

# **Annual medical and sanitary report of the Department of Medical Services / Trinidad and Tobago.**

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TRINIDAD AND TOBAGO



**MEDICAL AND SANITARY REPORT**

OF THE

**DEPARTMENT OF MEDICAL SERVICES**

FOR THE YEAR

**1952**



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TRINIDAD AND TOBAGO



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**OF THE**  
**DEPARTMENT OF MEDICAL SERVICES**  
**FOR THE YEAR**  
**1952**

THIRD EDITION



DEPARTMENT OF MEDICAL SERVICES  
OF THE  
MEDICAL AND SANITARY REPORT  
FOR THE YEAR

1952

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HEALTH DEPARTMENT,  
5, HART STREET,  
PORT-OF-SPAIN,  
30th October, 1953.

THE HON. MINISTER OF HEALTH AND LOCAL GOVERNMENT,  
MINISTRY OF HEALTH.

SIR,

I have the honour to submit for your information the Annual Report of the Department of Medical Services for the year ending 31st December, 1952.

#### SECTION I—INTRODUCTION

2. The population of the Colony was estimated at 664,406 as compared with 651,048 in 1951. The estimated mid-year population for 1952 was 663,600. There were 22,924 births, 8,000 deaths including 2,043 infant deaths, 809 neonatal deaths and 82 maternal deaths. The crude birth rate was 34.85 per 1,000 as compared with 36.99 in 1951. The crude death rate was 12.16 per 1,000 as compared with 12.15 in 1951. The infant mortality rate rose to 89.12 per 1,000 live births as compared with 78.18 in 1951.

3. Diseases of early infancy, cardiac and valvular diseases, senility, and diarrhoea and enteritis in the order named were the four principal causes of death.

4. Measures for malaria control were intensified during the year. There were 80 deaths from malaria, the lowest ever recorded, as compared with 138 in 1951. Anopheline investigations on density fluctuations and on intensity of breeding were carried out. The DDT residual spraying programme and the spraying of bromeliads with copper sulphate were also continued. The malaria eradication programme in Tobago was satisfactorily executed. Every house was sprayed twice during the year. Larval surveys and the larviciding programme continued. The execution of permanent measures to consolidate this improved condition continued throughout the year. Attention was given to the Louis d'Or and Goldsborough areas chiefly. The programme has yielded satisfactory results, and in 1953 the expenditure will be reduced by nearly \$17,540 without any consequent reduction in the measures being carried out. The DDT residual spraying programme will be extended in early 1953 with the assistance of UNICEF to render the Colony free from *Aedes aegypti*.

5. The Venereal Diseases Control Programme continued the provision of a daily service for serological tests for syphilis, clinical examination and treatment for venereal diseases and regular laboratory examinations. The number of serological tests for syphilis in expectant mothers over the last five years has risen from year to year and shows an annual decrease in the percentage of positive cases from 9.38 per cent. in 1948 to 4.4 per cent. in 1952. Each patient attending the Venereal Diseases Clinic is X-rayed on a 70 mm. Mass Miniature Radiographic Unit.

6. Caura Sanatorium continued to provide treatment and surgical facilities for diseases of the chest. The Masson Tuberculosis Hospital with 240 beds provided segregation for advanced cases. Patients from this hospital needing surgical treatment are transferred to the Caura Sanatorium for this purpose. Chest clinics continued to be held regularly in Port-of-Spain and San Fernando. The BCG campaign was inaugurated in the Colony in April 1952 with the assistance of UNICEF and WHO. At the end of the year 136,952 persons were Mantoux tested. Of this number 42,469 were positive and 94,483 were negative. 87,195 persons were vaccinated. Sample groups of persons vaccinated were retested by a BCG Statistician from WHO and the results obtained have so far been satisfactory.

7. Preventive, curative and control work was undertaken in connection with the hookworm and other endemic diseases and conditions. General measures of sanitation were adequately maintained.

8. In the field of Health Education, Maternity and Child Welfare, and Nutrition satisfactory progress was made.

9. Treatment was provided for 42,800 in-patients at Colonial and District Hospitals. The number of in-patients continued to increase. Overcrowding at the Mental Hospital continued. Government has provided funds to permit of construction of additional accommodation in 1953. 187,266 persons were examined and treated at Government Dispensaries throughout the Colony. Work on the new hospital in San Fernando continued during the year.

10. The number of bacteriological examinations totalled 137,571. Of this number 20,542 were examined at the Central Bacteriological Laboratory, Port-of-Spain, as compared with 18,957 in 1951; 100,518 at the Caribbean Medical Centre Laboratory; 13,938 at the San Fernando Colonial Hospital; and 2,573 at the Pathological Laboratory in Tobago.

11. The total expenditure for the Department amounted to \$6,766,992.40½ or \$10.18 per capita for the year as compared with \$5,460,199 in 1951.

12. Appendix I has a number of graphs showing trends in Vital Statistics. Appendix II contains eleven Tables dealing with activities of various divisions and units of the Health Department. Appendix III is a record of clinics in Morvant and adjoining areas. Appendix IV provides an outline of the activities of hookworm control units in Trinidad.

13. Appendix V describes the Malaria Eradication Project in Tobago.

I have the honour to be,

Sir,

Your obedient servant,

A. A. PEAT

Director of Medical Services



## SECTION II—COMMUNICABLE AND INFECTIOUS DISEASES

*Cerebro-Spinal Fever*—No case was notified. There was no death from this cause.

*Chicken Pox*—450 cases were reported as compared with 443 in 1951. There was no death from this cause.

*Dengue*—4 cases were reported. There was no death.

*Diarrhoeas*—2,053 cases were reported with 620 deaths as compared with 1,581 cases and 455 deaths.

*Diphtheria*—89 cases were notified with 10 deaths as compared with 90 cases and 3 deaths in 1951.

*Dysenteries*—Of the 497 cases reported, 151 were of the bacillary type, 79 protozoal and 267 were unclassified. Total deaths from dysenteries amounted to 45 as compared with 33 last year.

*Helminthic Diseases*—These are not notifiable diseases. The infestation rate of hookworm is still high. There were 18 deaths from hookworm disease. 3,337 cases of hookworm disease were reported by District Medical Officers. The three Hookworm Control Units, however, recorded 17,286 cases in their surveys. *Vide* section on Hookworm Control elsewhere in this Report.

*Influenza*—3,637 cases were reported with 7 deaths as compared with 3,000 cases and 5 deaths in 1951.

*Leprosy*—Of the 420 patients treated at the Leprosarium there were 35 new admissions, 27 re-admissions and 59 patients were discharged. 14 deaths occurred at the Leprosarium. At the end of the year 343 patients were at the Leprosarium.

*Malaria*—5,931 cases of malaria were reported as compared with 5,641 in 1951. There were 80 deaths as compared with 138 in 1951.

*Ophthalmia Neonatorum*—122 cases were notified as against 157 in 1951. There was no death from this cause.

*Paralytic Rabies*—There was no outbreak of this disease among human beings. Outbreaks, however, occurred among animals in the northern and southern division in Trinidad. For details see Appendix II, Table I of this Report. Protective inoculation of livestock in infected areas was provided under the supervision of the Department of Agriculture. The Health Department intensified the Anti-Rabies Programme including the search for new roosts and destruction of desmodus bats, and gave anti-rabic vaccine to humans suspected of having been bitten by bats.

*Pneumonias*—Only 493 cases were notified of which there were 363 cases of primary and 136 of secondary pneumonia. There were 459 deaths from pneumonias—broncho, lobar and unspecified.

*Poliomyelitis*—There were 6 cases.

*Puerperal Sepsis*—48 cases were reported with 8 deaths.

*Pulmonary Tuberculosis*—The ratio of notifications to deaths from tuberculosis remains much the same as in 1951. 428 cases of all forms of tuberculosis as compared with 473 in 1951 were reported.

*Small Pox*—No case was notified.

*Tetanus*—This is not a notifiable disease. There were 42 deaths from this cause as compared with 43 in 1951.

*Typhoid Fever*—230 cases were notified as compared with 223 in 1951. There were 40 deaths as compared with 30 in 1951.

*Veneral Diseases*—These are not notifiable diseases. 7,969 cases were seen at the Caribbean Medical Centre and various veneral diseases clinics throughout the Colony. Of this number there were 1,164 cases of syphilis and 6,280 cases of gonorrhoea.

*Vincent's Angina*—24 cases were reported with no death.

*Whooping Cough*—968 cases were reported with 4 deaths.

*Yaws*—The Caribbean Medical Centre reported a total of 45 new cases diagnosed and treated at the Centre and its field clinics including Tobago. 710 cases received attention during the year.

*Mumps*—54 cases were recorded as against 160 in 1951. There was no death from this cause.

## SECTION III—VITAL STATISTICS

The estimated population of the Colony for the year ending 31st December, 1952, was 664,406 as compared with 651,048 in 1951. The mid-year population for 1952 was estimated at 663,600 as compared with 648,700 in 1951. The mid-year population has been used in the calculation of specific death rates for the year 1951 and 1952 as set out hereunder.

The total number of births registered amounted to 22,924 of which 11,473 were boys, 11,450 were girls and 1 was of unknown sex. The birth rate per 1,000 was 34.85 as compared with 36.99 in 1951. Still births registered during the year numbered 1,005 as compared with 983 in 1951.

The total number of deaths registered during the year was 8,000 of which 4,138 were males, 3,861 females and 1 was of undetermined sex. The death rate per 1,000 of population was 12.16 as compared with 12.15 in 1951.

The total number of deaths under 1 year in 1952 was 2,043. The infant mortality rate was 89.12 per 1,000 live births as compared with 78.18 in 1951.

There were 82 maternal deaths in 1952 as compared with 118 in 1951 with a maternal mortality rate of 3.58 per 1,000 live births in 1952 and 4.96 in 1951.

There were 809 neonatal deaths in 1952 as compared with 763 in 1951 with a neonatal mortality rate of 35.29 per 1,000 live births in 1952 as compared with 32.07 in 1951.

Of the 809 deaths recorded, 160 occurred in Port-of-Spain, 140 in County Victoria, 125 in San Fernando, 112 in County St. George, 94 in County St. Patrick and 91 in County Caroni. The majority of deaths were due to immaturity (258), nutritional maladjustment without mention of immaturity (102), postnatal asphyxia, and atelectasis (88) and other ill-defined diseases peculiar to early infancy (86).

Graphs showing trends in vital statistics appear in Appendix I.

The ten leading causes of death with corresponding specific death rates per 100,000 population for the years 1951 and 1952 were as follows :—

Principal Causes of Death	1952	Specific Death Rate per 100,000 of population	1951	Specific Death Rate per 100,000 of population
Diseases of Early Infancy ... ..	1,004	151.30	930	149.53
Cardiac and Valvular Diseases ... ..	932	140.45	895	137.97
Senility ... ..	686	103.38	648	99.89
Diarrhoea and Enteritis ... ..	620	93.43	455	70.14
Cerebral Haemorrhage and Apoplexy ... ..	489	73.68	458	70.60
Cancer ... ..	435	65.55	413	63.66
Broncho-pneumonia ... ..	368	55.46	315	48.56
Pulmonary Tuberculosis ... ..	330	49.73	416	64.11
Bronchitis ... ..	215	32.40	257	39.62
Nephritis ... ..	206	31.05	211	32.53

These diseases include :—Birth injuries ; postnatal asphyxia and atelectasis ; infection of the newborn, diarrhoea of newborn (under 4 weeks), ophthalmia neonatorum, sepsis of newborn, other infections of newborn ; haemolytic disease of newborn ; all other defined diseases of early infancy, neonatal disorders arising from maternal toxæmia, haemorrhagic diseases of newborn, nutritional maladjustment, ill-defined diseases peculiar to early infancy and immaturity unqualified. (Classification as per Intermediate List of 150 Causes of Deaths, Diseases and Injuries, 6th Revision, 1948).

#### SECTION IV—THE WORK OF THE DIVISION AND UNITS

##### THE MALARIA CONTROL DIVISION

There was no malaria epidemic during the year. There was a steady fall in malaria transmission. Deaths from malaria for the past five years were returned as follows :—

1948 ... ..	177
1949 ... ..	152
1950 ... ..	141
1951 ... ..	138
1952 ... ..	80 (the lowest ever recorded)

##### MALARIA STUDIES

###### (a) School Surveys

Fifty-five (55) schools were examined in 1952, of which 24 were in Trinidad and 31 in Tobago. 7,337 children were examined for splenomegaly as follows :—

Trinidad—4,448 children with 23 enlarged spleens ... ..	.50%
Tobago—2,889 children with 18 enlarged spleens ... ..	.60%

There was a general decline in spleen rates throughout the Colony.

###### (b) Slide Diagnostic Service

This service continued to function satisfactorily. The total number of slides received and examined was 4,008 as compared with 5,188 in 1951 as follows :—

	1952	1951
Total number of slides received and examined ... ..	4,008	5,188
Number of slides positive ... ..	778	500
Number of slides negative ... ..	3,230	4,688
Of the total number positive ... ..	778	500
Number positive for <i>P. falciparum</i> ... ..	628	435
Number positive for <i>P. vivax</i> ... ..	141	56
Number positive for <i>P. malariae</i> ... ..	5	6
Number positive for mixed infections ... ..	4	3

*P. falciparum* continued to predominate with *P. vivax* and *P. malariae* recording lower percentages.

(c) *Treatment in Schools*

A dispenser has treated children in schools situated in areas of high endemicity since 1947. Good co-operation has been received from the school teachers. This service combined with the malaria control programme has lowered the spleen rates considerably as the following comparative figures show:—

SCHOOL SURVEYS, TRINIDAD AND TOBAGO

Schools	Survey Rates 1941-42	Survey Rates 1952
TRINIDAD		
Matura Government ... ..	40.0	1.0
Mayaro Government ... ..	22.6	1.01
Mayaro R.C. ... ..	28.0	1.2
Mayaro R.C. ... ..	40.0	10.0
Nariva Government ... ..	8.0	2.15
Poole R.C. ... ..	52.0	0
Salybia Government ... ..	4.0	0
Todds Road R.C. ... ..	4.0	0.5
Warrenville C.M. ... ..		
TOBAGO		
Belle Garden E.C. ... ..	17.3	0
Bethesda Government ... ..	20.0	0
Bethesda Government ... ..	22.0	0
Black Rock Government ... ..	24.0	1.0
Delaforde R.C. ... ..	46.0	0
Bon Accord Government ... ..	22.0	0
Ebenezer Methodist ... ..	32.0	0
Goodwood Methodist ... ..	32.0	0
Hope E.C. ... ..	14.6	1.0
Lambeau E.C. ... ..	28.0	0
Montgomery Government (Upper)	34.6	1.0
Montgomery Government (Infants)	32.0	1.0
Plymouth, E.C. ... ..	21.3	1.0
Roxborough R.C. ... ..	8.9	1.0
Scarborough E.C. Girls ... ..	18.0	1.2
Spring Garden Government ... ..	20.0	1.0
St. John's E.C. ... ..	22.6	0
St. Mary's E.C. ... ..	21.2	1.0
St. Patrick's E.C. ... ..	19.6	0
St. Paul's E.C. ... ..	14.0	0
Whim E.C. ... ..		

(d) *Plane Disinsectization Service*

6,559 planes were inspected and disinsectized during the year 1952, and all insects were collected and forwarded to the Malaria Division for the purpose of identification. 606 insects were identified. Of this number 19 were culicines and 587 were other insects.

## ANOPHELINE INVESTIGATION

1952 was a year of less rainfall than 1951 and there was a normal dry season. Its effect on densities cannot yet be stated as neither set of figures can be compiled in such time.

A study was made of density fluctuations from sunset using Lumsden's 'standard sunset' at 18.00 hrs. and extending the method of ovarium and spermathecal dissections.

Three huts were built near the insectary, one was sprayed with DDT one with BHC and the other used as a control. Observations were carried out from June to December. Each hut was slept in during the night by a field boy. The effective life of the DDT hut was at most five months and of the BHC two months. It was found that *aquasalis* showed the greater reluctance to feed on baitmen and invariably left without feeding.

A study of intensity of breeding near these experimental huts was conducted simultaneously. The results did not support Muirhead Thompson's hypothesis that temporary water is more productive than permanent.

Routine adult researches were made in two villages, comparatively between scrub and reeds and on Bordenal Savannah.

A study of breeding in the Agricultural Department, fish ponds and rice fields was also made.

A comparison between adult *aquasalis* production in grassy swamps and mangrove swamps was carried out after previously oiling other areas of breeding. No effect on the adult density in the suburb nearby was achieved and it appeared that the mangrove became more productive than in the past. This work is being continued. Some incomplete studies were made of the survival of *aquasalis* eggs on damp mud. Whilst hatching cannot be delayed beyond 48 to 72 hours the half emerged larvae can survive for 14 days, i.e. between two tidal peaks. After 14 days there was no survival.

Precipitin results have been received from the Lister Institute up to July. Similar work on small sendings of St. Lucia material disclosed an A.I. of over 80 in 2 coastal areas in that Island.

Microclimate observations with Penman's Thermister apparatus and the photometer have been made on over 2,000 outdoor resting *aquasalis* and about 10 per cent. of that number of *albiparvus* and *neomaculopalpus*. The optima for *aquasalis* (males and all stages females) were found to be a differing range of Saturation Deficiency from 3.5-5.5 and a light of 50 f.c. The *aquasalis* data are still under statistical analysis. They were insufficient for the other two species. The Penman apparatus was affected by radiation and was inaccurate when light exceeded ca 500 f.c. but it could not be used in full sunlight in which mosquitoes did not rest by day.

The Venezuelan race of *aquasalis* has been found to be more in Deme III, covering also French and Dutch Guiana, not Deme IV as in Trinidad. Material from Panama cannot be obtained.

Some ensilage experiments with the unpalatable grass *acroceras* indicated the possibility of using the rampant inedible grass to feed cattle and provide more animal diversion of *aquasalis*. It is hoped to continue this work with the I.C.T.A. staff co-operating.

## MALARIA CONTROL

The two major projects of malaria control in Trinidad during the year continued to be the spraying of bromeliads with copper sulphate and residual spraying of houses with DDT.

In addition temporary control measures were carried out throughout the Colony, especially at Maracas Bay, Blanchisseuse, Cocorite and Piarco.

(a) *Bromeliad Malaria*

Biche and Flanagin Town were the two focal districts treated throughout the year and excellent results continue to be obtained. No definite signs of regeneration of *Gravisia aqualega* have yet been noted in any of the treated districts. The usual investigational and experimental plots and observations continue to be carried out.

(b) *Residual DDT Programme*

The residual DDT Programme which was again extended to include new areas continued satisfactorily.

Areas sprayed were as follows:—

Project	Spraying started	Spraying completed	Popula- tion	No. of houses sprayed	Remarks
PIARCO (including Oropuna, Madras, Kelly St. Helena)	7th January, 1952 ... 2nd July, 1952 ...	14th January, 1952 ... 26th July, 1952	5,285	1,057	Twice sprayed
MATURA ...	14th January, 1952 ...	19th January, 1952 ...	2,625	668	New sections included
CALIFORNIA ...	4th February, 1952...	9th February, 1952...	3,448	552	
MORUGA ...	11th February, 1952...	16th February, 1952...	1,776	438	
LA BREA ...	5th March, 1952 ...	5th April, 1952 ...	14,382	2,743	
CEDROS ...	7th April, 1952 ...	19th April, 1952 ...	6,822	1,291	
LAVENTILLE (including San Juan)	21st April, 1952 ...	19th July, 1952 ...	49,382	7,702	
MANZANILLA ...	21st May, 1952 ...	2nd June, 1952 ...	6,251	1,298	
PYZABAD ...	28th July, 1952 ...	16th August, 1952 ...	9,839	1,922	
MAYARO (including Gurayaguayare)	18th August, 1952 ...	6th September, 1952	5,671	1,424	
CHAGUANAS (including Couva)	8th September, 1952	15th November, 1952	35,420	7,205	Two sections not completed
ERIN ...	17th November, 1952	29th November, 1952	2,571	642	
PRINCES TOWN ...	1st December, 1952...	20th December, 1952...	16,593	1,389	

The following institutions, districts, &c. were also sprayed:—

Colonial Hospital, Port-of-Spain	Colonial Hospital, San Fernando
Mental Hospital, St. Ann's	Masson Hospital
Caura Sanatorium	Leprosarium
s.s. Trinidad	Imperial College of Tropical Agriculture
s.s. Tobago	Deaf and Dumb Institute
Cascade	Maraval Districts

## MISCELLANEOUS

*Spray Can Service*

This service was satisfactorily maintained throughout the year.

*Lectures and Training Courses*—Talks on malaria and its control were given to schools and nurses and also to a number of clubs during the year. A few Sanitary Inspectors from the Windward and Leeward Islands were given training courses.

*Visitors*—Among visitors to the Malaria Division were Dr. E. Van der Kuyp, M.D., M.P.H., D.T.M. & H. of the Bureau of Preventive Medicine in Surinam; Mr. Gordon Carter of the UNICEF; Dr. Francois Vitauza of the Malaria Division in Venezuela; Dr. A. Paoliello of P.A. Medical Centre, N.Y.; Mr. Marston Bates of the Rockefeller Foundation; Dr. R. B. Hill also of the Rockefeller Foundation on his annual visit; Mr. John S. Neiderhauser of the Rockefeller Foundation in Mexico; Mr. E. Magoon, Consulting Engineer of the R.F., also on his annual visit; Dr. P. de Caires of P.A.S.B., Jamaica; Miss Alice Shaffer of UNICEF; Mr. J. A. Simpson, Sanitarian of WHO; Dr. Charles of the Mosquito Control Service in B.G. and Mr. McDermott and Mr. Phillips of Jamaica, B.W.I.

*TOBAGO: Malaria Eradication Programme*—The Malaria Eradication Programme was satisfactorily executed throughout the year. Every house in the Island was sprayed twice during the year with either 5 per cent. DDT in kerosene or benzene hexachloride.

Larval and recheck surveys demonstrated that the larviciding programme was being efficiently executed and trap captures were negative over prolonged periods.

## VENEREAL DISEASES CONTROL DIVISION

Throughout the year all sections of the V.D. Control Division worked at full pressure. A number of new features was introduced such as lectures for a special group of patients, refinements in the system of patient management in the Diagnostic Clinic, a Red Cross Canteen for staff and patients, &c. In addition routine procedures in a number of instances were improved, e.g., the increase from one to two weekly lecture-film shows for patients, revision of the treatment schedules and modification of the technique of inoculating culture plates in the examination to detect the gonococcus with the result that more than twice the number of tests were done as compared with 1951.

*Maternity and Child Welfare*—The number of serological tests for syphilis and the proportion of these found to be positive in expectant mothers referred to the Centre's Clinics showed that there were satisfactory trends of increasing numbers of tests and a decreasing proportion of positive results over the years.

A summary of the comparative number of ante-natal tests for the period 1948-1952 follows :

Year	Total No. of Tests	% Positive
1948 ... ..	5,143	9.3
1949 ... ..	6,949	9.1
1950 ... ..	6,178	6.8
1951 ... ..	8,645	6.8
1952 ... ..	9,628	4.4

Expectant mothers attend on an entirely voluntary basis.

*Services to Seamen*—Free diagnostic and treatment facilities for seamen of all nations were made available throughout the year. Many seamen also availed themselves of the 70 mm. chest X-ray to exclude tuberculosis. In addition Her Majesty's Ships, *Veryan Bay*, *Bigbury Bay*, and *Burghed Bay* made use of routine examinations at the Centre for their men.

*Agricultural Labour Force*—At the request of the Commissioner of Labour the Centre on the 22nd May, medically examined 316 candidates for enrolment in an agricultural Labour Force of 168 persons for temporary work in the U.S.A. The successful applicants were also vaccinated, inoculated with T.A.B. (Typhoid, paratyphoid A and paratyphoid B vaccine), and each of them was given 2 cc's (600,000 units) of PAM (Procaine Penicillin oily suspension with 2 per cent. aluminium monostearate) within 24 hours of leaving by air passage for the U.S.A.

*Red Cross Canteen*—At the beginning of the year the British Red Cross Society of Trinidad and Tobago opened a canteen for light refreshments on the Centre's premises at Wrightson Road. This canteen has proved beneficial to patients and staff alike.

*V.D. Education*—The once-weekly talks and film shows on venereal diseases for patients attending the Diagnostic Clinic at Wrightson Road were increased to twice-weekly sessions so that men and women could be dealt with separately.

In an effort to deal more adequately with a hard core of chronic "repeaters", men who appear again and again usually with acute reinfection of gonorrhoea, talks were held once a week at which they were asked to attend. A doctor was detailed to discuss their problem with them first with the whole group and later with any individuals who preferred to discuss special points in private.

*Chest X-ray Unit*—The presence of this Unit on the premises of the V.D. Control Division's Central Screening and Diagnostic Clinics in Port-of-Spain acts as a considerable attraction to the general public to visit the Centre and thus plays an important part in the case finding machinery of the V.D. Control Division.

The volume of work done by this section during the year has far outstripped all previous figures. This in part is due to Government's recent regulations requiring all civil servants to undergo miniature X-ray annually and to the referral of persons with positive tuberculin skin tests by the B.C.G. Campaign for Chest X-rays. Details of the films taken are given below :

*Activities of the Chest X-ray Unit, 1952*

Total number of microfilms	...	...	—	49,935
General Public	...	...	27,004	
Chest Clinic (T.B. Division)	...	...	2,113	
Civil Servants	...	...	7,433	
BCG Campaign	...	...	13,385	
Repeat 70 mm. Microfilms	...	...	—	556
14 × 17 films	...	...	—	2,526

*Field Clinics*—Field Clinics in the northern area of Trinidad at Arima, Belmont, Diego Martin, Sangre Grande, San Juan, and Tunapuna, in the central area at Chaguanas, Couva, Todd's Road and Tabaquite and in the southern area at Princes Town, San Fernando and Siparia continued to operate throughout the year. The principal functions of these clinics are the control of venereal diseases and yaws by means of :

- (a) provision of free diagnostic and treatment facilities
- (b) epidemiological investigations of all cases
- (c) education of patients and parents of children
- (d) provision of free V.D. and yaws consultant field service for other Government Medical Officers and also for general practitioners.

These clinics attract large numbers of the public who suffer from a wide range of diseases other than venereal diseases and yaws and these are disposed of either by immediate attention to minor ailments or referred to the appropriate authority.

*Clinical Activities—Diagnostic—Figures for 1952 as compared with 1951 are as follows :—*

Particulars	1952	1951
APPLICANTS	25,263	21,664
A. VENEREAL DISEASE CASES	7,964	8,872
1. Syphilis	1,164	1,400
Primary	86	58
Secondary	69	55
Early Latent	237	401
Late Latent	531	662
Asym. Neurosyphilis	73	40
Late	154	156
Congenital	14	24
Stage not determined	0	4
2. Gonorrhoea	6,280(a)	6,784(b)
Uncomplicated	6,239	6,693
With complications	22	49
Vulvo-vaginitis	16	37
Ophthalmia neonatorum	3	5
3. Non-specific urethritis	164	345
4. Chancroid	158	192
5. Lymphogranuloma venereum	116	112
6. Granuloma inguinale	82	39
B. TRICHOMONAS INFESTATION	1,047	890
C. YAWS	710	1,081
D. OTHER CASES	66	148
TOTAL ALL CASES DIAGNOSED	9,787	10,991

(a) includes 2,268 reinfected cases.

(b) includes 2,930 reinfected cases.

The total figure for syphilis cases diagnosed (1,164) is the lowest so far recorded since the Centre started.

The figures for gonorrhoea show a slight fall at 6,280 (6,784 in 1951) accounted for by a reduction in the number of cases of reinfection. This type of case fell from 2,930 in 1951 to 2,268 this year, which is a welcome trend and may perhaps be attributable in part to the increased efforts directed towards this type of patient by increased education programmes.

Non-specific urethritis at 164 cases shows a marked drop (345 in 1951) and chancroid cases were also fewer cases this year at 158 as compared with 192 in 1951.

Lymphogranuloma venereum figures (116) were the same as for last year and showed occurrence in males to be six times that of females.

Granuloma inguinale at 82 cases (39 in 1951) has shown a marked rise and this may be attributable to the increased attention now given to this relatively obscure condition.

The number of early cases of syphilis (within two years of infection) at 392 is a new low figure and is the result of a smaller number of early latent syphilis cases being diagnosed than were last year. This suggests that patients are becoming more aware of the dangers of self treatment or of seeking treatment from unqualified persons, so that a correct diagnosis is reached sooner than was the case in past years. This may also explain the increase in primary cases at 86 (58 in 1951) and secondary cases at 69 (55 in 1951).

*Treatments and Attendances*—A table of treatments and attendances appears in Appendix II, Table II.

*Kahn Universal Reaction*—Work on the Kahn Universal Reaction started in the Centre's Laboratory in January and continued throughout the year. The group studying the possible application of this serological test for the differentiation of positive serological reaction caused by syphilis and yaws met on 19 occasions and maintained close contact with Dr. R. L. Kahn of the University of Michigan. Study of the Kahn Universal Reaction in the normal subject was completed during the year and study of this reaction in untreated syphilis and yaws was well advanced by the end of the year. No final assessment has yet been made of the results so far achieved.

*In-Patients treated in male and female wards, Colonial Hospital, Port-of-Spain, for Venereal Diseases*

Total admissions	361
Male patients	222
Female patients	139
Diagnosis	
Syphilis	174
Gonorrhoea	10
Non-specific urethritis	1
Chancroid	9
Lymphogranuloma venereum	31
Granuloma inguinale	81
Trichomonas Infestation	2
Yaws	12
Lumbar puncture rest	2
Other	52

*Operational Costs*—The total cost to the Colony of the V.D. Control measures in force during 1952 was \$233,421.59 which included salaries of certain officers working with the V.D. Control Division who are paid under other heads, e.g. Yaws Control Officer and temporary X-ray technicians. Cost of maintenance and repairs of buildings are included in this total sum.

This figure represents 3.8 per cent. of the 1952 estimated cost of the Health Services of the Colony, and is equivalent to 36 cents per head of the population.

#### TUBERCULOSIS

The principal addition to the work of the Tuberculosis Division during the year was the inauguration of the BCG Campaign in April. The BCG office was established at the Caribbean Medical Centre and work which began in Port-of-Spain was later extended to include rural districts with the intention of covering the entire Colony. This campaign was made possible with the assistance of WHO and UNICEF. The staff consisting of one doctor and two nurses was sent to Jamaica for training towards the end of 1951 and returned early in 1952.

The plan has been to test persons up to 25 years of age in urban areas and up to 35 years of age in rural areas, and to give the vaccine to negative reactors. Positive reactors are given a certificate entitling them to a free X-ray at a designated centre. The tuberculin used is purified protein derivative and the dose is 5 international units equivalent to .05 mgs. old tuberculin. The vaccine is fresh vaccine received weekly from Mexico and used immediately on arrival.

At the end of the year 136,952 persons were Mantoux tested. Of this number 42,469 were positive and 94,483 were negative. 87,195 persons were vaccinated. Sample groups of persons vaccinated were retested by a BCG Statistician from WHO and the results obtained have so far been satisfactory. 2,933 school children who were previously vaccinated were retested and over 95 per cent. of those who received BCG were converted with a mean induration of over 10 mm. All positive cases were advised to have an X-ray and 12,604 pictures (70 mm) were taken. The total number of persons among positive reactors with X-ray evidence of tuberculosis amounted to 188.

*Chest Clinics*—Chest Clinics are held regularly in Port-of-Spain and San Fernando. During 1952 the number of persons who attended the Port-of-Spain Clinic amounted to 11,256 as compared with 12,047 in 1951.

The following is a summary of statistics for the year:—

<b>NEW PATIENTS</b>						
Clinical and X-ray Examinations						
(a) For diagnosis	...	...	...	...	1,437	
(b) For contact	...	...	...	...	1,032	
						2,469
Cases notified to Central Board of Health	...	...	...	...		319
Total Attendances	...	...	...	...		11,256
<b>Summary of diagnoses</b>						
Pulmonary Tuberculosis, sputum positive	...	...	...	...	74	
Pulmonary Tuberculosis, sputum negative	...	...	...	...	44	
Pulmonary Tuberculosis, sputum not examined	...	...	...	...	211	
Latent tuberculosis	...	...	...	...	26	
Latent apical...	...	...	...	...	36	
Childhood type	...	...	...	...	49	
Calcified lesion	...	...	...	...	310	
Pleurisy—suspected Tuberculosis	...	...	...	...	30	
Not complete	...	...	...	...	362	
No tuberculosis	...	...	...	...	1,327	
						2,469
<b>OLD PATIENTS</b>						
Pulmonary Tuberculosis developing sputum positive	...	...	...	...	6	
Pulmonary Tuberculosis developing sputum negative	...	...	...	...	3	
Pulmonary Tuberculosis developing sputum not examined	...	...	...	...	17	
Pulmonary Tuberculosis formerly sputum negative now sputum positive	...	...	...	...	7	
Death reported during the year	...	...	...	...	—	153
						2,803
<b>NURSES VISITS</b>						
	...	...	...	...		2,803
<b>DIAGNOSTIC METHODS</b>						
Sputum Exams.	Positive	...	...	...	118	
	Negative	...	...	...	301	
						419
Gastric Lavage	Positive	...	...	...	32	
	Negative	...	...	...	239	
						271
X-ray Exams.	New Cases	...	...	...	1,234	
	Retakes	...	...	...	1,493	
						2,727
				X-ray on 70 mm Films	...	49,577
<b>THERAPEUTIC PROCEDURES</b>						
	...	...	...	...		2,234

*Masson Tuberculosis Hospital*—Masson Tuberculosis Hospital with 240 beds provided segregation for advanced cases. Of the cases admitted 30% are hopeful. About 80 patients are discharged every year as quiescent. Patients needing surgical treatment are transferred to the Sanatorium for this purpose.

*Caura Sanatorium*—Caura Sanatorium continued to provide treatment and surgical facilities for diseases of the chest. Recruits to the nursing staff were obtained from time to time from local and other territories. Twenty-eight selected student nurses from the Colonial Hospital were given a 3-months course in tuberculosis nursing at Caura. The Institution welcomed a group of American physicians and surgeons on their way to a Conference in Rio.

There were 180 admissions as follows :—

Pulmonary tuberculosis	...	...	...	...	...	158
Sepsis	...	...	...	...	...	8
Tumours	...	...	...	...	...	9
Miscellaneous cases	...	...	...	...	...	5

*Treatment*—All cases are on complete bed rest for as long as it appears necessary. Drugs (streptomycin, P.A.S., thiosemicarbasone and isonicotinic acid hydrazide) are used as indicated. The following procedures were carried out :—

Artificial pneumothorax inductions	...	...	...	...	...	32
Artificial pneumothorax refills	...	...	...	...	...	851
Pneumoperitoneum inductions	...	...	...	...	...	21
Pneumoperitoneum refills	...	...	...	...	...	783
Bronchoscopies	...	...	...	...	...	316
Phrenic interruptions	...	...	...	...	...	33
Pneumonolyses	...	...	...	...	...	40
Thoracoplasty	...	...	...	...	...	51
Lung resection	...	...	...	...	...	21
Miscellaneous	...	...	...	...	...	29

There were 20 deaths in the institution ; 10 died following operations, 7 from tuberculosis and 3 from other causes.

Treatment was on the whole satisfactory. During the year 140 persons were discharged. The number of relapses has not been high. Relapses are, however, higher among women. In order to provide increased accommodation for patients at Caura, steps were taken towards the end of the year to convert dining rooms into wards for an additional 24 beds.

#### DENTAL DIVISION

The staff of the Dental Services at the end of the year comprised the Senior Dental Surgeon, 3 full-time dental officers, 14 part-time dental officers, 10 of whom were detailed for school dental work and 14 full-time dental attendants.

Dental treatments were extended to include Maracas, Toco and Grande Riviere in the North and Icacos, Chatham and Granville in the South. These clinics were well attended by school children and adults for emergency treatment.

*Dental Treatment in Primary Schools*—Of an estimated total of 125,000 children attending primary schools in the Colony 39,659 children as compared with 40,173 in 1951 from 150 schools attended at 18 centres for examination and treatment.

34,656 (35,041 in 1951) were inspected in Trinidad.

In Tobago 5,003 (5,132 in 1951) school children were examined. Of this number 2,507 were inspected and treated at dental clinics. The British Red Cross Society Mobile Dental Unit operated by the Health Department examined 2,406 children and treated 1,556. Emergency treatments were also provided for a number of adults from the outlying districts of Charlotteville, Belle Garden, Glamorgan, Pembroke and Moriah.

*Maternity and Child Welfare*—During school vacation periods officers attached to the School Dental Service inspected and treated nursing and expectant mothers and young children as a means of promoting public health dentistry.

*Institutional Care*—Dental Clinics were established at the Royal Gaol, Mental Hospital and Caura Sanatorium and provided considerable relief to the pressure of such institutional cases treated formerly at the Dental Clinic, Colonial Hospital, Port-of-Spain.

*Dental Health Education*—With the co-operation of the Health Education Officer lectures were given on oral hygiene at schools and at various community centres and were illustrated by posters and film shows on the teeth and their care.

Dr. H. P. McLean, Senior Dental Surgeon, and Dr. R. Prasad, Dental Surgeon attended the XI International Dental Congress held in London during July 19th to 26th. Dr. McLean also visited the United States Public Health Service Dental Division in Washington, the University of Michigan School of Post-Graduate Dentistry and other centres concerned with public health dentistry.

A summary of attendances, treatments, &c., at Clinics of the Dental Division, Health Department, is to be found in Appendix II, Table II.

#### LEPROSY

The work of the Division is undertaken at the Leprosarium, Chacachacare and at Out-Patients Clinics on the mainland.



*General Health and Sanitation*—The general health of patients has been satisfactory. There were no outbreaks of acute infectious diseases. A proper standard of sanitation of the grounds and buildings was maintained despite the problem of pit latrines which often gave rise to considerable nuisance in spite of intensive supervision. DDT residual sprayings were carried out by the Malaria Division twice during the year.

*Admissions, Discharges and Deaths*

No. of patients in Leprosarium at 31st December, 1951	...	...	...	358
No. of new admissions during 1952	...	...	...	35
No. of re-admissions during 1952	...	...	...	27
				62
				420
No. of discharges during 1952	...	...	...	59
No. of deaths during 1952	...	...	...	14
No. of absconders during 1952	...	...	...	4
				77
Total number in Leprosarium at 31st December, 1952	...	...	...	343

Positive cases admitted were mostly of the lepromatous type. Others were of the reacting tuberculoid type and these were very few.

*Construction Work*—Patient labour continued to be employed wherever possible in construction or maintenance work with the Works and Hydraulics Department, in maintenance of sanitation, nursing, cooking, sewing, &c.

*Education*—Education of children at the Settlement continued to be satisfactorily supervised. Several visits were paid by officials of the Education Department and there was one special lecture on art given by the Art Officer.

CLINICS :

(a) *Eye and Teeth*—The Eye Specialist and Dental Surgeon continued to pay fortnightly visits to the Leprosarium. These services are undoubtedly a great boon to the patients, and contribute in a large measure to the good health enjoyed by them. A number of minor operations was also done by the visiting surgeon.

(b) *Out-Patients Clinics*—Out-Patients Clinics were maintained throughout the year. These Clinics were visited by the Superintending Medical Officer as follows :—

Tragarete Road	...	...	...	Every week
St. Joseph and Tunapuna clinics	...	...	...	Twice per month
Couva and San Fernando clinics	...	...	...	Once per month

Two hundred patients attended these clinics as follows :—

Tragarete Road	...	...	...	...	40
St. Joseph	...	...	...	...	30
Tunapuna	...	...	...	...	25
Couva	...	...	...	...	45
San Fernando	...	...	...	...	60
					200

*Diets*—The Senior Catering Officer visited the Leprosarium on several occasions, advised on proper preparation of diets, &c., and arranged for two cooks from the Leprosarium to take a special course of training at the Port-of-Spain Colonial Hospital with very beneficial results.

*Treatment*—Four sulphone preparations have been in use during the year, viz., Diasone, Sulphetrone, Diamino-diphenyl-sulphone (D.A.D.P.S.) and Thiosemicarbasone.

*Laboratory*—Bacteriological examinations for—

					Positive	Negative	
<i>M. Leprae</i>	Institution	...	...	...	1,448	317	
	Clinics	...	...	...	15	312	
<i>Haemoglobin</i>	Institution	...	...	...	—	—	1,820
	Clinics	...	...	...	—	—	215
<i>Faeces (worms)</i>	Institution	...	...	...	22	173	
	Clinics	...	...	...	36	48	
<i>Urine Analysis</i>	...	...	...	...	—	—	397
<i>Kahn Test</i>	...	...	...	...	2	21	= 23
<i>G.C.</i>	...	...	...	...	1	5	= 6
<i>Sputum Tuberculosis</i>	...	...	...	...	—	21	= 21
<i>Blood Malaria</i>	...	...	...	...	—	41	= 41
<i>Blood Count</i>	...	...	...	...	—	—	220
<i>Sed. Index</i>	...	...	...	...	—	—	3

*Discharge and Rehabilitation*—Several applications from discharged patients for loan from BELRA to assist in building homes were received. Many of these applications have been granted. The Welfare Officer succeeded in getting some of the discharged patients placed in jobs.

*Visiting Committee*—The Leprosarium was visited three times during the year by a visiting committee and several improvements have been made in the settlement as a result of recommendations submitted by the committee, one such improvement being the procuring of an X-ray for use here.

*Gifts and Donations*—The Leprosarium continued to receive cash donations from members of the public and from various organizations. Many generous donations were received from the Trinidad Turf Club as contributions to BELRA Gifts and cash were received from Americans stationed at the Naval Base, Chaguaramas, during the Christmas season.

*Entertainment and Recreation*—The Trinidad and Tobago Branch of the British Red Cross Society continued its good work in arranging monthly stage shows by various groups of artistes. Other groups including the Prayer Circle, the Y.W.C.A., the 10th Port-of-Spain Rover Crew, the Health Department Choral Section, &c., also staged shows for the benefit of patients. Cinema shows were also held four times weekly.

*Radio Broadcasts*—The Chacachacare Orchestra did a seventeen-week broadcast of popular music over Radio Trinidad in a show sponsored by the Casablanca Cafe. The Orchestra received much public praise on the quality of their music. The Matron, the Superintending Medical Officer, Dr. Urich, Deputy Director of Sanitary Services and Father Barry, R.C. Chaplain, recorded special talks which were broadcast over Radio Trinidad by arrangement with the Information Office during the Christmas Season. Musical interludes during the broadcast were supplied by the Chacachacare Orchestra and the Chacachacare Steelband.

#### YAWS CONTROL

Yaws control activities were maintained as in 1951 in conjunction with the V.D. Control Programme at the Central Diagnostic and Field Clinics of the Caribbean Medical Centre.

During the year field activities centred mainly on follow-up of the 1951 Rio Claro Campaign for re-examination and blood tests under the direction of the Yaws Control Officer. 145 persons (46 per cent. of 1951 yaws patients) were re-examined and 966 were examined for the first examination with the following results :—

	1952
Total new applicants ... ..	966
New cases diagnosed ... ..	45
Yaws as per cent. of total new applicants ... ..	4.6 per cent.
Total 1951 yaws cases re-examined ... ..	145
Percentage of 1951 yaws cases examined ... ..	46 per cent.
Number of re-infected cases ... ..	1
Number of relapsed cases ... ..	2 (1.3 per cent.)

Among the 966 new applicants, forty-five cases of yaws comprising three primary, eighteen secondary, nine tertiary and fifteen latent cases were diagnosed and treated.

*Tobago*—The Tobago Campaign was continued by the Mobile Yaws Team under the direction of the Endemic Diseases Officer. The 25 infectious cases diagnosed and treated were mostly of the crab yaws variety and none of them severe.

In May a Yaws Survey was carried out by the Yaws Control Officer with the assistance of the Endemic Diseases Officer and the Supervisor of District Nurses. In order to arrive at an approximate figure of the present number of yaws a selected group, viz., 4,298 school children (86 per cent. of the total enrolled) aged 5-15 years from 28 schools in seven parishes, was examined individually and 72 cases (1.6 per cent.) of active yaws were found.

The rate of 1.6 per cent. is considered to be representative of a special group of individuals in whom about 90 per cent. of the total incidence of the clinical signs of the active disease will be found, and this, together with the 1951 figure of 1.9 per cent. suggests a marked reduction in the incidence of yaws in Tobago since the Campaign started in 1947.

#### HOOKWORM DISEASE

Hookworm control measures were intensified within the sugar belt. Hookworm disease is not a major problem in Tobago. The infestation rate on a re-survey of a district was reduced to 2.84 per cent. from 5.30 per cent. in 1951. In the Northern Division the Endemic Diseases Unit centred its activity in the County of St. George and found the infestation rate to be 37.14 per cent.

In the Southern Division in the sugar belt areas of Caroni and Victoria, the infestation rates were 57.16 per cent. for Caroni and 50.40 per cent. for Victoria. In 1951 the hookworm control unit found the infestation rate in other areas within the Southern Division to be 64.6 per cent. for Caroni and 65.43 per cent. for Victoria.

The majority of persons suffering from hookworm disease had a minimal type of infection.

Particulars regarding the number of specimens examined and treatments given are summarized as follows :—

Particulars	Colony	Tobago	St. George	Caroni	Victoria
Number of specimens examined ... ..	37,915	2,216	10,313	7,823	17,563
Number positive for hookworm ... ..	17,286	63	3,831	4,472	8,920
Hookworm infestation rate ... ..	45.59%	2.84%	37.14%	57.16%	50.78%
Persons treated ... ..	39,571	280	12,758	14,559	11,974
Number of treatments given ... ..	68,903	488	23,352	27,273	17,790

General field sanitation, privy construction and sewage disposal, maintenance of latrines, treatment with tetrachlorethylene, and health education activities were continued.

More detailed information regarding the Counties of St. George, Caroni and Victoria is found in Appendix II, Table IV and in Appendix IV.

## SECTION V—GENERAL MEASURES OF SANITATION

### SEWAGE DISPOSAL

The method of sewage disposal remained much the same as reported last year. Port-of-Spain has a municipal sewage system and Oilfields and Settlements of the Planning and Housing Commission have local water-borne systems.

The general tendency is to replace the privy cesspit by septic tank and soak away pit wherever piped water supply is available.

Sanitary conveniences in public and most private dwelling places were satisfactorily maintained. Bore-hole latrines were drilled in County Caroni with equipment provided by the Local Health Authority with the active assistance of Messrs. Caroni Ltd. who constructed two such drills at Brechin Castle. Altogether 187 such holes were drilled at an average depth of 12 feet. With the exception of the Mamoral area where 12 out of 40 proved satisfactory, at least 86 per cent. were reported as being in good working order and were in constant use.

In County St. Patrick three sets of aqua privies were built at Siparia Union C.M., Siparia Road, and San Francique C.M. Schools. Wherever drilling operations are in progress the Apex Oilfields Ltd. use bore-hole latrines.

Privy cesspits were constantly under supervision as a routine sanitary measure. Many of them were cleaned, oiled, and whitewashed. Mobile Cesspool Emptiers were operated by the Port-of-Spain, San Fernando and St. George Local Health Authorities.

### SCAVENGING AND REFUSE DISPOSAL

Collection, removal and disposal of refuse were undertaken by Local Health Authorities and by contract. Controlled tipping, covering with saw dust, earth and sand, dumping, composting and incineration were the principal methods of disposal. Oilfields continued to use incinerators.

In St. George West a thrice-per-week service was provided at Shoreland. Dumping grounds and scavenging service were generally well maintained in Port-of-Spain and the Boroughs. Motorized units gradually replaced animal drawn carts in outlying rural districts.

### DRAINAGE

Drainage works in urban and rural districts were undertaken by the Department of Works and Hydraulics, Wardens Department, Local Health Authorities, Local Road Boards, industrial concerns and private owners. Such work included new earthen and concrete drains, laying down of inverts, repairs, extensions, cleaning and diversions.

In the Northern Division the Diego Martin River Course was straightened from Crystal Stream to Fairview by Works and Hydraulics Department. The St. Ann's River bed was paved and improvements to retaining walls along the Maraval River were effected to lessen the possibility of flooding. Private enterprise continued to concrete stretches of earthen drain.

In St. George Central the drainage problem remained acute and there was frequent flooding during heavy rainfall especially at Laventille, Barataria and San Juan. In St. George East, the Local Road Board laid down concrete street drains at Curepe and Trinidad Sugar Estates Ltd. maintained their drains in satisfactory order.

Clearing of main drains and water courses by the Local Health Authority of St. Andrew-St. David with the assistance of Works and Hydraulics Department received regular attention as in the past. 2,868 feet of concrete inverts were laid down by the Local Health Authority in Sangre Grande and nearly 10,000 feet of concrete drains were laid out by the Manzanilla Local Road Board, Works and Hydraulics Department and private owners.

In the Southern Division the usual drainage work continued. In County Caroni 9,379 feet of drains were paved with pre-cast inverts by the Local Health Authority in Frederick Village, Butler Village, Jerningham Junction, McBean, Dow Village and Chaguanas. Insanitary water-logged drains in built-up and more thickly populated areas were given active attention following the setting of new levels at 25 feet intervals by Mr. C. J. Williams, Surveyor of the Works and Hydraulics Department.

The extent of drainage work as reported for the year 1952 is compared with work done in 1951 as follows :—

<i>Drains</i>	1952 <i>feet</i>	1951 <i>feet</i>
Concrete drains built	269,725	230,369
Concrete drains repaired	73,165	179,667
Concrete drains cleaned	27,006,709	13,717,894
Earthen drains dug	2,861,450	2,192,268
Earthen drains repaired and cleaned	16,625,033	19,139,365
Earthen drains oiled	2,444,041	4,627,399

### WATER SUPPLIES

The 1951 Administration Report of the Director of Medical Services provided a detail report on water supplies for that year. The quality of water distributed during 1952 was generally satisfactory. In rural areas where piped water was not available water was obtained from shallow wells, ponds, springs, rivers and dams. Waters from such sources were subject to periodic chemical and bacteriological examination.

The Central Water Distribution Authority continued to control and maintain arrangements for water distribution. During 1952 the Central Water Distribution Authority laid down 42,390 feet of mains extensions and provided 60 public standpipes as follows:—

D'Abadie-Tacarigua	...	...	5,867 ft.	11 standpipes
San Juan-Laventille	...	...	10,382 ft.	13 standpipes
Sangre Grande	...	...	3,200 ft.	3 standpipes
Carenage-Diego Martin	...	...	1,266 ft.	4 standpipes
Caroni	...	...	695 ft.	1 standpipe
Central-North	...	...	8,550 ft.	9 standpipes
Naparima	...	...	1,883 ft.	4 standpipes
Central-South	...	...	1,900 ft.	5 standpipes
Penal-Erin	...	...	3,590 ft.	4 standpipes
Princes Town	...	...	2,375 ft.	2 standpipes
Cedros	...	...	1,269 ft.	1 standpipe
Cumuto	...	...	1,413 ft.	3 standpipes

A number of areas had to be supplied with water from mobile tank trucks provided by the Warden's Department. District Administrations and Local Health Authorities provided and maintained small water supplies.

It is fitting to mention that it is the policy of Government that good water for drinking, domestic and other purposes should be provided for every inhabitant of the Colony and that water rates should be as low as possible for all domestic purposes.

Port-of-Spain with a population of about 110,000 inhabitants has a pipe-borne chlorinated water supply. The City Local Health Authority in addition to the water which it obtains from the Central Water Distribution Authority also wins and controls water from wells and rivers. This water is filtered and chlorinated prior to distribution.

The Hillsborough Dam in Tobago is a storage reservoir with filtration and chlorination plants. Nine springs and three rivers provide additional small water supplies.

In rural areas the principal source of supply is the Central Water Distribution Authority. Local small water supplies, however, are maintained as follows:—

Victoria	...	...	Local Health Authority Small Water Supplies consisting of 137 ponds, 5 wells and 5 reservoirs.
St. Andrew-St. David	...	...	Local Health Authority Small Water Supplies consisting of 53 wells and 2 reservoirs.
Caroni	...	...	Local Health Authority Small Water Supplies consisting of 18 springs.
St. Patrick	...	...	Local Health Authority Small Water Supplies consisting of deep wells, shallow wells, ponds and springs.

These additional water supplies are tested periodically.

The Water Engineering Branch of the Works and Hydraulics Department continued to maintain existing trunk mains and water supply installations during the year.

In St. George East water mains were installed and standpipes were erected at Streatham Lodge, El Dorado, Dinzley, Lower Curepe and D'Abadie. An independent local supply from Mt. St. Benedict Hills where a reservoir was erected met the needs of St. John's Village.

Standpipes and 2 cisterns were erected at St. Barb's Hill to increase the drinking water supply. Diego Martin was able to receive an augmented water supply from August when the Diego Martin wells were handed over to Government.

In St. Andrew-St. David the Central Water Distribution Authority island-wide service supplies the needs of the most populous districts including Valencia, Guaico, Sangre Grande, Nestor, Chee-You, Bravo Hill and Manzanilla. During the year mains were extended and standpipes provided along the Tumpuna Road, Cumuto, Adventist Street and Sangre Grande from Sangre Grande-Oropouche Road to Oropouche Village and a little beyond. The Works and Hydraulics Department controlled the pipe-borne service from Carmichael Reservoir to Guaico-Tamana Villages and Los Armadillos, and towards the end of the year sited standpipes along the Toco Road from new high level tanks right up to Toco Village. At Plum Road the Local Health Authority catchment and service reservoir was cleaned and fenced in. A pipe-borne service was provided up to Plum Road C.M. School from an existing Local Health Authority well nearby. Ten new Local Health Authority wells were sunk and protected with concrete cylinders, covers and platform and equipped with semi-rotary hand-pumps to supply the needs of some of the hard-pressed communities of the district. Wells at Fishing Pond and Manzanilla were provided with concrete coping and equipped with pumping gear.

In the County of St. Andrew wells under the control of the Local Health Authority were satisfactorily maintained. Four springs yielding a good supply were provided with cylinders, concrete platform and hand-pump. Two other springs were provided with concrete collecting chambers and a ½-inch pipe line leading to a standpipe along the roadside was laid down. New small water supplies were provided at Preysal, Calcutta Settlement, Tabaquite, Pepper Village, Chickland-Caparo, Brasso-Caparo and La Vega. Piped water supplies were also provided by Works and Hydraulics Department and by the Central Water Distribution Authority at Brickfield, Hassarat, Campo Road, Calcutta Settlement and Freeport. Over 30 street taps were provided and six additional standpipes were laid at Couva and outlying villages.

In the County of Victoria also, the Central Water Distribution Authority extended its mains to supply pipe-borne water to Mohess Trace, Lapai Trace, Hillpiece and Bamboo. In the County of St. Patrick water supply from deep wells operated by the Department of Works and Hydraulics was distributed by the Central Water Distribution Authority to a limited area. Oil Companies also operated private wells for their own use. The Local Health Authority maintained shallow wells, ponds, springs and stored rain water. Approximately 34,580 feet of 4-inch pipes were laid down together with 22 standpipes in addition to 11,150 feet of 6-inch pipes and 8 standpipes. Water samples from Penal, Siparia, Point Fortin and Granville were forwarded by the Department of Works and Hydraulics for bacteriological examination. Of the 278 samples submitted, 64 were considered unsatisfactory and 3 suspicious.

The Health Department assisted the Central Water Distribution Authority in the annual save water drive during the "Water Week Campaign" through its Health Education Unit.

#### INTENSIVE VILLAGE SANITATION

Activities under this head followed the plan outlined in summary in the 1951 Administration Report. In this project Community Councils and their associated organizations played an active part.

Sanitary Inspectors and Health Visitors made regular house-to-house inspections to ensure satisfactory results. A regular feature of this campaign was a series of talks and the showing of 16 mm. films on subjects relating to health and sanitation maintained by the Health Education Mobile Cinema Unit. Invaluable assistance was also given by the Survey Team of the Endemic Diseases Unit, the Caribbean Medical Centre, the Malaria Division, officers of the District Welfare Services—Maternity and Child, and by various Oilfields and Sugar Companies who sponsored better housing facilities for its employees.

#### SCHOOL HYGIENE

The continued shortage of medical and nursing staff did not make it possible to provide for a regular school medical service with periodical physical examination of school children. Schools were, however, visited by district nurses and health visitors for the inspection of pupils. Where necessary such cases as required a more thorough examination were referred to a doctor or dentist at one of the district clinics. School children received treatment from the staff of the hookworm units, endemic diseases unit, Caribbean Medical Centre and dental surgeons at district health centres and dispensaries.

During 1952, nurses paid 807 (877 in 1951) visits of inspection to 323 (348 in 1951) primary schools, inspected 34,750 children (32,501 in 1951) and referred 2,045 pupils (3,307 in 1951) to medical officers for further examination and treatment. The principal defects noted were dental caries, dirty heads, skin infections, worms, ear, nose and throat conditions, malnutrition and yaws. Dental treatment was provided at 18 centres at which 39,659 children (40,179 in 1951) from 150 schools were examined and treated where indicated. Of this number 34,656 (35,041) were inspected in Trinidad and 5,003 (5,132 in 1951) in Tobago. The Mobile Dental Unit in Tobago examined 2,406 school children and treated 1,556. Hookworm and Endemic Diseases Units treated over 62,000 children.

School buildings, yards and sanitary conveniences were generally kept in a clean and sanitary condition and were periodically inspected by Sanitary Inspectors as a routine measure. A number of new schools were built and others were repaired and painted or otherwise improved.

The Coterie of Social Workers served 48,282 meals to school children in San Fernando. As in former years 10 per cent. of the pupils attending primary schools were provided with fresh milk by the Department of Education.

#### HOUSING

There was continued improvement in the type and structure of business and dwelling houses erected during the year. The acute housing situation, however, continued to exist.

Statistics of building applications made and granted, and of houses built and repaired, will be included in the Report of the Government Statistician to whom coded sheets are submitted every month in relation to building projects.

Dwelling houses continued to be erected in the suburban districts of St. George East, viz. St. Augustine, Curepe, Santa Margarita and Tunapuna particularly. The position regarding Shanty Town on the outskirts of the city remained more or less the same despite the effort to restrict the growth of this squatters' settlement.

Building activities were pronounced in Les Efforts and Vistabella in the Southern Division and shacks erected by squatters on King's Wharf were removed. In the County of Caroni, Woodford Lodge Estates demolished 4 long range barracks, provided 27 two-family aluminium cottages at St. Charles Place and 18 similar structures at Adela, Chaguanas, for their workers. In St. Patrick the Oilfields maintained their existing houses for their Senior and Junior staff and for workers and in addition erected 15 cottages, 12 semi-detached cottages and 5 bachelors quarters. The Trinidad and Tobago Electricity Commission erected 15 cottages for their employees during the year in this Division. The Usine Ste. Madeleine Sugar Co. Ltd., demolished 25 barrack buildings. A start was made in aided self-help housing in the sugar belt and with the help of the Sugar Industry Labour Welfare Fund 70 dwelling houses were erected at the following places:—

Corinth (30), Tarouba (26) and Harmony Hall (14).

## SECTION VI—NUTRITION

## NUTRITION EDUCATION

Nutrition education was continued through the following media—Lectures and cookery demonstrations, nutrition exhibits, nutrition and cooking classes, radio talks and articles in the press. Work in this field was limited because of lack of staff and lack of teaching materials, i.e. posters, simple illustrated pamphlets, films and film strips, &c.

(a) *Cookery Demonstrations* to show ways of preparing nutritious foods at low cost were arranged for ante-natal and child welfare clinics in the northern division at the following places:—

Stephens Clinic, St. James, Maraval, Santa Cruz, St. Joseph Old Road, Success Village, Tunapuna and Arouca.

(b) *Courses in Nutrition and Cookery*—In Port-of-Spain six courses were provided for adults at the Cookery Centre, Tragarete Road. The average attendance at these centres was 80. In San Fernando a course was started in the last quarter with an attendance of 40. In Tobago, the part-time demonstrator conducted courses at Plymouth and Scarborough with an average attendance of 40 at each centre.

In May a full-time two-weeks course was given for women of the Toco area at the request of the Education Extension Department. Courses were also given to Voluntary Groups at Penal and Rio Claro.

Lectures and Demonstrations were given in connection with the Health Campaign in County Caroni and lectures were given to Parent-Teachers Groups and Church Groups requesting them.

*Nutrition Exhibits*—for the Trinidad Poultry Association and also for the Trinidad Goat Society were arranged at their annual show.

*Radio and Press*—The Government Broadcasting Unit arranged a weekly programme from January to November in which a period of five minutes was devoted to nutrition. Articles on Food and Nutrition appeared in the press from time to time.

*FAO Conference on Nutrition and Home Economics*—Much helpful knowledge and advice was gained during the FAO Conference held at Kent House, Maraval, in July, 1952.

*Institutions*—Improvement in institutional catering was largely due to the six weeks training courses for cooks in Institutional Cookery continued at the Colonial Hospital, Port-of-Spain.

Food yeast was added to cooked diets in all institutions. Most of the institutions use a loaf fortified 2 per cent. with food yeast.

*Advisory Work*—Last year food yeast biscuits were successfully introduced into the school feeding programme. This year a larger number of schools received such biscuits. School meals centres continued to use food yeast in their cooked meals.

*Day Nurseries*—The School for the Deaf, the Children's Convalescent Home, Orphanages and Industrial Schools were supplied with food yeast. Advice on dietary and catering was given to the Day Nursery Association at the request of the Superintendent of Infant Welfare and Maternity Services.

## FOOD IN RELATION TO HEALTH

There was no major outbreak of food poisoning. Regular visits of inspection were paid to hotels, restaurants, shops, parlours, bakeries, aerated water factories and similar places where food was stored or sold.

The mushroom appearance of parlours (small restaurants) made adequate supervision somewhat difficult. Sanitation in hotels and restaurants was on the whole well maintained. Food handlers were medically examined and premises found in order were certified for registration as food shops.

There continued to be a deficiency in proteins, in vitamin B complex and vitamin A, evidence of which can be seen at ante-natal and child welfare clinics.

There was some improvement in the sanitation of food shops but the sale of soft drinks, &c., by itinerant vendors still remains a problem.

## INSPECTION AND CONTROL OF MARKETS

Markets and market-places were inspected regularly. While a number of them was kept in good condition, the sanitation of markets on the whole is in need of improvement. At the San Juan Market a refrigerator was installed by private enterprise for the benefit of meat and fish vendors. Fish vendors, however, preferred to use ice boxes. Green vegetables and ground provision and fruits continued to be sold in unauthorised places.

## INSPECTION AND CONTROL OF DAIRIES AND COWSHEDS

Regular visits of inspection were paid to dairies and cowsheds to ensure a satisfactory degree of cleanliness. There was a larger number of small dairies and cowsheds in operation in 1952. Fortunately most of these supply milk to the larger dairies where the milk is usually pasteurised before it is sold.

Samples of milk are taken regularly to ascertain the quality of milk consumed.

Reference should be made to the Government El Reposo Agricultural Demonstration Station which serves as a working model for villagers desiring to set up small dairies. 2,313 heads of cattle were tuberculin tested in several districts by veterinary officers of the Department of Agriculture. The percentage of tuberculin reactors for the year was 1.64 per cent. as compared with 3,674 and 1.58 per cent. in 1951.

## INSPECTION AND CONTROL OF SLAUGHTERHOUSES AND ABATTOIRS

A veterinary surgeon is in charge of the Port-of-Spain abattoir. At other centres routine ante- and post-mortem examinations of animals intended for human consumption are carried out by Sanitary Inspectors who also hold the Meat and Other Foods Certificate of The Royal Sanitary Institute, London.

Veterinary Surgeons pay periodic visits to abattoirs and slaughterhouses and their services are always available on the request of the sanitary inspector.

## SECTION VII—HEALTH EDUCATION

## MEASURES TAKEN TO SPREAD KNOWLEDGE OF HYGIENE AND SANITATION

The Health Education Unit maintained its active co-ordination service by continuing to assist various divisions of the Health Department in their endeavour to spread knowledge of practical health measures. In addition, the Unit assisted semi-official bodies, voluntary welfare councils and other independent organizations engaged in health and social welfare by providing lectures and film programmes suited to their needs, arranging practical demonstrations, distributing health education material, and ensuring the active participation of individuals and communities in measures carried out by the Health Department for the promotion of community health and sanitation, and the prevention and control of endemic and communicable diseases. As in former years, the media of instruction employed consisted of health talks, lectures, leaflets, posters, 16 mm. sound films, demonstration, exhibits, school health and clean village competitions, radio broad casts and feature press releases on subjects of topical interest.

## TRAINING OF TEACHERS

The Health Education Officer continued to deliver to training college students in accordance with their request a series of lectures on health and methods of teaching health to meet the requirements of their syllabus. Arrangements were also made to provide institutions with other specialist lecturers on health subjects. Lectures dealing with general health and education were also delivered by the Health Education Officer to various teachers' organizations.

## SCHOOL HEALTH EDUCATION

Officers of the Health Department including Medical Officers of Health, District Medical Officers, the Administrative Secretary, the Health Education Officer, Sanitary Inspectors and Health Visitors gave a number of health talks to senior pupils of schools in selected areas. Practical field demonstrations were also arranged for such schools in connection with sanitation and community health in order to supplement regular class work in hygiene in accordance with the syllabus of the Department of Education.

These talks and demonstrations formed the basis of the school health education programme and covered the following subjects:—elementary public health administration, personal hygiene and sanitation, food and health, dental health, common ailments of school children, control of communicable diseases, and working together for health.

In addition to the above Sanitary Inspectors and Health Visitors in respective counties gave short talks on health during their routine visits of inspection to schools. The Health Education Officer supervised arrangements for talks and demonstrations, provided health leaflets and posters, and put on programmes of 16 mm. health films for the benefit of senior pupils. Where schools participate in a supplementary health talks scheme, it is the general practice at the conclusion of the talks and demonstrations for children to write a competitive examination. The results are announced on a day held for the purpose when a full report is presented, parents attend, and a miniature health exhibition staged. Prizes contributed by the community are awarded. During 1952 such programmes were arranged for the Counties of St. George, St. Andrew-St. David, Caroni, Victoria and St. Patrick.

## JUNIOR RED CROSS

Active school health propaganda continued to be carried out through Junior Red Cross Links in primary and intermediate schools of the Colony for whom health and first aid competitions have been taking place annually.

There were 214 such Links at the end of the year as compared with 196 in 1951, with an overall membership of 9,499 as compared with 8,046 in 1951. These Links participate in chain gatherings, exhibitions, exchange of albums with other countries, &c., and in the annual health and first aid competition. This examination was completed in three rounds and consisted of oral and practical questions based on Lakin's text "Elementary Manual of First Aid". Medical Officers of Health together with District Nurses conducted the first round. The Deputy Director of Sanitary Services and the Acting Superintendent, Infant Welfare and Maternity Services assisted with the examination and took charge of the second and final rounds as well. The Deputy Director is Chairman of the Colony Junior Red Cross Committee and the Health Education Officer is the Colony Junior Red Cross Officer.

Over 54 schools entered for the competition. The following were awarded Divisional Shields and the Lady Rance Colony Prize:—

Tobago	...	...St. John's E.C.	...	...Packer Hutchinson Shield
North Trinidad	...	...Barataria E.C.	...	...Joan Whittington Shield
South Trinidad	...	...Iere Government	...	...Dr. E. J. Sankeralli Shield
Lady Rance Prize		...Iere Government		

In the conduct of this examination from year to year the support of the Department of Education is fully received.

## COMMUNITY HEALTH EDUCATION

During 1952 this type of education consisted mainly of lecture-film shows and demonstrations on health subjects on a county basis. Schools, public halls and child welfare clinic buildings were used as meeting places and whenever weather permitted open air programmes were introduced. Attendance at such lecture-film shows bears a definite relationship to health promotion and disease prevention, and the gradual increase in numbers is some indication of a growing health consciousness in the community. Voluntary organizations and community councils continue to grow and expand and as a direct result the request for film shows becomes more insistent and cannot be adequately met with the one mobile cinema unit of the Health Department. Such shows are attended by a fair cross section of the community including county councillors, local leaders, religious leaders, teachers and social workers.

In addition to the above, Sanitary Inspectors and Health Visitors and other field personnel attached to other divisions and units in their daily routine house-to-house visits and in the execution of divisional programmes spread health education in relation to sanitation, first aid, maternity and infant care, nutrition, dental health, and the control of diseases such as hookworm, enteric fever, tuberculosis, leprosy, malaria, venereal diseases and yaws.

## EDUCATION IN HOOKWORM PREVENTION

The Endemic Diseases Units of St. George, Caroni and Victoria received the full co-operation of the health education unit in their effort to control and prevent the spread of hookworm disease. Twice monthly lecture-film shows were specially provided for hookworm control and prevention talks in each of these counties and in St. David-St. Andrew. Posters and leaflets on hookworm disease were distributed dealing with privy construction, maintenance and its relation to hookworm disease.

## THE MOBILE CINEMA UNIT

The Health Education Mobile Cinema Unit consists of a 16 mm. projector, speaker, microphone and generator for use in rural areas not supplied with electricity. During the year the Unit provided 227 shows as compared with 207 in 1951 and operated in 113 districts as compared with 87 in 1951. There was an estimated total attendance of 65,000 people as compared with 47,500 in 1951 at the various health shows. About 50 per cent. of the attendance comprised adults. It is not practicable to prevent this as adults in rural areas particularly are usually accompanied by their children whom they cannot leave uncared for and alone at home during night time. 681,368 ft. of films were shown as compared with 516,511 ft. last year with a projector running time of 19,052 mns. as compared with 14,950 mns. in 1951 and a generator running time of 17,695 mns. as compared with 15,405 mns. in 1951. The Mobile Cinema Unit covered 20,244 miles during the year as compared with 15,711 miles in 1951.

The Health Education Unit has an exceedingly limited stock of health education films for use in its programmes. It does, however, make frequent use of films from other sources and would like through this medium also to express its thanks to the British Council, The Caribbean Commission, The Canadian Trade Commissioner, The Commissioner for India, The Information Office and to other sources for the practically uninterrupted supply of suitable films.

The Unit assisted the Tuberculosis Association in its tuberculosis prevention campaign by providing films on tuberculosis in Port-of-Spain and by carrying out this special film programme to rural areas as well. Film programmes were also provided for the Child Welfare League, Belmont Orphanage, Trinidad & Tobago Branch of the B.M.A., a lecture-show at Queen's Royal College, Naparima Training College for Teachers, the Seventh Day Adventists, St. John's Baptist Church, the local branch of the British and Foreign Bible Society, the Y.W.C.A., the British Red Cross Society, Apex Oilfields, Ltd. for the regular health education of their workers, &c. In addition full length 16 mm. feature films were shown at the Port-of-Spain and San Fernando Colonial Hospitals for the benefit of the nursing staff and at Masson Tuberculosis Hospital and Caura Sanatorium for patients.

## PHOTOGRAPHY

The Operator-Driver of the Mobile Cinema Unit assists further by taking photographs for the Department. During 1952 photographs were taken at the San Fernando Child Welfare Clinic and at Stephens Clinic, Port-of-Spain, for poster making; at Gasparillo Child Welfare Clinic; at Guaracara East in connection with the clean yard competition; at the Caribbean Medical Centre for their annual report; at the Malaria Division for record; and at Blanchisseuse and Filette Village in connection with hookworm disease prevention activities.

## SECTION VIII—MATERNITY AND CHILD WELFARE

## DISTRIBUTION OF STAFF

The Public Health and District Nursing staff at the end of 1952 comprised 77 Health Visitors and District Nurses as compared with 70 in 1951 as follows:—

Districts	Total	County Nurses	Health Visitors	District Nurses
Port-of-Spain and County St. George West	22	2	15	5
St. George Central	9	1	9	—
St. George East	6	1	2	3
St. Andrew-St. David	4	—	4	—
Tobago	6	1	2	3
Caroni	6	1	3	2
Victoria	11	1	8	2
S. Patrick	11	1	4	6*
Nariva-Mayaro	2	—	1	1
	77	8	47	22

\*Includes two staff nurses at Point Fortin Maternity Hospital.



## NEW CLINICS

A Mothers' and Infants' Clinic known as the Rapsey Memorial Clinic was erected at Aranguez during the latter part of the year and was handed over to Government for maintenance and operation. Another mothers' and infants' clinic was started at St. Helena. Government built new two-storey dispensaries with nurses' quarters upstairs at Diego Martin and at Success Village to replace old and unserviceable dispensaries.

*Toddler's Milk*—Toddler's Milk provided from Government funds was distributed daily to 315 children at 18 Child Welfare Centres including 4 Day Nurseries and Convalescent Home.

*Midwifery*—Government midwives attended to 1,277 cases as compared with 1,373 in 1951. Twelve panel midwives employed part-time by Government delivered 927 cases as compared with 830 deliveries by 9 panel midwives in 1951. During the year 3,016 women were delivered at District Hospitals, 1,683 by licensed midwives and 4,724 by unqualified persons (handy women) who still continue to practise unlicensed midwifery and whose unskilled ministrations are responsible for a large number of maternal and infant deaths.

## EDUCATIONAL ACTIVITIES

(a) *Ante-Natal and Child Welfare Clinics*—Talks and demonstrations were provided at Clinics as in former years on Maternity and Infant Welfare. Other activities included Cookery Demonstrations organized by the Senior Catering Officer.

(b) *Mothers' Clubs*—With the assistance of Extension Officers from the Department of Education three new Mothers' Clubs were formed and received instructions on sewing and repairing garments, child welfare, &c.

(c) *Mothercraft*—Mothercraft lectures and demonstrations at Clinics continued.

(d) *Talks to Health Visitors and District Nurses*—Sir John Imrie, Commissioner of Local Government, addressed a gathering of 52 Health Visitors and District Nurses on certain aspects of child welfare work. A demonstration was arranged by the Health Education Unit which showed suitable films on maternity and infant welfare.

## HOME ECONOMICS SEMINAR

24 Health Visitors attended week-end courses in home economics conducted by Miss Elsa Haglund of the FAO

(a) *Refresher Course*—The Trinidad and Tobago Nurses Association arranged a refresher course at the Stephens Clinic. A number of Public Health Nurses attended.

(b) *Training of Health Visitors*—Two health visitors returned in February 1952, after completing in Jamaica a course in the administration of BCG Vaccine. Two health visitors from San Fernando were given training for four weeks in chest clinic techniques. One health visitor attended the Caribbean Medical Centre for training in venereal diseases control.

(c) *Radio Broadcast*—Two talks over Radio Trinidad were given by the Acting Superintendent of Maternity and Infant Welfare Services on habit formation and character training.

## SCHOOL HEALTH WORK

The inspection and examination of school children continued as in former years. The following figures give some indication of the work done at schools :—

	TOTAL		NORTH		SOUTH	
	1952	1951	1952	1951	1952	1951
Number of schools visited	323	348	207	222	116	126
Number of visits to schools	807	877	495	602	312	273
Number of children medically inspected	5,020	6,131	—	5,959	5,020	172
Number of children inspected by nurses	34,750	32,501	20,262	22,614	14,443	9,887
Number of sick children referred to medical officers	2,045	3,307	1,617	2,694	426	613
<i>Defects</i>						
Dental Caries	13,851	11,270	9,691	8,222	4,160	3,048
Ped capitis...	3,410	4,366	1,977	2,788	1,433	1,578
Skin infection	1,802	2,446	1,351	1,355	451	1,091
Worms	1,306	2,110	1,189	1,129	117	981
Ear, Nose and Throat conditions	1,202	1,273	936	949	266	324
Malnutrition	3,716	2,364	1,331	1,425	1,385	939
Jiggers	262	605	105	237	157	368
Yaws	333	429	215	242	118	187
<i>Mass Treatment</i>						
Hookworm...	21,698	37,397	123	4,222	21,575	33,175
Yaws	834	1,295	474	1,085	360	210
T.A.B.	23,572	19,346	1,642	723	21,930	18,623
Delousing of Heads (Caroni)	—	6,078	—	—	—	6,078

## MISCELLANEOUS

Public Health Nurses continued to visit with the close co-operation of almoners, infants and young children discharged from hospitals. Several of them were referred to the Social Assistance Department for aid.

186 cases were referred to the Convalescent Home and Day Nurseries.

SECTION IX—HOSPITALS, CLINICS, DISPENSARIES, HEALTH CENTRES  
AND OTHER INSTITUTIONS

A list of Hospitals, Health Centres and Dispensaries will be found in Appendix II, Tables V and VI.

COLONIAL HOSPITAL, PORT-OF-SPAIN

*Maternity Department*—In the Maternity Department there were 4,659 admissions and 2,670 deliveries. 417 deliveries performed by contract midwives in the district brought the total number of internal and external deliveries to 3,087 which included 2,903 live births and 179 still births. There were 76 neonatal deaths, 31 maternal deaths, 49 multiple births and 707 abortions.

The following conditions continued to be prevalent in the Maternity Department :—

- (a) Ankylostomiasis
- (b) The Toxaemias of Pregnancy
- (c) Eclampsia occurred much too frequently. The great majority of these cases did not attend antenatal clinics
- (d) Antepartum and post-partum haemorrhages occurred frequently and accounted for many deaths
- (e) The incidence of abortions is still very high. Criminal interference plays an important part in causing abortions.

Eight hundred and forty-six operations were done during the year.

Attendances at clinics were as follows :—

Ante-natal clinics ... ..	...	...	...	2,704 new cases
				14,351 old cases
Post-natal clinics ... ..	...	...	...	850
Neonatal clinics ... ..	...	...	...	2,172

At these clinics treatment including X-ray where indicated was provided.

*Radiology Department*—In the Department of Radiology 15,030 X-ray examinations were done on 14,938 patients. Of this number 7,177 were for bone injuries and 2,813 for infections of the lungs. Superficial therapy was given to 60 patients who totalled 364 visits.

*Eye Department*—The Eye Department attended to 5,596 new patients and 7,689 old patients and provided 1,690 prescriptions for glasses. During the year 551 major and 224 minor eye operations were performed.

*Physiotherapy Department*—In the Physiotherapy Department 11,853 treatments were given 994 patients including 750 out-patients were admitted.

*Total Operations*—The total number of operations performed at this Hospital amounted to 3,720.

*Hospital Dues*—The sum of \$19,153.77 was collected from Hospital dues during 1952.

*Almoner's Department*—The Almoner's Department interviewed 2,146 patients during the year, supplied 1,123 spectacles and 133 surgical appliances including artificial limbs, belts and braces, collected a total of \$4,856.22 and worked with several statutory and voluntary organizations giving assistance to hospital patients.

*Nursing Staff*—The nursing staff at the end of the year consisted of 24 ward sisters, 96 staff nurses and 166 student nurses.

COLONIAL HOSPITAL, SAN FERNANDO

Work on the new hospital continued. Improvement in repairs and maintenance of buildings was effected by the Works and Hydraulics Department. The Female Surgical Ward was temporarily vacated. On the advice of the Works and Hydraulics Department and owing to the threat of erosion caused by heavy rain fall and excavation of adjacent lands, the British Red Cross Society kindly permitted patients to be hospitalized in the Red Cross Hut near the entrance to the Hospital.

Out of a total of 13,743 persons treated during the year, 12,294 were discharged. 1,016 babies were born in hospital. The daily average number of patients amounted to 1,358. Of the number of deaths recorded at the hospital 360 occurred within 24 hours and 609 within the first week of admission. 3,179 operations were performed at the hospital.

The sum of \$20,479.24 was collected from hospital dues as against \$19,855.32 in 1951. The total expenditure for the year amounted to \$831,059.28 as against \$680,552.82 in 1951.

There were 12,658 X-ray examinations as compared with 12,962 in 1951. While the number of actual examinations was less the work in the Diagnostic Department increased and the number of treatments in the Therapeutic Department was higher than in 1951 because patients returned for follow-up treatment. The ten out-patients clinics as in 1951 continued to operate during the year, viz., Medical, Diabetic, Male and Female, Surgical, Fracture, Gynaecological, Ante-Natal, Chest, Eye and E.N.T. Clinics. A grand total of 10,911 new patients attended these clinics and 13,637 old patients followed up their treatments during the year under review.

During the year 43,721 prescriptions as against 42,738 were attended to at the Hospital Dispensary. The Registration and Assessment Department, the Dietary Department and Almoner's Department continued to assist actively in the work of the hospital.

The nursing staff at the end of the year consisted of 16 ward sisters, 34 staff nurses and 147 student nurses.

## COLONIAL HOSPITAL, TOBAGO

During the year 2,149 patients were treated. Of this number 1,988 were discharged and there were 98 deaths, 40 dying within 24 hours of being admitted. The daily average during the year was 66. There were 366 deliveries and this number represents more than one-third of the babies born in Tobago. 222 surgical operations were performed at the Hospital including 47 gynaecological, 43 herniotomies, 26 appendicectomies and 29 genito-urinary.

At the Hospital Laboratory 1,692 specimens were examined including 1,546 for complete blood counts, 274 for haemoglobin counts and 277 urinalyses.

## Summary of Surgical Operations performed at Government Hospitals (General), 1952

Operations	Port-of-Spain	San Fernando	Tobago	Arima	Total
Herniotomies ... ..	363	214	43	—	620
Appendicectomies ... ..	367	295	26	—	688
Other abdominal operations ... ..	124	399	7	—	530
Gynaecological ... ..	635	365	47	—	1,047
Genito-urinary ... ..	270	447	29	12	758
Orthopaedic ... ..	168	325	9	—	502
Thoracic ... ..	33	5	—	—	38
Eye ... ..	795	183	3	—	981
Ear, Nose and Throat ... ..	515	212	—	—	727
Miscellaneous ... ..	450	734	58	—	1,242
	3,720	3,179	222	12	7,133

## ST. JOSEPH DISTRICT HOSPITAL

At this hospital 1,065 patients were treated, 1,024 discharged and 17 died. There were 24 live births. Casualties numbered 5,587 and there were 14,620 attendances for dressing. Treatments were given to 162 cases in the Diabetic Clinic with a total of 10,889 attendances. Malaria, anaemias, ulcers, diseases of the puerperal state and affections produced by external causes were the principal conditions treated.

## TACARIGUA DISTRICT HOSPITAL

Of the 602 patients treated during 1952 at this hospital, 558 were discharged and 31 died. The daily average number in hospital was 21. Principal conditions treated were malaria, diseases of the circulatory and respiratory systems, diseases of the bones and joints and accidents. 2,920 patients received attention in the casualty department and 54 persons in the Diabetic Clinic.

## ARIMA DISTRICT HOSPITAL

Of the 906 patients treated 779 were discharged and 72 died. 24 deaths occurring within 24 hours of admission. 1,032 patients were treated in the Casualty Department. 12 operations were performed at this hospital.

## SANGRE GRANDE DISTRICT HOSPITAL

Of the 699 patients treated during the year 680 were discharged and 15 died, 9 dying within 24 hours of admission. There were 22 live births at this hospital.

## PRINCES TOWN DISTRICT HOSPITAL

Of the 1,130 patients treated 1,054 were discharged and 46 died. 94 babies were born in hospital. The diseases and conditions treated were mainly genito-urinary disorders, affections of the puerperal state and affections produced by external injuries, chiefly wounds and scorpion stings.

Two thousand three hundred cases received attention in the Casualty Department. 1,994 attended ante-natal clinics, 4,149 out-patients clinics and 2,091 child welfare clinics.

## CEDROS DISTRICT HOSPITAL

Of the 662 patients treated, 622 were discharged and 29 died. 240 persons received treatment in the Casualty Department. Anaemias, diseases of the digestive system and skin were the principal conditions treated.

## HOUSES OF REFUGE

The House of Refuge at Port-of-Spain and a similar institution in Scarborough, Tobago, continued to provide accommodation for the aged.

A detailed summary of in-patient cases treated at Colonial and District Hospitals will be found in Appendix II, Table VII.

Statistical returns of paupers, poor persons, constables and prisoners treated at dispensaries of the Health Department will be found in Appendix II, Table VIII.

## MENTAL HOSPITAL

The problem of overcrowding of patients at the Mental Hospital continued to increase. The average number of patients resident was 1,306 as compared with 1,282 in 1951. Government has provided funds for the provision of additional accommodation in 1953 to relieve over-crowding.

*Buildings*—The Main Buildings were in good repair generally.

*Water and Sanitation*

The water supply was adequate except for a few days when one of the pumps was under repair. A new 10 h.p. electric centrifugal pump was installed to replace one of the two 7 h.p. pumps.

*Diet Scales*—The diet scales were adequate and the majority of patients gained weight. Bread for the Institution is now being baked at the House of Refuge.

*Analysis of Medical and Psychiatric Work.*

There were 531 admissions during the year, 37 more than in 1951 and the highest number recorded. This number comprised 264 females and 267 males. The categories of admissions were as follows :—

Voluntary admissions	...	...	100 as against 97 in 1951
Temporary certificates	...	...	56 as against 62 in 1951
Certified by Magistrates	...	...	370 as against 325 in 1951
Criminal Lunatics	...	...	5 as against 10 in 1951

There were 85 deaths (females 44, males 41) as compared with 123 in 1951. 403 patients were discharged (females 184, males 219) against 324 in 1951.

Compared with 324 in 1951, this large figure, the highest ever recorded, represents a great deal of work by the medical and some of the nursing staff, particularly when it is remembered that many cases are admitted in a hopeless or nearly hopeless state from secondary or senile dementia or long standing schizophrenia.

*Out-Patients Clinics*—Attendance at the Clinic varied. In the latter part of the year referrals of new patients increased and the average number of out-patients showed a steady rise.

A wide variety of clinical types was encountered from the frankly psychotic requiring admission to St. Ann's to the more complex problems calling for extensive investigations. In certain instances it was possible to dispose of the problem rapidly. Return visits, however, were necessary in most cases and sometimes prolonged psycho-therapy extending over months was necessary. Follow-up of patients particularly epileptics is essential.

The voluntary services of Mrs. N. Murray and of Mrs. R. Hill, Psychiatric Social Workers, were of immense value in facilitating investigations for diagnostic purposes and in establishing contacts with organizations such as the Probation Service and Public Assistance. Such co-ordination has had gratifying results.

*Therapy and Surgery*—Deep and modified insulin coma therapies were carried out during the year and continued to be invaluable. More beds could be used in the insulin unit but a sufficient number of medical staff is not available for the assistance required.

Electro-shock therapy was extensively used either alone or combined with insulin. Electro-narcosis was also used to a limited extent.

Treatment with penicillin for cerebral and neuro-syphilis brought good results.

Transorbital leucotomies were carried out on 64 patients. 22 were discharged. There were 2 deaths from cerebral haemorrhage following operation.

*Dental Care*—Two Dental Surgeons visited weekly and attended to about 1,000 cases. A dental survey of patients is planned for next year.

*Mental Hospital Board*—The Mental Hospital Board met on 11 occasions and reviewed all criminal lunacy cases.

*Amenities*—The following entertainments took place during the year :—

Cinema Shows	...	...	...	...	...	...	88
Red Cross Concerts	...	...	...	...	...	...	7
Other Concerts	...	...	...	...	...	...	11
Dances (Patients)	...	...	...	...	...	...	10
Dances (Patients and relatives)	...	...	...	...	...	...	2
Cricket Matches	...	...	...	...	...	...	11
Football Matches	...	...	...	...	...	...	38
Horse Racing	...	...	...	...	...	...	43
Children's Parties	...	...	...	...	...	...	2

*Religious Services*

Roman Catholic	...	...	...	...	...	...	26
Visits by R.C. Sisters	...	...	...	...	...	...	35
Church of England Services	...	...	...	...	...	...	35
Presbyterian Services	...	...	...	...	...	...	37

Further statistics regarding the Mental Hospital will be found in Tables 9 and 10.

## SECTION X—LABORATORY SERVICES, 1952

The Laboratory Services consist of a Central Laboratory, Port-of-Spain, the Laboratory of the Caribbean Medical Centre (Port-of-Spain) and two pathological Laboratories at San Fernando and Scarborough Colonial Hospitals.

Despite the lack of expensive equipment and trained technical staff the work of the Central Laboratory continued to show progress in all its sections.

The most noteworthy expansion was in the section dealing with the laboratory diagnosis of tuberculosis. Large scale culture work to replace animal inoculation and the modified Lowenstein Jensen media use gave excellent results.

During the year, UNICEF in conjunction with WHO decided to give a grant to the Trinidad Government to establish a tuberculosis bacteriological diagnostic unit in the Central Laboratory. One of the more senior technical assistants is to go abroad on a WHO grant for a few months in 1953 to study routine methods of dealing with every large scale tuberculosis bacteriological work.

## STATISTICAL ANALYSIS

During the year under review 137,571 specimens were examined as follows :—

Examinations	Central Laboratory	C.M.C. Port-of-Spain	Path. Lab. San Fernando	Path. Lab. Tobago	Total
Haematology ... ..	2,378	275	5,981	1,692	10,326
Blood Chemistry ... ..	1,387	—	1,622	326	3,335
Sputa Examinations ... ..	1,108	—	933	89	2,130
Urine Examinations ... ..	1,258	3,826	2,044	277	7,405
Faeces Examination ... ..	3,223	709	1,814	93	5,839
Serology ... ..	1,355	60,521	1,250	—	63,126
Bacteriological Cul. ... ..	707	10,848	294	—	11,849
Microscopic Examinations (Swabs, &c.) ... ..	6,293	24,339	—	96	30,728
Histology Examination ... ..	705	—	—	—	705
Morbid Anatomy ... ..	207	—	—	—	207
Water Examination ... ..	1,921	—	—	—	1,921
	20,542	100,518	13,938	2,573	137,571

## A—STATEMENT OF EXAMINATION PERFORMED AT THE CENTRAL LABORATORY

*Haematology :*

Complete Blood Count ... ..	923
Reds and Haemoglobin ... ..	233
Total Leucoocyte Count ... ..	52
Differential Counts ... ..	27
Hb. and P.C.V. ... ..	421
Leucoocyte and Differential ... ..	336
Bleeding and Clotting time ... ..	52
Haemoglobin ... ..	40
Reticulocyte Count ... ..	5
Platelet Count ... ..	9
Sickle Cell ... ..	10
Malaria, Filaria, &c. ... ..	9
Red Blood Cell Count ... ..	1
Prothrombin Time ... ..	5
Miscellaneous ... ..	6
Arnetz Count ... ..	1
Fragility of Red Cells ... ..	1

*Blood Chemistry :*

Blood Urea ... ..	567
Blood Sugar ... ..	559
Van den Berg ... ..	45
Blood Cholesterol ... ..	103
Total Plasma Protein ... ..	34
Blood Calcium (Phosphorus Phosphatase) ... ..	15
Non-Protein Nitrogen ... ..	6
Alkaline Phosphatase ... ..	9
Acid Phosphatase ... ..	4
Uric Acid ... ..	3
Potassium ... ..	2
Sodium ... ..	3
Other Chemical Examinations ... ..	37

*Sputa Examinations :*

Sputum for Direct Smear ... ..	1,108
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*Gastric Lavage :*

Concentration ... ..	3,823
Culture ... ..	1,652
G.P. Inoculation ... ..	96

*Cerebro spinal fluid :*

Concentration	...	...	...	...	4
Direct smear	...	...	...	...	3
G.P. inoculation	...	...	...	...	7
Culture	...	...	...	...	4
Pus from brain—P.M.	...	...	...	...	7
Other specimens of pus	...	...	...	...	85
Swab from leg for D. Smear (Hansen's)	...	...	...	...	2
Uterine specimens	...	...	...	...	2
Fluids for T.B.	...	...	...	...	96
Urine for T.B.	...	...	...	...	16
Histological examinations	...	...	...	...	705
Post Mortem examinations	...	...	...	...	207
Basal Metabolic Rate	...	...	...	...	9
Glucose Tolerance Tests	...	...	...	...	60
Fractional Test Meals	...	...	...	...	42
Examinations on milk	...	...	...	...	104
Examinations on milk bottles	...	...	...	...	104
Vaccines	...	...	...	...	9

*Urine Examinations :*

Chemical and Micro examination	...	...	...	...	71
Microscopic	...	...	...	...	501
Freidman's Test	...	...	...	...	31
Cretinine excretion	...	...	...	...	3
Urea concentration	...	...	...	...	2
Chemical examination	...	...	...	...	585
Bile, drugs, blood, chyle, lactose, calculi	...	...	...	...	30
Sugar	...	...	...	...	2
Spermatozoa	...	...	...	...	3
Bence Jones	...	...	...	...	3
Urobilinogen	...	...	...	...	12
Bile salts	...	...	...	...	12
Urobilin	...	...	...	...	1
Diazo reaction	...	...	...	...	1
Urea	...	...	...	...	1

*Faeces Examinations :*

Faeces for Ova and Protozoa	...	...	...	...	1,485
Faeces for Salmonella, Shigella	...	...	...	...	1,003
Urine cultures	...	...	...	...	639
Occult blood	...	...	...	...	95
Faeces for concentration	...	...	...	...	1

*Serology :*

Widal Test	...	...	...	...	594
Widal VI antigen	...	...	...	...	86
Miscellaneous serology—Paul Bunnell, Cephalin, Cholesterol, &c.	...	...	...	...	674
B. abortus	...	...	...	...	1
Throat swab	...	...	...	...	479
Nasal swab	...	...	...	...	13
Culture	...	...	...	...	3
Rhesus	...	...	...	...	326
X-matching	...	...	...	...	797
Coombs Test	...	...	...	...	6
Antibodies for Rh. immunization	...	...	...	...	1
Grouping	...	...	...	...	1,161
Cerebro spinal fluids	...	...	...	...	294
Cerebro spinal fluids for culture	...	...	...	...	3
Fluid from chest for culture	...	...	...	...	11
Fluid from knee	...	...	...	...	15
Fluid from cyst	...	...	...	...	1
Fluid from burn	...	...	...	...	1
Fluid from pleural	...	...	...	...	21
Pleural effusion	...	...	...	...	9
Fluid from vaginal wound for urea	...	...	...	...	1
Blood for culture	...	...	...	...	27
Blood culture for culture	...	...	...	...	7
Blood for cold agglutinins	...	...	...	...	1
Pus from abscess for culture	...	...	...	...	47
Pus from abdominal wall for culture	...	...	...	...	1
Pus for culture	...	...	...	...	78
Pus from scrotal sac	...	...	...	...	4
Pus from chest for culture	...	...	...	...	11
Swab from lesions of foot	...	...	...	...	6
Swab from eye	...	...	...	...	14
Swab from cervix	...	...	...	...	5
Swab from ear	...	...	...	...	5
Swab from appendectomy	...	...	...	...	1

*Serology:—Contd.*

Swab from brain—P.M.	...	...	...	...	3
Swab from throat	...	...	...	...	3
Other Swabs	...	...	...	...	19
Milk of Magnesia for culture	...	...	...	...	1
Gauze— <i>B. subtilis</i>	...	...	...	...	14
Sputum for culture—Fungus	...	...	...	...	55
Serum for Glandular Fever	...	...	...	...	1
Culture for sensitivity	...	...	...	...	1
Urine for Urea	...	...	...	...	1
Fertility	...	...	...	...	3
Culture plate for culture	...	...	...	...	2
Scrapings for A.F.B.	...	...	...	...	1
Scrapings from scalp for culture	...	...	...	...	1
Discharge from burn for culture	...	...	...	...	1
Swab from Spleen and Liver	...	...	...	...	3
Scrapings from skin for fungus and micro	...	...	...	...	5
Swab from Sinus for culture	...	...	...	...	1
Blood from chest	...	...	...	...	1
Nasal swab and smear for culture	...	...	...	...	1
Smear from Meninges for culture	...	...	...	...	1
Meat, Pork, Beef for culture	...	...	...	...	1
Smear for Spirochaetis and Fusiform Bacilli	...	...	...	...	1
Blood for Bromosulphathalein Test	...	...	...	...	1
Skin lesions for culture	.....	...	...	...	1
Swab from ulcer for culture	...	...	...	...	1
Swab from Vagina for <i>Trichomonas</i> and culture	...	...	...	...	21

*Water Examinations :*

Port-of-Spain and Environs	...	...	...	...	1,422
Arima	...	...	...	...	96
San Fernando	...	...	...	...	370
Mayaro	...	...	...	...	4
Santa Cruz	...	...	...	...	4
Fyzabad	...	...	...	...	4
Dally Village—T.P.D.	...	...	...	...	8
Brasso—Caroni	...	...	...	...	6
Tabaquite	...	...	...	...	2
Mrs. Bushe, Moruga	...	...	...	...	1
Rio Claro	...	...	...	...	4

## B.—STATEMENT OF EXAMINATIONS PERFORMED AT THE SAN FERNANDO LABORATORY

*Haematology :*

Complete Blood Counts	...	...	...	...	1,151
Partial Blood Counts	...	...	...	...	3,695
Sedimentation Rate	...	...	...	...	460
Sickling of Red Blood Cells	...	...	...	...	25
Bleeding and Clotting Time	...	...	...	...	9
Grouping and Crossmatching	...	...	...	...	607
Fragility Test	...	...	...	...	9
Platelet Counts	...	...	...	...	7
Stippling	...	...	...	...	1
Arneth Count	...	...	...	...	1
Rh. Factor	...	...	...	...	16

*Blood Chemistry :*

Glucose Tolerance Test	...	...	...	...	186
Sugar Estimation	...	...	...	...	223
Urea Estimation	...	...	...	...	810
Cholesterol Estimation	...	...	...	...	9
Serum and Plasma Protein	...	...	...	...	60
Serum Bilirubin	...	...	...	...	161
Alkaline Phosphatase	...	...	...	...	21
Icterus Index	...	...	...	...	51
Thymol Turbidity	...	...	...	...	79
Acid Phosphatase	...	...	...	...	14
Calcium Estimation	...	...	...	...	4
Chlorides Estimation	...	...	...	...	1
Serum Amylase	...	...	...	...	2

<i>Stools :</i>				
Ova Ankylostoma (Positive)	...	...	...	353
Ova Trichuris Trichiura (Positive)	...	...	...	13
Ova Ascaris Lumbricoides (Positive)	...	...	...	4
Ova Oxyuris Vermicularis (Positive)	...	...	...	1
Strongyloides (Positive)	...	...	...	1
Occult Blood	...	...	...	39
Microscopic and Culture (Negative)	...	...	...	378
Bacillus Dysentery (Positive)	...	...	...	50
Entamoebae Histolytica (Positive)	...	...	...	17
Salmonella Typhi (Positive)	...	...	...	14
Salmonella Typhi (Negative)	...	...	...	736
Ova (Negative)	...	...	...	208
<b>MISCELLANEOUS EXAMINATIONS</b>				
<i>Sputa :</i>				
Smears A.F.B. (Positive)	...	...	...	180
Smears A.F.B. (Negative)	...	...	...	716
Concentration A.F.B. (Positive)	...	...	...	5
Concentration A.F.B. (Negative)	...	...	...	32
<i>Gastric Wash :</i>				
Concentration A.F.B. (Positive)	...	...	...	3
Concentration A.F.B. (Negative)	...	...	...	22
<i>Throat Swabs :</i>				
K.L.B. (Positive)	...	...	...	14
K.L.B. (Negative)	...	...	...	119
<i>Gastric Analysis :</i>				
Pus, &c.	...	...	...	68
Hansen's Bacillus (Positive)	...	...	...	1
Hansen's Bacillus (Negative)	...	...	...	2
Vaginal Swabs	...	...	...	19
Fluids, Pleural, &c.	...	...	...	26
Cerebrospinal Fluid	...	...	...	144
Fungus Examinations	...	...	...	7
<i>Blood Microscopic :</i>				
Malaria parasites (Negative)	...	...	...	617
Malaria parasites (Positive)	...	...	...	23
Filaria parasites (Negative)	...	...	...	5
<i>Blood Cultures :</i>				
Salmonella Typhi (Negative)	...	...	...	256
Salmonella Typhi (Positive)	...	...	...	24
Pyogenic	...	...	...	14
<i>Urine Examination :</i>				
Routine	...	...	...	114
Microscopic	...	...	...	1,070
Microscopic and Culture	...	...	...	59
Bile and Urobilinogen	...	...	...	143
Tubercle Bacilli	...	...	...	12
Cultures : S. typhi (Positive)	...	...	...	4
Cultures : S. typhi (Negative)	...	...	...	608
Protein and Sugar	...	...	...	8
Protein Quantitative	...	...	...	1
Urea Clearance	...	...	...	3
Urea Concentration	...	...	...	10
Diastase	...	...	...	6
Bence Jones Protein	...	...	...	1
Chlorides	...	...	...	1
Lactose Test	...	...	...	1
Hippuric Acid Test	...	...	...	3

The total number of specimens examined at the Pathological Laboratory, San Fernando were 13,938.

**C.—STATEMENT OF EXAMINATIONS PERFORMED AT THE TOBAGO HOSPITAL**

Blood for Complete Blood Count	...	...	...	1,546
Blood for White Cell Count	...	...	...	146
Blood for Haemoglobin	...	...	...	274
Urines for Complete Analysis	...	...	...	277
Stools for Helminths	...	...	...	92
Stools for Occult Blood	...	...	...	1
C.S.F. for Globulin and Cell Count	...	...	...	6
Sputa for Acid Fast Bacilli	...	...	...	89
Smears for G.C.	...	...	...	58
Smears for Malarial Parasites	...	...	...	27
Smears for Filaria	...	...	...	3
Pleural Effusion for Cell Count	...	...	...	1
Blood for Blood Sugar	...	...	...	26
Blood for Blood Urea	...	...	...	26
Smear for M. Leprae	...	...	...	1



## SECTION XI—PORT HEALTH WORK AND SANITATION—SEAPORT

## GENERAL

No quarantinable diseases occurred in the Colony nor were any cases detected at sea or airport. General health conditions at Port-of-Spain continued to be satisfactory. There were no outbreaks of any infectious disease nor was any case found on vessels within the port.

Following the notification by the Ministry of Health, United Kingdom, of two outbreaks of smallpox, one at Rochedale in England and the other at Marseilles in France, the necessary precautionary measures were taken in the Colony against ships arriving from those countries.

Nicaragua was recorded as a yellow fever infected area by the Ministry of Health Bulletin of 8th September and the usual precautionary measures were taken at this port.

Due to an outbreak of Foot and Mouth Disease in Martinique in December, local preventive and control measures were instituted in conjunction with the Department of Agriculture.

## ARRIVALS

During the year 2,628 vessels from non-conventional infected ports were boarded as against 1,389 in 1951 as follows :—

<i>North Trinidad :</i>			
Steamships	...	1,150	1,028
Sailing Vessels	...	270	268
		<u>1,420</u>	<u>1,296</u>
<i>South Trinidad :</i>			
All Vessels :			
Pointe-a-Pierre	...	447	—
San Fernando	...	14	93
Brighton	...	747	—
		<u>1,208</u>	<u>93</u>
TOTAL	...	<u>2,628</u>	<u>1,389</u>

## PASSENGERS AND CREWS

The following figures summarize the number of passengers and crew arriving in 1952 as against 1951.

<i>Steamships :</i>			
Passengers	...	26,374	21,640
Crew	...	62,871	53,717
<i>Sailing Vessels :</i>			
Passengers	...	1	1
Crew	...	1,279	1,375
		<u>90,525</u>	<u>76,733</u>

## STATISTICS

Deratization Exemption Cards	...	267	216
Fumigation and Deratization	...	9	6
Vaccination (smallpox)	...	2,028	1,579
Observation (smallpox)	...	3	1
Surveillance (Yellow Fever)	...	176	354
Inoculation (Yellow Fever)	...	66	134
Vaccination (Cholera)	...	0	1
Disinfection	...	2	3
Rodents Collected	...	179	269

## PORT HEALTH—PIARCO AIRPORT

## A—CERTIFICATES EXAMINED DURING THE YEAR

Smallpox Certificate	...	...	16,518
Yellow Fever Certificate	...	...	2,755
General Health Certificate	...	...	8,307

## B—PASSENGERS ARRIVING FROM HEALTHY, ENDEMIC AND INFECTED PORTS

From Healthy Ports	...	...	20,972
From Endemic Ports	...	...	16,586
From Infected Ports	...	...	—
			<u>37,558</u>

48 persons including 20 infants were vaccinated at the airport.

## C—INSECTS FOUND ON AIRCRAFT AT PIARCO

Months	No. of Aircraft	Flies	Mosquitoes	Other Insects
January	40	66	5	7
February	29	55	5	5
March	16	25	6	5
April	20	84	—	3
May	26	42	1	4
June	17	41	1	1
July	31	58	3	2
August	17	29	—	—
September	15	18	—	2
October	18	29	—	—
November	18	45	—	2
December	17	44	1	—
TOTAL	264	536	22	31

## D—MOSQUITO CATCHES FROM AIRPORT AND SURROUNDING DISTRICTS

Trap I	Manacal	...	...	15,347
Trap II	West of Compound	...	...	5,320
Trap III	Oropuna	...	...	21,498
Trap IV	Radio Station	...	...	24,925
				67,090

## SECTION XII—PRISONS

The buildings, grounds and labour yards were kept clean and tidy and sanitary conveniences were in proper working condition. The general state of health of prisoners was good. On admission into the prison 0.60 per cent. of prisoners had to be put in the Infirmary.

There were 12,497 attendances as out-patients and 414 in-patients cases in the Infirmary. During the period under review, the diseases most prevalent were as follows :—

Eczema	...	...	1,329
Bronchitis	...	...	1,080
Myositis	...	...	697
Constipation	...	...	650
Ulcers	...	...	572
Dental Caries	...	...	407
Gonorrhoea	...	...	324

Cases were sent periodically to clinics at the Colonial Hospital and were successfully treated. An unusually high percentage of prisoners suffered from gonorrhoea on admission. At the Royal Gaol Dental Clinic 765 prisoners were treated. 161 inoculations were given against enteric fever and two minor surgical operations were performed.

There were 3 judicial executions, 2 deaths from pulmonary tuberculosis and 4 from lobar pneumonia.

Particulars regarding the work done at prisons are to be found in Appendix II, Table VIII. The statistical return of paupers, poor persons, constables and prisoners treated at dispensaries and other centres is summarized in Appendix II, Table XI.

## SECTION XIII—TRAINING OF STAFF

## A—COLONIAL HOSPITAL

The training of nurses and midwives continued as in former years at the Colonial Hospital, Port-of-Spain and San Fernando. Also included in the training scheme were probationers attached to preliminary training schools at these hospitals.

## B—NURSING STUDIES IN THE UNITED KINGDOM

R. B. Brown, R. Ramlochansingh, M. Lovelace, S. Harper and L. Hordatt pursued courses in general nursing on government scholarships.

Studies relating to mental nursing were undertaken by G. Bayley in administration, R. Goulston in Sister Tutor work, W. Scotland, S. Haynes and V. Gittens in mental nursing.

Sister L. Rowe proceeded on a course arranged in conjunction with the National Association for the Prevention of Tuberculosis.

## C—TRAINING AS WARD SISTERS IN THE UNITED KINGDOM

The following were attached to various hospitals in the United Kingdom for training as Ward Sisters as indicated :—

Miss D. Grenade, Colonial Hospital, Port-of-Spain—Ward Management, E.N.T.

Miss R. Harris, Caura Sanatorium—Ward Management, Tuberculosis Nursing.

Miss S. Hoyte, Colonial Hospital, San Fernando—General Surgical, Operating Theatre, Nursing Procedure and Management.

Miss L. Mason, Colonial Hospital, San Fernando—Ward Management and Gynaecological Nursing.

Miss C. Sampson, Colonial Hospital, Port-of-Spain—Ward Administration and Operating Theatre work.



3. Chart I illustrates the computation of Health Revenue computed on a percentage basis as hereunder :—

Bacteriological fees	...	...	3.7%
Hospital Dues	...	...	55.9%
Medicines sold at Institutions	...	...	11.8%
Profit on sale of Stores and sale of			
Stores	...	...	3.8%
Reimbursements	...	...	20.6%
Miscellaneous	...	...	4.2%
			<u>100.00%</u>

4. *Revenue of Arrears*—The arrears of Maintenance Dues and Bacteriological fees aggregate \$221,328.75. The details as affecting the various Institutions are shown hereunder :—

			\$	c.
Colonial Hospital, Port-of-Spain	...	...	147,763	96
Do. San Fernando	...	...	47,739	95
Do. Tobago	...	...	7,002	23
District Hospital, Arima	...	...	1,239	66
Do. Cedros	...	...	48	20
Do. Couva	...	...	2,415	56
Do. Mayaro	...	...	28	06
Do. Princes Town	...	...	1,934	24
Do. Sangre Grande	...	...	9	60
Do. St. Joseph	...	...	1,027	80
Do. Tacarigua	...	...	183	22
Sanatorium, Caura (not available)	...	...		
Mental Hospital, St. Ann's	...	...	9,342	98
Total Hospital Dues in arrears	...	...	218,735	46
Bacteriological Fees	...	...	2,593	29
			<u>\$221,328</u>	<u>75</u>

5. It is with regret that I have to record that the Colonial Hospital, Port-of-Spain, has made no attempt to submit list of amounts uncollectible due to incorrect assessment and/or inability by patients to pay as also no list has been submitted of amounts to be placed in the hands of the Crown Solicitor to effect collection.

## II—EXPENDITURE

6. It was estimated that the total of \$6,191,167 would be required for expenditure. The actual expenditure amounted to \$6,766,992.40½ which represents an increase of \$575,825.40½ as detailed hereunder (*Vide* Chart II).

<i>Increases</i>	\$	c.	<i>Decreases</i>	\$	c.
Transport and Travelling	47,902	47	Personal Emoluments	54,548	28
Incidentals	42	45½	Fees under the Leper Ordinance	250	00
Wages—Miscellaneous Labour	4,633	18	Fees under the Lunatic Ordinance	316	40
Upkeep of Motor Vehicles	5,471	28	Vaccination Fees and Expenses	3,951	20
Wages—Miscellaneous	15,288	18	Library and Museum	307	28
Equipment and Miscellaneous	84,978	89	Rents	369	91
Purchase of X-ray films	40,272	24	Prizes for Student Nurses	80	23
Food	47,659	83	Post-graduate course—Midwives		
Medicines	51,557	27	and Nurses	6,020	68
Dental Services	2,783	40	Motor Vehicles Insurance Fund	960	72
Mental Hospital	88,861	07	Sisters Federated Superannuation	1,443	13
Leprosarium	51,470	20	Expenses of Training courses—		
Tuberculosis Sanatorium and			Sanitary Inspectors and Nurses	3,856	26
Clinics	62,545	90	Training of Student (Mental)		
Destruction of Bats	2,790	36	Nurses in the United Kingdom	1,189	88
Malaria Survey	27,747	29	Fees of Overseas Nurses Selection		
District Services	28,916	07	Committee	480	00
House of Refuge (Trinidad)	64,830	53	Expenses of Laundry,		
House of Refuge (Tobago)	1,128	41	Port-of-Spain	11,170	52
Unallocated Stores	73,807	97	Laundry Allowances—		
B.C.G. Campaign	10,220	43	Subordinate Staff	1,650	73
Telephone Intercommunication	14,469	37	Instruments and Medical		
			Appliances	14,562	54
			Annual Staff Outing	78	76
			Grants—Necessitous patients	904	22
			Patients Recreation Fund	386	33
			Bacteriological Laboratory	2,060	88
			Public Health	742	82
			Hookworm Control	1,015	21
			Nutrition Services	1,477	21
			Quarantine	5,640	58
			Yaws Control	7,705	40
			Engineering Division	3,048	39
			Miscellaneous	23,861	44
			Extraordinary	3,472	51
			<i>Net Increase</i>	575,825	40
				<u>\$727,376</u>	<u>79½</u>

## COMPARISON WITH PREVIOUS YEARS

"A"

	1947	1948	1949	1950	1951	1952
	\$	\$	\$	\$	\$	\$ c.
Estimate ... ..	2,830,207	3,343,010	3,982,965	5,342,190	5,607,970	6,191,167 00
Actual expenditure ... ..	2,820,093	3,149,145	4,104,279	4,984,206	5,460,199	6,766,992 40½
Increase ... ..	—	—	121,314	—	—	575,825 40½
Decrease ... ..	18,114	183,875	—	357,984	147,771	—

8. The Sub-division of Health Expenditure in respect of the year under review and computed on a percentage basis is set out hereunder :—

1. Personal Emoluments for all services ... ..	43.7%
2. Other Charges :	
Transport and Travelling ... ..	3.2%
Hospitals (Colonial and District) ... ..	20.9%
Hospital (Mental) ... ..	7.6%
Leprosarium ... ..	4.4%
Malaria ... ..	3.6%
T.B. Sanatorium and Clinics ... ..	4.7%
Houses of Refuge (Trinidad and Tobago) ... ..	2.8%
Extraordinary ... ..	2.0%
B.C.G. Campaign ... ..	0.2
Other Services ... ..	6.9%
	<u>56.3%</u>
	<u>100%</u>

These percentages are further illustrated in the distributing Chart II attached.

9. Expenditure on Health Services in relation to the Colony's expenditure before the late war as compared with post-war expenditure was as follows :—

<i>Pre-War</i>			
1936 ... ..	...	10.5%	of total expenditure of the Colony
1937 ... ..	...	10.1%	do.
1938 ... ..	...	8.1%	do.
1939 ... ..	...	8.4%	do.
<i>Post-War</i>			
1948 ... ..	...	8.2%	do.
1949 ... ..	...	9.7%	do.
1950 ... ..	...	9.8%	do.
1951 ... ..	...	9.9%	do.
1952 ... ..	...	10.8%	do.

10. The population of the Colony at 31st December, 1952, was 664,406. The expenditure on Health Services was therefore at the rate of \$10.18 per capita for the year.

11. It will be seen from the above percentages that expenditure on Health Services has remained fairly stable throughout the years as a unit in the Colony's Expenditure. The increase in 1952 was due, in the main, to the extended Health Services rendered necessary by the increased population and public demands.

## III—REWARD FUNDS

12. The amount on credit under Hospital Reward Funds as at 31st December, 1952, was \$1,084.34. Hereunder are details of outstanding balances in respect of the various Institutions :—

	\$	c.
Colonial Hospital, Port-of-Spain ... ..	203	07
Colonial Hospital, San Fernando ... ..	167	06
Tuberculosis Sanatorium ... ..	48	70
District Hospitals ... ..	164	78
House of Refuge ... ..	66	46
Leprosarium ... ..	106	59
Mental Hospital ... ..	287	22
Leprosarium (Inmates) ... ..	40	46
	<u>\$1,084</u>	<u>34</u>

## IV—BENEVOLENT FUND—DIRECTOR OF MEDICAL SERVICES

13. The total amount standing to the credit of Deposit Accounts controlled by this department is \$2,822.98.

	1951	1952
	\$ c.	\$ c.
Gifts—Colonial Hospital, Port-of-Spain ... ..	223 07	193 07
D.M.S. Benevolent Fund ... ..	3,105 78	2,629 91
	<u>\$3,328 80</u>	<u>\$2,822 98</u>

The balances standing to the credit of Deposit Accounts at other Institutions as at 31st December, 1952 are as follows :—

	\$	c.
Almoner—Colonial Hospital, Port-of-Spain ... ..	1,494	02
Almoner—Colonial Hospital, San Fernando ... ..	688	98
Matron, House of Refuge ... ..	680	81
Medical Superintendent, Colonial Hospital, Port-of-Spain	3,678	20
	<u>6,542</u>	<u>01</u>

#### V—SUBVENTIONS

14. Grants in aid donated for the purpose of carrying out auxiliary Health Services during the year was \$1,141,245.17 which exceeds the estimate of \$1,012,145.00 by \$129,100.17. The net increase over the estimated expenditure at 31st December, 1952 is as under :—

<i>Increases</i>		<i>Decreases</i>			
	\$	c.			
City Council, Port-of-Spain ... ..	129,300	00	Borough Council, Arima ... ..	104	16
Local Health Authorities ... ..	28,984	33	Borough Council, San Fernando...	14,080	00
			Princes Elizabeth Hostel Committee ... ..	15,000	00
			<i>Net Increase</i> ... ..	129,100	17
	<u>\$158,284</u>	<u>33</u>		<u>\$158,284</u>	<u>33</u>

#### VI—COLONIAL DEVELOPMENT AND WELFARE SCHEME

The expenditure in respect of the Health Scheme assisted by Colonial Development and Welfare Scheme is as under :—

Malaria Research Scheme R.350 (B)—\$30,110.50

#### VII—ASSISTANCE FROM WORLD HEALTH ORGANISATION—U.N.I.C.E.F.—B.C.G.

The B.C.G. project which is scheduled to last for two years, will cost a total of approximately \$144,000.00 (B.W.I.) of which \$87,000.00 will be borne by this Government and \$57,000.00 (B.W.I.) by U.N.I.C.E.F.

2. The campaign began in April, 1952, and the sum of \$55,558.00 was allocated for the period 1st April, 1952 to 31st December, 1952 as follows :—

	\$	c.
Personal Emoluments ... ..	30,344	00
Other Charges ... ..	25,214	00
	<u>\$55,558</u>	<u>00</u>

3. The actual expenditure under the above items for the period was :—

	\$	c.
Personal Emoluments ... ..	20,754	54
Other Charges ... ..	10,220	43

4. The unexpended balance has been made available to supplement the allocation for the year 1953.

## VIII—The analysis of Expenditure is set out at "A" and "B" attached

## "A"

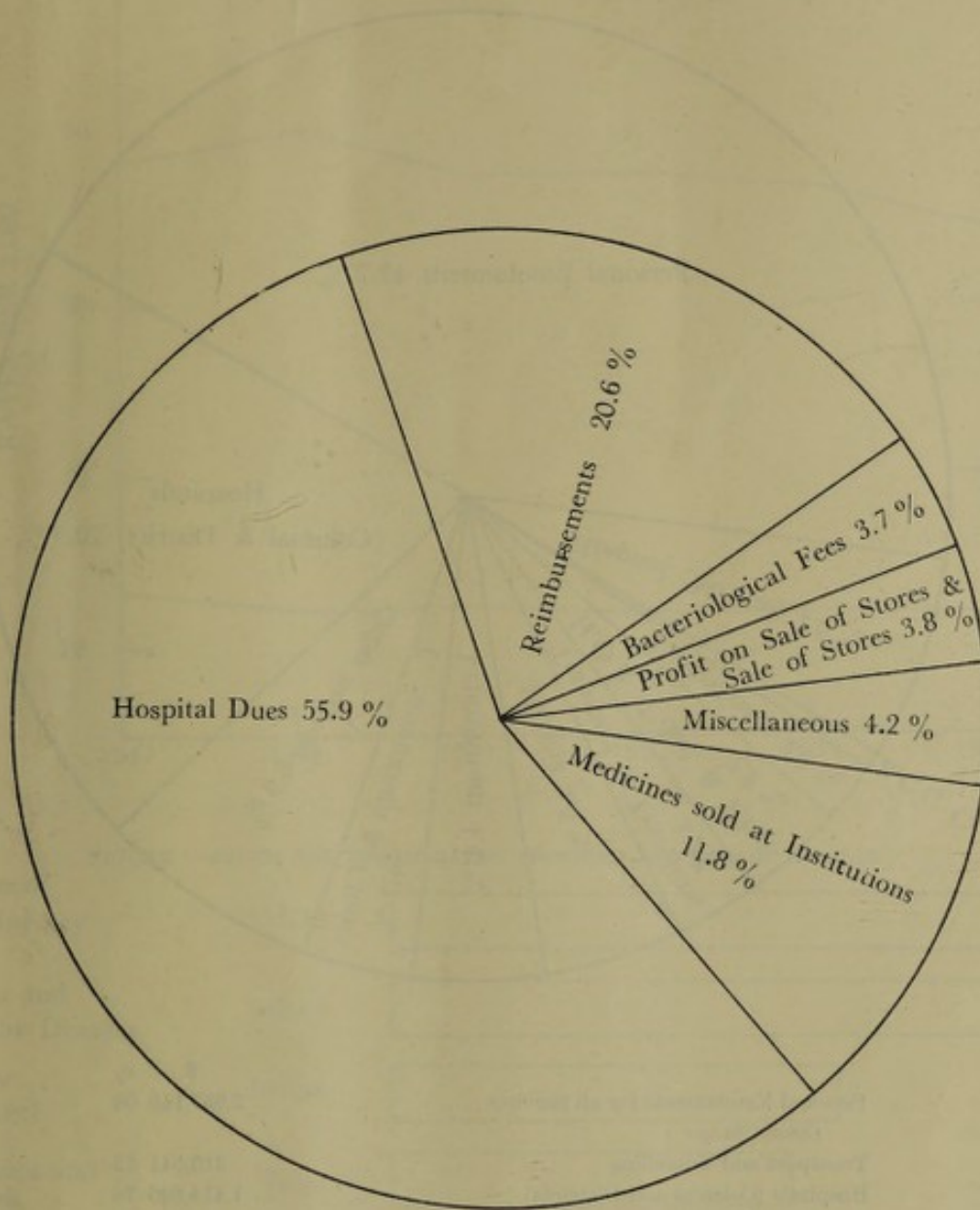
Sub-Head	Vote 1952	Increases	Total
	Estimates		Expenditure
	\$ c.	\$ c.	\$ c.
Transport and Travelling ... ..	162,327 00	47,902 47	210,229 47
Incidentals ... ..	4,200 00	42 45½	4,242 45½
Wages—Miscellaneous Labour... ..	8,700 00	4,633 18	13,333 18
Upkeep of Motor Vehicles ... ..	44,000 00	5,471 28	49,471 28
Wages—Miscellaneous ... ..	83,058 00	15,288 18	98,346 18
Equipment and Miscellaneous ... ..	275,049 00	84,978 89	360,027 89
Purchase of X-ray Films ... ..	60,000 00	40,272 24	100,272 24
Food ... ..	492,537 00	47,659 83	540,196 83
Medicines ... ..	149,000 00	51,557 27	200,557 27
Dental Services ... ..	19,340 00	2,783 40	22,123 40
Mental Hospital ... ..	429,049 00	88,861 07	517,910 07
Leprosarium ... ..	241,543 00	51,470 20	293,013 20
T.B. Sanatorium and Clinics ... ..	254,640 00	62,545 90	317,185 90
Destruction of Bats ... ..	1,700 00	2,790 36	4,490 36
Malaria Survey ... ..	213,046 00	27,747 29	240,793 29
District Services ... ..	66,120 00	28,916 07	95,036 07
House of Refuge (Tobago) ... ..	11,330 00	1,128 41	12,458 41
House of Refuge (Trinidad) ... ..	125,367 00	64,830 53	190,197 53
Unallocated Stores ... ..	30,000 00	73,807 97	103,807 97
B.C.G. Campaign ... ..	—	10,220 43	10,220 43
Telephone Intercommunication ... ..	—	14,469 37	14,469 37
Amount carried forward ... ..	\$2,671,006 00		\$3,398,382 79½

## "B"

Sub-Head	Vote 1952	Decreases	Total
	Estimates		Expenditure
	\$ c.	\$ c.	\$ c.
Personal Emoluments ... ..	3,014,756 00	54,548 28	2,960,207 72
Fees under the Leper Ordinance ... ..	250 00	250 00	—
Fees under the Lunatic Ordinance ... ..	350 00	316 40	33 60
Vaccination Fees and Expenses ... ..	8,000 00	3,951 20	4,048 80
Library and Museum ... ..	5,600 00	307 28	5,292 72
Rents ... ..	8,240 00	369 91	7,870 09
Prizes for Student Nurses ... ..	400 00	80 23	319 77
Post-Graduate Courses Midwives and Nurses ... ..	7,218 00	6,020 68	1,197 32
Motor Vehicles Insurance Fund ... ..	6,735 00	960 72	5,774 28
Sisters Federated Superannuation ... ..	2,000 00	1,443 13	556 87
Expenses of Training Course—Sanitary Inspectors and Nurses ... ..	5,000 00	3,856 26	1,143 74
Training of Student (Mental) United Kingdom ... ..	4,272 00	1,189 88	3,082 19
Fees of Overseas Nurses Selection Committee ... ..	480 00	480 00	—
Expenses of Laundry, Port-of-Spain ... ..	18,000 00	11,170 52	6,829 48
Laundry Allowance Subordinate Staff ... ..	31,980 00	1,650 73	30,329 27
Instruments and Medical Appliances ... ..	81,008 00	14,562 54	66,445 46
Annual Staff Outing ... ..	2,180 00	78 76	2,101 24
Grants, Necessitous Patients ... ..	8,000 00	904 22	7,095 78
Patients Recreation Fund ... ..	2,880 00	386 33	2,492 67
Bacteriological Laboratory ... ..	10,000 00	2,060 88	7,939 12
Public Health ... ..	6,900 00	742 82	6,157 18
Hookworm Control ... ..	5,000 00	1,015 09	3,984 91
Nutrition Services ... ..	9,800 00	1,477 21	8,322 79
Quarantine ... ..	9,830 00	5,640 58	4,189 42
Yaws Control ... ..	21,882 00	7,705 40	14,176 60
Engineering Division ... ..	47,800 00	3,048 39	44,751 61
Miscellaneous ... ..	63,600 00	23,861 44	39,738 56
Extraordinary ... ..	138,000 00	3,472 51	134,527 49
	3,520,161 00		3,368,609 61
	2,671,006 00	Amount brought forward from previous sheet	3,398,382 79½
Vote 1952 Estimates ... ..	\$6,191,167 00	Total expenditure	\$6,786,992 40½
		Net Increase ...	\$575,825 40½

## CHART I

The undermentioned chart illustrates items of revenue for which this department is responsible :

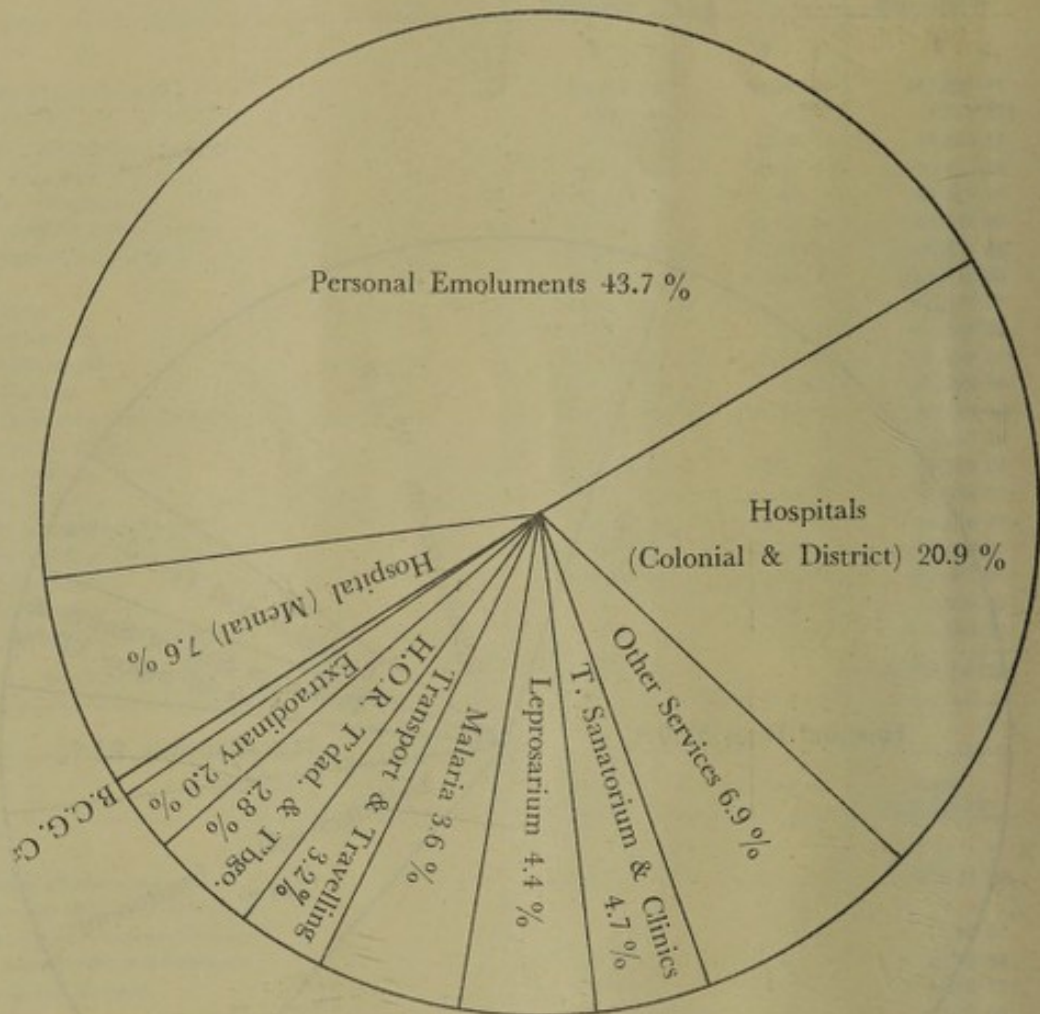


	\$	c.
Hospital Dues	68,651	57
Reimbursements	25,299	15
Medicines sold at Institutions	14,491	74
Miscellaneous	5,158	08
Profit on Sale of Stores and Sale of Stores	4,666	83
Bacteriological Fees	4,544	02
	<u>\$122,811</u>	<u>39</u>



## CHART II

The undermentioned chart illustrates the distribution of expenditure of the Health Department :



	\$	c.
Personal Emoluments for all Services ... ..	2,957,145	08
<i>Other Charges :</i>		
Transport and Travelling ... ..	216,541	52
Hospitals (Colonial and Districts) ... ..	1,414,286	78
Hospital (Mental) ... ..	514,286	10
Leprosarium ... ..	297,744	59
Malaria ... ..	243,609	21
T.B. Sanatorium and Clinics ... ..	318,045	35
House of Refuge (Trinidad and Tobago) ... ..	189,473	83
Extraordinary ... ..	135,338	45
B.C.G. Campaign ... ..	13,533	84
Other Services ... ..	466,917	65½
	\$6,766,922	40½

## SECTION XV—SCIENTIFIC PUBLICATIONS

The following articles were published in the *Caribbean Medical Journal* by officers of the Health Department during 1952 :

- (a) Dr. J. A. Waterman—"The Functions of the Isthmus Uteri, the Formation of the Lower Uterine Segment with a note on the so-called Internal Os of the Cervix".
- (b) Dr. M. A. Byer—"Hookworm Disease in County Caroni".
- (c) Dr. R. K. Richardson—"The Role of Resection in the Treatment of Pulmonary Tuberculosis".

APPENDIX I

Graphs showing trends in Vital Statistics

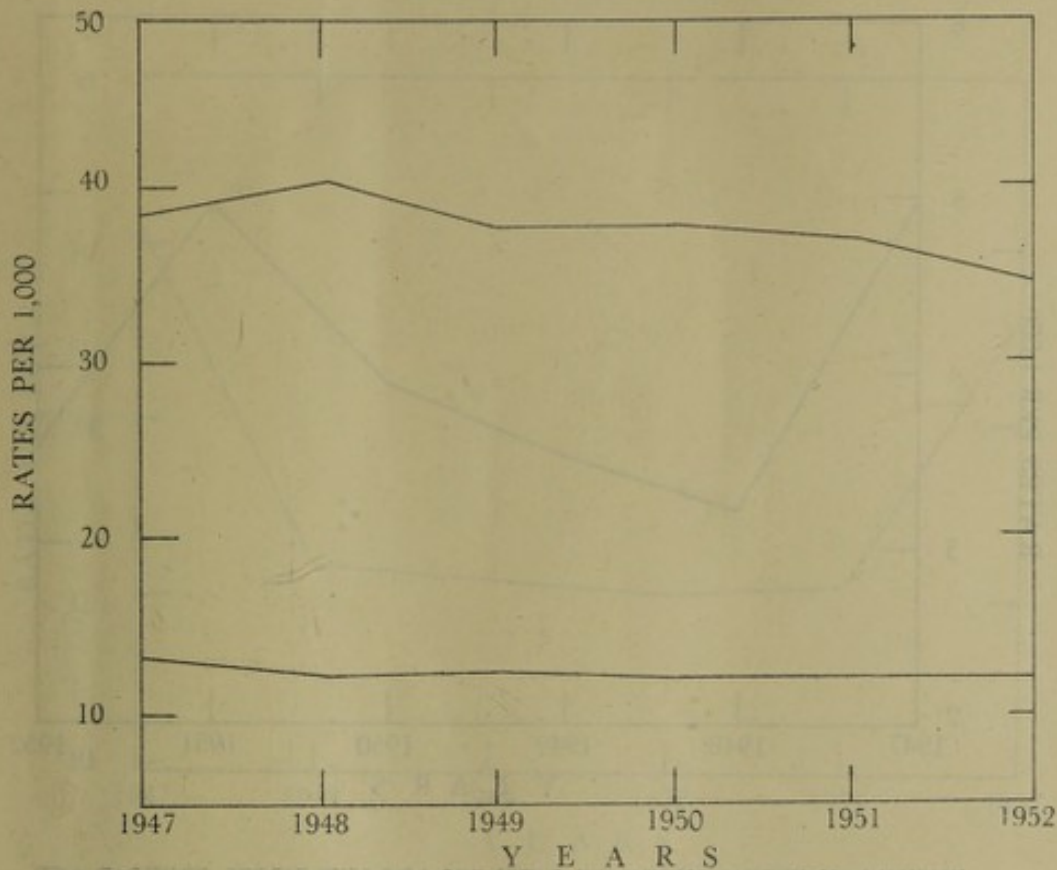


FIGURE 1—BIRTH AND DEATH RATES, TRINIDAD AND TOBAGO : 1947-52

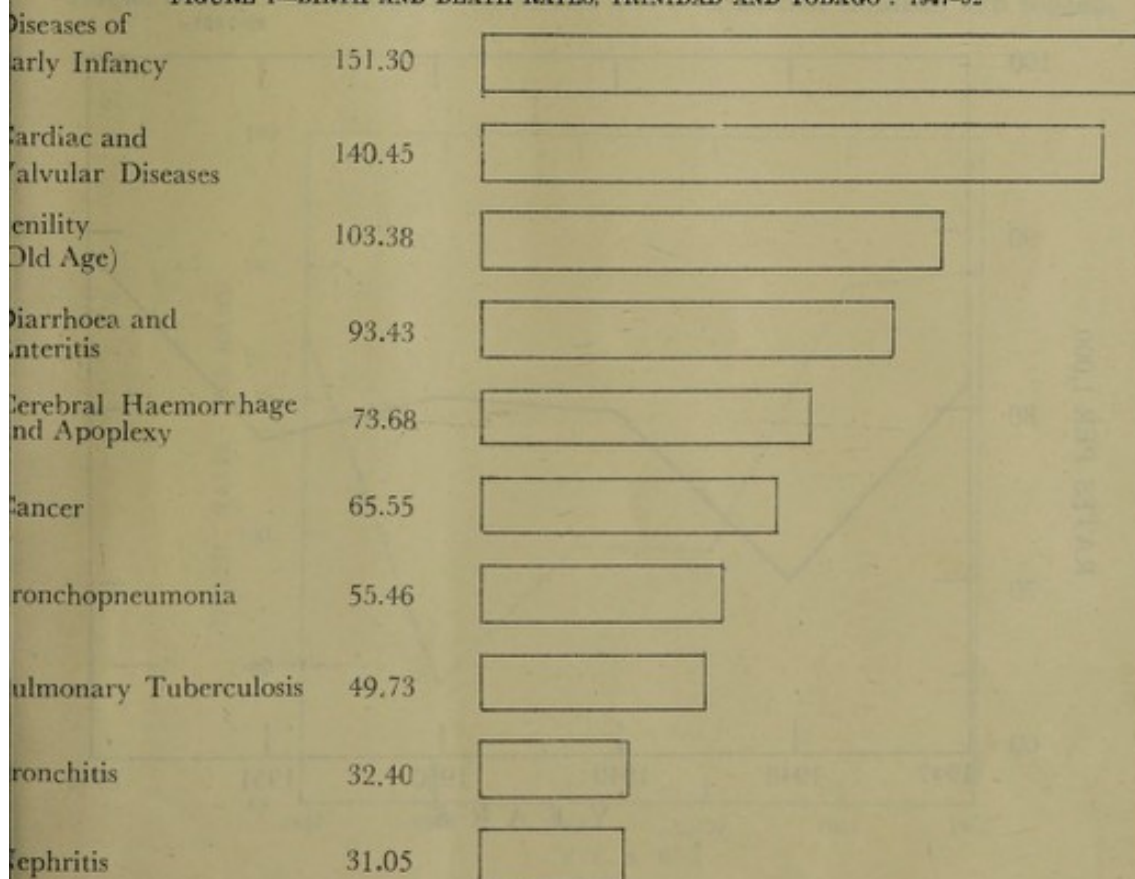


FIGURE 2—THE TEN PRINCIPAL CAUSES OF DEATH AND DEATH RATES PER 100,000 TRINIDAD AND TOBAGO : 1952

## APPENDIX I—CONTINUED

Graphs showing Trends in Vital Statistics—Continued

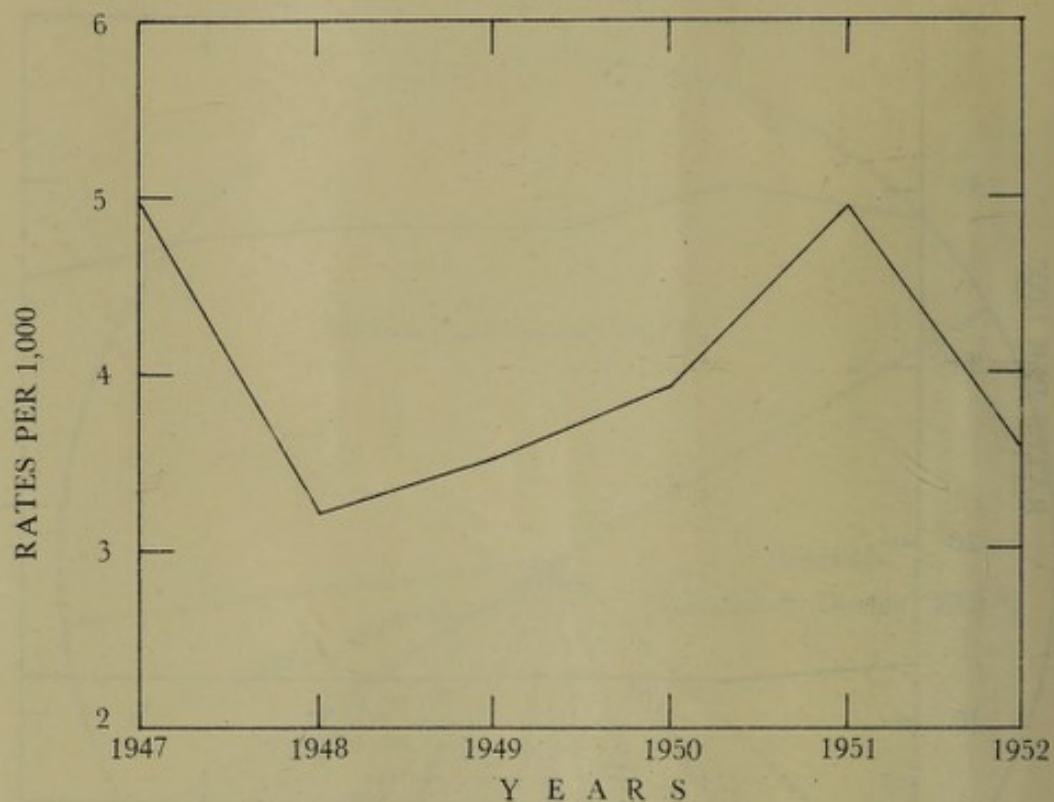


FIGURE 3—MATERNAL MORTALITY RATES PER 1,000 LIVE BIRTHS, TRINIDAD AND TOBAGO : 1947-52

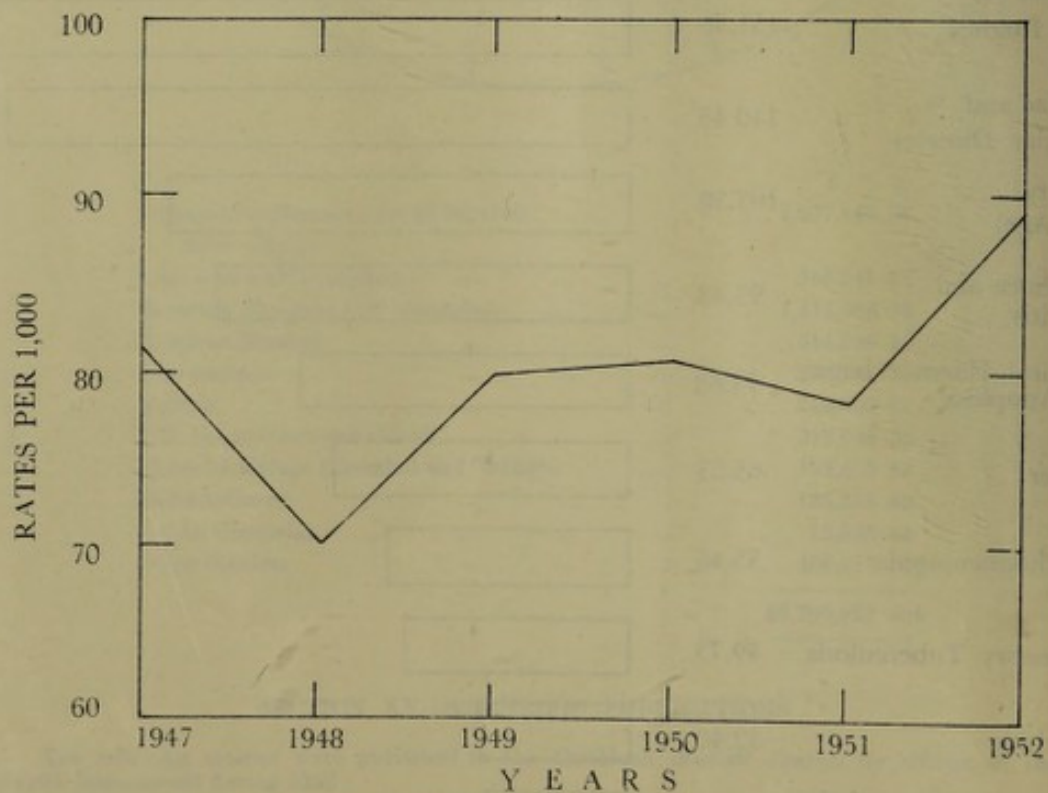


FIGURE 4—INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS, TRINIDAD AND TOBAGO : 1947-52

## APPENDIX I—CONTINUED

Graphs showing trends in Vital Statistics—Continued

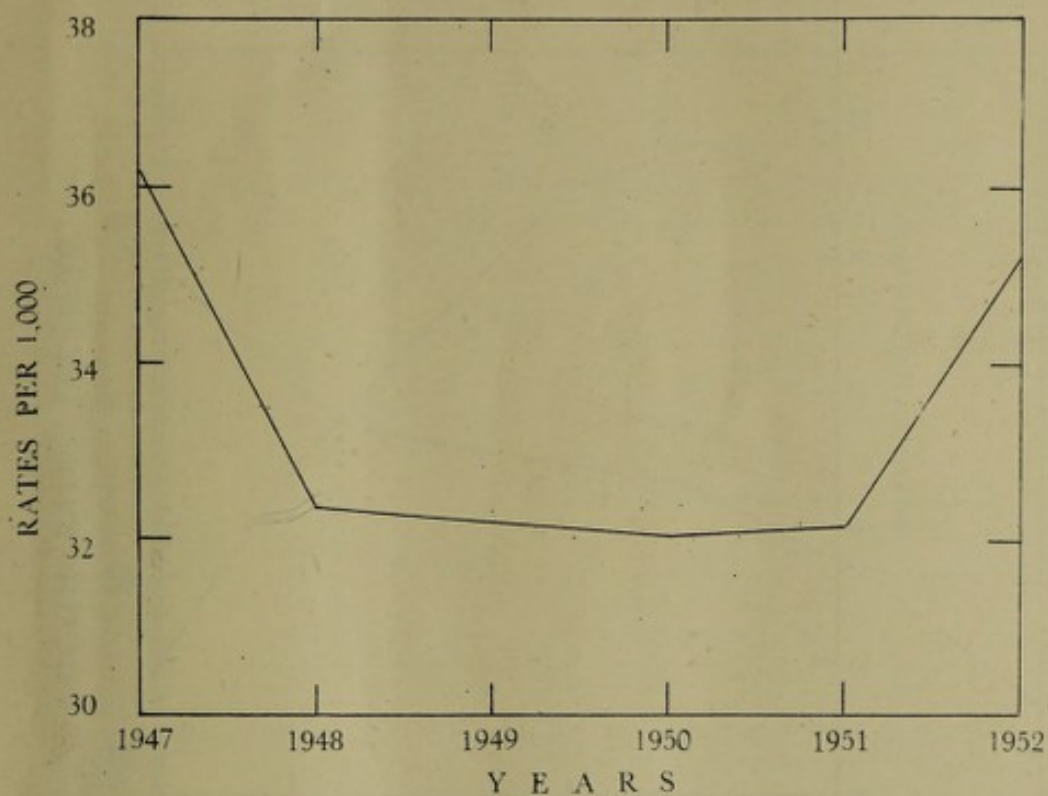


FIGURE 5—NEONATAL MORTALITY RATES PER 1,000 LIVE BIRTHS, TRINIDAD AND TOBAGO: 1947-52

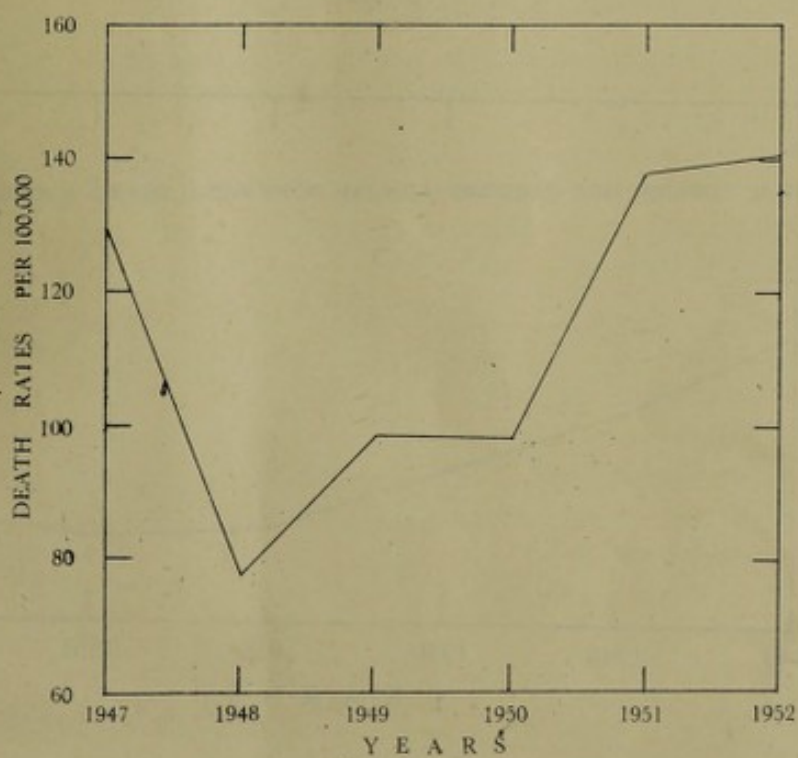


FIGURE 6—DEATH RATES FROM DISEASES OF THE HEART, TRINIDAD AND TOBAGO: 1947-52

## APPENDIX I—CONTINUED

Graphs showing trends in Vital Statistics—Continued

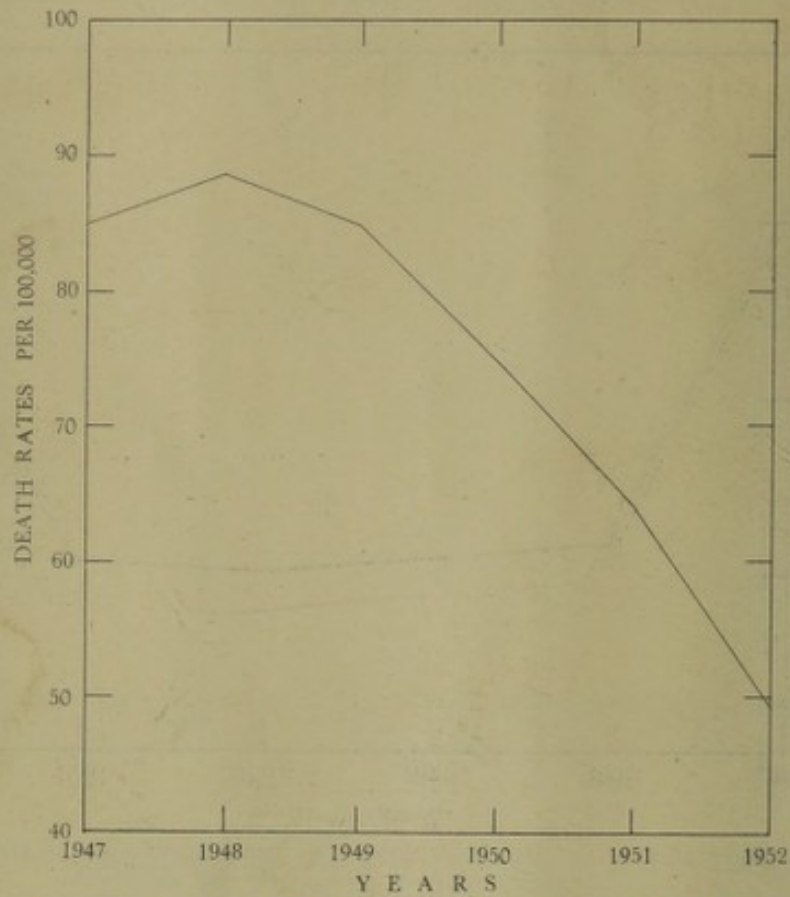


FIGURE 7—DEATH RATES FROM PULMONARY TUBERCULOSIS, TRINIDAD AND TOBAGO : 1947-52

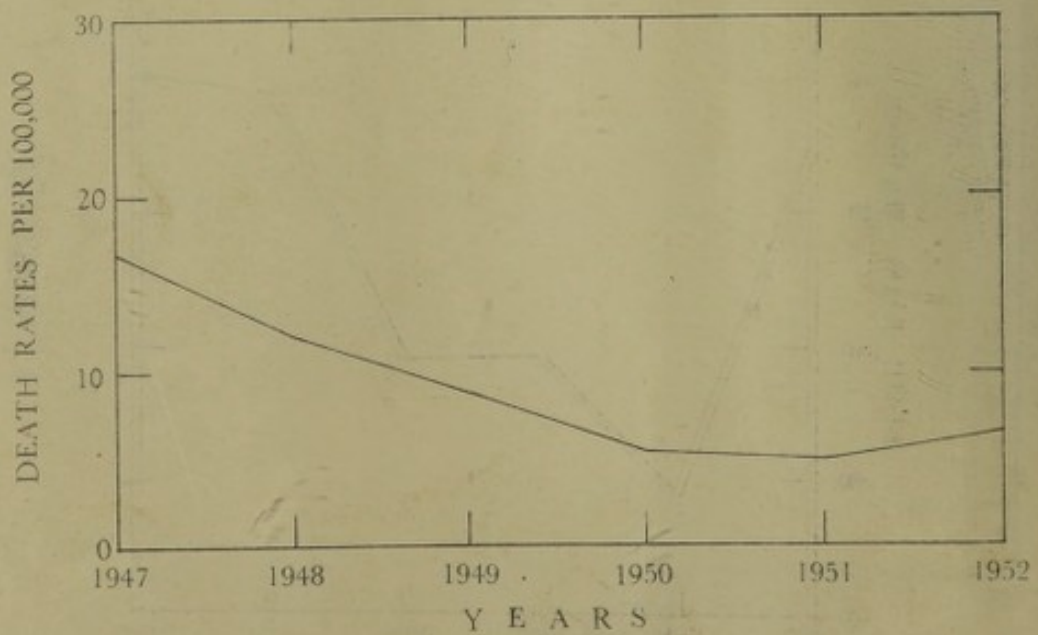


FIGURE 8—DEATH RATES FROM ENTERIC FEVER, TRINIDAD AND TOBAGO : 1947-52

APPENDIX I—CONTINUED

Graphs showing trends in Vital Statistics—Continued

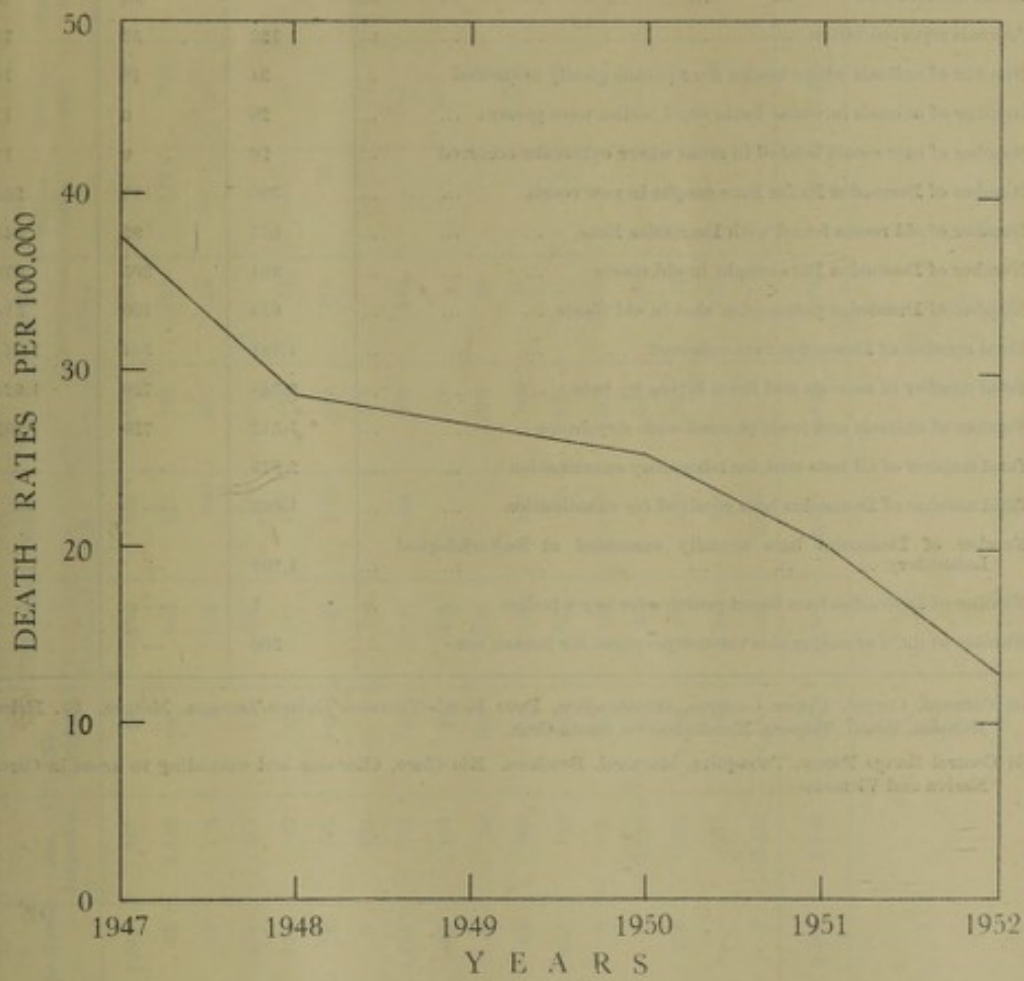


FIGURE 9—DEATH RATES FROM MALARIA, TRINIDAD AND TOBAGO : 1947-52

Year	Population	Deaths	Rate per 100,000
1947	100,000	38	38
1948	100,000	29	29
1949	100,000	27	27
1950	100,000	25	25
1951	100,000	20	20
1952	100,000	13	13

## APPENDIX II

Table I—Paralytic Rabies Among Animals, 1952

Particulars	Total	North	South
Areas of occurrence ... ..		(a)	(b)
Animals reported bitten ... ..	123	52	71
Number of animals whose brains were pathologically examined ...	34	18	16
Number of animals in whose brain <i>negri</i> bodies were present ...	20	9	11
Number of new roosts located in areas where outbreaks occurred ...	20	9	11
Number of <i>Desmodus Rufus</i> Bats caught in new roosts ... ..	390	139	251
Number of old roosts found with <i>Desmodus</i> Bats ... ..	637	92	545
Number of <i>Desmodus</i> Bats caught in old roosts ... ..	884	305	579
Number of <i>Desmodus</i> poisoned or shot in old roosts ... ..	614	100	514
Total number of <i>Desmodus</i> bats collected ... ..	1,888	544	1,344
Total number of animals and fowls bitten by bats ... ..	2,345	720	1,625
Number of animals and fowls painted with strychnine ... ..	1,512	720	792
Total number of all bats sent for laboratory examination ... ..	2,273	—	—
Total number of <i>Desmodus</i> bats received for examination ... ..	1,663	—	—
Number of <i>Desmodus</i> bats actually examined at Bacteriological Laboratory ... ..	1,201	—	—
Number of <i>Desmodus</i> bats found positive for <i>negri</i> bodies ... ..	1	—	—
Number of C.C.'s of anti-rabies vaccine prepared for human use ...	200	—	—

(a) Cumuto, Coryal, Upper Cumuto, Guatapajaro, Four Roads-Tamana, Guiaico-Tamana, Matura, St. Helena, Mahaica, Brazil, Talparo, Mundo-Nuevo, Santa Cruz.

(b) Central Range Forest, Tabaquite, Mamoral, Brothers, Rio Claro, Charuma and extending to areas in Caroni, Nariva and Victoria.

Table II—Clinical Activities—Treatment and Attendances

Treatments given at Clinics	Port-of-Spain Clinics	Field Clinics	Total All Clinics
A. TOTAL TREATMENTS GIVEN ... ..	36,681	31,827	68,508
1. INJECTIONS :			
Arsenicals ... ..	9,314	9,631	18,945
Arsenoxide ... ..	9,095	8,992	18,087
Acetylarsan... ..	219	639	858
Bismuth ... ..	10,086	11,881	21,967
Penicillin ... ..	5,198	4,568	9,766
Other Injections ... ..	301	363	664
2. MISCELLANEOUS TREATMENTS ... ..	11,782	5,384	17,166
B. SULFONAMIDE TABLETS ... ..	69,675	21,505	91,180
For Gonorrhoea ... ..	17,632	14,171	31,803
For Chancroid ... ..	18,632	1,206	19,838
For Lymphogranuloma venereum ... ..	15,555	604	16,159
For Non-Specific Urethritis ... ..	7,650	1,136	8,786
For Other ... ..	10,206	4,388	14,594
C. GONAZOLE TABLETS ... ..	23,749	9,718	33,467
D. MISCELLANEOUS TABLETS ... ..	41,843	18,973	60,816
TOTAL ATTENDANCE ... ..	73,980	55,560	129,540

Table III—Summary of Attendances, Treatments, &amp;c., at Clinics of the Dental Division, Health Department

CLINICS	Total Attendances	Children	Adults	Ante-Natal	No. Inspected	No. Treated	Permanent Teeth		Temporary Teeth		Permanent	Temporary	Prophylaxis	Cases Completed
							Extracted	Filled	Extracted	Filled				
Port-of-Spain	15,479	6,051	7,461	1,967	617	66	10,298	589	1,868	204	3	0	0	213
Carenage	2,055	1,305	687	63	1,140	856	669	467	793	434	118	228	26	68
Maraval	1,119	1,057	0	62	114	4	181	90	617	115	—	—	12	81
Morvant	736	498	0	228	245	19	426	18	—	—	—	—	0	32
San Juan	3,290	2,739	0	551	52	30	1,241	122	1,570	43	—	—	126	293
St. Joseph	998	998	0	0	631	145	189	175	503	302	0	0	0	—
Tunapuna*	796	796	0	0	654	—	6	—	278	—	—	—	0	—
Arima	2,883	1,725	3	1,155	133	160	1,522	103	926	169	—	—	0	92
Sangre Grande	1,801	1,336	0	465	106	26	815	—	931	—	—	—	0	—
Chaguanas	4,183	4,183	0	0	66	589	366	—	3,605	48	116	48	200	322
San Fernando	4,729	2,618	2,062	49	202	937	2,696	342	1,144	91	12	—	0	28
Couva	2,559	2,158	169	252	153	563	658	77	1,136	77	8	56	0	28
Princes Town	2,718	2,718	0	0	912	727	191	70	1,500	432	—	—	—	—
Rio Claro	821	821	0	0	1,011	28	268	—	693	32	—	—	0	—
Penal-Siparia	6,783	5,653	656	474	1,102	1,102	2,236	559	3,006	11	—	1,048	0	388
Tobago	2,507	2,507	—	—	272	209	2,502	312	1,056	128	—	0	0	388
Tobago Mobile Unit	2,496	2,496	0	0	2,496	1,556	2,241	2,455	—	—	—	—	0	—
	55,943	39,659	11,038	5,246	9,906	7,017	26,505	5,379	19,626	2,076	257	1,380	364	1,933

\*Figures are for November and December only.



Table IV—Summary of Hookworm Control Activities

Particulars	Total	Tobago	St. George East	Caroni	Victoria
Number of persons in district ...	47,011	—	25,150	15,905	5,956
Number of containers collected ...	35,730	—	10,344	7,823	17,563
Number of specimens of faeces examined ...	37,915	2,216	10,313	7,823	17,563
Number positive for Ankylostoma ...	17,286	63	3,831	4,472	8,920
Percentage of hookworm infestation ...	—	2.84%	37.14%	57.16%	50.78%
Number positive for Ascaris ...	3,303	—	351	351	814
Number positive for Oxyuris ...	824	—	134	222	468
Number positive for Trichuris ...	1,338	—	773	148	417
Number positive for Mixed Infestation ...	1,815	—	615	444	756
Number of Haemoglobin Tests ...	28,209	—	1,751	14,439	12,019
Number of persons given iron treatment ...	2,984	—	1,751	1,188	45
Number of first treatments given ...	34,212	—	12,758	15,296	6,158
Number of second treatments given ...	31,478	—	9,527	9,977	11,974
Number of third treatments given ...	6,813	—	997	0	5,816
Total number of treatments given ...	68,903	488	23,352	27,273	17,790
Total number of persons given full treatment ...	39,571	280	12,758	14,559	11,974
Total number of premises with insanitary or no privies ...	3,404	—	2,967	—	437
Total number of privies repaired, made sanitary or built ...	1,575	—	1,575	—	—
Total number of schools treated ...	51	—	—	37	14
Number of school children treated ...	33,020	—	6,534	19,205	7,281
Number of adults treated in villages ...	6,828	—	3,220	2,500	1,308
Number of population treated on Estates ...	11,565	—	3,004	3,868	4,693

Table V—Health Department Government Hospital Beds

Name and Location of Hospitals	Total No. of Beds	General	Obstetrics	Tuberculosis	Veneral Diseases	Leprosy	Infectious Diseases	Mental
Colonial Hospital, Port-of-Spain ...	555	434	70	—	—	—	43	8
Colonial Hospital, San Fernando ...	347	250	55	20	—	—	22	—
Colonial Hospital, Tobago ...	70	62	7	—	—	—	—	1
Leprosarium, Chacachacare ...	464(a)	—	—	—	—	464	—	—
Masson Hospital ...	240	—	—	240	—	—	—	—
Caura Sanatorium ...	166	—	—	166	—	—	—	—
Caribbean Medical Centre ...	24(b)	—	—	—	24	—	—	—
Mental Hospital ...	911(c)	—	—	—	—	—	41	870
District Hospital, St. Joseph ...	38	33	1	4	—	—	—	—
Do. Tacarigua ...	36	36	—	—	—	—	—	—
Do. Arima ...	42	30	12	—	—	—	—	—
Do. Sangre Grande ...	8	8	—	—	—	—	—	—
Do. Couva ...	50	42	8	—	—	—	—	—
Do. Princes Town ...	36	36	—	—	—	—	—	—
Do. Cedros ...	22	20	2	—	—	—	—	—
Do. Mayaro ...	6	6	—	—	—	—	—	—
House of Refuge, Port-of-Spain ...	680(d)	680	—	—	—	—	—	—
House of Refuge, Tobago ...	45	44	—	1	—	—	—	—

(a) 345 persons were in residence at the end of the year.

(b) Venereal Disease Ward at Colonial Hospital, Port-of-Spain.

(c) At the end of the year there were 1,339 in-patients. Temporary beds were provided for 428 of this number from time to time.

(d) 662 inmates at the end of the year.

Table VI—List of Health Centres and Dispensaries

Counties	Health Centres	Dispensaries
ST. GEORGE WEST ...	Maraval ...	Diego Martin, Carenage, St. James, P.O.S. (W), P.O.S. (N.E.), P.O.S. (S.E.)
ST. GEORGE CENTRAL ...	Morvant ...	San Juan, Santa Cruz, St. Joseph, Success Village, Aranguez.
ST. GEORGE EAST ...	Arima ...	Tacarigua, Arouca, St. Helena, Cumuto, Talparo, Blanchisseuse, Paria.
ST. ANDREW-ST. DAVID ...	Sangre Grande ...	Manzanilla, Guaico-Tamana, Caratal, Coryal, Biche, Valencia, Matura, Toco, Cumana, Sans Souci, Grande Riviere, Matelot.
CARONI ...	Couva ...	Chaguanas, Cunupia, Felicity, Charlieville, Carapichaima, Gran Couva, Flanagin Town, Tabaquite, Brothers Road.
VICTORIA ...	—	Whiteland, Gasparillo, Claxton Bay, Ste. Madeleine, Marabella, Lengua, Princes Town, Indian Walk, Tableland, Rock, Moruga, San Fernando, Debe, Penal.
ST. PATRICK ...	Siparia ...	Penal Rock, Fyzabad, Oropouche, Palo Seco, Erin, La Brea, Point Fortin, Hubertstown, Cedros, Chatham, Granville, Icacos.
NARIVA-MAYARO ...	—	Guayaguayare, Rio Claro.
TOBAGO ...	Charlotteville ...	Scarborough, Canaan, Bethel, Plymouth, Les Coteaux, Moriah, Mason Hall, Castara, Parlatuvier, Mt. St. George, Pembroke, Belle Garden, Roxborough, Delaford, Speyside.

Table VII—In-Patient Cases Treated at Colonial and District Hospitals—Health Department

Groups	DISEASES (Figures under groups refer to the International Statistical classification, 1948)	HOSPITALS									Total	
		COLONIAL			DISTRICT			EMERGENCY				
		Port-of-Spain	San Fernando	Tobago	St. Joseph	Tacarigua	Arima	Princes Town	Cedros	Mayaro		Sangre Grande
I	<b>INFECTIVE AND PARASITIC DISEASES (100-138) ...</b>	<b>956</b>	<b>769</b>	<b>164</b>	<b>81</b>	<b>60</b>	<b>195</b>	<b>49</b>	<b>67</b>	<b>82</b>	<b>111</b>	<b>2,534</b>
	Tuberculosis of the respiratory system ...	65	89	10	1	3	5	0	1	0	0	174
	Tuberculosis (other forms) ...	65	17	22	1	0	0	2	0	0	0	107
	Syphilis and its sequelae ...	40	18	3	3	0	2	2	4	0	0	72
	Gonococcal infection ...	0	5	20	0	0	0	0	18	2	0	45
	Typhoid and paratyphoid ...	108	105	42	0	14	38	0	0	0	5	312
	Dysentery (all forms) ...	86	211	1	0	4	7	0	6	31	2	348
	Diphtheria ...	20	9	0	0	0	0	0	0	0	0	29
	Leprosy ...	0	2	2	0	0	0	0	0	0	0	4
	Poliomyelitis ...	3	6	0	0	0	0	0	0	0	0	9
	Small Pox ...	0	0	0	0	0	0	0	0	0	0	0
	Rabies ...	0	0	0	0	0	0	0	0	0	0	0
	Typhus ...	0	0	0	0	0	0	0	0	0	0	0
	Malaria ...	264	155	8	43	29	86	5	15	11	94	710
	Ankylostomiasis ...	45	23	13	9	5	10	8	4	12	10	179
	Yaws ...	8	2	7	0	0	2	9	0	0	0	28
	Other Diseases of the Group ...	212	127	36	24	5	45	23	19	26	0	517
II	<b>NEOPLASMS (140-239) ...</b>	<b>347</b>	<b>253</b>	<b>49</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>18</b>	<b>5</b>	<b>684</b>
	Malignant neoplasms including neoplasms of lymphatic and haematopoietic tissues ...	293	153	11	0	4	0	0	4	18	1	484
	Benign and unspecified neoplasm ...	36	89	37	2	0	0	0	0	0	4	168
	Other Diseases of the Group ...	18	11	1	0	2	0	0	0	0	0	32
III	<b>ALLERGIC, ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES (240-289) ...</b>	<b>220</b>	<b>161</b>	<b>31</b>	<b>48</b>	<b>22</b>	<b>43</b>	<b>22</b>	<b>20</b>	<b>40</b>	<b>7</b>	<b>614</b>
	Diabetes mellitus ...	109	124	30	35	10	43	19	6	8	7	391
	Beri-Beri ...	4	0	0	0	12	0	0	0	0	0	16
	Pellagra ...	0	1	0	0	0	0	0	0	0	0	1
	Other Diseases of the Group ...	107	36	1	13	0	0	3	14	32	0	206
IV	<b>DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS (290-299) ...</b>	<b>274</b>	<b>349</b>	<b>39</b>	<b>76</b>	<b>15</b>	<b>16</b>	<b>10</b>	<b>77</b>	<b>59</b>	<b>23</b>	<b>938</b>
	Pernicious and hyperchronic anaemias ...	7	11	0	0	0	2	0	0	53	13	89
	Iron Deficiency anaemias (hypochromic) ...	0	11	15	0	0	15	4	18	0	0	48
	Allergic disorders ...	153	81	18	1	6	11	6	23	6	10	315
	Other Diseases of the Group ...	114	246	6	75	9	3	0	36	0	0	489
V	<b>MENTAL PSYCHONEUBOTIC AND PERSONALITY DISORDERS (300-326) ...</b>	<b>304</b>	<b>35</b>	<b>17</b>	<b>5</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>383</b>
VI	<b>DISEASES OF THE NERVOUS SYSTEM AND SENSORY ORGANS (330-398) ...</b>	<b>1,127</b>	<b>512</b>	<b>59</b>	<b>20</b>	<b>27</b>	<b>26</b>	<b>43</b>	<b>7</b>	<b>0</b>	<b>15</b>	<b>1,236</b>
	Epilepsy ...	66	14	7	2	0	13	6	1	0	3	109
	Diseases of the Eye ...	367	163	9	3	0	0	17	4	0	12	566
	Diseases of the Ear ...	94	50	12	1	1	0	2	2	0	0	162
	Other Diseases of the Group ...	600	285	31	14	26	13	18	0	0	0	999
VII	<b>DISEASES OF THE CIRCULATORY SYSTEM (400-468) ...</b>	<b>1,064</b>	<b>969</b>	<b>100</b>	<b>36</b>	<b>68</b>	<b>62</b>	<b>55</b>	<b>38</b>	<b>25</b>	<b>26</b>	<b>2,443</b>
	Rheumatic Fever ...	22	53	1	0	6	0	0	3	0	0	85
	Diseases of the heart ...	637	429	22	20	35	31	46	10	12	15	1,257
	Diseases of the arteries ...	55	18	10	0	14	0	9	2	0	0	108
	Other Diseases of the Group ...	350	469	67	16	13	31	0	23	13	11	993

Table VII—In-Patient Cases Treated at Colonial and District Hospitals—Health Department—Continued

Groups	DISEASES	HOSPITALS										Total
		COLONIAL			DISTRICT				EMERGENCY			
		Port of Spain	San Fernando	Tobago	St. Joseph	Tucuarigua	Arima	Princes Town	Cedros	Mayaro	Sangre Grande	
VIII	DISEASES OF THE RESPIRATORY SYSTEM (470-527) ...	1,612	884	235	47	44	100	32	48	13	24	3,039
	Acute upper respiratory infections ...	18	51	35	3	3	0	0	3	0	10	123
	Lobar pneumonia ...	151	81	37	2	3	5	8	7	0	4	298
	Broncho-pneumonia ...	197	100	106	2	3	20	11	15	0	3	457
	Bronchitis, acute chronic and unspecified ...	249	152	17	14	4	56	12	19	11	4	538
	Adenoids and Tonsillitis ...	597	210	0	0	0	0	0	0	0	3	810
	Other Diseases of the Group ...	400	290	40	26	31	19	1	4	2	0	813
IX	DISEASES OF THE DIGESTIVE SYSTEM (530-587) ...	2,208	1,492	184	64	50	105	100	90	18	39	4,350
	Diseases of the teeth and supporting structures ...	84	76	14	3	1	0	11	12	0	6	207
	Appendicitis ...	362	268	14	0	6	3	5	4	14	2	678
	Intestinal obstruction and hernia ...	512	254	54	2	1	15	4	3	0	0	845
	Gastro-enteritis and colitis ...	457	196	9	15	2	36	36	25	0	12	788
	Other Diseases of the Group ...	793	698	93	44	40	51	44	46	4	19	1,832
X	DISEASES OF THE GENITO-URINARY SYSTEM (590-637) ...	2,238	1,581	143	80	36	65	99	31	9	36	4,408
	Nephritis, acute chronic and unspecified ...	206	141	13	16	8	31	38	9	0	6	468
	Calculi of the urinary system ...	31	38	0	0	0	0	1	0	0	2	72
	Hyperplasia of the prostate ...	49	24	10	0	0	0	21	1	0	0	105
	Other Diseases of the Group ...	2,042	1,378	120	69	28	34	39	21	9	28	3,763
XI	DELIVERIES, COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERUM (640-689) ...	4,406	3,204	475	154	77	134	234	94	22	85	8,885
	Puerperal eclampsia ...	239	43	1	0	10	0	7	0	0	0	300
	Toxaemias of pregnancy ...	302	106	11	5	0	0	45	23	0	6	552
	Placenta praevia and other haemorrhage ...	156	43	18	0	0	0	28	4	1	3	253
	Abortion ...	882	407	49	41	9	30	6	21	2	28	1,475
	Pregnancy and delivery complications ...	679	1,243	27	79	16	1	44	0	1	20	2,110
	Delivery without complications ...	2,107	1,285	338	26	41	84	88	46	18	28	4,061
	Other Diseases of the Group ...	41	23	31	3	1	19	16	0	0	0	134
XII	DISEASES OF THE SKIN AND CELLULAR TISSUES (690-716)...	425	612	168	76	2	0	31	36	0	29	1,379
XIII	DISEASES OF THE BONES AND ORGANS OF MOVEMENT (720-749) ...	639	269	104	131	72	64	85	56	0	10	1,430
XIV	CONGENITAL MALFORMATION (750-759) ...	42	14	3	0	0	0	2	0	0	0	61
XV	CERTAIN DISEASES OF EARLY INFANCY (720-776) ...	599	306	53	3	0	6	2	0	0	4	973
XVI	SENILITY AND ILL-DEFINED CONDITIONS (780-795) ...	684	573	110	96	43	13	70	19	14	57	1,679
	Senility ...	59	24	16	6	6	13	38	0	0	4	168
	Ill-defined conditions ...	591	444	89	90	13	0	32	19	14	53	1,345
	Other Diseases of the Group ...	34	105	5	0	24	0	0	0	0	0	168
XVII	ACCIDENTS, POISONING AND VIOLENCE (AE/AN 800-999) ...	1,881	1,760	215	146	66	77	296	67	20	228	4,756
	GRAND TOTAL ...	19,116	13,643	2,149	1,065	692	906	1,130	662	320	699	42,800

Table VIII—Statistical Return of Paupers, Poor Persons, Constables and Prisoners, Treated at Dispensaries of the Health Department

Municipalities and Counties	Paupers	Poor Persons	Constables	Prisoners	Total
Port-of-Spain, South-east ... ..	5,397	11,588	—	—	16,985
Port-of-Spain, West ... ..	3,794	3,843	—	—	7,637
<i>County St. George</i>					
Diego Martin ... ..	9,185	3,486	4	—	12,675
St. Joseph ... ..	8,473	6,147	100	435	15,155
Tacarigua ... ..	5,060	4,378	28	4	9,470
Arima Rural ... ..	7,383	6,160	58	15	13,616
<i>County Caroni</i>					
Couva and Gran Couva ... ..	9,482	278	132	4	9,896
Chagnanas ... ..	13,348	2,977	77	25	16,427
<i>North-Eastern Counties</i>					
St. Andrew Offices ... ..	6,533	1,255	34	215	8,007
<i>County St. David/Toco</i> ... ..	2,648	61	—	—	2,709
<i>County Victoria</i>					
Guaracara ... ..	14,920	—	25	—	14,945
South Naparima ... ..	—	—	380	31	411
Debe ... ..	936	136	—	9	1,081
Princes Town ... ..	9,873	1	28	—	9,902
San Fernando ... ..	4,134	5,672	—	—	9,806
<i>County St. Patrick</i>					
Erin-Siparia ... ..	12,572	397	185	13	13,167
La Brea-Point Fortin ... ..	2,328	3,111	100	3	5,542
<i>County Nariva-Mayaro</i> ... ..	6,406	589	22	18	7,035
<i>Ward of Tobago</i>					
Scarborough ... ..	761	131	68	4	964
Roxborough ... ..	1,540	—	—	—	1,540
Plymouth ... ..	500	—	—	—	500
<b>TOTAL ATTENDANCES</b> ... ..	<b>125,273</b>	<b>50,180</b>	<b>1,241</b>	<b>776</b>	<b>177,470</b>

Table IX—Conditions for which Patients were Admitted to the Mental Hospital

<b>NEUROSES</b> ... ..	<b>13</b>
Anxiety ... ..	5
Obsessional ... ..	1
Hysteria ... ..	6
Kleptomania ... ..	1
<b>PSYCHOSES (Affective)</b> ... ..	<b>64</b>
Mania ... ..	20
Hypomania ... ..	3
Manic Depressive ... ..	7
Acute Mania ... ..	1
Recurrent Mania ... ..	3
Melancholia ... ..	7
Involutional Melancholia ... ..	9
Depressions (with myxoedema 1) ... ..	11
Reactive ... ..	2
Post Partum ... ..	1
<b>ORGANIC PSYCHOSES</b> ... ..	<b>167</b>
Confusional Insanity ... ..	42
Do. with arteriosclerosis ... ..	3
Do. with uraemia ... ..	3
Do. with brain tumor ... ..	1
General paralysis of the insane ... ..	22
Alcoholism ... ..	22
Korsakow ... ..	1
Senile Dementia ... ..	20
Secondary Dementia ... ..	23
Post Traumatic Psychoses ... ..	4
Huntington Chorea ... ..	1
Mental Defect (idiot 1, imbecile 1, feebleminded 1) ... ..	9
Mental defect with Schizophrenia ... ..	1
Psychopathic Personality ... ..	9
<b>SCHIZOPHRENIA</b> ... ..	<b>258</b>
Schizophrenia ... ..	104
Catatonic Schizophrenia ... ..	33
Pre Schizophrenia ... ..	5
Paranoid Schizophrenia ... ..	36
Acute Schizophrenia ... ..	32
Schizophrenia simplex ... ..	13
Hebephrenic Schizophrenia ... ..	7
Chronic Schizophrenia ... ..	22
Delusional Insanity ... ..	6
<b>EPILEPSY</b> ... ..	<b>29</b>
Epilepsy Grande Mal ... ..	14
Psychomotor with lead intoxication ... ..	1
Psychomotor Epilepsy ... ..	2
Psychomotor with Mental Deficiency ... ..	6
Post traumatic ... ..	1
Not Insane ... ..	4
Undiagnosed ... ..	1

Table X—Conditions for which Patients were Admitted to the Psychiatric Clinic

NEUROSES	...	...	...	...	...	...	...	...	...	19
Anxiety Neurosis	...	...	...	...	...	...	...	...	...	11
Obsessional Neurosis	...	...	...	...	...	...	...	...	...	1
Hysteria	...	...	...	...	...	...	...	...	...	7
PSYCHOSES ( <i>Affective</i> )	...	...	...	...	...	...	...	...	...	28
Reactive Depressions	...	...	...	...	...	...	...	...	...	9
Mania	...	...	...	...	...	...	...	...	...	3
Hypomania	...	...	...	...	...	...	...	...	...	2
Recurrent Mania	...	...	...	...	...	...	...	...	...	1
Manic Depressive Psychoses	...	...	...	...	...	...	...	...	...	1
Depression	...	...	...	...	...	...	...	...	...	8
Melancholia	...	...	...	...	...	...	...	...	...	1
Involuntal	...	...	...	...	...	...	...	...	...	3
ORGANIC PSYCHOSES	...	...	...	...	...	...	...	...	...	20
Confusional Insanity	...	...	...	...	...	...	...	...	...	4
Post traumatic Insanity	...	...	...	...	...	...	...	...	...	5
General paralysis of the insane	...	...	...	...	...	...	...	...	...	2
Secondary Dementia	...	...	...	...	...	...	...	...	...	2
Senile Dementia	...	...	...	...	...	...	...	...	...	2
Alcoholism	...	...	...	...	...	...	...	...	...	5
SCHIZOPHRENIA	...	...	...	...	...	...	...	...	...	60
Schizophrenia	...	...	...	...	...	...	...	...	...	43
Preschizophrenia	...	...	...	...	...	...	...	...	...	3
Catatonic Schizophrenia	...	...	...	...	...	...	...	...	...	3
Hebephrenic Schizophrenia	...	...	...	...	...	...	...	...	...	5
Paranoid Schizophrenia	...	...	...	...	...	...	...	...	...	5
Schizophrenia with Mental Deficiency	...	...	...	...	...	...	...	...	...	1
EPILEPSY	...	...	...	...	...	...	...	...	...	98
Epilepsy	...	...	...	...	...	...	...	...	...	39
Epilepsy with Mental Deficiency	...	...	...	...	...	...	...	...	...	1
Temporal Lobe Epilepsy	...	...	...	...	...	...	...	...	...	1
Psychomotor Epilepsy	...	...	...	...	...	...	...	...	...	3
Post traumatic Epilepsy	...	...	...	...	...	...	...	...	...	1
Mental Defect (Imbeciles 3, Idiots 2, feebleminded 20)	...	...	...	...	...	...	...	...	...	25
Psychopathic Personality	...	...	...	...	...	...	...	...	...	9
Behaviour Problem	...	...	...	...	...	...	...	...	...	5
Peripheral Neuritis	...	...	...	...	...	...	...	...	...	1
Undiagnosed	...	...	...	...	...	...	...	...	...	13
										225

Table XI—Summary of Work Done at Prisons

Number of attendances of Prisoners treated as out-patients	...	...	12,497
Number of attendances of Prisoners seen on committal	...	...	4,959
Number of Prisoners seen on discharge	...	...	1,858
Number of Infirmary cases	...	...	414
Number of Prisoners examined under report	...	...	452
Number of Prisoners examined from cells	...	...	243
Number of accident cases	...	...	14
Number of Light Labour Tickets issued	...	...	31
Number treated for Ankylostomiasis	...	...	2
Number of inoculations against enteric fever	...	...	161
Number of times Cooks were examined	...	...	175
Number of times Bakers were examined	...	...	223
Number of Officers examined and treated	...	...	913
Number of Notifiable Infectious Diseases	...	...	8
Number recommended to Dental Clinics	...	...	765
Number recommended to ear, nose and throat Clinic	...	...	35
Number sent to eye Clinic	...	...	51
Number sent to X-ray	...	...	22
Number transferred to Institution for medical care	...	...	21
Number of minor surgical operations	...	...	12
Number of deaths	...	...	4

## APPENDIX III

## Report on Clinics and School Work in Morvant and Adjoining Areas

The regular staff of Clinic Nurses was increased by one.

Ante-natal and post-natal clinics, child welfare and sick children clinics continued to operate during the year and showed an increase in the number of attendances.

School children were inspected and examined regularly at five centres.

In November the Rapsy Memorial Clinic was presented to Government by the heirs of the Rapsy family. His Excellency the Governor formally declared the Clinic open to serve the needs of the residents of Aranguez. The Health Centre at Laventille was completed during the year to replace the temporary wooden structure which could not provide adequate accommodation.

No epidemic occurred in this area during the year. The usual conditions affecting expectant mothers and infants were observed.

Evidence of malnutrition and under-nourishment continued to be prevalent, an appreciable number of cases showing signs of anaemia, avitaminosis, xerotic and scorbutic lip.

## Clinical Figures, 1952

Clinics		Morvant	Laventille	San Juan	Barataria	Santa Cruz	Total
<i>Ante-Natal</i>							
Number on register	...	314	363	665	396	154	1,892
Average number per clinic	...	33	45	45	31	18	34
Average deliveries per month :							
(a) Government Midwife	...	—	—	—	—	4†	—
(b) Panel Midwife	...	7†	6†	10†	3†	—	6†
(c) Licensed Midwife	...	2†	4†	17†	18†	1†	8†
<i>Post-Natal</i>							
% No. attending	...	0.12	0.2	0.18	0.16	0.25	0.14
<i>Child Welfare</i>							
Number on register	...	781	832	574	695	273	3,155
Number new babies	...	197	348	338	392	82	1,357
Average attendance per clinic	...	94	48	86	99	25	352
<i>Sick Children</i>							
Average attendance per clinic	...	8†	9†	5†	14†	10†	8†

## Schools

School	No. on Roll	No. Medically Inspected	No. Medically Examined
<i>Morvant</i>			
Morvant E.C.	621		150
St. Dominique R.C.	736		152
<i>Laventille</i>			
Laventille R.C.	821	98	74
<i>San Juan</i>			
San Juan R.C.	931	578	94
San Juan C.M.	681	—	42
El Socorro Government	912	238	15
Islamic	417	246	30
Aranguez	596	—	57
<i>Barataria</i>			
Barataria E.C.	1,055	—	90
Barataria Government	1,222	—	69
Barataria (Mallick) R.C.	103	—	
<i>Santa Cruz</i>			
La Pastora Government	273	221	22
Santa Cruz R.C.	498	—	43
Bourg Mulatresse R.C.	486	381	5
	<u>9,352</u>	<u>1,762</u>	<u>843</u>

## APPENDIX IV

## Endemic Diseases (Hookworm) Units

## A. North

## AREA SURVEYED :

The Unit did intensive work in St. George East which is a subdivision of the County of St. George. This area includes Arima Rural, Arouca, Tacarigua, and part of the Tunapuna Sanitary District and together comprise the following main villages : Mundo Nuevo, Talparo, Brazil, San Rafael, Guanapo, Tunapuna, Malabar, Maturita, Calvary, Mausica, Carapo, Blanchisseuse, Fillette, Garden, Arouca, Piarco, St. Helena, Five Rivers, Cane Farm, Dinsley, Tacarigua, El Dorado, Pasea and Monte Grande.

## SURVEY

Overall planning of the survey was facilitated because of the maps and field strip diagrams prepared by the Health Survey Unit operating in this area in 1949. The survey consisted of a house to house inspection. A census was taken of the number of persons in every family. Field Officers engaged in the survey also recorded the condition of privies on premises. The total number of premises surveyed during the year was 6,711.

## POPULATION

A numerical count showed 25,150 persons housed in the 6,711 premises. The population consisted of an even mixture of East Indians and Negro descendants. They are principally engaged in agriculture.

## SPECIMENS

Field Officers encouraged each family to submit specimens of their faeces for microscopic examination. Preliminary short talks helped to ensure co-operation. Arrangement for the submission of specimens was made as simple and convenient as possible to the public for maximum response. Containers sufficient to collect specimens from 50 per cent of a family were left in an envelope with the address of the house written on it. Residents were instructed how to prepare the specimens prior to delivery in sealed envelopes at a collection centre arranged by the Unit. The following particulars relate to the work done.

Number of families submitting specimens	...	...	...	...	3,707
Number of specimens submitted	...	...	...	...	10,344
Number of dehydrated specimens	...	...	...	...	31
Number of specimens examined	...	...	...	...	10,313

## INFESTATION

The results of examination and analysis showed that on the average the infestation rate was 56 per cent. for all worms and 37 per cent. for hookworm. Piarco however had an infestation rate of 60 per cent. for hookworm and 60 per cent. for all worms. A detailed statement follows :

Number of specimens examined	...	...	...	...	...	10,313
Number positive	...	...	...	...	...	6,083 56%
Number negative	...	...	...	...	...	4,230
Positive for Ankylostoma	...	...	...	...	...	3,831 37%
Positive for Ascaris	...	...	...	...	...	2,138
Positive for Trichuris	...	...	...	...	...	773
Positive for Oxyuris	...	...	...	...	...	134
Positive for Mixed Infestation (ankylostoma and ascaris)	...	...	...	...	...	615

## TREATMENT

First round treatment in the area under review was completed with the exception of Pasea and Monte Grande Villages in the Tunapuna District. All persons in a family where specimens proved positive were eligible for treatment. The treatment consisted of two doses and in some cases three doses of tetrachlorethylene; the first dose with salts and the second and third with oil. Doses were spaced seven days apart.

The attendance at treatment centres was at all times good. 12,758 persons received 23,352 doses of medicine.

Treatment was given during the week in every other instance except at Orange Grove Estate, when it was given on Sunday to facilitate the working people.

Number of men treated	...	...	...	...	...	3,111
Number of women treated	...	...	...	...	...	3,113
Number of boys treated	...	...	...	...	...	3,426
Number of girls treated	...	...	...	...	...	3,108
Total Number of persons treated	...	...	...	...	...	12,758
Total doses given	...	...	...	...	...	23,352

Persons over 15 years of age were considered as adults.

## LATRINE ACCOMMODATION

The earthen pit latrine is the main type of latrine accommodation in the areas. The table following will show that at the time of census 55 per cent. of the premises were served with satisfactory privy accommodation, and by the time the Unit left the district that percentage rose to 68 per cent. an overall improvement of 13 per cent.

## LATRINE CONDITION AT TIME OF CENSUS

Satisfactory privy accommodations 3,744 (55 per cent.), unsatisfactory privy accommodation 2,170 (32 per cent.) none 797 (13 per cent.)

## LATRINE IMPROVEMENT WORK

<i>No. of Latrines built</i>	<i>Number of Latrines repaired</i>	<i>Improvement</i>
276	522	13%

## LATRINE CONDITION AT COMPLETION OF SURVEY

<i>Satisfactory Privy Accommodation</i>	<i>Unsatisfactory Privy Accommodation</i>	<i>None</i>
4,542	1,494	675
68%	22%	10%

## HEALTH EDUCATION :

The Health Education Unit assisted to a great extent in the programme of work under this head. 22 Film shows were given during the year. A health talk on Hookworm disease always preceded each show, all of which were well attended. Propaganda work was improved during the year to assist with talk and the new system of inviting the co-operation of prominent people proved successful.

## B. Caroni

During the year hookworm control activities included work in 37 schools, 5 estates and 5 villages. The team in its survey reported a census of 15,905 persons comprising 963 estates, 1,576 in villages and 13,366 in schools. Of this number 3,495 were adults. A total of 7,823 specimens was examined showing corresponding hookworm infestation rates of 51 per cent. for estates, 61 per cent. for villages and 57 per cent. for schools.

Of the total number of specimens examined 1,165 were positive to other worms as follows :

ascaris	...	...	...	351	oxyuris	...	...	...	222
trichuris	...	...	...	148	mixed	...	...	...	444

25,273 treatments were administered for hookworm disease and in addition 1,188 persons were also given iron treatment.

## C. Victoria

Hookworm control work in this county included examination, haemoglobin testing, treatment and re-examination of workers in 23 sugar estates of Usine Ste. Madeleine and the examination and treatment of individuals in 28 villages and 14 schools.

The team in its survey reported a census of 5,956 persons comprising 386 in estates, 4,232 in villages and 1,338 in schools. Of this number 2,845 were adults.

17,563 specimens were examined showing corresponding hookworm infestation rates of 48 per cent. for estates, 51 per cent. for villages and 46 per cent. for schools.

Of the total number of specimens examined 2,455 were positive to other worms as follows :

ascaris	...	...	...	...	...	...	...	...	814
oxyuris	...	...	...	...	...	...	...	...	468
trichuris	...	...	...	...	...	...	...	...	417
Mixed Infestation	...	...	...	...	...	...	...	...	756

17,790 treatments were administered for hookworm. 45 were persons also given iron treatment.

On a re-examination of 2,782 specimens from estates (1,804 adults and 879 school children) the infestation rate was found to be 36 per cent.

## APPENDIX V

## Malaria Eradication Project in Tobago, B.W.I.

This programme, jointly supported by funds of the Government of Trinidad and Tobago and the Rockefeller Foundation entered its fifth and final year as originally conceived. It continued along similar lines as in past years with greater emphasis during the year on the execution of capital works to control the major breeding places of *A. aquasalis*.

The main features of the programme were :

- (1) Larviciding of all water bodies in which anopheline breeding was reported.
- (2) Mosquito investigations.
- (3) Residual DDT spraying of every house in the island twice during the year.
- (4) Capital works.

Weather condition in 1952 was drier than in 1951. The dry season in the first half of the year and the Indian Summer or 'petit careme' were well defined and consequently streams remained blocked for a large period. Small swamps and seepages, however, dried up in some instances completely. Extremely satisfactory results have been obtained in controlling breeding though difficult areas like Goldsborough river, Bon Accord swamp and Frenchman's river presented a problem that we have not quite solved.

A brief review of breeding conditions during 1952 is herewith presented for the major breeding areas of *A. aquasalis*.

- (1) Lowlands Swamp—comprising tidal mangrove areas, agricultural drains, animal hoof marks and wheel ruts. Moderate breeding was found during the year. Larval findings have been much lower than in the previous year of 1951. Control measures were effective but had to be continuous throughout the year.
- (2) Friendship and Kilgwyn Estate drains and swamp—an extensive low lying area where most of the water from the upper parts collect. Low breeding was found—mostly early instars—throughout the year and was easily dealt with.
- (3) Buccoo Swamp—moderate *aquasalis* breeding is found during the heavy rains ; low in other months.
- (4) Thompson's river—owing to the drier conditions prevailing in 1952, this stream required much more attention than hitherto. When flushed during the rains, this stream shows no breeding.
- (5) Courland river and estate drains—river approximately 15 miles long and flowing through dense forest, cocoa fields and gardens and emptying in the Great Courland Bay at Plymouth. Low breeding was found occasionally at the mouth and in innumerable side pockets of the undermined banks.
- (6) Black Rock river—practically nil in the middle and upper parts. Some breeding in the mouth almost regularly except when flushed.
- (7) McKenzie river—high breeding was found in the lower region throughout dry spells.
- (8) Les Couteaux ravine—moderate breeding of *aquasalis* occasionally, especially during the early rains.
- (9) Castara river—there was very little or no breeding here throughout the year.
- (10) Bloody Bay river—the largest stream in this area which flows for approximately three miles with a very swift current. The mouth is, however, tidal with overgrowth of wild cane, bamboo and bush. Careful searches were needed to find breeding which was mostly confined to side pools and undermined banks.
- (11) Lambeau river—this stream is furnished with a seahead which functions fairly satisfactorily. The banks are, however, very much undermined and occasional breeding is encountered.
- (12) Government Farm and springs—moderate breeding is met with particularly during the early rains. As long as the fullest co-operation of the governing body is had, breeding is easily controlled. This area constitutes a grave threat to Scarborough.
- (13) Bacolet river, swamp and drains—this area showed little or no breeding.
- (14) Hillsborough West river—light breeding occurs regularly but is easily controlled.
- (15) Studley Park river and swamp—these water bodies were extensive production areas for *A. aquasalis*. Maintenance was excellent and occasional light breeding was easily controlled.
- (16) Goldsborough river—whenever this stream becomes blocked, breeding quickly appears. The innumerable estate feed drains showed occasional heavy breeding and "necessitated" continual effort in order to keep *aquasalis* breeding at a minimum.
- (17) Richmond river—light breeding, easily controlled, is found during dry phases.
- (18) Argyle river—this stream showed no breeding during the year.
- (19) Louis d'Or swamp—except during periods of heavy rain, this previously difficult area was maintained free of breeding.
- (20) Castara—the main *aquasalis* breeding areas around Englishman's Bay were difficult to control due to lush vegetation.
- (21) Hillsborough Dam—this artificial water body required constant checking. Breeding of *A. aquasalis* was often found and efficient control was only had by frequent alterations in water level.
- (22) Charlotteville—only very occasionally was light breeding of *A. aquasalis* found in this, the most thickly populated part of this island.

Trap captures were extremely low during the year. The table attached shows trap captures for the period 1947-1952.

## RESIDUAL DDT SPRAYING

Every house in the island has been sprayed twice during the year at intervals of six months. In the first cycle of spraying a 5 per cent. solution of DDT and kerosene was used. In the second cycle of spraying the majority of houses were sprayed with benzene hexachloride. The Units are equipped with Loftstrand sprayers.

16,175 houses were sprayed in 1952 as compared with nearly 15,300 in 1951 and 14,957 in 1950. In addition 8,229 cesspits and 730 stables were sprayed.



#### CAPITAL WORKS

We were fortunate to obtain a light tractor to assist in the innumerable small but important bits of work that we can do and which the Works and Hydraulics Department have neither the time nor the staff to execute.

In February, the tractor was sent to Tobago where the main drain at Friendship/Kilgwyn was deepened and the banks sloped back with a scraper which is attached to a winch on the tractor. This was completed at the end of March.

The construction for the installation of Calco gates was started in April at Betsy Hope Swamp. This was placed just south of Gun Hill as was recommended by Mr. Magoon. The invert of the gates and of the outlet channels are two feet below tide level. This job has proved to be very successful except that the sea is washing sand over the top of the gate chamber and obstructing the channel. It will be necessary to place some concrete blocks there to prevent this in future.

An attempt was made to fill the Creighton swamps but it was found that the Fordson tractor was too light for this job. The soil there was very heavy and there were also numerous tree roots near the surface of the land.

The Indian Head swamp was filled with sand by the tractor from the beach and a concrete invert drain was constructed through the area to provide an outlet for any water that would tend to settle there. This area comprised about four acres and about one foot of fill was needed.

The swamp at Auchenskeoch, north of the Auchenskeoch-Buccoo road, was filled with sand from the nearby beach being transported there by truck and levelled by the tractor.

#### SLIDES

A total of 1,597 slides was examined from Tobago, most of these coming from the Endemic Diseases Unit. Of this number, only 6 were positive for malaria parasites, all showing the presence of *P. falciparum*.

#### SCHOOLS

All the schools of Tobago were examined during the year. Their spleen rates for 1951 and 1952 are presented together with the rates of the original survey in 1941. In nearly every case, the spleen and parasites rates disclose a relevant absence of malarial infection.

A total of 2,905 children were examined in which 14 spleens were discovered giving an overall spleen rate of 0.48 per cent.

The phenomenal success of this programme is remarkable. Whilst it is not possible to say that the eradication of malaria is complete, malaria is certainly a rare disease in Tobago. It is true that the malaria potential exists. It is true that *A. aquasalis* breeding still occurs. It is also true that the densities of the mosquito necessary for malaria transmission can be held below the minimum requirement at an economical cost. I would not be surprised that given the support of Government in the provision of the needed funds that malaria and possibly the vector can be completely eradicated in this island by a process of their attrition within at most the next decade.

Tribute must be paid to the Rockefeller Foundation and their representative, Dr. Rolla Hill, for their assistance and constructive criticism, to Dr. A. A. Peat, Director of Medical Services, to Dr. Blanc and Dr. E. Le Clezio and all the other medical officers in Tobago. The Chief Sanitary Inspector, Mr. C. Waheed, deserves great praise for his efforts and to Messrs. Hydar Ali and Claudius Jurawan, Senior Field Inspectors, special commendation must be given for their field work. Mr. T. Cambridge, Warden, Tobago, and the Executive Engineer, Mr. Curtiss Knight, kindly gave their assistance on every possible occasion. To all of them, I wish to say how grateful we are for their excellent co-operation.

Dawn Trap Captures—Tobago  
1947-1952

Traps	1947			1948			1949			1950			1951			1952		
	Aqua.	Ors.	Total	Aqua.	Ors.	Total	Aqua.	Ors.	Total	Aqua.	Ors.	Total	Aqua.	Ors.	Total	Aqua.	Ors.	Total
	Ten Chains	6,210	0	6,210	3,781	0	3,781	160	0	160	—	—	—	—	—	—	—	—
Roxborough	1,121	0	1,121	512	0	512	113	0	113	166	0	166	132	—	132	—	—	—
Bacolet	30	0	30	NOT WORKED	—	—	5	0	5	171	0	171	52	—	52	—	—	—
Fort	18	0	18	NOT WORKED	—	—	1	0	1	25	0	25	27	—	27	—	—	—
Adventure Estate, Plymouth	302	0	302	NOT WORKED	—	—	47	0	47	718	1	719	215	4	219	—	—	—
Glenn Road	14	0	14	NOT WORKED	—	—	0	0	—	2	0	2	9	—	9	—	—	—
Dunoon	NOT WORKED	—	—	NOT WORKED	—	—	3	0	3	143	2	145	331	—	331	2	—	2
Louis d'Or	NOT WORKED	—	—	NOT WORKED	—	—	75	4	79	2,600	2	2,602	629	14	643	136	12	148
Davidson Savannah Speyside	—	—	—	—	—	—	—	—	—	0	0	0	3	0	3	0	0	0
Lowlands	—	—	—	—	—	—	—	—	—	First Operation 3,104	6	3,110	2,305	621	2,926	5	0	5
Buccoo Swamp	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	0	6
																		First Operation





