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TRINIDAD AND TOBAGO.

Administration Report

OF THE

Director of Medical Services

FOR THE YEAR 1937.

1939.

TRINIDAD AND TOBAGO,
PRINTED AND PUBLISHED BY A. L. RHODES, M.D.E.,
GOVERNMENT PRINTER.

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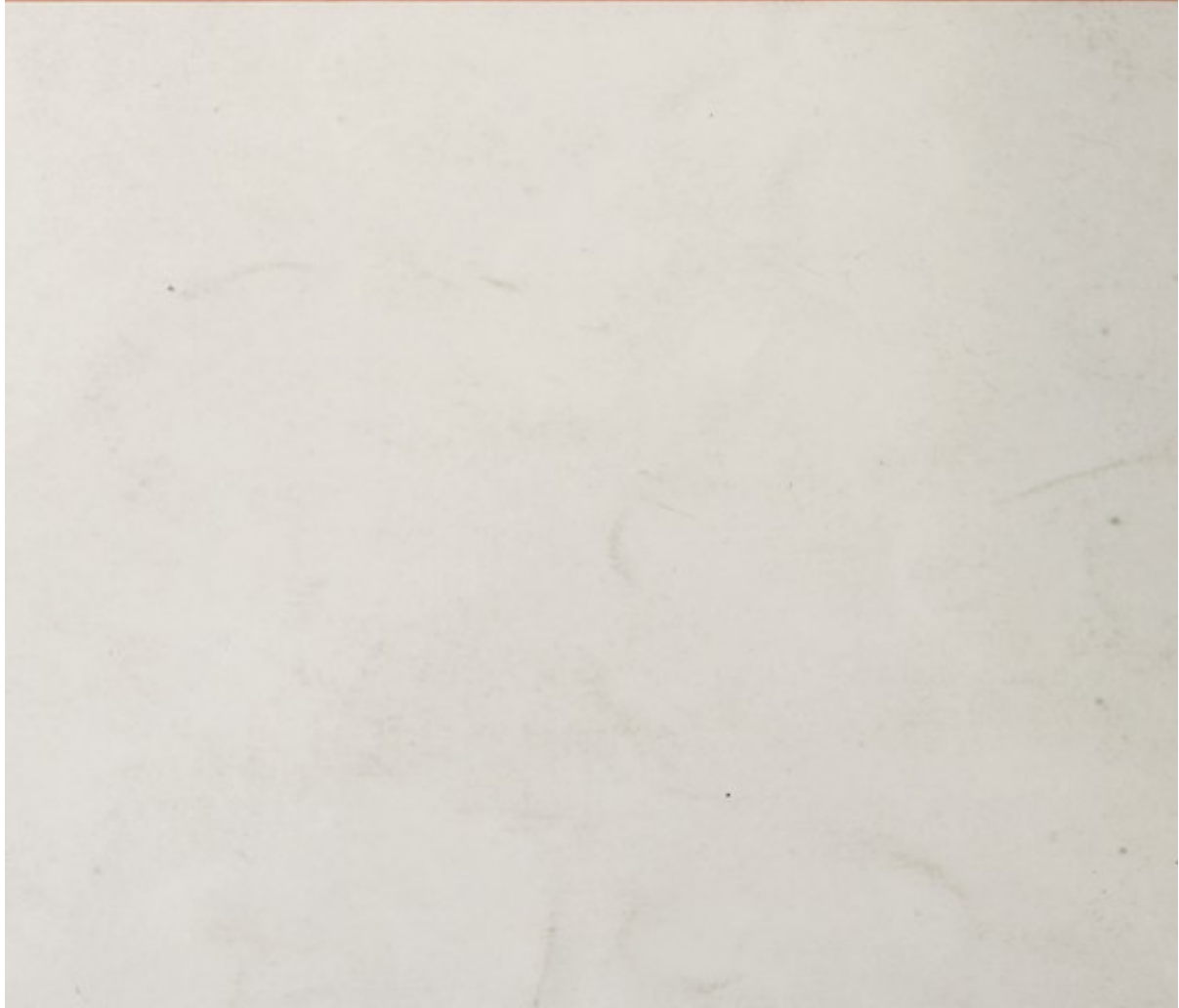


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ERRATA.

PAGE 35—19th line read *902 beds* instead of 858 beds.

Do. —23rd line read *1·9 per 1,000* instead of 1·8 per thousand.



TRINIDAD AND TOBAGO.

Council Paper No. 101 of 1938.

HEALTH.

Medical and Sanitary Report of the Director of Medical Services
for the year 1937.

*Laid before the Legislative Council on the
4th of November, 1938.*

Previous Council Paper No. 84 of 1937.

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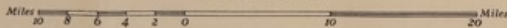
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1937

MAP OF TRINIDAD & TOBAGO

SHOWING ADMINISTRATIVE DIVISIONS AND DISTRIBUTION OF AGRICULTURAL AND MINERAL PRODUCTS

Scale 1:450,000



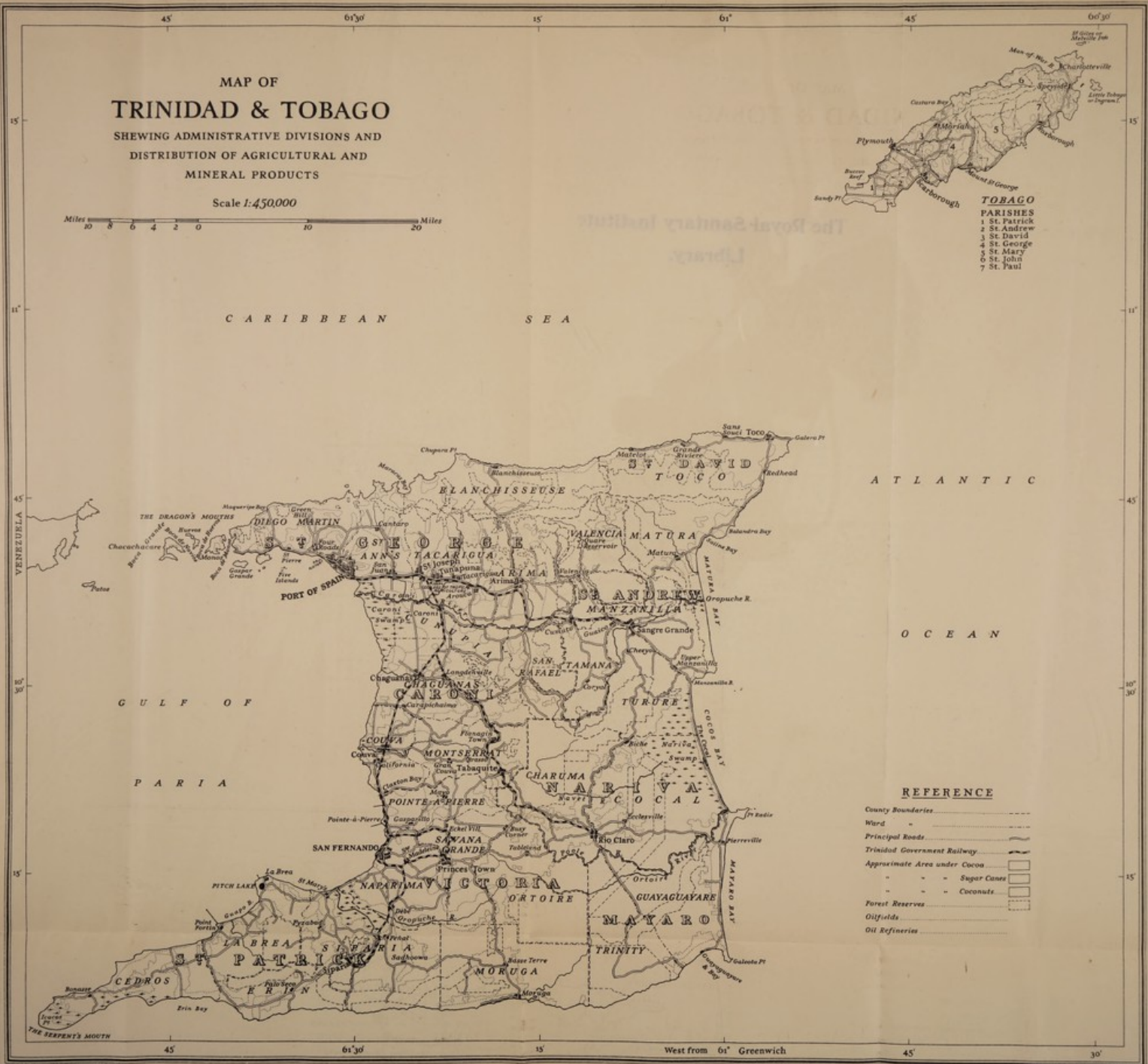
C A R I B B E A N S E A

A T L A N T I C O C E A N

G U L F O F P A R I A

REFERENCE

- County Boundaries ————
- Ward ————
- Principal Roads ————
- Trinidad Government Railway ————
- Approximate Area under Cocoa
 - - - - - Sugar Cane
 - - - - - Coconuts
- Forest Reserves [hatched box]
- Oil-fields [dotted box]
- Oil Refineries [circle]



MAP OF
TRINIDAD & TOBAGO

SHOWING ADMINISTRATIVE DIVISIONS AND
DISTRIBUTION OF AGRICULTURAL AND
MINERAL PRODUCTS

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HEALTH.

Annual Medical and Sanitary Report of the Director of Medical Services for the year 1937.

Council Paper No. 101 of 1938.

M.P. No. 33787.

HONOURABLE COLONIAL SECRETARY,

I have the honour to submit, for the information of His Excellency the Governor and Legislative Council, the following Report and Returns showing the operations of the Health Department for the year ended 31st December, 1937.

SECTION I.—ADMINISTRATION.

(a) Staff.

The establishment of the department was increased by the inclusion of the following posts:—

- One Medical Officer of Health for general duties ;
- Two Medical Officers of Health for school medical services ;
- Two Medical Officers of Health for venereal diseases work ;
- Two Superintendent Sisters for venereal diseases clinics ;
- Two Ward Sisters.
- Fourteen nurses for the Colonial and District Hospitals.

Vacancies in the Department's establishment were filled by the appointment of:—

- Sir Robert G. Archibald, C.M.G., D.S.O., Medical Superintendent, Leper Settlement, Chacachacare, as from 3rd April, 1937.
- Dr. K. U. A. Inness, Senior Medical Officer, Physician, Colonial Hospital, Port-of-Spain, as from 15th March, 1937.
- Dr. L. G. W. Ulrich, Medical Officer of Health, as from 20th March, 1937.
- Dr. A. L. Krogh, Senior Medical Officer, Physician, Colonial Hospital, San Fernando, as from 15th July, 1937.
- Dr. S. R. G. Pimm, Medical Radiologist, Colonial Hospital, Port-of-Spain, as from 15th April, 1937.
- Dr. A. G. Francis, Medical Officer, grade I, Colonial Hospital, Port-of-Spain, as from 26th June, 1936.
- Dr. V. Charles, House Physician, as from 1st April, 1937.
- Dr. P. Lai-Fook, from 6th August, 1937, and
- Dr. Stella Abidh (Medical Officers of Health, schools) as from 1st July, 1937.
- Dr. C. E. Soodeen, District Medical Officer, La Brea (part-time) as from 15th June, 1937, *vice* Dr. M. Macdougall, resigned.
- Dr. D. R. Huggins, as Medical Officer of Health (venereal diseases) as from 4th July, 1937.
- Dr. E. P. Masson acted as Medical Superintendent, Mental Hospital, *vice* Dr. A. H. W. Smith resigned.
- Dr. J. H. Pierre, Medical Officer, grade I, Colonial Hospital, San Fernando, as from 16th July, 1937.
- Miss M. A. Johnstone, Matron, Colonial Hospital, San Fernando, as from 28th August, 1937 *vice* Miss Ristori (resigned).
- Miss L. Seymour was appointed Assistant Matron, Colonial Hospital, Port-of-Spain, *vice* Miss M. A. Johnstone (promoted) as from 8th October, 1937.
- Miss E. Dowd, Superintendent Sister, Colonial Hospital, Port-of-Spain, as from 1st August, 1937.
- Miss N. C. D. Banks, Matron, St. Ann's Mental Hospital, as from 31st August, 1937.

The following transfers of Medical Officers took place:—

- Dr. C. M. Austin to District Medical Officer, St. Joseph.
- Dr. C. E. Tracey to District Medical Officer, Cedros.
- Dr. St. W. Thwaites, to District Medical Officer, Chaguanas.
- Dr. E. Hamel-Smith to District Medical Officer, Manzanilla.
- Dr. N. O'C. Blanc to Resident Surgeon, Colonial Hospital, Tobago.
- Dr. H. S. A. Bishop, to District Medical Officer, Roxborough.

(b) *Legislation.*

The following legislation was recommended by the Central Board of Health and passed by the Legislative Council and the Governor in Executive Council:—

- (1) Bye-laws with respect to water supply in the St. Ann's-Tacarigua District.
- (2) Addition to the fourth schedule of the Public Health (Amendment) Ordinance, No. 15 of 1934 of an area in the Arima sanitary district.
- (3) Amendment of bye-law 4 of the Public Health (Streets and Buildings) bye-laws.
- (4) Addition to the fourth schedule of the Public Health (Amendment) Ordinance No. 15 of 1934, of an area in the Chaguanas sanitary district and amendment of the northern boundary of St. Joseph-Tunapuna and the western boundary of Chaguanas sanitary districts.
- (5) Prohibition by proclamation of bathing, washing of clothes and the growing of water cress in the San Juan river.

(c) *Financial.*

Of the total sum of \$10,021,484 originally provided for the expenditure of the Colony for the year under review \$1,071,402 was the provision for its medical and sanitary requirements. In addition to this allotment supplementary votes to the extent of \$43,251 were taken during the year.

The estimates of the Health Department comprised 10.69 per cent. of the Colony's budget and the supplementary votes of \$43,251 were largely the result of increase in salaries and in general wages as a result of the industrial unrest which occurred towards the middle of the year.

For Personal Emoluments, General Administration, the amount provided was \$220,210. This provision was increased by \$4,529 and of the nett amount available for salaries of the administrative, technical and clerical staff, viz. \$224,739, expenditure for the year was \$201,868.51. The unexpended balance of \$22,870.49 was largely the result of vacancies on the professional staff.

For "other charges" General Administration \$24,390 was provided originally. An addition of \$1,520 was provided and of the available \$25,910 under this head \$24,613.40 was expended. Provisions and expenditure under the various sub-heads are shown hereunder:—

	<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
	\$	\$	\$ c.
Travelling	13,400	13,700	13,453 47
Contingencies, &c.	1,000	1,280	1,279 87
Fees, Leper Ordinance	150	150	75 36
Allowances—Study leave	1,600	1,600	912 46
Vaccination Fees, &c.	7,440	8,380	8,143 22
Library and Museum	800	800	749 02
Total	24,390	25,910	24,613 40

For the hospitals of the colony (three Colonial Hospitals, six District Hospitals, and two Emergency Hospitals provision for \$109,334 and for \$194,562 were made under Personal Emoluments and other charges respectively. On the former, expenditure was \$105,850.10, and on the latter \$192,658.47. See table "A".

Largely on account of the occurrence of an enteric fever outbreak in the St. Ann's-Tacarigua Districts the estimates for the institutions which serve these districts, viz.: The Tacarigua and the St. Joseph District Hospitals proved insufficient owing to an increased demand for hospital accommodation.

The adjustments which were necessary to meet excesses as a result of unavoidable over-expenditure or special requirements, on votes of the department are shown in detail on table "A".

For the Mental Hospital \$101,469 was originally provided. This provision was increased to \$113,155 of which \$111,595.14 was expended. See table "A".

Provision was made for the Leper Settlement, Chacachacare, for \$66,174. Supplementary votes amounting to \$3,786 were taken. Of the nett amount available, \$69,960, expenditure was \$68,918.14

For the Public Health Department \$98,506 was provided. The typhoid outbreak necessitated adjustments by supplementary votes in certain cases.

Sub-heads of expenditure were as follows:—

<i>Public Health.</i>	<i>Original Provision.</i>		<i>Actual Provision.</i>		<i>Expenditure.</i>	
		\$		\$	\$	c.
Personal Emoluments	33,342	..	34,110	31,564	89
Travelling	12,000	..	12,240	11,825	53
General Sanitation	38,000	..	40,000	38,448	37
Miscellaneous and Equipment	600	..	700	619	80
Health Education	480	..	480	189	15
Medicines	240	..	240	197	93
Bat Investigation	6,212	..	6,162	3,118	24
Control of Paralytic Rabies	7,632	..	7,632	5,968	36
Total	\$98,506	..	\$101,564	\$91,932	27

For the requirements of the Bacteriological Laboratory \$7,488 was provided. Of this provision \$6,728.93 was expended.

A total sum of \$70,344 was originally provided for the House of Refuge, Trinidad. Adjustments in the votes of this institution resulted in the sum of \$73,269 being available for its requirements. Of this amount \$71,837.37 was expended, see table "A".

For the first time provisions were made for the House of Refuge, Tobago, under the usual sub-heads Personal Emoluments, Equipment and Miscellaneous, Food and Medicines. Of the nett amount available for this institution \$3,424, the expenditure was \$3,109.41—see table "A".

Expenditure under "Medical Inspection of School Children", salaries of Medical Officers excluded, was \$5,779.28 as compared with \$4,851.32 in 1935. This increase is mainly due to an increase in the nursing staff and to some extent regrading of salaries.

Under Poor Relief "Central Board of Poor Relief" expenditure was \$107,421.84 as compared with \$99,133.34 in 1936.

Payments through the Crown Agents during the year under review amounted to \$75,562.07 made up as hereunder shown:—

Salaries of officers on leave .. ..	..	..	..	..	\$6,192	96
Allowances to officers on study leave .. ..	..	..	..	..	731	66
Subscriptions to institutions in England .. ..	..	..	..	..	2,208	00
Other disbursements:—						
Purchases abroad Medical Stores .. ..	..	..	\$47,333	03		
Purchases abroad Other Institutions .. ..	..	..	19,096	42	66,429	45
					\$75,562 07	

Revenue under head "Health" was for 1937 \$42,917.65 as compared with \$40,178.14 in 1936. The colony's revenue was \$12,252,784.47.

Table "B" shows the cost per bed at the 12 principal government institutions for 1937. The increased cost for 1937 as compared with 1936 is largely due to slight increases in the scale of salaries paid to subordinate officers at these institutions.

The stock of the medical stores was at 1st January, 1937, \$25,177.16 in value. Receipts during the year was \$45,239.91 and issues to medical institutions and other government departments \$52,839.32 as compared with \$53,256.90. See table "C". The stock in hand on 31st December, 1937, was \$27,635.34.

Table "D" shows total expenditure of the several medical institutions during the year 1937 and the cost per bed as compared with the previous year.

The colony's expenditure was \$10,650,000.00 of which \$1,051,601.47 was expenditure of the Health Department, representing 9.8 per cent. of the whole.

TABLE A.
Statement showing adjustments effected in Votes of Institutions.

Institution.	Personal Emoluments.				Miscellaneous Labour.				Dental Service.				Equip. and Miscellaneous.			
	Original.	Increase.	Decrease.	Nett Provision.	Original.	Increase.	Decrease.	Nett Provision.	Original.	Increase.	Decrease.	Nett Provision.	Original.	Increase.	Decrease.	Nett Provision.
1 Colonial Hospital, Port-of-Spain	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2 Do. San Fernando	55,456	1,615	...	57,071	2,600	350	...	2,950	1,500	...	...	1,500	33,880	125	...	34,005
3 Do. Tobago	30,063	...	247	29,816	800	120	...	920	750	164	...	914	20,736	...	...	20,736
4 Hospital, Arima	7,352	120	...	7,472	...	...	...	...	600	...	...	600	3,000	80	...	3,080
5 Do. St. Joseph	2,196	48	...	2,244	...	...	...	...	...	...	...	...	1,470	90	...	1,560
6 Do. Tacarigua	2,880	4	...	2,884	...	...	...	...	...	...	...	...	1,320	40	...	1,360
7 Do. Couva	2,950	320	96	2,874	...	...	...	...	...	...	...	...	1,440	240	...	1,680
8 Do. Princes Town	3,075	240	...	3,315	...	...	...	...	...	...	...	...	2,040	110	...	2,150
9 Do. Cedros	3,190	...	40	3,150	...	...	...	...	...	...	...	...	2,040	...	...	2,040
10 Do. Mayaro	984	...	...	984	...	...	...	...	...	...	...	...	480	40	...	520
11 Do. Sangre Grande	864	...	...	864	...	...	...	...	...	...	...	...	96	30	...	126
12 Mental Hospital	624	...	...	624	...	...	...	...	...	...	...	...	96	30	...	126
13 Leper Asylum, Chacachacare	41,394	...	560	40,834	750	120	...	870	125	...	...	125	11,500	6,106	...	17,626
14 House of Refuge, Trinidad	16,384	186	...	16,570	2,350	390	...	2,740	480	...	...	480	14,000	2,090	...	16,090
15 Do. Tobago	21,444	...	...	21,444	800	200	...	1,000	...	...	...	...	14,400	...	...	14,400
16 Bacteriological Laboratory	796	48	...	844	...	...	...	...	...	...	...	...	360	30	...	390
	4,128	132	...	4,260	...	...	...	...	...	...	...	...	3,360	40	...	3,400

TABLE A.—Continued.
Statement showing adjustments effected in Votes of Institutions.

Institution.	Food.			Medicines.			Travelling.			Total Original Provision.	Total amounts available	Expenditure.	Unexpended Balance.
	Original.	Increase	Decrease	Original.	Increase	Decrease	Original.	Increase	Decrease				
1 Colonial Hospital, Port-of-Spain	...	...	...	...	...	...	...	...	...	...	...	...	...
2 Do. San Fernando	46,000	2,300	...	14,000	390	...	...	...	...	153,436	153,176	5,039	73
3 Do. Tobago	24,000	900	...	7,400	2,600	...	...	...	...	83,749	79,691	7,604	51
4 Hospital, Arima	5,700	165	...	2,000	180	...	...	...	...	18,652	18,601	88	12
5 Do. St. Joseph	2,600	...	...	960	...	...	...	...	...	7,226	7,364	7,093	75
6 Do. Tacarigua	2,800	120	...	1,200	...	...	...	...	...	8,200	8,364	8,190	62
7 Do. Couva	2,760	...	...	1,100	...	...	...	...	...	7,950	8,414	7,927	93
8 Do. Princes Town	3,200	...	...	1,320	...	...	...	...	...	9,365	9,985	9,185	99
9 Do. Cedros	3,200	...	...	1,200	...	...	...	...	...	9,630	9,590	8,984	74
10 Do. Mayaro	570	60	...	430	50	...	...	...	...	2,464	2,614	2,499	37
11 Do. Sangre Grande	324	...	...	300	...	...	...	...	...	1,584	1,614	968	44
12 Mental Hospital	300	...	...	550	...	...	...	...	...	1,570	1,600	1,141	64
13 Leper Asylum, Chacachacare	45,900	6,000	...	1,800	...	...	...	...	...	101,469	113,155	111,595	14
14 House of Refuge, Trinidad	25,500	600	...	1,700	...	...	...	...	...	66,174	69,960	68,918	14
15 Do. Tobago	32,800	2,400	...	900	450	...	...	...	...	70,344	73,269	71,837	37
16 Bacteriological Laboratory	1,800	150	...	240	...	...	...	...	...	3,196	3,424	3,109	41
	...	...	...	...	...	...	...	...	...	7,488	7,660	6,728	93

TABLE B.

REVENUE :						\$	c.	\$	c.
Maintenance of Patients and Operation Fees	...	...	...	...	...	34,386	50		
Medicines sold at Medical Institutions	...	...	...	...	...	6,191	02		
Bacteriological Fees	...	...	...	...	...	922	22		
Miscellaneous Hospitals	...	...	...	...	...	637	58		
Dental Clinic Fees	...	...	...	...	...	28	80		
Fumigation Fees	...	...	...	...	...	540	63		
Milk Badges, Milk Vendors Badges, Dairymen's Licences	...	...	...	...	...	181	68		
Surplus Stores	...	...	...	...	...	29	22	42,917	65
EXPENDITURE :									
<i>General.</i>									
Personal Emoluments	...	...	...	...	...	201,868	51		
Travelling Allowances	...	...	...	...	...	13,453	47		
Telephones, Incidentals, &c.	...	...	...	...	...	1,279	87		
Allowances to Officers on Study Leave	...	...	...	...	...	912	46		
Fees under the Leper Ordinance	...	...	...	...	...	75	36		
Vaccination Fees, Expenses, &c.	...	...	...	...	...	8,143	22		
Deficiencies of Stores	...	...	...	...	...	46	91		
Library and Museum	...	...	...	...	...	749	02	226,528	82
<i>Colonial Hospital, Port-of-Spain.</i>									
Personal Emoluments	...	...	...	...	...	53,527	65		
Micellaneous Labour	...	...	...	...	...	2,917	00		
Equipment and Miscellaneous	...	...	...	...	...	33,071	48		
Food	...	...	...	...	...	48,031	75		
Medicines	...	...	...	...	...	14,389	99		
Dental Service	...	...	...	...	...	1,238	40	153,176	27
Purchase of Van	...	...	...	...	...	896	36	896	36
Annual outing Staff	...	...	...	...	...	205	00	205	00
<i>Colonial Hospital, San Fernando.</i>									
Personal Emoluments	...	...	...	...	...	29,006	45		
Miscellaneous Labour	...	...	...	...	...	839	32		
Equipment and Miscellaneous	...	...	...	...	...	14,728	13		
Food	...	...	...	...	...	24,218	76		
Medicines	...	...	...	...	...	9,986	83		
Dental Service	...	...	...	...	...	912	00	79,691	49
Purchase of Van	...	...	...	...	...	669	14	669	14
<i>Colonial Hospital, Tobago.</i>									
Personal Emoluments	...	...	...	...	...	6,982	78		
Equipment and Miscellaneous	...	...	...	...	...	3,018	58		
Food	...	...	...	...	...	5,854	68		
Medicines	...	...	...	...	...	2,145	84		
Dental Service	...	...	...	...	...	600	00	18,601	88
<i>District Hospitals (6).</i>									
Personal Emoluments	...	...	...	...	...	15,324	87		
Equipment and Miscellaneous	...	...	...	...	...	9,198	61		
Food	...	...	...	...	...	13,618	67		
Medicines	...	...	...	...	...	5,803	05	43,945	20
<i>Emergency Hospitals (2).</i>									
Personal Emoluments	...	...	...	...	...	1,008	35		
Equipment and Miscellaneous	...	...	...	...	...	209	81		
Food	...	...	...	...	...	310	14		
Medicines	...	...	...	...	...	581	78	2,110	08
<i>Mental Hospital.</i>									
Personal Emoluments	...	...	...	...	...	40,405	03		
Equipment and Miscellaneous	...	...	...	...	...	17,544	00		
Food	...	...	...	...	...	51,865	68		
Medicines	...	...	...	...	...	1,590	87		
Dental Service	...	...	...	...	...	46	50		
Miscellaneous Labour	...	...	...	...	...	743	06	111,595	14
<i>Leper Asylum.</i>									
Personal Emoluments	...	...	...	...	...	15,810	81		
Dental Service	...	...	...	...	...
Wages, Temporary Employees	...	...	...	...	...	2,725	89		
Equipment and Miscellaneous	...	...	...	...	...	16,078	81		
Launch Service (Travelling)	...	...	...	...	...	6,646	88		
Food	...	...	...	...	...	26,068	01		
Medicines	...	...	...	...	...	1,587	74	68,918	14
Grants to Patients Recreation Fund	...	...	...	...	...	79	29	79	29
Carried forward	...	...	...	...	...

TABLE B.—Continued.

EXPENDITURE.—Continued.

						\$	c.	\$	c.
Brought forward	...	...	...	...	...	—	—	—	—
<i>Bacteriological Laboratory.</i>									
Personal Emoluments	...	...	...	...	...	3,330	53		
Equipment	...	...	...	...	...	3,398	40	6,728	93
<i>Public Health.</i>									
Personal Emoluments	.....	...	...	...	...	31,564	89		
Travelling Allowances	...	...	...	...	...	11,825	53		
General Sanitation	...	...	...	...	...	38,448	37		
Miscellaneous and Equipment (Hookworm Campaign)	...	...	...	...	...	619	89		
Health Education	...	...	...	...	...	189	15		
Medicines (Hookworm Campaign)	...	...	...	...	...	197	93		
Bat Investigation...	...	...	...	...	...	3,118	24		
Control of Paralytic Rabies	...	...	...	...	...	5,968	36	91,932	36
<i>Veneral Disease Services.</i>									
Personal Emoluments	...	...	...	...	...	286	70		
Equipment	...	...	...	...	...	499	14		
Ration Allowance	...	...	...	...	...	—	—
Laundry	...	...	...	...	...	—	—
Maids	...	...	...	...	...	—	—	785	84
GRANTS.									
City Council of Port-of-Spain	...	...	...	...	...	16,080	00		
Borough of San Fernando	...	...	...	...	...	2,112	00		
Borough of Arima	...	...	...	...	...	720	00	18,912	00
<i>Medical Inspection of School Children.</i>									
Personal Emoluments	...	...	...	...	...	2,855	55		
Uniform and Travelling	...	...	...	...	...	2,143	84		
Miscellaneous	...	...	...	...	...	779	89	5,779	28
<i>Quarantine.</i>									
Personal Emoluments	...	...	...	...	...	3,612	80		
Employees—Temporary and Miscellaneous	...	...	...	...	...	312	00		
Quarantine Expenses	...	...	...	...	...	2,278	23	6,203	03
POOR RELIEF.									
<i>House of Refuge, Trinidad.</i>									
Personal Emoluments	...	...	...	...	...	21,272	16		
Employees—Temporary and Miscellaneous	...	...	...	...	...	961	19		
Equipment and Miscellaneous	...	...	...	...	...	13,586	63		
Food	...	...	...	...	...	34,786	70		
Medicines	...	...	...	...	...	1,230	69	71,837	37
<i>House of Refuge, Tobago.</i>									
Personal Emoluments	...	...	...	...	...	782	68		
Equipment and Miscellaneous	...	...	...	...	...	383	93		
Food	...	...	...	...	...	1,942	40		
Medicines	...	...	...	...	...	40	—	3,109	41
<i>Dispensaries and Health Offices.</i>									
Personal Emoluments	...	...	...	...	...	6,554	80		
Employees—Temporary and Miscellaneous	...	...	...	...	...	81	20		
Equipment and Miscellaneous	...	...	...	...	...	7,173	56		
Rents	...	...	...	...	...	4,613	10		
Medicines	...	...	...	...	...	14,051	92	32,474	58
CENTRAL POOR RELIEF BOARD.									
Personal Emoluments	...	...	...	...	...	8,961	97		
Travelling Expenses	...	...	...	...	...	2,510	99		
Office Expenses	...	...	...	...	...	237	82		
Grants for Poor Relief	...	...	...	...	...	95,711	06	107,421	84
								1,051,601	47

TABLE C.

Statement showing issues from Medical Store during the year 1937.

								\$	c.
HEAD OFFICE :									
Director of Medical Services' Office	...	...	...	...	...	...	...	72	11
HOSPITALS :									
Colonial Hospital, Port-of-Spain	...	...	...	...	...	...	...	13,413	49
Do. San Fernando	...	...	...	...	...	...	...	9,465	32
Do. Tobago	...	...	...	...	...	...	...	2,208	17
District Hospital, Arima	...	...	...	...	...	...	...	994	95
Do. St. Joseph	...	...	...	...	...	...	...	1,105	85
Do. Tacarigua	...	...	...	...	...	...	...	947	00
Do. Couva	...	...	...	...	...	...	...	933	13
Do. Princes Town	...	...	...	...	...	...	...	838	51
Do. Cedros	...	...	...	...	...	...	...	429	75
Temporary Hospital, Mayaro	...	...	...	...	...	...	...	327	47
Do. Sangre Grande	...	...	...	...	...	...	...	345	67
ASYLUMS :									
St. Ann's Asylum	...	...	...	...	...	...	...	1,338	99
Lepor Asylum, Chacachacare	...	...	...	...	...	...	...	1,576	10
House of Refuge —Trinidad	...	...	...	...	...	...	...	143	55
Do. —Tobago	...	...	...	...	...	...	...		22
QUARANTINE :									
Port Health Office	...	...	...	...	...	...	...	193	97
PUBLIC HEALTH									
General Sanitation	...	...	...	...	...	...	...	384	66
Medicines	...	...	...	...	...	...	...	180	92
Bat Investigation	...	...	...	...	...	...	...	38	62
DISPENSARIES, &c.									
Dispensaries	...	...	...	...	...	...	...	13,445	47
Bacteriological Laboratory	...	...	...	...	...	...	...	143	55
Other Public Institutions	...	...	...	...	...	...	...	48,523	47
Total	...	...	...	...	...	...	...	4,315	85
								52,839	32

TABLE D.
Return showing total expenditure of the several Medical Institutions during the year 1937 and the cost per bed as compared with the previous year.

INSTITUTIONS.	EXPENDITURE.		TOTAL.	Number of patients treated.	Average annual cost per bed calculated on gross expenditure during.		Daily cost per bed calculated on gross expenditure during.		Cost of maintenance per bed per diem (salaries (not included) during.		
	Daily average number of beds occupied.	Salaries.			Other Charges including Medicines.	1936	1937	1936	1937	1936	1937
						\$	c.	\$	c.	\$	c.	$	c.
Colonial Hospital Port-of-Spain	...	422	53,527 65	99,648 62	153,176 27	9,478	325 17	360 61	92	59	64
Colonial Hospital, San Fernando	...	235	29,006 45	50,685 04	79,691 49	6,660	304 49	339 11	83	52	59
Colonial Hospital, Tobago	...	60	6,982 78	11,619 10	18,601 88	1,525	275 05	310 02	75	48	53
Arima District Hospital	...	32	2,243 80	4,849 95	7,093 75	704	209 20	221 68	57	38	42
St. Joseph Hospital	...	31	2,883 43	5,307 19	8,190 62	729	269 45	264 21	74	53	47
Tacarigua District Hospital	...	20	2,833 90	5,094 03	7,927 93	305	375 67	396 40	1 03	72	70
Couva District Hospital	...	45	3,285 50	5,900 49	9,185 99	1,685	183 36	204 13	50	34	36
Princes Town District Hospital	...	46	3,109 12	5,875 62	8,984 74	1,367	195 62	193 15	54	36	35
Cedros District Hospital	...	8	969 32	1,530 05	2,499 37	198	287 90	312 42	79	47	52
Mayaro Emergency Hospital	...	2	384 35	584 09	968 44	60	577 77	484 22	1 58	1 06	75
Sangre Grande Emergency Hospital	...	7	624 00	517 64	1,141 64	163	185 40	163 09	51	26	20
Mental Hospital, St. Ann's	...	735	40,405 03	71,790 11	112,195 14	1,143	131 26	152 65	36	23	27
Leper Settlement, Chacachacare	...	430	15,810 81	53,186 62	68,997 43	488	153 11	153 48	42	31	34
House of Refuge, Trinidad	...	693	21,272 16	50,505 21	71,837 37	1,044	96 75	103 66	27	18	20
House of Refuge, Tobago	...	55	782 68	2,326 73	3,109 41	82	52 47	56 53	14	14	12
	\$184,120 98	\$369,480 49	\$553,610 47						

(d) General Organisation.

In so far as credits permitted effect was given to the principles outlined in the Annual Report for the preceding year. An additional Medical Officer of Health was appointed and attached to a district of the northern division, a school medical officer was appointed to each division and a Medical Officer for venereal diseases was appointed to the northern division. The second post in connection with venereal diseases had not been filled at the end of the year. The appointment of a Medical Officer of Health to a sub-division permitted a considerable expansion of health and sanitary measures in the northern division.

The School Medical Officers have enabled a considerable extension of the school medical service to be attained. In addition, a certain number of schools have been served by the District Medical Officers.

The Medical Officer for venereal diseases did not take up duty until the latter part of the year but the work, both clinical and educational, is already well advanced. The lack of a suitable building as a clinic is a handicap but the new building has commenced and should be ready for use by the middle of 1938.

Provision was made for a similar clinic in San Fernando but owing to difficulties in connection with the site no progress has been made.

The appointment of a Medical Officer of Health by the Borough of San Fernando has already proved the value of this measure. As indicated in the Report of the department for 1936, Government is responsible for half the salary of this officer and for half the pension. The sanitary inspectors of whom there are four are appointed by Government and are thereby eligible for transfer when desirable to other districts. The borough is responsible to Government for their salaries and pensions. This arrangement has proved satisfactory and has resulted in a close co-operation between the borough and the department.

In order to attain a measure of uniformity in the emoluments of the various grades of junior appointments proposals had been submitted to Government for the regrading of the posts of the following :—

- Clerical Staff ;
- Stewards and Dispensers ;
- Sanitary Inspectors ;
- Wardsmen and Attendants of all medical institutions.

Effect has now been given to these. Proposals regarding the regrading of nurses salaries and the hours of work were in course of preparation for the consideration of Government.

The collection of hospital fees has been a problem of considerable difficulty and proposals for placing this on a workable basis were formulated and submitted to Government.

Various other schemes were put forward. These are dealt with under the relevant sections of this report.

SECTION II.—PUBLIC HEALTH.**I.—Vital Statistics (from the report of the Registrar-General).***Population.*

The following table shows the estimated population at the end of each year since 1931.

YEAR.	Estimated Population at 31st December.	Excess of birth over deaths.	Excess of immigration over emigration.	Total Increase for year.	Percentage of total increase.
1932	419,559	4,595	28	4,987	1.203
1933	425,572	4,862	1,151	6,013	1.433
1934	432,058	4,773	1,713	6,486	1.524
1935	439,994	6,734	1,202	7,936	1.837
1936	448,253	7,395	864	8,259	1.877
1937	456,043	6,378	1,412	7,790	1.738

The estimated distribution of the population in 1937 was as follows :—

City of Port-of-Spain	...	...	...	...	77,711
Town of San Fernando	...	...	...	...	15,858
County of St. George	...	...	...	...	100,516
County of St. David	...	...	...	...	6,255
County of St. Andrew	...	...	...	...	25,785
County of Nariva	...	...	...	...	11,941
County of Mayaro	...	...	...	...	4,460
County of Caroni	...	...	...	...	56,565
County of Victoria	...	...	...	...	76,327
County of St. Patrick	...	...	...	...	51,408
Tobago	...	...	...	...	28,013
Waters of the Colony	...	...	...	...	1,204
Total	...	...	...	...	456,043

of which 154,083 were East Indians.

Births.

The total number of births was 14,226 (7,250 boys and 6,976 girls) giving a crude birth rate of 31.46 per 1,000. The following table shows the crude birth rate since 1933 :—

1933	...	...	...	...	...	...	...	...	31.08 per 1,000
1934	...	...	...	...	...	...	...	...	29.72 do.
1935	...	...	...	...	...	...	...	...	32.92 do.
1936	...	...	...	...	...	...	...	...	32.93 do.
1937	...	...	...	...	...	...	...	...	31.46 do.

The East Indian birth rate was 40.91 per 1,000.

Still Births.

There were 906 still births giving a rate per 1,000 of 64.

The number of still births since 1933 is as follows :—

1933	...	...	...	...	...	...	...	...	1,016
1934	...	...	...	...	...	...	...	...	886
1935	...	...	...	...	...	...	...	...	913
1936	...	...	...	...	...	...	...	...	917
1937	...	...	...	...	...	...	...	...	906

The number of still births per 1,000 live births amongst East Indians was 72 (other than East Indian 57).

Deaths.

The total number of registered deaths was 7,848 (7,230 in 1936) giving a death rate per 1,000 of 17.36 (East Indian death rate 19.29).

The crude death rates since 1933 have been as follows :—

1933	...	...	...	...	...	...	...	...	19.58
1934	...	...	...	...	...	...	...	...	18.58
1935	...	...	...	...	...	...	...	...	17.47
1936	...	...	...	...	...	...	...	...	16.28
1937	...	...	...	...	...	...	...	...	17.36

Infantile Mortality.

The infant mortality was 120.48 (96.82 in 1936) per 1,000, an increase of 23.66 per 1,000.

Maternal Mortality.

The maternal mortality is estimated at 6.4 per 1,000 pregnancies.

II.—General.

In spite of the occurrence of epidemics the general health of the Colony has remained satisfactory. An outbreak of a mild type of anterior poliomyelitis occurred at the beginning of the year lasting from December 1936 to May 1937. The disease had been reported from Venezuela at the end of 1936 and it is probable that it spread to Trinidad from there. 106 cases occurred with six deaths. The larger towns were chiefly affected but, before the outbreak finally stopped in May, cases had occurred in all the districts of the island. 80.4 per cent. of the patients were five years of age or under. It was necessary to prevent the schools from re-opening in Port-of-Spain and to close them in San Fernando for short periods in each case. A small number of mild cases of anterior poliomyelitis occur each year in Trinidad.

Two outbreaks of typhoid fever occurred during the year, one at Roxborough in Tobago in the early months of the year, and the other at San Juan from July to September. The 76 cases in Tobago were mild and convalescence was usually uneventful. The San Juan outbreak (79 cases) was traced to bathing and illicit washing of soiled clothes in the pools left by the dry weather in the San Juan River.

Twelve cases of human paralytic rabies occurred near Biche and three cases at Vega de Oropouche. The total number of *Desmodus* bats caught was 2,415 and of those examined 6.3 per cent. were found to be infected. This percentage is higher than the 2.7 per cent. found in 1936. The survey of roosting and digesting places of these bats is extending and it is now becoming possible in many areas to prevent epidemics by taking early action against the places where the bats are likely to be sheltering.

The Venereal Diseases service was begun by the appointment of a special Medical Officer of Health for Venereal diseases to the northern division. The new Venereal Diseases Clinic built on the lines recommended by the Ministry of Health was under construction at the end of the year.

Two Medical Officers of Health for schools have been appointed, one for the northern and one for the southern division. With the assistance of the District Medical Officers it is hoped that the examination of school children can be extended still further.

The new ward blocks at the Colonial Hospital, Port-of-Spain, were in course of completion at the end of the year. It is hoped to open these during 1938.

There was the usual seasonal incidence of malaria but the number of cases was less than in 1936. The rainfall from June to November was abnormally low and consequently the flushing action of the rains was lost.

There were fewer cases of dysentery and fewer of the usual sporadic cases of enteric fever. The new water supply from the Quare dam was extended and has undoubtedly already had a beneficial effect.

III.—Communicable Diseases.

Enteric Fever.

There were considerably less sporadic cases of this disease than in 1936, the greater total number of cases being caused by two epidemics which are dealt with in more detail below.

1935—1,016 cases with 211 deaths.

1936—463 cases with 118 deaths.

1937—665 cases with 116 deaths.

The mortality rate was 16.3 per cent. (19.9 per cent. in 1936).

The age distribution was as follows:—

Age Group.	Cases.
0-5	113
5-10	172
10-15	117
15-20	70
20-25	54
25-30	49
30-40	45
40-50	22
50-60 (and over)	23

The incidence therefore as in 1936 was highest amongst school children. It is hoped that improved sanitation and water supply combined with education of the population will effect an improvement in 1938. Health visitors are being used to detect early cases of pyrexia in infected areas.

It will be noted from the table which follows that the area including Tacarigua and San Juan maintains its position as the principal centre of this disease. This is due in part to the rivers forming foci of infection and perhaps equally to the difficulty in dealing with the disposal of animal manure. The regular removal of manure from the immediate vicinity of dwelling houses to suitable storage sites presents an economical problem which is not easy to solve, but despite improved water supplies outbreaks will continue to recur in this area until the present practice becomes a thing of the past.

The distribution of the cases was as recorded in Table I. The monthly incidence is shown by Table II.

The borough of San Fernando showed marked improvement in general sanitation during the year and this was reflected in the lowered incidence of enteric fever.

The Epidemic at Roxborough—Tobago.

The epidemic of 76 cases was of a mild type. As in other epidemics the victims were principally children of school age. A considerable number of secondary cases occurred. The cause was traced to the water supply. A scheme for providing Roxborough with a piped water supply is being submitted.

The San Juan Epidemic.

This epidemic occurred from July to September. It was centralised in the San Juan village round the San Juan River. The primary cases were children. The epidemic was ably investigated by the senior Medical Officer of Health, northern division and it was found that in all cases there was evidence of the river having been used for bathing, washing or drinking. Large bathing parties took place almost daily in the stagnant pools which an abnormally long dry season had produced. Before the epidemic was discovered the washing of the soiled linen of typhoid patients was taking place in the same pools which the bathers used. Dams erected by water cress growers had favoured the production of these stagnant pools. The situation was dealt with by breaking down the dams and ensuring the free flow of the river, by the employment of guards to prevent bathing and washing clothes in the river and by the prohibition of water cress growing in this area. These prohibitions have been made permanent since a previous epidemic occurred here in 1934. Seventy-nine cases occurred with six deaths—a mortality rate of 7.6 per cent.

The seasonal incidence is shown in Table II.

Outbreaks of enteric fever also occurred at Barrackpore, Debe, Penal, Caratal and Couva. The source of origin was polluted water and spread by contact.

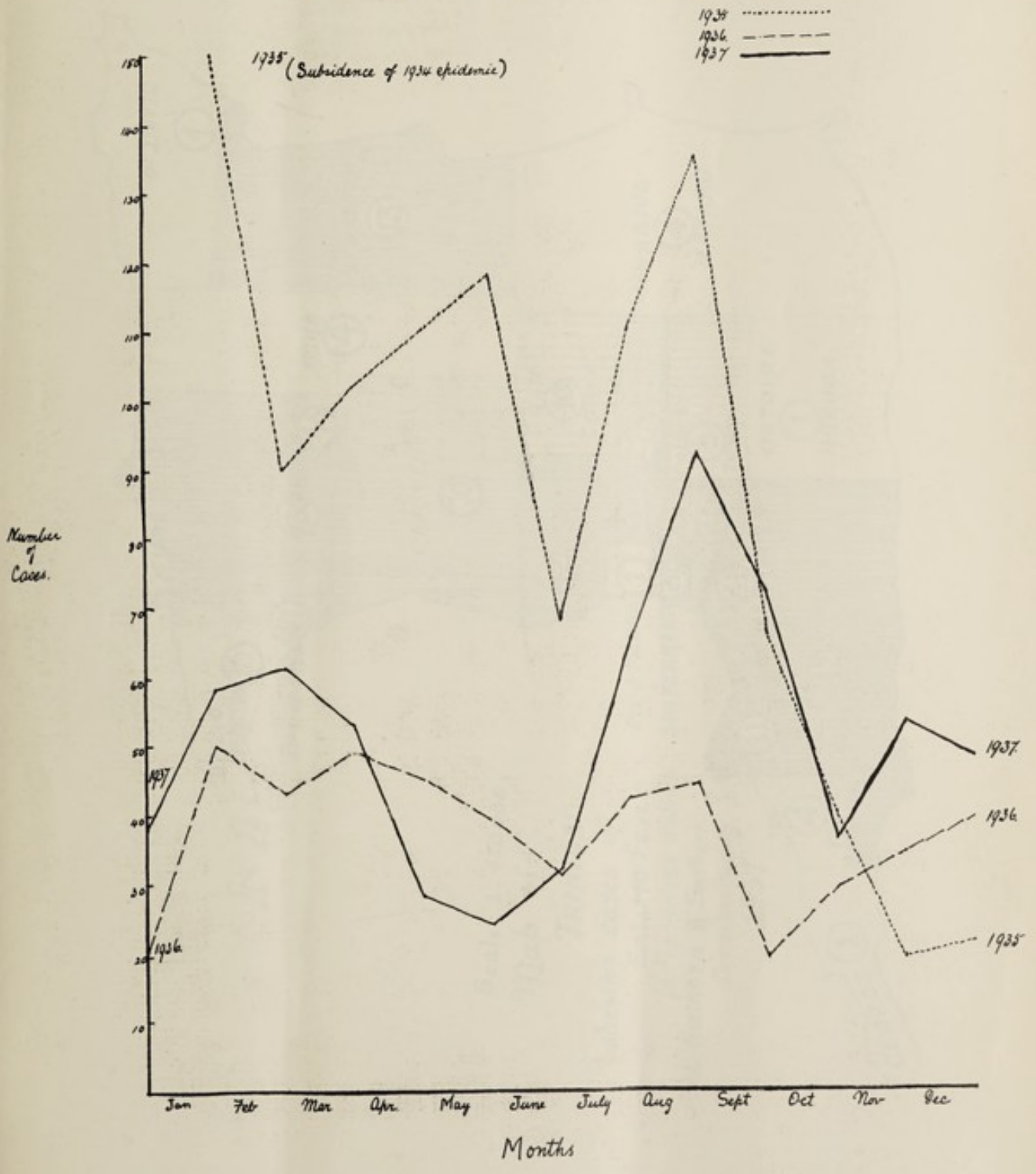
Dysentery.

A total of 396 cases (unspecified) was reported (396 in 1936). The differentiation into amoebic and bacillary dysentery is only carried out at the Colonial Hospitals. 23 of these cases, diagnosed in the laboratory as bacillary, occurred during the year at St. Ann's Mental Hospital. A fly proof ward has been erected and a new isolation block is to be built in 1938. 51 cases occurred in Tobago. The majority of the other cases were sporadic, the greatest numbers of cases being at Guaracara (50) Ste. Madeleine (70) and Erin-Siparia (66). The incidence was greatest in June, July and August. The deaths from this disease were 95 (84 in 1936).

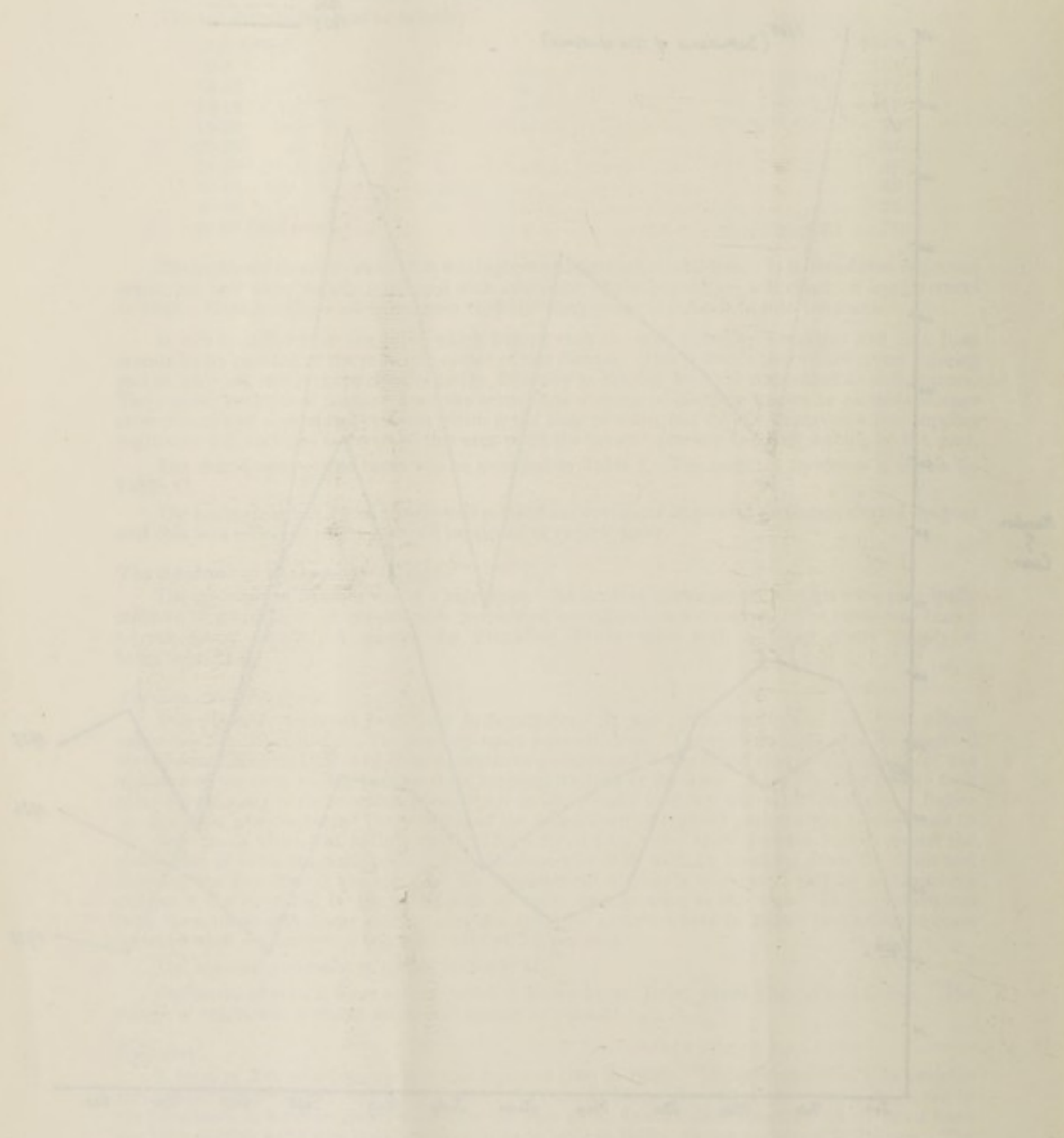
Chicken Pox.

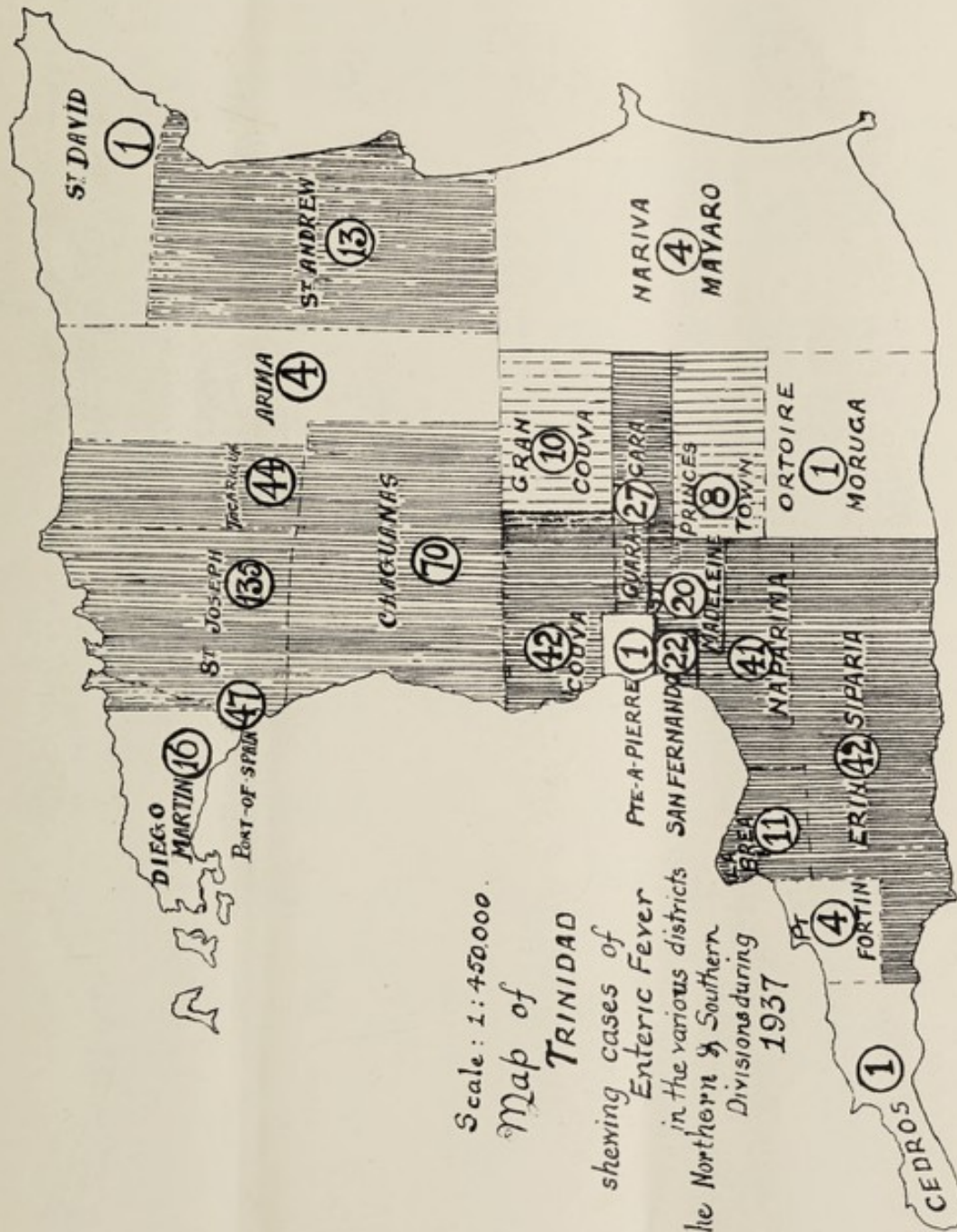
An outbreak of a mild type occurred early in the year at the Boys' Industrial School, Diego-Martin. The total number of cases recorded in the Colony during the year was 212 (120 in 1936). Two cases occurred amongst prisoners.

ENTERIC FEVER INCIDENCE - TRINIDAD & TOBAGO



ENTERIC FEVER INCIDENCE - THIRINDI - TIRUCHI



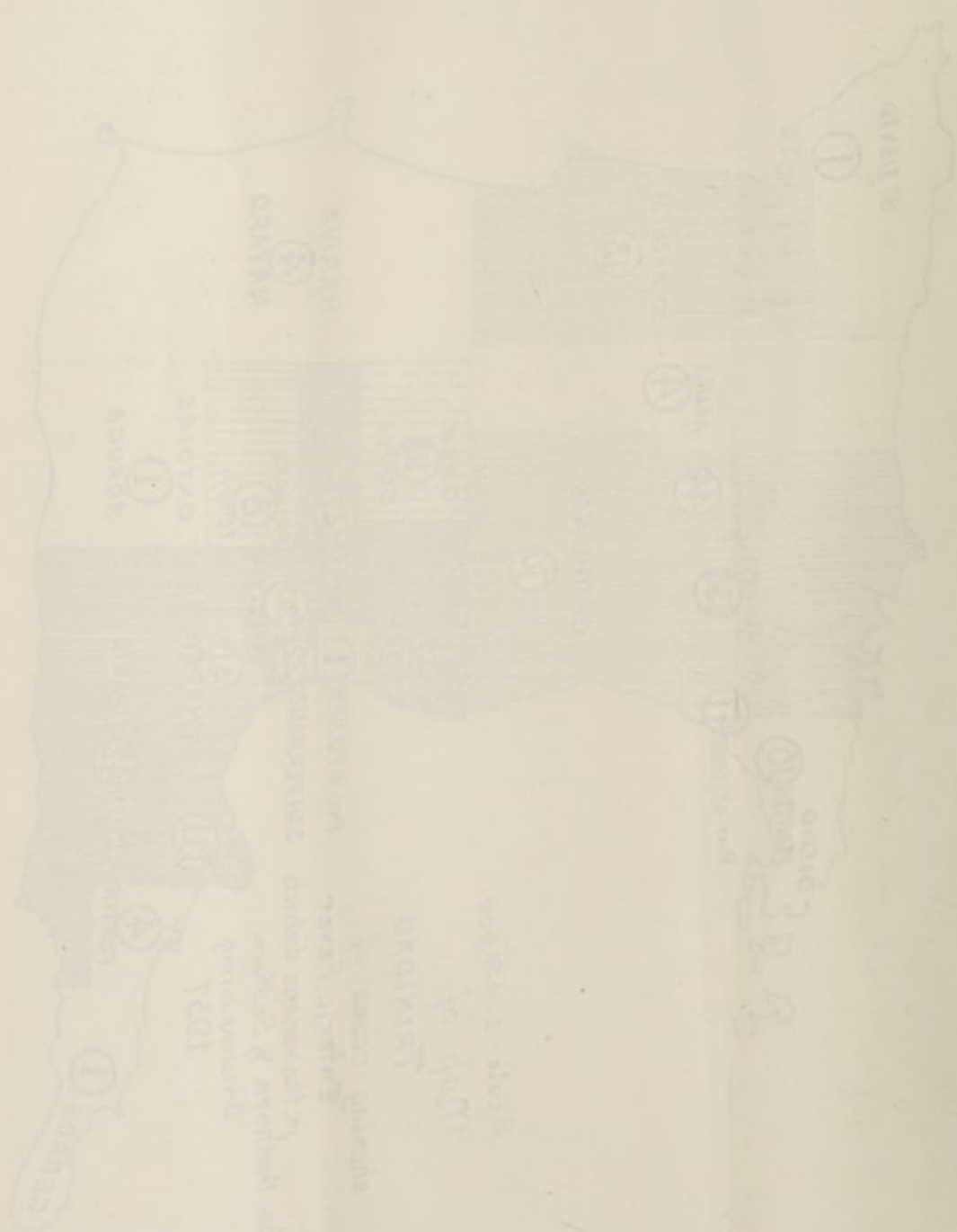


Scale: 1:450,000.

Map of

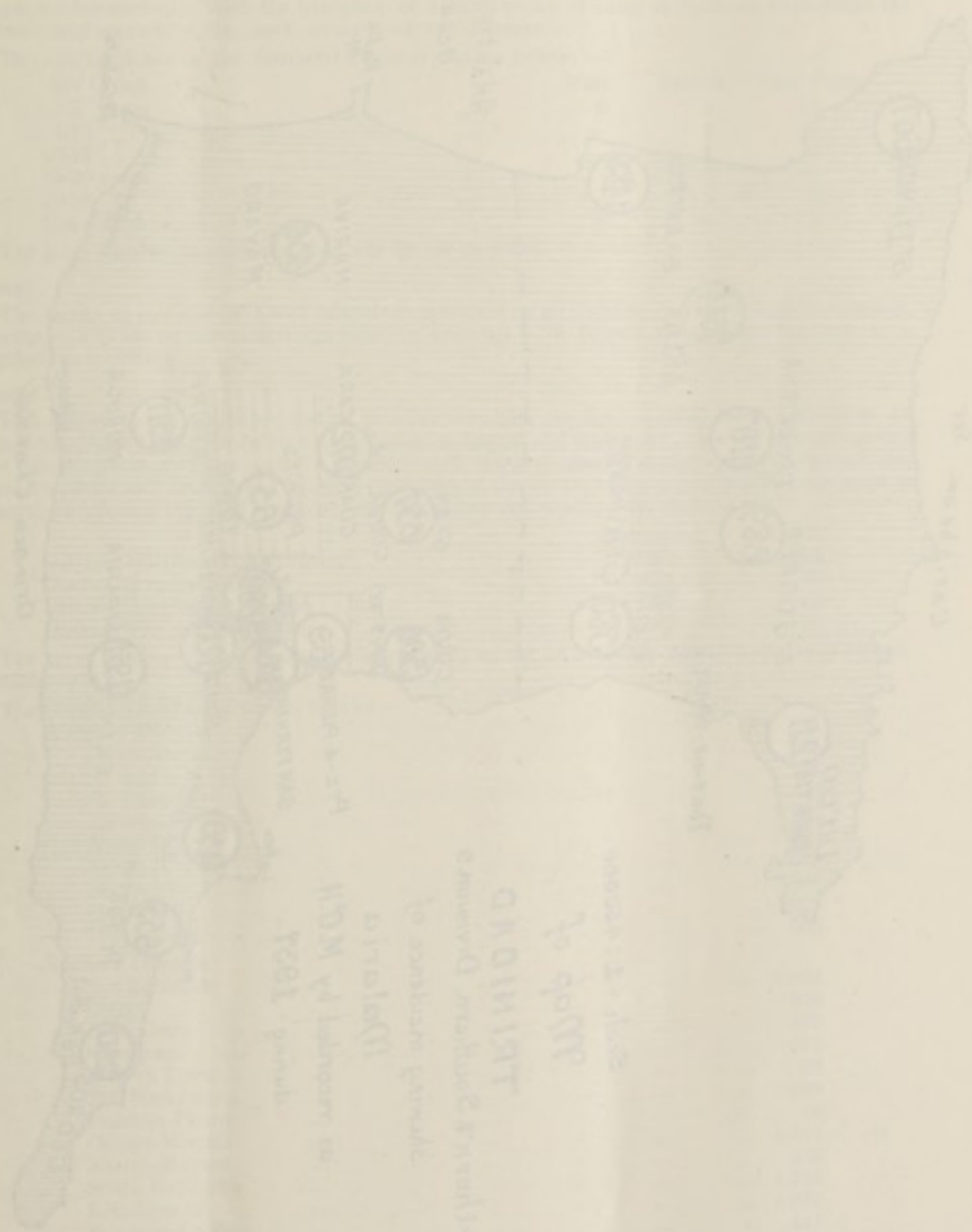
TRINIDAD

showing cases of
Enteric fever
in the various districts
of the Northern & Southern
Divisions during
1937

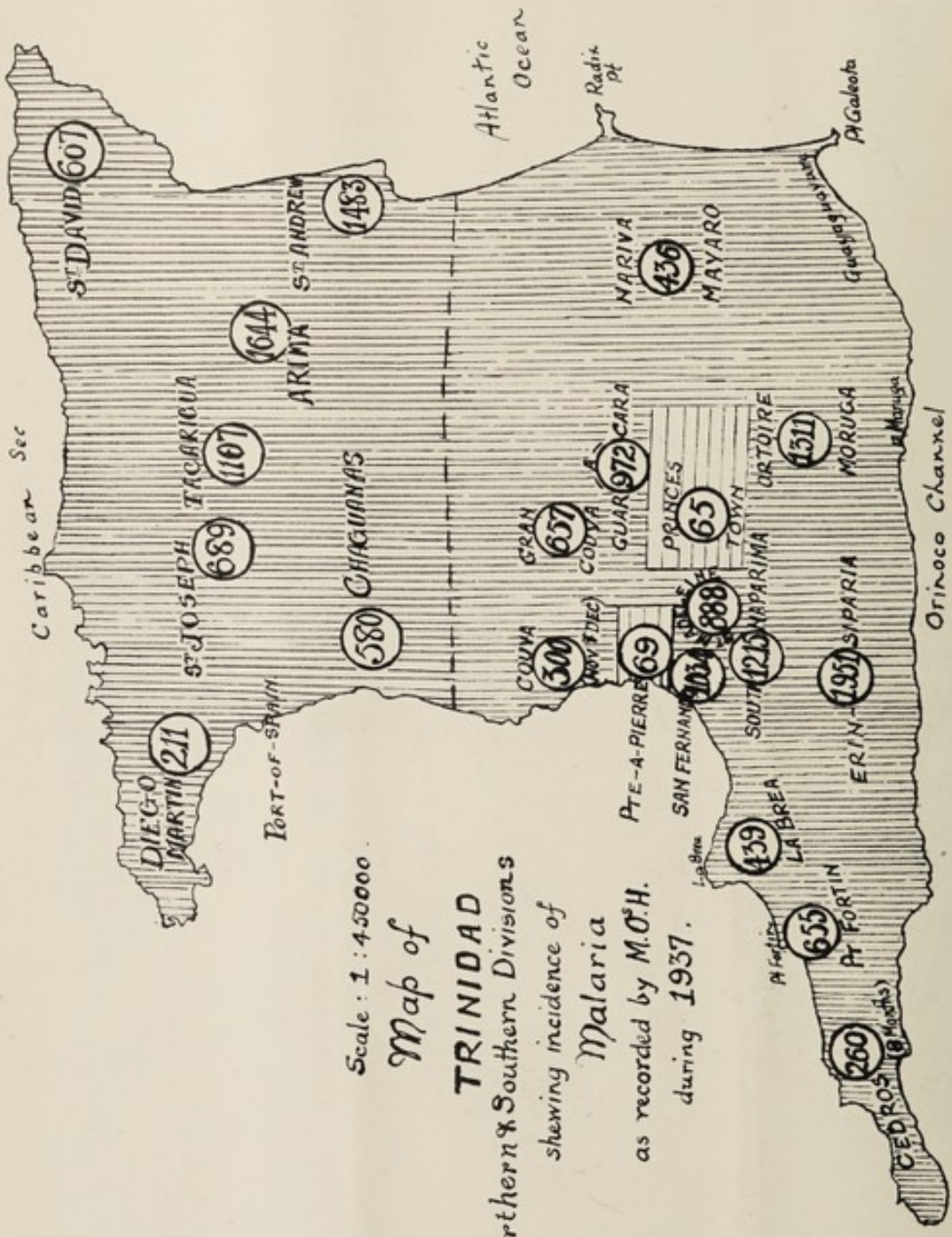


1861
 Year
 of
 the
 Civil
 War
 in
 the
 United
 States
 of
 America
 1861

1861
 Year
 of
 the
 Civil
 War
 in
 the
 United
 States
 of
 America
 1861



grand total
 as recorded by WCH
 Woforia
 through entrance of
 Washington District
LEWIS
 Joseph A.
 2017



Scale: 1 : 450000

Map of

TRINIDAD

Northern & Southern Divisions

showing incidence of

Malaria

as recorded by M.C.H.

during 1937.

Small Pox.

No cases were reported.

Yellow Fever.

No cases were reported.

Diphtheria.

The cases of this disease were mild in type, Schick testing was undertaken in a few instances and susceptibles immunised. With the exception of a small group of cases at Belmont Orphanage the incidence was sporadic. Six cases occurred at San Fernando.

The age incidence in the Southern Division was as follows:—

Age Group.	Male.	Female.	Total Cases.
0-5 years	9	5	14
5-10 "	—	1	1
10-15 "	—	1	1
15-20 years	—	—	—
20-30 "	—	2	2
Not stated	1	—	1

The total number of cases reported was 68 (57 in 1936).

Filaria.

The carrier of this disease *Culex fatigans* is prevalent in all districts. The disease is, however, not common and has no economic importance in Trinidad. No figures are available though it is recognised as occurring.

Malaria.

This disease is not notifiable and as in other countries the figures given must necessarily be incomplete. As in 1936 the incidence was greatest in August and September. Microscopical diagnosis is not possible in many cases and the tendency still exists of classing malaria with malignant and severe symptoms as "malignant" malaria regardless of the nature of the parasite. The hospitals in the northern division reported the following admissions and deaths from malaria.

	Admissions.	Deaths.
Colonial Hospital, Port-of-Spain	9,049	1,067
District Hospital, Arima	674	68
District Hospital, St. Joseph	694	88
District Hospital, Tacarigua.	289	42

The total number of cases (parasite unspecified) as far as available figures show, was 18,518. (18,902 in 1936.)

The distribution of these was as follows:—

Northern Division.		
Diego Martin	...	211
St. Ann's	...	1
St. Joseph	...	688
Tacarigua	...	1,107
Arima (Rural)	...	1,149
Arima (Urban)	...	495
St. Andrew	...	1,483
St. David	...	607
Chaguanas	...	580
Southern Division.		
San Fernando	...	1,034
Couva	...	900
Gran Couva	...	657
Guaracara	...	972
Princes Town	...	65
Ste. Madeleine...	...	889
Pointe-a-Pierre	...	69
Ortoire-Moruga	...	1,311
Nariva-Mayaro	...	436
South Naparima	...	1,215
Erin-Siparia	...	1,951
Brighton-La Brea	...	441
Point Fortin	...	655
Cedros	...	260
Tobago.		
Scarborough	...	500
Roxborough	...	399
Plymouth	...	442

The town of San Fernando is surrounded on three sides by malarial areas but there is little anopheles breeding in the town itself. The coastal swamp to the west of the town, formerly a danger point, has now been filled.

Thirty-four cases of malaria, microscopically diagnosed as subtertian, occurred amongst the Sherwood Foresters soon after their arrival in camp at Brighton at the end of the year.

Influenza.

This disease is not notifiable. The figures are therefore necessarily incomplete.

The total number of cases reported was 3,263 (1,501 in 1936). The incidence was highest from October to December when the number of cases constituted a small epidemic. The symptoms were mild but many cases were complicated with pneumonia.

The distribution of cases was as follows:—

Northern Division.

Diego-Martin	164
St. Ann's	—
St. Joseph	149
Tacarigua	441
Arima (Rural)	283
Arima (Urban)	152
St. Andrew	—
St. David	—
Chaguanas	118

Southern Division.

San Fernando	164
Couva	110
Gran Couva	60
Princes Town	37
Ste. Madeleine... ..	840
Guaracara	64
Pointe-a-Pierre	212
Nariva-Mayaro	24
South Naparima	81
Cedros	103
Ortoire-Moruga	4

Tobago.

Scarborough	135
Roxborough	22
Plymouth	100

The deaths were 95 (84 in 1936).

Pneumonia (including broncho-pneumonia).

A total of 836 cases of this disease occurred during the year (717 in 1936). A large number of these cases was post influenza and followed the epidemic of the latter disease in October, November and December. The high incidence in the age group 0-5 is due to broncho-pneumonia.

The following table shows the age incidence in the Northern and Southern Divisions:—

<i>Age Group.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
0-5	105	89	194
5-10	18	15	33
10-15	17	15	32
15-20	19	26	45
20-25	41	25	66
25-30	38	19	57
30-40	70	39	109
40-50	54	20	74
50-60 (and over)	63	20	83
Not stated	12	6	18

The monthly incidence of pneumonia (broncho-pneumonia and lobar pneumonia) is shown in the following table:—

January	47
February	51
March	50
April	53
May	45
June	57
July	44
August	57
September	54
October	70
November	102
December... ..	81

Deaths were as follows:—

Broncho-pneumonia	288 (147 in 1936)
Lobar pneumonia	257 (286 in 1936)

Tuberculosis.

There appears to be no special seasonal incidence for this disease in Trinidad. The Anti-Tuberculosis Association provided clinics in Port-of-Spain and San Fernando and continued to do valuable work. The wards set aside for the treatment of this disease at the Colonial Hospitals are overcrowded and there is urgent need for the proposed Sanatorium.

The total number of cases occurring during the year was 430 (447 in 1936). Their distribution is shown in Table I.

In order that there might be no delay when funds became available proposals for a sanatorium and settlement scheme were drawn up and submitted to Government at the end of the year. It was emphasized that the Tuberculosis Association was performing an extremely useful function but that owing to the absence of proper institutional accommodation for early and active cases the disease continued to spread. The scheme is based on the recommendations of the Residential Institutions Committee appointed by the Joint Tuberculosis Council in England. It was pointed out that there would be need of constant supervision of patients by a physician with experience of sanatorium work and that a combined hospital and sanatorium would be required with ample space on level ground for exercise and occupational therapy.

The proposal consisted of recommendations with regard to the site, the number of beds and the various buildings required. The general lay-out of the Sanatorium proper was defined as follows:—

- (1) Administrative block with treatment block and hospital wards adjoining.
- (2) Male and female sanatorium on either side of the treatment block.
- (3) Children's pavilion at a short distance connected with the treatment block by a covered way.
- (4) Five 2-bedded cottages.
- (5) All the above to be connected by covered ways with the central dining room and kitchens.
- (6) Laundry, power house, mortuary, &c.

An estimate (excluding buildings) was drawn up and submitted to Government. Plans will be prepared as soon as a site becomes available.

Age Group.		Age Incidence of Cases.		
		Male.	Female	Total.
0-5	...	2	2	4
5-10	...	5	7	12
10-15	...	5	7	12
15-20	...	10	18	28
20-25	...	25	19	44
25-30	...	19	18	37
30-40	...	35	25	60
40-50	...	21	15	36
50-60 (and over)	...	14	5	19
Not stated	...	6	3	9

It will be noted from the above table that the years of greatest incidence are from 20 to 40, and that for both sexes the age group with the highest incidence is from 30-40. Males appear to be slightly more susceptible than females.

Deaths from pulmonary tuberculosis were 409 (420 in 1936). There were 20 cases of non-pulmonary tuberculosis during the year.

Whooping Cough.

The incidence of whooping cough was high throughout the year. The type of the disease was mild but small outbreaks occurred in nearly all the districts.

One thousand and ninety-nine cases were reported (365 in 1936).

The distribution in the Colony was as follows:—

Northern Division.

Diego-Martin	...	...	...	...	...
St. Ann's	...	...	...	...	—
St. Joseph	...	...	...	...	333
Tacarigua	...	...	...	...	63
Arima (Rural)	...	...	...	...	157
Arima (Urban)	...	...	...	...	91
St. David	...	...	...	...	101
St. Andrew	...	...	...	...	66
Chaguanas	...	...	...	...	32

Southern Division.

San Fernando	...	...	...	...	14
Couva	...	...	...	...	104
Gran Couva	...	...	...	...	24
Guaracara	...	...	...	...	3
Princes Town	...	...	...	...	2
Ste. Madeleine	...	...	...	...	7
Pointe-a-Pierre	...	...	...	...	47
Ortoire-Moruga	...	...	...	...	2
South Naparima	...	...	...	...	29
Brighton-La Brea	...	...	...	...	7

Tobago.

Scarborough	...	...	...	...	15
Roxborough	...	...	...	...	—
Plymouth	...	...	...	...	2

Veneral Diseases—General.

A Medical Officer of Health for venereal diseases was appointed to the northern division in July, 1937. It is regretted that no suitable applicant could be found for the south.

A new clinic for venereal diseases designed on the lines recommended by the Ministry of Health was under construction at the Colonial Hospital, Port-of-Spain, at the end of the year. This building will enable large numbers of patients to be treated rapidly and efficiently. A similar building is contemplated later at San Fernando.

The new appointment in the northern division enabled all the venereal disease work to be placed under one officer and the results of his work have shown how much this appointment was needed. He has been in charge of the venereal diseases beds at the Colonial Hospital, Port-of-Spain, and has had regular venereal diseases clinics on Tuesdays, Wednesdays, Thursdays and Saturdays at the former Health Office at the Colonial Hospital, Port-of-Spain. He reported early that the work was rapidly expanding and the Wednesday clinic was instituted to provide to some extent for this. His duties have also included regular out-patients clinics for venereal diseases at the district hospitals at St. Joseph, Tacarigua and Arima. Cases of yaws are also treated at these clinics. The following figures are necessarily incomplete since a large number of venereal diseases patients, especially cases of gonorrhoea, are treated by private practitioners, some treat themselves and others receive no treatment at all.

In-Patients at Colonial Hospitals.

Disease.	Port-of-Spain.	San Fernando.	Tobago.	Total.
Syphilis	198	140	58	396
Soft Chancre	3	13	8	24
Gonorrhoea	127	131	67	325
Granuloma Venereum	53	21	3	77

Out-Patients Treated at Clinics.

Disease.	Port-of-Spain.	St. Joseph.	Tacarigua.	Arima.	Total.
Syphilis	395 male : 671 female	170	333	160	1,729
Gonorrhoea	151 male : 42 female	...	...	175	368
Yaws	—	150	133	340	623

Ophthalmia Neonatorum.

One hundred and two cases were notified as compared with 76 in 1935.

Yaws.

This disease is not notifiable and the figures given do not represent the total number of cases in the island. The problem of yaws is closely bound up with that of venereal disease and the appointment of the two medical officers of health for venereal diseases will enable a start to be made in estimating the incidence.

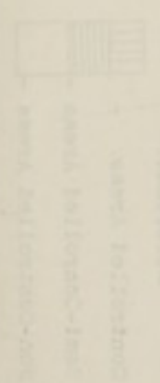
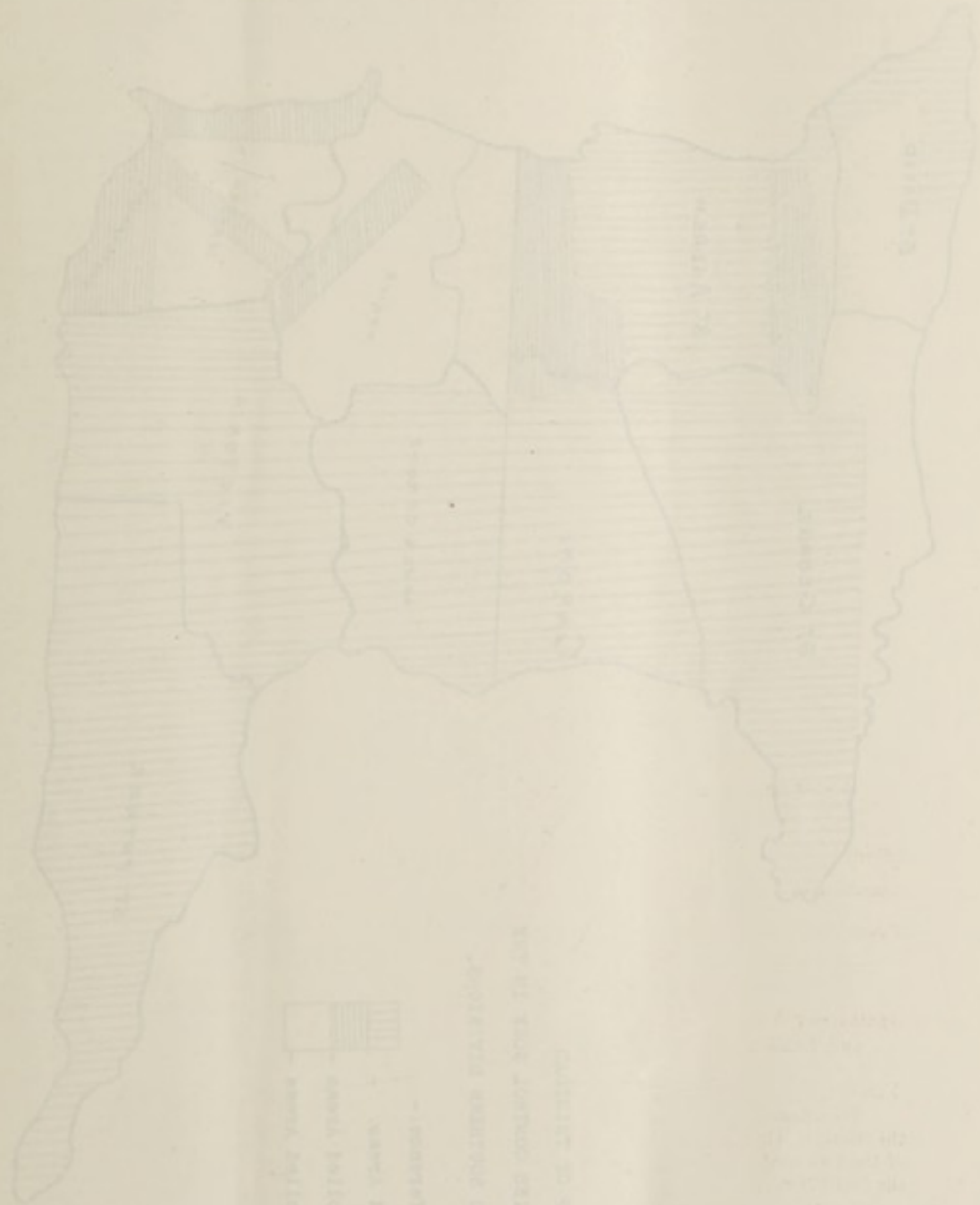
Cases are recorded at the venereal diseases clinics as follows:—

Arima	340 cases.
Tacarigua... ..	133 ..
St. Joseph	150 ..

The appointment of district nurses and the wider scope of medical inspection of schools have already helped in combating this disease.

Leprosy.

The number of admissions to the Leper Settlement was 78 (64 in 1936). There is no increase in the incidence of this disease. 67 cases were discharged. A system of quarterly inspection of lepers discharged from the settlement was instituted during the year. These are medically examined and nasal smears are sent to the Government Bacteriologist for examination. Inspection of the quarters of discharged lepers is carried out by the Sanitary Inspectors.

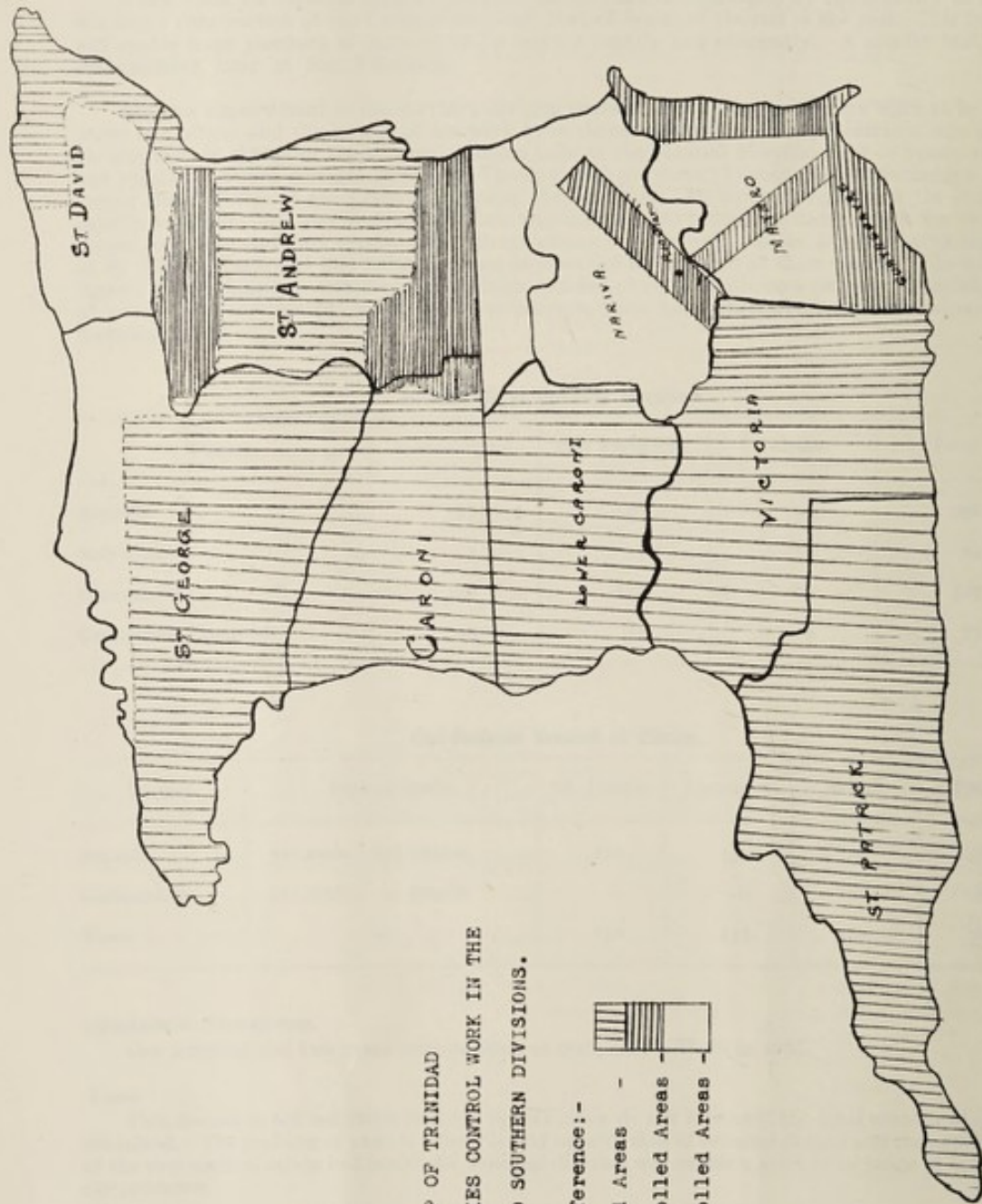


Horizontal lines - Cambrian
 Diagonal lines (top-left to bottom-right) - Devonian
 Diagonal lines (top-right to bottom-left) - Silurian
 Vertical lines - Permian

UNITED STATES GEOLOGICAL SURVEY
 GEOLOGICAL MAP OF THE UNITED STATES
 SHOWING THE DISTRIBUTION OF THE
 GREAT LAKES AND THE
 GREAT RIVERS

Scale of Miles
 0 10 20 30 40 50 60 70 80 90 100
 0 10 20 30 40 50 60 70 80 90 100
 0 10 20 30 40 50 60 70 80 90 100
 0 10 20 30 40 50 60 70 80 90 100

The number of the
 sheets of this map
 may be seen on the
 title page of each
 sheet.



MAP OF TRINIDAD
 SHOWING RABIES CONTROL WORK IN THE
 NORTHERN AND SOUTHERN DIVISIONS.

Reference:-
 Controlled Areas -
 Semi-Controlled Areas -
 Non-Controlled Areas -

Anthrax.

A case of anthrax in the form of a malignant pustule of the cheek was admitted to hospital in September. The infection was traced to a Japanese shaving brush with the serial number 332. It was submitted to the Government Bacteriologist and spores of the anthrax bacillus were found. This make of brush was found to be distributed by an agent in Port-of-Spain. Arrangements were made to seize brushes of this make from the retail dealers which this agent supplied. One hundred and fifty-one brushes were seized in San Fernando.

Paralytic Rabies.

Fifteen cases were reported (4 in 1936).

(a) Biche.

An outbreak of human paralytic rabies occurred near Biche in Cush Village (Nariva-Mayaro) in February. There were 12 cases all of whom died. The Senior Medical Officer of Health, southern division, reported that the outbreak took an explosive form most of the cases being bitten on the 4th of January. A total of 66 persons were bitten.

A roost was discovered $\frac{1}{4}$ -mile from the village and 43 bats were destroyed. Biting then ceased but later unusually heavy biting was reported from Mitan and Biche. A Bat unit from the north co-operated with one from the south in control work.

(b) Vega de Oropouche.

Three cases of human paralytic rabies occurred during April at Vega de Oropouche— $3\frac{1}{2}$ miles from Sangre Grande.

The Senior Medical Officer of Health, Northern Division, reported the following special features in connection with these cases:—

- (a) Two cases of animal rabies occurred two days before the notification of the first human case. Animal rabies had occurred during the previous year.
- (b) An increase in human bat biting occurred a few weeks before the outbreak.
- (c) A *Desmodus* bat was observed at two different premises about 100 yards apart to attack a goat at 7 a.m. and a cow at 8 a.m. It was killed while attacking a cow.
- (d) On 22nd March nine persons were bitten in three houses. Three of these (two in one house) subsequently contracted paralytic rabies and died.
- (e) Six infected bats were captured in this village.
- (f) Within three weeks of starting bat destruction work bat biting had ceased.
- (g) Altogether 49 persons were reported bitten in a scattered village of about 78 premises with a population of 350. Two refused inoculation. Three died of paralytic rabies.

Fifty-seven cases of animal rabies were reported in the Colony during 1937.

The economic value of the work being done in bat destruction is demonstrated by a comparison of the cases among cattle during the years 1935-1937.

Year.	Deaths of Cattle from Rabies.
1935	226
1936	228
1937	57

It is unusual now to capture *Desmodus* bats in large numbers. The percentage of infected bats caught and examined was 6.3 per cent. The necessity of continuing operations is manifest.

Table III shows the districts in which these bats were caught during the year and the numbers. A total of 2,415 were destroyed (3,623 in 1936).

A map is attached showing the progress of the campaign of control.

Ankylostomiasis.

Two units consisting each of two trained sanitary inspectors were at work during the year, one in the northern division in the Cunupia, Carapichaima and Waterloo districts, and one in the southern division in the Guaracara and Erin-Siparia districts. 4,346 cases were reported by these units. The incidence of the disease is reported to be highest amongst East Indian labourers working on sugar estates and rice fields but the figures from the various institutions show that it is common in all races. It is considered to be the chief debilitating disease in Trinidad. The progress made by these units, though slow, is nevertheless efficient in the areas which they are able to cover. The following procedure is adopted:—

- (a) Census of district population, propaganda and other educational measures.
- (b) Distribution of specimen receptacles.
- (c) Collection and examination of specimens.
- (d) Treatment (oil of *Chenopodium* and Carbon Tetrachloride).
- (e) Latrine construction or improvement.
- (f) Re-examination of specimens and treatment if necessary.
- (g) Preparation of charts and maps showing the state of sanitation before and after the campaign.

Apart from the hookworm units the disease is treated on most oilfields, at health offices, and at Colonial and District Hospitals. The hookworm is *ankylostoma duodenale*.

The following table shows the hookworm figures as reported by the two units for 1937.

	NORTHERN DIVISION.	SOUTHERN DIVISION.	TOTAL.
(a) Situation ...	Cunupia Carapichaima Waterloo and Surrounding districts.	Guaracara Erin-Siparia ...	—
(b) Latrines erected and repaired at the instigation of the units.	517	242 (It may be noted that this figure was 15 in 1935).	759
(c) Specimens examined ...	1,660	3,636	5,296
(d) Specimens found positive ...	1,501	2,846	4,347
(e) Infection rate ...	90.36%	78.27%	82.08%

The attention of the Commission of Enquiry into the 1937 disturbances was drawn to the high rate of infection found, and to the mental and physical effects of this disease on a population. Proposals for dealing with hookworm on a more extensive scale have been submitted to Government.

Anterior Poliomyelitis.

A total of 106 cases occurred during the year (6 in 1936).

General.—During the end of 1936 it was reported that an epidemic of this disease existed in Venezuela. The reports of travellers stated that Caracas and its environs were most affected. There is throughout the year a continual interchange of persons and cargo between Trinidad and Venezuela and it is possible that the infection in Trinidad came from some source in Venezuela. It should however be noted that cases of poliomyelitis occur each year in Trinidad during the wet season. The 1936-1937 cases were no exception to the general rule, but the number recorded was sufficiently large to be considered as a mild epidemic. It should be noted that one case was reported from Cedros as early as September 1936 and another, which was fatal, in November. The source of infection therefore remains doubtful.

December 1936.—The outbreak started by the occurrence of two cases amongst the European children of a private boarding school for girls on the outskirts of Port-of-Spain. These cases occurred on 8th December and 19th December respectively and one of them proved fatal. 65 other children of the school who had already left for their homes on their Christmas holidays were kept under observation and instructions for the guidance of their parents were printed and distributed. No further case occurred amongst any of these. A child from Venezuela had come into contact with both cases sometime previously but no definite proof of the source of the infection could be established. Three more cases occurred in Port-of-Spain itself during this month.

January 1937.—Cases began to occur over widely distributed areas during this month. It was not possible to trace any direct contact between cases but there is no doubt that the wide distribution was due to the inevitable dispersal of the child population during the Christmas holidays. The first case in the south of the island occurred on 4th January. At the end of 15th January more cases had been notified from the north of the island (77.8 per cent. of these were in children of pre-school age *i.e.* 0-5 years and 18.5 per cent. in children of school age *i.e.* 5-14 years). During this month 19 cases also occurred in the south, making a total for the month of 34 cases. The schools in Port-of-Spain and its environs were prevented from re-opening from 11th January to 1st February, and on 28th January all schools in the borough of San Fernando were closed.

February 1937.—During this month 15 cases were recorded from the north and 22 from the south, making a total of 37. The incidence was gradually shifting at this time from the north to the south. In February there were definitely fewer cases occurring in Port-of-Spain and more in the south where the peak of the incidence was reached during the week ending on 6th February. 10 new cases occurred in the south during this week.

March 1937.—In March there were no more cases in Port-of-Spain but the disease was spreading sporadically into the country. 12 cases were recorded from the country districts in the north, five in the south and one in San Fernando. During this month one isolated case occurred at Scarborough in Tobago.

April 1937.—With the advent of the drier weather the incidence began to lessen. One case occurred in Port-of-Spain, four in the country districts of the north and one case in the Roxborough district in Tobago. No cases occurred in the south.

Clinical.—The type of the disease was mild. In all cases there was a history of pyrexia and catarrh. Paralysis was common generally of one lower limb or both. One case was reported where the paralysis affected all four limbs and one of facial paralysis.

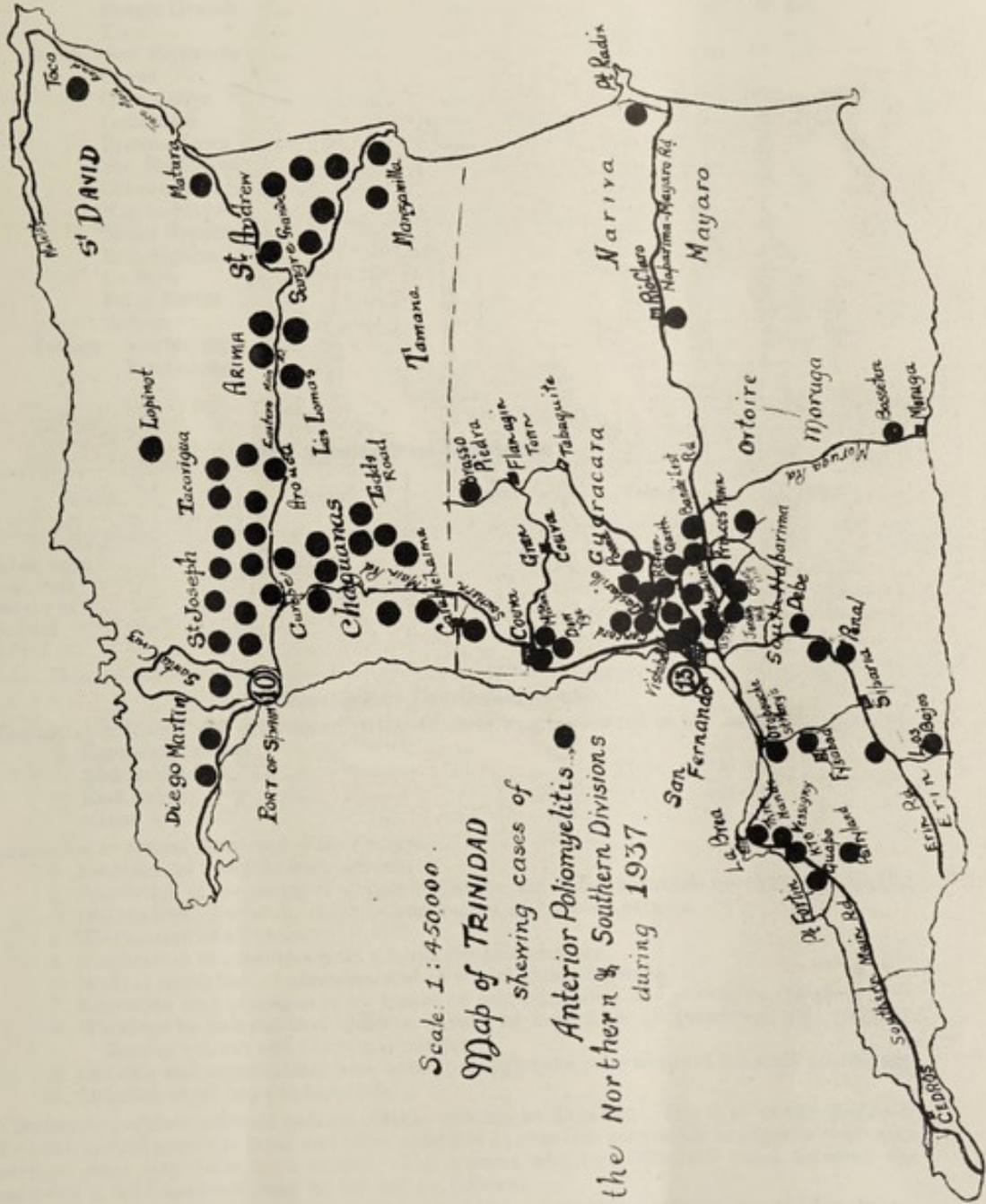
Statistics.—6 deaths occurred out of a total of 102 cases giving a mortality rate of 5.9 per cent.

The age incidence was as follows:—

Age Group.	Number.
0-5 years ...	82 or 80.4 per cent.
5-10 years ...	15 or 14.7 ..
Over 10 years ...	5 or 4.9 ..

By far the greatest number of cases in the 0-5 age group were aged 1-2 years.

The incidence amongst the sexes was approximately equal.



Scale: 1:450,000
Map of TRINIDAD
 shewing cases of
Anterior Poliomyelitis...
 in the Northern & Southern Divisions
 during 1937.

Table Showing Distribution Incidence.

North—Port-of-Spain	...	...	...	...	...	13 cases.
Tacarigua	...	...	...	...	...	5 "
St. Ann's	...	...	...	...	...	2 "
St. Joseph	...	...	...	...	...	11 "
Diego Martin	...	...	...	...	...	2 "
Chaguanas	...	...	...	...	...	8 "
Arima	...	...	...	...	...	4 "
Sangre Grande	...	...	...	...	...	7 "
Toco	...	...	...	...	...	1 "
South—San Fernando	...	...	...	...	...	13 "
Couva	...	...	...	...	...	3 "
Gran Couva	...	...	...	...	...	1 "
Guaracara	...	...	...	...	...	4 "
Princes Town	...	...	...	...	...	7 "
Ste. Madeleine	...	...	...	...	...	7 "
Ortoire-Moruga	...	...	...	...	...	1 "
Nariva-Mayaro	...	...	...	...	...	1 "
South Naparima	...	...	...	...	...	1 "
Erin-Siparia	...	...	...	...	...	4 "
La Brea	...	...	...	...	...	2 "
Point Fortin	...	...	...	...	...	2 "
Cedros	...	...	...	...	...	1 "
Tobago—Scarborough	...	...	...	...	...	1 "
Roxborough	...	...	...	...	...	1 "
Total	...	...	...	...	...	102 "

Table Showing Time Distribution.

Month.	North.	South.	Tobago.	Total.
December, 1936	5		—	5
January, 1937	15	19	—	34
February, 1937	16	22	—	38
March, 1937	12	6	1	19
April, 1937	5	—	1	6

Table Showing Race Distribution (South).

The racial incidence was determined in the 47 cases which occurred in the South as follows:—

European descent	...	...	...	...	...	2
African descent	...	...	...	...	...	21
East Indian	...	...	...	...	...	18
Mixed	...	...	...	...	...	6

Measures taken to prevent the spread of the Disease.

1. Exclusion of contacts from schools.
2. Prevention of re-opening of schools and in the case of San Fernando the closing of schools.
3. Disinfection of schools, theatres and homes of infected persons.
4. Notification of all cases.
5. Notification of absentees from schools (by headmasters).
6. Medical inspection of absentees and of school children generally.
7. Education and propaganda by means of printed leaflets and notices in the press.
8. Warnings to parents that children should be kept from all gatherings *e.g.*, cinemas, Sunday schools and Christmas parties.
9. Oilfields and sugar estates were asked to restrict the movements of the child population.
10. Isolation of all cases in hospitals.

Conclusions.—Acute anterior poliomyelitis is endemic in Trinidad. The type of the disease is usually mild, convalescence is rapid and often complete so that it is reasonable to suppose that cases in previous years may have been missed. The reasons why the 1936-1937 cases assumed the characters of a mild epidemic may be set out as follows:—

- (a) The rainfall of the period was unusually high and prolonged into the normal dry season. The nights were cold. It is probable that people were more in their houses and that these were often more closely shuttered than usual. The incidence abated with the coming of the dry season and warmer days.
- (b) As far as can be ascertained the rapid and wide distribution of the cases was caused by the spread of school children into the country during the Christmas holidays. The original focus of infection appears to have been Port-of-Spain.
- (c) There is no doubt that carriers played a large part in the dissemination of the disease. There is however no known means of detecting a carrier who suffers from no symptoms.
- (d) It is probable also that the attention drawn to the disease caused more persons to consult medical men with regard to slight symptoms, and that many mild cases were diagnosed this year which in other years would have escaped observation.

TABLE I.
Prevalence of Notifiable Infectious Diseases—1937.

DISTRICT.	NUMBER OF NOTIFICATIONS RECEIVED.										Total.
	Enteric Fever.	Pneumonia.	Pulmonary Tuberculosis.	Tuberculosis (Other Forms).	Diphtheria.	Chicken- Pox.	Ophthalmia Neonatorum.	Acute Polio-myelitis.	Acute Ascending Transverse Myelitis.	Cerebro- Spinal Fever.	
Diego Martin/Bocas	16	4	4	...	3	52	3	2	...	...	84
St. Ann's	5	22	32	...	2	11	1	...	...	...	73
St. Joseph	130	57	35	4	3	2	6	11	...	...	248
Tacarigua	44	13	15	4	...	33	2	6	...	...	117
Arima (Rural)	3	17	4	...	1	1	2	1	...	...	28
St. Andrew	13	69	25	1	...	...	2	9	3	...	122
St. David	1	12	3	...	...	...	2	1	...	...	10
Chaguana	70	69	10	...	4	13	12	9	...	...	187
Couva	42	23	2	...	1	...	3	4	...	...	75
Gran Couva	10	8	2	...	1	...	...	1	...	...	22
Guaracara	27	23	7	...	2	...	3	5	...	...	67
Princes Town	8	30	11	...	...	...	2	7	...	...	59
Ste. Madeleine	20	41	12	...	2	1	5	6	...	...	87
Pointe-a-Pierre	1	3	...	...	...	...	...	...	...	...	4
Ortoire-Moruga	1	4	8	...	...	2	2	3	...	...	20
Nariva-Mayaro	4	28	9	...	...	...	...	2	12	...	55
Naparima	42	30	8	...	1	2	1	1	...	...	85
Erin/Siparia	42	57	2	...	2	...	2	6	...	...	111
Brighton/La Brea	11	18	4	...	1	1	...	2	...	...	37
Point Fortin	4	12	3	...	1	...	1	3	...	...	24
Cedros	...	22	5	...	1	...	2	...	...	...	30
Scarborough, Tobago	6	31	5	...	...	...	5	1	...	...	48
Roxborough, do.	82	13	10	1	...	2	1	1	...	...	110
Plymouth, do.	12	15	8	2	...	4	3	1	...	...	45
Total Rural Districts	594	621	224	12	26	124	59	82	15	...	1,757
Arima	1	17	11	...	4	...	3	1	...	...	37
San Fernando	23	73	44	...	8	4	8	13	...	...	173
Port-of-Spain	47	125	131	8	30	84	32	10	...	...	467
Total Urban Districts	71	215	186	8	42	88	43	24	...	...	677
Total All Districts	665	836	410	20	68	212	102	106	15	...	2,434

TABLE II.
Prevalence of Notifiable Infectious Diseases.—1937.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Enteric Fever ...	62	63	57	30	25	39	71	99	74	37	58	50	665
Pneumonia ...	56	61	59	67	70	50	53	67	60	83	120	90	836
Pulmonary Tuberculosis ...	39	36	38	43	28	28	33	29	39	22	32	43	410
Tuberculosis (Other Forms)	...	2	1	4	1	3	3	1	2	1	...	2	20
Diphtheria ...	3	9	12	6	4	4	10	4	7	3	4	2	68
Chicken Pox ...	41	23	19	12	14	35	15	12	24	12	4	1	212
Ophthalmia Neonatorum ...	6	5	18	10	11	6	11	8	4	7	4	12	102
Acute Poliomyelitis ...	34	39	17	9	4	1	...	...	...	...	2	...	166
Acute Ascending Transverse Myelitis ...	...	12	...	3	...	...	...	...	...	...	...	...	15
Cerebro Spinal-Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	241	250	221	184	157	166	196	220	210	165	224	200	2,434

SECTION III.—HYGIENE AND SANITATION.

A General Review.

I.—PREVENTIVE MEASURES.

(a) *Anti-Malarial Measures.*

Considerable attention has been given in both divisions to malaria. Figures are becoming available to show the incidence per month in each district in the southern division. Local Health Authorities are considering the question of malaria as it affects each locality. The inauguration of school medical inspection in rural areas has been more successful in the south and in many places the spleen index amongst school children is available.

Drainage and filling of swamps will probably always prove the most effective permanent anti-malarial measure. Low tide level culverts also serve a useful purpose. Regular maintenance is however required.

The routine anti-malarial measures adopted by Local Health Authorities are as follows:—

- (1) Grading, draining and clearing of ravines and road side drains.
- (2) Oiling of pools.
- (3) Clearing of bush in the neighbourhood of houses.
- (4) Paris green (in dams of some oilfields).
- (5) Removal of bromeliads.

Anopheles surveys were made at Blanchisseuse, Brasso Seco, South Barataria, Las Lomas, Cumuto, Guanapo and Guayaguayare.

Special Measures.

- (1) Regrading and filling of extensive low level areas at Pointe-a-Pierre.
- (2) Drainage of malarial swamp at Vessigny.
- (3) Survey of Pilot Swamp, Guayaguayare.
- (4) Re-survey of La Brea Vessigny district.
- (5) Extensive clearing and drainage of Lambeau river and spring at Government Farm, Tobago.
- (6) Concreting of drains at Cascade, Maturita, Sangre Grande, Caroni, Chaguanas, Tacarigua, San Juan, Eve's swamp, Pointe-a-Pierre (1,720 feet) Couva, Ste. Madeleine, Vistabella, Cedros (1,000 feet) Debe (1,000 feet) and Point Fortin.

(b) *Epidemic Diseases.*

Enteric Fever.—The usual measures were taken for sporadic cases of this disease, namely, Isolation in hospital, oiling of cesspits, sanitation of yards and drains, inoculation and surveillance of contacts, and educational propaganda.

Additional special measures were taken in connection with the two epidemics:—

Roxborough.—Proposal for a piped water supply in 1938 and for the improvement of the local water supply.

San Juan.—A Proclamation declaring enteric fever as a dangerous infectious disease and giving the Local Health Authority wider powers for dealing with it. Removal of dams and obstructions to the free flow of the San Juan river.

Permanent prohibition of the growing of water cress in the river in this area.

Legislation to prevent bathing and washing of clothes in the river.

Patrols were instituted to enforce these measures.

Smallpox.—Vaccination was continued though no cases have occurred in the island for several years.

Paralytic Rabies.—A map is attached showing progress made and dividing the island into:—

- (a) Controlled areas.
- (b) Semi-controlled areas.
- (c) Uncontrolled areas.

Control is effected as follows:—

- (a) Reports of bat biting among human beings and animals are sent in by sanitary inspectors, ward officers and school teachers.
- (b) A census of bat biting is taken and arrangements are made for the giving of prophylactic inoculations of anti-rabic vaccine.
- (c) Surveys are made of known roosting and digesting places and a search is made for new ones.
- (d) Bat destruction is effected by trapping with nets, shooting, gassing with H.C.N. and poisoning with strychnine.

Operations were conducted by the bat units at the following places during the year:—

Northern Division.—Longdenville, Ravine Sable, El Quemado, Arena, Cumuto, Fishing Pond, Oropouche, Turure, Chaguaramas, Macqueripe, Guatepajaro, Esmerald, Jerningham Junction, Caigual, Maracas Valley, Carapichaima, Vega de Oropouche, Matura, Plum Mitan, Biche.

TABLE III—ANTI-RABIC MEASURES.
Destruction of Bats (*Desmodus Rufus*) 1937.

P—Poisoned.

K—Killed by other means.

Total Poisoned Jan., to May ... 161

Total Killed by other means Jan., to May ... 1,216

Total of all *Desmodus* Destroyed 1,377

Total .. P .. January to October ... 303 to November 315

Total .. K .. January to October ... 1,930 to November 2,041

Total of all *Desmodus* Destroyed ... 2,233 to November 2,356

DISTRICT.	Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Total Jan. to Dec.		Grand Total.		
	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K	P	K		P and K	
Arima ...	1	15	2	10	23	5	21	54	11	2	1	43	26	5	209	214	...	...	...	...	...	...	...	...	...	...	...	...
Aronica ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Couva ...	4	12	3	3	3	4	1	7	1	23	2	2	1	11	34	34	...	...	...	...	...	...	...	...	...	...	...
Cedros ...	1	51	4	4	2	3	36	16	2	115	115	54	7	281	50	288	...	...	...	...	...	...	...	...	...	...	...
Chaguanas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Caroni ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diego Martin/Bocas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erin/Siparia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gran Couva ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Guaracara ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
La Brea ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nariva-Mayaro ...	2	60	14	130	42	24	9	22	16	26	3	27	2	122	477	599	...	...	...	...	...	...	...	...	...	...	...	...
Ortoire-Moruga
Pointe-a-Pierre
Port-of-Spain and St. Ann's
Princes Town
Sangre Grande ...	14	27	7	104	2	30	2	114	5	6	55	12	3	29	3	31	7	427	463	...	...	...	...	...	...	...	...	...
South Napatima
St. Joseph
Tacarigua
Toco ...	3	33	6	6	2	3	4
Total ...	25	237	30	282	56	144	25	324	25	220	27	181	30	129	32	80	14	191	39	133	12	111	10	49	325	2,090	2,415	2,356	

Southern Division.—The districts of Nariva-Mayaro, Erin-Siparia and Ortoire-Moruga.

Table III shows the location and numbers of the *Desmodus* bats destroyed during the various months of the year.

Number of <i>Desmodus</i> bats caught	...	...	...	...	2,424
Number examined by Government Bacteriologist	...	...	...	...	2,415
Number found infected	...	...	...	...	143
Percentage infected	...	...	...	...	6.3
					(2.7 per cent. in 1936.)
Number of cases of human rabies	...	...	...	...	15
					(4 in 1936)
Number of cases of animal rabies	...	...	...	...	57
Number of new roosting places found	...	...	...	...	51

II.—GENERAL MEASURES OF SANITATION.

(A) *Water Supplies.*

A map is attached showing diagrammatically the extension of the Central Water Supply from the Quare dam during the year. The provision of this water had undoubtedly a considerable effect in preventing epidemics during the abnormally long dry season of 1937.

Urban.—The water supply of San Fernando is now obtained from the Central Water Scheme. A constant supply of 500,000 gallons is available. The supply from the springs and wells at Union and Plaisance has been discontinued and it is to be noted that a lowered incidence of enteric fever and dysentery is recorded.

Rural.—(a) The following new areas were served with central water during the year:—

Northern Division.—Arouca, Tacarigua, El Dorado, Tunapuna, St. Augustine, St. Joseph, San Juan, Barataria, Success, Caroni, Cunupia, Warren Village, Jerningham Junction, Trinidad Dairies, Enterprise Village, Longdenville, Montrose, Chaguanas, St. Thomas, Durham, Charlie Village, Chase Village, Bank Village, Carapichaima, Orange Field and Waterloo.

Southern Division.

- (1) Lower Caroni including Couva.
- (2) The greater portion of County Victoria.
- (3) In County of St. Patrick central water mains have been laid as far as Siparia.

(b) Princes Town is served at present with water from Morichal and Atagual Springs. It is proposed to augment this supply with water from the Central Scheme.

(c) Local pipe borne supplies exist at Maraval, Diego Martin, Carenage, El Dorado, Verdant Vale and Macqueripe. They were satisfactorily maintained during the year.

(d) The following areas depend on ponds and dams which are considered inadequate and unsafe:—

- (1) Caratal (Where there was a small outbreak of enteric fever during the year).
- (2) Moruga Road and the villages in Moruga.
- (3) Rio Claro and Mayaro.
- (4) Guayaguayare.
- (5) Erin, Palo Seco and Buenos Aires.
- (6) Cedros.

Fyzabad Village is supplied with water from the Apex water supply.

A well in Mayaro although bacteriologically safe gave a very unsatisfactory chemical analysis.

The village of Guayaguayare depends entirely on brackish springs while Abyssinia is supplied with potable water from the oilfields. Many oilfields treat their water supply chemically and the potability is checked by frequent examinations.

(B) *Sewerage Disposal.*

Urban.—A complete system of water borne sewage disposal exists in a large part of the city of Port-of-Spain.

The system of disposal in San Fernando is still the method of the privy cesspit. An organised system of regular cleansing of these cesspits was begun during the year. It is proposed to continue this work by means of a motor with suction and tank arrangement. A survey was completed during the year with a view to installing water borne sewage in the town.

Rural.—Water sewage systems with disposal into the sea exist at Antilles, Trinidad Lake Asphalt and Standard Oilfield Companies La Brea.

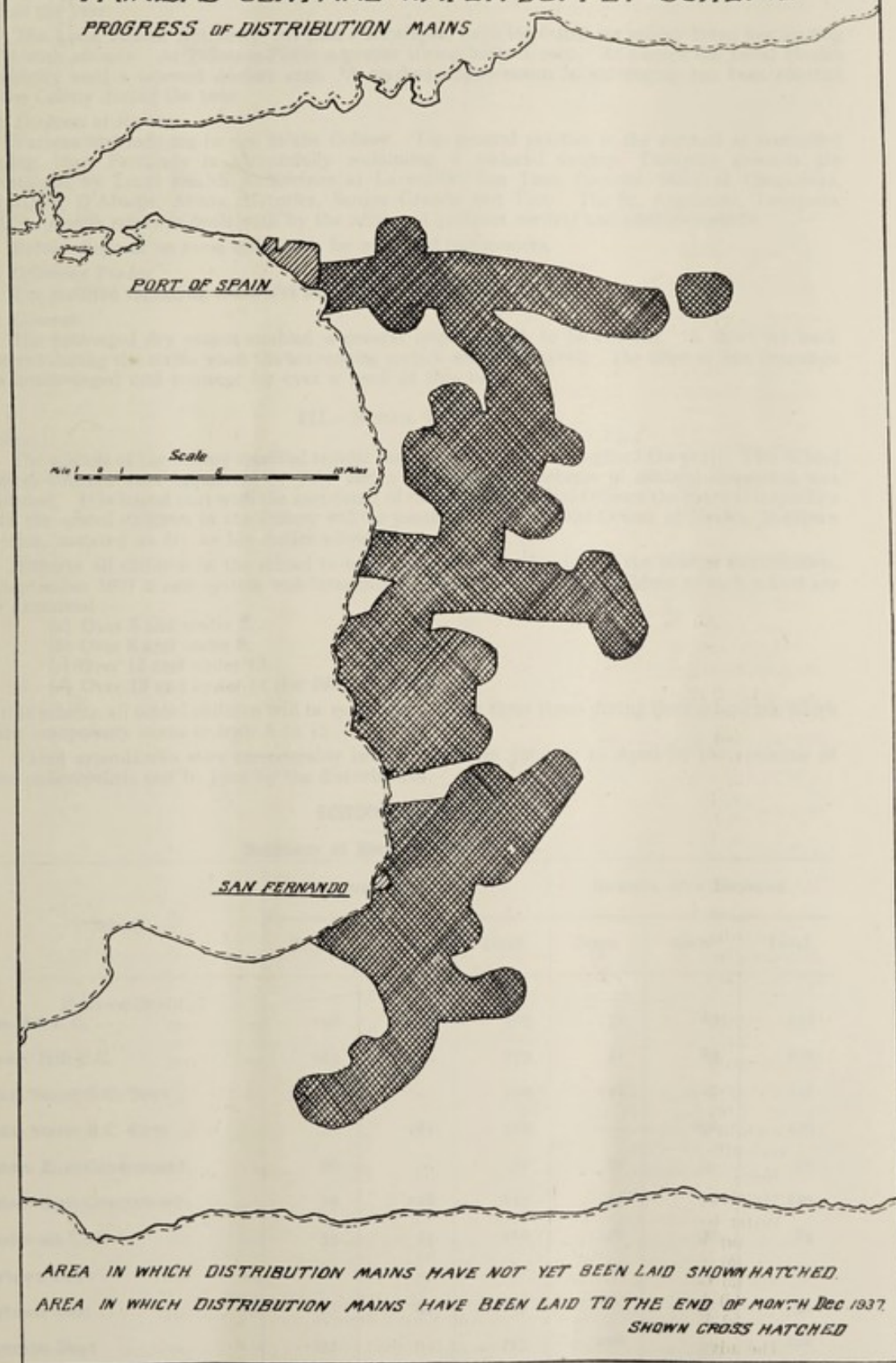
Water borne sewage systems with septic tanks have been installed at—

- (a) Waterloo Factory and Usine Ste. Madeleine.
- (b) Trinidad Leaseholds—Pointe-a-Pierre (bungalows and employees quarters).
- (c) Guayaguayare bungalows.
- (d) Kern Trinidad Oilfields Guapo and Point Fortin.
- (e) Workers' Cottages at Fyzabad, Forest Reserve, Apex, Cruze Field and Palo Seco.

The advantages of the water borne system over conservancy were shown in a remarkable way during the strikes of June, 1937, when this system functioned satisfactorily while other systems failed through lack of labour. This was especially the case at San Fernando where a dangerous situation was created.

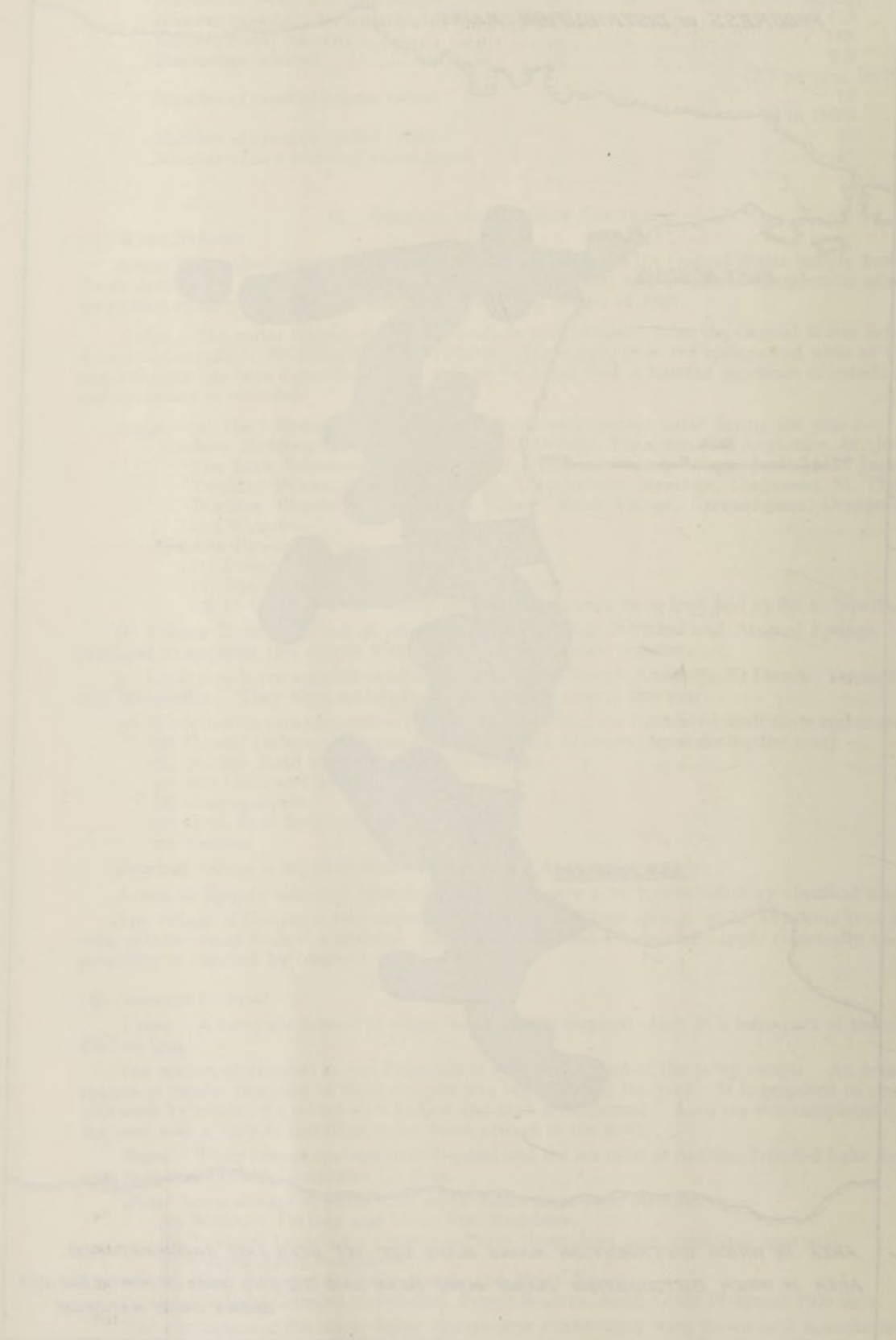
TRINIDAD CENTRAL WATER SUPPLY SCHEME

PROGRESS OF DISTRIBUTION MAINS



TRINIDAD CENTRAL WATER SUPPLY SCHEME

PROGRESS OF DISTRIBUTION NETWORK



SCALE 1:50,000

NOTE: THE DISTRIBUTION NETWORK IS SUBJECT TO CHANGE WITHOUT NOTICE.

PREPARED BY THE TRINIDAD WATER SUPPLY AUTHORITY

(C) Scavenging.

Scavenging was undertaken by Local Health Authorities and in some instances by contractors. In San Fernando the street scavenging was still done by uncovered carts but it is proposed to provide light canvas covers at a later date. Parts of the town of San Fernando were still unscavenged at the end of the year.

The Local Health Authority, St. Ann's-Tacarigua, have instituted six rubber tyred low loading carts with success. At Pointe-a-Pierre a proper tilting lorry is used. At Cedros the Local Health Authority used a covered donkey cart. A marked improvement in scavenging has been effected in the Colony during the year.

(D) Disposal of Refuse.

Various methods are in use in the Colony. The general practice is the method of controlled tipping. San Fernando is successfully reclaiming a malarial swamp. Dumping grounds are maintained by Local Health Authorities at Laventille, San Juan, Cocorite, Maraval, Chaguanas, Tacarigua, D'Abadie, Arima, Maturita, Sangre Grande and Toco. The St. Augustine, Tunapuna and St. Joseph refuse is dealt with by the activated compost method and used as manure.

Refuse disposal on most oilfields is by means of incinerators.

(E) Offensive Trades.

The position regarding these was satisfactory during the year.

(F) General.

The prolonged dry season enabled a general improvement to be effected. A short set back occurred during the strike when the scavenging service was interrupted. The town of San Fernando was unscavenged and unswept for over a week at this time.

III.—SCHOOL HYGIENE.

General:

The schools of the Colony received regular sanitary inspection throughout the year. Two School Medical Officers were appointed in July and a complete new scheme of medical inspection was instituted. It is hoped that with the assistance of the District Medical Officers the medical inspection of all the school children in the Colony will be possible. The Medical Officer of Health, Northern Division, assisted as far as his duties allowed.

Hitherto all children in the school to be examined were subjected to the routine examination. In September 1937 a new system was introduced. Only four groups of children in each school are now examined:—

- (a) Over 5 and under 7.
- (b) Over 8 and under 9.
- (c) Over 12 and under 13.
- (d) Over 13 and under 14 (for 1937 and 1938).

By this scheme all school children will be examined at least three times during their school life which in the compulsory areas is from 5 to 15.

School attendances were considerably interrupted from January to April by the epidemic of acute poliomyelitis and in June by the disturbances.

SCHOOL HYGIENE.

Summary of Medical Examinations.

School.	NUMBER EXAMINED.			NUMBER WITH DEFECTS.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
PORT-OF-SPAIN.						
Rose Hill R.C.	190	195	385	72	85	157
Calvary Hill R.C.	163	210	273	41	61	102
Nelson Street R.C. Boys	420	...	420	248	...	248
Nelson Street R.C. Girls ... ..	...	181	181	...	126	126
Eastern Boys Government	66	...	66	59	...	59
Eastern Girls Government	19	128	147	14	99	113
Woodbrook C.M.	55	55	110	46	38	84
Newtown Boys	81	...	81	60	...	60
Newtown Girls ... ..	...	66	66	...	52	52
Mucurapo Boys	123	...	123	108	...	108
Mucurapo Girls ... ..	...	125	125	...	98	98

Summary of Medical Examination.—Continued.

School	NUMBER EXAMINED.			NUMBER WITH DEFECTS.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
NORTHERN DIVISION.—Schools near Port-of-Spain.						
St. Joseph R.C. Girls	1	222	223	1	191	192
St. Joseph R.C. Boys	250	...	250	223	...	223
St. Joseph Government	148	133	281	113	120	233
St. Joseph E.C.	54	57	111	41	44	85
Tacarigua C.M.	169	117	286	166	112	278
Tacarigua E.C.	25	29	54	24	26	50
Arouca Government	89	58	147	81	50	131
Arouca Boys R.C.	66	...	66	62	...	62
SAN FERNANDO.						
San Fernando E.C.	63	74	137	60	69	129
Coffee E.C.	118	121	239	108	111	219
Vistabella C.M.	4	78	142	59	66	125
San Fernando C.M.	146	117	263	134	110	244
SOUTHERN DIVISION. Rural Schools.						
Picton C.M.	76	34	110	65	12	77
St. John E.C.	70	70	140	61	51	112
Debe C.M.	90	29	119	80	25	105
Iere Government	100	76	176	96	69	165
Jordan Hill C.M.	181	82	263	175	67	242
Palmyra C.M.	49	18	67	47	16	63
Canaan C.M.	61	20	81	47	19	66
Hermitage C.M.	82	31	113	77	26	103
La Fortune C.M.	98	34	132	96	25	121
Marabella R.C.	39	30	69	27	23	50
Inverness C.M.	138	44	182	127	44	171
Harmony Hall C.M.	81	47	128	72	40	112
Cipero R.C.	122	67	189	121	60	181
Princes Town Methodist	49	70	119	47	57	104
Princes Town C.M.	155	136	291	148	136	284
California Government	127	78	205	122	76	198
Esperanza	167	70	237	157	54	211
Siparia C.M.	139	51	190	103	26	129
La Brea R.C.	30	16	46	20	14	34
New Grant Government	45	36	81	43	32	75
Ecclesville E.C.	53	43	96	53	43	96
Elswick C.M.	60	48	108	60	47	107

III—SCHOOL HYGIENE.
SUMMARY OF DEFECTS.

Type of defect.	Port-of-Spain Schools.	Northern Division Rural.	San F'do. Schools.	Southern Division. Rural.
Poorly nourished (Hookworm not excluded) ...	283	195	310	1,109
Cariou teeth ...	787	898	406	1,835
Tonsils enlarged ...	308	700	192	631
Glands enlarged ...	404	371	127	732
(a) Yaws ...	...	6	...	84
Skin diseases ...	85	111	133	425
(b) Follicular conjunctivitis ...	11	88	...	...
Xerosis ...	...	...	...	421
Other Eye diseases ...	14	36	26	240
Errors of refraction ...	20	17	15	...
Ears (discharged &c.) ...	10	14	18	78
Tuberculosis diagnosed ...	1	...	11	18
Tuberculosis suspected ...	...	...	44	176
Bronchitis, &c. ...	23	15	93	387
(c) Heart lesions ...	11	1	72	292
Congenital syphilis ...	...	10	...	2
(d) Enlarged spleen ...	3	3	143	1,157
Anaemia ...	37	297	248	1,455
Hookworm (history only not diagnosed) ...	...	...	24	291
Hernia ...	5	2	17	34
Uncleanliness ...	1	6	...	576
Chiggers ...	...	3	...	371
Ped. Capitis ...	96	158	153	1,023
Other defects ...	153	912	...	...

Summary of Treatments Given.

Treatment.	Port-of-Spain	Villages near Port-of-Spain	San Fernando.	Villages in Southern Division.
Teeth :				
(a) Extracted ...	2,010	1,029	577	1,284
(b) Filled ...	146	1	...	...
Tonsils :				
Removed ...	34	58	31	25
Eye Clinic ...	41	...	69	113
X-ray ...	53	74	76	100
All Defects :				
(a) Treated by a private doctor ...	34	120	...	...
(b) Treated at a Health Office ...	132	142	2,606	4,010
Total Treatments ...	2,541	1,424	3,371	5,534

The following points may be noted from the above figures bearing in mind that whole time school medical officers had been appointed only for the last six months of the year and that similar standards between the two divisions had only been operating for half the year :

<i>Port-of-Spain.</i>	<i>Villages near</i>	<i>San Fernando.</i>	<i>Villages in</i>
	<i>Port-of-Spain.</i>		<i>Southern Division.</i>

Percentage of defects in the children examined ...	56.7	88.4	91.8	90.3
--	------	------	------	------

The figure is high since many children (72.4 per cent. in Southern Division) have more than one defect.

The following figures are available for the southern division.

Percentage.

Poorly nourished ... 34.5—The figure for poorly nourished children in both divisions cannot be considered accurate since hookworm has not been excluded. It is probable that many of these children were suffering from hookworm.

Tonsils—(a) Greatly enlarged ...	10.7
Moderately enlarged ...	7.7
Skin Diseases ...	15.5
Enlarged Glands ...	22.2
Conjunctivitis ...	8.1
Xerosis ...	16.05—chiefly East Indian.
Bronchitis ...	12.5
Pretubercular ...	6.5 —for observation.
Tubercular ...	.68
Heart Lesions ...	1.4
Enlarged Spleen ...	37
Anaemia ...	49.7
Ground Itch ...	8.5 —(history only).

The Medical Officer of Health (Schools), Southern Division, reported that in 17 rural schools examined the general body cleanliness was neglected in many and that 576 children were exceptionally unclean. The furniture of 14 schools was inadequate and 13 schools were overcrowded. The arrangements for sweeping and cleaning, water supply and recreation at some schools were also considered inadequate. Details have been supplied to the Department of Education and the possible means of improvement are being considered.

Special work was undertaken by the Medical Officer of Health (Schools), Northern Division, in September with a view to ascertaining the number of children in Port-of-Spain who were under-nourished through poverty and needed free milk or free meals. A group of elementary schools in Port-of-Spain was selected and a survey was made. The results of this survey gave a figure of 10 per cent.

IV.—LABOUR CONDITIONS.

During the disturbances in June, 1937, the work of the hospitals and institutions remained unaffected but the essential health services such as scavenging and emptying of buckets and cesspits was temporarily at a standstill in many places. Oilfields estates and companies who had installed water borne sewerage disposal suffered no inconvenience.

Port-of-Spain.

The Colonial Hospital, Port-of-Spain, admitted one case of bayonet and four cases of gunshot wounds. There was no interference by strikers with the working of the hospital and no employees struck. The building of the new blocks "E" and "F" and the painting were held up by the strike amongst the Public Works employees.

Labourers of the Health Department were prevented from working on the Reclamation Scheme at Wrightson Road, at La Basse and St. James.

A letter was sent on 25th June, 1937 to the Medical Officer of Health, City of Port-of-Spain drawing attention to the accumulations of filth and refuse which existed in the town. The Council was advised to seek protection for its workers. Scavenging was begun again on the 26th.

The scavenging contractor of the Local Health Authority, St. Ann's-Tacarigua, reported that the cartmen had been threatened and road sweepers had been chased from their work. Scavenging which had stopped since 24th June was begun again on 27th June by using lorries instead of carts and by the help of police protection.

Two Bat Inspectors were stopped by strikers and ordered with threats to go home. They continued working elsewhere.

San Fernando.

The Colonial Hospital, San Fernando, received the greater part of the casualties from the oilfields. At certain times and notably on 21st and 22nd of June, the casualty department assumed a war time appearance. Severe and dangerous cases filled the couches and operating theatres and walking wounded were packed together on benches waiting their turn to be dressed. Excepting on Monday 21st of June when part of the mob invaded the surgery no attempt was made to interfere with the working of the hospital.

The casualties from San Fernando and Rio Claro were unusual in that the wounds were chiefly severe and lacerated. The metal casings of the bullets were found but in most cases the leaden bullet itself was absent. Their appearance was that of ricochet bullet wounds.

Scavenging, street sweeping and emptying of latrine buckets and cesspits was at a standstill in San Fernando from 21st June to 1st July. Some of the employees were compelled to cease work by the threatening attitude of the strikers but others struck and refused to work. Attempts were made on 25th and 26th to remove street refuse in certain areas but the work was stopped by the threatening attitude of the crowds. The Borough Council did not meet until 30th June by which time the sanitary state of the town had become dangerous.

Siparia.

There were three killed and four wounded during the disturbances at Fyzabad on 19th June. This area remained the most hostile and unsettled throughout the strike. All scavengers and all Government and domestic workers were forced to leave their work on 22nd June. A mob of about 20 men and women armed with sticks and bottles paraded the streets and threatened non-strikers with violence.

La Brea and Point Fortin.

During the post mortem examination of those killed at Point Fortin the crowd attempted to force an entrance into the post mortem room and later into the house of the District Medical Officer, La Brea.

The sanitation gang was molested and forced to stop work and men on bicycles paraded the district asking the women to encourage the men to hold out until wages were raised.

The water supply at New Jersey was cut off on 24th June by the strikers. An automatic control was later established and the supply was kept under military guard.

The sanitary gang at Point Fortin were threatened but did not strike.

OLD TYPES OF HOUSING—1936.
ON OILFIELDS AND ESTATES.
Now Demolished.



(1) Contractors' "Shanty" for Labourers,
Trinidad Leaseholds, Guayaguayare.—April, 1936.



(2) Peasant's Private Residence, Aripero.
(Side view.)



(3) Typical Barrack, Hermitage Estate.—1936.



(4) Range of Barracks, Hermitage Estate.—August, 1936.

NEW TYPES OF HOUSING.
ON OILFIELDS AND ESTATES.
1936 - 1937.



(5) Labourers' Cottage, La Fortunee Estate, Naparima.



Range of Temporary Barracks,
"Abyssinia"—Leaseholds, Guayaguayare—April, 1936.

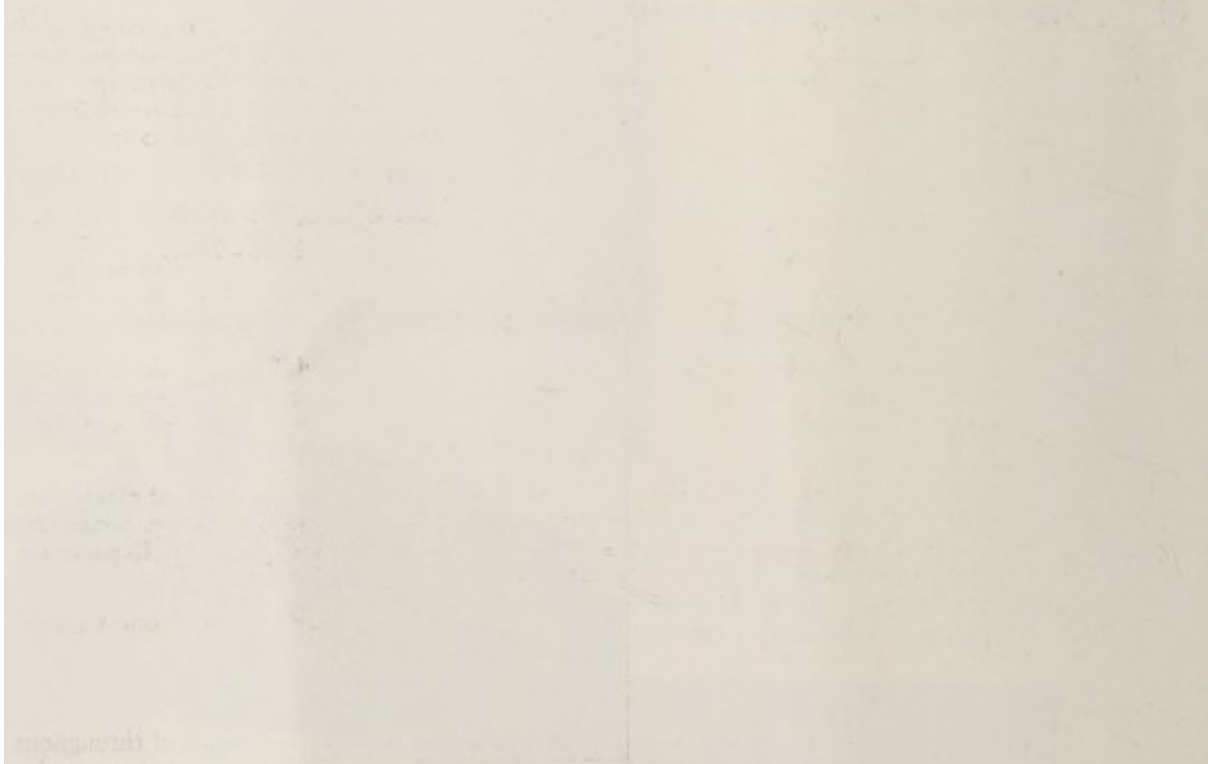


(8) Temporary Barrack,
Trinidad Leaseholds—Guayaguayare.



(9) "Abyssinia"—Leaseholds, Guayaguayare—May, 1936.

OLD TYPE OF PRINTING
OF CHINESE AND JAPANESE
LITERATURE



1. Introduction
2. History
3. Description
4. Conclusion

Military Camps.

The military camps at Apex, Forest Reserve, Pointe-a-Pierre, Point Fortin, Kern Trinidad Oilfield (Constabulary) and Couva were inspected on several occasions and kept under medical supervision. Suggestions were made and later adopted with regard to feeding, sanitary arrangements, water supply, mosquito control and disposal of refuse.

Many of the districts in which these camps were placed were of necessity highly malarial.

Active service conditions revealed at first a lack of knowledge of field and camp hygiene among the local forces and even some of the Constabulary. The contrast between them and the naval ratings, in whom hygienic principles are instinctive, was striking at the start, though progress was made towards the end of the disturbances.

V.—HOUSING AND TOWN PLANNING.

The manifest need for planning both of urban and rural areas was met by the appointment of a Town Planning Adviser towards the end of the year. No provision existed for demolition of buildings, but closing orders could be made in the case of buildings injurious to health. The difficulty in the way of either demolishing or closing houses in the Colony is the same as in other countries namely that no legal means has been found of forcing owners to rebuild. Demolition and closing without rehousing have therefore the effect of increasing overcrowding or of rendering the evicted occupants homeless.

Model villages were laid out according to regulations at—

- (1) Marabella, South Naparima.
- (2) Mahaica, Point Fortin.
- (3) La Fortune, Ste. Madeleine.
- (4) Hermitage, Ste. Madeleine.
- (5) Cedar Hill, Ste. Madeleine.
- (6) Brechin Castle and Spring Village.
- (7) Esperanza.
- (8) Phoenix Park.
- (9) Abyssinia, Forest Reserve and Cruze (Trinidad Leaseholds, Ltd).

Proposals for more elaborate planning were submitted to Waterloo Estate and to United British Oilfields of Trinidad, Ltd. A proposal was under consideration for slum clearance in connection with San Fernando.

Sanitary surveys were made of Chaguanas, John John, Waterloo Estate, Caroni Estate and El Dorado.

As will be noted from previous reports the housing problem has been occupying the attention of the health department for the past few years. The difficulties associated with rural housing have necessarily rendered progress slow but in certain areas there has been appreciable advance. The following photographs show the dilapidated insanitary houses and barracks which existed in many places and the new types which have been steadily replacing them during the last few years.

VI.—FOOD IN RELATION TO HEALTH AND DISEASE.

Scurvy, rickets, pellagra and beri beri occur extremely rarely as established diseases in reports from hospitals and medical officers. Xerophthalmia is reported from Couva and Xerosis amongst the school children in the Southern Division.

The preliminary work on the determination of the diets of the people of Trinidad has so far not followed the technique adopted by observers in other parts of the world, but it has been useful in indicating that in general the food of the people lacks vitamins, especially "A" and first class proteins.

Early malnutrition states undoubtedly exist though there is no evidence to show that established deficiency diseases are widespread. The position of this department is that it considers hookworm to be a greater cause of debility than malnutrition. This was clearly pointed out by the Department to the Commission of Enquiry into the 1937 disturbances.

It should also be noted that the figures now becoming available for malnutrition amongst school children are only relatively accurate since hookworm has not been excluded.

Markets.

The St. James, Tunapuna, Arima and Sangre Grande markets were well maintained throughout the year. San Fernando has now an up-to-date fish market and a new general market is under consideration. Princes Town and La Brea have fly-proof meat and fish markets. La Brea, Penal and Fyzabad have open provision markets with weather sheds.

Food Inspection.

The usual inspection and control of foodstuffs sold in shops and markets was satisfactorily carried out by the Sanitary Inspectors.

Abattoirs.

Public abattoirs were well maintained at Port-of-Spain, San Fernando, Princes Town and Scarborough in Tobago. The need for a market and abattoir at Chaguana has been stressed.

Private slaughter houses controlled by bye-laws at Chaguana, San Juan, Carapichaima, California, Gasparillo, Rio Claro, Penal, Oropouche, Fyzabad, La Brea and Cedros were kept in fair sanitary condition throughout the year.

Dairies.

Modern well kept dairies exist at Government Farm, Jerningham Junction, Santa Cruz, St. James, Cascade, Tunapuna, Diego-Martin, Maraval in the north, and at Waterloo and Ste. Madeleine in the south.

The various small dairies which are maintained chiefly by East Indians round Port-of-Spain and San Fernando are not so satisfactory but their condition improved slightly during the year. The disposal of the manure connected with these is still a major problem of the Health Department.

B.—Measures taken to spread the knowledge of Hygiene and Sanitation.**Education in Hygiene.**

The teaching of hygiene and the practical details of its application in towns, rural areas and villages formed one of the most important duties of Medical Officers of Health and Sanitary Inspectors and district nurses during the year.

Schools.

- Lectures to pupils.
- Hygiene classes for teachers in training.
- Sanitary squads.
- Health week lectures and demonstrations by Medical Officers, Sanitary Inspectors and health visitors.

Villages and Towns.

- Demonstrations of health films.
- Talks by hookworm units at centres where the disease was endemic.
- Lectures during health week.

Health Week.

The Health Week Exhibition at Port-of-Spain was well attended by large numbers of people from the city and from the surrounding country. Parties of school children were brought regularly each day.

The following sections were dealt with:—

- (1) Nutrition.
- (2) Selection of foods.
- (3) Child Welfare.
- (4) Pure milk production and marketing.
- (5) Role of insect pests, bats, &c. in communicating diseases.
- (6) Vital statistics, charts and diagrams.
- (7) Prevention of tuberculosis.
- (8) Bacteriological section.
- (9) Sanitary appliances.

A physical drill programme and school children's essay competition were also very successful.

C.—Training of Sanitary Personnel.

The annual examination of the Royal Sanitary Institute was held in Barbados in November, 1937. No special course of lectures was held in Trinidad.

Several young qualified Sanitary Inspectors awaiting appointments were encouraged to accompany Sanitary Inspectors and bat units in their work.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION.

No change was made in the existing arrangements for the performance of duties associated with quarantine. In addition to the services of Medical Officers for maritime purposes, a panel of three private practitioners carried out the medical formalities in connection with air traffic. In the event of any special measures being required reference is made to the Port Health Officer for action.

There were no cases of infectious disease to which the International Sanitary Convention applies, and the majority of the arrivals in Trinidad come from districts where these diseases are absent or of rare occurrence. The constant traffic by small sloops from the lower Orinico and Delta demands constant supervision of arrivals from that coast and the passengers and crew of all such vessels are required to show evidence of recent vaccination or to undergo immediate vaccination before being permitted to land.

Steamships visited	...	...	...	...	...	342
Sailing vessels visited	...	...	...	...	...	878
No. of persons inspected on arrival	...	...	...	...	...	26,005
No of persons placed under surveillance (small pox)	...	...	...	...	...	240
Vaccinations performed (small pox)	...	...	...	...	...	851
Ships fumigated	...	...	...	...	...	15

PORT HEALTH OFFICER'S REPORT FOR THE YEAR ENDING 31ST DECEMBER, 1937.

ARRIVALS.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Steamers from Convention Ports —A. Infected Ports....	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Non Infected Ports	1	1	2	...	2	...	...	...	1	1	1	...	...
Total Number of Steamers from Convention Ports ...	1	1	2	...	2	...	...	...	1	1	1	...	11
Steamers from Non-Convention Ports —A. Infected Ports	42	25	32	34	31	22	34	26	29	37	23	33	342
Do. —B. Non-Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Number of Steamers from Non-Convention Ports	22	25	32	34	31	22	34	26	29	31	23	33	...
TOTAL NUMBER OF STEAMERS FROM ALL PORTS ...	23	26	34	34	33	22	34	27	30	32	24	34	353
Sailing vessels from Convention Ports—A. Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Non-Infected Ports	...	...	...	...	1	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Convention Ports	...	...	...	...	1	...	...	...	...	...	...	...	...
Sailing Vessels from Non-Convention Ports —A. Infected Ports	57	76	92	57	61	55	65	107	79	75	74	86	878
Do. —B. Non-Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Non-Convention Ports	57	76	92	57	61	55	65	107	79	75	74	86	...
TOTAL NUMBER OF SAILING VESSELS FROM ALL PORTS ...	57	76	92	57	62	55	65	107	79	75	74	86	879
TOTAL NUMBER OF ARRIVALS FROM ALL PORTS ...	80	102	126	91	95	77	99	134	109	107	98	114	1,232
PASSENGERS, AND CREWS.	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons inspected on Steamships —A. Passengers	184	229	351	280	274	256	270	287	223	170	220	201	2,945
Do. —B. Crew	1,090	1,337	3,754	1,731	1,496	1,378	1,091	1,341	1,341	1,553	1,184	1,379	18,403
Total number of persons inspected on Steamships ...	1,274	1,566	4,105	2,011	1,770	1,334	1,648	1,378	1,564	1,723	1,404	1,571	21,348
Number of persons inspected on Sailing Vessels —A. Passengers	12	33	47	45	58	63	19	74	34	79	80	65	609
Do. —B. Crew	177	301	448	271	269	271	342	585	356	311	332	325	4,048
Total number of persons inspected on Sailing Vessels ...	189	394	495	316	327	334	361	659	390	390	412	390	4,657
TOTAL NUMBER OF PERSONS INSPECTED ON ARRIVAL	1,463	1,960	4,600	2,327	2,097	1,668	2,009	2,037	1,954	2,113	1,816	1,961	26,005
FUMIGATION, DISINFECTION, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of Vessels fumigated	1	1	3	1	1	...	2	1	1	2	1	1	15
SURVEILLANCE, OBSERVATION, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons placed under Surveillance —A. Yellow Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Bubonic Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —C. Small Pox	38	34	22	21	36	16	14	12	11	12	9	15	240
Do. —D. Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —E. Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL NUMBER OF PERSONS PLACED UNDER SURVEILLANCE	38	34	22	21	36	16	14	12	11	12	9	15	240
Total number of presentations for Medical Supervision...	99	219	124	58	142	73	67	35	35	53	24	70	999
Number of persons allowed to proceed to Country under D.M.O's supervision	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons vaccinated on arrival ...	66	63	82	70	77	51	69	129	77	54	56	57	851

Section V.—Maternity and Child Welfare.

The maternity service is dealt with in the preceding section.

Child welfare work is carried out by a voluntary organisation known as the Child Welfare League of Trinidad and Tobago. The League has 14 branches with 20 clinic centres. The accompanying table shows the distribution of these clinics and gives a summary of the work done.

The clinics are conducted by graduate nurses employed by the League with the assistance of a number of voluntary lady assistants. Medical advice is given gratuitously by Doctors, some of whom are in Government employ whilst others are private practitioners.

Towards the cost of the work Government contributed \$4,320, the Bruce Stephens Trust \$1,680 and the City Council of Port-of-Spain \$240. The balance of the revenue collected amounting to \$4,128 was the result of public subscriptions, donations, interest, &c. In addition the Bruce Stephens Trust donated an additional \$150 to the clinic at Arima.

Towards the end of the year an additional grant of \$500 was made by Government for 10 quarts of fresh cows' milk daily purchased from the Government Farm for nursing mothers, infants and toddlers.

The teaching of mothercraft in the schools continued to be a feature of the work.

Industrial and agricultural concerns continued to play their part in the care of the infant, and the establishment of centres for the care of young children of employees is proceeding.

There remains however the problem of the pre-school child. The large percentage of children exhibiting various defects which is being revealed by the system of school medical inspection is an indication of the necessity of some measure of control of the child between the ages of two and five years.

The infantile mortality rate for the colony was 120 as compared with 96.82 in 1936.

The unusual delay in the onset of the rains had the inevitable result of increased incidences of gastro intestinal disturbances, malaria, and other disorders which so greatly influence the health of infants. The following table indicates the progressive nature in the fall of this rate during the last 19 years.

Mean Rates of Infantile Mortality in 5-yearly periods.							Infantile Mortality Rate.
Five yearly period.	...	...	...	...	...	...
1913-1917	...	...	...	...	...	...	152
1918-1922	...	...	...	...	...	...	149
1923-1927	...	...	...	...	...	...	130
1928-1932	...	...	...	...	...	...	127
1933-1937	...	...	...	...	...	...	114

SECTION VI.—HOSPITALS AND DISPENSARIES.

(a) Personnel.

Effect having now been given to the institution of a hospital service staffed by Medical Officers whose intention is to make clinical work in institutions their future sphere of work, it is possible to state the manner in which these hospitals are staffed.

In the larger hospitals in Port-of-Spain and San Fernando there are surgical, medical maternity and X-ray departments. A senior surgeon and a senior physician are in charge of the first three and a medical radiologist in charge of the X-ray department. The surgical and medical departments have in addition a number of medical officers and of house surgeons and physicians.

The hospital service has been so staffed as to prevent dislocation of work due to absence of individuals on vacation or on the grounds of sickness. So far as possible no senior member of the hospital staff is employed for relief work in districts and thus interference with the smooth running of the clinical work should be reduced to a minimum.

The following are provided for in the estimates for 1938 and were, with the exception of two medical officers grade II, on the establishment at the end of 1937:—

Colonial Hospital, Port-of-Spain.

Medical Superintendent.	Medical Radiologist.
Senior Surgeon.	Senior Physician.
Assistant Surgeon.	Assistant Physician.
One Medical Officer, Grade I.	One Medical Officer, Grade I.
Two Medical Officers, Grade II.	Three Medical Officers, Grade II.
One House Surgeon.	Two House Physicians.

Colonial Hospital, San Fernando.

Senior Surgeon.	Senior Physician.
One Medical Officer, Grade I.	Two Medical Officers, Grade II.
One House Surgeon.	Medical Radiologist.

The above are employed on a whole time basis. In addition there were specialist services on a part time basis for ophthalmology in both hospitals and for diseases of the ear, nose and throat in Port-of-Spain.

At the Colonial Hospital, Tobago, there is a Resident Surgeon.

By unifying the grading of the posts in the various hospitals a wider opportunity of promotion in the hospital service is afforded to junior officers of ability and diligence.

Proposals for regrading salaries and for regulating hours of work for nurses were in course of preparation.

(b) Hospital Building and Accommodation.

There are in the Colony the following hospitals equipped for the numbers of beds indicated :—

Colonial Hospitals:

Port-of-Spain	...	...	...	...	...	403	beds
San Fernando	...	...	...	...	...	194	..
Tobago	...	...	...	...	...	78	..

District Hospitals.

St. Joseph	...	...	...	...	...	35	..
Tacarigua...	...	...	...	...	...	44	..
Arima	...	...	...	...	...	30	..
Couva	...	...	...	...	...	49	..
(includes 10 obstetrical beds.)							
Princes Town	...	...	...	...	...	48	beds
Cedros	...	...	...	...	...	21	..

Emergency Hospitals.

Mayaro	...	...	...	...	...	5	..
Sangre Grande	...	...	...	...	...	7	..
Toco	...	...	...	...	...	2	..

Excluding the 14 in the emergency hospitals there are therefore in all 858 beds for all cases—surgical, medical, infectious disease and maternity. No arbitrary standard of hospital beds per 1,000 of the population can be fixed but as a general statement 4 to 5 beds per thousand of the population has been considered as a reasonable estimate. In Trinidad the hospital beds available for all purposes amount to 1.8 per 1,000 of the population. Considering that convalescent homes do not exist in the colony overcrowding is to be expected.

Conditions in Port-of-Spain were particularly bad and in order to relieve in some measure the congestion it was necessary to institute a surgical waiting list to allow of patients suffering from the less acute surgical conditions being admitted as and when beds were available. Whilst some improvement resulted the fact remains that the daily average number of patients in this institute was 422.

In San Fernando conditions were even worse. In a hospital equipped for 194 patients the daily average number was 235. The largest number was 279 and the smallest 193. A further effort to relieve the overcrowding was made by expansion of out-patients' dispensaries to permit of the earlier discharge from hospital of cases who could suitably be treated outside. Thus in Port-of-Spain the additional number of out-patients treated in these dispensaries was 2,265 whilst at San Fernando the number was 930.

Extension of the district nursing service would further relieve the situation by making possible domiciliary treatment of many cases of ulcer and of abscess. 401 of the former and 549 of the latter occupied beds in the Colonial Hospitals for varying periods during the year.

Apart from the dangers inherent in overcrowding to this extent there is the fact that equipment is insufficient for such large numbers and efficient nursing becomes exceedingly difficult.

The same applied in the case of most of the district hospitals though to a less degree.

In Port-of-Spain construction of two ward blocks designed to accommodate 96 patients was commenced and these are expected to be ready for occupation in the course of the coming year. Legislative Council authorised the expenditure of various sums from loan funds amounting to \$160,000 for the construction of a new kitchen and laundry, additions to the nurses' home and construction of a general administrative casualty block. The work had not commenced at the close of the year.

Agreement was not reached on the subject of a new site for the Colonial Hospital at San Fernando and the possibility of rendering the present site suitable by extensive ground works was given further consideration. By the end of the year the geological adviser gave it as his opinion that the site could be made suitable and plans and estimates for new buildings were presented to Government.

Various minor works were carried out at the hospitals at San Fernando, Tobago and Princes Town.

It is again necessary to stress the absence of suitable accommodation for the segregation and treatment of infectious disease. Trinidad has over a period of years been singularly fortunate in the absence of major epidemics but this immunity cannot be expected to continue indefinitely. Even in the absence of serious outbreaks, the facilities available for the isolation of an ordinary incidence of infectious diseases are insufficient and unsatisfactory. Nothing short of an isolation hospital with a trained nursing staff can be considered sufficient for the needs of the colony.

Colonial Hospitals.*Nurses' Training Schools.*

A new syllabus was drawn up for 1st, 2nd, 3rd and 4th year (midwifery) nurses with lectures and demonstrations for each year lasting approximately 11 months. Examinations were arranged to take place each December.

It is hoped to attain in 1938 a complete unification of the syllabus of training and of the standard of examinations in the various training schools of which there are three, namely in Port-of-Spain San Fernando and Tobago. Provision has been made in the estimates for 1938 for a sister tutor for the first named.

The following table shows the number of successful candidates in the annual examinations for nursing certificates :—

<i>Training School.</i>		1st Year.	2nd Year.	3rd Year.
Colonial Hospital, Port-of-Spain	...	16	7	7
Colonial Hospital, San Fernando	...	8	7	12

Midwifery Examination.

Eight candidates from the Colonial Hospital, Port-of-Spain and 3 candidates from the Colonial Hospital, San Fernando, were successful in passing this examination.

Princess Mary Medals.

The Gold Medal was awarded to Nurse M. Ramrattan of the Colonial Hospital, Port-of-Spain.

The Silver Medal was awarded to Nurse R. S. Johnston of the Colonial Hospital, Port-of-Spain.

Radiology.

Increased use was made of the X-ray departments of the Colonial Hospitals of Port-of-Spain and San Fernando.

The total number of cases dealt with in Port-of-Spain was 3,716, the corresponding number in San Fernando being 1,877.

A portable X-ray unit was purchased for the Port-of-Spain Hospital and will be put into service when the rewiring of the hospital wards is completed.

X-Ray Therapy.

At the Colonial Hospital, Port-of-Spain, 42 patients received deep and 74 received superficial X-ray treatment.

The X-ray therapy room was air conditioned during the year so as to minimise the dangers of X-ray therapy under the humid atmospheric conditions prevailing locally.

Electro-therapeutic and Massage departments.

The Colonial Hospital, Port-of-Spain provided treatment for 546 new cases, the total number of treatments given being 6,324.

Modern apparatus was installed in the massage department of the Colonial Hospital, Port-of-Spain.

The Superintendent Sister (masseuse) delivered a course of lectures and arranged demonstrations for nurses attending from the Colonial Hospitals, Port-of-Spain and San Fernando and also from St. Ann's Mental Hospital.

Maternity Service.

Colonial Hospital, Port-of-Spain.

One thousand three hundred and thirty one new cases attended the ante-natal clinic conducted in connection with this service, the total attendances during the year being 6,214; 340 visits were paid by the nursing staff and, of the cases attended, 76 were referred to hospital for confinement. It is of interest to record that the percentage of deaths from eclampsia of in-patients who had attended the ante-natal clinic was 12.5 whilst in in-patients who had not so attended it was 30.

Four hundred and twenty-eight cases were delivered in the district by the hospital nursing staff. There were no deaths. 9 cases were admitted from the district for delivery in the maternity section of the hospital. 15 cases were admitted from the district after delivery.

The total number of cases admitted to the maternity section was 928 of which 39 were after parturition. 706 were normal confinements.

Colonial Hospital, San Fernando.

Six hundred and one new cases attended the ante-natal clinic with a total attendance of 1,952.

Four hundred and thirty-five cases were admitted to the maternity section of which 16 were admitted after delivery.

Sixty-three cases were delivered in the districts and the district nurses paid 567 home visits.

Colonial Hospital, Tobago.

There were 185 admissions, confinement being normal in 148 cases.

The following table shows the principal abnormalities met with in pregnancy cases dealt with—deaths shown in brackets :—

	Colonial Hospital Port-of-Spain.	Colonial Hospital San Fernando.	Colonial Hospital Tobago.
Eclampsia (Puerperal) ...	66 (17)	33 (11)	1
Abortion ...	159 (3)	50 (3)	9
Ectopic Gestation ...	13 (1)	1 (1)	...
Other accidents of pregnancy ...	119 (7)	4 (1)	13 (3)
Puerperal fever ...	20 (2)	15 (2)	11
Other accidents of parturition ...	13 (7)	2 (1)	29 (11)
Phlegmasia alba dolens ...	1	...	...

The following table gives a summary of the surgical operations performed in the Colonial Hospitals:

MAJOR OPERATIONS.	Colonial Hospital, Port-of-Spain.	Colonial Hospital, San Fernando.	Colonial Hospital, Tobago.
Appendectomy	62	23	3
Colostomy	2	...	2
Gastrostomy	1	...	...
Gastro Enterostomy	2	2	...
Suture of perforated duodenal ulcers	3	...	...
Suture of perforated gastric ulcers	2	8	...
Suture of perforated typhoid ulcers	1	2	...
Herniotomy—simple inguinal	68	131	9
Herniotomy—simple umbilical	5	1	...
Herniotomy—simple femoral	1	1	...
Herniotomy—for strangulated herniae	10	10	2
Laparotomy	37	25	5
Perforated gall bladder	1	...	...
Cholecystostomy	...	3	...
Haemorrhoidectomy	11	27	2
Sigmoidoscopy	...	2	...
Ruptured urinary bladder	2	1	...
Prostatectomy	8	5	...
Nephrolithotomy	1	1	...
Pyonephrosis	...	3	...
Cystoscopy	4	11	4
Urethroscopy	...	...	1
Suprapubic cystostomy	15	5	6
Orchidectomy	4	4	...
Undescended testis	...	1	...
Plastic operation for hypospadias	1	...	...
Radical hydrocele operation	12	22	1
Varicocele	...	3	...
Repair of recto vaginal fistula	1	...	...
Hysterectomy (Subtotal)	41	28	1
Hysterectomy (total)	2	...	...
Hysterectomy (pan)	2	1	...
Hysterectomy (vaginal)	2	...	...
Marsupialisation of omentic cyst	1	...	...
Marsupialisation pancreatic cyst	1	...	...
Phrenic avulsion	9	...	...
Resection of rib	...	4	...
Dissection of cervical glands	1	1	...
Excision of growths	47	40	5
Excision of fistulas	12	8	1
Excision of glands	...	1	...
Posterior urethrotomy	5	...	3
Vasectomy	4	...	...
Amputation of penis	3	1	...
Elephantiasis of penis and scrotum	...	1	...
Amputation of breast	7	3	...
Oophorectomy	26	...	...
Salpingectomy	23	22	...
Ruptured ectopic gestation	9	1	...
Abdominal pregnancy	...	1	...
Caesarean section	2	1	...
Colporrhaphy	1	1	...
Perineorrhaphy	5	...	...
Shortening round ligament	...	1	...
Reposition of the uterus	...	2	...
Dilatation and curettage	31	6	1
Subtemporal decompression	1	1	...
Elevation of depressed fracture of skull	1	...	...
Amputation of leg	18	15	3
Amputation of arm	9	3	...
Open reduction of fracture	4	1	...
Excision of semilunar cartilage	...	1	...
Excision of tarsal scaphoid	1	1	...
Excision of radius	...	1	...
Excision of patella	2	2	...
Suturing patella	...	1	...
Excision of elbow joint	1	...	...
Bone graft	...	1	...
Plastic operation on finger	2	...	...
Hare lip operation	1	...	...
Skin graft	4	4	...
Osteotomy	2	2	1
Sequestrectomy	18	13	2
Arthrotoomy	...	2	1
Ligature of arteries	...	4	...
Suture of nerves	...	4	...
Spina bifida	...	1	...

MAJOR OPERATIONS.	Colonial Hospital, Port-of-Spain.	Colonial Hospital, San Fernando.	Colonial Hospital, Tobago.
Ophthalmic Operations.			
Pterygium transplantations	18	26	1
Capsulotomy	11	5	...
Ziegler's needling	9	11	...
Removal of corneal opacity	5	...	...
Corneo scleral trephine	16	9	...
Cataract extraction	55	41	1
Enucleation of eye	27	19	2
Iridectomy	5	4	...
Paracentesis of anterior chamber	2	2	...
Abscission of prolapsed iris	10	7	...
Excision of tear sac	5	1	...
Snellens sutures	2	...	...
Saemiot sections	2	...	...
Tarsectomy	1	...	...
Excision of dermoid of globe	1	...	...
Curette evacuation for traumatic cataract ... ..	...	4	...
Magnet extraction of foreign body ... ..	...	1	...
Removal of glass from eyeball ... ..	...	1	...
Plastic repair of eyelid ... ..	...	2	...
Saemisch keratotomy ... ..	...	1	...
Plastic for ectropion ... ..	...	1	...
Plastic for entropion ... ..	...	1	...
Peridectomy ... ..	...	1	...
Plastic repair of conjunctiva ... ..	...	1	...
Repair of orbit, removal of adhesions ... ..	...	1	...
Draining abscess of orbit ... ..	...	1	...
Removal of papilloma of conjunctiva ... ..	...	1	...
Tarsorrhaphy ... ..	...	1	...
Removal of adhesions of cornea ... ..	...	1	...
Ear, Nose and Throat Operations.			
Radical mastoidectomy	24	20	...
Myringotomy	1	2	...
Removal of tonsils and adenoids	268	80	10
Removal of adenoids	15	58	...
Removal of nasal polypi	13	6	...
Removal of aural polypi	3	...	...
Reconstruction of nasal bones	2	...	...
Tracheotomy	2	...	...
Removal of coin from oesophagus	3	...	...
Curettag of ethmoid sinuses	5	...	...
Turbineotomy ... ..	...	1	...
Puncture of maxillary antrum ... ..	...	6	...
MINOR OPERATIONS :			
Circumcision	77	65	13
Dilatation of urethral stricture	31	92	17
Biopsy of cervix	4	...	...
Biopsy ... ..	...	4	...
Incision for extravasation of urine	6	...	2
Whitlow	13	...	3
Incision for cellulitis	8	93	16
Carbuncles	7	15	2
Gangrene of scrotum	2	...	...
Sinus of scrotum	2	...	...
Examination under general anaesthetic	24	...	...
Abscesses incised	256	222	41
Extraction of teeth	18	6	...
Amputation of fingers or toes	22	32	...
Manipulation of fractures	44	95	1
Plaster of paris casings	55	85	2
Excision of painful scar... ..	1	3	...
Introduction of kirschner wires	5	7	...
Suturing of wounds	20	67	26
Suturing of tendons	38	28	3
Removal of foreign bodies	29	35	4
Avulsion of nails	7	5	3
Dilatation of rectal stricture	32	18	5
Paracentesis abdomen	6	87	6
Manipulation of limb ... ..	...	14	1
Scraping of ulcers ... ..	...	4	1
Incision of sinus ... ..	...	...	4
Operation of joint ... ..	...	3	1
Dilatation of vagina ... ..	...	...	1
Injection of haemorrhoids ... ..	...	12	...
Injection of varicose veins ... ..	...	2	...
Lumbar puncture ... ..	...	3	...
Tapping hydrocele ... ..	...	1	...

Infectious Diseases.

Enteric Group.—Of the enteric group, typhoid fever alone occurred, 609 new cases being dealt with at the Colonial Hospitals with a mortality of approximately 20 per cent.

Undulant fever.—One case was admitted during the year.

In view of the positive agglutination reactions for the *Br. abortus* group in human and goat sera collected in the colony, more use might be made of agglutination reactions in the investigation of obscure "fever" cases.

Malaria.—Over 1,200 cases of malaria were admitted to the Colonial Hospitals during the year.

Of the 327 cases of malaria admitted to the Colonial Hospital, Port-of-Spain, 201 were diagnosed microscopically as aestivo autumnal fever. Cases of this fever occurred during each month of the year with the highest incidence in August, September and October.

Dysentery.

Dysentery.—One hundred and twenty-one cases of amoebic dysentery were admitted to the Colonial Hospitals, there being 26 deaths among the 133 cases treated.

Examination of stools of cases other than those with intestinal disorders, indicated that there was a relatively high percentage of carriers of *entamoeba histolytica*.

Only 13 cases of proved bacillary dysentery were dealt with during the year. This is in striking contrast to the 342 cases of "diarrhoea and enteritis" under treatment, 93 of which ended fatally.

Increased use of the bacteriological laboratory might well indicate that many of such cases are dysenteric in origin.

Acute Poliomyelitis.—Four deaths occurred among the 75 cases under treatment.

Port-of-Spain cases, which numbered 31, were admitted during the months of January, February, March, May, July, and August while the ages of the patients ranged from under one year to 19 years.

Cerebro-spinal fever.—That one fatal case occurred indicates the possibility of carriers being at large, the danger of which, in overcrowded homes, cannot be too greatly stressed.

Tuberculosis.—Of the 441 cases of pulmonary and laryngeal tuberculosis under treatment, 206 ended fatally during the year; the case mortality being approximately 47 per cent.

In this connection it has to be borne in mind that non-infective cases are not detained in hospital nor, as a rule, are those cases with suitable home surroundings.

Analysis of Age at death of Port-of-Spain cases.

Age group.	No. of Deaths.
Under 1 year ...	4
12-16 years ...	7
16-20 ,, ...	8
20-25 ,, ...	23
25-30 ,, ...	20
30-35 ,, ...	18
35-40 ,, ...	16
40-55 ,, ...	13
45-50 ,, ...	10
50-55 ,, ...	14
55-70 ,, ...	12
Age not ascertainable ...	16

Clinically and radiologically it is exceptional to find the fibroid type of phthisis and at post mortems "healed" tuberculous lesions are conspicuous for their absence and it would seem that pulmonary tuberculosis once established tends to be a progressive disease.

The possible role played by syphilis in militating against recovery from the tuberculosis lesion is an aspect of the problem worthy of investigation.

Veneral diseases.—Hospital cases dealt with were largely end-results in patients who had neglected to carry out early treatment.

Testing of patients admitted for conditions other than venereal disease indicates that latent syphilis affects a larger percentage of the hospital class of patient. Apart from frank venereal disease, syphilis appears to be the underlying cause in many cases of apoplexy affecting the relatively young, of aneurysm, and of heart disease. Myocarditis in hospital cases affects patients for the most part under 50 years of age.

Gonorrhoea on the other hand is the causative factor in most of the urethral diseases of which 356 received in-patient treatment during the year. The end results of neglected gonorrhoea in the female are reflected in the high incidence of pelvic cellulitis.

OUT-PATIENTS DEPARTMENT.

	OPHTHALMIC.		EAR, NOSE AND THROAT.		ANTE-NATAL.		SICK CHILDREN		DENTAL.	
	Total Attendances.	New Cases	Total Attendances.	New Cases	Total Attendances.	New Cases	Total Attendances.	New Cases	Fillings.	Extraction.
Colonial Hospital, Port-of-Spain	2,647	1,120	3,772	1,322	6,214	1,331	4,213	1,690	146	2,101 (children) 1,183 (adults)
Colonial Hospital, San Fernando	4,271	1,543	...	...	1,952	601	2,602	1,708	...	1,460 (children) 1,246 (adults)
	CASUALTY.		MEDICAL CLINIC.		VENEREAL DISEASES.					
			Attendances.	New Cases.	Attendances.	New Cases.				
Colonial Hospital, Port-of-Spain	12,127		438	121	Gonorrhoea 5,264 Syphilis 3,245	193 1,066				
Colonial Hospital, San Fernando	3,345		...	...	4,612	718 (Gonorrhoea and Syphilis)				

District Hospitals.

Four thousand eight hundred and sixteen patients were admitted to these institutions in the course of the year, the daily average number of beds occupied being 182. At Couva 96 patients were admitted to the maternity section.

The conditions most commonly treated were malaria, venereal disease, diseases of the circulatory system, wounds and injuries and ankylostomiasis.

As in the case of the Colonial Hospitals the absence of means of segregating infectious cases is a matter of serious importance.

Health Offices (Dispensaries).

The distribution of Health Offices and the attendances there are given in table

TABLE IV.
Return of the number of Health Offices and Attendances of Paupers and Poor Persons in Medical Districts during the year 1937.

Medical Districts.	No. of Health Offices in Districts.	Pauper Certificate		Poverty Certificate.		Total.		GRAND TOTAL.	CERTIFICATE FOR							Total.	GRAND TOTAL.		
		Treated as Out-patients.		Colonial Hospital.		House of Refuge.			Leper Asylum.		M.	F.	M.	F.	M.			F.	
		M.	F.	M.	F.	M.	F.		M.	F.									M.	F.
Port-of-Spain ...	3	12,052	15,968	5,951	12,051	18,003	28,029	46,032	17,717	27,753	259	247	23	28	4	1	18,003	28,029	46,032
San Fernando ...	6	3,063	3,725	524	636	3,587	4,361	7,948	3,433	4,263	151	98	...	...	3	...	3,587	4,361	7,948
Diego Martin-Bocas ...	6	1,120	1,496	839	1,272	1,959	2,768	4,727	1,913	2,698	41	60	5	10	...	...	1,959	2,768	4,727
St. Joseph ...	4	5,100	8,798	688	1,171	5,788	9,969	15,757	5,788	9,969	...	...	...	...	...	...	5,788	9,969	15,757
Tacarigua ...	4	6,425	9,846	674	969	7,099	11,755	17,854	7,062	10,721	37	34	...	...	...	...	7,099	10,755	17,854
Arima ...	4	4,568	5,607	608	933	5,176	6,540	11,716	5,070	6,477	74	56	27	7	5	...	5,176	6,540	11,716
Sangre Grande ...	6	4,268	5,682	737	911	4,945	6,593	11,538	4,945	6,593	15	11	11	6	1	2	4,945	6,593	11,538
Couva ...	3	2,490	2,653	91	155	2,581	2,808	5,389	2,554	2,789	15	11	11	6	1	2	2,581	2,808	5,389
Gran Couva ...	4	572	617	200	269	772	886	1,658	688	833	84	50	...	...	...	...	772	886	1,658
Guaracara ...	3	365	391	...	1	365	395	760	297	362	68	30	...	...	...	...	365	395	760
Princes Town ...	4	7,528	8,823	...	...	7,528	8,823	16,351	7,595	8,810	16	7	6	6	1	...	7,528	8,823	16,351
Ortoire-Moruga ...	4	662	928	11	18	673	946	1,619	654	939	19	7	...	...	...	...	673	946	1,619
La Brea-Point Fortin ...	3	1,704	2,091	569	1,012	2,273	4,003	6,276	2,232	3,947	35	51	6	5	...	...	2,273	4,003	6,276
Frin-Siparia ...	7	3,941	3,808	596	849	4,531	4,657	9,188	4,364	4,524	163	129	4	3	...	...	4,531	4,657	9,188
Cedros ...	3	881	844	416	427	1,300	1,271	2,571	1,300	1,271	...	...	...	...	...	...	1,300	1,271	2,571
Mayaro ...	4	2,330	2,726	281	363	2,611	3,089	5,700	2,558	3,068	53	19	...	...	...	...	2,611	3,089	5,700
Toco ...	5	359	338	200	229	559	567	1,126	549	553	9	13	1	1	...	...	559	567	1,126
Chaguuanas ...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total Trinidad ...	...	57,368	75,244	12,382	21,216	69,750	96,460	166,210	68,629	95,570	1,024	812	83	71	14	7	69,750	96,460	166,210
Scarborough ...	3	1,525	2,279	87	156	1,612	2,435	4,047	994	1,816	618	619	...	...	...	...	1,612	2,435	4,047
Roxborough ...	7	446	748	6	4	452	752	1,204	451	752	...	...	...	...	...	...	452	752	1,204
Plymouth ...	6	985	1,433	7	10	992	1,443	2,435	973	1,400	19	42	...	...	...	...	992	1,443	2,435
Total Tobago ...	...	2,956	4,460	100	170	3,056	4,630	7,686	2,418	3,968	637	661	...	...	...	...	3,056	4,630	7,686
Trinidad and Tobago ...	...	60,324	79,704	12,482	21,386	72,806	101,090	173,896	71,047	99,538	1,661	1,473	83	72	15	7	72,806	101,090	173,896

Chacachacare Leper Settlement.

The Medical Superintendent of the settlement reports as follows:—

The settlement sited on the island of Chacachacare consists of two sections, male and female, which accommodate the male and female patients in the areas known as Cocos and Sunda.

Approximately 400 lepers are accommodated in Cocos and Sunda, most of the attendants, mechanics, cooks and launchmen are also housed there.

The nursing sisters, represented by the religious order of St. Dominic and a resident priest have accommodation at Marine Bay.

Constance Bay provides quarters for the Dispenser-Steward, Assistant Dispenser-Steward and three attendants. La Tinta Bay situated between Marine and Cocos Bays contains a prison as well as quarters for the chief attendant and three other attendants.

Bulmers Bay has a rest house and quarters for one attendant.

The Medical Superintendent is housed at Rust Bay about a mile distant from the female settlement at Sunda.

A road on the sea wall affords communication between the male settlement at Cocos and the female settlement at Sunda.

Communication between the various bays and with the mainland is carried out by launches.

Staff.

The staff consist of one Medical Superintendent, one Dispenser-Steward, one Assistant Dispenser-Steward, one chief attendant and 25 attendants, the latter act as launchmen, mechanics and cooks; one is a qualified carpenter and another acts as Laboratory Assistant and Post Office Clerk. There are also nurses of the religious Order of St. Dominic supervised by a Matron and Assistant Matron, who carry out nursing duties in the hospital, infirmary and disabled wards.

In addition there are two nurses who do not belong to the order of St. Dominic, one is a trained maternity nurse; these two nurses act alternately as day and night nurses.

Endeavours have been made during the past year, to improve the amenities of the island by planting fruit and shade trees; the establishment of an apiary during the last six months will assist in the propagation of plants, which will be of economic value.

The important part played by diet in the treatment of leprosy and in particular the therapeutic value of a plentiful supply of animal fat and of fresh fruit and vegetables has led to proposals being made to establish on the mainland a settlement for discharged lepers. This will take the form of a dairy farm on which also will be produced fruit and vegetables for consumption at the settlement at Chacachacare. In the meantime an experimental vegetable garden established on a small scale at Sunda Bay in the month of July has provided and is still providing fresh vegetables, lettuce, tomatoes, cucumber, beans and mustard which have served the needs of patients in the hospital.

Fruit trees, paw paw, mangoes, grape fruit and orange trees have been planted in specially selected areas in the settlement.

An apiary established a few months ago at Sunda is now providing honey of excellent quality; there can be no doubt that the addition of honey to the dietary of the lepers has been a signal success. Apart from its high food value, honey is also a useful therapeutic agent, acting as a demulcent in the throat affections that frequently occur in this disease.

In past years the diet which necessitated cooking was cooked in an empirical manner in the kitchens and served in the dining halls of the male and female settlements.

A new system has been adopted, whereby, patients can now, by arrangement, draw their raw rations and carry out their own cooking and consume their meals in the comparative privacy of their own cottages. The results of this innovation have led to a contentment and well being on the part of the leper patients that have exceeded expectations.

Accommodation for the patients.

In the male and female settlements the patients are housed in cottages that accommodate 6 to 8 beds. One cottage is reserved in each settlement for patients desiring greater privacy and who can pay a nominal rent.

In the male settlement there is an infirmary ward and a disabled ward with beds for 22 and 25 patients respectively.

In the female settlement, there is a hospital with 40 beds which accommodates male and female patients; there is also an infirmary ward with 36 beds for female cases.

This ward is similar to the infirmary ward in the male settlement, it accommodates the mutilated and the blind. The occupants are beyond hope as regards medical treatment, the majority are also derelicts disowned by relations and friends, they represent tragic examples of the havoc played by leprosy.

On 1st January, 1937, there were in the settlement 399 patients. There were 78 admissions during the year, 67 discharges and 29 deaths. The daily average number of patients was 397.76 and the percentage of deaths on the number treated during 1937 was 6.08.

The diseases treated apart from leprosy include ankylostomiasis, tuberculosis, valvular disease and myocardial degeneration of the heart, bronchitis, laryngitis, nephritis, syphilis and pyrexias of uncertain origin. It is more than likely that certain of these pyrexias represent "brucellosis". A few cases of malaria and dysentery (amoebic and bacillary dysentery) have also been treated.

The disease, leprosy, has been treated on general principles of medicine—such concomitant or intercurrent infections as ankylostomiasis, syphilis, malaria, pyorrhea, &c. are first treated before specific treatment for leprosy is adopted. Having cleared the way by getting rid of concomitant infections, specific treatment by injections of hydnocarpus and its derivatives can be adopted. At the same time it is necessary to cater for the physical and mental welfare of the leper by a suitable dietary, occupational therapy and recreation. These basic principles have been adopted and judging from results appear satisfactory.

During the past year 11,243 injections of hydnocarpus and hydnestryle have been administered for the treatment of leprosy.

Among other remedies calcium lactate has proved valuable in the treatment of haemorrhagic ulcerations and certain eye complications.

Clinical observations indicate that there is a calcium deficiency in many cases of leprosy. Calomel, judged by its popularity, acts as a sovereign remedy in cases showing leprotic reactions. Grey powder appears to have a similar effect in leprotic reactions in children.

For the local treatment of chronic ulcers with epitheliomatous edges, hot solutions of 1:1000 potassium permanganate have given the best results, where acriflavine has failed. Many of these ulcers are heavily infected with *B. pyocyaneus*. The tropic or nerve ulcers have definitely benefited with gauze dressings containing an emulsion of eucalyptus oil and iodoform.

A certain amount of minor surgery has been carried out. Cases requiring major surgical operations have been handled by the Medical Superintendent of the Colonial Hospital, Port-of-Spain. The Ophthalmic Surgeon has visited the settlement on two occasions to advise as regards the treatment of eye complications.

Table IV gives the classification, age on primary admission, treatment and results of treatment.

TABLE IV.

Admission, Discharges and Deaths—Patients during the year 1937, at the Chacachacare Leper Settlement.

Months.	Admitted.	Discharged.	Died.
January	8	—	2
February	7	—	1
March	5	—	1
April	11	25*	3
May	8	—	4
June	7	—	4
July	10	—	1
August	4	11	2
September	5	13†	4
October	3	4	3
November	7	—	2
December	3	14	2
Total	78	67	29

Number remaining in Settlement on 31st December, 1936 ... 399
Do. admitted during the year ended 31st December, 1937 ... 78

Total number treated during the year 1937 ... 477

Number discharged during the year 1937 ... 67
Do. died during the year 1937 ... 29 96

Do. remaining in hospital on 31st December, 1937 ... 381

Daily average number in Settlement during 1937 ... 397.76

Largest daily number in Settlement ... 416.00

Smallest do. do. ... 379.00

Percentage of deaths on number treated during 1937 ... 6.09

Deaths occurring within the undermentioned period after admission.

Time	No. of Deaths.
24 Hours	—
2 Days	—
3 Days	—
1 Week	—
2 Weeks	—
1 Month	—
3 Months	1
Over 3 months	28
Total...	29

* Includes 2 absconders.

† Includes 1 absconder.

Mental Hospital.

As in the case of the Colonial Hospitals, overcrowding was a constant feature of this institution. The nominal bed strength was 636 but the daily average number of patients was 751. There were 262 admissions and 165 discharges during the year. These figures are considerably higher than for the average year. This is possibly attributable to the disturbed condition of the colony when many persons suffered temporary mental derangement which disappeared with rest and suitable treatment. At the close of the year the number of patients had declined to 732 which was slightly less than the corresponding figures for the previous two years (743 and 747).

The staff numbered 96 male and 60 female attendants and nurses. The proposals for regrading of salaries and for more off duty time which were submitted to Government in 1936 were approved and put into effect. Various improvements were carried out in connection with the quarters of the staff. These include better furnishing and decoration of mess and recreation rooms and of bed rooms.

A regular course of instruction was given to the staff embracing anatomy, psychology, and the principles of general and mental nursing.

As a result of the works put in hand in 1936 the institution now has an abundant supply of good quality water from the city supply (St. Ann's reservoir).

Dysentery was responsible for 11 deaths and diarrhoea for 8 during the year. The fly problem presents a difficulty. Breeding in the grounds is well controlled but there is a considerable immigration of flies from outside. A portion of one of the wards was fly-proofed and used for the segregation of cases of diarrhoea and proposals have been put forward for the construction of an isolation ward for these cases.

Therapeutic Measures.

All patients receive anti-typhoid inoculation and anti-hookworm treatment on admission.

The Acting Medical Superintendent makes the following observations:—

The administration of thyroid gland and vitamins, extraction of carious teeth and anti-syphilitic treatment greatly improve numbers of patients and are partly responsible for the large number of persons discharged.

One thousand two hundred and nineteen teeth were extracted from 401 patients; under general anaesthetic in 39 cases.

Eighty-six patients were given a total of 1,176 anti-syphilitic injections—neocardyl and tryparsamide being used. Of 228 specimens of blood Wasserman tested 143 were positive (2 to 4 plus). Of 58 specimens of C.S.F. Wasserman tested 14 were positive (2 to 4 plus).

These figures show the great desirability of further anti-syphilitic work. Of the 86 patients treated, 39 were discharged and recommended for further treatment outside. Routine examination of blood and cerebro-spinal fluid for syphilis of all admissions is planned for next year.

A large amount of work was done on the grounds bringing two acres under cultivation. 50 orange and 30 flowering trees were planted, and work was commenced on an apiary.

There were 57 cinema entertainments, concerts and dances. Between 350 and 400 patients attended and showed marked appreciation of the entertainment.

TABLE V.

Showing Admissions, Discharges and Deaths at the Mental Hospital during 1937.

	Male.	Female.	Total.	Male.	Female.	Total.
In Hospital on 1st January, 1937	...	...	...	394	353	747
Cases Admitted:—						
First Admission	108	125	233	...	...	...
Not first admissions	15	14	29	...	...	...
Total Cases Admitted	...	...	...	123	139	262
Total Cases under care	...	...	...	517	492	1,009
Cases Discharged:						
Recovered during 1937	62	61	123	...	...	...
Relieved	20	19	39	...	...	...
Not Improved	1	2	3	...	...	...
Died	46	66	112	...	...	...
Total Cases Discharged and Died	...	...	...	129	148	277
Remaining in Hospital on 31st December, 1937	...	...	...	388	344	732
Average No. Resident during 1937	397	354	751	...	...	...
Persons under care during 1937	517	492	1,009	...	...	...
Persons Admitted during 1937	123	139	262	...	...	...
Persons Recovered during 1937	62	61	123	...	...	...

TABLE VI.

I. Previous attacks among persons admitted during 1937.

II. The number of times they had previously recovered in this Hospital.

	Male.	Female.	Total.
1. Have had 1 attack	18	21	39
Do. 2 attacks	4	4	8
Do. 3 do.	1	...	1
Do. 4 do.	1	...	1
Do. 5 do.	...	...	...
Do. 6 do.	...	1	1
2. Number of times recorded in this Hospital			
Once	12	10	22
Twice	2	3	5
Thrice	...	...	...
Four times	1	...	1
Five times	...	...	...
Six times	...	1	1

TABLE VII.

Showing Admissions, Re-admissions, Discharges and Deaths from opening of the Mental Hospital in 1858 to the 31st December, 1937.

	Male.	Female.	Total.	Male.	Female.	Total.
Persons admitted since opening of the Institution	4,606	4,033	8,639	...	...	...
Re-admissions do. do. do. ...	463	408	871	...	...	...
Total cases admitted	...	...	...	5,069	4,441	9,510
Discharged :—						
Recovered	1,792	1,420	3,212	...	...	...
Relieved	371	263	634	...	...	...
Not improved	114	76	190	...	...	...
Died	2,404	2,338	4,742	...	...	...
Total cases discharged and died since opening of Institution	...	...	...	4,681	4,097	8,778
Remaining on 31st December, 1937	...	...	...	388	344	732

TABLE VIII.

Showing the Admissions and Recoveries of Persons from 1881 to 31st December, 1937.

	Male.	Female.	Total.
Persons admitted during the years 1881 to 31st December, 1937	4,089	3,688	7,777
Of whom were discharged recovered during the same period, being 34.92 per cent. of persons admitted	1,483	1,233	2,716
Of whom were re-admitted relapsed	420	375	795
Persons who have not relapsed	1,063	858	1,921
Relapsed persons discharged recovered	172	162	334
Net recovered persons being 29 per cent. of persons admitted	1,235	1,020	2,255

TABLE X.
Table showing the Forms of Mental Disorder with Ages on admission (and condition as to Marriage of patients admitted 1937).

Forms of Mental Disorder.	15-19.		20-24.		25-34.		35-44.		45-54.		55-64.		65 Upwards.		Totals			Condition as to Marriage (Males).			Condition as to Marriage (Females).						
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	T.	M.	S.	W.	U.K.	M.	S.	W.	U.K.		
I.—Congenital Mental Deficiency:—																											
A.—With Epilepsy	1	4	1	3	1	1	1	1	1	1	1	1	1	1	1	1	5	1	9	1	1	1	5	1	1	1	
B.—Without Epilepsy	6	4	1	3	1	1	1	1	1	1	1	1	1	1	1	1	14	9	9	9	9	9	5	1	1	1	
II. Psychoses:—																											
1. Insanity with Epilepsy	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	7	7	7	7	2	2	2	2	2	
2. General Paralysis	3	3	6	17	14	6	4	1	1	1	1	1	1	1	1	1	43	33	43	43	43	17	17	17	17	17	
3. Insanity with Gross Brain Lesion.	1	4	8	6	9	7	2	1	1	1	1	1	1	1	1	18	20	18	18	18	6	6	6	6	6		
4. Confusional Insanity	1	4	1	2	2	2	2	2	2	2	2	2	2	2	2	2	16	6	11	11	11	2	2	2	2	2	
5. Stupor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
6. Dementia Praecox	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
7. Mania —Depressive	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
8. Mania —Recent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
—Recurrent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
—Chronic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
9. Melancholia —Recent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
—Recurrent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
—Chronic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
10. Alternating Insanity	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
11. Delusional —Systematised	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
Non-Systematised	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
12. Volitional Insanity (Obsession, Anxiety Neurosis)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
13. Senile Dementia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
14. Secondary Dementia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
15. Not Insane	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	3	3	3	3	2	2	2	2	2	
	123	139	262	31	78	4	10	48	64	13	14																

House of Refuge, Trinidad.

Accommodation is provided for 700 destitute and infirm persons. The total number of persons in this institution on 1st January, 1937, was 678. 292 males and 164 females were admitted during the year. 104 persons were discharged and 259 died. The cause of death in 55 per cent. of the cases was senility; the other most common causes being cerebral haemorrhage and arterio sclerosis. There were 8 deaths from malignant disease. The daily average number of persons in the institution was 693 and on the 31st December the number was 681. The largest number accommodated was 714 and the smallest 693.

There was no incidence of infectious disease and the general condition of the institution and of the inmates was satisfactory.

To the hospital section there were 15 admissions, the daily average number in hospital being 59.6.

In the corresponding institution in Tobago there were 49 inmates on the 1st January, 1937. 33 were admitted and 12 discharged in the course of the year. There were 20 deaths. The daily average number of inmates was 55.

The daily cost per inmate (exclusive of cost of maintenance of buildings) was 28 cents in Port-of-Spain and 15 cents in the case of Tobago.

SECTION VII.—PRISONS.

Conditions at the various institutions in the colony were satisfactory. Buildings and sanitary arrangements were maintained in a satisfactory condition and the health of the inmates was on the whole good.

Royal Gaol.

Of persons committed 3.27 per cent. necessitated admission to the infirmary. Minor injuries and ailments on admission were dealt with to the extent of 22.54 per cent.

Three hundred and forty-nine prisoners were admitted to the infirmary, the principal causes being influenza and temporary pyrexia of a mild degree and malaria. The incidence of diarrhoea and dysentery was low. 64 males and 33 females were remanded for mental observation. Of these 26 males and 24 females were transferred to the Mental Hospital. The daily average number of patients in the infirmary was 7.81 whilst the average number treated in the cells was 1.92, making a total daily average of 9.73 as compared with 9.93 in the previous year.

Two cases of chicken pox were transferred to the Colonial Hospital, Port-of-Spain, and one case of leprosy to Chacachacare.

There were 7 deaths in this institution—judicial executions 3, pulmonary tuberculosis, acute mania and cardiac failure, chronic nephritis, and lobar pneumonia, one each.

Carrera Convict Prison.

Conditions here were satisfactory. The average daily number of prisoners was 304.8 while the average number in the infirmary was 7.11 representing 2.3 per cent. of the population. There was no case of communicable disease. The single death which occurred was due to cardiac disease.

Young Offenders' Detention Institution.

The daily average number of persons under detention was 141.9, the total admissions during the year being 181. Apart from an outbreak of influenza during September and October the health of the inmates was good. Admissions to the infirmary numbered 305. Apart from one case of pulmonary tuberculosis and the influenza to which reference has just been made, there was no communicable disease. There were no deaths in the institution.

Arrangements were made for attendance where necessary at the various out-patients clinics at the Colonial Hospital, Port-of-Spain.

Attendances were as follows:—

Dental Clinic	...	...	...	...	...	...	...	75
Ear, Nose and Throat	...	...	...	...	...	...	...	7
Ophthalmic Clinic	...	...	...	...	...	...	...	1

Seven boys were transferred to the Colonial Hospital in the course of the year.

In addition to receiving a primary education the boys are given a practical industrial training. Their leisure hours are spent in the open air in various forms of sport and in organised games.

Convict Depot, Scarborough:

Sanitary conditions were well maintained and the health of the prisoners was satisfactory.

SECTION VIII.—METEOROLOGY.

The following readings were taken at the St. Clair Experiment Station, Port-of-Spain Longitude 61°31' West. Latitude 10° 40' North—the barometer being 72 feet above mean sea level.

Month.	Mean Pressure in inches.	AIR TEMPERATURE.			Relative Humidity Mean per cent.	Rainfall in inches.	WEATHER DAYS.	
		Mean Max °F.	Mean Min °F.	Range °F.			Clear Sky.	Over cast.
January ...	29.944	89.4	70.4	19.0	84.0	3.62	12	19
February ...	29.992	89.4	67.6	21.8	79.5	1.24	20	8
March ...	29.955	91.0	68.3	22.7	76.0	0.70	17	14
April ...	29.069	91.1	69.2	21.9	77.8	2.59	22	8
May ...	29.965	92.4	71.4	21.4	73.5	0.20	8	23
June ...	30.015	90.3	72.3	18.0	79.0	4.33	14	16
July ...	29.998	90.1	71.5	18.6	85.5	7.09	12	19
August ...	29.954	90.7	71.4	19.3	85.5	8.69	8	23
September ...	29.912	90.6	71.6	19.0	83.0	5.41	9	21
October ...	29.904	91.0	71.7	19.3	83.5	4.17	10	21
November ...	29.880	90.7	71.6	19.1	87.0	12.08	12	18
December ...	29.986	91.0	70.0	21.0	83.5	7.88	12	19
Year ...	29.948	90.6	70.5	20.1	81.4	58.00	156	209

Temperature.

The records show no marked departure from the normal. The extreme range was between 64°F. and 95°F.

Humidity.

In the early morning throughout the year the relative humidity was usually 90 per cent. and over. In the dry season it fell considerably by the afternoon whereas in the wet season the decrease was not so marked.

Rainfall.

The total rainfall was 58.00 inches, the average over the last 76 years being 63.31 inches. The greatest rainfall is recorded from the Eastern districts and the valleys of the northern range.

SECTION IX.—LABORATORY SERVICES.

The volume of work which the laboratories are called upon to do continues to expand. The practice has been established of examining all in-patients in the Colonial Hospital, Port-of-Spain, for malaria parasites and for hookworm. This, together with the steady increase in the number of specimens for Wasserman and biochemical tests submitted from all parts of the colony by private practitioners as well as Government institutions, has taxed the capacity of the staff severely and has resulted in delay in the investigation of certain medical problems. The appointment during the year of an extra laboratory attendant and of a female assistant who in addition to laboratory duties assisted the pathologist in certain cases in the mortuary was of some assistance but an increase in the number of technical assistants is unavoidable.

In October a small clinical laboratory was established at the Colonial Hospital, San Fernando, in charge of a technical assistant trained in the Government laboratory at Port-of-Spain.

The account given below by the bacteriologist and the pathologist summarises the work done by this branch of the department.

BACTERIOLOGY.

Routine Examination:

20,615 separate specimens were submitted to 29,658 examinations during the year, together with 678 samples of water collected from various parts of the island. 3,370 bats were also examined for negri bodies. The nature of some of these specimens is here given in tabulated form.

Blood for Agglutination against *B. Typhosus*.

Months.	Total.	Positive.	Negative.
January	88	31	57
February	78	22	56
March	76	29	47
April	67	12	55
May	68	20	48
June	91	25	66
July	182	50	132
August	259	82	177
September	277	61	216
October	179	28	151
November	90	28	62
December	148	22	126
	1,603	410	1,193

Blood smears for Malarial Parasites.

Months.	Total.	Positive.	Negative.	<i>P. vivax</i> .	<i>P. falciparum</i> Rings.	<i>P. falciparum</i> Crescents.	<i>P. Malariae</i> .
January	77	18	59	8	9	1	...
February	82	20	62	7	11	2	...
March	106	25	81	7	16	2	...
April	77	4	73	1	2	1	...
May	67	3	64	2	1	...	...
June	95	7	88	2	5	...	...
July	154	27	127	7	19	1	...
August	217	43	174	2	40	1	...
September	220	70	150	6	61	3	...
October	174	45	129	1	40	3	1
November	149	28	121	4	20	2	2
December	152	34	118	7	27	...	...
	1,570	324	1,246	54	251	16	3

The following table gives the routine bacteriological examinations made during the year:—

Dark Ground Illumination for <i>Treponema Pallidum</i> ...	...	...	23	of which	17	were positive.
Sputum examinations for <i>B. Tuberculosis</i> ...	...	...	945	do.	219	do.
Throat swabs for Diphtheria Bacilli ...	...	...	406	do.	63	do.
Wasserman Tests ...	...	...	7,512	do.	4,043	do.
Specimens for Ankylostomiasis ...	...	...	1,692	do.	448	do.
Amoeba Histolytica ...	...	...	668	do.	132	do.
Urethral and Prostatic discharges for Gonorrhoea ...	...	...	341	do.	82	do.
<i>B. Typhosus</i> in Faeces and Urine ...	...	...	601	do.	82	do.
Scrapings and smears for <i>B. Leprae</i> ...	...	...	140	do.	16	do.
Differential blood counts ...	...	...	685	specimens were examined.		

The laboratory prepared and issued the following quantities of vaccines during the year:—

Anti-typhoid—paratyphoid ...	...	...	60,770	c.c.
Gonococcal ...	...	...	7,250	c.c.
Anti-rabies (human) ...	...	...	3,825	c.c.
Autogenous ...	...	...	1,550	c.c.

Comments on Special Investigations.

Wasserman, &c.—There was an increase in the number of specimens submitted both for Dark Ground Illumination and for the Wasserman reaction due largely to the initiation of the Venereal Diseases Campaign. It is unfortunate that the uneducated class of the colony has failed to learn to realise the possible dangers in what appears to be merely a small sore on the genital; otherwise resort to dark field examination would show a higher increase with more satisfactory results in the control and prevention of syphilis. It is however gratifying to record the appreciation by the educated and non-educated lay public of the dangers of the disease for while in previous years efforts were necessary to convince patients of the value of a Wasserman Test, to-day much energy is spent in appeasing the fears of the wayward as to the non-specific value of a variety of ailments. A "blood test" which to the lay mind is synonymous with an examination for the detection of syphilitic infection is therefore constantly urged and medical practitioners are frequently faced with the difficulty of interpreting a positive Wasserman in the presence of an obviously non-syphilitic affection and a clean social history. In a community such as this where frambosia is so prevalent in a certain section, too much emphasis cannot be laid on the fact that a positive Wasserman does not necessarily connote syphilitic infection, while the large percentage of congenital syphilitics without obvious clinical manifestations should be taken into consideration in the assessment of the significance of a positive result in individuals with clean social histories. But there are also cases of undoubted leucic infection which show variation in their antibody contents and consequent alternations from positive to negative reactions and *vice versa*. Such instances, though few, point to the desirability of determining what factors—apart from technique—may influence the reaction in the tropics, and what are the factors which produce "false positives". Towards this end data are being accumulated, as time and opportunity permit, and it is hoped the results will throw further light on this most interesting of biological reactions.

The difficulty of obtaining complement from healthy guinea pigs continued to be an unpleasant feature of the operations of the laboratory, but provision has been made for the establishment during this year of a small farm for the supply of experimental animals for the various wants of the laboratory.

Enteric Fever. A short sharp outbreak of typhoid around the San Juan-St. Joseph district was largely responsible for the increase in the number of Widal's done during the year. For reasons given in previous reports medical officers were unable to supply larger quantities of blood so as to enable the naked eye tube to be the method of choice, but the results obtained by the microscopic slide using a fresh live culture grown on agar and washed off with peptone broth instead of saline justified their faith in the results given by this method. Several years experience has shown only two instances in the past where typical clinical typhoid fever failed to give a positive Widal, but during this year's outbreak there were three instances where the Widal did not correspond with the clinical symptoms. One was a fulminating case with perforation and death and typical typhoid ulcers post mortem yet the Widal was negative. In another the Widal was negative on the 15th day of fever though *B. typhosus* was isolated from the faeces and in yet another the Widal was negative in the 4th week of fever, but positive in the 5th and *B. typhosus* was present in the faeces. Sera from these three cases were put up for *B. typhosus* and paratyphosus. The titre accepted in this laboratory as proof of clinical typhoid is 1 in 120, and may be the agglutinins in these three instances were below the diagnostic level. It is remarkable that while several thousand individuals in Trinidad have received prophylactic antityphoid vaccination so few cases of typhoid fever have yielded discordant Widal reactions and so few cases of fever not clinically typhoid have been labelled as typhoid on the strength of the Widal. Possibly close collaboration between the laboratory and the practising physician assisted by the simple technique of employing living organisms washed off with broth and not saline eliminates the possibilities of error in this direction.

The importance of differentiating H from O agglutinins in the performance of the Widal has been constantly kept in mind, but so far clinicians have not felt the necessity of demanding this distinction for diagnostic purposes.

There was continued during the year the examination of the faeces and urine of convalescents from typhoid fever as a means of detecting carriers before their discharge from the wards of the Colonial Hospital, Port-of-Spain. Mention should again be made of the value of the Wilson-Blair bismuth medium for primary cultures, a thick emulsion being used with faeces, while the urine is poured freely over the plates. Gram negative bacilli yielding the typical double sugar reactions appearing in the characteristic black colony with a surrounding halo enable an expression of opinion in 48 to 72 hours without reference to the agglutinability of the organism isolated.

An outbreak of typhoid in a family supplied with milk by a man whose wife and child were suffering from clinical typhoid revealed some interesting facts. Three children of this man, all apparently well, showed agglutinins against *B. typhosus*, while two of them were carriers, one faecal and the other urinary, and from the hands of this man and of one child *B. typhosus* was isolated.

Water.—The various public supplies were submitted to regular examinations during the year, with MacConkey's bile salt lactose liquid medium for primary inoculations. The high standard of bacteriological purity maintained by these supplies rendered their examination comparatively easy. The water supplies of the city of Port-of-Spain cater to over 60,000 persons and 365 daily examinations failed to reveal fermentation in MacConkey's medium in 75 c.c. The Central Water Supply Scheme provides water to 115,000 persons and 498 samples from different sources were examined. The results were also highly satisfactory, fermentation being absent in 100 c.c. of water.

A careful watch has been kept on the recent developments in the laboratory examinations of water supplies with special reference to the significance of algal and biological factors, as incorporated in the valuable reports of Lieut.-Colonel Harold, Director of Water Examination, Metropolitan Water Board.

Malaria.—The practice of submitting both thick and thin blood films to the laboratory is increasing and is being encouraged, opportunity being now available for demonstrating to those responsible the technique and importance of the thick film method for the detection of the malarial parasites.

Ten years experience has shown that the difficulty encountered by workers in the tropics in the preservation of the Romanowsky stains can be overcome by the simple method of storing the stains in Pyrex or other non-corrosive glass containers. Atmospheric conditions in the tropics lead to the liberation of alkalis from ordinary glass into the stain, and blood smears when stained show an excess of blue. Stains kept in non-corrosive glass retain their original purity indefinitely and need not be prepared weekly as obtains in some tropical laboratories. It has also been found that stained smears on slides can be preserved indefinitely by the simple expedient of dipping in paraffin dissolved in xylol so as to provide, when dry, a thin coating of paraffin.

Paralytic rabies.—The increase in the routine work prevented investigation into certain aspects of paralytic rabies in man and animals, but the examination of desmodus bats for the presence of negri bodies was continued uninterruptedly during the year. The majority of vampires were caught under conditions which rendered their despatch in alcohol necessary and damage to their skulls unavoidable. The preparation of brain smears was therefore not as satisfactory as in previous years. Van Bieson's method for demonstrating negri bodies in stained specimens remained the one of choice. In some instances paraffin sections were necessary. In this manner 2,247 desmodus were examined and 143 or 6.3 per cent. showed negri bodies in the hippocampus. This gives a higher percentage of positive findings as compared with last year. The largest number of infected desmodus came from the Mayaro district, 18 being found there. The capital city of Port-of-Spain yielded 20 vampires, 19 coming from Belmont and 1 from the Sea Lots, but none of these were infected. The infection among Desmodus is general throughout the island. This species of bat is unknown in Tobago.

The following is a statement by months of infected bats caught :—

January	...	...	23	July	...	...	10
February	...	...	18	August	...	...	9
March	...	...	14	September	...	...	12
April	...	...	11	October	...	...	11
May	...	...	12	November	...	...	9
June	...	...	9	December	...	...	5

Examination of bats for the presence of Negri bodies during 1937 :—

Number of bats examined	...	...	...	3,370
Number of desmodus examined	...	...	...	2,247
Number of non-desmodus examined	...	...	...	1,123
Number of desmodus with Negri bodies	...	...	...	143
Number of non-desmodus with Negri bodies	...	...	...	...
Number of bats without Negri bodies	...	...	...	3,227
Number of desmodus without Negri bodies	...	...	...	2,104
Percentage of desmodus with Negri bodies	...	...	...	6.3 per cent.

During the early part of the year some cases of poliomyelitis appeared which required careful examination by clinical and experimental means to enable differentiation from rabies. The occurrence of such cases emphasizes still further the complex symptomatology which rabies may present. The form of paralytic rabies which has occurred in Trinidad is mainly of an ascending type with paraplegia as a prominent feature, but, as has been pointed out elsewhere, Landry's paralysis is a syndrome and not a pathological or etiological entity. A multiplicity of causes may produce an ascending or Landry's paralysis, and among such causes is to be found the virus of rabies. While therefore paralytic rabies should be borne in mind in cases presenting such a symptom complex all such conditions should not be labelled as rabies without reference to histological and experimental study. One such case is worthy of mention. Following an intravenous injection of novarsenobillon there developed an acute ascending flaccid paralysis with loss of reflexes, distension of bladder and death. There was no history of a bat bite, and histological and experimental study failed to show infection with the virus of rabies.

An unusual strain of virus with the remarkably short incubation period of 2 days was found in a vampire bat from Diego Martin. The ordinary canine strain of street virus after intracerebral inoculation does not produce disease before 15 to 30 days, though the Koritshoner and Jonnesco strains have been found to possess short incubation periods of 4 and 3 days respectively. Some strains from vampires studied experimentally in Trinidad produced their first symptoms in 6 days, but the average incubation period of bat strains is 12 days. The strain referred to here, after repeated intracerebral, subcutaneous and intraocular inoculations, continued to produce disease with an incubation period of 2 days, but the possibility of the existence of a coincidental unknown virus should also be kept in mind. Negri bodies could not be seen in the first rabbit passages, as has been the experience with some other bat strains, but after intrasciatic injection and a prolonged incubation period they were found. The stimulation of formation of Negri bodies by intrasciatic inoculation when they fail to appear in the original material should prove a convenient and reliable means of diagnosing rabies in place of the prolonged cross immunity and serum neutralization tests.

The preparation locally of anti-rabies vaccine for use on those persons bitten by vampire bats was continued during the year—a 4 per cent. of rabbits' brain substance in $\frac{1}{2}$ per cent. carbolyzed saline being employed. 3,825 c.c.'s were issued to medical officers and inoculations were made either at the patients' home or at the health offices, 14 daily injections being the standard course. Mainly owing to difficulties of transport centralization of treatment was not possible, but so far no untoward result has been observed in patients who have been allowed to travel for treatment. It is not possible to capture the offending vampire that has inflicted the wound and the practice has consequently been advocated of inoculating all persons bitten, irrespective of the district concerned or the chances of infection. No person who has been bitten by a vampire and has received prophylactic treatment within 2 weeks has developed paralytic rabies and every person who has developed the disease, except one, has given a history of having been bitten by a desmodus. It would thus appear that the anti-rabies vaccination given under the conditions which prevail in Trinidad has acted as an efficacious preventive against the development of the disease. For various reasons the preparation of vaccine locally for animal use was discontinued. The supplies have been obtained from abroad.

It is of interest to repeat that the first bat found in Trinidad infected with the virus of rabies was not a vampire, but a fruit-eating, nose-leaf, artibeus. Colonies of blood-lapping, insect, and fruit-eating bats may be associated together in the same community and infection may therefore spread from one to another. While it is known that rabies in man and animals is transmitted by the vampire the possibility existed that the non-lapping bat when infected with rabies may alter its natural habits and bite a mammal. It has been established by experimental study that in isolated instances the fruit-eating artibeus, when infected with rabies, will actually bite a calf not with the object of obtaining blood for its food, but because it is rabid. As a pet dog will bite when infected with rabies so will the rabid fruit-eating bat bite.

Morbid anatomy and histology—During 1937, 471 post mortem examinations were carried out by the pathologist on patients dying in the Colonial Hospital, Port-of-Spain. The total number of deaths in the institution during this year was 1,067. The accompanying report is an account of the pathological conditions found in the cases examined. Sudden deaths and deaths following accidents are not included, since such cases are not seen by the Pathologist. Also chronic well established cases of disease, e.g. those in the Tuberculosis Ward were seldom examined.

During the examinations and in this report an attempt has been made not only to record the cause of death, which appears in the Hospital Records, but to note and record all pathological changes and evidence of disease, as far as can be seen by morbid changes and in many cases, histological methods. In addition specimens have been mounted, now numbering 133 to form the nucleus of a museum of local pathology as a demonstration of prevalent lesions rather than as a collection of curiosities. Some specimens of normal organs are being kept for teaching purposes.

It is thought that an analysis of the commoner pathological changes found may be useful in showing the incidence of some diseases among the classes of the community using the Colonial Hospital and also the variations in different ages and races. The report is divided into age groups and, in the case of adults, also into sex and race. The differences among children were not marked.

The chief findings, shown in detail in the table were as follows:—

Neonatal deaths.

As far as possible all infants dying soon after birth are examined. The lesions found varied little from findings in other countries. 12 per cent. showed evidence of congenital syphilis. It is interesting to note that the infants with cerebral lesions were mostly natural births several being small and premature.

Infants up to one year.

The commonest finding in this age group was marasmus often with an associated gastro-enteritis which accounted for 42 per cent. of infant deaths. The cases so classified showed extreme wasting with no other lesion, many had very pale muscular tissue, and a gelatinous oedema of the subcutaneous tissue and dry flabby skin. Many had gastro-enteritis, *i.e.*, thin transparent mucosa in the intestines, atrophy of the lymphoid tissue, and offensive or green faeces. The condition appears probably nutritional.

Pneumonia.

Pneumonia in its various forms was the chief cause of death both in children and adults. It is interesting to note that among the children and infants the victims of pneumonia were well nourished and developed, the poor marasmic infant seldom had pneumonia.

Towards the end of the year the typing of the local strains of pneumococci from sputum was started.

In addition to cases of pneumonia 10 cases of pneumococcal meningitis were found.

Tuberculosis.

Miliary tuberculosis caused 13 per cent. of the deaths in infants and 18 per cent. in older children.

Primary lesions were present in the bronchial glands and/or lungs in the great majority of the cases. As with pneumonia, it was mainly well nourished and developed children who died.

20 cases of pulmonary tuberculosis were found among adults, but this does not include cases in the Tuberculosis Ward.

The comparative absence of signs of healed tuberculous lesions at all ages compared with their frequency in post mortems in Europe, was striking, and raises the question whether tuberculosis tends to be an acute and rapid disease under local conditions, with a low recovery rate.

Malignant new growths.

Malignant new growths were found in 5 per cent. of adults, only once in an East Indian. Gastric carcinoma was the largest single group. Among the tissues sent for histological examination for diagnosis were 56 malignant growths. This with post mortem findings seems to indicate that malignant growths are not at all uncommon among local inhabitants.

Nine chronic non-malignant gastric and duodenal ulcers were found, most having either ruptured or caused fatal haemorrhage. These with the number of gastric carcinomas found may indicate that a history of indigestion here should not be treated too lightly.

Cardio-vascular degenerations.

Both mesaortitis and severe atheromatous changes were commonly found among all races except the East Indians who, while some cases of mesaortitis and aneurism occurred, showed a remarkable absence of even moderate atheromatous changes.

Those classified as mesaortitis showed lesions usually regarded as due to syphilis, and among these aneurisms were frequently found as well as relative aortic incompetence from dilatation. Lesions of the actual valves were rare.

Those classified as severe atheroma showed gross atheromatous changes with ulceration and calcification in the areas; many had no normal intima throughout the aorta.

Moderate atheroma showed areas of calcification and ulceration but not so diffuse as the above. Fat plaques only are not included. An interesting finding was well marked atheroma in the ascending aorta of two African children without cardiac or renal diseases.

Chronic nephritis.

This was a common finding in all races, the lesion being scarred, granular kidneys with adherent capsules. Sections have been examined from some of the collected specimens which show the third or contracted stage of a glomerular nephritis.

Some were associated with severe cardio vascular lesions of all kinds, but many especially among the East Indians showed no cardiac changes.

The number of blood urea estimations with a high result and the number of urinary samples showing albumen and casts also show a high incidence of chronic nephritis. An interesting finding was fibrosis of many glomeruli, and infiltration with cells among the tubules in an infant of 9 months old who died of malaria.

Ankylostomiasis.

Ankylostomes were found in 48 per cent. of adult East Indians. Among these 92 per cent. showed evidence of anaemia and pathological effects. It appeared to be a contributing cause in 15 maternal deaths, either from heart failure after parturition or from pyaemia.

Emphysema.

Parenchymatous emphysema, *i.e.* ballooning of the lungs with bullae formation was a fairly common finding among all races. 45 per cent. of these had severe cardio vascular disease and 45 per cent. chronic nephritis.

However there were a few cases with neither and these have been recorded in detail. 6 were East Indians, 3 with severe ankylostomiasis and anaemia and 3 others showed much black pigment in the lungs. This was a common finding in many of the cases with other lesions, so much black pigment was present that gloves and table were covered with black juice. 4 mixed people showed severe anaemia and ankylostomiasis and 2 of these and 1 East Indian heart failure and emphysema with no other apparent cause.

The subject is interesting and needs further study. Specimens of the severely anthracotic and emphysematous lungs are being collected for further examination.

Maternal deaths.

The pathological conditions found in these are summarised in the accompanying table. Several cases have occurred of a sudden illness starting with "spasms or fits" usually thought by the parents to be due to worms—death with high temperature, often repeated convulsions, occurring within 48 hours, post mortem evidence of severe toxic changes only being found. So far a satisfactory explanation has not been found, they have not responded to malaria treatment and no parasites or splenic enlargement is found post mortem.

The liver changes were so severe, degenerative and with haemorrhages that some specimens were kindly examined by the Rockefeller Foundation for evidence of infection with the virus of yellow fever with negative results. Attempts by the Government Analyst to find any evidence of vegetable poisoning were also negative. Almost all showed a very early haemorrhagic broncho-pneumonia. Congestion of the brain and cord was present, but histological examination showed dilatation of the vessels only, and no definite evidence of encephalitis. Helminths were found in none. The children have been mostly from the town and not from malarious districts.

Summary of Pathological conditions Found in Post Mortem Examination during 1937.**(1) Neonatal deaths. Infants up to 3 weeks—Total number examined—41.**

Prematurity	...	...	...	...	...	13 or 31 per cent.
Haemorrhage of newly born	...	...	...	...	...	6 or 14 per cent.
Cerebral injuries	...	...	...	...	...	9 or 22 per cent.
<i>Viz.</i> Slight tears in membranes	...	...	...	...	...	2
Cerebral haemorrhage with tears	...	...	...	...	...	3
Cerebral haemorrhage no tear found	...	...	...	...	...	4
Cephalhaematoma	...	...	...	...	...	1
Atelectasis	...	...	...	...	...	7 or 17 per cent.
Asphyxia	...	...	...	...	...	5 or 12 per cent.
Infections	...	...	...	...	...	12 or 29 per cent.
<i>Viz.</i> streptococcal pneumonia	...	...	...	...	...	5
Other pneumonia	...	...	...	...	...	2
Empyema	...	...	...	...	...	1
Gangrene of scalp	...	...	...	...	...	1
Jaundice	...	...	...	...	...	5 or 12 per cent.
Evidence of congenital syphilis	...	...	...	...	...	5 or 12 per cent.

(2) Infants up to 1 year excluding neonatal deaths—Total examined—61.

Marasmus and undernutrition	...	...	...	...	...	26 or 42 per cent.
Acute infections—broncho-pneumonia	...	...	...	...	...	18 or 29 per cent.
Tuberculosis—miliary and meningitis	...	...	...	...	...	6
Lesions in lungs	...	...	...	...	...	5
Bronchial glands	...	...	...	...	...	6 or 13 per cent.
Intestinal ulceration	...	...	...	...	...	1
Enteric	...	...	...	...	...	1
Congenital syphilis	...	...	...	...	...	3
Cerebral malaria	...	...	...	...	...	1
Gastro-enteritis	...	...	...	...	...	15 or 24 per cent.
Other infections	...	...	...	...	...	18 or 29 per cent.
<i>Viz.</i> meningitis pneumococcal	...	...	...	...	...	3
<i>Viz.</i> meningitis streptococcal	...	...	...	...	...	1
<i>Viz.</i> meningitis meningococcal	...	...	...	...	...	1
Haemorrhagic enteritis	...	...	...	...	...	8
Others	...	...	...	...	...	5
Various	...	...	...	...	...	7
Surgical conditions	...	...	...	...	...	2

(3) Children aged 1—14 years—total examined 62.*Acute infections.*

Broncho-pneumonia	...	...	...	...	...	11
Lobar pneumonia	...	...	...	...	...	4
(unresolved—3)	...	...	...	...	...

} or 24 per cent.

Tuberculosis.

Miliary and meningitis	...	...	...	...	...	8
Lesions in lung	...	...	...	...	...	6
Bronchial glands	...	...	...	...	...	6 or 18 per cent.
Mesenteric glands	...	...	...	...	...	1
Pulmonary only	...	...	...	...	...	2
Caries spine	...	...	...	...	...	1
Various infections	...	...	...	...	...	10 or 16 per cent.
Meningitis (meningococcal)	...	...	...	...	...	1
Haemorrhagic colitis	...	...	...	...	...	3

(3) Children aged 1-14 years—*Continued.*

Amoebic dysentery	1
Pharyngeal infections	3
Diphtheria	1
Various	2
Poliomyelitis	1
Paralytic rabies	6
Rheumatic endocarditis	1
Fits and fever	9
Helminths-ankylostomes Indians	4
Ascaris-Africans	3
Atheroma-Africans	2
New growths-cerebellar tumour	1

(4) *Adults—Total examinations—307.*(1) *Cardio vascular conditions, mesaortitis and severe atheroma.*

Total number of post mortems on adults	307
Total showing severe cardio vascular disease of all kinds	91 or 29.6 per cent.
Total showing severe atheroma, calcification &c. only	33 or 10.9 per cent.
Total showing evidence of mesaortitis with and without atheroma	61 or 19.8 per cent.
Total showing aortic aneurisms	11 or 3.5 per cent.
Distribution of cardio vascular disease by races	

DISTRIBUTION OF CARDIO VASCULAR DISEASE BY RACES.

(a) *Black (African descent):*

Total adults examined	157
Total showing mesaortitis	32 or 20 per cent.
Total showing severe atheroma only	20 or 12 per cent.
Total showing arterial disease of all kinds	52 or 32 per cent.
Total with aortic aneurisms	7 or 4.5 per cent.

(b) *Mixed Creole:*

Total adults examined	48
Total showing mesaortitis	14 or 29 per cent.
Total showing severe atheroma only	9 or 18.7 per cent.
Total showing arterial disease of all kinds	23 or 47 per cent.
Total with aortic aneurisms	2 or 4.0 per cent.

(c) *East Indian:*

Total adults examined	90
Total showing mesaortitis	9 or 10 per cent.
Total showing severe atheroma only	3 or 3 per cent.
Total showing arterial disease of all kinds	12 or 13 per cent.
Total with aortic aneurisms	2 or 2 per cent.

(d) *Chinese.*

Total adults examined	9
Total showing mesaortitis	3 or 33 per cent.
Total showing severe atheroma only	1 or 10 per cent.

Distribution of cardio vascular disease by sexes.

Total males examined	164
Total showing mesaortitis	43 or 26 per cent.
Total showing atheroma only	19 or 11 per cent.
Total arterial disease of all kinds	62 or 37 per cent.
Total with aortic aneurisms	9 or 5 per cent.
Total females examined	143
Total showing mesaortitis	18 or 12 per cent.
Total showing severe atheroma only	14 or 8.5 per cent.
Total showing cardio vascular disease of all kinds	32 or 20.5 per cent.
Total with aortic aneurisms	2 or 1 per cent.

(2) *Chronic Nephritis:*

Total number of post mortems on adults	307
Total with chronic nephritis of all kinds	91 or 50 per cent.
Total associated with severe cardio vascular disease	45 or 50 per cent. (of cases).
Total without associated cardiac or vascular disease	46 or 50 per cent. (of cases).

Distribution of chronic nephritis by races:

Black (African descent) 51 among 157 post mortems	or 32 per cent.
Mixed Creole 11 among 48 post mortems	or 23 per cent.
East Indian 25 among 90 post mortems	or 27 per cent.
Chinese 4 among 9 post mortems	or 44 per cent.

Distribution of chronic nephritis by sexes:

Males 48 cases among 164 post mortems	or 29 per cent.
Females 43 cases among 143 post mortems	or 30 per cent.

(3) <i>Tuberculosis</i> :					
	Healed lesions 9—active disease 20 or 29 among 307 post mortems				or 8.1 per cent.
(4) <i>Syphilis or in some cases yaws.</i>					
	Cases showing lesions other than cardio vascular scars of chancres—13 : other lesions—18=31 among 307	...	...	...	or 9 per cent.
(5) <i>Ankylostomiasis</i> :					
	<i>Total adults found with ankylostomes :</i>				
	Africans males 5—females 7 among—157 post mortems	...	...	...	or 4 per cent.
	East Indians males 19—females 22 among—90 post mortems	...	...	...	or 48 per cent.
	<i>Cases with ankylostomes showing pathological effects.</i>				
	Severe anaemia and heart failure, with no other lesion	...	...	...	13
	Anaemia and heart failure or pyaemia after parturition	...	...	...	15
	Anaemia and infection chiefly pneumonia	...	...	...	11
	Total cases infected with ankylostomes showing pathological effects	...	...	...	39 or 75 per cent. — (of cases)
(6) <i>Chief acute infections</i> :					
	Pneumonia lobar 24, broncho pneumonia 8=32	...	...	...	or 10 per cent.
	Africans 20—East Indians 8—mixed 4.				
	<i>Intestinal infections.</i>				
	Bacillary dysentery 8 : amoebic dysentery 5 : — (1 liver abscess)	...	...	...	13
	Enteric	...	...	...	8
	Meningitis—pneumococcal 7—streptococcal 3	...	...	...	10
	Genito urinary infections, pyelitis, &c.	...	...	...	9
	<i>Cardiac infections :</i>				
	Bacterial endocarditis 5 : acute pericarditis 3	...	...	...	8
	<i>General peritonitis :</i>				
	Ruptured gastric ulcer 1 : ruptured duodenal ulcer 3 : other 1	...	...	...	5
	<i>Puerperal and pelvic infections (female) :</i>				
	Puerperal pyaemia	...	...	...	13
	After abortion	...	...	...	4
	No cause found	...	...	...	9 =26 or 18 per cent.
	Paralytic rabies (Africans 5—East Indian 1)	...	...	...	6
	Various infections, cellulitis, &c.	...	...	...	16
(7) <i>New Growth—malignant</i> :					
	Carcinoma of pylorus—African 3 : Mixed 1 : White 1 :				7
	Carcinoma of oesophagus	...	...	...	2
	Carcinoma of pancreas 1 : gall bladder 1 : ampulla of varta 1 pelvic colon 1 : thyroid 1	...	...	...	5
	Carcinoma of cervix ; —African 2 : Mixed 1	...	...	...	3
	Cerebral tumours	...	...	...	2
	Sarcoma of testes—East Indian	...	...	...	1
					20
	Total malignant new growths 20 among 307 post mortems	...	...	...	or 6½ per cent.

DISTRIBUTION OF MALIGNANT GROWTHS BY RACES.

Black African descent	14 among 157 post mortems	...	...	...	or 8.9 per cent.
Mixed	4 among 48 post mortems	...	...	...	or 8 per cent.
East Indian	1 among 90 post mortems	...	...	...	or 1 per cent.
(8) <i>Complications of pregnancy</i> :					
	Eclampsia—African 6 : East Indians 9	...	...	...	15
	Anaemia and heart failure—East Indians 7	...	...	...	7
	Pyaemia, &c.—Africans 5 : —East Indians 8 : Mixed 4	...	...	...	17
	Obstructed labour, rupture of uterus 2	...	...	...	2
	Total deaths from complications of pregnancy among 143 post mortems	...	...	...	41 or 28 per cent.
(9) <i>Various lesions</i> :					
	Gastric and duodenal ulcers—African 1 : East Indians 5 : Mixed 2 :				
	White 1	...	...	...	9
	Gall stones	...	...	...	4
	Renal calculi	...	...	...	2

(10) *Congenital abnormalities (All Ages):*

Horse shoe kidneys	1
Partial absence of cerebrum	2
Transposition of viscera (twin)	1
Congenital dislocation of hip	1
Large haemangioma of thigh	1
Imperforate anus	1

(11) *Parenchymatus emphysema (severe):*

Total adults showing well marked emphysema 44 among 307 post mortems or 14 per cent.

Distribution of emphysema by races:

Black African descent 15 among 157 post mortem	or 9 per cent.
East Indian ... 16 among 90 post mortems	or 17 per cent.
Mixed Creole ... 9 among 48 post mortems	or 18 per cent.
White—2: Chinese—2	

Other conditions associated with the emphysema:

Severe cardio vascular disease of all kinds	29 or 45 per cent. of cases.
Chronic nephritis	29 or 45 per cent. of cases.
Marked lung pigmentation, anaemia and ankylostomes without other lesions	11 or 25 per cent. of cases.
No other lesions except right heart failure	3 or 7 per cent. of cases.

Chemical and biochemical examinations:

The number of specimens examined chemically and microscopically for conditions other than bacteriological during the year 1937 was 2,603 compared with 1,401 during 1936. New developments during the year have been the estimation of cholesterol and calcium in blood and also the starting of basal metabolism tests after the arrival of the apparatus at the end of the year. Apart from these examinations the increase has been a general one in all examinations, with the exception of Kahn reactions which were discontinued soon after the beginning of the year. The projected work on normal bio-chemical values referred to in last year's report had to be postponed on account of delay in arrival of apparatus but it is hoped that it will be possible during next year.

Much more use has been made of biochemical tests both by Hospital Staff and by private practitioners than last year. When writing this report an attempt was made to correlate their results with clinical conditions especially blood ureas, fractional test meals and blood counts. It however had to be abandoned since owing to a curious reluctance on the part of clinicians to supply clinical history and relevant data on the forms accompanying specimens the labour involved in enquiring into all of them and the absence of any system of cross references to other tests in the laboratory was beyond the resources of the staff.

The reluctance of clinicians to supply clinical data has however showed much weakening during the last half of the year which it is hoped shows a valuable increasing sense of co-operation between the hospital and laboratory staff.

The tests carried out and the principal results are shown in detail in the accompanying table in which the corresponding number of examinations for last year is shown in brackets.

Urine examinations:

Routine tests are carried out in the wards and specimens sent to the laboratory for confirmation or in cases where the examination is specially important, e.g., in nephritis. Even so a large number of specimens are sent, half of which showed the presence of albumen.

30 Friedman tests were carried out; in two the rabbits died immediately on injection. It is difficult to keep a supply of suitable rabbits and the death rate of rabbits kept in the laboratory has been rather high.

Cerebro Spinal fluids:

127 specimens were examined either for complete chemical and cytological examination or for colloidal gold curves or for both. The latter were mostly from the Mental Hospital, from patients with a positive blood Wasserman. Leucic curves were found in a high proportion. Among the cases of T.B. meningitis examined and confirmed by autopsy, it was noted that the text book decrease in chlorides was by no means constant.

Gastric analysis.

The popularity of fractional test meals increased. Both high and low curves were found but, as noted above, correlation with clinical findings proved difficult. Achlorhydria was not found in all cases suspected or proved to be carcinoma.

The typing of pneumococci from sputum in pneumonia was started towards the end of the year but unexpected difficulties were encountered. Patients often showed a reluctance to provide specimens of sputum in a sterile tube owing to a fear that tuberculosis was suspected. Some specimens contained no pneumococci, and proved to be from cases other than pneumonia.

HISTOLOGY.

169 specimens of tissues of various kinds were sent for diagnosis compared with 56 last year. In the report the number and kind of malignant tumours is recorded in detail. The commonest being carcinoma of the cervix and breast.

CHEMICAL AND BIOCHEMICAL EXAMINATIONS, 1937.

(The figure in brackets show the number of examinations in 1936).

						Total	
						Examinations.	
						1937.	1936.
(a) Urines	...	...	...	...	—	1,289	(601)
Complete chemical and micros. examinations	...	...	...	...	935		
Albumen present	...	...	...	...	688		
Glucose present	...	...	...	...	102		
Acetone present	...	...	...	...	22		
Diabetic present	...	...	...	...	3		
Bile present	...	...	...	...	39		
Excess urobilinogen	...	...	...	...	11		
Diazo reaction	...	...	...	...	34		
Estimations urea	...	...	...	...	6		
Diastatic index	...	...	...	...	7		
Deposits showing casts	...	...	...	...	178		
Deposits showing pus	...	...	...	...	165		
Deposits showing blood	...	...	...	...	121		
Crystals	...	...	...	...	11		
Urea concentration tests:	...	...	...	...	—	37	(10)
Friedman tests—positive	...	...	...	...	8		
—negative	...	...	...	...	16		
—rabbit died	...	...	...	...	4		
—doubtful	...	...	...	...	2		(1)
(b) Blood chemistry—estimation of urea	...	...	...	...	—	256	
Normal	...	...	...	...	125		
40—100 mg per cent.	...	...	...	...	92		
100-200 mg per cent.	...	...	...	...	16		
Over 200 mg per cent.	...	...	...	...	12		
Estimation of sugar:	...	...	...	...	—	204	(47)
Single estimations	...	...	...	...	8		
Glucose tolerance tests—normal curves	...	...	...	...	19	27	(9)
diabetic curves	...	...	...	...	58		
Estimation of cholesterol	...	...	...	...	14		
Estimation of calcium	...	...	...	...	1		
Estimation of chlorides	...	...	...	...	3		(1)
Laevulose tolerance tests	...	...	...	...	—
(c) Serological examinations:	...	...	...	...	163		(430)
Khan reactions	...	...	...	...	31		(17)
Van den Bergh reaction positive	...	...	...	...	14	45	(4)
Icterus index high	...	...	...	...	2		
Sedimentation rate	...	...	...	...	—
(d) Cerebro-spinal fluids	...	...	...	...	—	127	(50)
Complete chemical and cytological examinations	...	...	...	...	68		
Increase in protein	...	...	...	...	17		
Decrease in chlorides	...	...	...	...	7		
Colloidal gold curves	...	...	...	...	71		(12)
(e) Gastric analyses—complete fractional test meals:	...	...	...	...	54		(51)
Normal curves	...	...	...	...	28		
Hyperchlorhydria	...	...	...	...	17	99	
Achlorhydria	...	...	...	...	38		(12)
Examinations of single samples	...	...	...	...	2		
Hyperchlorhydria:	...	...	...	...	8		
Achlorhydria:	...	...	...	...	3		
Specimens sent for blood, &c.	...	...	...	...	—
(f) Faeces	...	...	...	...	—	121	(80)
Occult blood	...	...	...	...	114		
Positive	...	...	...	...	51		
Various, fat, urobilin, &c.	...	...	...	...	7		

		Total Examinations.	
		1937.	1936.
(g) Various :			
	Basal metabolism tests	3	
	Pathological fluids	15	(7)
	Blood cultures	29	
	Staph aureus	3	
	Hair for ringworm	1	
	Throat swabs for streptococci	12	
	Sputum for type of pneumococci type 1, 2= type 2, 1=type 4, 2	20	
	Complete blood counts	589	
	Histological Examinations— total tissues examined	169	(87)
	Malignant tumours— carcinoma skin squamous	4	
	Basal celled	2	
	Ovary	1	
	Uterus cervix	12	
	body	2	
	Breast	14	
	Penis	6	
	Rectum	3	
	Barotid gland	3	
	Melanoma	1	
	Sarcoma uterus	2	
	Connective tissues	5	
	Nose and mouth	1	
	Non-malignant tumours	26	
	Post Mortem specimens from D.M.O's, &c.	17	

Scientific.

The following papers by members of the Health Department and Part Time Officers were published during the year :—

- " A case of sickle called anaemia in Trinidad " by Dr. J. L. Pawan. Ann. Trop. Med. and Parasit. Vol. 31 No. 2.
- " Infectivity of the saliva in paralytic rabies " by Dr. J. L. Pawan. Ann. Trop. Med. and Parasit. Vol. 31 No. 2.
- " Functions of the oesophageal diverticula of stegomyia aegypti and anopheles tarsi-maculatus " by Dr. J. L. Pawan. Ann. Trop. Med. and Parasit. Vol. 31 No. 2.
- " A suspected case of non-epidemic typhus in a child in Trinidad " by Dr. Minnie Gosden. Trans. Roy. Soc. Trop. Med. Vol. XXI No. 3.
- " Lymphosarcoma of the eyelid " by Dr. V. Metivier. British Journal of Ophthalmology, 1937. Reproduced in Edingburgh Med. Journal and in the 1937 year book of Eye, Ear, Nose and Throat, Chicago.
- " A study in syphilis. The causation of ophthalmic disorders in coloured races with special reference to the British West Indies " by Dr. V. Metivier. British Journal of Venereal Diseases October, 1937.

A. RANKINE,
Director of Medical Services.

TABLE V.

Summary of Diseases and Deaths (In-patients) Colonial and District Hospitals for the year 1937.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.						
1. Enteric Group—						
(a) Typhoid Fever	26	609	120	635	31	
(b) Paratyphoid A. ....	.....	.....	.....	.....	.....
(c) Paratyphoid B. ....	.....	.....	.....	.....	.....
(d) Type not defined .....	.....	.....	.....	.....	.....
2. Typhus .....	.....	.....	.....	.....	.....
3. Relapsing Fever .....	.....	.....	.....	.....	.....
4. Undulant Fever .....	.....	1	.....	1	.....
5. Malaria—Unclassified	13	494	24	507	13	
(a) Tertian	21	556	31	577	12	
(b) Quartan .....	.....	4	.....	4	.....
(c) Aestivo-autumnal	3	212	18	215	9	
(d) Cachexia .....	.....	12	1	12	1	
(e) Blackwater	1	7	.....	8	.....
6. Smallpox—						
Alastrim .....	.....	.....	.....	.....	.....
7. Measles .....	.....	1	.....	1	.....
8. Scarlet Fever .....	.....	.....	.....	.....	.....
9. Whooping Cough	1	16	1	17	.....
10. Diphtheria	3	60	4	63	1	
11. Influenza	3	121	4	124	2	
12. Miliary Fever .....	.....	.....	.....	.....	.....
13. Mumps .....	.....	.....	.....	.....	.....
14. Cholera .....	.....	.....	.....	.....	.....
15. Epidemic diarrhoea .....	.....	.....	.....	.....	.....
16. Dysentery—						
(a) Amoebic	12	121	26	133	5	
(b) Bacillary	2	11	2	13	1	
(c) Undefined or due to other causes	4	23	7	27	1	
17. Plague						
(a) Bubonic .....	.....	.....	.....	.....	.....
(b) Pneumonic .....	.....	.....	.....	.....	.....
(c) Septicaemic .....	.....	.....	.....	.....	.....
(d) Undefined .....	.....	.....	.....	.....	.....
18. Yellow Fever .....	.....	.....	.....	.....	.....
19. Spirochaetosis ictero-haemorrhagica	.....	.....	.....	.....	.....
20. Leprosy .....	.....	14	.....	14	1	
21. Erysipelas	3	12	2	15	.....
22. Acute Poliomyelitis	2	73	4	75	.....
23. Encephalitis Lethargica .....	.....	.....	.....	.....	.....
24. Epidemic Cerebro-Spinal Fever .....	.....	1	1	1	.....
25. Other Epidemic Diseases—						
(a) Rubeola (German Measles)	.....	.....	.....	.....	.....
(b) Varicella (Chicken pox)	.....	9	.....	9	.....
(c) Kala-azar .....	.....	.....	.....	.....	.....
(d) Phlebotomus Fever .....	.....	.....	.....	.....	.....
(e) Dengue .....	.....	.....	.....	.....	.....
(f) Epidemic Dropsy .....	.....	.....	.....	.....	.....
(g) Yaws	7	43	1	50	2	
(h) Trypanosomiasis .....	.....	.....	.....	.....	.....
26. Glanders .....	.....	.....	.....	.....	.....
27. Anthrax .....	.....	1	.....	1	.....
28. Rabies	1	15	16	16	.....
29. Tetanus .....	.....	28	15	28	.....
30. Mycosis .....	.....	2	.....	2	.....
31. Tuberculosis, Pulmonary and Laryngeal	73	368	206	441	83	
32. Tuberculosis of the Meninges or Central Nervous System .....	.....	5	5	5	.....
33. Tuberculosis of the Intestines or Peritoneum .....	.....	8	4	8	.....
34. Tuberculosis of the Vertebral Column	1	6	2	7	1	
35. Tuberculosis of Bones and Joints .....	.....	8	1	8	.....
	176	2,841	435	3,017	163	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remain- in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths			
Diseases brought forward ...	176	2,841	495	3,017	163	
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.—CONTD.						
36. Tuberculosis of other organs—						
(a) Skin or Subcutaneous Tissue (Lupus) ...						
(b) Bones ...	3	3	...	6	1	
(c) Lymphatic System ...	...	6	...	6	1	
(d) Genito-urinary ...	...	1	1	1	...	
(e) Other organs ...	...	3	2	3	...	
37. Tuberculosis disseminated—						
(a) Acute ...	...	6	6	6	...	
(b) Chronic ...	...	...	...	...	...
38. Syphilis—						
(a) Primary ...	16	121	1	137	6	
(b) Secondary ...	1	36	1	37	...	
(c) Tertiary ...	21	336	19	357	24	
(d) Hereditary ...	1	34	11	35	1	
(e) Period not indicated ...	...	10	1	10	1	
39. Soft Chancre ...	2	30	...	32	...	
40. A.—Gonorrhoea and its compli- cations ...						
B.—Gonorrhoeal Ophthalmia ...	9	261	3	270	3	
C.—Gonorrhoeal Arthritis ...	1	59	4	59	2	
D.—Granuloma Venereum ...	1	43	...	44	2	
Rectal Stricture ...	1	77	2	78	9	
41. Septicaemia ...	...	18	...	18	1	
Phymosis ...	1	15	5	15	...	
42. Other Infectious Diseases—						
Trypanosomiasis ...	1	...	...	1	...	
II.—GENERAL DISEASES NOT MENTIONED ABOVE.						
43. Cancer or other malignant Tumours of the Buccal Cavity ...						
44. Cancer or other malignant Tumours of the Stomach or Liver ...	1	2	1	3	...	
Oesophagus ...	2	58	21	60	1	
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum ...	...	4	1	4	...	
46. Cancer or other malignant Tumours of the Female Genital Organs... 47. Cancer or other malignant Tumours of the Breast ...	2	11	3	13	...	
48. Cancer or other malignant Tumours of the Skin... 49. Cancer or other malignant Tumours of Organs not specified ...	5	68	16	73	2	
50. Tumours non-Malignant... 51. Acute Rheumatism ...	...	18	...	18	...	
52. Chronic Rheumatism ... 53. Scurvy including (Barlow's Disease) 54. Pellagra ...	...	15	2	15	2	
55. Beri-Beri ... 56. Rickets ...	3	50	19	53	1	
57. Diabetes (not including Insipidus) 58. Anaemia— (a) Pernicious ... (b) Other Anaemias and Chlorosis ...	11	80	...	91	1	
59. Diseases of the Pituitary Body ... 60. Diseases of the Thyroid Gland— (a) Exophthalmic Goitre ... (b) Other Diseases of the Thy- roid Glands, Myxoedema ...	5	25	...	30	...	
61. Diseases of the Para-Thyroid Glands ... 62. Diseases of the Thymus ... 63. Diseases of the Supra-Renal Glands ...	5	119	...	124	3	
Diseases carried forward ...	274	4,519	642	4,793	231	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...	274	4,579	642	4,793	231	
II.—GENERAL DISEASES NOT MENTIONED ABOVE.—CONTD.						
64. Diseases of the Spleen ...	...	...	...	...	...
65. Leukaemia—						
(a) Leukaemia ...	...	3	1	3	...	
(b) Hodgkin's Disease ...	1	2	...	3	...	
66. Alcoholism ...	1	48	1	49	3	
67. Chronic poisoning by mineral substances (lead, mercury, &c.) ...	...	20	1	20	...	
68. Chronic poisoning by organic substances (Morphia, Cocaine, &c.) ...	...	...	...	...	...
69. Other General Diseases—						
Auto-intoxication ...	...	10	...	10	1	
Purpura Haemorrhagica ...	...	1	...	1	...	
Haemophilia ...	...	2	...	2	...	
Diabetes Insipidus ...	...	...	...	...	...
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.						
70. Encephalitis (not including Encephalitis Lethargica) ...	...	6	...	6	...	
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) ...	...	30	27	30	1	
72. Locomotor Ataxia ...	...	23	1	23	...	
73. Other affections of the Spinal Cord ...	...	38	18	38	2	
74. Apoplexy—(a) Haemorrhage ...	...	43	29	43	...	
(b) Embolism ...	...	16	3	16	...	
(c) Thrombosis ...	1	39	13	40	...	
75. Paralysis—(a) Hemiplegia ...	9	84	15	93	6	
(b) Other Paralyzes ...	4	13	2	17	1	
76. General Paralysis of the Insane ...	...	5	...	5	1	
77. Other forms of Mental Alienation ...	2	178	...	180	2	
78. Epilepsy ...	2	67	5	69	2	
79. Convulsions (5 years or over) ...	2	43	8	45	2	
80. Infantile Convulsions ...	...	4	2	4	...	
81. Chorea ...	...	1	...	1	...	
82. A.—Hysteria ...	...	50	2	50	...	
B.—Neuritis ...	1	29	1	30	...	
C.—Neurasthenia ...	...	7	...	7	...	
83. Cerebral Softening ...	...	...	...	...	...
84. Other affections of the Nervous System, such as Paralysis Agitans ...	1	53	1	54	1	
85. Affections of the Organs of Vision—						
(a) Diseases of the Eye ...	...	302	...	302	17	
(b) Conjunctivitis ...	2	34	...	36	1	
(c) Trachoma ...	...	1	...	1	...	
(d) Tumours of the Eye ...	...	4	...	4	...	
(e) Other affections of the Eye ...	12	360	...	372	20	
86. Affections of the Ear or Mastoid Sinus ...	11	135	6	146	4	
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.						
87. Pericarditis ...	...	15	11	15	...	
88. Acute Endocarditis or Myocarditis ...	9	48	10	57	1	
89. Angina Pectoris ...	...	8	2	8	...	
90. Other Diseases of the Heart—						
(a) Valvular—Mitral ...	6	113	29	119	3	
Aortic ...	1	56	23	57	3	
Tricuspid ...	...	...	...	...	...
Pulmonary ...	...	3	...	3	...	
(b) Myocarditis ...	5	206	80	211	22	
Diseases carried forward ...	344	6,619	933	6,963	324	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...	344	6,619	933	6,963	324	
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.—CONTD.						
91. Diseases of the Arteries—						
(a) Aneurism ...	2	74	29	76	2	
(b) Arterio-Sclerosis ...	2	55	8	57	2	
(c) Other diseases ...	...	28	7	28	...	
92. Embolism or Thrombosis (non-cerebral) ...	1	8	3	9	...	
93. Diseases of the Veins—						
Haemorrhoids ...	7	115	1	122	5	
Varicose Veins ...	...	6	...	6	...	
Phlebitis ...	...	8	...	8	...	
94. Diseases of the Lymphatic System—						
Lymphangitis ...	...	4	...	4	...	
Lymphadenitis, Bubo (non-specific) ...	...	46	1	46	1	
95. Haemorrhage of undetermined cause ...	1	20	4	21	2	
96. Other affections of the Circulatory System ...	2	22	10	24	1	
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages ...	...	34	...	34	2	
Adenoids ...	3	95	...	98	...	
Polypus ...	...	12	...	12	...	
Rhinitis ...	...	14	...	14	...	
Coryza ...	...	5	...	5	...	
98. Affections of the Larynx—						
Laryngitis ...	1	27	3	28	2	
99. Bronchitis—(a) Acute ...	4	149	4	153	2	
(b) Chronic ...	14	244	54	258	13	
100. Broncho-Pneumonia ...	5	284	123	289	9	
101. Pneumonia—(a) Lobar ...	17	374	141	391	19	
(b) Unclassified ...	3	36	12	39	...	
102. Pleurisy, Empyema ...	3	63	2	66	2	
103. Congestion of the Lungs ...	...	12	8	12	...	
104. Gangrene of the Lungs ...	...	20	9	20	1	
105. Asthma ...	6	80	3	86	1	
106. Pulmonary Emphysema... ..	1	71	15	72	1	
107. Other affections of the Lungs—						
Pulmonary Spirochaetosis ...	...	15	2	15	2	
Sarcoma ...	...	1	...	1	1	
VI.—DISEASES OF THE DIGESTIVE SYSTEM.						
108. A.—Diseases of Teeth or Gums—						
Caries, Pyorrhoea, &c. ...	2	55	1	57	1	
B.—Other affections of the Mouth						
—Stomatitis ...	...	27	1	27	...	
Glossitis, &c. ...	...	3	...	3	...	
109. Affections of the Pharynx or Tonsils						
—Tonsillitis ...	8	376	2	384	1	
Pharyngitis ...	...	7	...	7	...	
110. Affections of the Oesophagus ...	1	3	...	4	...	
111. A.—Ulcer of the Stomach ...	2	55	7	57	2	
B.—Ulcer of the Duodenum ...	...	28	8	28	4	
112. Other affections of the Stomach—						
Gastritis ...	10	100	5	110	3	
Dyspepsia, &c. ...	1	107	...	108	1	
113. Diarrhoea and Enteritis—						
Under two years ...	1	108	35	109	4	
Diseases carried forward ...	441	9,410	1,431	9,851	408	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Case Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...	441	9,410	1,431	9,851	408	
VI.—DISEASES OF THE DIGESTIVE SYSTEM.—CONTINUED.						
114. Diarrhoea and Enteritis—						
Two years and over ...	1	58	19	59	4	
Colitis ...	4	145	33	149	4	
Ulceration ...	1	24	6	25	2	
114a. Intussusception ...	...	3	1	3	...	
115. Ankylostomiasis ...	18	397	12	415	17	
116. Diseases due to Intestinal Parasites—						
(a) Cestoda (Taenia) ...	...	...	...	...	...
(b) Trematoda (Flukes) ...	...	...	...	...	...
(c) Nematoda (other than Ankylostoma)—						
Ascaris ...	3	17	...	30	1	
Trichocephalus dispar ...	...	...	...	...	...
Trichina ...	...	...	...	...	...
Dracunculus ...	...	...	...	...	...
Strongylus ...	...	...	...	...	...
Oxyuris ...	...	...	...	...	...
(d) Coccidia ...	...	...	...	...	...
(e) Other parasites ...	...	...	...	...	...
(f) Unclassified ...	...	2	...	2	...	
117. Appendicitis ...	4	133	12	137	1	
118. Hernia ...	7	270	14	277	2	
119. A.—Affections of the Anus, Fistula, &c. ...	...	68	5	68	3	
B.—Other affections of the Intestines—Enterosptosis ...	...	5	...	5	...	
Constipation... ...	8	197	1	205	...	
120. Acute Yellow Atrophy of the Liver ...	...	...	...	...	...
121. Hydatid of the Liver ...	...	...	...	...	...
122. Cirrhosis of the Liver—						
(a) Alcoholic ...	1	21	7	22	...	
(b) Other forms ...	2	39	7	41	1	
123. Biliary Calculus ...	...	21	1	21	...	
Fistula ...	...	1	...	1	1	
124. Other affections of the Liver—						
Abscess ...	...	5	1	5	...	
Hepatitis ...	1	33	...	34	2	
Cholecystitis ...	...	32	2	32	...	
Jaundice ...	1	24	2	25	1	
125. Diseases of the Pancreas ...	...	2	1	2	...	
126. Peritonitis (of unknown cause) ...	1	21	3	22	1	
127. Other affections of the Digestive System ...	...	139	22	139	2	
Fibrositis ...	...	7	...	7	...	
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).						
Uraemia ...	...	6	...	6	1	
128. Acute Nephritis ...	4	65	16	69	1	
129. Chronic ...	7	297	96	304	12	
130. A.—Chyluria ...	...	1	...	1	...	
B.—Schistosomiasis ...	...	...	...	...	...
131. Other affections of the Kidneys—						
Pyelitis, &c. ...	...	43	8	43	1	
132. Urinary Calculus ...	...	59	...	59	8	
133. Diseases of the Bladder—Cystitis... ...	4	45	7	49	1	
134. Disease of the Urethra—						
(a) Stricture ...	7	242	21	249	2	
(b) Other ...	...	107	7	107	2	
135. Disease of the Prostate—						
Hypertrophy ...	3	103	16	106	8	
Prostatitis ...	1	3	1	4	...	
Diseases carried forward ...	519	12,055	1,752	12,574	486	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...	519	12,055	1,752	12,574	486	
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—CONTINUED.						
136. Diseases (non-Veneral) of the Genital Organs of Man—	...	51	...	51	1	
Epididymitis ...	...	1	...	1	...	
Orchitis ...	...	27	...	27	...	
Hydrocele ...	1	41	...	42	...	
Ulcer of Penis ...	2	70	...	72	3	
137. Cysts or other non-malignant Tumours of the Ovaries ...	2	41	3	43	3	
138. Salpingitis						
Abscess of the Pelvis ...	2	57	5	59	5	
Cellulitis ...	...	170	3	170	4	
139. Uterine tumours (non-malignant)	8	162	5	170	3	
140. Uterine Haemorrhage (non-puerperal) ...	...	64	1	64	2	
141. A.—Metritis ...	...	41	4	41	1	
B.—Other affections of the Female Genital Organs—	...	2	...	2	...	
Displacements of the Uterus ...	1	28	...	29	...	
Amenorrhoea ...	1	101	...	102	4	
Dysmenorrhoea ...	1	12	...	13	...	
Leucorrhoea ...	...	11	...	11	...	
142. Diseases of the Breast (non-puerperal)—						
Mastitis ...	1	3	...	4	...	
Abscess of Breast ...	...	19	...	19	...	
VIII.—PUERPERAL STATE.						
Pregnancy ...	3	58	...	61	...	
Infants born in Hospital who survived ...	2	651	...	653	...	
143. A.—Normal Labour ...	46	1,331	4	1,377	53	
B.—Accidents of Pregnancy—						
(a) Abortion ...	2	248	7	250	4	
(b) Ectopic Gestation ...	...	14	2	14	1	
(c) Other accidents of Pregnancy ...	2	245	16	247	11	
144. Puerperal Haemorrhage ...	2	26	3	28	1	
145. Other accidents of Parturition ...	7	77	22	84	2	
146. Puerperal Septicaemia ...	...	47	7	47	...	
147. Phlegmasia Dolens ...	...	1	...	1	...	
148. Eclampsia ...	4	100	28	104	3	
149. Sequelae of Labour ...	5	50	4	55	3	
150. Puerperal affections of the Breast ...	...	13	1	13	1	
IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
Ulcers ...	47	354	1	401	32	
151. Gangrene ...	4	41	14	45	2	
152. Boil ...	...	15	...	15	1	
Carbuncle ...	3	53	2	56	...	
153. Abscess ...	36	513	6	549	8	
Whitlow ...	...	78	...	78	...	
Cellulitis ...	17	319	4	336	9	
154. A.—Tinea ...	...	3	1	3	...	
B.—Scabies ...	...	9	...	9	...	
155. Other Diseases of the Skin ...	...	...	...	...	...
Erythema ...	2	43	...	45	...	
Urticaria ...	...	12	...	12	...	
Eczema ...	13	101	...	114	10	
Herpes ...	...	8	...	8	...	
Dermatitis ...	...	11	...	11	1	
Elephantiasis ...	...	18	...	18	...	
Myiasis ...	2	18	4	20	1	
Chigoes ...	...	4	...	4	...	
Cutaneous Leishmaniasis ...	...	...	...	...	...
Impetigo ...	...	1	...	1	...	
Diseases carried forward ...	735	17,418	1,899	18,153	655	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Brought forward	735	17,418	1,899	18,153	655	
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).						
Sinus	2	1	...	3	...	
156. Diseases of Bones— Osteitis	6	63	3	69	6	
157. Diseases of Joints— Arthritis	1	89	...	90	6	
Synovitis	9	46	1	55	...	
158. Other Diseases of Bones or Organs of Locomotion	1	29	2	30	...	
XI.—MALFORMATIONS.						
159. Malformations— Hydrocephalus	1	13	1	14	1	
Hypospadias	...	2	...	2	...	
Spina-Bifida, &c	...	15	2	15	1	
Harelip	...	3	1	3	...	
XII.—DISEASES OF INFANCY.						
Asphyxia Neonatorum	...	1	1	1	...	
160. Congenital Debility	6	55	33	61	3	
161. Premature Birth	1	89	54	90	...	
162. Other affections of Infancy	1	47	20	48	...	
163. Infant neglect (infants of three months or over)	7	56	25	63	7	
XIII.—AFFECTIONS OF OLD AGE.						
164. Senility	6	115	16	121	6	
Senile Dementia	3	66	11	69	4	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.						
165. Suicide by Poisoning	...	1	1	1	...	
166. Corrosive poisoning (intentional)	...	2	1	2	...	
167. Suicide by Gas Poisoning	...	...	...	...	...
168. Suicide by Hanging or Strangulation	...	...	...	...	...
169. Suicide by Drowning	...	...	...	...	...
170. Suicide by Firearms	...	...	...	...	...
171. Suicide by cutting or stabbing Instruments	...	...	...	...	...
172. Suicide by jumping from a height	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...
174. Other Suicides	...	...	...	...	...
175. Food Poisoning—Botulism	3	25	2	28	..	
176. Attacks of poisonous animals— Snake Bite	...	34	1	34	...	
Insect Bite	1	568	9	569	3	
Carried forward	783	18,738	2,083	19,521	692	

Summary of Diseases and Deaths (In-patients) in the Colonial and District Hospitals.—Continued.

DISEASES.	Remaining in Hospital at end of 1936.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1937.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...	783	18,738	2,083	19,521	692	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—CONTD.						
177. Other accidental Poisonings ...	...	30	1	30	...	
178. Burns (by Fire)... ..	4	116	16	129	5	
179. Burns (other than by Fire) ...	...	26	2	26	2	
180. Suffocation (accidental) ...	...	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	...	...	...	...
182. Drowning (accidental) ...	...	...	...	...	...
183. Wounds (by Firearms, war excepted) ...	1	50	3	51	1	
184. Wounds (by cutting or stabbing Instruments) ...	17	689	14	706	5	
185. Wounds (by Fall) ...	5	13	1	18	...	
186. Wounds (in Mines or Quarries) ...	2	43	...	45	2	
187. Wounds (by Machinery)... ..	...	8	...	8	...	
188. Wounds (crushing, e.g., Railway accidents, &c.) ...	...	13	1	13	1	
189. Injuries inflicted by Animals, Bites, Kicks, &c. ...	...	38	...	38	...	
190. Wounds inflicted on active service	...	110	...	110	1	
191. Executions of civilians by belligerents ...	...	...	...	...	...
192. A.—Over Fatigue ...	...	...	...	...	...
B.—Hunger or Thirst ...	...	...	...	...	...
193. Exposure to Cold, Frost bite, &c.	...	...	...	...	...
194. Exposure to Heat—Heatstroke Sunstroke ...	...	1	...	1	...	
195. Lightning Stroke ...	...	...	...	...	...
196. Electric Shock ...	...	...	...	...	...
197. Murder by Firearms ...	...	...	...	...	...
198. Murder by cutting or stabbing Instruments ...	...	...	...	...	...
199. Murder by other means ...	...	...	...	...	...
200. Infanticide (murder of an infant under one year) ...	...	...	...	...	...
201. A.—Dislocation ...	1	36	...	37	2	
B.—Sprain ...	2	37	...	39	...	
C.—Fracture ...	33	634	26	667	61	
202. Other external Injuries ...	8	304	10	312	11	
203. Deaths by Violence of unknown cause ...	...	...	...	...	...
Observation ...	...	491	...	491	9	
XV.—ILL-DEFINED DISEASES.						
204. Sudden death (cause unknown) ...	...	...	...	...	...
205. A.—Diseases not already specified or ill-defined ...	2	30	2	32	...	
Ascites ...	...	10	3	10	1	
Oedema ...	1	50	1	51	3	
Asthenia ...	7	49	4	56	1	
Shock ...	...	22	2	22	...	
Hyperpyrexia ...	...	3	...	3	...	
B.—Malingering ...	...	11	...	11	...	
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED TEN DEATHS						
...	4	88	...	92	...	
Total ...	870	21,640	2,169	22,510	797	

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