel-filth diseases.

Inspection of Premises, &c., by Sanitary Inspectors

Average Monthly No. of Visits to Dwellings, Shops and other Premises ... 7,868

Inspection of Stores, Shops, &c.

	Average Monthly No. of Visits		Average Monthly No. of Visits
Provision and Meat Shops	115	Sweet Drink Carts	49
Provision Stores	25	Dairies and Cowsheds	44
Restaurants and Cookshops	50	Stables	44
Bakehouses	20	Goat Pens	81
Bread Depots	7	Aerated Water Factories	5
Cake and Ice Cream Shops	151	Soap Factories	4
Fry Shops	9	Other Factories	22
Hotels	4	Schools	25
Markets	4	Common Lodging Houses	5
Spirit Shops	35	Barber Shops	28
Ice Cream Carts and Pails	57	Dyeworks	2
Cake Trays and Baskets	78	Laundries	23
Provision Trays and Baskets	124	Garages	18
Bread Carts and Baskets	12	Tanneries	4
Fresh Fish Trays	22	Public Urinals	5
Oyster Vendors' Baskets	5	Boats	16
Plantain Carts	2		

Results of Notices and Verbal Directions

	Constructed, installed or provided	Repaired	Cleansed	Painted	Elimi-nated	Lime-washed	Oiled
Yard pavements	35	98	...	...	...	...	...
Depressions in yards	...	...	...	...	91	...	...
Yards	...	...	2,482	...	...	...	...
Drains, sinks, gullies, washing troughs, &c.	221	380	2,524	...	...	...	...
Lavatories, sewer basins, flushtanks, urinals, bath rooms, &c.	192	179	970	...	...	7	...
Privies	184	650	...	...	...	354	...
Cesspits	134	154	2,047	...	...	...	163
Manure Heaps	...	...	...	...	652	...	...
Rat Holes	...	...	...	...	95	...	...
Tree Shade, Overgrowths of bush	...	...	...	...	928	...	...
Dustbins	809	104	207	...	...	...	
Dustbin covers	268	...	...	...	...	...	...
Shops, Parlours, Restaurants, Bakehouses, Hotels, &c.	...	182	1,931	372	...	381	...
Aerated Water Factories	...	...	32	...	...	1	...
Bread Carts	...	...	...	8	...	...	...
Barracks, Common Lodging Houses	...	65	43	37	...	47	...
Garages, Kitchens	1	152	...	...	...	103	...
Cowsheds, Stables	...	37	88	...	...	64	...
Tanneries, Soap Factories, &c.	...	...	...	...	...	...	...
Close-boarding, Ventilation of Houses	2	...	...	...	...	...	...
Barber Shops and other Workshops	...	...	83	32	...	...	...

Reports to Water and Sewerage Department

Reports	*Total*
Leaks, defective taps, chokes, &c.	1,691

Anti-Rabies Measures

TRAPPING, &c., OF BATS

No. of locations inspected for roosts of bats ... 21,452

BATS CAUGHT

Artibeus	104
Desmodus	—
Hemiderma	29
Molossus	81
Noctilio Leporinus	—
Saccopteryx	—
	*214

*Besides these, no Desmodus and 68 Artibeus, 13 Hemiderma and 7 Molossus were caught in adjacent districts outside the City limits.

Building Plans, &c.

Reports made by the Public Health Department were as follows :—

On plans, &c., for reconstruction or reconditioning of buildings	984
On applications for leases of land in Woodbrook and Gonzales Place	124
On premises in which building operations were in progress	351
On applications for certificate of completion of buildings	45

CLEANSING OF PRIVIES, &c.

Under the Public Health Ordinance, Ch. 12. No. 4, Section 64 (1) (e), Cesspits, Cesspools and Septic Tanks were cleansed as follows :—

East Dry River	829
Belmont	740
St. James	246
Woodbrook	232
	2,047
Out Districts	20

Outstanding cesspits up to 31st December, 1948, numbered 14.
Average cost per cesspit emptied : $11.97

Prosecutions

Offences	*No. of Cases.*	*Results Total Fines, &c.*
Failing to comply with nuisance notices	6	Fined $57.40
	12	Reprimanded
	5	Withdrawn
	10	Dismissed
	33	
Failing to provide proper dustbins	3	Fined $3.60
	2	Reprimanded
	5	
Hawking Milk for sale without being a licensed vendor ...	13	Fined $305.00
	8	Dismissed
	21	
Selling foodstuffs not protected from contamination ...	1	Fined $5.00
Offering foodstuffs for sale without being a registered vendor	12	Fined $44.20
	6	Reprimanded
	3	Withdrawn
	21	
Failing to register shops, restaurants, and bakehouses ...	1	Fined $5.00
	4	Reprimanded
	5	
GRAND TOTAL	86	

Summary

36	Fined $420.20
24	Reprimanded
8	Withdrawn
18	Dismissed
86	

FINANCIAL

Revenue

	1946	1947	1948
Revenue collected by the Public Health Department	$ 1,499.49	$ 1,030.30	$ 966.28

Expenditure

Staff (Salaries, including War Bonus)	$37,649.86	$ 46,349.00	$ 48,147.29
Labour (Wages, including War Bonus)	37,965.13	46,134.36	54,393.72
Materials, maintenance, &c.	8,954.53	9,938.72	10,950.46
	84,569.52	102,422.08	113,491.47
Disposal of Night Soil	—	—	4,334.72
Emptying of Cesspits	—	—	24,744.30*
	84,569.52	102,422.08	142,570.49
Extraordinary (Arrears of Wages, 1947)	—	—	6,444.52
TOTAL	$84,569.52	$102,422.08	$149,015.01

*Emptying of Cesspits—Amount recoverable from house-owners ... $ 13,475.10

Leave of Absence

Officers	*Vacation Leave No. of Days*	*Sick Leave No. of Days*
Babb, F.—Sanitary Inspector	52	28
Boxill, E— do.	126	—
Carpette, O.—Overseer	21	—
De Four, H.—Sanitary Inspector	42	14
Forde, G.— do.	28	—
Guppy, N. E.— do.	—	10
Joseph, A.—Messenger	21	—
Parris, J. E.—Overseer	42	—
Pierre, G.—Sanitary Inspector	87	—
Rivers, F. B.— do.	—	24
Romain, A.— do.	42	14
Seon, F. E.— do.	42	—
Wilson, I— do.	84	—
Young, J. F.—Supervisor, Cleaning of Cesspits	70	14

Acknowledgment

In times that are difficult and in circumstances that impose great mental and physical strain on all, I have the honour to acknowledge the loyal co-operation and unflagging devotion to duty of each and every member of the staff, both indoor and outdoor, guided and directed by those capable, efficient, and hard-working officers Mr. O. E. Forde, Cert. R. San. I., the Chief Sanitary Inspector, and Mr. T. M. Mitchell, Cert. R. San. I., the Chief Clerk.

If we have been able to maintain a not unsatisfactory standard of health and sanitation in the Urban Sanitary District with the existing shortage of permanent staff and with inadequate and often outdated equipment it is because we all pulled our weight together and have been able to bring out the little extra that was necessary, in spite of adverse conditions.

For this I am grateful and I record thanks.

We succeeded in persuading during the year under report 4 young Sanitary Inspectors to join our Staff, one of whom Mr. E. Alfred, Cert. R. San. I., was formerly with us but left to join the Royal Army Medical Corps of the South Caribbean Force. When he was demobilised he made an application to rejoin the Department and I was pleased to be able to recommend him. The others are young men whom we shall train in our methods hoping that they will not desert us to enter the service of Government which still remains more lucrative and continues to offer facilities which we are yet unable to offer our men.

To them and to all those who are still with us, both indoor and outdoor, if any further commendation or exhortation were necessary, I say let each and every member of the Public Health Department continue to take pride in "his own half acre" and so reap the mental satisfaction, which no money can buy, of a day's work well done.

I seize this opportunity once more to bring their valuable services to the favourable notice of the Local Authority.