# Annual report of the Medical and Health Department / Colony of Seychelles.

#### **Contributors**

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ROSS INSTITUTE OF TROPICAL HYGIENE ROOM 23





SEYCHELLES

ANNUAL REPORT

OF THE

# MEDICAL AND HEALTH DEPARTMENT

FOR THE YEAR

1958





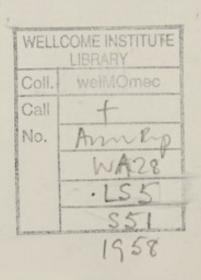
## ANNUAL REPORT

OF THE

# MEDICAL AND HEALTH DEPARTMENT

FOR THE YEAR

1958



## Medical and Health Department Seychelles March 26th 1959.

Sir,

I have the honour to forward for onward transmission to His Excellency the Governor, and to the Secretary of State for the Colonies the Annual Report on the Medical Department for the year 1958.

I have the honour to be,
Sir,
Your obedient servant,
K. EDMUNDSON.
Director of Medical Services.

The Secretary to the Government.
The Secretariat,
Victoria.

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## Annual Report of the Medical and Health Department of Seychelles for the year 1958

Review

The year under review has not produced any startling changes either one way or another. Although the establishment of Medical Officers was two below strength yet the services in all hospitals were maintained although on occasions it resulted in extra heavy duties being undertaken by the few. Shortages of staff in a small Department such as the Medical Department of Seychelles result in much greater dislocation than is apparent in larger Colonies. It is a great pleasure to record that no serious epidemic occurred during the period.

The Colony was visited by J. D. Profumo Esq., O B.E., Paliamentary Under Secretary of State, and J. H. Robertson Esq., of the Colonial Office. They inspected all the Hospitals and Dispensaries in Mahe, Praslin, La Digue and Curieuse. This was the first time that the Colony had been visited by a Colonial Office official of such high standing. Dr. J. C. R. Buchanan C.M.G., F.R.C.P., Deputy Chief Medical Adviser to the Secretary of State also visited the Colony and spent six days going into all the Department activities.

#### I. — STAFF

The Director of Medical Services, Dr. P. M. Joseph M.B.E., went on leave pending retirement on 1st April 1958 after 26 years devoted service to this Colony. He was succeeded by Dr. K. Edmundson. The surgeon, Mr. D. D. Boovariwala died suddenly on 3rd December 1958. Fortunately there was another Surgeon available to take his place.

#### Departures

- G. F. B. Ritchie-Fallon, Medical Officer on 21st April, 1958.
- F. Hossel L.D.S., R.C.S., Dental Surgeon on 21st April 1958.
- Mother Oliver S.R.N., S.C.M., Nursing Sister (St. Joseph de Cluny) on 8th July, 1958.
- P. H. Barallon, Chief Health Inspector.

#### Arrivals

- P. Hossen, Medical Officer on 21st April 1958.
- T. M. J. d'Offay, F.R.C.S., Surgeon on 4th December, 1958.

The Departmental Staff comprises :--

- 1 Director of Medical Services
- 1 Surgeon
- 5 Medical Officers
- 2 Dental Officers
- 1 Matron
- 5 Nursing Sisters
- 1 Chief Health Inspector
- 9 Health Inspectors
- 6 Public Health Nurses

W. H. O. Staff: This was reduced to the Sanitary Engineer, G. Etienne. He departed on leave on 16th June, 1958 and returned to continue with his valuable work on 1st November, 1958.

The establishment is still short of a Medical Officer of Health, and one Medical Officer. For the major portion of the year there was only one Dental Officer, and the Medical Officer of Health work was carried by the Director of Medical Services in addition to his other duties. It is anticipated however that the shortage in Dental Staff will be made good in the coming year.

#### Finance

	1958	1957	1956
Expenditure (Estimated)	792,622	735,012	804,840
Expenditure (Actual)	751,358	737,630	723,608.9
Revenue	91,370	92,326	107,047
Colony Expenditure	5,395,346	4,466,143	4,986,467
Cost of Medical care per head of population	17.93	17.95	17.64

#### II. — TRAINING

An innovation took place this year in the training of Nurses. Two nurses were sent to the United Kingdom for training which it is anticipated will lead to their acquiring the S.R.N., S.C.M. qualifications. A Laboratory Technician was also sent to the United Kingdom to study for the A.M.I.L.T. qualification. A Sister who had not yet obtained the S.C.M. returned to her training school to acquire this necessary addition to her other qualification. A young man was also sent to the United Kingdom for training for the M.P.S. The facilities provided by the United Kingdom for the training of Seychellois personnel are very much appreciated and it is hoped that it will be possible to send annually a small contingent from the Department for training up to the necessary standards. The Department is exceedingly short of fully training Sisters and Nurses. The present scheme will go a long way to remedying that defect. It is hoped to send in the coming year one Male Nurse for training up to R.M.N. standard another to S.R.N. and a second Sister to acquire her S.C.M. The report of the Sister Tutor is given below :-

In February 1958 Mrs. Michel returned from leave to resume duty as Sister Tutor.

#### 1. Equipment

The following was ordered for the school :-

- 1 Glass show case
- 1 Model brain
- 1 Model section of bone

Early in the year W. H. O. handed over to the training school a projector and a variety of filmstrips. These proved of immense value to the students especially in the difficult subjects of Anatomy and Physiology. More films have been ordered for 1959.

#### 2. Lectures

Courses of lectures given :-	
Surgical lectures	— Mr. Boovariwala
Medical "	- Dr. De
Gynaecological lectures	— Dr. Collie
Psychological .,	— Dr. Collie
Paedriatric ,,	— Dr. Francis
Public Health ,,	— Mr. Etienne
Theatre technique	- Sr. Mary
Health Visiting	- Mrs. Changty
Nursing	- Sr. Michel

#### 3. Examinations

#### Preliminary Training School Examination

- Sr. Michel

Numbe	er of ca	ındida	tes	11
,,	,,	,,	passed	9
,,	,,	,,	failed	2
One ca	indidat	e acce	pted for midwifery only	

#### Preliminary Examination

Anatomy & Physiology

#### Part I

Number	of	candidates		9
,,	,.	,,	passed	7
,,	,,	,,	failed	2

#### Part II

Number	of	candidates		5
,,	,,	,,	passed	5
,,	,,	,,	failed	0

	Final Examination	
	Number of candidates	5
	,, ,, ,, passed ,, ,, failed	1
	Midwifery Examination	
	Number of candidates	2
	,, ,, passed ,- ,, failed	2 0
4.	Registration	dente especi
	Number of Female nurses registered ,, ,, Male ,, ,,	2 1
5.	Establishment of Probationer Nurses	
	Number in Jauary 1958  New appointments Resignations Dismissals Qualified and registered Number in December 1958	27 9 2 4 3 27
	Establishment of Trained Female Nurses	
	Number in January 1958 New registrations Number in December 1958	18 2 20
	Establishment of Male Nnrses	
	Number in January 1958 New registrations Number in December 1958	$\begin{array}{c}2\\1\\3\end{array}$
	Establishment of Trained Midwives only	
	Number in January 1958 Number of registration Number in December 1958	$\frac{2}{2}$
	Establishment of Temporary Staff	
	Nurses Midwives	$\frac{2}{1}$
6.	Overseas Training	

Under the new training scheme the following sister and nurses left for England for training in July -

- 1. Sr. N. Mathiot for S.C.M.
- 2. Miss M. Camille for S.R.N., S.C.M.
- 3. Miss N. Cafrine for S.R.N., S.C.M.

So far both the nurses are doing well and have passed their P.T.S. Examinations.

#### 7. Departures

In August Sr. Oliver left the Colony and has since been transferred to America.

#### III. — HOSPITALS AND DISPENSARIES

The beddage of the Hospitals in the Colony is the same as last year. It is as follows:—

Seychelles Hospital Anse Royale Hospital	155 beds 17 ,,
Baie St. Anne Hospital, Praslin Logan Hospital, La Digue	28 ,,
Beoliere Clinic Takamaka Dispensary	2 ,,
Grand'Anse Praslin Dispensary	iol set alon distance
	240

The special Hospitals are the Mental Hospital at Les Cannelles, Anse Royale, Mahe, with accommodation for 30 male and 30 female patients, and the Leprosarium at Curieuse Island with accommodation for 19 male and 12 female patients. The figures for these hospitals will be given in their own sections of the Report. It was felt that the previous returns called for from Hospitals giving the numbers treated under various disease headings was not sufficiently detailed. Accordingly new forms for this purpose were instituted, but unfortunately could not be brought into use until October and therefore the full effect of the new system will not be apparent until the figures for 1959 emerge.

THE SEYCHELLES HOSPITAL (155 beds): This hospital continued to bear the main brunt of the medical work of the Colony. All the major surgery was done there and most of the obstetric cases were admitted there. A list of major surgical conditions treated is subtended.

#### A. GENERAL SURGERY

Procedure		Elective	Emergency	Total
Appendicectomy		51	12	62
Acute	12			
Sabacute	25			
Recurrent	26			
Abdominal Wound, penetratin	g, repair		1	1
Abdominal Wound, burst, re-s		1	1	2
Stab Wound, abdomen and ch		n —	1	1
Exploratory Laparotomy		8	13	21
Gastrojejunostomy, (Posterior	loop)	4	-	4
Cholecystectomy and Choledoo		1	_	1
Herniorrhaphy		61	10	71

Inguinal 50			The Party II
Strangulated Inguinal 6			
Obstructed Inguinal 1			
Femoral 3			
Strangulated Femoral 3			
Umbilical and Parumbilical 6			
Ventral (post operative) 2			
Excision and Ligature Haemorrhoids			
(2 with fistula-in-ano)	11	1 OLLLINE	11
Excision Fistula-in-ano (1 multiple)	2	- 1	
Slitting and scraping Fistula-in-ano	1		$\frac{2}{1}$
Repair of Harelip (association with cleft palate)		Lie Lieve	1
Hemithyroidectomy (Enucleo-resection)	1	of man	
non-toxic goitre	4		4
Subtotal Thyroidectomy (Enucleo-section)	1	El agen	*
	1		1
secondary toxic goitre	1	Torresto!	1
Excision Mesenteric Cyst	1	7	1
Exploration sole for foreign body	1	-	1
Thiersch's skin Graft	1	-	1
Excision and Ligature Varicose Veins	2		2
Total	151	38	189
			-
B. OPHTHALMIC SURG	ERY		
Procedure E	lective	Emerge	ncy Total
Excision Blind Free Cocondows glancome	1		1
Excision Blind Eye, Secondary glaucoma	2		2
Combined Extracapsular Extraction cataract	2	-	4
Total	3		3
Total	9		9
		-	-
C. Gynaecological	C		
	,		
Ectopic Gestation (intraperitoneal haemorrhage		arrent.	Institutes.
Salpingectomy or salpingo-oophorectomy	3	4	7
Subtotal Hysterectomy (with right or left or			
bilateral salpingo-oophorectomy in most cases	3		
and also appendicectomy in 9 cases)			
	18		18
Total Hysterectomy and bilateral salpingo-	18	-	
Total Hysterectomy and bilateral salpingo- oophorectomy	18	-	6
Total Hysterectomy and bilateral salpingo-	18 6 3	-	6 3
Total Hysterectomy and bilateral salpingo- oophorectomy	18	-	6
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla	18 6 3		6 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla	18 6 3	_ _ _ _ 4	6 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy	18 6 3 3	_ _ _ _ 4	6 3 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy	18 6 3 3		6 3 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy Total	18 6 3 3		6 3 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy  Total	18 6 3 3		6 3 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy  Total  D. Obstetrical	18 6 3 3		6 3 3
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy Total	18 6 3 3 ————————————————————————————————	ulo W la	6 3 3 
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy  Total  D. Obstetrical Classical Caesarean Section	18 6 3 3 ————————————————————————————————	ulo W la	6 3 3 
Total Hysterectomy and bilateral salpingo- oophorectomy Radical mastectomy and clearance of axilla Partial Mastectomy  Total  D. Obstetrical	18 6 3 3  33  6	5	6 3 3 

#### E. UROGENITAL

Eversion Sac Hydrocele	9	-	9
Excision Sac Hydrocele	1	_	1
Orchidopexy for Undescendeded testis	1	Un Assill	1
Suprapubic Cystostomy	5	1	6
1 Stone		10 17 19	
4 Prostate			
1 Stricture with retention			
Suprapubic Cystolithotomy	1		1
External Urethrotomy	5		5
Urethroplasty	3	-	3
Suprapubic Prostatectomy	5		5
1 - stage 1			
2 - stage 4			
Total	30	1	31
		-	-

## F. BONES AND JOINTS - ORTHOPAEDIC

Proce lure	Elective	Emergency	Total-
Excision wound and reduction Compound fracture Wiring and cerclage transverse fracture patel	la –	2	3
with repair of Aponeurosis Sequestrectomy	1	Troing to	1
Tibia 1, 1st metatarsal 1 (Steinmann's Pin) compound fracture tibia	2	Lange Land	2
and fibula	2	-	2
Amputations			
Thigh for diabetic gangrene foot	1	in again but	1
Leg for senile gangrene	1	-	1
Exploration, depression skull	1	SHARE STATE	1
Partial Excision and curettage of dental cyst mandible	1	1900	1
Removal of foreign body knee	1		1
Pinning and bridging for fracture mandible (I			•
Sling) 2 others entered as minor operations		(1)-	1
Total	11	2	13
G. EAR, NOSE AND T	CHROAT		
Tonsillectomy and adenoid curettage	14	Table 1	14
Total	14	0-	14
Grand Total	249	46	295
·	-	-	-

The work of the Maternity Department was as follow	s :
Ante-Natal Clinic	
	0.15
First attendances	847
Repeat attendances	2514
G. C. Cervicitis	41
Khan positive	16
External version	5
Maternity	
A. Summary of Work	
No. of admissions	905
Deliveries	753
Primipara	165
Multipara	588
False labours	57
Normal deliveries	726
Forceps deliveries	2
Breech deliveries	14
Caesarean sections	11
Born before arrival	28
Multiple deliveries Twins	5
Total babies born	763
Male	385
Female	378
Stillbirths	31
Premature births	43
Neonatal deaths	13
Maternal deaths	5
B. ANTE-PARTUM COMPLICATIONS	
Toxaemia of Pregnancy	48
Eclampsia	2
Antepartum Haemorrhage	11
(a) Accidental 9	
(b) Pla. Praev. 2	
Abnormal presentation	5
Monorman presentation	
C. Analysis of Caesarean Sections	
Number of Caesarean Sections	11
(a) Classical 11	
(b) Lower Segment —	
Abnormal Presentation	5
Contracted Pelvis	2
Antepartum haemorrhage	2 3 2 1
Foetal distress	2
Rigid cervix	1
(Delay 1st stage)	
AL STREET, STR	
D. Post-Partum Complications	
(i) Retained placenta (manual removal)	5
(ii) Post-partum haemorrhage	18
(a) Mild 11	
(b) Severe 6	
(c) Secondary 1	

E. CAUSES OF MATERNAL MORTALITY	
(i) Concealed accidental haemorrhage	2
(ii) Concealed and revealed haemorrhage	1
(iii) Parelytic ileus following C/S	1
(iv) Cachexia due to? Carcinoma	1
F. Analysis of State of Infants	
(a) Total babies born at full term	751
Discharged alive	727
Stillborn	22
Neonatal deaths	2
(b) Total babies born prematurely	43
Discharged alive	23
Still born	9
Neonatal deaths	11
(c) Total foetal loss at all stages	44
Percentage of total births	5.54%
Percentage of still births	3.90%
Percentage of neonatal deaths	1.63%
Survival rate of premature babies born	1000
alive	64.7%

General

Inpatients Outpatients 2,105 19,023

ANSE ROYALE HOSPITAL (17 beds): With this unit is linked the Takamaka Clinic and the Beoliere Clinic (3 beds). Situated 12 miles from Victoria on a tar macadam road the Hospital serves the whole of the Southern end of Mahé and the two Clinics serve the Western side. The area has an approximate population of 10,000. The Medical Officer Anse Royale is also Superintendent of the Mental Hospital at Les Canelles — 1½ miles from Anse Royale. The Takamaka Clinic is visited on Thursday afternoon. The Beoliere Clinic on Tuesday and Friday afternoons, and the Mental Hospital on Wednesday afternoon. Mornings are fully occupied by duties at the Anse Royale Hospital. As there is an ambulance stationed permanently at Anse Royale all major surgical, gynaecological and maternal emergencies are sent to Victoria. During this year the following cases were dealt with —

	Inpatients	Outpatients
Anse Royale	584	8390
Beoliere	72	2525
Takamaka		621

Anse Royale is visited once weekly by the Government Dentist and Beoliere fortnightly. The following extractions were done —

Anse Royale 998 Beoliere 343 The maternity ward was well patronized throughout the year. The ward at Beoliere is mainly for maternity cases, the Staff Nurse in charge being a fully qualified midwife. The figures for the year are —

	Anse Royale	Beoliere
Normal Births	188	64
Premature births	9	8
Stillbirths	1	5
Complicated labour	8	_
Abortions	6	-
Ante Natal Clinic		
1st Attendances	412	78
Repeat Attendances	1011	196

A small special anaemia clinic was started by the Medical Officer at this Hospital. Haemoglobins were estimated by the Talquist method and all persons with less than 60% Hb. and a systolic murmur were reviewed at monthly intervals. All patients were found to be infested with helminths and were treated with Chenopodium, Tetrachlorethylene mixture, and iron mixture and vitamin B complex. They were divided into three groups. It was found that the group receiving three doses of the Chenopodium Tetrachlor mixture weekly for three weeks, followed by an iron mixture for a month responded more quickly than those treated by other methods. It was concluded that the anaemia was of the iron deficiency type caused by ancylostomiasis. 78 patients were treated at Anse Royale and 27 at Beoliere. It is realized that far too few cases were treated for any reliance to be placed on the conclusions drawn, but it is intended to expand the work in the coming year and to endeavour to differentiate more definitely the types of anaemia found. It is also hoped to do a trial with "Alcopar" as so many patients present signs of infestation with both ancylostomiasis and ascaris. It is anticipated that some interesting figures might emerge during the coming year.

BAIE STE. ANNE (28 beds): This is a small Cottage Hospital which serves the Island of Praslin with a population of 3,500 approximately. There is also a clinic at Grand'Anse which works in conjunction with the Hospital at Baie Ste. Anne. During the year under review the thatched roofs of the Hospital and Nurses Home were replaced by corrugated asbestos sheets. The 2nd class maternity was enlarged, and changed to a Children's ward as it was seldom used for its original function and there was a lack of space to accommodate the children. A small ward was also added for premature babies.

Ante Natal Clinics were held both at Baie Ste. Anne and Grand' Anse. The attendances were :—

	1st Attendances	Repeat Attendances
Baie Ste. Anne	85	371
Grand'Anse	92	230

That the medical institutions on the island are doing good work is shown by the following figures:—

	Inpatients	Outpatients
Baie Ste. Anne	401	2221
Grand'Anse		2525

The average number of patients seen daily including Sundays and Public Holidays was 19. 15 Major operations including 2 Caesarian Sections were performed during the year. The number of operations were:—

Inpatients		Outpatients
59		59
		56
	95	
	1	
	3	
nancy	12	
our	6	
perium	2	
ion	2	
	59 —- gnancy our perium	59  95 1 3 gnancy 12 our 6 perium 2

#### Infant Welfare Clinic

165 babies were vaccinated against Smallpox, and triple antigen given to 236 children. 70 Booster doses were also given. Infant Welfare Clinics are held once a week by the Public Health Nurse. Health Education talks are given at the same time.

	1st Attendances	Repeat Attendances	Total
Baie Ste. Anne	35	160	195
Grand'Anse	55	236	291

170 Post natal home visits were made and 66 visits to infants and preschool children by the Public Health Nurse.

#### School Health Service

The Medical Officer accompanied by the Health Inspector paid a short visit to all the schools (13 altogether) in the District. The Public Health Nurse visited each school every fortnight throughout the year, recording the height, weight of the children. Cases of malnutrition, anaemia and skin diseases are selected and referred to the Medical Officer. At the same time a lecture in Health education is given to the school.

#### Miscellaneous

A First Aid course consisting of twelve lectures was given by the Medical Officer to Police Officers and Teachers at Grand'Anse. 11 Candidates sat for the examination and 9 were successful. The Medical Officer and the Health Staff paid a special visit to four nearby Islands during the year.

LA DIGUE: The Logan Hospital has 8 beds and is visited by the Medical Officer, Praslin twice weekly It serves a population of approximately 1,300. It continued to give good service during the year. The following figures give an idea of the work done at this small hospital.

1st Attendances	Repeat .	Attendances
-----------------	----------	-------------

	Lot Michellettes	repeat Attenuances
Ante Natal Examination	63	230
	Inpatients	Outpatients
	101	2093
Minor Operations	4	60
Maternity		
No. of Live births	49	
No. of Still births	1	
No. of Premature births	-	
Complications of Pregnan	ney 1	
" " Labour	2	
" Pueperi		
Congenital malformation	8 —	

Infant Welfare Clinic

A weekly clinic is held by the Public Health Nurse stationed on Praslin. The figures for attendances were —

1st Attendances	Repeat Attendances	Total
30	65	95

#### IV. — DENTAL DIVISION

Mr. Hossel, the Senior Dental Surgeon left in April on termination of his contract. This left one Dental Surgeon to bear the burden for the remainder of the year. In spite of this he was able to visit Praslin and La Digue for one week in October. The following is a report on the work done.

#### A. GENERAL

A total of 8,046 patients have attended the Dental Clinics during the year. This is nearly 2,000 more than in 1956 and nearly 600 more than in 1957.

One dental surgeon only has been available for most of the year. Consequently, most of the clinic time had to be taken up with the treatment of pain and infection. It has been necessary to have a long waiting list for conservative treatment of adults and children. This situation should now be remedied by the arrival of Mr. E. Lefèvre B.D.S., L.D.S. (London) at the end of the year.

Anse Royale (once a week) and Grand'Anse (once a fortnight) have received regular visits during the year.

#### B. SCHOOL DENTAL SERVICE

A large number of school children have attended the clinics both for fillings and extractions.

The carries rate appears to be high among children, but no real improvement can be expected in their dental health, until there is time and staff enough for regular school inspections and regular treatment.

#### C. OUTLYING ISLANDS

A visit of only one week in October could be made to Praslin and La Digue.

A very large number of adults and children attended the clinics, again mainly for the treatment of pain and infection. Most of the extractions for children were of carious temporary teeth.

#### D. SUMMARY OF TREATMENT

1.	- 1	ic	tor	ua

Victoria	Under 14	Over 14	Total	
Attendances	1,724	5,150	6,824	
Extractions	1,378	4,470	5,968 (inclu surgic extrac	al
Fillings	326	929	1,255	
Dressings	280	457	737	
Other Treatment				
General Anaesthe	tics		36	
Dental Abscesses	incised		18	
Penicillin injectio	ns of infected ca	ses	107	
Alveolectomy			2	
Gingivectomy			2	
Socket curettage			11	
Vincent's stomati	tis		2	
Jaw fractures wir	ed and splinted		2 2 1	
Chronic Osteomy	elitis with disch:	arging sin	as 1	
Socket haemorrha	ges packed and	sutured	3	
Root treatment			7	
Gold Inlays			17	
Crowns			12	
Bridges			2	
Dentures and rep	airs		162	
Orthodontic plate			6	
Scalings and gum			51	

#### 2. Other Clinics

General Anaesthetic

3. Pras

	Under 14	Over 14	Total
Attendances	379	632	1 011
Extractions	407	990	1,397
Dressings		-	35
General Anaesthetic	_		6
slin			
Attendances	177	116	293
Extractions	226	255	481
Dressings	9	3	12

1

#### 4 La Digue

Attendances	41	29	70
Extractions	52	67	119
Dressings	2		2

### V. — LABORATORY DIVISION

This most important branch of the Departmental activities was kept fully occupied throughout the year. One Laboratory Technician departed to the United Kingdom in July for training leading to the acquisition, it is hoped, of the A. M. I. L. T. This threw the main bulk of the work on the remaining technician. Nevertheless the figures given below indicate the volume of work carried out by the staff of the department.

	Numbers
A. Bacteriology	Total 176
A. DAUTERIOLOGY	Total 176
Eye swabs	9
Ear swabs	1
Nasal swabs	2
Throat swabs	41
Auto-vaccine	5
Blood culture	
Enteric	8
Pyogenie	8
Faeces	25
Urines	27
Cerebro Spinal fluid	1
Serous fluids	2
Pus	8
Subcultures	34
Coagulase tests	5
B. QUANTITATIVE BIOCHEMISTRY	Total 695
	Total 695
Bloods	Total 695
Bloods Sugar	
Bloods	174
Bloods Sugar Urea	174 68
Bloods Sugar Urea Total bilirubin	174 68 16
Bloods Sugar Urea Total bilirubin Direct bilirubin	174 68 16 16
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin	174 68 16 16 16
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol	174 68 16 16 16 15 10 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid	174 68 16 16 16 15 10 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid Acid Phosphatase	174 68 16 16 16 15 10 2 2 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid	174 68 16 16 16 15 10 2 2 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid Acid Phosphatase Alkaline Phosphatase	174 68 16 16 16 15 10 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid Acid Phosphatase Alkaline Phosphatase Alcohol content Glucose tolerance tests	174 68 16 16 16 15 10 2 2 3 2
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid Acid Phosphatase Alkaline Phosphatase Alcohol content	174 68 16 16 16 15 10 2 2 2 3 2 5
Bloods Sugar Urea Total bilirubin Direct bilirubin Indirect bilirubin Cholesterol Calcium Uric Acid Acid Phosphatase Alkaline Phosphatase Alcohol content Glucose tolerance tests Total protein	174 68 16 16 16 15 10 2 2 2 3 2 5 8

	Thymol flocculation Prothrombin time	4
		5
Cer	ebrospinal Fluids	
	Proteins	50
	Globulin	50
	Chlorides	50
	Glucose	50
	Cell count	50
		Numbers
Cam	ous Fluids	114/14/06/3
Ser		0
	Protein Call Count	9
TT.	Cell Count	9
Uri		
	Chlorides	4
	Proteins	10
	Albumin percent	10
79.70	Sugar percent	44
Fae		- Smith
0	Fat analysis	4
Gas	tric contants	10
	Bile	16
	Mucus	16
	Starch	16
	Blood	16
	Free HCL	16
	Total Acidity	16
C. QUALITA	ATIVE BIOCHEMISTRY	Total 1,774
Uri	nes	
OII	Albumin	474
	Sugar	471
	Acetone	32
	Bile salts	14
		14
	Bile pigments	13
	Urobilinogen Reration	474
		268
Tr. o	Specific gravity	208
Fae Occult I		14
D. HAEMA		Total 2,502
	Haemoglobin	770
	Red Cells count	363
	White cells counts	440
	Differential counts	437
	Riticulocyte counts	8
	Platelet counts	10
	Erythrocyte sedimentation rate	242
	Bleeding time	7
	Coagulation time	7
	Fragility tests	4

		Numbers
	Blood Parasitology	11 amoers
	Malaria slides	11
	Filaria slides	.3
	D1 2 m 4 1	
	Blood Transfusion	111
	Blood grouping	111 68
	Rh grouping Cross matching	20
	Cross matering	20
E.	HISTOLOGY	Total 8
	Glands	4
	Breasts	4
	Tumours	2
F.	MICROSCOPY	Total 7,018
	Scrapings M. Leprae	146
	Faeces	4099
	Urines	415
	Sputa	deviana la la constante de la
	Direct	350
	Concentration Cervical smears	15
	Urethral smears	951 879
	Vaginal swabs trichomonas	4
	Serous fluid	5
	Eye smears	67
	Throat swabs	34
	C. S. F.	5
	Pus	18
	D. G. I. (Sores)	12
	H. Ducreyi	2
	Vaginal smears	15
	Urine D. G. I.	motor 1
G.	PUBLIC HEALTH	Total 1,238
	Water	1000 1,200
	Presumptive test	34
	Confirmatory test	34
	Completed test	34
	Difference of coliform group	
	Citrate utilization	34
	Methylated	34
	Voges-Proskauer Reaction	34
	Indole	34
	Indoic	ollen ollet 77
Н.	SEROLOGY	Total 4,180
	Khan test	
	Positive	186
	Negative	3427
	Doubtful	29
	Lysed	14

		Numbers
	V. D. R. L.	
*	Positive	23
	Negative	440
	Doubtful	4
	Widals	
	Salm Typhi O	14
	Salm Typhi H	14
	Brucella abortus	14
	Procteus Ox 19	14
	Proteus Ox 1	1
I.	VETERINARY	Total 20
	Fæces	15
	Blood smears	5
J.	MEDICO LEGAL	Total 8
	Blood stains	8

#### K. GENERAL

Maintenance and preparation of all sterile water, saline, glucose, glucose saline, emetine etc., and blood transfusion apparatus were carried out in this Department.

Total number of examinations done for the year ending 31st December 1958 = 16,619.

#### VI.—X-RAY DIVISION

The machine is a portable Watson, and still the only X-Ray Plant in the Colony. During the year 1,631 examinations were carried out showing an increase of 10% over last year. All known Tuberculosis cases continued to be re-x-rayed periodically.

The following examinations were carried out :-

Chest	982
Lower limb	107
Upper limb	95
Arm and hand	185
Vertebrae and pelvis	92
Ribs, clavicle and shoulder	45
Skull and Jaw	48
Dental	22
Sinuses	5
Visceral	29
Pregnancy	- 21

#### VII.—STORES

Stores of drugs and medical requisites continued to be held on a basis of four months supply. During the month of April due to an outbreak of influenza in the Colony, some drugs had to be obtained urgently from Coast Agent, Mombasa, as supplies were insufficient until stocks from the United Kingdom arrived.

Arrangements have now been made with the Crown Agents, not to wait for the direct boat which calls here irregularly i. e. every five or six month but to despatch drugs by the first available ship. This method has proved more satisfactory than the former method.

#### VIII.—MENTAL HOSPITAL

The following are the figures for the year under review :-

No. of males at 31.12.1957	20
No. of females at 31.12.57	18
No. of admissions during the year (males)	3
,, ,, ,, ,, (females)	4
No. of discharges during the year (males)	0
,, ,, ,, ,, (females)	0
No. of deaths (males)	1
,, ,, (females)	1
No. of males at 31.12.58	22
,, ,, females at 31.12.58	21

Owing to the lack of trained personnel and the fact that the Superintendent of the Hospital is also Medical Officer at Anse Royale Hospital, and Beoliere and Takamaka Clinics, it is not possible to do any active mental therapy such as Insulin treatments, nor through lack of an electrical supply, any shock therapy. However it is planned in the coming year to endeavour by occupational therapy in the form of gardening, basket making etc. to try and improve the general status of the inmates even if their mental ailments are not being treated directly.

#### PUBLIC HEALTH

Introduction

During the year under review there was a small outbreak of influenza 1,255 cases with one death. A case of diphtheria, corroborated by laboratory examination in a school in Praslin, led to closure of the school there for a short time. Happily there were no further cases. The personnel of the Health Department continued to maintain the close relations with the general public which are so necessary a part of their work. It is gratifying to note that more Aqua Privies were installed during the year, and it is hoped that by the example set in the settlements run by Government that those of the population who can afford them will see and realise the advantages this means of conservancy has over the bucket or pit latrine and instal them in place of these outmoded contrivances. Unfortunately the cost of an Aqua Privy puts it beyond the financial capability of a large number of the inhabitants of these islands.

#### I.—VITAL STATISTICS

	1958	1957	1956
Estimated population (30.6.58)	41.901	41,081	41,417
Total number of births notified	1,553	1,577	1,493
Live births	1,514	1,534	1,458
Still births	39	43	35
Birth rate per 1,000 of population	37.06	38.3	36.9
Number of deaths notified	448	425	468
Crude death rate per 1,000 of population	10.69	10.3	11.5
Infant mortality rate per 1,000 Live birth	50	42.3	54.2

#### II.—MATERNAL AND CHILD WELFARE

Ante Natal Clinics: These were conducted in the Hospitals at Victoria, Baie Ste. Anne, Praslin and Logan Hospital, La Digue. The figures of attendances appear under the reports of the Hospitals. The Public Health Nurses help in these clinics in their various districts, but owing to increased work connected with Mantoux testing and B. C. G. vaccinations no health talks could be given to groups of Mothers. However the opportunity was taken to give health talks to nursing mothers and others when doing the normal home visiting. A Public Health Nurse is always in attendance at the Ante Natal Clinic at the Seychelles Hospital, Victoria, and all cases discharged from there and other hospitals are followed up after discharged. Similarly all cases delivered by district midwives are visited and advice given on baby care and nutrition. All mothers are urged to bring their children to the nearest Infant Welfare Centre. There are 6 Public Health Visitors, one Senior Health Visitor who has a S. R. N., S. C. M. qualification and 5 others.

It is planned to increase the establishment by two in the coming year. It is intended, if funds permit to increase the number up to eighteen. This will permit of two Health Visitors to each Inspector. Thus a Health Team for each area — 7 on Mahe and 2 on Praslin and La Digue — will be formed. The work done by this small team is given below.

#### School Health Service

Routine visitors were paid by the Public Health Nurses to their respective schools.

741 children, Std. I to IV were medically examined by the School Medical Officer and Public Health Nurse in all free Primary Schools in Mahe.

- (a) During school inspection one child was found to be suffering from Hansens Disease. She was immediately transferred to Curieuse for isolation and treatment.
- (b) Three children suffering from Primary Tuberculosis attending schools were followed up closely.
- (c) Mantoux tests and B. C. G. vaccinations.
  All Central including Northern schools were tested.

#### Number Mantoux

Adults	Children	Total
244	3,416	3,660
Total B.C.G.		
Adults	Children	Total
42	1,747	1,789

There was good co-operation shown by parents and teachers, only few refusals being encountered.

#### Maternal and Child Welfare

(1)	Postnatal Home visits	
	Maternity Department-early discharges	18
	Follow up of Maternity Births	756
	Follow up of Home deliveries	96
	Repeat visits (where necessary)	138
		1,008

There were also 786 home visits to infants and preschool children.

Infant Welfare Clinics attendance

District	New	Repeat	Total
Victoria	246	516	742
Belombre	36	85	121
Glacis	37	114	151
Cascade	29	84	113
Anse aux Pins	48	148	196
Anse Boileau	61	62	123
Praslin Grand'Anse	55	236	291
Baie Ste. Anne	35	150	185
La Digue	- 30	70	100
	577	1,465	2,042
	-		

#### Diptheria-Tetanus-Pertussis Immunization

These were given to Infants from 4 months - 5 years

District	New	Repeat	Total
Victoria	221	518	736
Belombre	26	49	75
Glacis	42	96	138
Cascade	50	65	115
Anse aux Pins	66	86	152
Anse Boileau	206	315	521
Praslin and La Digue	75	230	306
	686	1,350	2,046

#### Remarks:

There were more demands for Immunizations especially in Praslin and South Mahe but the supplies unfortunately were limited.

#### Home Nursing

Referral from Doctors	33
Dressings done	246
Others "old age"	99
Injections including Tuberculosis cases	1,397
Tuberculosis Home Nursing Domiciliary	
treatment	17
Home visits	262

Contacts in Central and Northern Districts were tested.

Mantoux		B. C. G.			
Adults	Children	Total	Adults	Children	Total
139	518	657	13	403	416

### III.—PORT HEALTH

During the year under review 78 ships entered the roadstead. They were made up the follows:—

British	52
Dutch	9
Indian	12
French	2
Japanese	3

In April the British India Ship from Bombay to East Africa arrived with 2 cases of florid variola major. The ship was kept in quarantine and the stevedores and labourers who had worked the ship were confined on Quarantine Island for 14 days. Passengers who landed were kept under surveillance for 14 days also. No outbreak of smallpox resulted.

#### IV.-FOOD

The Health Inspectorate maintained a strict watch over establishments where food and drink is cooked, manufactured or sold. Unfortunately, the present Public Health Act is not specific enough in its requirements and there are various loop-holes which it is desirable to close. It is hoped that the new Public Health Legislation will do this.

That there is a certain amount of malnutrition amongst the children cannot be denied. It would seem to be a socio-medical problem rather than a pure social or medical one. The low wages paid to labourers result in inadequate diets for children and overcrowded and insanitary houses. Helminthic infection resulting from lack of proper sanitary accommodation adds to the picture of malnutrition because the infected child cannot make full use of the food it is given, a vicious circle being thus created. Another cause of malnutrition in children is protein lack after weaning. This was fostered by an old fable that giving a young child fish also gave it worms. Much propaganda has been undertaken to try and break down this nonsensical taboo. It is gratifying to be able to record that some progress in this direction has been made. But the spectre of underfeeding will not be banished until the social conditions of the labouring classes is improved.

There is ample food for all, it is a matter of putting it within reach of all. The gospel of food is preached continuously by the Health Visitors, and the purveyors of food are under constant supervision by the Health Inspectorate. All food handlers are examined to see whether they are carriers of helminths and are not permitted to pursue their vocations until they are proved free by laboratory examination.

Summary of work done in connection with Food Hygiene.

#### Food Handling Premises Inspected .

Shops (groceries etc.)	422
Bakehouses	325
Markets	55
Butchers and fisheries	91
Dairy (government)	1
Aerated water and Ice-Cream factories	15
Hotels	30
Restaurants	15
Boarding houses	2
Slaughter houses	79
Liquor shops	95

#### Slaughtering of Animals

#### Animals inspected (ante-mortem and post-mortem)

Cattle	246
Pigs	1478
Turtle	293

#### Meat condemned

Cattle lbs.	451
Pigs	2100.5
Turtle "	211
Fish	36

#### Unsound food con lemned

Jams (tins)	2
Condensed milk (tins)	6
Tinned foods (tins)	13
Canned fish (tins)	20
Fruit juices (tins)	6
Tomato sauce (bots.)	5
Birds' eggs (crates)	21

#### V.—WATER SUPPLIES

The island of Mahe is blessed with an adequate water supply, but unfortunately it is for the most part grossly polluted. This stems from the fact that the streams have been dammed in an entirely haphazard way, and without reference to the possibility of pollution in the catchment areas. The W. H. O. Sanitary Engineer whose services this Department was lucky to have for the greater part of the year under review has produced a report and drawn up a scheme for providing the township of Victoria, at least, with a pure potable water supply. It is intended during the coming year that he should devote his attention to the examination of other water sheds in other parts of the island with the idea of reducing the present large number of small water supplies and combining them into a fewer number which would render the supply more controllable and less liable to contamination.

The situation on Mahe is reproduced to a smaller degree on Praslin and La Digue. Eventually it is hoped to be able to construct a reservoir on both those islands will give the inhabitants an adequate supply of pure drinking water.

#### VI.—SANITATION

The sanitary control of Mahe is vested in the Victoria District Council, which operates in the central area only of Victoria, the North Mahe Local Board, and the South Mahe Local Board. It cannot be said that this method is completely satisfactory. Conservancy in the Central of Victoria is carried out by the Victoria District Council, but the other authorities have no means at their disposal for conservancy work. Two-thirds of the Island, outside the area under the Victoria District Council control, comes under the aegis of the North Mahe Local Board. The remaining third lies under jurisdiction of the South Mahe Local Board. It is anticipated that the area at present under the North Mahe Local Board will be divided into a North and Central area which should make for easier administration of sanitary problems. Luckily the majority of persons outside the Central area of Victoria have pit latrines otherwise the conservancy problem could be even worse than it is at the moment. The Government have been installing aqua privies in the settlements under their charge and it hoped that with example being better than precept, others will be encouraged to follow suit. Unfortunately the present cost of aqua privies renders them beyond the

scope of a large number of persons who would greatly benefit by their possession. In many places the alternative to an aqua privy is the pit latrine, but the provision of these is made difficult by two factors. Near the sea the subsoil water table is too high to allow of a proper depth being obtained, and in the hills the presence of rocks is equally hampering. The solution of the problem is once again improvement in the general financial position of the poorer classes to enable them to build aqua privies. Education in the schools and in the home is all very well, but patently is of little use unless the people are able to utilise what they have been taught. The Department has so far successfully resisted the pressure that has brought to bear on it to assume an executive role. It is purely advisory in its function, as it is felt that it is far better as an education in Civics, that the Local Boards should have and exercise sanitary control over the people living in their areas.

A summary of the work of the Department in Sanitary measures is given below.

#### Inspections Made

Dwelling houses —	
Primary visits	10210
Return visits	4780
Latrines	
Pit latrines	10215
Bucket latrines	534
Sea-front latrines	287
Water closets	496
Aqua privies	119
Double vault latrines	7
Others —	
Public water supplies	96
Schools	87
New cemetries	1
Nuisances Remedied	
Latrines improved	2705
Defective drainage	25
Defective W. Cs.	7
Refuse accumulation	1384
Premises rat infested	3
Mosquito breeding	66
Swine Regulations	43
Bug Infestation	280
Notices served (verbal)	
Insanitary latrines	1383
Defective drainage	50
Refuse accumulation	1781
Lack of latrine accommodation	144
Keeping pigs contrary to Swine Regs.	644

#### Notices served (written)

Insanitary latrines	416
Lack of latrines accommodation	65
Defective drainage	24
Refuse accumulation	19
Defective W. Cs.	4
Leaking water pipes and taps	10
River pollution	5
Keeping pigs contrary to Swine Regs.	89
Defective structures	11
Mosquito breeding	18
Noties complied with	2342
Notices still outstanding	290

#### New latrine accommodation provided

Pit latrines	383
Bucket latrines	5
Water Closets	2
Aqua privies	19

#### VII.—HOUSING

It must be stated at the outset that the housing of the majority of people in these islands is substandard. The reasons for this are varied and numerous and do not come within the purview of a report of this nature. Nevertheless the after results of the overcrowding, the helminthic infestation and other ills which result from such a state of affairs are very much the concern of the department. One gratifying aspect of the problem is that although the houses may be grossly overcrowded, huddled together, with insufficient sanitation, yet for the most part they are spotlessly clean inside. If the inhabitants of these houses could only be persuaded to devote as much time and energy to the outside and surroundings of the houses as they do to the inside then there is little doubt but that an improvement in their general health would occur. But the dangers inherent from overcrowding will remain until such time as this problem can be overcome.

#### VIII.—COMMUNICABLE DISEASE

The problem of these diseases remains much the same as in previous years. With the exception of Leprosy, Amoebic dysentery, helminthic infestations, Tuberculosis and Gonorrhoea are still the main causes of morbidity.

Leprosy:— It is very gratifying to be able to record that at the end of the year only 11 cases remained in the Leprosarium on Curieuse Island. Twenty inmates, 12 males and 8 females were discharged as being no longer a danger to the public. The most careful enquiries were made prior to their discharge regarding their absorbability into the community. All were accepted back either into their families or when that was not possible, into a Government Settlement at Anse Louis on Mahe. This left 7 male patients and 4 females. During the year 4 patients

were admitted, 2 males, both over the age of 50, and 2 females. One of these was a case who had relapsed. The other was a case of a young girl of  $13\frac{1}{2}$  years of age. The history of this case is possibly of interest. She was born of leprotic parents both of whom were patients on Curieuse and she was removed from their care within an hour of birth, and taken to the Hospital in Praslin. From there she was transferred to the care of her maternal grandparents neither of whom had any signs nor exhibited any symptoms of leprosy. She developed unmistakable signs of the disease at the age of  $13\frac{1}{2}$ , never having been in contact, other than by the act of birth, with any person suffering from the disease. It is interesting to speculate whether this case gives the clue to the incubation period of the disease.

All recently discharged patients are provided with Dapsone Tablets and are given careful instructions in regard to taking them. They are examined at regular 3 monthly intervals. There are some 36 discharged lepers on the register and they attend a Clinic for an annual check up. There can be little doubt that leprosy in the Seychelles is a dying disease, and its end should be hastened by the B. C. G. vaccination which is being done to Mantoux negative school children. It is hoped in the coming year to do some trials of D. P. T., CIBA 1906 on the remaining inmates. If successful the closing of the Leprosarium cannot be long delayed.

Tuberculosis:— During the year under review a Medical Officer with a special qualification was instructed to investigate all cases appearing on the register, together with contacts as it was felt that a somewhat alarmist view had been taken of the infection rate. His report (given below) clearly shows that the fear of a generalised spread was groundless.

In view of these figures it was decided during the year that the T.B. Sanatorium, which was still unfinished, should no longer be considered as suitable for its original purpose. It was considered that it would be more economic from the administrative point of view, and better from a treatment aspect if separate wards for males and females were built in the grounds of the present hospital, adjacent to but separated from the main buildings. It is hoped to commence construction of the wards in 1960.

It must be stressed that at present the majority of cases being admitted to the wards are not of the ideal type for hospital treatment, i. e. fairly early cases with a good possibility of closure and of becoming sputum negative after 3 to 4 months intensive treatment. In order to to popularise the idea of hospitalization all sputum positive cases have been admitted.

This is a two edged weapon as it tends to block beds. However with the protection given to children by B. C. G. vaccination it is intended that only those cases who will benefit from hospitalization will admitted in future. The others who would not so benefit will be looked after by Health Visitors in their homes and given domiciliary treatment. In order to obtain an exact figure of the state of infection in the population the World Health Organization have been asked to send a Survey team to the Colony. It is hoped it will be arrive towards the end of next year. The intention is that eveyone on Mahe, Praslin, La Digue, and the granitic islands will be examined by the team. It is also hoped to

bring a large proportion of the population of some of the nearer outlying islands to Mahe for this purpose. As there are comparatively few people on the outlying islands it is felt that, if through physical difficulties it is impossible for them to be examined, the overall picture will not be affected to any great degree.

#### Hospital

- Hospital accommodation for T. B. patients in Seychelles hospitals:
   —Male 20, Female 15 Total—35 beds
- Number of patients under treatment as in-patient in the hospital by the end of December 1958:—Male 9, Female 11 Total—20.
- Number of T. B. patients treated and discharged under the care of the chest clinic: — Male, 9, Female 11 Total — 20.
- Number of irregular discharge from hospital during the year 1958 are Male 7, Female 4, Total—11.

#### Clinic

- The chest clinic of this colony started functioning from the month of January 1958.
- 2. Numbers of patients having Pneumoperitonium treatment in the clinic are Male 10, Female 5, Total—2C.
- 3. Numbers of patients having domiciliary treatment under the chest clinic are Male 16, Female 4 Total—20.
- Numbers of Phrenic Crushes performed at the chest clinic are Male 4, Female 6, Total—10.
- 5. Number of new cases detected during the report period :

	Male	Female	Total
Primary T. B. lung	1	2	3
T. B. Adenitis	-	1	1
Miliary/Meningitis	_	1	1
Adult type	27	13	40
	28	17	45
	-	-	-

- 6. Number of deaths due to T. B. are Male 5, Female 1, Total—€ (Central district only) Others Total—14.
- 7. Ex-Pioneer T.B. patients in the register are 11.
- 8. Numbers of T. B. patients persistently remaining absent from attending the clinic are Male 5, Female 5, Total—10.
- 9. Number of registered T.B. patients in the Colony during the report period are Male 84, Female 57, Total—141.

Preventive Service

The B. C. G. campaign was started at the beginning of the year. It started with contact children first and continued with school children. The vaccination of school children of Victoria and North Mahe has been completed. Vaccination of the school children of South Mahe will be started from February 1959.

- Number of Mantoux Test done—4135
   Positive reactors —1666
   Negative reactors —2469
- Number of Mantoux negative reactors vaccinated with B. C. G. School children and teachers —1789
   Non-school children and contacts—416

Total —2205

Remaining 264 mantoux negative reactors either did not appear during the time of vaccination or parents did not give the necessary permission.

Helminthic Diseases:— As will be seen from the figures given at the end of this report there were 6028 cases of frank helminthic infestation. 1757 dysenteries, of which the greater portion is amoebiasis (in fact bacillary dysentery is conspicuous by its absence) and 2842 cases of gastro enteritis. These figures are clearly indicative of a very low standard of sanitation, and as long as that problem remains unsolved so long will the figures for these diseases remain high. It matters little whether the patient is cured of his infestion as long as there is the very strong likelihood of his being re-infested with a few weeks of being cured. The long term policy to eradicate these diseases is a social one, not merely a medical exercise.

Gonorrhoea:—The picture of this disease is of constant re-infection of cases after cure. The Health Visitors are diligent in following up female contacts, but unfortunately all too often their efforts prove unavailing and the delinquent refuses to come for treatment. Some qualms have been felt that possibly with constant antibiotic treatment the gonococus in Seychelles has become resistant to penicillin. Efforts will be made in the coming year to prove or disprove this contention.

## World Health Organization

The Colony had the benefit of the presence of a Sanitary Engineer for 7 months of the year. His report is given below.

After the departure of Mr. Luis Arnau the W. H. O. Laboratory Technologist in October 1957, the Sanitary Engineer remained the sole representative of the Organization to advise and assist the Seychelles Government in the management of the sanitation programme.

This report covers the work accomplished by the World Health Organization in Seychelles during a rather limited period of time of 1958, as the Sanitary Engineer departed from the Colony in June 1958 and remained absent for approximately five months.

There are no specular achievements to relate, but, as in previous years the work performed during the period under review has been of a varied nature.

#### A. WATER SUPPLY PROBLEM

It may appear a somewhat arbitrary selection to pick out the subject of water supply as the one which has been the more discussed during the period under review. However, the various meetings, discussions, activities which have taken place seem clearly to indicate that the Sanitary Engineer has devoted most of his time to the above in an effort to help the Seychelles Government solve this most crucial problem.

(1) Water report "Preliminary Proposals for Improvement to Water Supply".

In connexion with the water problem, the activities of the Sanitary Engineer are governed by the terms of reference as laid down in paragraph 3 of the Plan of Operations which reads:

- "3.2. The Sanitation ...... shall have the following responsibilities:—
- 3.2.1. to investigate and report upon ....... sources of domestic water supplies and the distribution system".

In conformity with this article of the supplementary Agreement, the Sanitary Engineer submitted a report to Government in January 1958. This report entitled "Preliminary Proposal for Improvement to Water supply" does not advocate a scheme which would give a working basis for the financing of the same. This a criticism which the writer shares. However, it can be said that the report throws light onto the problem and contains valuable information on the subject. In fact, the contents of it have been so arranged as to stimulate not only further investigations on the water situation in Seychelles, but also to emphasize the need for sound planning.

(2) Water report "Niol Water Supply Treatment Plant".

In December 1958, and in pursuance of recommendations by the Secretary to Government and the Director of Medical Services that a programme of work be drawn for Le Niol Plant with a view to facilitate its maintainance and ensure its proper operation, the Sanitary Engineer submitted a comprehensive report entitled: "Le Niol Water Plant".

The summary of information contained in this second report has a dual purpose —

- to supply information upon which standards of adequacy of water treatment plants could be based.
- (ii) to devise ways and means by which Le Niol Plant could be made to function as efficiently as possible.

In both these reports the Sanitary Engineer has made a number of practical suggestions for dealing with the main elements of the water problem.

(3) Bacteriological analyses of water samples.

The performance of bacteriological analyses of water samples which had started in late 1957 continued throughout the first half of 1958. This has been possible thanks to the co-operative attitude of the labora-

tory technicians of the Medical and Health Department. These analyses, the results of which provided valuable information as to the state of purity of the water supplied, have been carried out in accordance with an up-to-date report of the World Health Organization in which requirements and standards of drinking water quality are formulated.

#### B. HEALTH EDUCATION AND ENVIRONMENTAL SANITATION

(1) Inservice-training of local personnel.

Public health education through intensification of the inservicetraining programme of local personnel constituted an important activity of the W. H. O. Sanitary Engineer during the past year. This training has been mainly of a practical nature. In going round the districts, the Sanitary Engineer had a chance to discuss various problems and make the health inspectors familiar with simple techniques related to the subject of environmental sanitation in general.

(2) Health education to school teachers and children.

As in previous years, emphasis has been placed on health education among school teachers and children to whom lectures on health matters have been given. Further, numerous visits to sanitary installations (Le Niol Water Plant, Government dairy) followed by practical demonstrations have helped to follow-up such teaching.

(3) Public Health teaching to Hospital nurses and groups of people. Recreational activity.

It has also been possible, during the period under review to direct the health education activity to hospital nurses and groups of people. This has been possible by organising net-ball games and a Women's Sport Association comprising nurses, teachers, schoolgirls etc. who represent a valuable resource that can contribute to spread and further health education for the betterment of the community.

(4) Health Education of the Public — public cinema shows.

Serious difficulties have been experienced in carrying out the health education programme of the general public. This aspect of the work has made no progress. This is largely due to the following:

- (i) The Health Educator of the Health Department has resigned as from 1 January 1958 and has not been replaced.
- (ii) The cinema projector Operator has been a patient of the Victoria Hospital from where he went to England for further treatment. All throughout his stay at the Hospital (about 6 month), he has not been replaced.
- (iii) Only few films on health matters and healthy living have been available throughout the year.

It must be emphasized that the provision of the facilities is most essential to the promotion of a health education programme.

#### C. Praslin Mosquito Survey

In April 1958 and at the request of the Director of Medical Services, the Sanitary Engineer paid a visit to Praslin to investigate the mosquito situation there. The objectives of this investigation were two-fold.

- (1) The detection of the mosquito breeding places.
- (2) The Collection of mosquito specimens for indentification.

In relation to this the Sanitary Engineer submitted a report to the Director of Medical Services. This report advocated the need for further investigations and comprises also some suggestions which would eliminate or control the breeding places.

#### D. W. H. O. Fellowships

A male nurse of the Victoria Hospital who had been awarded a W. H. O. Fellowship to study Tuberculosis nursing returned to the Colony in June 1958.

A Senior Health Inspector left Port Victoria in August 1958 on his way to England where he will take up a course on environmental sanitation. He is on a fellowships granted by the World Health Organization.

# E. ORGANIZATION OF THE HEALTH DEPARTMENT — MATERNAL AND CHILD WELFARE — SCHOOL HEALTH SERVICE

These activities undertaken in the past years by the Medical and Health Department in collaboration with the World Health Organization team members have made steady progress during the period under review.

In conclusion, I have great pleasure to record my appreciation to all the members of the Medical and Health Department for their willing co-operation, and it is particularly pleasant for me to acknowledge with heartfelt thanks the unfailing support of the Director of Medical Services in the implementation of the duties which devolve upon me.

#### Future Developments

It would seems appropriate here to list the developments which it is hoped and intended to initiate in the coming and subsequent years.

- (a) The building of an X-ray block in the grounds of Seychelles Hospital. This will comprise the new X-ray Unit itself with necessary ancillaries. The building will also house the Consulting Room for the Tuberculosis Officer, together with waiting rooms, changing cubicles for Tuberculous and non-Tuberculous patients.
- (b) A new Outpatient block with an Operating Unit over !t. The present Outpatient building is dark, and over-crowded and was never intended for the purpose. The construction of a complete Operating Unit over it will release much needed space for paying patients in the hospital. It will also permit of working under more congenial conditions than obtain in the present theatre which has been in continual use since 1924.
- (c) The construction of two pavilion wards for reception of male and female Tuberculous patients.
- (d) The building of a Training School for nurses. At present instruction is given in the Nurses Home, which is undesirable from every point of view.

## Summary of Diseases and Deaths

Disease	Number	Died
Tuberculosis of respiratory system	58	14
Tuberculosis of meninges and central	22000000000	
nervous system	5	2
Tuberculosis of intestines, peritoneum		
and mesenteric glands	1	1
Tuberculosis of bones joints	1	_
Tuberculosis, all other forms	1	
Early syphilis	7	-
Tabes dorsalis	2	
All other syphilis	90	-
Gonoccocal infection	1586	-
Brucellosis (undulant fever)	3	_
Dysentery all forms	1757	3
Streptococcal sore throat	135	_
Septicaemia and pyaemia	2	-
Diphtheria	4	-
Meningococcal infections	2	1
Leprosy	20	-
Tetanus	10	3
Late effect of acute infectious encephalitis		
and acute infectious encephalitis	1	-
Measles	1	
Infectious hepatitis	96	
Malaria	3	
Filariasis	4	=
Ankylostomiasis	867	
Other diseases due to helminths	5161	
All other diseases classified as		
infective and parasitic	433	4
Malignant neoplasm of buccal cavity		
and pharynx	1	_
Malignant neoplasm of stomach	5	5
Malignant neoplasm of intestine,		
except rectum	4	3 -
Malignant neoplasm of rectum	3	3
Malignant neoplasm of larynx	1	-
Malignant neoplasm of trachea, bronchus		
and lung, not specified as secondary	1	1
Malignant neoplasm of breast	1	1
Malignant neoplasm of cervix uteri	5	5
Malignant neoplasm of other and		1
unspecified parts of uterus	3	3
Malignant neoplasm of all other and	more code	
specified sites	40	4
Leukaemia and aleukemia	1	1
Benign neoplasm and neoplasms of		
unspecified nature	114	1
Non toxic goitre	8	
Thyrotoxicosis with or without goitre	_	-
Diabetes mellitus	33	2
Avitaminosis and other deficiency states	245	11
The state of the s		**

Disease	Number	Died
Anaemias	756	13
Allergic desorders; all other endocrine,		
metabolic, and blood diseases	536	3
Psychoses	8	1
Psychoneuroses and disorders of personality	18	-
Mental deficiency	13	
Vascular lesions affecting central nervous	militar mala	
system	40	31
Non-meningococcal meningitis	1	1
Multiple sclerosis	20	
Epilepsy	3	1
Inflammatory diseases of eyes	328	
Cataract	2	
Glaucoma	2	1
Otitis media and mastoiditis	142	-
All other diseases of the nervous system	2000	2
and sense organs	1556	1
Rheumatic fever	6	-
Chronic rheumatic heart disease	10	
Arteriosclerotic and degenerative heart disease	28	27
Other diseases of heart	185	70
Hypertension with heart disease	38	8
Hypertension without mention of heart	265	8 7 3 1
Diseases of arteries	7	3
Other diseases of circulatory system	89	1
Acute upper respiratory infections	188	
Influenza	1255	1
Lobar pneumonia	57	4
Bronchopneumonia	221	42
Primary, atypical, other and unspecified	-	
pneumonia	28	13
Acute bronchitis	1172	1
Bronchitis, chronic and unqualified	361	-
Hypertrophy of tonsil and adenoids	247	-
Empyema and abcess of lung	2	2
Pleurisy	27	
All other respiratory diseases	2671	6
Diseases of teeth and supporting structures	248	
Ulcer of stomach	33	1
Ulcer of duodenum	11	_
Gastritis and duodenitis	181	1 2 1
Appendicitis	116	2
Intestinal obstruction and hernia	124	1
Gastro-enteritis, and colitis except	2212	
dlarrhoea of the newborn	2842	8
Cirrhosis of liver	13	1
Cholelithiasis and cholecystitis	4	-
Other diseases of digestive system	575	3
Acute nephritis	24	
Chronic, other, and unspecified nephritis	50	1 4
Infections of kidney	29	4
Calculi of urinary system	9	0
Hyperplasia of prostate	4	2

Disease	Number	Died
Diseases of breast	54	1104
Other diseases of genito-urinary system	662	7
Sepsis of pregnancy, childbirth, and	an Silverian	
the puerperium	69	_
Toxemias of pregnancy and the puerperium	48	-
Hemorrhage of pregnancy and childbirth	6	
Abortion without mention of sepsis or		
toxaemia	133	
Abortion with sepsis	6	-
Other complications of pregnancy,		
childbirth, and the puerperium	69	7
Delivery without mention of complication	1149	-
Infections of skin and subcutaneous tissue8	816	
Arthritis and spondylitis	90	
Muscular rheumatism and rheumatism	00	
unspecified	769	112
Osteomyelitis and periostitis	193	1
Ankylosis and acquired musculoskeletal	130	1
deformities	1	
All other diseases of skin and musculoskeletal	1	
	126	1
system Congonital malformations of singulators	120	1
Congenital malformations of circulatory	5	1
system	5	1 5
All other congenital malformations	8	5
Birth injuries	25	
Postnatal asphyxia and atelectasis	3	3
Infections of the newborn	11	-
All other defined diseases of early infancy	185	-
Ill-defined disease peculiar to early infancy,	005	0.0
and immaturity unqualified.	237	36
Senility without mention of psychosis	262	19
Ill-defined and unknown causes of morbidity	0500	4.
and mortality	2500	14
Motor vehicle accidents	7	_
Other transport accidents	2	-
Accidental poisoning	16	-
Accidental falls	71	-
Accident caused by machinery	26	_
Accident caused by fire and explosion of		
combustible material	5	-
Accident caused by hot substance,		
corrosive liquid, steam, and radiation	9	-
Accident caused by firearm	1	
All other accidental causes	547	6
Suicide and self-inflicted injury	2	
Homicide and injury purposely inflicted	The state of the s	
by other persons (not in war)	5	
Injury resulting from operations of war	1	
Fracture of skull	2	2
Fracture of spine and trunk	5	
Fracture of limbs	90	
Dislocation without fracture	15	

Disease	Number	Died
Sprains and strains of joints adjacent		
muscle	136	
Head injury (excluding fracture)	30	
Internal injury of chest, abdomen, and		
pelvis	22	5
Laceration and open wounds	673	2
Superficial injury contusion and crushing		
with intact skin surface	873	-
Effects of foreign boby entering through		
orifice	26	2
Burns	100	2
Effects of poisins	3	2
All other and unspecified effects of		
external causes	957	****

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