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TRINIDAD AND TOBAGO.

ANNUAL MEDICAL AND
SANITARY REPORT

OF THE

DIRECTOR OF MEDICAL SERVICES

FOR THE YEAR 1936.

1937.

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

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of the

Director of Medical Services.

With the Compliments
of the
Director of Medical Services.

TRINIDAD AND TOBAGO.

Council Paper No. 84 of 1937.

HEALTH.

Annual Medical and Sanitary Report for the year ended
on the 31st December, 1936.

*Circulated for information. To be laid before the
Legislative Council.*

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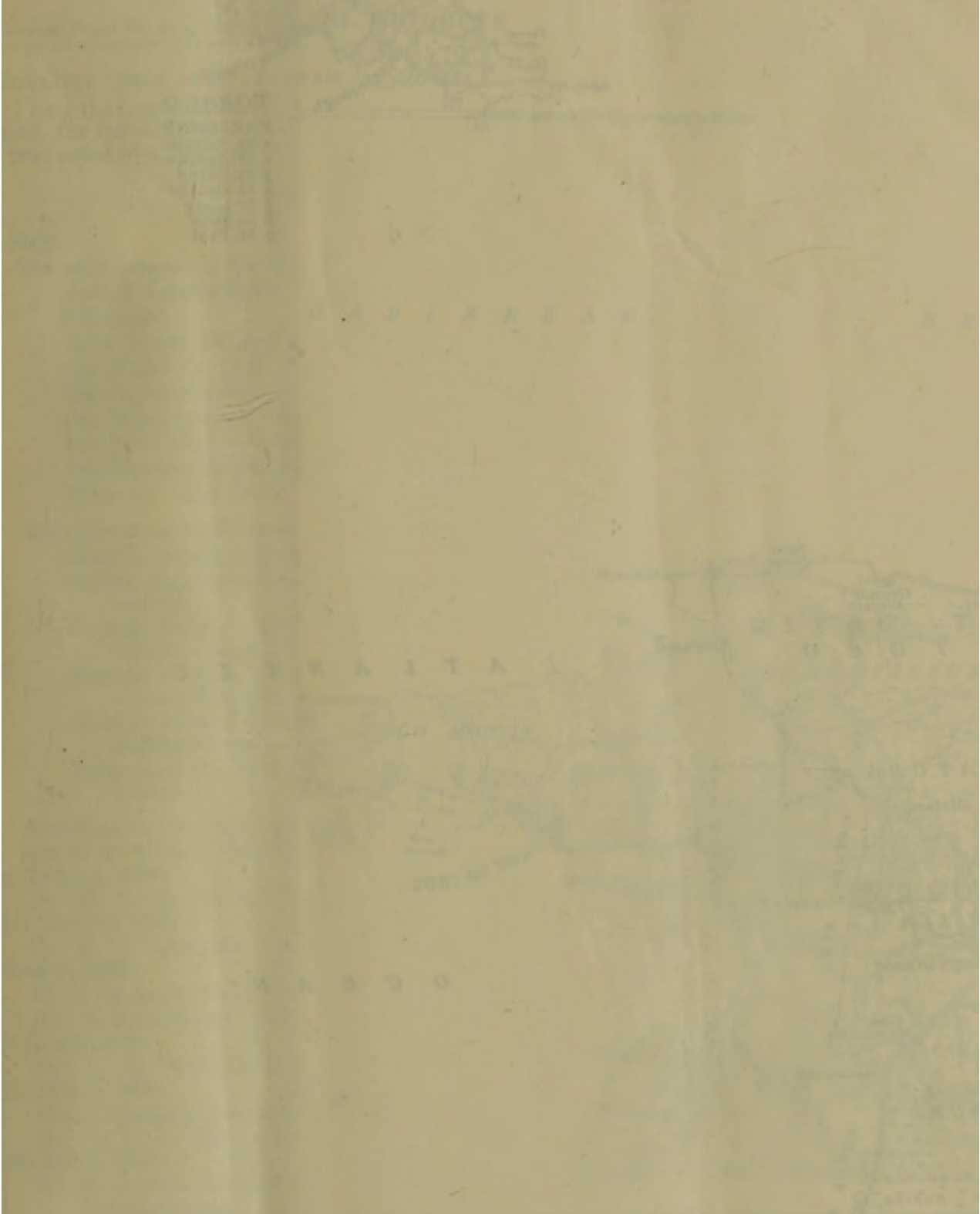
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MAP OF D. & TOBAGO

SHOWING THE DIVISIONS AND
THE NATURAL AND



REFERENCE

- Towns
- Rivers
- Roads
- Railways
- Boundaries
- Mountains

HEALTH.

Annual Medical and Sanitary Report for the year ended
on the 31st December, 1936.

Council Paper No. 84 of 1937.

M. P. No. 38787.

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, 1936.

SECTION I.—ADMINISTRATION.

(a) Staff.

The establishment of the department was increased by the inclusion of the following posts:—
Medical Superintendent, Colonial Hospital, Port-of-Spain.

Pathologist.

Three Junior Contract Medical Officers, Colonial Hospital, Port-of-Spain.

One Junior Contract Medical Officer, Colonial Hospital, San Fernando.

One Superintendent Sister (Massage), Colonial Hospital, Port-of-Spain.

One Superintendent Sister, Colonial Hospital, San Fernando.

Two Chief Sanitary Inspectors.

Two Sanitary Inspectors.

Three 4th Class Clerks.

The titles of the undermentioned posts have been changed:—

Surgeon-General to Director of Medical Services.

Deputy Surgeon-General and Medical Inspector of Health to Deputy Director of Medical Services.

Resident Surgeon, Colonial Hospital, Port-of-Spain, to Senior Medical Officer (Surgeon), Colonial Hospital, Port-of-Spain.

Resident Surgeon, Colonial Hospital, San Fernando, to Senior Medical Officer (Surgeon), Colonial Hospital, San Fernando.

Assistant Medical Inspector of Health (Special Duties) to Senior Medical Officer of Health, Northern Division.

Junior Assistant Medical Inspector of Health to Senior Medical Officer of Health, Southern Division.

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

Dr. P. A. Rostant, Senior Medical Officer (Surgeon), Colonial Hospital, San Fernando, as from 1st January, 1936.

Dr. E. J. de Verteuil, Senior Medical Officer of Health, Northern Division as from 24th January, 1936.

Dr. E. J. Sankeralli, Senior Medical Officer of Health, Southern Division as from 24th January, 1936.

Mr. L. Springer, Steward, St. Ann's Mental Hospital, as from 27th February, 1936.

Dr. N. Chan Pong, Contract Medical Officer, Colonial Hospital, Port-of-Spain, as from 1st March, 1936.

Dr. A. A. Reece, Contract Medical Officer, Colonial Hospital, Port-of-Spain, as from 12th March, 1936.

Dr. A. Rankine, Director of Medical Services, as from 14th March, 1936.

Mr. C. J. C. Bart, 4th Class Clerk, Director of Medical Services' Office, as from 18th March, 1936.

Dr. M. Gosden, Pathologist, as from 21st March, 1936.

Mr. C. Warner, Dispenser-Steward, Chacachacare Leper Settlement, as from 1st April, 1936.

Mr. L. B. Assang, Chief Sanitary Inspector, Northern Division, as from 1st April, 1936.

Mr. F. H. Waithe, Chief Sanitary Inspector, Southern Division, as from 1st April, 1936.

Mr. L. Lee Loy, Sanitary Inspector, as from 1st April, 1936.

Dr. V. E. Donawa, Temporary Part Time Assistant Medical Officer for the Tuberculosis Ward, Colonial Hospital, Port-of-Spain, as from 3rd April, 1936.

Mr. T. H. Meyer, 4th Class Clerk to the Senior Medical Officer of Health, Northern Division, as from 14th April, 1936.

Mr. R. W. Acham, 4th Class Clerk to the Senior Medical Officer of Health, Southern Division, as from 14th April, 1936.

Mr. A. B. Austin, Sanitary Inspector, as from 15th April, 1936.

Mr. R. E. Wallace, Assistant Dispenser-Steward, Chacachacare Leper Settlement, as from 16th April, 1936.

Mr. C. D. Gilkes, Sanitary Inspector, as from 1st May, 1936.

Mr. B. I. Wright, Sanitary Inspector, as from 1st May, 1936.

- Dr. H. A. Gilkes, Deputy Director of Medical Services, as from 29th May, 1936.
 Miss I. D. Gardiner, Superintendent Sister, Colonial Hospital, Port-of-Spain, as from 29th May, 1936.
 Mr. F. A. G. Burke 1st Class Clerk, Director of Medical Services' Office, as from 17th June, 1936.
 Mr. C. J. Storey, Sanitary Inspector, as from 1st July, 1936.
 Dr. O. F. Warner, Contract Medical Officer, Colonial Hospital, Port-of-Spain, as from 6th July, 1936.
 Dr. R. C. Dolly, Contract Medical Officer, Colonial Hospital, San Fernando, as from 16th July, 1936.
 Mr. H. A. Forde, Assistant Dispenser, Colonial Hospital, San Fernando, as from 1st August, 1936
 Miss M. R. Neaves, Superintendent Sister, Colonial Hospital, San Fernando, as from 21st August, 1936.
 Mr. H. C. Taylor, Sanitary Inspector, as from 1st October, 1936.
 Dr. J. Cook, Medical Superintendent, Colonial Hospital, Port-of-Spain, as from 16th October, 1936.
 Miss H. F. Spawton, Superintendent Sister (X-ray and Electro-Therapeutic), Colonial Hospital, Port-of-Spain, as from 16th October, 1936.

The following officers were granted leave out of the Colony:—

- Dr. J. Grell, District Medical Officer, Erin-Siparia, from 1st January to 26th January.
 Dr. K. U. A. Inniss, District Medical Officer, St. Joseph, from 1st January to 21st February.
 Dr. S. D. Stewart, District Medical Officer, Ortoire-Moruga, from 1st January to 15th April.
 Dr. G. H. T. Clarke, District Medical Officer, Plymouth, from 1st January to 13th July.
 Dr. N. H. Brewster, District Medical Officer, Tacarigua, from 7th April to 3rd October.
 Mr. I. F. Gaskin, Sanitary Inspector, Guaracara, from 1st May to 27th October.
 Dr. S. P. Abidh, School Medical Officer, from 1st September to 31st December.
 Dr. C. M. Austin, District Medical Officer, Cedros, from 12th September to 31st December.
 Dr. P. Lai Fook, School Medical Officer, from 20th September to 31st December.
 Dr. J. R. Macdougall, District Medical Officer, La Brea, from 8th October, to 31st December.
 Dr. G. E. Tracey, Government Medical Officer, from 1st November to 31st December.

(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) Amendment of Bye-laws 18, 40 and 66 of the Public Health (Streets and Buildings) Bye-laws, 1935.
- (2) Amendment of Bye-law 24 of the Public Health (Streets and Buildings) Bye-laws, 1935.
- (3) Addition to the 4th Schedule of the Public Health (Amendment) Ordinance No. 15 of 1934 of areas in the Nariva-Mayaro, Naparima, and Arima Sanitary Districts.
- (4) Bye-laws with respect to House Refuse in John John Village.
- (5) Bye-laws with respect to Water Supply in St. Ann's-Tacarigua Sanitary District.
- (6) Resolution dealing with the Extension of Slaughtering in an area in the Nariva-Mayaro District.

(c) *Financial.*

Of the total sum of \$9,020,968 originally provided for the expenditure of the Colony for the year under review \$971,430 fell to the Health Department for which provision was made under Head 14.—Health.

For Personal Emoluments, General Administration, the amount provided was \$182,717 but owing to difficulty experienced in obtaining suitable officers for newly-created posts and existing vacancies it was found possible to reduce this provision by \$8,000 which amount was utilized in supplementing other health votes. Of the net amount \$173,105 available the sum of \$172,400.84 was expended.

A provision of \$22,202 was originally made for "Other Charges: General Administration." Supplemental votes, all of which were obtained from savings within the department, were provided for the sub-heads indicated below. Of the nett amount \$24,570 thereby available the expenditure was \$24,029.88 a savings of \$540.12 resulting.

	<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
	\$	\$	\$ c.
Travelling	12,400	13,700	13,474 82
Contingencies	672	1,200	1,168 17
Fees, Leper Ordinance	90	90	78 00
Allowances Study Leave	1,600	750	679 10
Vaccination Fees, &c.	7,440	8,790	8,629 79
	<u>\$22,202</u>	<u>\$24,570</u>	<u>\$24,029 88</u>

For the hospitals of the Colony (three colonial hospitals, six district hospitals and two emergency hospitals) provision of \$81,744 was made under Personal Emoluments and of \$166,990 under Other Charges for the general requirements of these institutions.

Largely because of the high incidence of enteric as a result of the San Juan-Barataria typhoid epidemic which continued into the year under review, the estimates for these institutions proved in many cases insufficient for the inordinately increased demand for hospital accommodation. The result was that the district hospitals, especially those of the north-eastern districts, for the most part accommodated enteric patients while other patients were of necessity warded at the colonial hospitals.

The adjustments which were necessary to meet excesses on votes unavoidably overspent are shown in detail on Table .

For the Mental Hospital provision was made for \$99,160. The actual expenditure of this institution, despite an increase of \$4,000 on the Equipment and Miscellaneous vote was \$96,473.24.

Provision was made for the Leper Settlement, Chacachacare, for \$66,808. In spite of the adjustments as shown on the schedule the expenditure at this institution was \$65,836.08.

Under Public Health the amount provided was \$85,512. The necessity for proper control and precautionary measures with respect to paralytic rabies and the continuance of the typhoid outbreak resulting in adjustments as shown hereunder :—

	<i>Original Provision.</i>	<i>Actual Provision.</i>	<i>Expenditure.</i>
	\$	\$	\$ c.
Personal Emoluments	32,160	31,190	28,096 49
Travelling	11,500	11,404	11,381 92
General Sanitation	35,000	35,700	35,824 03
Miscellaneous Equipment	480	630	604 96
Health Education	480	650	525 79
Medicines	240	360	303 70
Bat Investigation	5,652	5,748	5,210 08
Control of Paralytic Rabies	—	4,704	4,358 57
	<u>\$85,512</u>	<u>\$90,386</u>	<u>\$86,305 54</u>

For the requirements of the Bacteriological Laboratory provision was made for \$7,152. Largely because of research work in connection with paralytic rabies and of increased expenditure in the manufacture of anti-typhoid vaccine the equipment vote of \$2,880 proved insufficient by \$360. Of the nett amount \$6,312 available for expenditure the sum of \$6,131.53 was expended.

For the requirements of the House of Refuge, Trinidad, a provision of \$69,166 was made for salaries and other charges. The expenditure at this institution was \$68,691.22. A small saving of \$474.78 resulting.

Under District Services the estimated provision was \$6,600. The expenditure against this allocation was \$4,851.32.

Owing to the necessity of extending the activities of the various Poor Relief Boards the amount provided under "Central Board of Poor Relief" fell short of the actual expenditure, the amount under "Grants for Poor Relief" proving insufficient by \$6,200. Of the nett amount \$88,200 available for expenditure under this head the sum of \$87,410.53 was paid out, a nett saving of \$798.47 resulting.

Expansion in arrangements for treatment of out-patients and poor persons at Health Offices was effected by the establishment of new and more extensive health offices: the amount provided for the maintenance of this service it was necessary to increase by \$5,700. Of the nett amount available, \$27,040, the actual expenditure was \$25,959.79.

Payments through the Crown Agents during 1936 amounted to \$68,009.14 made up as under:—

Salaries of officers on leave	\$6,225 10
Allowances to officers on study leave	633 48
Subscriptions to Institutions in England	2,208 00
Other Disbursements:	
Purchases abroad, Medical Stores	\$48,672 64
Other Institutions	10,269 92
	<u>58,942 56</u>
Total	\$68,009 14

The revenue collected by the Health Department during the year was \$39,878.23 as compared with \$33,830.98 in 1935.

The average cost per bed at the 12 principal Government institutions was for 1936 \$234.75 as compared to \$214.19 in 1935 and \$227.72 in 1934 while the cost per diem was in 1936 64.3c. as compared to 60 cents in 1935 and 62 cents in 1934.

The stock of the Medical Stores was at 1st January, 1936, valued at \$23,040.54. The receipts during the year under review were \$55,394.60 and issues to medical institutions and other Government departments \$53,256.90 as compared with \$49,004.53 in 1935. The stock in hand on 31st December, 1936, was \$25,177.16.

The Colony's ultimate expenditure for 1936 was \$9,170,686 and of this the expenditure of the Health Department including Poor Relief charges was \$967,843 thus showing a percentage of 10.5 per cent.

TABLE.

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	56,955	.....	5,530	51,425	2,000	460	2,460	1,500	.....	.....	.....	1,500	25,440	2,800	.....	28,240
2 Do. San Fernando	28,728	200	1,728	27,200	460	240	700	750	.....	.....	.....	750	15,712	.....	1,900	13,812
3 Do. Tobago	7,027	.....	460	6,567	.....	.....	.....	600	.....	.....	.....	600	2,760	.....	.....	2,760
4 Hospital, Arima	2,131	.....	10	2,121	.....	.....	.....	.....	.....	.....	.....	.....	1,200	150	.....	1,350
5 Do. St. Joseph	2,472	80	.....	2,552	.....	.....	.....	.....	.....	.....	.....	.....	1,300	220	.....	1,520
6 Do. Tacarigua	2,458	200	.....	2,658	.....	.....	.....	.....	.....	.....	.....	.....	1,300	620	.....	1,920
7 Do. Conva	2,814	.....	80	2,734	.....	.....	.....	.....	.....	.....	.....	.....	1,800	120	.....	1,920
8 Do. Princes Town	2,800	.....	.....	2,800	.....	.....	.....	.....	.....	.....	.....	.....	2,000	.....	.....	2,000
9 Do. Cedros	960	.....	.....	960	.....	.....	.....	.....	.....	.....	.....	.....	480	80	.....	560
10 Do. Mayaro	864	.....	460	404	.....	.....	.....	.....	.....	.....	.....	.....	350	110	.....	460
11 Do. Sangre Grande	624	.....	.....	624	.....	.....	.....	.....	.....	.....	.....	.....	350	.....	.....	350
12 Mental Hospital	41,035	.....	5,440	35,595	.....	.....	.....	125	.....	.....	.....	125	11,000	4,000	.....	15,000
13 Leper Asylum, Chacachacare	17,078	.....	600	16,478	2,350	.....	110	2,240	480	.....	480	.....	14,000	615	.....	14,615
14 House of Refuge, Trinidad	21,066	100	.....	21,166	800	.....	800	.....	.....	.....	.....	.....	14,400	.....	700	13,700
15 Do. Tobago	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,400	250	.....	2,650
16 Bacteriological Laboratory	4,272	.....	1,275	2,997	.....	.....	.....	.....	.....	.....	.....	.....	2,880	360	.....	3,240

TABLE.—Continued.

Statement showing adjustments effected in Votes of Institutions.

Institution.	Food.			Medicines.			Travelling.			Total Original Provision.	Total amounts available	Expenditure.	Un-expended Balance.
	Original.	Increase.	Decrease.	Original.	Increase.	Decrease.	Original.	Increase.	Decrease.				
1 Colonial Hospital, Port-of-Spain	44,000	2,600	.....	14,000	.....	.....	14,000	.....	.....	143,895	144,225	142,783 68	1,441 32
2 Do. San Fernando	22,000	500	.....	6,200	3,190	.....	9,390	.....	.....	73,850	74,352	72,164 73	2,187 27
3 Do. Tobago	5,400	300	.....	2,000	520	.....	2,520	.....	.....	17,787	18,147	17,878 41	268 59
4 Hospital, Arima	2,400	.....	.....	960	.....	30	930	.....	.....	6,601	6,801	6,275 88	525 12
5 Do. St. Joseph	2,800	380	.....	1,200	500	.....	1,700	.....	.....	7,772	8,952	8,891 91	60 09
6 Do. Tacarigua	2,000	900	.....	1,100	300	.....	1,400	.....	.....	6,858	8,878	8,638 46	239 54
7 Do. Couva	2,900	120	.....	1,100	85	200	985	.....	.....	8,614	8,659	8,618 14	40 86
8 Do. Princes Town	3,000	.....	650	1,200	360	.....	1,500	.....	.....	9,090	8,800	8,607 27	192 73
9 Do. Cedros	570	.....	.....	430	.....	.....	430	.....	.....	2,440	2,520	2,303 16	216 84
10 Do. Mayaro	.....	.....	.....	200	140	.....	340	.....	.....	1,414	1,204	1,155 54	48 46
11 Do. Sangre Grande	.....	.....	.....	550	.....	.....	550	.....	.....	1,524	1,524	1,297 82	226 18
12 Mental Hospital	45,200	1,000	.....	1,800	.....	500	1,300	.....	.....	99,160	98,200	96,473 24	1,726 76
13 Leper Asylum, Chacachacare	25,500	.....	550	1,700	300	.....	2,000	460	6,100	66,808	66,443	65,836 08	606 92
14 House of Refuge, Trinidad	32,000	400	.....	900	240	.....	1,140	.....	.....	69,166	69,206	68,601 22	514 78
15 Do. Tobago	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,400	2,650	2,623 43	26 57
16 Bacteriological Laboratory	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,152	6,237	6,140 53	96 47

TABLE.

REVENUE :		\$	c.	\$	c.
Maintenance of Patients and Operation Fees	.....	32,014	37		
Medicines sold at Medical Institutions	.....	6,001	59		
Bacteriological Fees	.....	697	00		
Miscellaneous—Hospitals	.....	841	99		
Dental Clinic Fees	.....	48	48		
Fumigation Fees	.....	412	80		
Milk Badges, Milk Vendors Badges, Dairymen's Licences	.....	162	00		
EXPENDITURE :		\$	c.	\$	c.
<i>General.</i>					
Personal Emoluments	.....	172,400	84		
Travelling Allowances	.....	13,474	82		
Telephones, Incidentals, &c.	.....	1,168	17		
Allowances to Officers on Study Leave	.....	679	10		
Fees under the Leper Ordinance	.....	78	00		
Vaccination Fees, Expenses, &c.	.....	8,629	79		
Deficiencies of Stores	.....	28	91		
Library and Museum	.....	754	49	197,214	12
<i>Colonial Hospital, Port-of-Spain.</i>					
Personal Emoluments	.....	51,382	36		
Miscellaneous Labour	.....	2,408	17		
Equipment and Miscellaneous	.....	27,998	10		
Food	.....	45,791	92		
Medicines	.....	13,951	03		
Dental Service	.....	1,252	80	142,784	38
Air Conditioning Apparatus, X-ray Department	.....			835	00
<i>Colonial Hospital, San Fernando.</i>					
Personal Emoluments	.....	27,143	51		
Miscellaneous Labour	.....	695	06		
Equipment and Miscellaneous	.....	13,296	08		
Food	.....	21,513	97		
Medicines	.....	8,930	51		
Dental Service	.....	585	60	72,164	73
Purchase of Ambulance	.....	2,201	34	2,201	34
<i>Colonial Hospital, Tobago.</i>					
Personal Emoluments	.....	6,536	69		
Equipment and Miscellaneous	.....	2,703	72		
Food	.....	5,632	16		
Medicines	.....	2,405	84		
Dental Service	.....	600	00	17,878	41
<i>District Hospitals (6).</i>					
Personal Emoluments	.....	13,769	11		
Equipment and Miscellaneous	.....	9,118	26		
Food	.....	13,858	04		
Medicines	.....	6,589	41	43,334	82
<i>Emergency Hospitals (2).</i>					
Personal Emoluments	.....	1,008	60		
Equipment and Miscellaneous	.....	763	17		
Medicines	.....	681	59	2,453	36
<i>Mental Hospital.</i>					
Personal Emoluments	.....	35,564	54		
Equipment and Miscellaneous	.....	13,490	78		
Food	.....	46,113	68		
Medicines	.....	1,201	74		
Dental Service	.....	102	50	96,473	24
Replacement of Motor Van	.....	820	72		
Cinema	.....	490	00	1,310	72
Carried forward	.....			

TABLE.—Continued.

EXPENDITURE.—Continued.

						\$	c.	\$	c.
Brought forward	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Leper Asylum.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	16,456	86		
Dental Service	.....	.....	.....	.....	.....	—
Wages, Temporary Employees	.....	.....	.....	.....	.....	2,219	36		
Equipment and Miscellaneous	.....	.....	.....	.....	.....	14,611	70		
Launch Service (Travelling)	.....	.....	.....	.....	.....	5,859	24		
Food	.....	.....	.....	.....	.....	24,747	26		
Medicines	.....	.....	.....	.....	.....	1,941	66	65,836	08
<i>Bacteriological Laboratory.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	2,929	70		
Equipment	.....	.....	.....	.....	.....	3,201	83	6,131	53
<i>Public Health.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	28,096	49		
Travelling Allowances	.....	.....	.....	.....	.....	11,381	92		
General Sanitation	.....	.....	.....	.....	.....	35,824	03		
Miscellaneous and Equipment (Hookworm Campaign)	.....	.....	.....	.....	.....	600	96		
Health Education	.....	.....	.....	.....	.....	525	79		
Medicines (Hookworm Campaign)	.....	.....	.....	.....	.....	303	70		
Bat Investigation	.....	.....	.....	.....	.....	5,210	08		
Control of Paralytic Rabies	.....	.....	.....	.....	.....	4,358	57	86,305	54
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	.....	.....	.....	.....	.....	2,259	49		
Uniform and Travelling	.....	.....	.....	.....	.....	1,602	33		
Miscellaneous	.....	.....	.....	.....	.....	989	50	4,851	32
<i>Quarantine.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	3,620	80		
Employees—Temporary and Miscellaneous	.....	.....	.....	.....	.....	312	00		
Quarantine Expenses	.....	.....	.....	.....	.....	2,392	58	6,325	38
POOR RELIEF :									
<i>House of Refuge, Trinidad.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	21,111	22		
Employees—Temporary and Miscellaneous	.....	.....	.....	.....	.....	799	25		
Equipment and Miscellaneous	.....	.....	.....	.....	.....	13,395	59		
Food	.....	.....	.....	.....	.....	32,255	65		
Medicines	.....	.....	.....	.....	.....	1,129	51	68,691	22
<i>House of Refuge, Tobago.</i>									
Equipment and Miscellaneous	.....	.....	.....	.....	.....	2,623	43	2,623	43
<i>Dispensaries and Health Offices.</i>									
Personal Emoluments	.....	.....	.....	.....	.....	6,405	53		
Employees—Temporary and Miscellaneous	.....	.....	.....	.....	.....	92	40		
Equipment and Miscellaneous	.....	.....	.....	.....	.....	7,112	63		
Rents	.....	.....	.....	.....	.....	5,219	60		
Medicines	.....	.....	.....	.....	.....	13,696	91	32,527	07
CENTRAL POOR RELIEF BOARD.									
Personal Emoluments	.....	.....	.....	.....	.....	9,001	60		
Travelling Expenses	.....	.....	.....	.....	.....	2,419	34		
Office Expenses	.....	.....	.....	.....	.....	314	81		
Grants for Poor Relief	.....	.....	.....	.....	.....	87,397	74	99,133	64
								\$967,987	33

Statement showing issues from Medical Store during the year 1935.

	\$	c.
HEAD OFFICE :		
Director of Medical Services' Office	31	88
HOSPITALS :		
Colonial Hospital, Port-of-Spain	12,831	82
Do. San Fernando	8,462	44
Do. Tobago	2,296	67
District Hospital, Arima	1,001	92
Do. St. Joseph	1,632	47
Do. Tacarigua	1,309	70
Do. Couva	940	29
Do. Princes Town	1,479	51
Do. Cedros	325	85
Temporary Hospital, Mayaro	323	97
Do. Sangre Grande	348	37
ASYLUMS :		
St. Ann's Asylum	1,162	22
Leper Asylum, Chacachacare	1,934	04
House of Refuge	1,114	11
QUARANTINE :		
Port Health Office	7	14
DISPENSARIES, &c. :		
Dispensaries	13,327	77
Bacteriological Laboratory	151	97
Other Public Institutions	4,574	76
Total	\$53,256	90

(d) General Organisation.

In view of certain changes in the organisation of the department now to be described it has been considered advisable to make a brief statement of the modern views on Medical and Health Services.

It is a generally accepted principle that the Medical and Public Health Services of a country are so intimately related and so interdependent as to make it necessary in the interests of both efficiency and economy to treat both as branches of one whole service. Public Health as science has advanced incalculably during the present century and its ramifications have spread to such an extent that it is now difficult to indicate where preventive medicine ends and where curative medicine begins. In earlier days public health activities were largely confined to the prevention of infectious disease whereas to-day they embrace not only the prevention of disease but also the measures necessary for the general well being of the community—antenatal care, maternity work, infant and child welfare, care of the school child, welfare of the working classes are matters which call equally for the attention of the public health worker and of the clinician. It follows naturally that a very close co-operation is necessary between the private practitioner, the medical institution, and the public health officer.

In past years whilst both medical and health services were theoretically administered as one service they were in practice two more or less separate entities. This was doubtless a survival of the time when the Surgeon-General was in fact the consulting surgeon to the Hospitals in the Colony.

Upon the retirement of the late Surgeon-General, the Secretary of State altered the title of that post to Director of Medical Services and, upon the appointment of a Deputy Director of Medical Services in June, the opportunity was taken to re-organise the work of the headquarters of the department in such a manner as to remove all trace of a division of the work into two separate branches. Simultaneously the title of the department was changed to Health Department.

The policy of the department had been outlined in the report of the Medical Re-organisation Committee (Council Paper No. 66 of 1934), and, generally speaking, the recommendations of that Committee were followed throughout the year. It was found however in the light of experience that certain departures from this policy were advisable in regard to the public health services. Certain recommendations were accordingly made to Government and these were published as Council Paper No. 91 of 1936. The principal departures from the recommendations of the Medical Re-organisation Committee were the following:—

- (a) That the Colony, for public health purposes, be divided into two divisions instead of three and that, instead of three Senior Medical Officers of Health, there should be two each having one Assistant Medical Officer of Health. The advantages of this change, were two-fold; it ensured a more equitable distribution of duties and it permitted of the acquisition of experience in Public Health Administration by Junior Medical Officers.
- (b) That Government should be responsible for half the salary and half the pension of a whole time Medical Officer of Health for the Borough of San Fernando. Under the present arrangements the public health work of the borough is performed by the part time services of a District Medical Officer who in point of fact devotes only a few hours per week to these duties. In addition it was recommended that the staff of sanitary inspectors should be appointed by Government, thereby becoming eligible for transfer when desirable to other districts, the borough being responsible to the Treasury for salaries and for pensions. This proposal had received the provisional approval of the Borough Council who welcomed the co-operation of the Health Department in their efforts to raise the standard of Public Health in the town.
- (c) That in order to deal adequately with the problem of venereal disease in the Colony it was necessary to establish in the first instance two clinics for venereal disease, one in Port-of-Spain and the other in San Fernando, on the lines of modern clinics in England, equipped with modern appliances and staffed by experienced personnel. It was urged that for this purpose the appointment of two whole time medical officers and of two superintendent sisters thoroughly experienced in modern methods of diagnosis and treatment of venereal disease was essential. The duties of the medical officers would be administrative, clinical and educational.
- (d) That school medical officers employed on a whole time basis were essential if school medical inspection was to be efficiently carried out.

These principles were accepted by Government and provision has accordingly been made in the Estimates for 1937. The policy of providing opportunity for recent graduates in medicine to obtain practical experience in the diagnosis and treatment of disease was put into effect and four recently qualified medical men were given employment in the colonial hospitals. Whilst this is a most desirable arrangement it is important to ensure that such posts be treated as supernumerary since otherwise there is the risk that the principal object of their employment, namely the gaining of experience, may be sacrificed on the altar of expediency.

The appointment of a medical superintendent of the Colonial Hospital, Port-of-Spain, was not made until November and consequently there is little new to record in regard to hospital administration. Effect was given to various recommendations of the Medical Re-organisation Committee as appears later in this report.

Grateful acknowledgment is made of the services of the Honorary Consulting Surgeon, Honorary Consulting Physician, and Honorary Consulting Ophthalmic Surgeon.

Proposals were submitted to Government for regrading of the Headquarters clerical staff, stewards and dispensers, and of the male and female attendants at the Mental Hospital. Proposals were also put forward for the regrading of sanitary inspectors.

SECTION II.—PUBLIC HEALTH.

I.—Vital Statistics.

Population.

The total population of the Colony on 31st December, 1936, as estimated by the Registrar-General was 448,253, an increase of 8,259 on the estimated population on 31st December, 1935.

The natural increase of the population in 1936 was 7,395, *i.e.*, the excess of births over deaths.

For the purposes of medical administration the Colony of Trinidad is divided into North and South divisions the population of the north being 279,894 and that of the south 168,359.

The estimated population of Tobago was 17,570 (9,570 in the Scarborough district and 8,000 in the Roxborough district).

Total Births.

The Registered births were 14,625 (14,352 in 1935) giving a crude birth rate of 32.93 per 1,000.

The crude birth rate has shown little variation during the past 10 years as is shown by the following figures:—

<i>Year.</i>	<i>Crude Birth Rate.</i>
1927	30.42 per 1,000
1928	29.57 do.
1929	31.73 do.
1930	31.19 do.
1931	29.90 do.
1932	28.97 do.
1933	31.08 do.
1934	29.72 do.
1935	32.92 do.
1936	32.93 do.

The crude birth rate of the Southern division was 38.04 per 1,000 while of the two districts in Tobago the crude birth rate of Scarborough and district was 45.51 per 1,000 that of Roxborough being 38.71 per 1,000.

Still Births.

There were 917 still births equivalent to 6.27 per cent. of the number of registered live births. The average for the past 10 years being 7.20 per cent. as the following figures show:—

<i>Year.</i>	<i>Number of Still Births.</i>	<i>Percentage of Still Births to registered Live Births.</i>
1927	837	7.06
1928	927	7.94
1929	977	7.61
1930	947	7.43
1931	903	7.03
1932	854	7.06
1933	1,016	7.73
1934	886	6.95
1935	913	6.63
1936	917	6.27

In the Scarborough district of Tobago the percentage was 4.5 per cent. (5.8 per cent. in 1935).

Deaths.

The number of registered deaths was 7,230 giving a crude death rate of 16.28 per 1,000 population.

The crude death rate has shown a slight downward trend during the past 10 years as the following figures show:—

<i>Year.</i>	<i>Rate per 1,000 population.</i>
1927	18.71
1928	19.89
1929	19.43
1930	19.91
1931	19.97
1932	17.08
1933	19.58
1934	18.77
1935	17.47
1936	16.28

The death rate in the South Division was 16.92 per 1,000. In the Scarborough district of Tobago it was 18.83 per 1,000 while in the Roxborough district of Tobago it was 14.74 per 1,000.

Infantile Mortality.

The infantile mortality rate was 96.82 as compared with 99.42 in 1935.

In the Scarborough district of Tobago the infantile mortality rate was 84.86.

In the Borough of San Fernando the infantile mortality rate was 127.89.

The deaths under one year in the Southern Division were 621.

Maternal Morality.

The maternal mortality rate is estimated at 4.76 per 1,000 pregnancies.

II.—GENERAL.

The general health of both Trinidad and Tobago remained satisfactory during 1936. Malaria in both north and south divisions in Trinidad was less prevalent than in 1935 but in Tobago in spite of the anti-malarial work done during the year it is disappointing to find that the incidence was greater than in 1934 and 1935. The reason for this probably lies in the fact that anti-malarial schemes are instituted at considerable cost and then allowed to fall into disrepair through lack of the funds required for an adequate maintenance staff. The broken low tide level culverts in Tobago are an instance of this. Dysentery is not a notifiable disease but towards the end of the year arrangements were made for the immediate notification of cases occurring in all Government Institutions. The seasonal incidence is in May and June with the early rains and there was a marked decrease in the number of cases compared with the previous year. The diagnosis of amoebic or bacillary dysentery is made clinically by district medical officers and the amoebic form is stated to be by far the most common.

At present what is euphemistically known as the clinical test forms the basis of the statistics of both malaria and dysentery.

The problem of the isolation and treatment of tuberculosis is still unsolved. The accommodation for active cases is altogether inadequate.

The very widespread incidence of hookworm in the rural districts of the Colony militates against any general improvement in the health of the population.

No less important in this respect is the state of malnutrition which exists, particularly in the labouring population. With a view to endeavouring to deal with this problem a standing committee was appointed in July "to co-ordinate and inspire the policy of the Government in regard to nutrition in its relation to Public Health".

This committee which is representative of the various sections of the community, of agriculture, health, and education and of estates, has amassed a wealth of information with a view to studying the most suitable methods of dealing with the problem.

III.—COMMUNICABLE DISEASES.

Enteric Fever.—Polluted water, fly breeding in manure heaps required for agricultural purposes and carriers are the chief causes for the unduly high incidence of this disease each year in Trinidad and Tobago. The new water supply from the Quare dam was not completed by the end of the year but great benefit is expected from it in 1937. The problem of dealing with the manure heaps has been dealt with by instituting the activated compost system where possible and by education of the persons concerned. The greatest credit is due to the Senior Medical Officers of Health and to the Sanitary Inspectors for their patience and tact in persuading backward householders and estate owners of the dangers arising from their manure heaps. There was a considerable decrease in cases as compared with 1935. The distribution is shown in Table I.

Total cases for Trinidad and Tobago was 463 (1,016 in 1935).

The age group of the 143 cases occurring in the Southern Division is as follows:—

Age Group.	No. of Cases.
0-5	25
5-10	37
10-15	32
15-20	13
20-30	15
Over 30	21

From the above table it will be seen that the incidence is highest amongst school children (5-15).

The following places remain dangerous centres of enteric fever and special attention will be required at each:—

San Fernando, Barrackpore, Plaisance, San Francique, Chaguanas, St. Joseph, Tacarigua.

Carriers.—The search for carriers during the investigation by the Senior Medical Officer of Health, Northern Division, of six cases of enteric fever at Tacarigua Orphanage revealed 2 carriers amongst the resident staff. One of these was a clarinet teacher who taught a group of 10 boys. Two of these clarinet pupils were among the 6 cases.

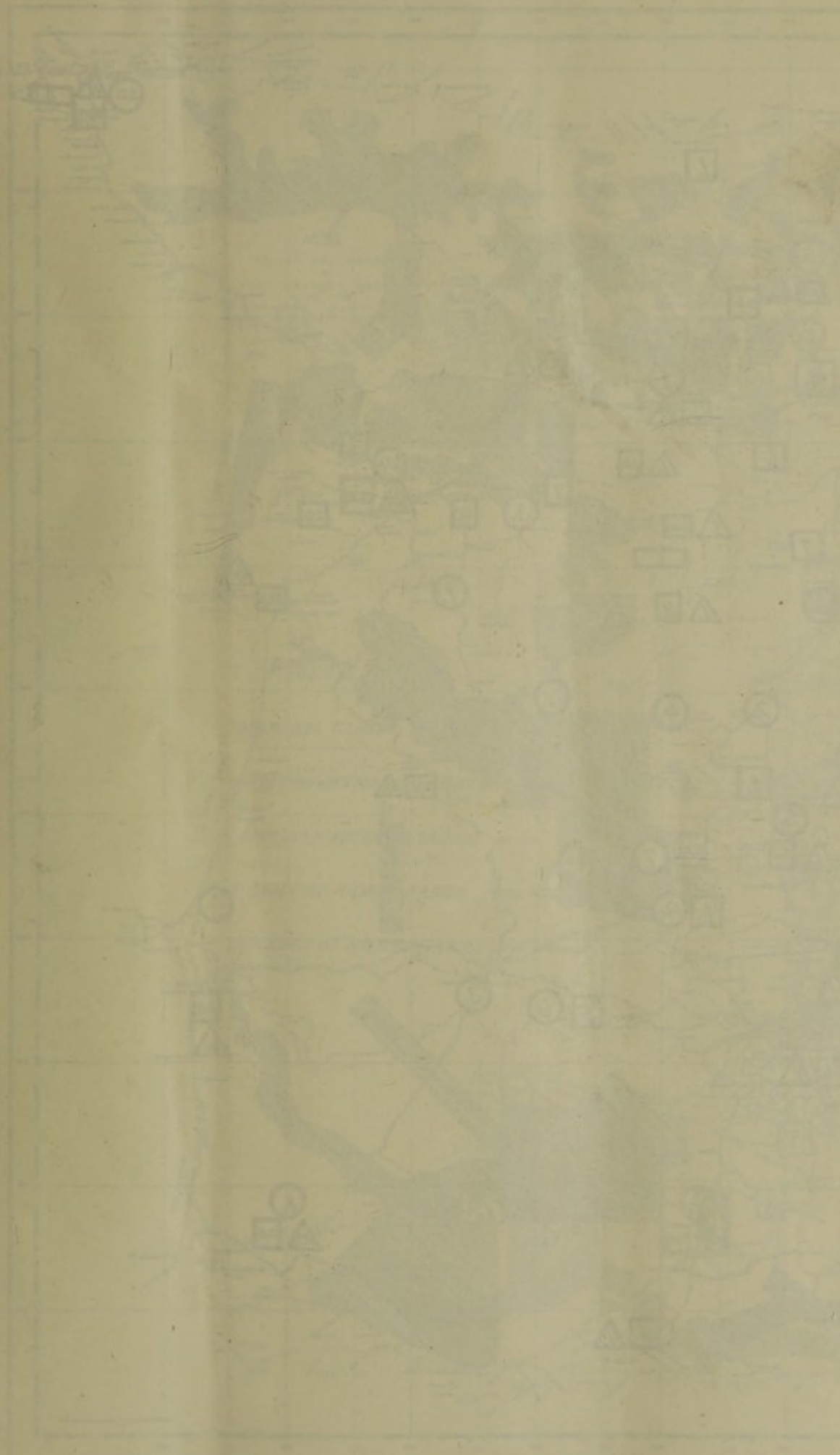
Chicken Pox.—Mild outbreaks of chicken pox occurred in various districts towards the end of the year. The total number of cases was 120 with no deaths. San Fernando (12 cases) and Tacarigua (19 cases) were the areas chiefly affected.

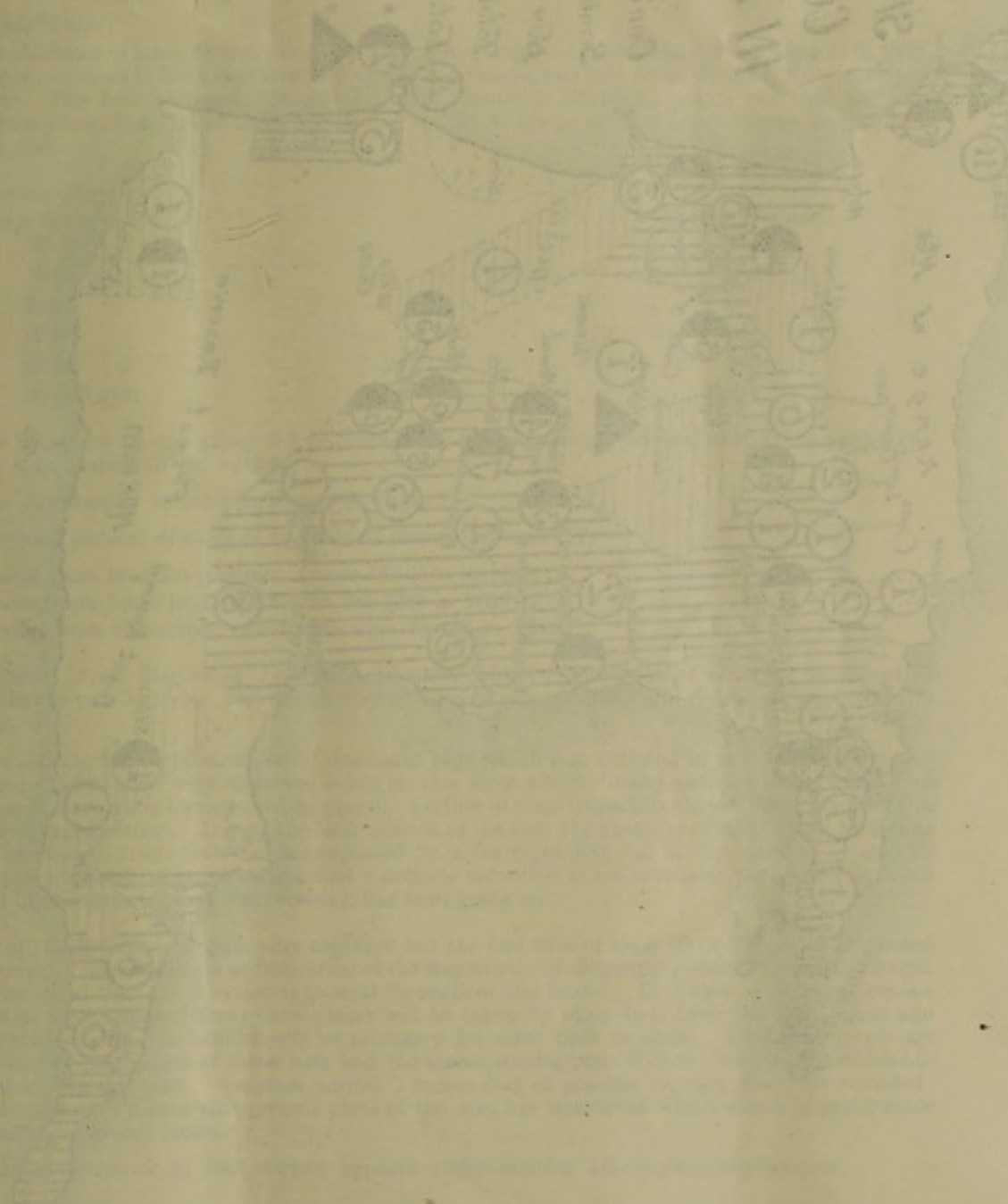
Ophthalmia Neonatorum.—Seventy-six cases were reported. The distribution of these is shown in Table I. There is need for an inspector of midwives.

Diphtheria.—Sporadic cases occurred throughout the year in both Northern and Southern Divisions. One case occurred at Scarborough, Tobago.

The total number of cases was 57 with 3 deaths.

Anterior Poliomyelitis.—Six cases were reported during 1936. Two from Cedros one from Nariva-Mayaro and three from Port-of-Spain. It is probable that a number of other cases remained undiscovered in connection with these. In December two cases, one of which was fatal, occurred in the environs of Port-of-Spain. It is possible that the infection came from Venezuela. The mild epidemic which followed, extended into 1937 and will form part of next year's report.

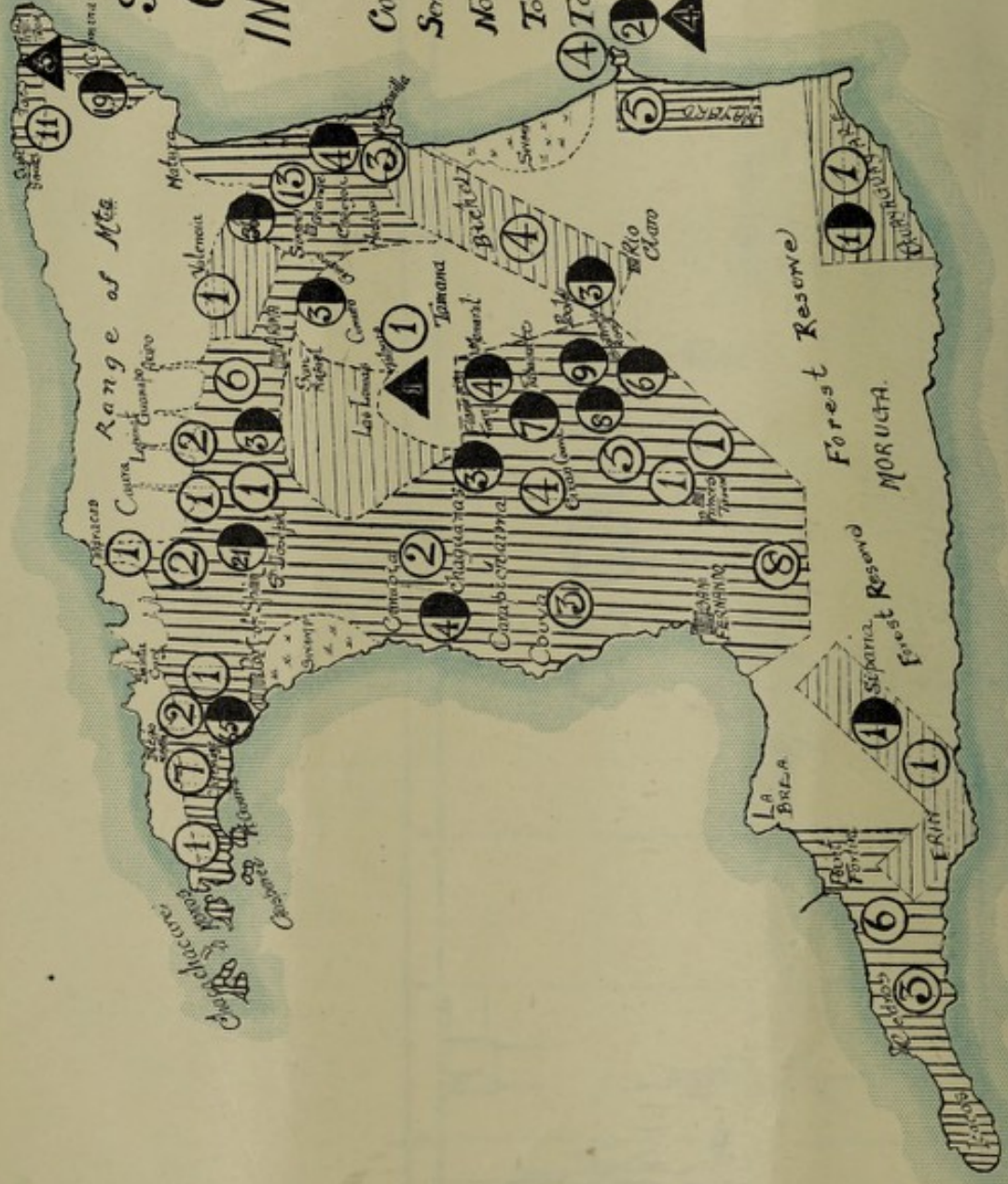







1. Шестерня
 2. Вал
 3. Подшипник
 4. Крышка
 5. Вал
 6. Подшипник
 7. Вал
 8. Подшипник
 9. Вал
 10. Подшипник
 А. Шестерня
 Б. Вал
 В. Подшипник
 Г. Крышка
 Д. Вал
 Е. Подшипник
 Ж. Вал
 З. Подшипник
 И. Вал
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МАШИНА
 СЕРИИ
 1001

PLAN SHOWING RABIES CONTROL WORK IN TRINIDAD 1936.



Reference:-

- Controlled Areas 
- Semi- " " 
- Non- " " 
- Total Desmodus destroyed 5519.
- Total No found infected 100
- 2 " Cases Animal Rabies 230
- 4 " " Human " 4

Tuberculosis.—Statistics show no special seasonal incidence of pulmonary tuberculosis in Trinidad. Bad housing, overcrowding, hookworm, malaria and malnutrition are contributing causes which exist not only among the unemployed but also among the employees of prosperous estates.

The Anti-Tuberculosis League provided Clinics in Port-of-Spain and San Fernando. The work of this League continues to grow each year and is a proof of the valuable services which it renders to the Colony.

No further progress has been made towards the sanatorium which is intended to be erected as a memorial to the Jubilee of King George V. This sanatorium arose from the initiative of the *Trinidad Guardian* and is in the nature of a private enterprise.

The total number of cases occurring during the year was 447 (296 in 1935).

Their distribution is shown in Table I.

There were 31 cases of non-pulmonary tuberculosis during the year.

Pneumonia (Lobar).

The incidence of lobar pneumonia in the Colony has remained approximately the same as in 1935. The number of cases in both northern and southern divisions was highest in October, November and December. The Senior Medical Officer of Health, Southern Division, points out that the age distribution shows the highest incidence among the 20-30 age group and over. These are the best working years.

Southern Division :

Age Group.	Number of Cases.
0-5	55
5-10	13
10-15	10
15-20	16
20-30	54
30 and over	84

The incidence in age group 0-5 is chiefly due to broncho-pneumonia recorded as pneumonia without specification of the variety.

The distribution of cases is shown in Table I.

The total number of cases of unspecified pneumonia was 717.

Deaths from broncho-pneumonia were 147 (144 in 1935).

Deaths from lobar pneumonia were 286 (283 in 1935).

Deaths from unspecified pneumonia were 55 (52 in 1935).

Rabies. Acute Ascending Transverse Myelitis.—Only 4 human cases occurred as compared with 21 in the previous year, and the number of cases in animals (228) also represents a considerable decrease.

The scheme for the destruction of desmodus bats which was outlined in last year's report was developed. Eight men were employed solely on this work whilst district sanitary inspectors played their part in controlling known roosting places. Certain of these inspectors showed very commendable activity in this direction. During the later months of the year the numbers caught tended to decline but as in most districts this was accompanied by a corresponding fall in the numbers of animals bitten, there is good reason to believe that a definite reduction in the desmodus population has been effected in the areas where intensive work has been going on.

In all, 3,623 desmodus bats were captured but the fact that of these 99 or 2.7 per cent. showed the presence of negri bodies is an indication of the importance of diligently prosecuting this campaign. It will be noted that the infection is general throughout the Island. Doubtless as the numbers are reduced in the populated areas their places will be taken by other bats from the high woods and consequently continuous control will be necessary for some time to come. Detailed records are maintained of the haunts of these bats and the accompanying plan A. shows the progress which has been made. In this plan "complete control" means that all possible roosting places are recorded; "partial control" means that certain parts of the area are completed whilst search is being made for other undiscovered roosts.

Further reference to this subject appears under Section IX—Laboratory Services.

Yellow Fever.—No cases were reported. This disease has ceased to exist in the Island for many years. It is not easy to account for this immunity since the mosquito vector is common and the proximity of the Island to the mainland makes port health work possible only in the larger ports.

Plague.—Trinidad enjoys at present similar immunity to plague. The prevalence of rats and the type of ribbon built squalid house which prevails would make it extremely difficult to control an outbreak if once this disease obtained a foothold on the Island. Little preventive measures are carried out. Rat gangs exist only in Port-of-Spain.

Small Pox.—No cases have occurred for several years. The population is now well vaccinated.

Influenza.—One thousand six hundred and one cases occurred during the year. The symptoms were mild and few cases of influenzal pneumonia were reported. The disease is not notifiable and the figures given do not represent the total. The incidence was highest in the southern division in the first 3 months of the year.

Whooping Cough.—Mild epidemics of this disease occurred chiefly towards the end of the year. In Cedros there were 20 cases in December. There were 365 cases during the year.

Filaria.—Few cases are recorded and the disease is not considered to be of economical importance. Elephantiasis of one or both legs can however often be seen on a motor journey through the Island and cases of elephantiasis of the scrotum are in existence.

Malaria.—This still remains the most formidable of all the diseases in Trinidad and Tobago. The disease is not notifiable and as in other countries the figures given must necessarily be incomplete. The incidence is greatest in August and September. Eighteen thousand nine hundred and two cases were reported with 473 deaths. (606 in 1935.) There is still a tendency on the part of the medical officers to diagnose benign and subtertian malaria clinically. It has been the practice for many years here to classify as "malignant" malaria any case which shows malignant symptoms.

Ankylostomiasis.—Four thousand three hundred and fifty-five cases were reported in 1936. The disease is widespread the highest incidence being among East Indians on sugar estates. The monetary value of this loss of man power in labourers on estates is not yet realised in Trinidad.

Two units of 2 trained men each are employed, one in the northern and one in the southern division. The work in general consisted of:

- (a) Census taking with propaganda talk.
- (b) Examination of specimens.
- (c) Treatment of positive cases.
- (d) Improvement of latrines.
- (e) Educational measures.

The Northern Unit reported the following figures:—

Cunupia	78.97 per cent. of population was infected.
Caparo and Todds Road	80.3 per cent. of population was infected.

The Southern Unit operated in the Guaracara district. The work done by this unit is as follows:

	1936.	1935.
Census	4,423	3,079
Total number of specimens examined	3,409	2,812
Total number positive	2,719	2,120
Total number found negative on examination	195	202
Infection rate	79.46%	98.04%

The incidence of this disease is highest amongst East Indian labourers, particularly on sugar estates where the latrine accommodation is often very bad. Rice growing areas also show a high rate of infection. *Ankylostoma duodenale* is the hookworm found. The drugs used in treatment are oil of chenopodium and carbon tetra chloroethylene. Lectures on the subject have been given to the schools in the southern division, and some of the oilfields before employing labourers insist on a preliminary hookworm treatment.

It is disappointing that there is often a noticeable lapse in districts where the units have formerly operated.

Yaws.—This condition is endemic in Tobago and certain areas in Trinidad. No organised campaign exists and since it is not a notifiable disease no accurate figures are yet available. The incidence is highest among school children and it is hoped that the appointment of Medical Officers of Health for Schools and Venereal Disease will do much to clear up the situation. District Medical Officers in general have found themselves unable to report on the number of cases in their districts.

Endemic centres are as follows:—

Northern Division.—Toco (the incidence here is lower than 1935) Tacarigua (446 cases).

Southern Division.—Ortoire-Moruga (parts of the district).

Nariva-Mayaro (Biche, Rio Claro, Brothers Settlement, Mayaro, Guayaguayare).

Guaracara (generalised).

Gran Couva (generalised).

Couva (generalised).

South Naparima (Barrackpore and Debe).

Erin-Siparia (generalised).

Cedros (Chatham Village and Icosos).

Leprosy.—There is no increase in the incidence of this disease.

Veneral Diseases.—Venereal disease clinics are provided at the Colonial Hospitals at Port-of-Spain, San Fernando and Scarborough. District Medical Officers conduct similar clinics at district hospitals and treatment is also given at the health offices. The prevalence of yaws especially amongst children makes the Wasserman reaction less reliable than in Europe, while cases of gonorrhoea are often not seen by medical men.

The appointment of two Medical Officers of Health for work on venereal diseases was authorized in 1936. They will form the nucleus of a service which will concentrate its work upon this group of disease.

The number of new cases recorded is as follows:—

Syphilis	.....	.....	.....	.....	.....	615	(462 in 1935).
Gonorrhoea	.....	.....	.....	.....	.....	383	(425 in 1935).
Soft Chancre	.....	.....	.....	.....	.....	27	(33 in 1935).
Venereal Granuloma	.....	.....	.....	.....	.....	117	(87 in 1935).

These figures represent only a fraction of the existing number of cases.

Dysentery.—At present the diagnosis between amoebic and bacillary dysentery is made in many districts without the aid of a laboratory. It has been the custom since many of the cases are mild, and since cysts are often found in the stools, to classify them as amoebic. It is stated also that most of the cases react to emetine. The aid of the Government Laboratory has been called, in an increasing number of cases and a considerable number of these cases are being found to be bacillary. The number of cases and deaths are as follows:—

1935	.....	.....	.....	.....	.....	465 cases, 107 deaths.
1936	.....	.....	.....	.....	.....	396 cases, 84 deaths.

The distribution is widespread in the Island the incidence being greatest when flies are prevalent. Small epidemics at the latter part of the year in the Young Offenders' Detention Institution at Diego Martin and at St. Ann's Mental Hospital were traced to flies breeding in manure heaps and kitchen refuse. An outbreak in Usine during May was found to be caused by drinking polluted water.

The seasonal distribution of the cases was as follows:—

<i>Month.</i>						<i>Number of Cases.</i>
January	.....	.....	.....	.....	.....	15
February	.....	.....	.....	.....	.....	18
March	.....	.....	.....	.....	.....	20
April	.....	.....	.....	.....	.....	23
May	.....	.....	.....	.....	.....	*135
June	.....	.....	.....	.....	.....	25
July	.....	.....	.....	.....	.....	37
August	.....	.....	.....	.....	.....	24
September	.....	.....	.....	.....	.....	14
October	.....	.....	.....	.....	.....	18
November	.....	.....	.....	.....	.....	34
December	.....	.....	.....	.....	.....	33
TOTAL	.....	.....	.....	.....	.....	396 cases.

* 129 of these cases were from Usine.

TABLE I.

District.	Enteric Fever.	Pneumonia.	Pulmonary Tuberculosis.	Tuberculosis (other forms).	Diphtheria.	Chicken Pox.	Ophthalmia Neonatorum.	Acute Polio-myelitis.	Acute Ascending Transverse Myelitis.	Cerebro- Spinal Fever.	Total.
Diego Martin/Bocas	8	6	6	1	3	8	3	2	.....	.....	32
St. Ann's	2	26	20	1	3	7	.....	.....	.....	.....	61
St. Joseph	34	41	38	1	3	5	7	.....	.....	.....	129
Tacarigua	114	29	17	.....	5	19	1	.....	.....	.....	185
Arima (Rural)	2	16	5	.....	.....	1	1	.....	.....	.....	24
St. Andrew	12	20	21	.....	.....	1	4	.....	.....	.....	58
St. David	5	9	3	.....	.....	1	4	.....	.....	.....	24
Chaguanas	52	95	28	5	2	1	6	.....	.....	.....	189
Couva	12	21	11	.....	.....	.....	2	.....	.....	.....	46
Gran Couva	4	1	.....	.....	.....	.....	1	.....	.....	.....	6
Guaracara	14	7	3	1	1	.....	.....	.....	.....	.....	26
Princes Town	7	20	8	.....	.....	1	.....	.....	.....	.....	36
Ste. Madeleine	12	15	2	1	1	1	.....	.....	.....	.....	32
Pointe-a-Pierre	.....	2	.....	.....	.....	1	.....	.....	.....	.....	3
Ortoire-Moruga	4	.....	1	.....	.....	.....	1	.....	.....	.....	6
Nariva-Mayaro	4	24	12	1	.....	8	.....	.....	.....	.....	49
Naparima	24	27	8	2	.....	.....	.....	.....	.....	.....	61
Erin/Siparia	24	33	18	2	7	5	6	.....	.....	.....	95
Brighton/La Brea	3	10	10	.....	.....	.....	1	.....	.....	.....	24
Point Fortin	3	7	1	.....	1	.....	3	.....	.....	.....	15
Cedros	3	5	1	1	.....	.....	.....	.....	.....	.....	10
Scarborough, Tobago	19	9	3	.....	1	.....	5	.....	.....	.....	37
Roxborough, Tobago	13	8	8	.....	.....	.....	1	.....	.....	.....	30
Plymouth, Tobago	5	10	6	.....	.....	.....	.....	.....	.....	.....	21
Total Rural Districts	380	441	230	16	24	57	46	2	3	.....	1,199
Arima	8	10	9	.....	1	.....	2	.....	.....	.....	30
San Fernando	39	65	59	5	11	17	4	.....	.....	.....	200
Port-of-Spain	36	201	149	10	21	51	24	3	.....	.....	495
Total Urban Districts	83	276	217	15	33	68	30	3	.....	.....	725
Total All Districts	463	717	447	31	57	125	76	5	3	.....	1,924

TABLE II.

Prevalence of Notifiable Infectious Diseases.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Enteric Fever	50	43	49	46	39	31	42	43	19	29	34	38	463
Pneumonia	67	48	77	50	48	52	52	37	42	84	84	76	717
Pulmonary Tuberculosis	48	44	31	31	37	30	23	31	48	43	43	38	447
Tuberculosis (Other Forms)	3	1	3	2	5	1	4	3	....	7	2	....	31
Diphtheria	4	2	3	3	3	2	14	3	5	5	5	8	57
Chicken Pox	3	8	21	35	8	8	2	2	1	18	3	16	125
Ophthalmia Neonatorum	4	4	12	8	8	5	4	....	6	12	5	8	76
Acute Poliomyelitis	1	....	....	....	....	....	....	....	....	....	....	5	6
Acute Ascending Transverse Myelitis	....	....	....	....	....	....	....	1	....	2	....	....	3
Cerebro-Spinal Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Total	180	150	196	175	148	129	141	120	121	200	176	189	1,925

SECTION III.—HYGIENE AND SANITATION.

Preventive Measures.

A.—Anti-malarial measures.

Concreting of drains and culverts in the Arima, St. Joseph, St. Ann's, Diego Martin and Chaguana districts. Construction of low tide level culverts at Toco and at Tobago.

Reclamation of land by filling in connection with the Laventille Anti-malarial scheme. Minor permanent work in the way of drainage and filling of small low-lying areas was also carried out in most of the districts.

Where funds did not permit of permanent work, the usual temporary expedients of oiling, cleaning of earthen drains, clearing of overgrowth, &c., were carried out.

A drainage scheme, partly completed, was undertaken by the Usine Ste. Madeleine estate authorities in Harmony Hall and Tarouba. This scheme was an important anti-malarial measure but the full effectiveness was frustrated by the non-co-operation of adjoining owners.

Sobo Oilfields—Certain recommendations were made by this department as a result of a previous survey of this area. These recommendations were carried out and resulted in better health for the staff and other employees. They included grading and concreting of drains and drainage of ponds, &c.

The Trinidad Lake Asphalt Company continued their major work in concreting ravines and drains through anopheles breeding places.

Trinidad Leaseholds continues their anti-malarial measures such as concreting drains and regrading of extensive low-lying areas. The above works were executed by private companies as a result of recommendations from surveys conducted by this department.

Major permanent works.—Government.

Diversion and concreting of the Lagon d'Or Ravine, La Brea, was completed at a cost of \$2,832. This important work was a great contribution to the anti-malarial scheme of La Brea.

A section of the Pitch Lake Ravine was concreted at the cost of \$1,275.

A section (300 feet) of the Vista Bella Ravine was concreted at a cost of \$1,494.40. It was unfortunate that this important work could not be completed.

Minor permanent works.

Reclamation of coastal swamp, west of San Fernando was almost completed.

The clearing of the edges of the Cedros dam was undertaken in the dry season and the sides were paved with asphalt at the cost of \$100.00. The surface covered was estimated at 50,000 square feet. Since the work was done the breeding of anopheles ceased and now this dam is serving the purpose of being a model for similar work elsewhere. There has been no expenditure for maintenance since this work was done and the condition remains satisfactory.

In certain areas (La Brea and Marabella) experiments were conducted which aimed at the maintenance of the minimum depth of water in rice plots, sufficient to enable a growth of rice and at the same time to prevent anopheles breeding. These experimental plots were compared with uncontrolled ones in the neighbourhood. The results of uncontrolled plots showed (1) an average of six anopheles larvae per dip in plots with a water level of over two inches. (2) Plots with a water level below two inches showed no evidence of breeding. (3) The general growth of rice and yield per controlled plot were better.

Bamboo internodes were used for controlling the water level. These experiments confirmed the relationship between temperature of water and intensity of breeding and served the purpose of indicating what action can be taken in rice growing areas where no-irrigation scheme is possible.

Malarial Surveys.

Malaria surveys were conducted in the Guayaguayare area including the Pilot and Lizard tidal swamps. These surveys revealed that:—

- (a) The Lizard swamp did not form a major problem as a greater portion of it was definitely tidal and little anopheles breeding was found.
- (b) The Pilot swamp revealed intensive breeding along the edges of the swamp which were uninfluenced by the full flushing action of the tides.

A special report was submitted at the request of the Trinidad Leaseholds.

The incidence of malaria in Guayaguayare can be controlled under an anti-malarial scheme assisted by contributions from private owners and Government.

Guapo Anti-malarial survey.

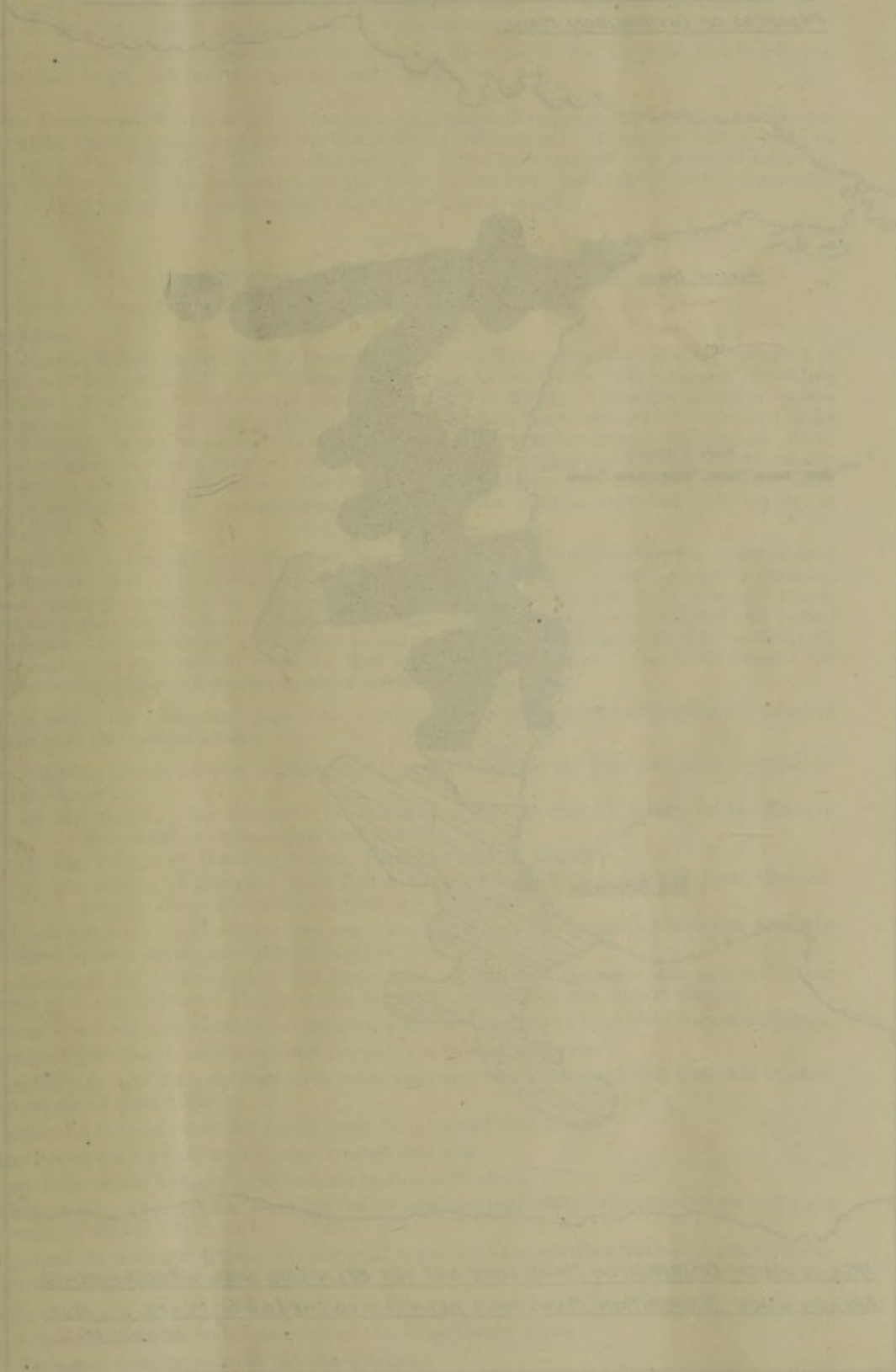
At the request of the Kern Trinidad Oilfields a survey was conducted in this area and proposals were submitted to the company concerned.

Tabaquite Survey.

As a result of a sharp but small outbreak among the staff and labourers of the Trinidad Central Oilfields a survey was conducted and anti-malarial measures recommended. These have been executed by the oilfields authorities with satisfactory results.

TRINIDAD CENTRAL WATER SUPPLY SCHEME

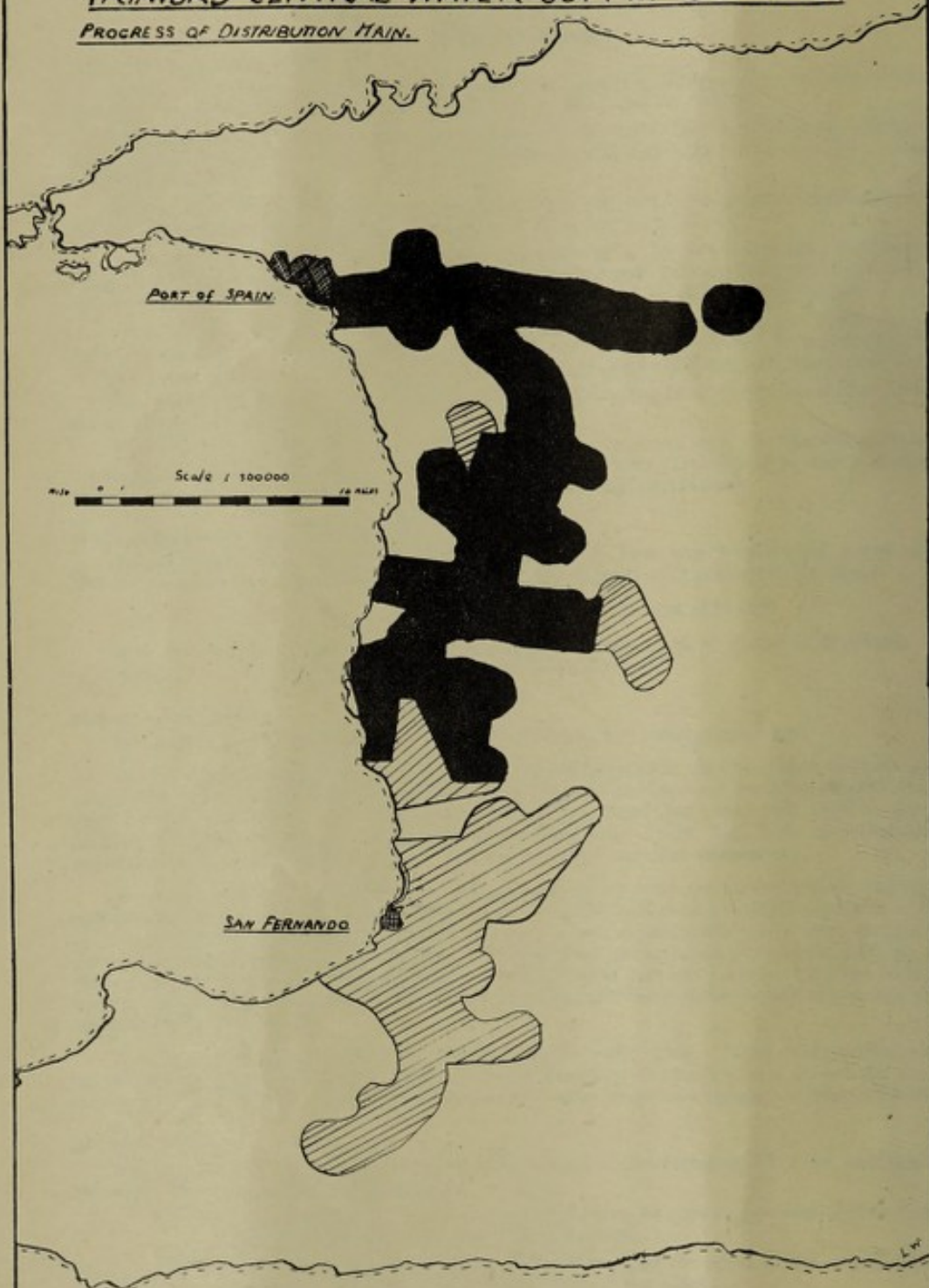
REPORT OF THE ENGINEER



THE TRINIDAD WATER SUPPLY BOARD
TRINIDAD, T.T.

TRINIDAD CENTRAL WATER SUPPLY SCHEME.

PROGRESS OF DISTRIBUTION MAINS.



AREA IN WHICH DISTRIBUTION MAINS HAVE NOT YET BEEN LAID SHOWN CROSS HATCHED

AREA IN WHICH DISTRIBUTION MAINS HAVE BEEN LAID TO THE END OF MONTH 1937

SHOWN SOLID.

S.F.

Point Fortin Survey.

This work was undertaken with reference to a complaint from the United British Oilfields. It is proposed to undertake certain major works at an early opportunity.

Routine re-surveys were conducted in the following districts, Cedros, La Brea, Pointe-a-Pierre, Ste. Madeleine, North and South Naparima and Couva.

Major Construction Works—Private Enterprise.—Extensive drainage and reclamation works were carried out by the Esperanza and Brechin Castle Estate authorities in connection with a previous malaria survey of the California-Claxton's Bay Swamp. These have resulted in a material reduction of anopheles breeding in the area and have also been an economic undertaking for the companies as many acres of swamp have been made available for cane growing.

II.—GENERAL MEASURES OF SANITATION.

The Central Water Scheme and Quare Dam.

Water Supplies.

The Central Water Supply Scheme designed to serve a large proportion of the population of the Island was well advanced. The impounding reservoir in the Quare Valley capable of holding 1,000 million gallons was formally opened by the Governor in March. The water is sent from this reservoir through 73 miles of trunk mains to two 3-million gallon reservoirs and three elevated tanks and will eventually be sent to several other tanks and reservoirs at present under construction. From these service reservoirs it is distributed through 90 miles of distribution mains which will ultimately be extended to a total of 195 miles. The results of bacteriological and chemical analyses leave nothing to be desired. The accompanying map shows the position regarding the supply in February, 1937.

Towards the end of the year the water from the Hollis Reservoir developed a brown colour and an offensive smell. The system of purification is one of filtration through sand under pressure. The water leaves the reservoir by means of outlet valves at various heights in a concrete tower, is treated with alum and then passed into the pressure filters. Later it is chlorinated and passed into the mains. The colour and smell which persisted for several weeks, were due to decaying vegetable matter in the reservoir when the first impounding took place. The filters became too foul for the ordinary aeration process to effect proper cleansing.

By the end of the year a large part of the populated areas of the northern division was supplied with water from this central scheme.

The following new areas were proclaimed during the course of the year and were supplied by the central scheme.

- (a) Maturita, *i.e.*, the village on the outskirts of the Borough of Arima, on the Eastern Main Road between Arima and Valencia.
- (b) The villages of Dabadie, Arouca, Tacarigua and El Dorado.
- (c) The villages of Aranguez, Petit Bourg, Champ Fleurs, El Socorro, San Juan, Concord, Febeau, Bourg Mulatresse, Success and Laventille.

Port-of-Spain retained its own system and reservoirs but it was also supplied with water from the Central Water Scheme during several months of the year.

San Fernando has been supplied with water from hot and cold springs in the past but at the end of the year this untreated supply was replaced by water from the central scheme.

Princes Town and neighbourhood is supplied with untreated water from the Guaracara Springs.

Pointe-a-Pierre has its own dams and the water is treated with alum.

Apex Oilfields have a supply from river water and dams which is treated with alum and filtered. This also supplies Fyzabad Village.

Brighton-La Brea has a similar supply from dams treated with alum.

Point Fortin has a supply from springs treated with alum.

Forest Reserve has a supply from streams treated with alum.

All the above water supplies are subjected to repeated bacteriological examinations and good potable water is obtained from each.

In general the southern division has less good water than the northern where the ramifications of the central scheme spread more widely.

Public wells exist at :

- Caparo, Chickland and Tabaquite in the Gran Couva district.
- Biche and Guayaguayare in the Mayaro district.
- Pointe d'Or and Coffee in the La Brea district.
- Coora, Alta Gracia, Fyzabad and Penal in the Siapria district.
- St. Marie in the Cedros district.

Public dams and public and private water holes exist throughout the less thickly populated parts in both Northern and Southern Divisions. The water from them is not safe.

Sewage Disposal.—Water borne sewage disposal exists in a large part of the city of Port-of-Spain and at the factory at Usine. Apart from this the system throughout the country is that of the privy cesspit in villages with septic tanks for the better houses on estates and oilfields. In areas where drainage is bad and the countryside is flooded each year the problem has been partially solved by raising oil drums above the level of the surrounding ground and building a concrete top with a wooden superstructure above this. A new latrine must be built when the oil drum fills. It is hoped that the new and plentiful water supply from the central water scheme network will encourage house owners to instal water closets and septic tanks.

Rural Sanitation.—A certain amount of progress is to be recorded. This service is administered by the Local Health Authorities acting under the Central Board of Health. The funds at the disposal of local authorities are very limited, but that much can be achieved with the credits available in the presence of an active Local Health Authority with an energetic medical officer of health and sanitary inspector may be readily demonstrated by a comparative and superficial survey of the Colony as a whole.

The construction of latrines in rural areas presents considerable difficulties but this is proceeding gradually and in certain areas progress is being made. The assistance given in this direction by the management of certain estates has been of great value.

Refuse Disposal.—Scavenging is undertaken by the Local Health Authorities of all the rural districts. The Bradford system of controlled tipping is in use. Swamp areas and lowlying ground have been successfully reclaimed. At St. Joseph the activated compost method was used with success by the St. Augustine Experimental Station. In Port-of-Spain and San Fernando there is a Municipal service which employs carts for the removal of contents of dustbins and street refuse. The system at Arima has not been so successful.

The use of sawdust as a covering material in dumping grounds has proved useful in San Fernando.

III.—SCHOOL HYGIENE.

Medical Inspection of School Children was carried out by part time School Medical Officers. During the year a complete medical examination was made of the children of the following Schools.

School.	NUMBER EXAMINED.			NUMBER WITH DEFECTS.		
	Boys.	Girls.	Totals.	Boys.	Girls.	Totals.
<i>Port-of-Spain.</i>						
St. Vincent Street E.C.	14	333	347	10	223	233
Tranquillity Girls'	16	443	459	8	335	343
Tranquillity Boys'	334	....	334	216	....	216
Woodbrook Intermediate	54	72	126	31	46	77
Bethlehem R.C.	88	81	169	39	32	71
Piccadilly E.C.	292	336	628	51	43	94
<i>Country Districts (North).</i>						
Bourg Mulatresse R.C.	109	76	185	81	55	136
Success Village R.C.	183	145	328	132	119	251
Barataria E.C.	174	145	319	139	111	250
Curepe C.M.	245	136	381	228	121	349
<i>San Fernando.</i>						
Coffee Street E.C.	103	118	221	95	105	200
San Fernando C.M.	122	85	207	111	80	191
Vista Bella C.M.	67	60	127	63	53	116
San Fernando Girls' R.C.	10	149	159	8	124	132
San Fernando Methodist	82	155	237	79	144	223
San Fernando Boys' R.C.	263	....	263	255	....	255
<i>Country Districts (South).</i>						
St. John's E.C.	72	57	129	69	53	122
Debe C.M.	104	30	134	103	29	132
Ste. Madeleine C.M.	42	16	58	41	13	54
Ste. Madeleine E.C.	49	55	104	48	52	100
Picton C.M.	81	41	122	73	36	109
St. Clement E.C.	51	38	89	49	37	86
Corinth C.M.	89	38	127	86	34	120
Total Schools—23	Total Examined—5,253			Total with Defects—3,860.		

This table indicates that the proportion of defects is approximately equal between boys and girls and that certain schools, particularly in San Fernando and the country districts, have a large proportion of children with defects. The percentages of children with defects in the various areas are given in the table below.

Area.	Number Examined.	Number with Defects.	Percentage with Defects.
Port-of-Spain	2,063	1,034	50.01
Villages near Port-of-Spain	1,213	986	81.12
San Fernando	1,214	1,117	92.01
Villages in the South	763	723	94.76
Total Children	5,253	3,860	73.78

The average percentage with defects amongst the children of the 23 schools inspected is thus 73.48 per cent. An analysis of the age group in which defects chiefly occur shows that they are found largely between the ages of 6 and 12.

Most of the children were found to have several defects each. The following table therefore, which gives the type and distribution, shows still larger figures.

Type of Defect and Distribution.

Defect.	Port-of-Spain.	Villages near Port-of-Spain.	San Fernando.	Villages in the South.
Decayed Teeth	660	682	660	398
Enlarged Tonsils	380	611	317	255
Cervical glands	334	346	198	210
Conjunctivitis	40	6	52	34
Enlarged Spleen	.....	.....	635	.....
Errors of refraction	39	2	38	22
Hernia	1	2	16	5
Poorly nourished	36	9	478	340
Pedicali Capitis	22	295	123	147
Skin Affections	67	6	207	182
Other Defects	166	520	1,219	317
Totals	1,745	2,479	3,943	1,910

The blank spaces indicate that the figures have not been considered accurate enough for inclusion.

The above table shows that poorly nourished children are more numerous in the South of the Island than in Port-of-Spain and the villages near to it. The explanation of the large figures in the South (40 per cent.) lies largely in the different standards adopted by the examining officers. Uniform standards will be possible in 1937 with whole time Medical Officers for Schools. The percentage of children with enlarged spleens in San Fernando alone is estimated at 32 per cent. while 36.5 per cent. were found to be suffering from anaemia.

The following is a summary of treatments given:—

Treatment.	Port-of-Spain.	Villages near Port-of-Spain.	San Fernando.	Villages in the South.
Teeth :				
(a) Extracted	1,961	1,103	990	1,186
(b) Filled	264	.....	.....	.....
Tonsils :				
Removed	47	67	18	11
Other Defects :				
Treated Eye Clinic	.....	.....	93	54
X-ray	.....	.....	88	24
All Defects :				
(a) Treated by Private Doctor	222	.....	.....	12
(b) Treated at a Health Office	362	481	3,248	1,585
Total Treatments—11,552.				

During the latter part of 1936 a Scheme for the provision of two whole time Medical Officers for the inspection of school children was approved. These will form the nucleus of a School Medical Service and it is hoped to institute later the examination of all school children at least three times during their school career.

IV.—LABOUR CONDITIONS.

The District Medical Officer, Ortoire-Moruga, gives the following table of wages offered to labourers in his district:—

- (1) Cocoa Estates (10 hour day)
 -20 to 25 cents a day for women.
 - 35 to 40 cents a day for men, with 5 working days a week.
- (2) Sugar Estates :
 - (a) Plantation 30 to 40 cents a day.
 - (b) Factory 30 to 40 cents a day (unskilled).
 - 50 to 80 cents a day (skilled).
- (3) Public Works Department :
 - Roads 50 to 55 cents a day labourers.
 - 90 cents a day drivers.

Only a small number of the population secures work in the district.

East Indians form the majority of the employees on estates and their general health cannot be considered satisfactory. Elsewhere in the world employers of labour have learned the lesson that money is saved and production is increased when labourers are well housed, well fed and free from disease. The more progressive estates are following the lead of the oil companies and are becoming aware that money spent in welfare and health measures brings efficiency and larger returns.

Most sugar estates provide medical attendance. Ste. Madeleine sugar company employs a part time medical officer who is also Government Medical Officer of Health. On most other sugar estates the services of the resident District Medical Officer are used, the cost of this being borne either entirely by the estate or a part is refunded by the labourers.

No organised welfare schemes exist on estates but many of the oilfield companies have club houses for trained workmen and recreation grounds for others.

It is significant that the Usine Ste. Madeleine sugar company has recognised the correlation between fatigue and production. Flood lighting has been installed wherever possible and frosted bulbs have replaced the former filament bulbs. These measures are an example of foresight which is not general in Trinidad. Eye strain and accident proneness will be lessened at important centres in the factory and output will be increased.

It is hoped that canteens for feeding workers will soon be recognised as a matter of sufficient importance to engage the attention of all larger companies employing labour.

Few East Indians are employed on the oilfields and the average employee appears to be better fed than the estate labourer. This is partly due to the fact that wages are better.

Village settlements with pipeborne water, electric lights, and scavenging arrangements have been begun at Abyssinia, Guayaguayare and other places.

V.—HOUSING AND TOWN PLANNING.

Provision has been made by Government in the estimates for the coming year for the appointment of a town planning adviser. The need for technical advice in town and rural planning is marked.

During 1936 an area for slum clearance was selected by the City Council of Port-of-Spain in the East Dry River district (unsewered) lying between St. Joseph Road on the north, Sea Lots on the South, the Children's Playground on the East and the Dry River on the West. Later it was considered advisable to begin operations in a sewerred portion of the town instead and at the close of the year steps were being taken to proclaim as slum clearance areas three city blocks. These blocks lie between Marine Square on the South, Prince Street on the North, the Dry River on the east and parts of Duncan and Nelson Streets on the West.

In the meantime the Corporation completed 100 workers' cottages on their lands at Gonzales Place for the accommodation of the present occupants of the proposed slum clearance areas.

Each of these cottages cost \$666.72 and provides 2 rooms with a back verandah, kitchen, bath and privy with cesspit. The rentals are estimated not to exceed \$4.00 per month.

Housing in Rural Areas.—The housing evolution continues to progress. The example of the more progressive oil fields is being followed by estate owners who are far sighted enough to see that the ill health and lack of self-respect which occurs in the old type of barracks react directly against efficiency. Usine Ste. Madeleine has begun a scheme for the demolition of all barracks and the erection of cottages on their estates. Each cottage contains 4 rooms with an open gallery, kitchen and latrine. They are sold on an easy repayment system for £7 8s. 0d. which represents the cost of construction but not the cost of material. Similar schemes are in operation in Brechin Castle, Esperanza, Phoenix Park Estates.

VI.—FOOD IN RELATION TO HEALTH AND DISEASE.

A standing nutrition committee representative of Agriculture, Health, Education and Estates was appointed towards the end of the year to enquire into the malnutrition of certain sections of the Trinidad population. A survey of the work done in the past showed that a detailed study had been made of the exact quantities of the various foods eaten by East and West Indians. The consideration of the facts presented by these reports revealed that the average diet of the people was deficient in first class proteins, fats and vitamins. Vitamin "A" in particular was largely absent and this fact is borne out by the prevalence of zepophthalmia in certain districts. The diet of the East Indian labourer is particularly lacking in the above essentials.

The committee prepared a list of foods which are readily obtainable and which contain useful quantities of the essentials which are lacking.

The difficulties of reform lie in the fact that the injurious diet of excess of carbohydrates is preferred by people who feel that the chief requirement of a meal is that it should be filling. Custom has made them resentful of change and lack of money prevents them from buying what is required. Cases are common in which a peasant householder keeps a cow and a small garden but prefers to sell the produce of both in order to buy tinned foods or finery.

It is only by education that the importance to health of the right foods can be instilled into the minds of country people. The Nutrition Committee therefore turned their attention towards this as a preliminary measure.

Markets.—Progress was made in the establishment of markets during the year. San Fernando has now an up-to-date fish market and a new general market is contemplated. Princes Town and La Brea have fly-proof meat and fish markets. La Brea, Penal and Fyzabad have open provision markets with weather sheds. In rural districts the stalls are too often spread along the sides of the main streets and exposed to the dust of passing traffic. A new meat, fish and vegetable market at Chaguanas was approved.

Food Inspection.—The usual inspection and control of foodstuffs sold in shops and markets was satisfactorily carried out by the sanitary inspectors. The amount condemned was small.

Abattoirs.—Public abattoirs exist at Port-of-Spain, San Fernando, Princes Town and a Scarborough in Tobago. Provision was made for a new abattoir at Chaguanas.

Private slaughter houses (controlled by bye-laws) exist at Carapichaima, California, Gasparillo, Rio Claro, Penal, Oropuche, Fyzabad, La Brea and Cedros. Their general sanitary condition has been well maintained.

Dairies.—Modern dairies exist at Jerningham Junction, Santa Cruz, St. James, Debe, Cascade in the north, and at Ste. Madeleine and Waterloo in the south. Their standard has remained high. The Ste. Madeleine dairy has recently installed a pasteurization plant. A new dairy has been built at Maraval and its standard is satisfactory.

Numerous small dairies exist round the neighbourhood of Port-of-Spain and San Fernando. They are run mainly by East Indians and though not satisfactory at present, their standard is improving slowly. The disposal of manure from these dairies is one of the main problems in connection with these. A few sugar estates have recently established small dairies on model lines for supplying milk to their staff and to sick labourers, e.g., Reform, Brechin Castle and Esperanza.

The Senior Medical Officer of Health, southern division, has explored the possibility of using buffalo milk for labourers and children on estates. A table showing the chemical composition has been prepared but further research is necessary before a proper dilution for infant feeding can be found.

B.—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

Education in Hygiene.

The systematic teaching of hygienic principles and the actual method of their application formed one of the most important duties of Medical Officers of Health and Sanitary Inspectors in rural districts.

Schools.

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

Villages and Towns.

- Demonstrations of health films at Port-of-Spain La Brea and Point Fortin.
- Talks by hookworm units at centres where the disease was endemic.
- Open air lectures during health week.

Estate Staff.

- Lectures on estate sanitation and creche schemes were given to the staff of Usine Ste. Madeleine and their wives by the Senior Medical Officer of Health, southern division.

Departmental.

- A refresher course in bat destruction and anti-rabic measures was held in Port-of-Spain.
- A Lecture on bat destruction work was given to forestry officers.

Health Week.

- Health week was observed in most of the districts with a programme of lectures.

Exhibitions.

- Health week exhibitions were held in Port-of-Spain, La Brea and San Fernando.

In Port-of-Spain a successful health exhibition was held from November 7th to 13th at the Prince's Building. It was largely attended by the public and by school children from Port-of-Spain and the surrounding districts.

The following sections were dealt with:—

- (1) Vital statistics.
- (2) Child welfare.
- (3) Nutrition.
- (4) Pure milk production and marketing.
- (5) Role of insect pests, bats, &c., in communicable diseases.
- (6) Furnishing of yard rooms.
- (7) Prevention of tuberculosis.

A physical drill programme and school children's essay competition also proved highly successful

C.—TRAINING OF SANITARY PERSONNEL.

A course of lectures and demonstrations to Sanitary Inspectors, Inspectors of Meat and Other Foods and Health Visitors was given between May 15th and July 31st.

The examinations of the Royal Sanitary Institute were held from November 19th to 21st. The following were the numbers of the successful candidates.

Country of Candidate.	No. of Candidates.	EXAMINATIONS.			NO. OF SUCCESSFUL CANDIDATES.		
		R.S.I. Certificate.	Meat Inspector Certificate.	Health Visitor Certificate.	R.S.I. Certificate.	Meat Inspector Certificate.	Health Visitor Certificate.
Trinidad	82	40	8	34	18	8	16
British Guiana	1	1	....	....	1	....	....
Grenada	1	1	....	....	1	....	....
Totals	84	42	8	34	20	8	19

Note.—Three candidates not included in the above table will receive the certificate on attaining the age of 21 years. These candidates are from Trinidad.

SECTION VII.—PORT HEALTH WORK AND ADMINISTRATION.

The increased air traffic led to the consideration of the establishment of an aerodrome. At the request of Government the department formulated and submitted proposals for a sanitary aerodrome meeting the requirements of the International Convention, 1933.

Passengers by air are dealt with by a panel of private practitioners who hold appointments as assistant port health officers. Their duties are limited to medical inspection and any special measures necessary are referred to the port health officer for action.

There were no cases of infectious disease to which the International Sanitary Convention 1926 applies, and the majority of the arrivals in Trinidad come from districts where the diseases concerned are absent or of rare occurrence. There is however a constant traffic by small sloops from the lower Orinoco and Delta regions and the passengers and crews of all such vessels are required to show evidence of recent vaccination or to undergo immediate vaccination before being permitted to land.

Persons placed under surveillance (all small pox contacts)	321
Steamships visited	307
Sailing vessels	630
Total persons inspected	22,442
Ships fumigated	16

PORT HEALTH OFFICER'S REPORT FOR THE YEAR ENDING 31ST DECEMBER, 1936.

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	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Steamers from Convention Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Steamers from Non-Convention Ports—A. Infected Ports	26	23	25	23	26	22	19	26	27	24	19	27	287
Do. —B. Non-Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Steamers from Non-Convention Ports	26	23	25	23	26	22	21	27	28	25	20	27	294
TOTAL NUMBER OF STEAMERS FROM ALL PORTS	26	23	25	25	28	23	23	28	30	26	21	29	307
Sailing vessels from Convention Ports—A. Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Non-Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Convention Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Sailing Vessels from Non-Convention Ports—A. Infected Ports	27	32	60	48	54	54	78	67	39	38	55	78	630
Do. —B. Non-Infected Ports	...	...	...	...	...	...	...	...	...	...	...	...	...
Total number of Sailing Vessels from Non-Convention Ports	27	32	60	48	54	54	78	67	39	38	55	78	630
TOTAL NUMBER OF SAILING VESSELS FROM ALL PORTS	27	32	60	48	54	54	78	67	39	38	55	78	630
TOTAL NUMBER OF ARRIVALS FROM ALL PORTS	53	55	85	73	82	77	101	95	69	64	76	107	937
Passengers, and Crews													
Number of persons inspected on Steamships—A. Passengers	133	147	748	218	192	166	155	239	213	195	259	294	2,959
Do. B. Crew	1,060	985	1,693	1,140	1,342	1,323	1,276	1,326	1,367	1,551	1,163	1,231	15,357
Total number of persons inspected on Steamships	1,193	1,132	2,441	1,358	1,534	1,389	1,431	1,565	1,580	1,746	1,422	1,525	18,316
Number of persons inspected on Sailing Vessels—A. Passengers	14	37	73	48	73	23	38	26	30	28	39	58	487
Do. —B. Crew	165	258	395	276	299	296	409	401	201	223	309	407	3,039
Total number of persons inspected on Sailing Vessels	179	295	468	324	372	319	447	427	231	251	348	465	4,126
TOTAL NUMBER OF PERSONS INSPECTED ON ARRIVAL	1,372	1,427	2,909	1,682	1,906	1,708	1,878	1,992	1,811	1,997	1,770	1,990	22,442
Fumigation, Disinfection, &c.													
Number of Vessels fumigated	...	...	1	1	1	1	1	4	...	...	...	...	16
Number of Packages of Passengers' baggage fumigated at Fumigation Station	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of Vessels or parts of Vessels disinfected with Formalin Spray	...	...	...	...	...	...	...	...	...	...	...	...	...
SURVEILLANCE, OBSERVATION, &c.													
Number of persons placed under Surveillance—A. Yellow Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —B. Bubonic Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —C. Small Pox	35	28	43	18	30	20	26	12	14	22	38	35	321
Do. —D. Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. —E. Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL NUMBER OF PERSONS PLACED UNDER SURVEILLANCE	35	28	43	18	30	20	26	12	14	22	38	35	321
Total number of presentations for Medical Supervision	162	76	151	68	114	67	136	55	47	109	133	130	1,211
Number of persons allowed to proceed to Country under D.M.O.'s supervision	...	...	...	...	...	...	...	...	...	...	...	...	...
Number of persons vaccinated on arrival	41	40	81	71	114	67	91	68	39	32	68	59	771

SECTION VIII.—HOSPITALS AND DISPENSARIES.

Colonial Hospitals, Personnel.—A Medical Superintendent was appointed to the Colonial Hospital, Port-of-Spain.

Three Junior Medical Officers were appointed to this hospital and one to that at San Fernando. They are accommodated in the hospitals and draw small salaries only.

A Superintendent Sister was appointed to the Colonial Hospital, Port-of-Spain, to administer massage and to give instruction in this art.

Hospital Building and Accommodation.—The programme of construction at the Colonial Hospital, Port-of-Spain, outlined in the Annual Report for last year has been commenced. The maternity section was occupied in February and the children's ward in April. Plans of two new ward blocks to accommodate 96 beds were completed and construction was commenced in June. Detailed plans of additions to the nurses home were completed and approved.

The reconstruction of the Colonial Hospital, San Fernando, on the other hand has been delayed. Further consideration revealed that the present site made any future expansion of this hospital impossible and in the circumstances Government decided to proceed no further with the reconstruction (estimated at approximately \$125,000.00) but to investigate the possibilities of acquiring a new and more suitable site on which to build a central hospital for the southern division of the island.

Overcrowding was an unsatisfactory feature of many of the institutions.

The costly programme of hospital construction to which the Colony is already committed makes it difficult to press still further expenditure and other possible means of meeting the problem of an isolation hospital are being explored.

Colonial Hospital, Port-of-Spain, with 403 beds had a daily average of 426 patients.

Colonial Hospital, San Fernando, with 194 beds had a daily average of 217 patients.

Colonial Hospital, Tobago, with 75 beds had a daily average of 64 patients.

Striking as these figures are they give an inadequate idea of the actual overcrowding which occurred, since maternity beds and beds for venereal diseases, tuberculosis and other infectious diseases, should such be vacant, are not generally available for ordinary medical or surgical cases. In other words such beds are not interchangeable.

The problem is not simply one of providing additional beds. It calls for careful selection of cases suitable for in-patient treatment and also for the institution of waiting lists so that the less acute surgical cases may be admitted to hospital as and when beds become available. Closely related to this matter is the development of the already existing out-patient departments to allow of earlier discharge of patients and of treatment in out-patients departments of cases at present admitted to hospital.

Special attention is again drawn to the present limited accommodation for infectious diseases which must prove quite inadequate in the event of a moderate epidemic outbreak. Since such cases cannot be safely dealt with in wards where non-infectious cases are treated, their over-flow into the general wards would necessitate the closure of such wards for ordinary cases and would further aggravate the general state of overcrowding.

The maternity departments present yet another aspect of this problem. Patients were on occasions required to leave the hospital at too early a date after confinement so as to provide room for new cases.

That 657 of the 738 cases admitted to the maternity ward of the Colonial Hospital, Port-of-Spain, were normal and without mortality indicates that development of the district maternity service would go far to relieve the congestion of this ward, leaving more beds available for abnormal cases and allowing for a longer stay in hospital of such cases the proper treatment of which necessitates their admission to hospital.

Nurses Training Schools.—Applicants for admission to the Nurses Training School are examined by a board on which are represented the Directors of Education and of Health.

The following were the results of the annual examinations for nursing certificates.

<i>Name of Training School.</i>		<i>1st Year.*</i>	<i>2nd Year.</i>	<i>3rd Year.</i>
Colonial Hospital, Port-of-Spain	....	15	9	10
Colonial Hospital, San Fernando	....	16	15	3
Total	....	31	24	13

Eight nurses were examined for and passed in the midwifery examination.

The Princess Mary Gold Medal was awarded to Nurse Aitkins of the Colonial Hospital, Port-of-Spain, whilst Nurse Silva of the Colonial Hospital, San Fernando, gained the Princess Mary Silver Medal.

Radiology.—This branch of work continues to increase where facilities are available, namely in Port-of-Spain and San Fernando. In the former hospital 3,034 radiographic examinations were made and in the latter 1,718. In the Colonial Hospital, Port-of-Spain, 102 cases received treatment with X-rays, the total number of treatments being 502.

Three hundred and twelve patients were treated in the electro therapeutic and X-ray Department, the total number of treatments given being 4,232.

Difficulty continued to be experienced in connection with insulation due to the moist conditions, but provision has been made in the estimates for 1937 for the air conditioning of part of the premises.

Maternity Service.

At the Colonial Hospital, Port-of-Spain.—One thousand two hundred ninety-five new cases attended the Ante-natal department of which 1,212 were delivered by the hospital staff.

Seven hundred and thirty-eight of these cases were admitted to the maternity ward, 424 of which came from Port-of-Spain, the others from outwith the Port-of-Spain area.

The district maternity nurses on the hospital staff conducted 474 confinements in the patients' own homes and as already indicated this district service may well be developed so as to avoid the necessity of admitting the present large proportion of normal pregnancy cases to hospital.

At the Colonial Hospital, San Fernando.—Seven hundred and fifty new cases were examined at the Ante-natal Clinic. Out of a total of 384 cases admitted, 326 had normal confinements. Ninety-two confinements were conducted by the hospital district midwives. In San Fernando as in Port-of-Spain the extension of district maternity work would go far to relieve congestion in the Maternity Ward.

At the Colonial Hospital, Tobago.—Of the 209 pregnancy cases (apart from abortive) admitted, the confinements were normal in 180 cases.

The following table shows the main abnormalities occurring as a result of pregnancy in cases dealt with at the Colonial Hospitals (deaths shown in brackets).

	Eclampsia.	Abortion.	Ectopic Gestation.	Other accidents of Pregnancy.	Puerperal Haemorrhage.	Other accidents of Parturition.
Colonial Hospital, Port-of-Spain	72 (26)	116 (2)	14 (4)	18 (3)	....	70 (7)
Colonial Hospital, San Fernando	28 (6)	51 (1)	5 (1)	13 (4)	....	20 (6)
Colonial Hospital, Tobago	2 (1)	8	....	24	....	3 (1)

	Puerperal Septicemia.	Phlegmasia Alba Dolens.
Colonial Hospital, Port-of-Spain	14 (2)	1
Colonial Hospital, San Fernando	21 (10)	....
Colonial Hospital, Tobago ....	....	....

Surgery.—The accompanying table gives a summary of the surgical operations performed in the Colonial Hospitals. In addition to these, 431 operations were performed on the Ear, Throat and Nose during the year.

Major, General and Gynaecological Operations.

	Colonial Hospital, Port-of-Spain. 613	Colonial Hospital, San Fernando. 446	Colonial Hospital, Tobago. 275
Appendicectomy	41	12	1
Appendix Abscess	5	3	.....
Colostomy	1	4	.....
Gastrostomy .....	.....	2	.....
Ileostomy .....	.....	1	.....
Liver Abscess	1	.....	.....
Laparotomy	20	1 (for foreign body)	.....
General Peritonitis	1	2	.....
Intestinal Obstruction	1	2	2
Intussusception	2	1	1
Mesenteric Cyst	1	.....	.....
Pancreatic Cyst .....	.....	2	.....
Perforated Gastric Ulcer	1	.....	1
Perforated Duodenal Ulcer .....	.....	3	.....
Volvulus	2	.....	.....
Resection small bowel	1	2	1
Gastro Enterostomy .....	.....	1	.....
Cholecystitis .....	.....	2	1
Cancer of Colon .....	.....	1	.....
Splenectomy .....	.....	1	.....
Simple Inguinal Hernia	162	107	12
Simple Femoral Hernia	1	1	.....
Umbilical Hernia	2	1	.....
Strangulated Hernia	11	11	2
Fistula in Ano	14	.....	1
Hemorrhoids	9	42	6
Imperforate Anus	3	.....	.....
Rectal Stricture	34	16	4
Benign Tumours	49	30	8
Partial Thyroidectomy	3	.....	.....
Disarticulation of Knee .....	.....	1	.....
Amputations	33	45	5
Re-amputations	1	.....	.....
Arthrotomy	1	.....	1
Open Operation for Fracture .....	.....	7	.....
Excision of Joint	1	.....	.....
Excision of Fibula .....	.....	1	.....
Excision of Terminal part of Radius .....	.....	1	.....
Osteotomy	1	3	.....
Tenotomy	3	1	.....
Sequestrectomy	14	22	6
Resection of Rib	5	5	1
Cerebral Decompression .....	.....	1	.....
Hare Lip	4	6	.....
Amputation of Breast	2	1	2
Phrenic Avulsion	2	.....	.....
Suturing of Nerves	1	3	.....
Ligature of Artery	2	2	.....
Excision of Aneurysm .....	.....	1	.....
Skin Grafting .....	.....	3	2
Contracture of hand .....	.....	2	.....
Epithelioma of hand .....	.....	1	.....
Salivary Calculus	1	.....	.....
Amputation of Penis	9	1	.....
Cystoscopy	5	11	.....
Cystotomy	3	10	2
Prostatectomy .....	.....	6	.....
Hydrocele	36	25	3
Varicocele	3	2	.....
Nephrectomy	1	.....	.....
Orchidectomy	8	.....	2
Undescended Testis	1	1	.....
Plastic Operation on Urethra	1	2	.....
Urethrotomy .....	.....	1	1
Amputation of Cervix	3	6	.....
Colporrhaphy	6	2	.....
Subtotal hysterectomy	46	23	2
Total hysterectomy	1	.....	.....
Vaginal hysterectomy	1	.....	.....

Major, General and Gynaecological Operations.—Continued.

	Colonial Hospital Port-of-Spain.	Colonial Hospital San Fernando.	Colonial Hospital Tobago.
Pan hysterectomy	2	2	...
Myomectomy	1	...	...
Sling Operation	1	3	...
Ruptured Ectopic Gestation	14	4	...
Oophorectomy	6	...	...
Ovarcotomy	2	4	...
Salpingectomy	6	...	...
Salpingo-oophorectomy	18	7	...
Pyosalpinx ... ..	...	1	...
Uterine Polyp	3	1	...
Urethra Vaginal Fistula	1	...	...
Vesico Vaginal Fistula ... ..	...	1	...
Other General and Gynaecological Operations.			
Bartholin Cyst	4	...	...
Curettage of Uterus	26	5	5
Excision of Bursa	1	...	...
Excision of Exostosis	1	...	...
Excision of Scar	1	...	...
Excision of Sinus	5	25	5
Excision of Ulcer	4	...	3
Excision of Wound	1	...	...
Excision of Ganglion ... ..	...	...	2
Setting of Fractures	91	55	4
Setting of Compound Fractures	2	...	...
Fracture of Spine	14	...	...
Manipulation of Limb	9	4	...
Reduction of Dislocation	3	9	...
Suturing of Tendons	21	26	6
Suturing of Wounds	12	77	4
Avulsion of Nail	4	9	3
Cleaning of Wound	2	...	...
Diathermy	3	...	...
Drainage of Psoas abscess	1	...	...
Examination under Chloroform	13	...	...
Signioidoscopy ... ..	...	4	...
Prolapse of Rectum ... ..	...	3	...
Urethral Carbuncle	2	...	...
Extravasation of Urine	7	3	3
Dilatation of Urethra	22	97	55
Tapping of Hydrocele ... ..	...	5	...
Circumcision	171	65	19
Operation for Paraphimosis ... ..	...	5	...
Extraction of Bullet	2	1	...
Extraction of Teeth	14	...	...
Gunshot Wounds	3	...	...
Incision of abscesses	197	321	48
Incision of Carbuncle	5	...	...
Incision of Cellulitis	35	33	...
Incision of Sinus	7	...	...
Plaster of Paris Casings	112	56	...
Ingrown Toenail	3	...	...
Removal of Foreign Body	10	31	6
Scraping of Carbuncle	2	7	...
Scraping of Ulcer	11	3	...
Paracentesis Thoracis ... ..	...	8	1
Paracentesis Abdominis ... ..	...	140	...
Aspiration of Joint ... ..	...	16	...
Whitlow ... ..	...	...	5

TABLE V.

Summary of Diseases and Deaths (In-patients) in Colonial and District Hospitals for the year 1936.

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL		Total Cases Treated.	Remaining in Hospital at end of 1936.	REMARK
		Admissions.	Deaths.			
I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.						
1. Enteric Group—						
(a) Typhoid Fever ...	24	405	113	429	29	
(b) Paratyphoid A. ...	...	2	...	2	...	
(c) Paratyphoid B. ...	...	...	...	...	...
(d) Type not defined ...	1	...	...	1	...	
2. Typhus ...	...	...	...	...	...
3. Relapsing Fever ...	...	...	...	...	...
4. Undulant Fever ...	...	2	...	2	...	
5. Malaria—						
(a) Tertian... ..	39	1,298	49	1,337	35	
(b) Malignant ... ..	...	49	19	49	...	
(c) Aestivo-autumnal ...	...	77	13	77	3	
(d) Cachexia ... ..	...	3	1	3	...	
(e) Blackwater ... ..	...	4	...	4	...	
(f) Quartan ... ..	...	1	...	1	...	
6. Smallpox—						
Alastrim ... ..	...	...	...	...	...
7. Measles ... ..	...	4	...	4	...	
8. Scarlet Fever ... ..	...	1	...	1	...	
9. Whooping Cough ... ..	...	13	...	13	1	
10. Diphtheria	7	38	10	45	2	
11. Influenza	1	108	3	109	2	
12. Miliary Fever ... ..	...	...	...	...	...
13. Mumps ... ..	...	...	...	...	...
14. Cholera ... ..	...	...	...	...	...
15. Epidemic diarrhoea ...	...	...	...	...	...
16. Dysentery—						
(a) Amoebic	1	80	13	81	16	
(b) Bacillary ... ..	...	25	6	25	2	
(c) Undefined or due to other causes ... ..	...	1	...	1	...	
17. Plague						
(a) Bubonic ... ..	...	...	...	...	...
(b) Pneumonic ... ..	...	...	...	...	...
(c) Septicaemic ... ..	...	...	...	...	...
(d) Undefined ... ..	...	...	...	...	...
18. Yellow Fever ... ..	...	...	...	...	...
19. Spirochaetosis ictero-haemorrhagica ...	...	...	...	...	...
20. Leprosy	1	13	1	14	...	
21. Erysipelas ... ..	...	12	...	12	3	
22. Acute Poliomyelitis ... ..	...	3	2	3	...	
23. Encephalitis Lethargica ... ..	...	1	1	1	...	
24. Epidemic Cerebro-Spinal Fever ... ..	...	...	...	...	...
25. Other Epidemic Diseases—						
(a) Rubeola (German Measles) ... ..	...	...	...	...	...
(b) Varicella (Chicken-pox) ... ..	...	7	...	7	...	
(c) Kala-azar ... ..	...	...	...	...	...
(d) Phlebotomus Fever ... ..	...	...	...	...	...
(e) Dengue... ..	...	...	...	...	...
(f) Epidemic Dropsy ... ..	...	2	...	2	...	
(g) Yaws	7	57	...	64	6	
(h) Trypanosomiasis ... ..	...	...	...	...	...
26. Filariasis ... ..	...	3	...	3	...	
27. Maggots ... ..	...	2	...	2	...	
28. Rabies ... ..	...	5	4	5	...	
29. Tetanus	3	40	19	43	...	
30. Mycosis ... ..	...	...	...	...	...
31. Tuberculosis, Pulmonary and Laryngeal	72	323	168	395	74	
32. Tuberculosis of the Meninges or Central Nervous System ... ..	...	7	3	7	...	
33. Tuberculosis of the Intestines or Peritoneum	2	8	3	10	...	
34. Tuberculosis of the Vertebral Column	2	3	1	5	1	
35. Tuberculosis of Bones and Joints	1	16	1	17	...	
Diseases carried forward ... ..	...	...	...	...	...

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remainin in Hospita at end of 1936.	REMARKS.
		Admissions.	Deaths			
Diseases brought forward ...						
I.—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.—CONTD.						
36. Tuberculosis of other organs—						
(a) Skin or Subcutaneous Tissue (Lupus) ...	...	2	...	2	...	
(b) Bones ...	...	...	...	...	...
(c) Lymphatic System ...	...	7	...	7	...	
(d) Genito-urinary ...	...	...	...	...	...
(e) Other organs ...	...	...	...	...	...
37. Tuberculosis disseminated—						
(a) Acute ...	...	4	4	4	...	
(b) Chronic ...	...	...	...	...	...
38. Syphilis—						
(a) Primary ...	6	223	...	229	16	
(b) Secondary ...	...	31	...	31	1	
(c) Tertiary ...	20	322	31	342	22	
(d) Hereditary ...	...	22	6	22	1	
(e) Period not indicated ...	...	17	1	17	1	
39. Soft Chancre ...	2	27	...	29	2	
40. A.—Gonorrhoea and its compli- cations ...	13	308	...	321	14	
B.—Gonorrhoeal Ophthalmia ...	9	39	...	48	...	
C.—Gonorrhoeal Arthritis ...	1	36	...	37	1	
D.—Granuloma Venereum ...	9	117	4	126	1	
Phymosis ...	1	...	...	1	1	
41. Septicaemia ...	...	29	24	29	...	
42. Other Infectious Diseases— Trypanosomiasis ...	...	...	...	...	...
II.—GENERAL DISEASES NOT MENTIONED ABOVE.						
Sarcoma ...	...	5	1	5	...	
43. Cancer or other malignant Tumours of the Buccal Cavity ...	...	17	4	17	1	
44. Cancer or other malignant Tumours of the Stomach or Liver ...	2	39	21	41	2	
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum ...	...	13	4	13	2	
46. Cancer or other malignant Tumours of the Female Genital Organs... ..	2	77	18	79	4	
47. Cancer or other malignant Tumours of the Breast ...	...	3	2	3	...	
48. Cancer or other malignant Tumours of the Skin... ..	...	4	...	4	...	
49. Cancer or other malignant Tumours of Organs not specified ...	4	22	9	26	2	
50. Tumours non-Malignant... ..	1	110	2	111	11	
51. Acute Rheumatism ...	5	41	...	46	3	
52. Chronic Rheumatism ...	4	50	...	54	2	
53. Scurvy including (Barlow's Disease)	...	...	...	...	...
54. Pellagra ...	...	3	...	3	1	
55. Beri-Beri ...	...	1	...	1	...	
56. Rickets ...	...	3	...	3	1	
57. Diabetes (not including Insipidus)	3	82	19	85	4	
58. Anaemia—						
(a) Pernicious ...	2	18	4	20	1	
(b) Other Anaemias and Chlorosis ...	3	55	8	58	2	
59. Diseases of the Pituitary Body ...	...	...	...	...	...
60. Diseases of the Thyroid Gland—						
(a) Exophthalmic Goitre ...	1	7	2	8	...	
(b) Other Diseases of the Thy- roid Glands, Myxoedema ...	1	2	...	3	...	
61. Diseases of the Para-Thyroid Glands	...	...	...	...	...
62. Diseases of the Thymus ...	...	...	...	...	...
63. Diseases of the Supra-Renal Glands	...	...	...	...	...
Diseases carried forward ...						

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1936	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
II.—GENERAL DISEASES NOT MENTIONED ABOVE.—CONTD.						
64. Diseases of the Spleen ...	...	5	...	5	...	
65. Leukaemia—						
(a) Leukaemia ...	...	5	2	5	...	
(b) Hodgkin's Disease ...	...	6	...	6	1	
66. Alcoholism ...	...	25	...	25	1	
67. Chronic poisoning by mineral substances (lead, mercury, &c.) ...	...	14	...	14	...	
68. Chronic poisoning by organic substances (Morphia, Cocaine, &c.) ...	...	9	2	9	...	
69. Other General Diseases—						
Auto-intoxication ...	...	1	...	1	...	
Purpura Haemorrhagica ...	...	...	...	...	...
Haemophilia ...	...	7	2	7	...	
Diabetes Insipidus ...	4	11	...	15	...	
General Debility ...	...	...	...	...	...
Mania ...	...	...	...	...	...
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.						
70. Encephalitis (not including Encephalitis Lethargica) ...	...	4	...	4	...	
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) ...	...	19	16	19	...	
72. Locomotor Ataxia ...	2	21	...	23	...	
73. Other affections of the Spinal Cord ...	...	5	...	5	...	
74. Apoplexy—(a) Haemorrhage ...	...	62	38	62	...	
(b) Embolism ...	1	5	5	6	...	
(c) Thrombosis ...	1	31	16	32	...	
75. Paralysis—(a) Hemiplegia ...	9	104	16	113	10	
(b) Other Paralyses ...	1	23	1	24	1	
76. General Paralysis of the Insane ...	...	...	...	...	...
77. Other forms of Mental Alienation... 5	5	146	...	151	2	
78. Epilepsy ...	2	70	2	72	2	
79. Eclampsia, Convulsions (non-puerperal) 5 years or over ...	1	5	...	6	1	
80. Infantile Convulsions ...	...	9	1	9	...	
81. Chorea ...	...	2	1	2	...	
82. A.—Hysteria ...	1	68	...	69	...	
B.—Neuritis ...	...	14	...	14	1	
C.—Neurasthenia ...	...	8	...	8	...	
83. Cerebral Softening ...	1	3	3	4	...	
84. Other affections of the Nervous System, such as Paralysis Agitans ...	...	54	2	54	1	
85. Affections of the Organs of Vision—						
(a) Diseases of the Eye ...	12	294	...	206	...	
(b) Conjunctivitis ...	4	55	...	59	3	
(c) Trachoma ...	...	...	...	...	...
(d) Tumours of the Eye ...	...	70	...	70	...	
(e) Other affections of the Eye ...	13	209	1	222	12	
86. Affections of the Ear or Mastoid						
Sinus ...	6	96	7	102	11	
Cataract ...	...	...	3	8	...	
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.						
87. Pericarditis ...	...	8	...	8	...	
88. Acute Endocarditis or Myocarditis ...	1	150	79	151	9	
89. Angina Pectoris ...	1	3	...	4	...	
90. Other Diseases of the Heart—						
(a) Valvular—Mitral ...	9	118	33	127	6	
Aortic ...	1	37	7	38	1	
Tricuspid ...	...	...	...	...	...
Pulmonary ...	...	2	...	2	...	
(b) Myocarditis ...	15	98	32	113	8	
Diseases carried forward ...						

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1936.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM.—CONTD.						
91. Diseases of the Arteries—						
(a) Aneurism ...	3	29	18	32	2	
(b) Arterio-Sclerosis ...	2	45	7	47	2	
(c) Other diseases ...	...	48	7	48	...	
92. Embolism or Thrombosis (non-cerebral) ...	...	4	...	4	...	
93. Diseases of the Veins—						
Haemorrhoids ...	2	123	1	125	8	
Varicose Veins ...	...	4	...	4	...	
Phlebitis ...	...	7	...	7	...	
94. Diseases of the Lymphatic System—						
Filaria ...	1	6	...	7	...	
Lymphangitis ...	14	37	...	51	...	
Lymphadenitis, Bubo (non-specific) ...	1	59	...	60	...	
95. Haemorrhage of undetermined cause ...	1	14	...	15	...	
96. Other affections of the Circulatory System ...	...	17	4	17	1	
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages—						
Adenoids ...	2	90	...	92	2	
Polypus ...	...	19	...	19	...	
Rhinitis ...	...	23	...	23	...	
Coryza ...	...	5	...	5	...	
98. Affections of the Larynx—						
Laryngitis ...	...	3	...	3	...	
99. Bronchitis—(a) Acute ...	2	122	9	124	4	
(b) Chronic ...	17	261	56	278	15	
100. Broncho-Pneumonia ...	1	212	83	213	8	
101. Pneumonia—(a) Lobar ...	12	373	177	385	16	
(b) Unclassified ...	...	13	7	13	...	
102. Pleurisy, Empyema ...	3	71	4	74	6	
103. Congestion of the Lungs ...	3	1	1	4	...	
104. Gangrene of the Lungs ...	...	1	1	1	...	
105. Asthma ...	1	118	19	119	6	
106. Pulmonary Emphysema ...	2	39	17	41	1	
107. Other affections of the Lungs—						
Pulmonary Spirochaetosis ...	...	35	6	35	...	
Pulmonary Embolism ...	...	...	...	...	...
VI.—DISEASES OF THE DIGESTIVE SYSTEM.						
108. A.—Diseases of Teeth or Gums—						
Caries, Pyorrhoea, &c. ...	...	60	1	60	1	
B.—Other affections of the Mouth						
—Stomatitis ...	1	18	...	19	1	
Glossitis, &c. ...	...	...	...	...	...
109. Affections of the Pharynx or Tonsils						
—Tonsillitis ...	3	375	1	378	8	
Pharyngitis ...	...	4	...	4	...	
Tonsils Adenoids ...	...	...	...	...	...
110. Affections of the Oesophagus ...	...	7	1	7	1	
111. A.—Ulcer of the Stomach ...	2	45	3	47	1	
B.—Ulcer of the Duodenum ...	1	30	3	31	...	
112. Other affections of the Stomach—						
Gastritis ...	3	152	6	155	9	
Dyspepsia, &c. ...	2	104	...	106	...	
113. Diarrhoea and Enteritis—						
Under two years ...	4	99	31	103	1	
Diseases carried forward ...						

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of .936.	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
VI.—DISEASES OF THE DIGESTIVE SYSTEM.—CONTINUED.						
114. Diarrhoea and Enteritis—						
Two years and over ...	5	72	9	77	3	
Colitis ...	4	120	29	124	4	
Ulceration ...	2	8	1	10	...	
114a. Sprue ...	...	...	...	...	...
115. Ankylostomiasis ...	23	246	25	269	16	
116. Diseases due to Intestinal Parasites—						
(a) Cestoda (Taenia) ...	...	...	...	...	...
(b) Trematoda (Flukes) ...	...	...	...	...	...
(c) Nematoda (other than Ankylostoma)—						
Ascaris ...	2	18	...	20	3	
Trichocephalus dispar ...	...	...	...	...	...
Trichina ...	...	...	...	...	...
Dracunculus ...	...	...	...	...	...
Strongylus ...	...	...	...	...	...
Oxyuris ...	...	1	...	1	...	
(d) Coccidia ...	...	...	...	...	...
(e) Other parasites ...	...	...	...	...	...
(f) Unclassified ...	...	...	...	...	...
117. Appendicitis ...	4	125	8	129	4	
118. Hernia ...	7	371	12	378	8	
119. A.—Affections of the Anus, -Fistula, &c. ...	...	134	...	134	..	
B.—Other affections of the Intestines—Enterosptosis ...	...	15	2	15	...	
Constipation... ..	8	199	...	207	7	
Rectal Stricture... ..	...	...	...	...	...
Intestinal Obstruction ...	1	11	6	12	...	
120. Acute Yellow Atrophy of the Liver ...	...	2	2	2	...	
121. Hydatid of the Liver ...	...	...	...	...	...
122. Cirrhosis of the Liver—						
(a) Alcoholic ...	...	33	11	33	2	
(b) Other forms ...	1	26	3	27	1	
123. Biliary Calculus ...	...	9	1	9	...	
124. Other affections of the Liver—						
Abscess ...	...	8	1	8	...	
Hepatitis ...	1	18	1	19	...	
Cholecystitis ...	1	52	1	53	1	
Jaundice ...	...	30	7	30	1	
125. Diseases of the Pancreas ...	...	1	...	1	...	
126. Peritonitis (of unknown cause) ...	1	27	11	28	1	
127. Other affections of the Digestive System ...	...	10	2	10	...	
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).						
Paraphimosis ...	2	8	...	10	...	
Phymosis ...	...	40	...	40	...	
Uræmia ...	...	2	2	2	...	
128. Acute Nephritis ...	6	149	31	155	7	
129. Chronic ...	11	194	76	205	5	
130. A.—Chyluria ...	...	...	...	...	...
B.—Schistosomiasis ...	...	...	...	...	...
131. Other affections of the Kidneys—						
Pyelitis, &c. ...	1	25	7	26	...	
132. Urinary Calculus ...	...	33	...	33	...	
133. Diseases of the Bladder—Cystitis... ..	5	74	10	79	4	
134. Disease of the Urethra—						
(a) Stricture ...	4	183	7	187	7	
(b) Other ...	...	17	5	17	...	
135. Disease of the Prostate—						
Haematocle ...	...	...	...	...	...
Hypertrophy ...	2	114	7	116	3	
Prostatitis... ..	...	10	...	10	1	
Diseases carried forward ...						

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated	Remaining in Hospital at end of 1936	REMARKS.
		Admissions.	Deaths.			
Diseases brought forward ...						
VII.—DISEASES OF THE GENITO-URINARY SYSTEM						
(NON-VENEREAL)—CONTINUED.						
136. Diseases (non-Veneral) of the Genital Organs of Man—						
Epididymitis ... ..	...	28	...	28	...	
Orchitis ... ..	...	47	...	47	...	
Hydrocele	2	71	...	73	3	
Ulcer of Penis ... ..	...	53	1	53	...	
137. Cysts or other non-malignant Tumours of the Ovaries ... 1 37 1 38 2						
138. Salpingitis						
Abscess of the Pelvis ...	3	189	7	192	2	
139. Uterine Tumours (non-malignant) 5 137 3 142 8						
140. Uterine Haemorrhage (non- peral) 12 1 12 ...						
141. A.—Metritis 24 ... 24 ...						
B.—Other affections of the Female Genital Organs—						
Displacements of the Uterus ...	...	37	...	37	1	
Amenorrhoea	1	26	...	27	..	
Dysmenorrhoea	1	14	...	15	2	
Leucorrhoea ... ..	...	14	...	14	...	
142. Diseases of the Breast (non- peral) 15 ... 15 ...						
Mastitis ... ..	...	7	...	7	...	
Abscess of Breast ... ..	...	48	...	48	...	
VIII.—PUERPERAL STATE.						
143. A.—Normal Labour ... 6 1,292 ... 1,298 44						
B.—Accidents of Pregnancy—						
(a) Abortion	6	204	4	210	...	
(b) Ectopic Gestation ...	1	20	5	21	...	
(c) Other accidents of Pregnancy	8	215	4	223	8	
144. Puerperal Haemorrhage 9 ... 9 2						
145. Other accidents of Parturition 95 14 95 7						
146. Puerperal Septicaemia 2 42 12 44 ...						
147. Phlegmasia Dolens 1 ... 1 ...						
148. Puerperal Eclampsia 2 136 40 138 11						
149. Sequelae of Labour 6 ... 6 ...						
150. Puerperal affections of the Breast						
IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
Ulcers 45 524 1 569 46						
151. Gangrene 9 62 22 71 6						
152. Boil 8 ... 8 ...						
Carbuncle 3 56 2 59 4						
153. Abscess 15 820 4 835 35						
Whitlow 10 ... 10 ...						
Cellulitis 16 313 2 329 15						
154. A.—Tinea						
B.—Scabies 31 1 21 ...						
155. Other Diseases of the Skin 4 ... 4 ...						
Erythema	1	33	1	34	1	
Urticaria ... ..	...	2	...	2	...	
Eczema	13	34	...	47	13	
Herpes ... ..	...	2	...	2	...	
Psoriasis ... ..	...	1	...	1	1	
Elephantiasis	1	19	...	20	...	
Myiasis ... ..	...	16	1	16	2	
Chigoes	1	17	...	18	...	
Warts ... ..	...	1	...	1	...	
Infective Granuloma ... ..	...	2	1	2	...	
Diseases carried forward ...						

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1936.	REMARKS.
		Admissions.	Deaths.			
Brought forward	...					
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).						
Sinus	3	...	...	3	2	
156. Diseases of Bones— Osteitis	1	68	1	69	6	
157. Diseases of Joints— Arthritis	8	102	2	110	10	
Synovitis	...	30	...	30	...	
158. Other Diseases of Bones or Organs of Locomotion	1	26	1	27	...	
XI.—MALFORMATIONS.						
159. Malformations— Hydrocephalus	...	39	6	39	1	
Hypospadias	...	1	...	1	...	
Spina-Bifida, &c.	...	11	...	11	...	
XII.—DISEASES OF INFANCY.						
160. Congenital Debility	2	71	33	73	6	
161. Premature Birth	1	85	51	86	1	
162. Other affections of Infancy	2	60	12	62	1	
163. Infant neglect (infants of three months or over)	2	45	15	47	7	
XIII.—AFFECTIONS OF OLD AGE.						
164. Senility	8	142	29	150	7	
Senile Dementia	...	4	...	4	1	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.						
165. Suicide by Poisoning	...	...	...	...	...
166. Corrosive poisoning (intentional)	...	7	1	7	...	
167. Suicide by Gas Poisoning	...	...	...	...	...
168. Suicide by Hanging or Strangula- tion	...	...	...	...	...
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	...	3	...	
176. Attacks of poisonous animals— Snake Bite	...	25	2	25	...	
Insect Bite	2	539	6	541	2	
Carried forward	...					

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

DISEASES.	Remaining in Hospital at end of 1935.	YEARLY TOTAL.		Total Cases Treated.	Remaining in Hospital at end of 1936.	REMARKS.
		Admissions.	Deaths			
Diseases brought forward ...						
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—CONTD.						
177. Other accidental Poisonings ...	...	9	2	9	...	
178. Burns (by Fire)... ..	5	92	13	97	3	
179. Burns (other than by Fire) ...	1	43	4	44	1	
180. Suffocation (accidental) ...	...	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	...	...	...	...
182. Drowning (accidental) ...	...	...	...	...	...
183. Wounds (by Firearms, war excepted) ... ..	...	17	3	17	1	
184. Wounds (by cutting or stabbing Instruments)	11	713	4	724	14	
185. Wounds (by Fall)	2	323	5	325	7	
186. Wounds (in Mines or Quarries) ...	5	...	...	5	2	
187. Wounds (by Machinery)... ..	...	8	...	8	...	
188. Wounds (crushing, e.g., Railway accidents, &c.)	1	149	...	150	...	
189. Injuries inflicted by Animals, Bites, Kicks, &c. ... ..	...	6	...	6	...	
190. Wounds inflicted on active service	1	47	...	48	...	
191. Executions of civilians by belligerents ... ..	...	17	...	17	...	
192. A.—Over Fatigue ... ..	...	...	...	...	...
B.—Hunger or Thirst ... ..	...	...	...	...	...
193. Exposure to Cold, Frost bite, &c.	...	...	...	...	...
194. Exposure to Heat—Heatstroke ...	...	7	6	7	...	
Sunstroke ... ..	...	...	...	...	...
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	3	25	...	28	...	
B.—Sprain	9	34	...	43	2	
C.—Fracture	38	531	31	560	42	
202. Other external Injuries ... ..	...	177	1	177	2	
203. Deaths by Violence of unknown cause ... ..	...	1	1	1	...	
Multiple Injuries	4	64	5	68	5	
XV.—ILL-DEFINED DISEASES.						
204. Sudden death (cause unknown) ...	...	...	...	...	...
205. A.—Diseases not already specified or ill-defined ... ..	...	43	5	43	1	
Ascites	1	19	1	20	1	
Oedema ... ..	...	2	...	2	...	
Asthenia ... ..	...	...	...	...	...
Shock	1	22	4	23	...	
Hyperpyrexia ... ..	...	53	...	53	...	
B.—Malingering ... ..	...	230	...	230	2	
Foreign Bodies	2	21	1	23	4	
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED TEN DEATHS						
...	...	17	4	17	...	
Total	787	20,049	1,982	20,836	857	

Summary of Admissions, Discharges and Deaths at Medical Institutions.

Admissions, Discharges and Deaths of Patients during the year 1936, at the Colonial and District Hospitals.

Months.	DISTRICT HOSPITALS.												TOTAL.																	
	COLONIAL HOSPITAL, PORT-OF-SPAIN.				COLONIAL HOSPITAL, SAN FERNANDO.				COLONIAL HOSPITAL, TOBAGO.				PRINCES TOWN.			CUDROS.														
	ARIMA.		St. JOSEPH.		TACARIGUA.		COUVA.		DIED.		DIED.		DIED.		DIED.		DIED.													
January	814	677	84	428	377	41	107	94	1	73	66	7	99	82	9	50	46	6	129	121	7	80	81	6	11	15	1	1,791	1,559	162
February	715	692	74	448	420	35	112	115	9	58	54	4	70	72	7	38	25	5	133	118	10	77	69	6	11	11	2	1,662	1,576	152
March	841	738	83	497	424	57	118	106	4	58	48	10	62	48	9	22	20	2	140	125	13	96	88	6	10	12	1	1,844	1,609	185
April	771	672	86	458	409	44	116	102	10	19	18	1	61	54	10	19	23	4	129	130	11	106	87	7	13	10	2	1,692	1,505	175
May	752	642	99	458	434	45	141	133	5	9	8	1	75	58	12	20	16	2	147	145	7	93	90	14	5	5	1	1,700	1,531	186
June	799	651	86	391	362	35	119	124	10	57	54	3	71	62	6	10	20	1	152	126	6	104	90	6	24	22	1	1,727	1,511	184
July	786	733	92	499	391	53	140	136	6	78	76	2	64	66	7	39	22	6	157	166	7	108	106	9	23	14	2	1,894	1,730	186
August	851	726	97	499	482	61	139	123	12	54	51	3	84	72	10	33	36	2	182	174	9	20	56	4	32	29	—	1,894	1,749	198
September	804	683	90	513	404	60	140	137	4	62	58	4	70	72	3	16	27	—	153	140	8	—	—	—	15	19	1	1,773	1,540	170
October	924	823	107	572	549	55	143	128	10	54	50	4	66	54	6	18	8	3	155	142	8	72	28	3	11	9	2	2,015	1,791	198
November	820	724	96	504	482	31	116	114	2	52	48	4	70	65	6	32	17	7	169	159	11	83	75	8	6	11	2	1,852	1,695	167
December	781	729	104	490	431	43	102	98	5	41	34	7	60	50	7	22	28	1	143	139	7	106	94	7	12	11	1	1,757	1,614	182
Total	9,658	8,510	1,098	5,757	5,165	562	1,493	1,410	78	615	565	50	852	755	92	319	288	39	1,789	1,685	104	945	864	76	173	168	16	21,601	19,410	2,115

Dates occurring within the undermentioned periods after admission.

Number remaining in Hospitals on 31st December, 1935 810
 Number admitted during the year ended 31st December, 1936 21,601

Total number treated during the year 1936 22,411
 Number discharged during the year 1936 19,410

Number died during the year 1936 2,115
 Number remaining in Hospitals on 31st December, 1936 886
 Daily average number in Hospitals 88,893
 Percentage of deaths on number treated during 1936 7.44

24 Hours.	2 Days.	3 Days.	1 Week.	2 Weeks.	1 Month.	3 Months.	Over 3 Months.	Total.
501	290	198	390	292	243	152	79	2,115

TABLE XI.
Return of Paupers and Poor Persons attended to during the year 1936.

Medical Districts.	Pauper Certificate.		Poverty Certificate.		Total.		Grand Total.	Treated as Out-patients.						CERTIFICATE FOR				TOTAL.		GRAND TOTAL.		
	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.	M.	F.	Colonial Hospital.		House of Refuge.		Leper Asylum.			M.	F.
														M.	F.	M.	F.	M.	F.			
Port-of-Spain	12,553	17,124	5,041	10,418	17,504	27,542	45,136	17,184	27,160	401	353	5	19	4	1	17,594	27,542	45,136	17,594	27,542	45,136	
San Fernando	4,493	8,050	1,336	1,609	5,819	9,059	15,478	5,536	9,495	281	101	1	3	1	..	5,819	9,659	15,478	5,819	9,659	15,478	
St. Joseph	5,062	6,633	833	1,257	5,895	7,890	13,785	5,895	7,890	..	..	..	..	..	..	5,895	7,890	13,785	5,895	7,890	13,785
Tacarigua	5,379	7,520	1,153	1,396	6,532	8,916	15,448	6,532	8,916	..	..	..	..	..	..	6,532	8,916	15,448	6,532	8,916	15,448
Arima	3,200	3,774	756	727	3,956	4,501	8,457	3,856	4,443	77	52	22	6	1	..	3,956	4,501	8,457	3,956	4,501	8,457	
Nariva-Mayaro	2,727	3,014	446	570	3,173	3,584	6,757	3,097	3,557	74	27	2	..	..	..	3,173	3,584	6,757	3,173	3,584	6,757
Couva	5,027	3,833	119	170	5,146	4,003	9,149	5,111	3,976	26	16	8	9	1	2	5,146	4,003	9,149	5,146	4,003	9,149	
Gran Couva	588	629	205	192	793	821	1,614	718	793	73	55	2	1	..	..	793	821	1,614	793	821	1,614
Guaracara	328	398	..	8	328	406	734	286	381	39	25	3	..	..	..	328	406	734	328	406	734
Diego Martin	1,899	3,169	802	1,234	2,791	4,403	7,194	2,766	4,363	25	40	..	..	..	..	2,791	4,403	7,194	2,791	4,403	7,194
Princes Town	7,521	8,798	7	13	7,528	8,811	16,339	7,514	8,803	11	3	3	5	..	..	7,528	8,811	16,339	7,528	8,811	16,339
Manzanilla	2,767	3,510	216	315	2,983	3,825	6,808	2,875	3,698	107	127	..	..	1	..	2,983	3,825	6,808	2,983	3,825	6,808
Erin-Siparia	4,194	4,209	647	1,059	4,841	5,338	10,199	4,593	5,187	243	166	5	4	..	1	4,841	5,338	10,199	4,841	5,338	10,199	
Otoire-Moruga	949	1,685	10	9	968	1,694	2,662	944	1,674	24	20	..	..	..	..	968	1,694	2,662	968	1,694	2,662
Chaguanaas	1,618	2,105	1,686	2,697	3,304	4,802	8,106	3,304	4,802	..	..	..	..	..	..	3,304	4,802	8,106	3,304	4,802	8,106
South Naparima	3,120	4,217	489	636	3,609	4,853	8,462	3,478	4,771	127	80	..	..	4	..	3,609	4,853	8,462	3,609	4,853	8,462
Cedros	277	279	147	207	424	486	910	419	484	5	1	..	1	..	..	424	486	910	424	486	910
La Brea	572	1,218	189	352	761	1,570	2,331	722	1,537	36	30	2	1	1	2	761	1,570	2,331	761	1,570	2,331	
Point Fortin	1,026	1,701	332	683	1,358	2,384	3,742	1,302	2,334	53	49	2	1	1	..	1,358	2,384	3,742	1,358	2,384	3,742	
Total—Trinidad	63,270	81,956	14,533	23,552	77,803	105,508	183,311	76,132	104,245	1,602	1,205	55	50	14	8	77,803	105,508	183,311	77,803	105,508	183,311	
Roxborough	1,279	558	..	..	1,279	558	1,837	1,265	550	14	8	..	..	..	..	1,279	558	1,837	1,279	558	1,837
Scarborough	1,219	1,764	61	101	1,280	1,865	3,145	932	1,563	334	200	14	12	..	..	1,280	1,865	3,145	1,280	1,865	3,145
Plymouth	626	1,274	10	23	636	1,297	1,933	601	1,236	35	41	..	..	..	..	636	1,297	1,933	636	1,297	1,933
Total—Tobago	3,124	3,506	71	124	3,195	3,720	6,915	2,798	3,399	383	339	14	12	..	..	3,195	3,720	6,915	3,195	3,720	6,915
Trinidad and Tobago	66,394	85,552	14,604	23,676	80,998	109,228	190,226	78,930	107,614	1,985	1,544	69	62	14	8	80,998	109,228	190,226	80,998	109,228	190,226	

Colonial Hospitals, Port-of-Spain and San Fernando.—Out-Patients Departments.

	OPHTHALMIC.		EAR, THROAT AND NOSE.		DENTAL.		ANTE-NATAL		SICK CHILDREN.		CASUALTY DEPARTMENT.
	Total attendances.	New Cases.	Total attendances.	New Cases.	Fillings.	Extractions.	Total attendances.	New Cases.	Total attendances.	New Cases.	Out-patients treated.
Colonial Hospital, Port-of-Spain	...	1,069	2,377	1,161	246	2,932	5,198	1,295	5,066	1,970	9,862
Colonial Hospital, San Fernando	3,152	1,061	...	...	...	3,398	1,727	750	2,051	1,290	2,415
TOTAL	3,152	2,130	2,377	1,161	246	6,330	6,925	2,045	7,117	3,260	12,277

Ophthalmology.—Ophthalmic clinics are held in connection with the out-patients departments at Port-of-Spain and San Fernando and a small number of beds is provided in each hospital for such cases as require in-door treatment.

Two thousand one hundred and thirty new cases attended these clinics during the year.

Fourteen cases of Ophthalmia Neonatorum were treated at Port-of-Spain and 25 at San Fernando whilst 14 and 8 cases respectively of Gonococcal Ophthalmia in children and adults were dealt with in these hospitals.

Three hundred and forty major ophthalmic operations were performed in these two centres.

The equipment in Port-of-Spain was increased by the installation in the clinic of an electric fan and an electric ophthalmoscope. An ophthalmic bracket lamp, the gift of the Assistant Ophthalmic Surgeon of the Colonial Hospital, Port-of-Spain, was also installed in the out-patient department.

In San Fernando, a hand magnet for use off the mains D.C.220 volts was obtained and put into use.

Through the kindness of the Bruce Stephens Trust a full correction in cataract glasses was obtained for 7 cases in Port-of-Spain and 3 cases in San Fernando. This trust also provided artificial eyes for two San Fernando cases. Cataract glasses were also supplied for a patient by the Reverend Mother Superior of the L'Hospice.

Specimens of tissue from the conjunctivae of two patients suffering from what has hitherto been suspected of being trachoma, were sent to the Director of the Memorial Ophthalmic Laboratory, Giza, Egypt, for examination. The report from this laboratory confirmed the opinion of the Assistant Ophthalmic Surgeon, Colonial Hospital, Port-of-Spain, that these were cases of follicular conjunctivitis, and not trachoma.

Three cases of trachoma were seen during the year all of which were in adult East Indians. They were all in the late stage of the disease suffering from corneal complications.

General Disease.—It is unfortunately not possible in this report to give the age, sex, or racial incidence of cancer and other malignant diseases.

In all only 160 cases were admitted to the Colonial Hospitals. Of these 10 per cent. occurred in the buccal cavity and 43 per cent. in female genitalia which latter figure is especially high. In contrast the figures for the stomach and liver (20 per cent.) peritoneum intestine and rectum (8 per cent.) and "other organs" (12 per cent.) were low.

It is interesting that only three cases of cancer of the breast and three of cancer of the skin are recorded, sites where the occurrence of the disease could not readily be missed.

Affections of the Nervous System.—Locomotor ataxia of which 20 cases were treated stands out in marked contrast to general paralysis of the insane, of which only two were admitted to government institutions.

Affections of the Circulatory System.—The mortality of 57 per cent. in acute carditis is strikingly high. The subject is receiving the attention of the Government Pathologist.

The mortality of hospital cases—over 50 per cent.—in cases of pulmonary and laryngeal tuberculosis is far from being a true index of the severity of this disease in the Colony. Cases detained in hospital are largely those in the acutely infective stage of the disease. Few cases of sputum negative tuberculosis are admitted or, if admitted, detained in hospital.

Artificial pneumothorax was carried out in 22 specially selected cases of the disease; 163 refills were carried out.

Affections of the Respiratory System.—A mortality of 40 per cent. in broncho-pneumonia is hardly to be expected and the proposed typing of the infective organisms may well throw light on this matter.

Lobar pneumonia carries an even greater mortality and considering that all ages are included, is unduly high. Here again the type of organism concerned is a matter of prime importance especially so since influenza apparently cannot be incriminated, all cases of which admitted to the Colonial Hospitals ended in recovery.

This raises the question as to whether the "Lobar" is really a confluent type of broncho-pneumonia with lobar involvement rather than a true classical lobar pneumonia.

Three deaths in 62 cases of "pleurisy and empyema" is strangely low in view of the high mortality from the pneumonias.

Diseases of the Digestive System.—Biliary calculus is a rare condition in the Colony only 9 cases being treated at the Colonial Hospitals while 41 cases of cholecystitis received treatment. This is of interest in view of the relative frequency of enteric fever among the population.

Diseases of the Genito Urinary System.—Nephritis and especially chronic nephritis in the relatively young is another interesting condition receiving the attention of the Government Pathologist. It probably has a definite bearing on the question of puerperal eclampsia of which 103 new cases were treated during the year, the mortality being about 33 per cent.

The infrequency of renal calculus is striking in view of its high incidence among East Indians living in India. Twenty-eight cases were admitted to the Colonial Hospitals during the year.

That 222 cases of primary syphilis were treated as in patients at the Colonial Hospitals indicates the tendency of patients to make light of and neglect this serious disease. The majority of these cases were admitted rather for septic complications than for the primary chancre.

Stricture of the urethra (143 cases treated) is an evidence of the neglect which is all too apparent among sufferers from gonorrhoea. "Ulcer of the penis" of which 29 cases are reported is an unsatisfactory diagnosis. The matter is receiving the attention of the Government Bacteriologist.

Salpingitis is in all probability mainly another aspect of the gonorrhoeal problem, 165 cases being treated in Colonial Hospitals during the year.

Affections of the Skin.—That 345 ulcers (mostly of the leg) were admitted to the Colonial Hospitals and only one sufficiently serious to cause death, calls for the institution of ambulatory treatment of these cases.

Diseases of Bones and Organs of Locomotion.—That 79 cases of arthritis apart from synovitis were admitted to the Colonial Hospitals and that death occurred in only 2 of these suggests a study of this condition with a view to determining its possible relationship to gonorrhoea.

Asthma.—There were 175 cases of asthma and death occurred in 79 of these. The Government Pathologist is carrying out a study with a view to determining the underlying cause or causes of this condition.

District Hospitals.—There is accommodation in District Hospitals for 209 patients, 121 male and 88 female. In addition there is at Couva a small maternity section of 8 beds construction of which was completed early in the year.

Four thousand six hundred and ninety-three patients were admitted to these institutions, the daily average number of beds occupied being 180.5. At Couva, 83 patients were admitted to the maternity section. Apart from the admissions to this section at the Couva hospital, the admissions to District Hospitals show little change from the previous year.

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

As in the case of the Colonial Hospitals available accommodation for acute cases tends to be reduced on account of the difficulty of disposing of chronic cases who are unable to obtain the necessary care outside.

The sanitary arrangements in most cases leave much to be desired. In several of the district hospitals no water carriage system is installed and recourse is had to the pail system.

The hospitals at Arima and Princes Town underwent repairs and painting during the year.

Out-patients' Department.—The work of these departments continues to increase. In those connected with the Colonial Hospitals at Port-of-Spain and San Fernando the new cases attending the various clinics amounted to 31,541 whilst the total attendances exceeded 50,000. Details are given in the accompanying table.

Leper Settlement, Chacachacare.—The staff of this institution which had at 31st December, 399 inmates consisted of one Medical Officer, a matron and 16 sisters of the Order of St. Dominic, a steward and dispenser-steward, a chief wardsman and 24 male employees; one laundress and two night attendants are also employed. Periodic visits are paid by a surgeon and an ophthalmic surgeon.

Various minor repairs to buildings were carried out during the year, work of this nature being performed by the inmates against payment. Lack of painting has given most of the cottages a dull and depressing appearance and provision has been made for redecoration of a proportion of them in 1937.

The diet was ample as regards quantity and quality but tended to be monotonous. This appears to be unnecessary since patients are encouraged to grow vegetables and to rear poultry which the institution is prepared to purchase.

Communication with Port-of-Spain is maintained by launch. At the end of March, the s.s. *St. Patrick* was withdrawn from the island service and since that date only one visit to Chacachacare each week is made by the s.s. *Tobago* which on Wednesdays carries visitors and supplies to the island. Apart from this, communication depends on the Settlement launches of which there are three. These are ancient craft and replacement will soon be necessary.

The Settlement is dependent for its water supply upon rain which is collected in a series of concrete cisterns. The supply was ample.

There were 76 admissions during the year. Of these three were returned absconders, five were voluntary returns for economic reasons, and 4 were discharged cases in whom there had been a recurrence of active disease.

The number of new cases admitted was therefore 64.

Routine examination of patients admitted showed that 56 or 76.7 per cent. were infected with hookworm.

Forty persons in whom the disease was arrested were discharged, 5 patients absconded, 4 were repatriated to India and 45 died.

In addition to therapeutic measures, attention was given to the promotion of general physical well-being. As many patients as possible are employed on various work on the grounds, and skilled craftsmen are given such work as is available at their trades—carpentry, masonry, bootmaking, &c. For this work they receive payment. Recreation is provided in the form of cricket, swimming, fishing, &c., whilst dances, concerts, and sports are held from time to time.

The accompanying table gives information regarding classification, age on primary admission, treatment and results of treatment.

LEPER SETTLEMENT—CHACACHACARE.

Table showing classification of patients, age on primary admission, treatment and results of treatment

	NEURAL.				CUTANEOUS.			
	N.1.	N.2.	N.3.	Total.	C.1.	C.2.	C.3.	Total.
Males	7	31	61	99	9	68	72	149
Females	3	11	45	59	4	37	51	92
TOTALS	10	42	106	158	13	105	123	241

399 Cases—Results of Treatment.

	Improved.	Same.	Worse.	Total
Males	68	126	54	248
Females	57	64	30	151
Totals	125	190	84	399

No. of Injections given	11,697
No. of Dental Extractions	97
No. of other operations	106
No. of Laboratory Examinations	614

Ages on Primary Admission.

0-5	1	41-45	...	6
6-10	3	46-50	...	5
11-15	6	51-55	...	7
16-20	7	56-60	...	1
21-25	5	Over 60	...	2
26-30	8			
31-35	5	Total ... ..	...	64
36-40	8			

House of Refuge, Trinidad.—Accommodation is provided for 700 destitute and infirm persons. Three hundred and eighty-five persons were admitted during the year. The daily average number of inmates was 632.19 but this does not include those in the mental wards who numbered 52. Of the admissions 190 were males and 195 females.

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

There were eight deaths from malignant disease. The sites of the disease were cervix uteri 4, eye, breast, tongue, jaw.

To the hospital section of the institution there were seven admissions, the daily average number in hospital being 57.66.

Mental Hospital.—The Mental Hospital at St. Ann's continued to be overcrowded. The nominal accommodation available is for 700 but this was continuously exceeded.

The staff numbers 83 male and 44 female nurses. No accommodation is provided for the staff with the exception of 22 males and 15 females who sleep in the institution at night for possible emergencies.

Proposals for re-grading of the entire nursing staff were submitted to Government.

A regular course of lectures was given to the staff on anatomy, physiology, and the principles of mental and general nursing.

The water supply of this institution has been inadequate in the past but works are now in hand, the completion of which will ensure a sufficient daily quantity and an ample reserve.

Late in 1935 an investigation was made into the question of endemic "hospital diarrhoea" which was prevalent and occasionally fatal. It was thought that cases might be due to fruit in season and, when fatal, merely terminal.

Investigation however showed that most cases were either amoebic or bacillary dysentery (in the ratio of about 1 to 3) and an intensive campaign was instituted to deal with the cause.

Strict isolation of all cases of diarrhoea has been practised throughout 1936, with routine examination of stools and appropriate treatment.

In addition rigorous anti-fly breeding measures were undertaken and estimates drawn up for the provision of a fly-proof ward for dysentery cases.

The number of cases for the year were :—

Males	...	...	...	...	58	Deaths	...	...	15
Females	...	...	...	...	38	do.	...	...	11
					96				26

giving a mortality rate of 27 per cent.

This appears a high mortality rate but it has to be remembered that many of the fatal cases occurred among the old and feeble.

Towards the end of the year the incidence of new cases showed a brighter outlook and on December 31st there were only three cases in the male dysentery ward and none in the female. There were however in isolation 10 male carriers one of whom had been associated with the preparation of food in the kitchen.

Routine examination of all patients' stools is now carried out with special attention to those handling food and the carriers will remain isolated and under treatment so long as their stools remain positive.

There were seven cases of chicken pox this year, all male.

There were 60 entertainments including cinema shows and they have been much appreciated as usual by the patients. All the workers attend regularly and as many of the others as are capable; the usual number attending a performance is about 350.

TABLE I.

Showing Admissions, Discharges and Deaths at the Mental Hospital during year 1936.

	Male.	Female.	Total.	Male.	Female.	Total.
In Hospital on 1st January, 1936	...	...	...	398	345	743
Cases admitted :						
First admissions	71	98	169	...	...	...
Not first admissions	11	8	19	...	...	...
Total Cases admitted	...	...	...	82	106	188
Total Cases under care	...	...	...	480	451	931
Cases discharged :						
Recovered during 1936	15	31	46	...	...	...
Relieved	14	6	20	...	...	...
Not improved	...	2	2	...	...	...
Died	57	59	116	...	...	...
Total cases discharged and died	...	...	...	86	98	184
Remaining in Hospital on 31st December, 1936...	...	...	...	394	353	747
Average No. Resident during 1936	...	...	...	394	353	747
Persons under care during 1936	...	...	...	480	451	931
Persons admitted during 1936	...	...	...	82	106	188
Persons recovered during 1936	...	...	...	15	31	46

TABLE II.
MENTAL HOSPITAL.

I Previous attacks among persons admitted during 1936.

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

	Male.	Female.	Total.
1. Have had 1 attack	14	13	27
Do. 2 attacks	3	2	5
Do. 3 do.	2	...	2
Do. 4 do. ... ..	...	...	...
Do. 5 do. ... ..	...	...	...
Do. 6 do. ... ..	...	...	...
2. Number of times recorded in this Hospital			
Once	8	6	14
Twice	2	1	3
Thrice	1	1	2
Four times ... ..	...	...	...
Five times ... ..	...	...	...
Six times ... ..	...	...	...

TABLE III.

Showing Admissions, Re-admissions, Discharges and Deaths from opening of the Mental Hospital in 1858 to the 31st December, 1936.

	Male.	Female.	Total.	Male.	Female.	Total.
Persons admitted since opening of the Institution	4,498	3,908	8,406	...	...	...
Re-admissions do. do. do.	448	394	842	...	...	...
Total cases admitted ... ..	...	...	...	4,946	4,302	9,248
Discharged :						
Recovered	1,730	1,359	3,089	...	...	...
Relieved	351	244	595	...	...	...
Not improved	113	74	187	...	...	...
Died	2,358	2,272	4,630	...	...	...
Total cases discharged and died since opening of Institution ... ..	...	...	...	4,552	3,949	8,501
Remaining on 31st December, 1936 ... ..	...	...	...	394	353	747

TABLE IV.
MENTAL HOSPITAL.

Showing the Admissions and Recoveries of Persons from 1881 to 31st December, 1936.

	Male.	Female.	TOTAL.
Persons admitted during the years 1881 to 31st December, 1936	3,981	3,563	7,544
Of whom were discharged recovered during the same period being 34.37 per cent. of persons admitted	1,421	1,172	2,593
Of whom were re-admitted relapsed	495	361	766
Persons who have not relapsed	1,016	811	1,827
Relapsed persons discharged recovered	164	149	313
Not recovered persons being 28.36 per cent. of persons admitted	1,180	960	2,140

TABLE V.
MENTAL HOSPITAL.
Showing the Admissions, Discharges and Deaths with Mean Annual Mortality and Proportion of Recoveries per cent. on the Admissions for each year.

YEARS.	ADMITTED.						DISCHARGED.						DIED.			REMAINING ON 31st DECEMBER.			AVERAGE NUMBER RESIDENT.			PERCENTAGE OF RECOVERIES ON ADMISSIONS.			PERCENTAGE OF DEATHS ON AVERAGE NUMBER RESIDENT.					
	M.		F.		T.		M.		F.		T.		M.		F.		T.		M.		F.		T.		M.		F.		T.	
	Admitted.	Recovered.	Relieved.	Not Improved.	Died.	Remaining on 31st December.	Average Number Resident.	Percentage of Recoveries on Admissions.	Percentage of Deaths on Average Number Resident.																					
1911-1912	51	62	113	24	18	42	2	1	3	4	2	6	26	29	55	401	256	657	397	252	649	47.09	29.50	6.54	9.47	17.20				
1912-1913	69	58	137	24	15	39	4	2	6	1	2	3	33	31	64	408	264	672	412	264	676	34.78	25.86	8.00	11.74	9.46				
1913-1914	85	70	155	25	14	39	5	4	9	7	2	9	42	39	81	441	275	716	412	271	683	29.41	20.	10.19	14.39	11.85				
1914-1915	98	77	175	26	22	48	4	12	16	8	2	10	57	53	110	417	263	680	421	273	694	26.33	28.85	13.53	19.41	17.20				
1915	67	48	115	13	20	33	6	12	18	5	.....	5	19	37	56	441	243	684	435	251	686	19.40	41.64	4.36	14.74	8.15			
1916	98	83	181	30	17	47	8	5	13	4	3	7	46	42	88	451	259	710	445	255	700	30.61	20.48	10.33	16.47	12.57				
1917	81	60	141	29	27	56	13	11	24	5	2	7	41	45	86	444	234	678	457	249	706	36.00	45	39.72	8.97	18.47	12.18			
1918	76	91	167	25	18	43	13	8	21	1	.....	1	71	62	133	409	236	645	440	248	688	34.00	5.00	10.61	20.05	19.33			
1919	87	82	169	23	29	52	14	9	23	1	.....	2	51	33	84	405	247	652	406	248	654	26.43	33.26	12.56	13.30	12.84			
1920	100	93	193	34	35	69	6	2	8	4	2	6	55	46	101	406	255	661	411	251	662	34.00	37.63	13.35	18.32	14.50				
1921	95	81	176	29	24	53	9	3	12	4	2	6	56	49	105	401	251	652	409	247	656	30.52	29.62	13.69	19.83	16.00				
1922	63	66	129	29	28	57	8	5	13	.....	.....	.....	32	47	79	396	237	633	399	247	646	46.03	42.42	8.02	19.02	12.22	
1923	81	81	162	25	20	45	15	7	22	.....	.....	.....	43	43	86	394	248	642	401	240	641	30.86	24.69	10.72	17.91	13.41	
1924	76	82	158	27	31	58	21	17	38	.....	.....	.....	33	47	80	289	235	624	392	257	649	35.52	37.80	8.41	18.28	12.32	
1925	79	86	165	31	31	62	19	4	23	4	3	7	37	42	79	377	241	618	390	248	638	39.24	36.04	9.48	16.93	12.38				
1926	69	63	132	27	21	48	9	10	19	2	2	46	35	81	367	248	615	382	251	633	39.13	33.33	12.04	13.94	12.79			
1927	85	87	172	27	25	52	9	13	22	.....	.....	.....	56	42	98	360	255	615	379	260	639	31.76	30.86	14.77	16.15	15.33	
1928	88	86	174	34	47	81	10	5	15	3	45	32	77	364	285	649	370	270	640	30.68	27.95	12.16	11.85	12.03			
1929	88	86	174	34	47	81	10	5	15	1	42	36	78	365	283	648	377	285	662	38.63	54.65	11.14	12.63	11.78			
1930	75	106	181	38	31	69	10	4	14	.....	.....	.....	36	47	83	356	307	683	366	295	661	50.66	29.24	9.83	15.93	12.55	
1931	72	44	116	25	19	44	14	3	17	2	1	3	33	47	80	354	281	635	360	294	654	34.72	43.18	9.16	15.98	12.23				
1932	79	66	145	24	16	40	6	1	7	.....	.....	.....	40	39	79	363	291	654	356	278	634	30.38	24.24	11.23	14.02	12.46	
1933	74	86	160	17	21	38	4	4	8	.....	.....	.....	45	41	86	371	311	682	370	302	672	22.97	24.42	12.16	13.57	12.80	
1934	113	114	227	28	37	65	6	2	8	51	60	111	399	326	725	390	319	709	24.77	32.45	28.63	13.07	18.81	15.65			
1935	102	121	223	36	39	75	4	6	10	1	1	62	57	119	398	345	743	401	337	738	35.29	32.23	33.63	15.46	16.12			
1936	82	106	188	15	31	46	14	6	20	2	57	59	116	394	353	747	394	353	747	18.29	29.24	14.47	16.71	15.52			

SECTION XI.—MATERNITY AND CHILD WELFARE.

The maternity service is dealt with under the heading Hospitals and Dispensaries.

The report of the Child Welfare League of Trinidad and Tobago for 1936 is a record of excellent work. This is a purely voluntary organisation obtaining its funds by private subscriptions and donations. Government provides a subsidy of \$4,320 and the city of Port-of-Spain contributed \$240.

An additional branch from the Stephens Clinic, Port-of-Spain, was opened in Sackville Street, a further advance in the policy of conducting centres in the poorer areas of the city.

A new clinic with which is associated a small maternity ward was opened under the auspices of United British Oilfields Ltd., at Point Fortin, whilst owing to the rapid development of work which had been commenced in 1935 at the Kern Trinidad Oilfields it was found necessary to establish there a separate branch of the League in 1936.

There were at the end of the year 14 district branches with 29 clinic centres.

The infantile mortality rate fell from 99.42 in 1935 to 96.82.

The teaching of mothercraft in schools continued to be a feature of the work of the League. Series of lectures and practical demonstrations were given at schools in Port-of-Spain, San Fernando, Tunapuna and Princes Town.

Reference has been made to the interest taken by certain oil mining companies in Maternity and Child Welfare Services. It is to be recorded however that several estates are taking a practical interest in the welfare of the mothers and children in their employ. Particularly is this true of a number of sugar estates which now provide creches for the children of working mothers. In these the infants are not only tended during the day, but in some cases, they are also supplied with milk.

While this is true mainly of the larger business concerns it is particularly gratifying that in one of the smaller estates namely Reform Estates Ltd., an excellent start has been made. In the case of this estate a trained nurse is employed. In addition to attendance at the Creche which has been instituted she pays regular visits to the homes of the labourers. Each child attending the Creche receives $\frac{1}{2}$ pint of fresh cow's milk daily and is provided with clothing to wear at the creche. Prepared foods such as quaker oats are also supplied free of charge. A monthly clinic for sick children has been arranged by the estate authorities at which the services of the Government Medical Officer are available. Simple medicines are supplied by the Department. The estate in question has advanced beyond the strict limits of Child Welfare work by interesting the tenants and labourers in general matters of hygienic importance. "Sanitation competitions" have been held by a local committee assisted by teachers of the Canadian Mission School and prizes awarded to those tenants whose houses and gardens were judged to be in the best condition.

When the example so well shown by these estates is followed by all, Trinidad will have advanced far towards the attainment of a healthy and contented peasantry.

SECTION X.—PRISONS.

Royal Gaol.—The general health of the prisoners was satisfactory and no unusual outbreak of disease occurred. Of persons committed 2.33 per cent. necessitated admission to the infirmary. Minor ailments and injuries on admissions were dealt with to the extent of 27.95 per cent.

Four hundred and twenty-two prisoners were admitted to the infirmary. Of these 39 were for treatment of hookworm disease, 21 for other intestinal conditions, 52 for influenza and 63 for temporary pyrexia in a minor degree. Thirty-three males and 29 females were kept under observation for mental conditions of whom 9 and 14 respectively were transferred to the Mental Hospital at St. Ann's. The daily average number in the infirmary was 7.94 whilst the average number sick in cells but not requiring infirmary treatment was 1.99 making a total of 9.93.

There were seven deaths at the Royal Gaol, five were judicial executions, one was due to cardiac failure and one to ankylostomiasis and anaemia.

Buildings and sanitary arrangements were maintained in a satisfactory condition.

Carrera Convict Prison.—At Carrera conditions were satisfactory. The average number of convicts was 224.61 while the daily average in the infirmary was 3.33 or 1.03 per cent. of the population. With the exception of one case of dysentery, the only death, there was no communicable disease.

The buildings and grounds were satisfactorily maintained and sanitary conditions were satisfactory.

Young Offenders Detention Station.—The daily average of persons under detention was 105.6 the total admissions during the year being 285. The attendances at the Dispensary numbered 447 whilst the number admitted to the infirmary was 75. There were no deaths. A small outbreak of dysentery towards the end of the year was traced to flies breeding in manure heaps and kitchen refuse.

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.—The admissions to this institution numbered 45 of which 36 were men and nine women. The general condition on admission was satisfactory, the majority of the prisoners being capable of hard labour.

Three men were admitted to hospital and four were recommended for medical observation. Of the latter, two were transferred to the Mental Hospital at St. Ann's.

The sanitary arrangements were well maintained and there was no case of infectious disease.

SECTION XI.—METEOROLOGY.

The following readings were taken at the St. Clair Experiment Station, Port-of-Spain, Longitude 61° 31' W. Latitude 10° 46' N., 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 ...	29.979	88.9	68.1	20.8	78.5	1.16	15	16
February ...	29.996	89.6	67.5	22.1	77.5	0.28	16	13
March ...	29.959	91.0	68.8	22.2	75.5	0.11	16	15
April ...	29.975	90.8	72.6	18.2	76.5	2.43	17	13
May ...	29.921	91.9	73.2	18.7	80.5	5.62	16	15
June ...	29.968	89.2	73.2	16.0	85.0	10.52	13	17
July ...	29.995	89.0	71.8	17.2	87.0	11.33	8	23
August ...	29.950	90.0	71.4	18.6	85.0	5.93	8	23
September ...	29.924	90.1	71.6	18.5	86.5	8.13	8	22
October ...	29.916	90.7	71.7	19.0	85.5	4.95	5	26
November ...	29.900	90.0	71.7	18.3	87.0	7.06	10	20
December ...	29.920	90.7	70.4	20.3	81.5	5.53	13	18
Year ...	29.950	90.1	71.0	19.1	82.1	63.05	145	221

The absolute Maximum temperature was 96°F, recorded on June 6th. The absolute Minimum 65°F, occurring on several days in January, February and March. Rain fell on 205 days of the year and the weather was overcast for 221 days out of the 365.

The rainfall in the Southern Division (readings taken in Ste. Madeleine districts) was 77.25 inches.

SECTION XII.—LABORATORY SERVICES.

The year 1936 witnessed a considerable increase in the activities of the bacteriological laboratory. The increasing demand in the Colony for a higher standard in the practice of medicine and surgery and the consequent expansion of various specialist services were reflected upon the laboratory in various ways, necessitating more elaborate equipment and more extensive effort on the part of the personnel. The policy of augmenting apparatus and accommodation gradually over a period of years instead of by an immediate large increase in expenditure was adhered to. Thus, in the course of the year the construction was commenced of accommodation for sterilizing, media making, storage, &c. At the close of the year these buildings were approaching completion and it will shortly be possible to prepare and maintain equipment and media on a scale sufficiently large to meet most emergencies.

The growing demands made by the medical profession generally on the laboratory service have rendered expansion necessary in two directions and bio-chemical and pathological divisions are now included in the service. This has been made possible by the appointment of a pathologist to which reference has already been made. The use of bio-chemistry apart from the better known tests as an aid to diagnosis by either the hospital staff or private practitioners has been comparatively little in the past but the fact that during the latter half of the year 1,401 specimens were examined chemically and microscopically for conditions other than those of a bacteriological character indicates that the reason was more lack of facilities than lack of demand for bio-chemical investigation. The appointment of a pathologist has made it possible to resume complete post mortem examinations on patients dying in the Colonial Hospitals. This division naturally appeals particularly to the medical staff of the institution, but it is gratifying to note the interest taken in it by private practitioners, while the manner in which the junior members of the hospital staff avail themselves of the opportunity of correlating their clinical findings with post mortem revelations presages a happy future for medicine in Trinidad.

The account given below by the Bacteriologist and the Pathologist of the work of the laboratory will suffice to show with what rapidity this service is extending and the large volume of work now imposed upon the staff.

BACTERIOLOGY.

Routine Examinations.

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

Blood for agglutination against <i>B. Typhosus</i>	1,183 of which 285 were positive.
Blood examinations for Malaria	1,127 do. 156 do.
(<i>Plasmodium falciform</i>)	132
(<i>P. Vivax</i>)	19
(<i>P. Malariae</i>)	5
Sputum examinations for <i>B. Tuberculosis</i>	1,096 of which 315 were positive.
Throat swabs for Diphtheria Bacilli	371 do. 67 do.
Wassermann Tests	6,433 do. 4,158 do.
Dark Ground Illumination for <i>Treponema pallidum</i>	22 do. 10 do.
Specimens for Ankylostomiasis	1,067 do. 271 do.
Entamoeba Histolytica	184 do. 50 do.
Urethral and Prostatic discharges for Gonococci	227 do. 79 do.
Scrapings and smears for <i>B. Leprae</i>	102 do. 12 do.
Chemical Analyses of Urine	789
Differential blood counts	354

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

Anti-typhoid - paratyphoid	55,730 c.c.
Gonococcal	7,010 c.c.
Autogenous	1,375 c.c.
Anti-rabies (human)	3,695 c.c.
Anti-rabies (animal)	16,250 c.c.

The preparation of anti-rabies vaccine for use of animals was discontinued as from the month of January. This vaccine is now imported from the Connaught Laboratories.

Comments and Special Investigations.—Paralytic rabies continued to be the main subject of study during the year. The occurrence of four human and 228 animal cases afforded further material for confirmation of the opinion that while Negri bodies are always present in the human subject they may not be seen in the animal. The manifestations of the disease in man are now recognisable as a definite clinical syndrome enabling differentiation from other conditions of the nervous system in which paralysis, or paraplegia, is the predominating symptom. Nevertheless, with the attention of the local medical profession sharpened by the experiences of the last few years in connection with paralytic rabies it was but natural that acute affections of the spinal cord should excite special interest and be associated with the possibility of their being an expression of rabies. In addition, the case reported by Knutti in the United States, and the one by Glusmann in Poland in which there was undoubtedly no history of a bite by a dog or other animal, or even contact with a rabid animal, made it obligatory to exclude rabies as a cause of acute myelitis and Landry's paralysis. Three such cases were investigated, clinically and bacteriologically, during the year and found to be not rabies. It is unnecessary to observe that acute spreading myelitis has been ascribed to a variety of causes such as gonorrhoea, measles, influenza, syphilis, typhoid, &c., and that Landry's paralysis is a clinical syndrome and not a pathological entity. To these must now be added, as an additional etiological agent, the virus of rabies.

Though there had accumulated in previous years bacteriological and epidemiological evidence strong enough to incriminate the blood-lapping *Desmodus* bat as the transmitting agent of paralytic rabies proof was established during the year under review sufficient to justify the publication in the "Annals of Tropical Medicine and Parasitology" of a paper by the Government Bacteriologist entitled "The Transmission of Paralytic Rabies in Trinidad by the Vampire Bat". In a series of 21 bats with abnormal habits the virus of rabies was detected by the results of animal inoculation and the presence of Negri bodies, and confirmed in certain instances by cross immunity and serum neutralisation tests. In 16 other *Desmodus* the symptoms of rabies were produced in rabbits by intra-cerebral inoculation, but Negri bodies could not be seen. In the light of Pirani's experience in Eritrea, Jonnesco's in Roumania, and others, such a finding does not contra-indicate the presence of rabies virus.

This last result together with the frequent reports made by reliable observers as to the unusual habits of bats, some of which were seen flying and biting animals during the day and actually fighting with one another and with cats, goats, and dogs in their attempts to bite, led to a concentration of study upon the clinical course of the disease in the vampire. The discovery by Clark and Dunn that blood-lapping bats are capable of surviving for prolonged periods on defibrinated blood rendered it possible to examine under artificial conditions the progress of rabies in these wild nocturnal animals. The artificial inoculation of human animals, and bat strains of the virus into vampires disclosed some interesting results and permitted the study of the clinical course of the disease in these mammals.

The incubation period of rabies in vampire bats, confined under artificial conditions, varies considerably, ranging from a minimum of 9 days to a maximum of 150 days.

The disease may manifest itself in more than one form as follows:—

- (1) The typical, classical, furious rabies in which "fury" is a prominent and predominating feature, and is followed by a stage of paralysis and death.
- (2) The paralytic form of the disease in which the stage of "fury" or excitement, cannot be observed, but in which paralysis runs on directly into death. This form bears resemblance to the paralytic type of the disease as seen in man.
- (3) A furious form of rabies in which the stage of "fury" is followed by recovery, and the bat remains infectious.
- (4) A furious form in which the stage of "fury" runs on directly into death, without any intervening paralysis.
- (5) A form in which the bat is well, but dies suddenly and unexpectedly without any previous evidence of illness.
- (6) A sub-clinical or latent, form of infection in which the bat continues to live without any apparent departure from normal, but is capable of transmitting the disease by its bite.

While certain of these manifestations of rabies in the *Desmodus* bat conform closely to the disease as it occurs in other mammals, there are other features which deserve special attention. That recovery from rabies in the vampire should occur after symptoms of the disease have appeared was a startling finding, for, from the days of Pasteur onwards, in spite of reports to the contrary the consensus of opinion was that there is no recovery from rabies after the disease has developed. But further, it was found that vampires, which have recovered from the disease and appear healthy and well, are capable of transmitting infection by their bites to calves. That such a recovery can be followed by a prolonged state of infectivity—"a carrier" state—is of course well known in other virus disease, but has hitherto been unrecorded in connection with rabies.

The last form of the disease raises the important question of the latency of infection not only in rabies, but in other virus diseases, as well as the refractoriness of vampires to infection with rabies. That a mammal such as the *Desmodus* bat should exhibit an ability to survive a lethal or several lethal doses of rabies virus and live without any obvious discomfort was contrary to all expectations, but when it was further discovered that such vampires may, in addition, transmit infection over prolonged periods and remain apparently healthy and well, it was realised that the problem facing the public health authorities was greater than could have been anticipated, and there arose the necessity of destroying all *Desmodus* irrespective of any abnormality in behaviour, or evidence of sickness, and of protecting by prophylactic inoculation all persons bitten by vampires even with normal habits. The urgency of this practice was further strengthened by the discovery under natural conditions in both non-infected and infected areas of vampires which may show no evidence of disease and yet are infected and are capable of producing infection under artificial conditions. The results of this study in its various aspects have been embodied in a paper entitled "Rabies in the Vampire Bat of Trinidad with special reference to the clinical course and the latency of infection" which also appeared in the *Annals of Tropical Medicine and Parasitology*.

In the campaign of capture and destruction of all blood-lapping *Desmodus* bats 3,623 were examined for Negri bodies with a positive result of 2.7 per cent. In addition 1,661 fruit and insect eaters were examined and two only found with Negri bodies. As has been already indicated, Negri bodies may be absent in bats which are infected and capable of transmitting infection, but the detection of their presence remains the readiest and most practicable means of locating the active foci of the disease. After employing several methods recommended for the rapid staining and examination of Negri bodies, such as Lentz, Schonwetter, Adriani, von Gerlach &c. it was found that Van Gieson after previous fixation in methyl alcohol was the most satisfactory. Originally paraffin sections were prepared, but the large number of bats to be examined coupled with the uniformly good results secured by Van Gieson's stain led to the abandonment of all other methods. The comparatively soft texture of the skull bone of the *Desmodus* bat enables a horizontal section of the skull and upper surfaces of both cerebral hemispheres to be made by one firm action with a sharp scalpel so as to expose the hippocampus from which, with care, thin even smears can be made and stained. The subjoined table gives the details of this examination.

Examination of Bats for the presence of Negri bodies during the year 1936:—

Number of Bats examined	.....	.....	.....	.....	5,284
Number of <i>Desmodus</i> examined	.....	.....	.....	.....	3,628
Number of Non- <i>desmodus</i> examined	.....	.....	.....	.....	1,656
Number of Bats with Negri bodies	.....	.....	.....	.....	100
Number of <i>Desmodus</i> with Negri bodies	.....	.....	.....	.....	99
Number of Non- <i>desmodus</i> with Negri bodies	.....	.....	.....	.....	1 (<i>Artibeus</i>).
Number of Bats without Negri bodies	.....	.....	.....	.....	5,185
Percentage of <i>Desmodus</i> with Negri bodies	.....	.....	.....	.....	2.7 per cent.

The accompanying plan indicates the areas from which the infected bats were taken. From this it is evident that no part of the Island is immune and that the infection in the bat population is general.

Infected bats caught by months were as follows:—

January	.....	.....	4	July	.....	.....	9
February	.....	.....	10	August	.....	.....	8
March	.....	.....	10	September	.....	.....	10
April	.....	.....	5	October	.....	.....	16
May	.....	.....	3	November	.....	.....	6
June	.....	.....	8	December	.....	.....	11

The practice of prophylactic inoculation with Anti-rabies vaccine of all persons bitten by vampire bats demanded the local preparation of the vaccine. For this purpose a 4 per cent. emulsion in $\frac{1}{2}$ per cent. phenol of the brains of rabbits killed on the first appearance of rabies after intracerebral injections was employed. The prescribed course of treatment extends over 14 days. In this way, 3,695 c.cm. of vaccine were issued for use to Medical Officers. Of all those thus treated none has so far developed any untoward sequelae, while the four human cases of rabies which occurred during the year had not received prophylactic inoculation after being bitten by vampires. In addition 16,250 c.cm. of vaccine for animal use were also prepared and issued to the Department of Agriculture. This is made from the brains of calves preserved in 1 per cent. phenol. One thousand six hundred and twenty-five animals were thus vaccinated. Owing to the difficulty of obtaining calves for the preparation of the vaccine the local preparation of rabies vaccine for animal use was discontinued towards the first quarter of the year and further supplies were imported from abroad.

Enteric Fever.—It is to be regretted that blood cultures are not more frequently resorted to by both medical officers and private practitioners in the diagnosis of enteric and other allied infections in the early stages of the disease. The practice of applying for an agglutination test after the lapse of 10-12 days delays the diagnosis unduly and overlooks the possibility of other infections. It is unfortunate that larger quantities of blood are not collected so as to permit of the macroscopical agglutination test for *B. typhosus*, paratyphosus and also the other *Salmonellas*, or the differentiation of H from O agglutinins. The microscopic hanging drop method performed with *fresh broth* and not saline, agrees generally with the clinical findings and is accepted as reliable and of value in the diagnosis of the enteric fevers by medical practitioners. Should more blood be available and the macroscopic method be rendered a routine test, infection with *Salmonellas* other than the typhoid-paratyphoid group could be eliminated.

As a public health measure aimed at controlling the possible spread of the disease the faeces and urine of patients who have recovered from enteric are examined before their discharge from hospital for the presence of *B. typhosus* or para-typhosus. Towards this end Wilson and Blain's bismuth medium has been utilized with satisfactory results permitting the examination of a large quantity of material. With faeces an emulsion is employed, while the urine is poured over the whole plate. The inhibitory and selective properties of this medium render its use specially suitable in the tropics where foreign contamination is so easy. Gram negative bacilli producing characteristic black colonies on plate cultures and the typical change in Russell's double sugar slopes permit an expression of opinion in 48 to 72 hours. Patients proving positive in this respect are regarded as "typhoid carriers" and their discharge from hospital is postponed until further examination yields a negative result. For reasons of economy one negative is aimed at. Two hundred and thirty-two specimens of faeces were examined for this purpose and 48 specimens of urine. Of the latter, *B. typhosus* was found in six cases and of the former in 54.

In continuation of previous studies a collection was made of strains of *B. typhosus* isolated from typhoid cases during the acute febrile stage and their biological properties studied especially in reference to their xylose fermenting capacity. The results of this investigation will be reported on later.

Undulant Fever.—One of the unsolved medical problems of the Colony is the differentiation and identification of the undetermined fevers or pyrexias of unknown origin. Malaria (and influenza) have been made in many instances to bear too heavy a burden of responsibility as the cause of various fevers. Only when the practice of a blood examination for plasmodia becomes general—and repeated examinations at proper intervals is necessary—will the diagnosis of malaria approach that degree of accuracy which is necessary for statistical purposes. In the hope of throwing some light on the local undetermined fevers the sera from blood samples forwarded for the routine Wassermann were submitted to the agglutination tests against *Brucella melitensis* and *Brucella abortus*, using a temperature of 37.5°C and an incubation period of 24 hours with controls to avoid non-specific agglutination. The cultures from which the emulsions were made were received through the kindness of the Lister Institute, London, 356 sera were examined and gave a high percentage of positive agglutination in over 1 in 400. The results will be analysed at some later period when a larger number of samples of blood have been tested, but the evidence accumulating from this experience shows that *Brucella* infection is a prevalent cause of fever and sickness in Trinidad. This opinion is strengthened by the detection in previous years of four clinically characteristic cases of undulant fever confirmed by the isolation of the *Brucella* organism. Contagious abortion of cattle occurs in the Colony and *Brucella abortus* of Bang has been isolated from the amniotic fluid of aborted fetuses, whilst the sera of 55 head of cattle from various districts, where abortions were frequent in the herds, have given positive reaction for this organism.

Water Analyses.—The bacteriological control of the water supplies of the Colony is a routine practice of the laboratory. With the institution of a Central Water Supply for the whole island this work has materially increased and necessitated the examination of over 340 samples from this single source. The Central Water Supply is intended to distribute over 4,000,000 gallons of water per day, and, being a new hitherto untapped source, the bacteriological examination was exacting and rigid. The impounding reservoir for this supply situated in the Quare Valley is capable of containing 1,050 million gallons of water. Constant sanitary surveys and control of the gathering ground ensure the maintenance of a pure raw supply, and the additional sand filtration and chlorination adopted yield a water of as high a degree of purity as can be desired. As the work of erection of reservoirs and mains developed and as filtration and chlorination were applied, regular bacteriological examinations were undertaken of samples at various levels and sources. The standard of purity adopted was the absence of *B. coli* and *B. aerogenes* in 75 c.c.

Towards the latter part of the year the water as delivered to consumers revealed a well marked turbidity and unpleasant odour, though repeated bacteriological examinations and careful sanitary surveys showed it to be free from bacterial pollution and to be safe for human consumption. This unpleasantness was found to be due to decayed vegetation resulting from recent impounding.

The daily examination of a sample which represents the mixed water supplies of the City of Port-of-Spain was continued during the year. The standard arrived at was the absence of lactose fermenters in MacConkey's liquid bile salt medium from a 50 c.c. sample of water. This enables a report to be given by telephone within 24 hours. Any departure from this normal was the subject of an immediate investigation and examination of samples from various sources to expose the erring supply. Of the 366 daily samples examined lactose fermenters were present in four. In addition 140 samples from Port-of-Spain were submitted to a complete test, both with the object of detecting the particular supply at fault, and as a routine precautionary measure.

From the water supplies to the various oilfields 39 samples were examined.

The differentiation of typical "B coli" into a faecal B. coli and a non-faecal B. aerogenes continues to be of great value in the recognition of the presence of recent and dangerous or of distant pollution. It has been found that under local conditions faecal B coli is a less resistant organism than B aerogenes and its presence consequently indicates not only that contamination was recent, but that the processes of natural purification had failed to operate. Of the tests employed for this differentiation the eosin-methylene blue agar is the most expeditious and economical. In cases of emergency an opinion of value can be given in 48 hours time.

Wassermann Reaction.—The Wassermann reaction was still in great demand by both private practitioners and medical officers, and even by the general public. The re-agents employed in the test are all prepared locally by a trained technician, ox heart and a cholesterol alcoholic antigen being used. The lack of a ready supply of guinea pigs for preparation of complement caused on more than one occasion no little inconvenience. With the establishment of a small animal farm it is hoped to overcome this difficulty. There continued to be a high percentage of positive returns in a certain section of the community whose physical appearance would suggest perfect health. In Trinidad a positive Wassermann indicates infection with syphilis or yaws, and also malaria when plasmodia are circulating in the blood stream. There is however a percentage (1 per cent.) of false positives due to some unknown factor. Efforts at determining this factor have so far failed, though the possibility of errors in technique or the unsuitability of the method employed have been carefully excluded. The close relationship between syphilis and framboesia renders in certain instances the differentiation of the diseases on purely serological grounds somewhat difficult, while failure to correlate clinical findings with the Wassermann results may lead to faulty diagnosis.

Entomology.—A short study was completed during the year on the functions of the oesophageal diverticula of *Stegomyia Aegypti* and *Anopheles Tarsimaculatus*. Adult insects were bred in the laboratory from larvae allowed to feed on the human forearm, and killed and fixed in formaline at various intervals. Paraffin was used for embedding and good serial sections obtained. The true functions of the oesophageal diverticula have led to much dispute among medical entomologists. With the increasing recognition of the importance of a knowledge of the physiology of blood sucking insects it was felt that an effort should be made locally to throw some light on the subject. The preliminary study undertaken showed that there is a definite difference in the functions of these two mosquitoes. In the *Stegomyia* after a full meal the diverticula are filled and distended with blood, though loculi can be seen in them, while with the *Anopheles* they remain free from blood, though at times regurgitation of blood cells into the diverticula may take place. The results of this study have been submitted for publication in the "Annals of Tropical Medicine and Parasitology".

Miscellaneous.—Six cases of Hodgkin's disease diagnosed clinically came under observation during the year. In two instances Gordon's biological test was employed—a filtered broth emulsion of the excised glands injected intracerebrally into rabbits produced spastic paralysis and progressive weakness with death in 9 and 10 days.

An outbreak of oedematous Anthrax occurred in a small herd of cattle and was made the subject of study. Fortunately none of these animals had received Anti-rabies vaccination and the suspicion, unjustifiably aroused in the previous year, was again shown to be ill founded.

As time and opportunity permitted material was accumulated on the subject of nutritional and other anaemias. The former condition is known to be prevalent in Trinidad, but blood dyscrasia are not as infrequent as is commonly supposed.

Clinical Pathology and Bio-chemistry.—The total number of specimens examined as previously stated chemically and microscopically for conditions other than Bacteriological was 1,401. The tests carried out and the principal findings are shown in detail below. This part of the work of the laboratory has gradually increased during the year, and new developments have been carried out, for example the colloidal gold test for C.S.F., the Kahn reaction and the estimation of blood urea. Among other things to be done is the examination of normal persons here of different races and classes to fix bio-chemical standards as normal under local conditions. No such records are available at present.

Kahn Tests.—The Kahn test for serum was started during the latter part of the year and so far has been carried out on 430 sera which have been received for routine Wassermann examinations to compare the two tests under local conditions. Tests have been carried out mainly on sera with which an adequate history has been received but the investigation and also the checking of the accuracy of both tests is difficult, owing to the very small percentage of sera received with any history, either clinical or of treatment. As far as it has been possible to estimate under these conditions it seems that the percentage of agreement between the two tests is not so high as has been reported from some other tropical countries. In the earlier part of the year the tests were done only to practise technique and to test the reagents and the results included here are only of tests carried out after the satisfactory nature of technique and of reagents was established.

The standard Kahn technic has been followed with antigen prepared with Bacto beef heart.

Results:
 Wassermann and Kahn agree, both strongly positive or negative 263 in 430 or 61.1%
 Wassermann positive, Kahn negative 86 in 430 or 20.0%

Analysis of these cases:

History of syphilis undergoing regular treatment	....	....	....	18
History against condition being syphilis	....	....	....	10
History probably untreated syphilis	....	....	....	15
Forward Wassermann positive, Kahn negative	....	....	....	43
History of miscellaneous conditions, e.g. "rheumatism," "asthenia"	....	....	....	31
"miscarriages" blood examined to exclude syphilis	....	....	....	12
No History given	....	....	....	86
				<hr/>

Wassermann reaction negative, Kahn positive:				
History of syphilis undergoing treatment	....	....	....	19
History of condition probably not syphilitic	....	....	....	1
History probably untreated syphilis	....	....	....	25
Miscellaneous conditions as above	....	....	....	21
No History given	....	....	....	15
				<hr/>
				81

<i>Summary of specimens examined chemically, &c.</i>				<i>Positive Results.</i>	<i>Total examined.</i>
(1) Urines Chemical and Microscopical examinations:					
Albumen present	....	....	....	196	
Amount estimated	....	....	....	6	
Sugar present	....	....	....	50	
Amount estimated	....	....	....	41	
Acetone	....	....	....	16	
Diacetic acid	....	....	....	1	
Bile	....	....	....	11	
Estimation of p.h.	....	....	....	2	
Diastatic index	....	....	....	2	
Urea estimated	....	....	....	9	
Excess urobilogen	....	....	....	3	
Diazo reaction—positive	....	....	....	4	
negative	....	....	....	73	
Deposit showing casts	....	....	....	54	
Do. pus	....	....	....	54	
Do. blood	....	....	....	76	
Do. calcium oxalate	....	....	....	9	607
Complete urea concentration tests	....	....	....		10
(2) Analysis of urinary calculi:					
Ammonium phosphate	....	....	....	1	
Calcium phosphate and carbonate with uric acid	....	....	....	1	
Calcium Oxalate, trace phosphate and carbonate	....	....	....	2	4
(3) Analysis of gastric contents, &c.:					
Complete fractional test meals	....	....	....	—	51
High free Hcl and total acidity	....	....	....	15	
Low do. do.	....	....	....	14	
Absent free Hcl	....	....	....	7	
Single samples of resting contents	....	....	....	—	38
High free H.Cl and total acidity	....	....	....	2	
Low do. do.	....	....	....	7	
Absent free H.Cl	....	....	....	21	
(4) Cerebro-Spinal Fluids:					
Cell count and chemical examination	....	....	....	—	50
Increase in Globulin	....	....	....	9	
Increase in Glucose	....	....	....	1	
Decrease in Glucose	....	....	....	1	
Decrease in Chlorides	....	....	....	2	
Cells increased lymphocytes	....	....	....	9	
Do. leucocytes	....	....	....	1	
Colloidal gold curves	....	....	....	12	
No change	....	....	....	8	
Typical paresis curve	....	....	....	1	
Change to 2 in mid zone	....	....	....	1	
Change up to 3 in first 4	....	....	....	2	

	<i>Positive Results.</i>	<i>Total examined.</i>
(5) Faeces	—	80
Occult blood present	16	
Neutral fat and fatty acid estimated	2	
(6) Blood Complete Glucose tolerance tests	—	9
Curve of diabetes mellitis	4	
Persistent high level	1	
Laevulose tolerance test	—	1
Severe liver damage	1	
Blood sugar estimations	—	47
High	24	
Blood urea estimated	—	39
High	2	
Serum Van den Bergh Reactions	—	17
Immediate direct positive	12	
Indirect positive	2	
Icterus Index	—	4
Above normal	4	
Kahn tests	—	430
Positive	236	
(7) Various fluids	—	7
Pleural effusion, cells lymphocytes	1	
Do. do. leucocytes	1	
Knee joint cells lymphocytes	1	
Do. purulent	1	
Fluid from pancreatic cysts	3	
(8) Ascheim-Zondek tests Friedman's modification	—	1
Negative	1	
Total	—	1,407

Pathology.

Post Mortem Examinations.—Since the beginning of April, 1936, on the appointment of a Pathologist it has been possible to resume complete post mortem examinations on patients dying in the Colonial Hospital and 198 out of 841 patients dying during this period have been examined.

A record of the findings at these post mortems with the principal evidence of fatal and non-fatal disease is included in this report. The majority of cases referred to the Pathologist were patients who had been in hospital for a short time only before death, those in whom the exact diagnosis was in doubt, or to some cases of special interest. They do not include any cases of sudden death or death due to violence since such cases are referred to the District Medical Officer as Police Surgeon.

With these limitations, that very chronic cases and sudden deaths are not included, it is thought that a detailed report on the pathological conditions found may be useful in showing the prevalence and nature of fatal and incapacitating disease in the Colony among the class of patients using the hospital.

The total number of post mortems performed from April to December was 198—124 adults, 28 children and 46 infants under 1 year.

The number is not great for analysis, but the report shows some interesting findings, more especially in the prevalence of some conditions not directly fatal, especially the following:—

Cardio Vascular disease.—Very severe destructive changes were commonly found in 29 per cent. of all adults, with a very much higher incidence in people of African descent, and even higher among those of mixed race, in which the proportion was 47.8 per cent. It has not proved possible with the present technical help available to investigate all these cases by histological methods, but an attempt to differentiate cases of atheroma only and those with evidence of an associated mesaortitis has been made on macroscopical appearances, and admittedly incomplete method. Only cases have been classed as severe atheroma which showed extensive destruction of the intima with large fatty plaques associated with ulceration and calcification ordinary atheroma normal for the age has not been included. Cases have been classified as mesaortitis only if they showed numerous raised white thickened plaques, with scarring, spider and linear and with signs of dilation of the vessel. Aneurisms are included under these.

In view of the fact that primary genital chancres were found in only 4 male patients, the possibility of some of these conditions being due to yaws is an interesting speculation. The prevalence of cardio vascular disease among women is a striking finding when compared with conditions in the British Isles. Simple atheroma was very uncommon among the East Indians, the few cases of vascular disease found being mesaortitis. The absence of even moderate atheroma among them was striking.

Chronic Nephritis.—Chronic nephritis was an even more common finding than cardio-vascular degenerations, being found in 33 per cent. of the adults examined, in 35 the type was a chronic scarred contracted granular kidney, with adherent capsule. As mentioned under cardio vascular disease the histological examination of all these cases has proved impracticable during the time under review, but an attempt has been made to separate cases associated with severe degenerative vascular changes from those with little degeneration but definite cardiac hypertrophy suggesting that the nephritis was the primary lesion and from those showing no degeneration or hypertrophy of the heart and vessels, and an interesting finding among these was four cases associated with a fine biliary cirrhosis of the liver all in young adults. The subject of nephritis in the Colony needs much study.

Two cases of kidneys of this type were found in patients dying following eclamptic fits, one in her 7th pregnancy. The results show that the Indian community does not show the same absence of chronic nephritis as of cardio vascular degenerations, and there is little difference in incidence between the sexes.

Tuberculosis.—13·7 per cent. of the adults showed healed tuberculous lesions, fibrous and calcareous nodules in the lungs or glands, &c. Only four deaths from tuberculosis are included, but this is probably because very few patients dying in the tuberculosis ward of the hospital were referred for autopsy. An interesting finding was caseous tuberculosis in the bronchial glands with caseous areas in the lung and general miliary spread in all organs except the brain in an infant of 6 weeks old. Chronic healed lesions were uncommon in children and infants.

Syphilis and possibly Yaws.—In addition to the cases already mentioned under evidence of mesoarteritis 11·5 per cent. of the adults showed lesions probably due to tertiary syphilis or possibly in some cases to yaws. The difference between the incidence of these lesions and of mesoarteritis seems to show that the chief damage done by these diseases locally is to the cardio-vascular system.

Other conditions.—Fifteen patients died from malignant new growths, of these one-third were gastric carcinomas, which would seem to be rather a high incidence. Calculi both gall stones and renal calculi were rarely found. Eclampsia was an all too common cause of death, and the cases included in post mortem records are only a proportion of those dying in hospital, especially during the earlier part of the year.

Commonest causes of death found.—The commonest single disease found as a cause of death at all ages was pneumonia in its different forms, with a total of 33 in 198 post mortem or 16·6 per cent. The next common causes in adults were chronic nephritis cardio vascular disease and malignant new growths.

Undernutrition and Malnutrition.—Among the adults examined 24 were noted as being definitely wasted and undernourished. Many of those dying from pneumonia were included. None of these were suffering from chronic wasting diseases. Marasmus and malnutrition was the commonest cause of death among the infants being present in 14 out of 45 or 39 per cent.

The conditions included under this heading were infants showing extreme wasting and emaciation with transparent slimy intestinal walls and others outwardly not so wasted, but in whom the apparent absence of wasting was found to be due to a gelatinous oedematous condition of the subcutaneous tissues and muscles and not to the presence of fat—a form of nutritional oedema. These infants had no albumen and section of the kidneys did not show evidence of nephritis.

Histological examination of the livers of these infants had not so far confirmed the prevalent idea among clinicians here that congenital syphilis is a common cause of wasting and inanition in infancy, but the prevalence of congenital syphilis is a subject which needs further study. As far as these records go they seem to show that diet is a more important factor than syphilis in causing these deaths.

Special Cases.—Toxic jaundice. The three cases included under this heading were cases of severe febrile jaundice in which no cause was found. None showed leptospira either on direct examination or on animal inoculation, two had haemorrhages in the organs, histologically the livers showed severe necrosis of the liver cells with cellular infiltration mainly confined to the connective tissues in Glissons capsule. The histological findings were not suggestive of yellow fever which has been absent from the Colony for many years nor did the sections show malaria parasites or pigment.

SPORADIC TYPHUS.—One child died from a febrile disease characterised by continuous fever a haemorrhagic petechial eruption and gangrene of both hands, the blood serum agglutinated, B. Proteus X2 and X19 in low dilutions, but not the Kingsbury strain. A detailed account of this case is being prepared for publication elsewhere.

ACUTE MYELITIS.—A young healthy man who had an attack of generalised joint pains with fever diagnosed as "influenza", 27 hours before death developed flaccid paralysis of all four limbs. Histological examination of the brain and cord showed "cuffing" round the vessels in the whole cord, with destruction of nerve cells in both anterior and posterior columns and infiltration with round cells, the brain vessels showed dilation only, evidence of rabies was not found on section or on rabbit inoculation.

Post Mortem Examinations performed during 1936.

	Male	Female	Total.
WHITE—Adult	1	1	2
MIXED—Adults	13	10	23
Children	—	—	3
Infants (under 1 year)	—	—	9
BLACK—(African descent) Adults	39	30	69
Children	—	—	18
Infants	—	—	32
INDIAN—Adults	10	17	27
Children	—	—	7
Infants	—	—	5
CHINESE—Adults	2	—	2
OTHER (Syrian) Adult	1	—	1
TOTAL			198

Summary of principal signs of disease found post mortem during 1936, whether fatal or not, in adults.

(1) Cardio vascular degenerations, mesaortitis and severe atheroma.		
Total number of post mortems on adults	.....	124
Total showing severe cardio vascular disease of all kinds	.....	36 or 29 per cent.
Total showing evidence of mesaortitis with and without atheroma	.....	25 or 20·2 per cent.
Severe atheroma, calcification, &c., only	.....	11 or 8·8 per cent.
DISTRIBUTION OF RACES.		
(a) Black (African descent):		
Total adults examined	.....	69
Total showing mesaortitis	.....	14 or 20·3 per cent.
Total with severe atheroma only	.....	6 or 8·7 per cent.
Arterial disease of all kinds	.....	20 or 29·0 per cent.
(b) Mixed Creole:		
Total adults examined	.....	23
Total with mesaortitis	.....	7 or 30·4 per cent.
Total with severe atheroma	.....	4 or 17·4 per cent.
Total arterial degenerations	.....	11 or 47·8 per cent.
(c) Indian (East).		
Total adults examined	.....	27
Total showing mesaortitis	.....	3 or 11 per cent.
Total showing atheroma (severe)	.....	1 or 3 per cent.
Total with arterial degenerations	.....	4 or 14·7 per cent.
<i>Distribution by sexes:</i>		
Total males examined	.....	66
Total showing mesaortitis	.....	16 or 24·2 per cent.
Total showing severe atheroma	.....	4 or 6·1 per cent.
Total with arterial degenerations	.....	20 or 30·3 per cent.
Total females examined	.....	58
Total showing mesaortitis	.....	9 or 15·5 per cent.
Total showing severe atheroma	.....	7 or 12 per cent.
Total with arterial degenerations	.....	16 or 27·5 per cent.
(2) Chronic Nephritis, Sclerosis of Kidneys.		
Total number of post mortem examinations on adults	.....	124
Total with chronic nephritis of all kinds	.....	41 or 33 per cent.
Total with chronic interstitial nephritis	.....	35 or 28·2 per cent.
<i>Relation to cardio-vascular conditions:</i>		
Total cases with severe vascular degeneration of all kinds	.....	12 or 34·3 per cent.
Total cases with marked cardiac hypertrophy without marked vascular changes....	.....	14 or 40 per cent.
Total cases without cardiac hypertrophy or advanced vascular degenerations	.....	5 or 14·3 per cent.
Cases with fine cirrhosis of the liver	.....	4 or 11·4 per cent.
<i>Distribution by races:</i>		
Black (African descent) 16 cases among 69 post mortems	.....	or 23 per cent.
Mixed 10 cases among 23 post mortems....	.....	or 43·4 per cent.
Indian (East) 8 cases among 27 post mortems	.....	or 29·6 per cent.
<i>Distribution of Sexes.</i>		
Males showing nephritis 19 out of 66 post mortems	.....	or 28·7 per cent.
Females showing nephritis 16 out of 58 post mortems	.....	or 27·7 per cent.
(3) Evidence of healed or old tuberculosis infections:		
Adults—17 out of 124 post mortems	.....	or 13·7 per cent.
Including 4 fatal cases incidence of tuberculosis—21 out of 124 post mortems	.....	or 14·6 per cent.
Children and Infants—2 out of 74 post mortems	.....	or 2·7 per cent.
Including 8 fatal cases incidence 8 in 74	.....	or 11·1 per cent.
(4) Cases showing evidence of old syphilitic infections or possibly yaws. Excluding cases of mesaortitis shown under cardio vascular lesions.		
Scarring and destruction of epiglottis	.....	3
Scars of primary chancres	.....	4
Gummatous ulcers and scars on shins, &c.	.....	4
Sabre Tibiae	.....	3
Scarring of liver	.....	1
Gumma of heart muscle	.....	1
Ulceration of rectum	.....	1
TOTAL	.....	17
Total 17 out of 124 post mortems	.....	or 11·5 per cent.
<i>Children and Infants:</i>		
Congenital syphilis 6 out of 74....	.....	or 8·1 per cent.

