

## **Annual report of the Public Health Department / Zanzibar Protectorate.**

### **Contributors**

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ZANZIBAR PROTECTORATE

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# Health Department

## Annual Report

### 1957

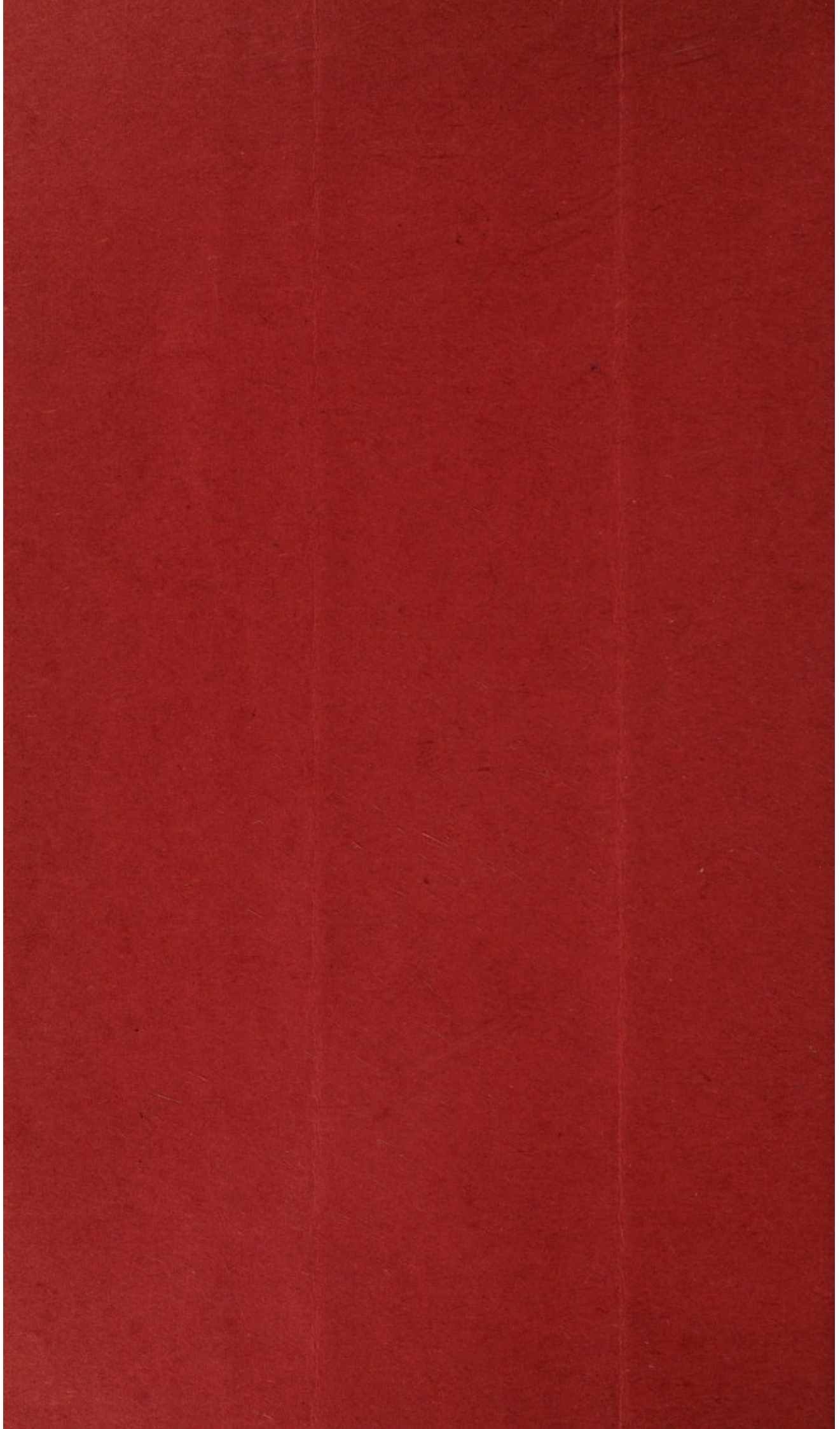


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ZANZIBAR

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OFFICE OF THE  
DIRECTOR OF MEDICAL SERVICES,  
HEALTH DEPARTMENT,  
ZANZIBAR,

27th May, 1958

Sir,

I have the honour to submit for the information of His Excellency the British Resident and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitation conditions of the Zanzibar Protectorate for the year 1957.


I have the honour to be,

Sir,

Your obedient servant,

D. A. BAIRD,  
*Director of Medical Services*

THE HONOURABLE  
THE CHIEF SECRETARY TO THE GOVERNMENT,  
ZANZIBAR.



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# Health Department Annual Report

## 1957

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### 1. Background Information

1. Zanzibar Protectorate consists of two islands Zanzibar and Pemba. The former is about 50 miles long by 25 miles wide, and 640 square miles in extent, and the latter is about 40 miles long by 15 miles wide, and of about 380 square miles in area.

2. The climate is tropical and generally enervating. From December to March, when the north-east monsoon blows, it is hot and dry. In April and May the heavy rains occur, while from June to October when the south-west monsoon blows it is coolest and driest. The average annual rainfall is about 60 inches in Zanzibar and 73 inches in Pemba.

3. The total population of the Protectorate as determined at the last census (1948) was approximately 265,000. Of this total, approximately 150,000 live in Zanzibar island and 115,000 in Pemba.

4. The racial composition of the population was stated in 1948 to be as follows:—

Africans	...	...	...	...	199,860
Arabs	...	...	...	...	44,560
Europeans	...	...	...	...	296
Indians	...	...	...	...	15,211
Others	...	...	...	...	4,235

5. The majority of the population live in the rural areas of the two islands, the only towns, with their approximate populations, being:

Zanzibar	...	...	...	...	45,000
Wete (Pemba)	...	...	...	...	10,000
Chake Chake (Pemba)	...	...	...	...	3,500
Mkoani (Pemba)	...	...	...	...	1,000

6. The vast majority of the population profess the Muslim faith.

7. The majority of the people are engaged in agricultural pursuits and in fishing. Those in the towns are in public or private employment or in business and trading.

8. The staple diet of the rural communities is rice or cassava supplemented by fish, coconut, fruit and vegetables.

9. The country's revenue is derived chiefly from taxes on the export of cloves and copra, and from import dues.

10. With the exception of a small nursing home in Zanzibar town, maintained by the Ismaili Khoja community, and a small maternity home, administered by the Zanzibar Maternity Association, all hospitals in the Protectorate are Government institutions.

11. There are thirteen private medical practitioners in Zanzibar island and five in Pemba.

12. There are now two private dental practitioners in the town of Zanzibar.

13. There are six licensed druggists, all of whom are established in Zanzibar town.

14. The estimated Protectorate expenditure for 1957 was £2,624,685, of which £276,844 was devoted to Health Services, representing approximately 10 per cent. of the total budget.

## 2. General Remarks

1. The year 1957 will be remembered as one in which the clove crop was very heavy, and when even trees in exceptionally poor condition carried a crop. Moreover, in Pemba there was the unusual feature of the crop ripening almost simultaneously throughout the greater part of the island. This situation created heavy demands on the available labour for picking, and also upon the transport services. From the health point of view, heavy demands were also made on hospitals and dispensaries during the height of the picking, and this was not made easier by the fact that Asian 'flu' was prevalent amongst the pickers during the months of August and September. A general measure of prosperity was noticeable, a good picker earning anything between Shs. 30/- and Shs. 40/- a day in contrast to the normal labouring wage of something between Shs. 3/- and Shs. 4/- per day. Some idea of the number of pickers involved can be obtained from the figures produced by the Port Office, when, between mid-July and mid-September, 28,287 persons were transported in Government vessels from Zanzibar to Pemba, and an estimated further 14,800 travelled to Pemba by dhow and other craft.

2. The situation afforded the Health Department an opportunity to undertake the vaccination of a considerable proportion of the Zanzibar population. Early in the year, a vaccination campaign was commenced in the rural districts of Zanzibar following the campaign in Pemba conducted in the previous year, when well over 50 per cent. of the Pemba population was vaccinated. When it was apparent that considerable numbers of the Zanzibar population were likely to travel to Pemba for the clove season, it was decided to enlist the services of the Administration and Port and Marine Departments and to request them to require production of a valid certificate of vaccination before issuing steamer tickets. The effect of this was that many of the population of Zanzibar were vaccinated who might otherwise have escaped the vaccination drive, which was being undertaken at district health centres. The result was that, by the end of the year, 41,617 people had been vaccinated, and it is now thought that the likelihood of an outbreak of smallpox assuming epidemic proportions in Zanzibar or Pemba has been reduced to a minimum.

3. The main rains in April and May were generous, and favourable weather resulted in an exceptionally good rice season. This was important as rice, when it can be afforded, is now regarded as one of the staple items of diet. On the other hand, the heavy rains intensified both mosquito and fly breeding, and the Public Health division of the Department was called upon to make considerable efforts to keep matters under control.

4. Another event of importance was the holding of common roll elections for the first time in Zanzibar's history to elect candidates for six seats in the Legislative Council.

5. Possibly the most important event from an administrative point of view has been the completion of new Health Headquarters offices and stores. This building has been under construction for the best part of twelve months. The new stores are spacious and secure, and should provide ample storage facilities for many years to come. The upper floor of the stores unit provides additional office accommodation for Health Headquarters staff, the whole block having been planned as an extension of the existing Health Office building. This means that the Director of Medical Services and the members of his headquarters staff are now accommodated in one building, and it is now possible for the first time for the administrative division of the Department to operate as one unit.

6. The most important event from the Public Health preventive angle has been the commencement of the W.H.O./UNICEF assisted Malaria Project for the control and possible eradication of malaria from the Protectorate. About the middle of June, the World Health Organization Survey Team arrived and, since then, a considerable amount of work has been done in obtaining basic information concerning the malaria state of the two islands of Zanzibar and Pemba. The details of this work will be found in the body of the Report.

7. Two other projects, to which further reference is made, and over which Government is also receiving assistance from international agencies, have also commenced. These are the training of rural health assistants and health inspectors, and an investigation into the possibilities of establishing a health visitor and maternity service for rural areas.

8. Reference was made in last year's Report to widespread urticaria occurring in Zanzibar town caused by an invasion of hairy caterpillars of the genus *Lymantriidae* and *Arctidae*. During 1957 between 500 and 600 trees of the four different species on which the caterpillar is known to feed were ringed with a suspension of endrine in resin and, so far, no further recurrence has been reported, although it is too soon to express any definite opinion on the effectiveness of this method of control.

### 3. Staff

1. The staff of the Department as at 31st December, 1957, was as follows:

<i>Designation</i>	<i>Establishment</i>	<i>Actual Staff</i>	<i>Remarks</i>
Director of Medical Services ...	1	1	
Senior Medical Officer ...	1	1	
Surgical Specialist ...	1	1	
Pathologist ...	1	1	
Medical Officers (A) ...	16	15	1 vacancy.
Assistant Medical Officers ...	2	2	
Dental Surgeons ...	3	3	
Matron ...	1	1	
Superintendent, Mental Hospital ...	1	1	
Sister Tutor ...	1	-	vacant.
Nursing Sisters ...	13	12	1 vacancy.
Housekeeper ...	1	1	
Nurses and Hospital Assistants ...	144	115	29 vacancies.
Health Superintendents ...	2	2	
Assistant Health Superintendents ...	1	1	
Health Inspectors ...	35	21	14 vacancies.
Laboratory Technologist ...	1	1	
Assistant Laboratory Technologist ...	1	1	

<i>Designation</i>	<i>Establishment</i>	<i>Actual Staff</i>	<i>Remarks</i>
Laboratory Assistants ... ..	10	9	1 vacancy.
Dispensers ... ..	7	7	
Pharmacist/Storekeeper ... ..	1	1	
Radiographer ... ..	1	1	
Office Superintendent ... ..	1	1	
Clerks, Stenographers ... ..	20	20	
Probationer staff in training ...	93	59	vacancies to be filled in 1958.
Miscellaneous Subordinate Staff ...	427	386	41 vacancies.

2. The staffing position has been well maintained during the year; the only senior vacancy which has persisted has been that of the post of Sister Tutor. The several vacancies for medical officers occurring since the beginning of the year have been filled by locally recruited staff, and it is interesting to note that, of the 61 officers holding executive posts on the senior staff list, 33 are filled by local appointments, while of the 20 medical officer posts, including the one specialist appointment, 13 are filled by locally appointed officers. In the subordinate staff grades, the main shortage of staff is still to be found in the locally trained staff group. This problem has not been made easier by the fact that we have been without a Sister Tutor since early in 1956. Credit must go to the staff of the Hassanali Karimjee Jivanjee Hospital for the efforts they have made to maintain the nurses' training course without the help of a tutor.

3. It is gratifying to note that the Makerere qualification is now to be recognised by the General Medical Council of the United Kingdom, and that those who qualified in past years for local registration are now in Zanzibar graded along with their other professional colleagues. This means that the whole doctor staff of the Department, with the exception of two, who are only licensed to practise while in the service of Government, are now on the Grade 'A' salary scale.

4. Mr. J. M. J. Aguiar, Senior Health Inspector, was awarded the British Empire Medal during the year.

#### 4. Visitors

The following visitors from overseas were shown various aspects of the Department's work during the year:

Sir Gordon Covell, C.I.E. ... ..	Adviser on Malaria, Ministry of Health, U.K.
Dr. Raymond Lewthwaite, C.M.G., O.B.E.	Director, Colonial Medical Research, Colonial Office, London.
Professor G. Macdonald, C.M.G. ... ..	School of Hygiene and Tropical Medicine, London.
The Earl of Limerick, G.B.E., K.C.B., D.S.O., T.D.	Chairman, Medical Research Council, London.
The Countess of Limerick, D.B.E. ... ..	Deputy Chairman, British Red Cross Society, London.
Sir Harold Himsworth, K.C.B. ... ..	Secretary, Medical Research Council, London.
Mr. M. A. W. Roberts, F.R.C.S. ... ..	Surgical Specialist, Kuching, Sarawak.
Dr. E. R. Cullinan ... ..	Consulting Physician to St. Bartholomew's Hospital, London.
Dr. W. P. H. Sheldon, C.V.O., F.R.C.P. ...	Hospital for Sick Children, Gt. Ormond St., London.
Dr. Michael Simpkins ... ..	Mulago Hospital, Uganda.
Dr. Miles Williams ... ..	East African Virus Research Institute, Entebbe, Uganda.
Dr. Thomas Evans ... ..	Deputy Regional Director, World Health Organization, Brazzaville, A.E.F.

Sir Alfred Savage, K.C.M.G.	...	...	Chairman, E.A. Currency Board.
Dr. Charles A. Egger	...	...	Director, Africa and Europe Regional Office, UNICEF, Paris.
Miss F. N. Udell, O.B.E.	...	...	Chief Nursing Officer, Colonial Office, London.
Miss M. Houghton	...	...	Education Officer, General Nursing Council for England and Wales.
Dr. A. A. Alderdice	...	...	Medical Superintendent, Mulago Hospital, Kampala.
Mr. B. E. Rolfe	...	...	Colonial Office, London.
Dr. D. Bagster-Wilson	...	...	Director, Malaria Institute, Amani, Tanganyika.
Dr. John Garrod	...	...	Director, E.A. Leprosy Research Centre, Busia, Uganda.
Dr. W. T. Thom	...	...	Director of Medical Services, British Somaliland.
Mr. F. W. Tooby	...	...	Procurement Officer, UNICEF, New York.
Dr. M. A. C. Dowling	...	...	Malaria Adviser, World Health Organization, Brazzaville.
Dr. J. Pepys	...	...	Tuberculosis Research Unit, Medical Research Council, London.
Professor A. W. Williams	...	...	Makerere College, Uganda.
Professor Buckley	...	...	Professor of Helminthology, London School of Tropical Medicine and Hygiene.
Dr. E. H. Kjekbye	...	...	Leader of the W.H.O. Tuberculosis Survey Team.
Major General J. M. Kirkman, C.B., C.B.E.	...	...	Commissioner in Chief, St. John Ambulance Brigade, Colonial Office, London.

## 5. Training

### OVERSEAS TRAINING.

1. There were as at 31st December, 1957, 52 Zanzibar men and women taking medical and para-medical courses overseas. These are distributed as follows:

	United Kingdom	Elsewhere	
Medicine . . . .	23	15	
Nursing . . . .	7	—	
Dentistry . . . .	3	—	
Pharmacy . . . .	3	—	
Health Inspector .	1	—	
	37	15	52
	—	—	—

The majority of these students will be returning to Zanzibar on completion of their courses, and it is therefore expected that a number of posts presently held by overseas staff will be filled by locally domiciled officers within the next few years.

2. The lady Assistant Medical Officer, who proceeded to the United Kingdom last year with a view to obtaining a registrable qualification, is still pursuing her studies in London.

3. One medical officer attended a six weeks malaria course at Amani in Tanganyika under the auspices of the World Health Organization.

4. One male staff nurse was sent overseas early in the year to attend a six months overseas ward sister's course. Since his return, he has been in full charge of the male medical and surgical wards in Wete Hospital, Pemba, and it is pleasing to record that the doctors under whom he serves have reported most favourably on his work.

5. One staff nurse, who is an active member of the Medical Workers' Union, was sent to Nairobi by Government to attend a short course on Industrial Relations.

6. During the year, Government agreed in principle to the sending of a medical officer to the United Kingdom for a short course in practical anaesthetics. It was not possible, owing to staffing exigencies, to arrange for the officer to proceed before the end of the current year, but it is hoped he may be able to attend the course in 1958.

7. Another medical officer has been nominated for the short course in tuberculosis at Cardiff and will, it is hoped, join this course in 1958.

#### LOCAL TRAINING.

8. The training of staff nurses continued during the year, but only under considerable difficulties in the absence of a sister tutor. There were 45 probationers in training, made up as follows:

1st year	...	17
2nd year	...	15
3rd year	...	13

Nine third-year trainees successfully passed the final examination held in December, and have now been upgraded. A further three students have been deferred for examination in six months time.

9. During the year, the block system of training was tried for the first time in place of the older system in which classes continued throughout the year and, so far, the results have been encouraging. It is proposed to give the new system a further trial in 1958.

10. The training of rural health assistants commenced in January, when fifteen trainees were engaged. It was not, however, until the month of June that the World Health Organization tutor arrived to assume responsibility for this branch of training and to develop it on prearranged lines. Three of the original trainees have left the course, and it is hoped that the remaining twelve will be joined by a further fifteen when the new session commences in January, 1958. The work of this course has been considerably hampered by the non-arrival of a vehicle and some of the teaching equipment which UNICEF is providing.

11. During the year, five trainees were engaged to work with the World Health Organization Malaria Survey team. These men are undergoing an 'in service' training as entomological assistants under the direction of the W.H.O. Malariologist and Entomologist. In connection with this same projects a further nine men have recently commenced training as spraymen/supervisors under the direction of the W.H.O. Sanitarian.

12. The 'in service' training of laboratory assistants is now full established under the Pathologist and Laboratory Technologist at the central laboratory. There are five assistants in training. It is hoped that one of the trainees will proceed overseas next year with a view to obtaining his associate membership of the Institute of Medical Laboratory Technologists.

13. In connection with the World Health Organization Maternity and Child Welfare project, an experienced Health Visitor Tutor arrived in the

Protectorate in the month of September. The first stage of this project is to investigate the possibilities of initiating a health visitor service and the local training of suitably qualified health visitors/midwives. It is hoped that a report will be ready for Government's consideration early in 1958.

14. The training of district health staff in dental extractions was completed in Zanzibar and a start has been made to train those in the service in Pemba. This service has proved popular in many districts; at one of the more remote centres recently visited, the assistant in charge had pulled 57 teeth in one month.

15. With the completion of the new dispensary at the Medical Stores, three probationer dispensers have been engaged, and are about to commence a course of training in dispensing. It is intended that, in addition to the systematic instruction they will receive, they should work on an 'in service' basic training both at the Stores dispensary and in the Hassanali Karimjee Jivanjee Hospital.

## 6. Hospitals and Dispensaries

### GENERAL HOSPITALS:

1. The distribution of beds in the various hospitals throughout the Protectorate was detailed in the 1956 Report. Since then, certain adjustments have been necessary, and the revised bed state, as at 31st December, 1957, was as follows:

Hassanali Karimjee Jivanjee Hospital, Zanzibar	
Town ... ..	262
Zenubhai Karimjee Hospital, Dole, Zanzibar ...	40
Holmwood Mental Hospital, Zanzibar Town	18
Wete Hospital, Pemba ... ..	78
Chake Chake Hospital, Pemba ... ..	55
Mkoani Hospital, Pemba ... ..	23
Isolation Hospital, Changuu Island, Zanzibar ...	30
Prison Hospital, Zanzibar Town ... ..	17
Walezo Leprosarium, Zanzibar ... ..	100
Makondeni Leprosarium, Pemba ... ..	100
Salem Dispensary, Zanzibar ... ..	8
Mkokotoni Dispensary, Zanzibar ... ..	12
Makunduchi Maternity Unit, Zanzibar ...	6
	<hr/>
	916

Out of this total, there are 363 general medical and surgical beds, 47 maternity beds and 91 beds for the treatment of tuberculosis. There is thus approximately one general medical and surgical bed for every 730 of the population, one mental hospital bed for every 1,500 of the population and one tuberculosis bed for every 3,000.

2. It is estimated that there are 34 practising doctors in the Protectorate, approximately half of whom are private practitioners; thus, with a population as determined at the last census of 265,000, there is one doctor to every 7,500. In addition, various rural treatment centres are staffed by locally trained medical assistants, who in the course of the year 1957 treated between them 105,770 patients.

3. All hospital outpatient treatment is free but in the hospitals, at Zanzibar, Wete and Chake Chake, a certain number of paying wards are provided. These are of two grades, depending on whether the wards are of the single

bedded or multiple bedded variety. The charges for admission to these paying wards were revised during the year, and operation and accouchement charges were replaced by the introduction of standard theatre fees. Maintenance charges in the single bedded wards for members of the public are now Shs. 25/- per day. This daily rate is halved in respect of patients detained in hospital over 21 days. Theatre charges are made in accordance with the classification of the operation as determined by the surgical staff, the fee for a major operation being £10 and that for a minor operation £4. The fee for a normal confinement is £5. The total number of paying beds available is 75, or approximately 20 per cent. of the general bed state.

#### RURAL HEALTH CENTRES.

4. There are 13 rural treatment centres in Zanzibar and nine in Pemba. All those in Zanzibar Island are readily approached by tarmac roads, and it is possible to communicate with the majority by telephone through the local District Office. In Pemba, communications are more difficult and, in the case of several dispensaries, the only motor transport which is able to reach them is a Land Rover.

5. In Zanzibar Island, in addition to those mentioned above which are truly rural in character, the Department maintains in the Zanzibar township, dispensaries in the Ngambo Area (Raha Leo Dispensary), at Police Headquarters (Ziwani Dispensary) and at the Central Prison, where there is also a small hospital of 17 beds. The staff posted to the rural areas spend a considerable part of their time making regular visits to neighbouring schools, where, in addition to giving the school children necessary attention, they take the opportunity of talking to them on health matters.

6. The assignment of a medical officer to full time work in the rural areas of Zanzibar was maintained, and throughout the year regular three-to-four weekly visits have been made to all treatment centres in Zanzibar. In Pemba, while the staff position has theoretically permitted of visits being made regularly and frequently, certain of the centres could not be visited because of their inaccessibility during the rains in the absence of suitable departmental transport. Provision has been made in the 1958 Estimates for a Landrover for use in Pemba and, when this vehicle is commissioned, regular visits to all treatment centres in Pemba will be possible.

7. Two new treatment centres were built during 1957, one at Chwaka and the other at Makunduchi, both in the island of Zanzibar. They have been built to a new design, the prototype of which had been built in the previous year at Mkokotoni. This provides a satisfactory treatment centre at a cost considerably less than that formerly adopted as the standard. Both are now operating satisfactorily.

8. In the rural areas, further efforts have been made to press forward with simple health education. During the year, a number of talks have been given in the rural schools on various aspects of health, and the staff at the various treatment centres have been encouraged to mix with the people in the villages and give them simple advice on healthier living. A series of simple talks on some of the more common diseases and how they are to be prevented has been prepared, and it is intended that these should be used by rural health assistants when talking to schools and village groups. They are also suitable for broadcasting.

9. The Health Department News Sheet also helps to disseminate information in the rural areas. It circulates not only to rural health staff, but also to all district administrative officers. Recently, further copies have been distributed to rural school teachers.

#### GENERAL HOSPITAL AND DISPENSARY RETURNS.

1. The number of inpatients (new cases) treated in the general hospitals are set out below, the previous year's figures being shown alongside:

<i>Hospitals</i>	<i>In-patients</i>		<i>Out-patients</i>	
	<i>1956</i>	<i>1957</i>	<i>1956</i>	<i>1957</i>
Zanzibar Town ...	3,070	5,082	61,207	65,266
Wete ...	1,617	1,678	22,662	27,358
Chake Chake ...	1,300	1,160	19,808	21,629
Mkoani ...	197	408	6,643	10,515
Selem ...	117	117	4,562	3,934
Mkokotoni ...	59	21	5,032	5,503
<b>TOTAL ...</b>	<b>6,360</b>	<b>8,466</b>	<b>119,913</b>	<b>134,205</b>

This indicates a general increase in the work done in hospitals during the year with the notable exception of the two small bedded-dispensaries at Selem and Mkokotoni. This is explained by the fact that there is now a rural ambulance in Zanzibar, and patients who previously had little option but to accept the limited facilities available to them in the district are now referred to the central hospital.

2. The total number of new cases treated at rural dispensaries was 105,770 compared with 96,817 in 1956 and 80,611 in 1955. The district work, therefore, continues to show a steady increase. This suggests that the Department is steadily winning the confidence of the people in the rural areas.

3. A study of the detailed outpatient returns, which appear as Appendix II to this Report, shows the following to be the commonest disease or disease groups treated during the year:

<i>Disease</i>	<i>No. of Cases</i>
Respiratory Diseases (excluding T.B.) ...	37,111 (28,137)
Malaria ...	17,703 (17,524)
Affections of the Digestive System ...	15,747 (13,317)
Tropical Ulcer ...	15,123 (11,422)
Anaemia States ...	14,595 (15,932)

NOTE.—The figures in brackets are those for 1956.

These five groups account, therefore, for more than half of all the sickness seen in outpatient departments and rural treatment centres in the Protectorate. The increase over 1956 of 8,975 cases of respiratory disease is partly explained by the outbreak of influenza in the latter half of the year.

The number of cases of malaria was almost exactly the same as in previous years. It will be interesting to study the effect on this particular figure in 1958 as the World Health Organization assisted malaria control project gets under way.

The high incidence of anaemia continues, and is a matter which requires further investigation. Many cases are thought by some to be related to the general incidence of hookworm infestation of the inhabitants, but this is by no means certain, and the part played by nutritional factors and malaria is thought by others to be largely responsible. There may be fewer cases of anaemia when malaria has been reduced.

The number of tropical ulcers treated has increased considerably. This is thought to be due to an improved technique now being used in rural treatment centres which is not only more effective, but also popular with the local people.

4. In hospitals the respiratory diseases and malaria were again responsible for the majority of the admissions to the medical wards, while on the surgical side, hernias continued to take pride of place. Two hundred and fifty-two were treated in hospital for influenza—most of them during the outbreak in the latter part of the year. Two hundred and six fractures required inpatient treatment, 60 of which were fractures of the spine connected with clove picking.

5. The commonest cause of death in hospitals, despite modern methods of treatment, is still pulmonary tuberculosis. Forty-one deaths from this cause were reported, and lobar and broncho-pneumonia accounted for a further 37 deaths, while there were 19 cases directly attributable to disease of the heart. Seven deaths occurred in the series of 60 spinal fractures treated. The total number of deaths in hospitals was 302, representing approximately 3.5 per cent. of the total admissions.

## 7. Special Hospitals

### HOLMWOOD MENTAL HOSPITAL.

1. The number of patients in hospital on 31st December, 1956, was 185. During the year there were 84 admissions and 56 discharges. Nine deaths occurred. The number remaining 31st on December, 1957, was therefore 204.

2. The causes of deaths were as follows:

Senility	...	...	...	...	...	1
Pulmonary Tuberculosis	...	...	...	...	...	1
Malaria	...	...	...	...	...	1
Pneumonia	...	...	...	...	...	1
Acute gastro-enteritis	...	...	...	...	...	1
Cardiac failure	...	...	...	...	...	1
General Asthenia	...	...	...	...	...	2
Chronic enteritis	...	...	...	...	...	1
TOTAL	...	...	...	...	...	9

The number of deaths represented 3.5 per cent. of the total number of patients under treatment.

3. The various types of mental disorder treated consisted of the following:

Schizophrenia	...	...	...	...	...	101
Paranoia	...	...	...	...	...	36
Delusional Insanity	...	...	...	...	...	7
Manic-depressive Psychosis	...	...	...	...	...	30
Involuntional Melancholia	...	...	...	...	...	—
Hypomania	...	...	...	...	...	2
Toxic Psychosis	...	...	...	...	...	22
Confusional States	...	...	...	...	...	—
Senile Dementia	...	...	...	...	...	28
General Paralysis of Insane	...	...	...	...	...	23
Mental Deficiency	...	...	...	...	...	16
Pre-senile Dementia	...	...	...	...	...	3
Epilepsy	...	...	...	...	...	21
TOTAL	...	...	...	...	...	289

4. The number of outpatients treated was 22 as against 11 for the previous year. This is an encouraging feature of the work, for it means that relatives are slowly beginning to accept responsibility for those who are mentally disordered, and the more we can do to encourage outpatient care, the sooner will the demand for beds within the institution be relieved. It is definitely departmental policy to encourage the treatment of suitable cases of mental disorder as outpatients.

5. Another gratifying feature of treatment has been the extended use of electro-convulsive therapy, and of the tranquillising type of drug. The latter is proving particularly valuable as a means of controlling the more distressing symptoms in certain types of excitable patient.

6. The main event of the year was the opening, early in January, of the new 50 bed male block. This completely relieved the acute overcrowding formerly existing on the male side of the hospital. The new block is proving most convenient, both for patients and staff, and has generally promoted ease of management and better control of patients. There is a large "day room" with a well-appointed pantry attached, and this greatly facilitates the serving of meals. The spacious compound in relation to the new block provides adequate day-time ablution facilities, and its spaciousness dispels any undue feeling of restriction among the patients.

7. During the year, the grounds of the hospital provided wood fuel for just over four months of the year, and the coconut trees yielded sufficient nuts for the use of the patients over a two and a half month period. Considerable progress has been made in establishing a bouganvillea perimeter hedge, though some damage has been done by straying cattle.

#### INFECTIOUS DISEASES HOSPITALS.

The Infectious Diseases Hospital on Changuu Island was not commissioned during the year. In Pemba, the small Infectious Diseases Hospital has been closed for the reasons explained in last year's Report, and an infectious diseases camp site has been established five miles outside the town of Wete. It has not been necessary to put this camp into commission during the year.

#### WALEZO AND MAKONDENI LEPROSARIA.

1. The treatment of leprosy is concentrated in two leprosaria. The one in Zanzibar island, while maintained by Government is staffed by a Roman Catholic Mission; the other in Pemba is a wholly Government institution. Both are under the care of a Government medical officer, and each is capable of accommodating a hundred patients.

2. During the year, 22 patients were admitted to Walezo (Zanzibar), and there were 30 discharges, the number of patients remaining in the institution on 31st December, 1957, being 80. At Makondeni (Pemba), 16 patients were admitted during 1957, 29 were discharged, and the number under treatment as at 31st December, 1957, was 76. The total number remaining under treatment on 31st December, 1957, was therefore 156, as compared with 180 twelve months ago. This suggests a continuation of the steady decrease in the number of cases of leprosy in the Protectorate that has been apparent since the introduction of sulphone drug therapy.

## WALEZO HOME FOR AGED AND INDIGENT.

1. This institution is maintained by Government, but is staffed and administered by the local Roman Catholic Mission authorities. It is visited once a week by the District Medical Officer who is in charge.

2. On 31st December, 1956, there were 134 inmates in the Home; 71 were admitted during the year, 19 were discharged and there were 51 deaths, leaving 135 in the institution on 31st December, 1957. The number of deaths is a high figure, but it must be remembered that the majority of the inmates are old people who are being cared for in their latter years.

3. The Welfare Section continued its interest in the Home, its staff making regular visits to help with occupational therapy for the inmates and to assist them over their domestic and other problems. The Information Office also continued to provide entertainment in the shape of regular cinema shows.

4. It is appropriate that the devoted work done by the Sisters and staff of the Roman Catholic Mission should be acknowledged.

## 8. Specialised Services

## MATERNITY SERVICES.

1. The maternity services generally have been well maintained. The number of maternity cases taking advantage of hospital facilities has shown a steady increase. This is particularly reflected in the returns from Pemba, where the increase in deliveries has been considerable. The following is illustrative:

	No. of Confinements 1956	No. of Confinements 1957
Wete Hospital . . . . .	142	244
Chake Chake Hospital . . . . .	93	116
Mkoani Maternity Centre . . . . .	27	55
TOTAL . . . . .	262	415

2. The total number of maternity beds now available in the Protectorate is as follows:

Hassanali Karimjee Jivanjee Hospital, Zanzibar . . . . .	20	(629)
Wete Hospital, Pemba . . . . .	10	(244)
Chake Chake Hospital, Pemba . . . . .	6	(116)
Mkoani Maternity Centre, Pemba . . . . .	6	( 55)
Makunduchi Maternity Centre, Zanzibar . . . . .	6	(233)
Mwembeladu Maternity Home, Zanzibar . . . . .	14	(596)
TOTAL . . . . .	63	

3. The number of confinements conducted in these various centres during the year is shown in brackets against each, the total being 1,894 as compared with 1,536 in 1956. In addition, a further 535 cases were treated at home by the Mwembeladu district midwives. The last three centres are in the charge of trained midwives, who refer abnormal cases to the appropriate hospital centre.

4. An analysis of the cases handled in the maternity wards of the Hassanali Karimjee Jivanjee Hospital shows the following:

Number of primipara ... ..	163
Number of multipara ... ..	466
Number of abnormal confinements ... ..	64
Number of premature infants born ... ..	172
Number of still births ... ..	29
Number of infant deaths (including premature births) ... ..	20
Number of maternal deaths ... ..	6

5. Ante-natal clinics are conducted weekly at all the above-named centres; a total of 4,658 women attended these clinics in 1957, compared with 2,925 in 1956 and 1,357 in 1955. This steady increase in number reflects the growing appreciation of this service.

#### SURGICAL SERVICES.

1. While medical officers in charge of hospitals are required to deal with surgical emergencies in the absence of a surgical specialist, and to undertake simple routine surgical work, Government maintains a specialist surgical officer on the establishment of the Hassanali Karimjee Jivanjee Hospital who is responsible for the surgical unit of approximately 80 beds. All surgical work of a specialised nature is referred to him from other hospitals and periodically he visits Pemba, where he sees surgical patients in consultation with the medical officers at Wete and Chake Chake. In the Hassanali Karimjee Jivanjee Hospital he is assisted by a general duty medical officer.

2. The work done during the year is seen from the table which follows. The figures in brackets are for the year 1956:

Zanzibar ...	major operations ...	971	(895)
" ...	minor " ...	*2,245	(1,821)
Wete ...	major " ...	426	(152)
" ...	minor " ...	175	(814)
Chake Chake ...	major " ...	61	(120)
" ...	minor " ...	804	(1,314)
Mkoani ...	major " ...	—	—
" ...	minor " ...	55	—
TOTAL ...		3,534	(5,116)

\*Of this total, 1,203 were minor operations performed in outpatient theatre.

3. In the Surgical Unit of the Hassanali Karimjee Jivanjee Hospital, an analysis of the major surgical work undertaken reveals the following:

Abdominal operations ... ..	424
Fractures ... ..	34
Genito-urinary ... ..	241
Gynaecological operations ... ..	108
Eyes ... ..	82
Others ... ..	82
TOTAL ...	971

As in former years, the commonest operation performed was that for repair of inguinal hernia. In the genito-urinary group by far the commonest

operation was that for radical cure of hydrocoele. In this connection, the Surgical Specialist comments as follows:

"Three-quarters of all abdominal operations are for hernia and a similar proportion of genito-urinary operations are for hydrocoele. Patients suffering from these conditions are so numerous that a waiting list has to be kept, and, despite herculean efforts, it continues to grow faster than patients can be operated on."

4. The following note on injuries sustained by clove pickers is contributed by the Surgical Specialist. It refers only to patients admitted to the Hassanali Karimjee Jivanjee Hospital, and it should be noted that an even larger number of cases suffering from injuries connected with clove picking were admitted to the hospitals in Pemba.

"Between 1st July and 31st December, 66 patients were admitted to hospital having fallen out of clove trees. Their injuries may be grouped as follows:

(a) Severe bruising and abrasions	...	...	...	26
(b) Fractures of the long bones	...	...	...	19
(c) Fractures of the spine	...	...	...	16
(d) Fractures of the pelvis	...	...	...	2
(e) Other injuries	...	...	...	3

Cases classified as bruises and abrasions include muscular and ligamentous injuries and were of all degrees of severity, frequently causing severe shock and pain and temporary disablement. Most of these injuries involved the muscles of the trunk especially those of the back.

Fractures of the long bones require little comment; two patients had two limbs involved and two cases had compound fractures. One of the compound fractures was a grossly contaminated fracture of the forearm, which ultimately required amputation above the elbow.

Most of the spinal fractures involved the thoracic and lumbar regions and were simple crushes with little deformity and caused little disablement. Two patients had broken wrists in addition to their fractured spines, and one patient was seven months pregnant, but the pregnancy was not affected. There were four cases of fracture dislocation of the spine with paralysis, two involved the neck and two the thoracic region. All four died. All the crush fractures showed clinically a complete recovery, though the deformity was not fully corrected in all cases.

The three cases classified as other injuries are of some interest. One was a severe spinal cord injury in the cervical region without any fracture. He was completely paralysed and eventually died without having shown any sign of recovery. The second case was a lesion of the brachial plexus following a fall on the shoulder with no bony injury. There was no sign of recovery when she was discharged from hospital. The third patient was the only case of ruptured spleen in the series, and he recovered following operation.

Out of the 66 patients there were five deaths, all due to injuries of the spinal cord.

In the absence of a long term follow-up, it is hard to assess what the ultimate disabilities of these patients will be. It is probable that most have little disability remaining at the end of a year but the long term outlook for the spinal fractures is more doubtful owing to the likelihood of arthritis of the spine developing after some years."

#### LABORATORY SERVICES.

1. During the year, the laboratory services were further developed following the arrival in the latter part of 1956 of a pathologist and a fully trained and experienced laboratory technologist. A considerable quantity of new equipment was obtained, a new and more satisfactory animal house was provided, the laboratory itself was redecorated and various new fitments were provided. A more comprehensive service was, as a result, made available to hospitals and to the general practitioners. Such investigations as sensitivity testing against antibiotic drugs, the Rhesus grouping of bloods and other

blood matching techniques were introduced. The biochemical section was developed considerably, and there was a marked increase in the histopathological work done.

2. Improvements were also made in the Pemba laboratory on the recommendation of the pathologist, following a visit there early in the year.

3. A summary of the work done in the Zanzibar and Pemba laboratories is given below:

<i>Nature of Investigations</i>	<i>Number Zanzibar</i>	<i>Number Pemba</i>	
Parasitological . . . . .	16,323	9,446	
Serological . . . . .	1,604	370	
Bacteriological . . . . .	7,338	1,051	
Biochemical . . . . .	2,643	1,902	
Haematological . . . . .	5,128	3,656	
Histological . . . . .	119	—	
Medico-legal . . . . .	75	—	
Postmortem examinations . . . . .	35	—	
Miscellaneous . . . . .	30	—	
TOTAL . . . . .	33,295	6,425	49,720

#### OPHTHALMIC SERVICES.

1. In addition to the general eye work done in all hospitals, a regular weekly eye clinic is conducted at the Hassanali Karimjee Jivanjee Hospital. During the year, 379 candidates for employment in Government service had their eyes tested, and a further 198 patients had refraction tests performed and, where necessary, were provided with prescriptions for spectacles. A new service was instituted whereby scholars can obtain reading glasses in steel frames for Shs. 10/- a pair on presentation of their prescription to the Medical Storekeeper. Thus, the poorer student can obtain spectacles when these are indicated, at a price within his means.

#### X-RAY SERVICES.

During the year, a portable X-ray machine was added to the equipment of the Hassanali Karimjee Jivanjee Hospital. This has proved particularly useful in the Surgical Unit, where it is now possible to X-ray fractures and other cases in which it is not in the best interests of the patient to move him to the X-ray Department. The other three machines, two of which are in the Hassanali Karimjee Jivanjee Hospital and one in Wete Hospital, have been in constant use. An indication of the work done is obtained from the figures below:

<i>X-Ray taken</i>	<i>Zanzibar</i>	<i>Pemba</i>
Bone work . . . . .	1,140	484
Chest work (including Chest Clinic X-rays)	2,285	767
Genito-urinary investigations . . . . .	88	10
Gall bladder investigations . . . . .	33	3
Abdominal and Intestinal investigations	152	27
Obstetrical investigations . . . . .	43	33
Sinus investigations . . . . .	152	4
Miscellaneous . . . . .	28	—
TOTAL . . . . .	3,920	1,328

The Dental Service has its own dental X-ray on which all intra-oral films are taken.

**TUBERCULOSIS SERVICES.**

1. At the Tuberculosis Clinic in Zanzibar, 610 patients attended for treatment during the year and 277 of these were admitted to hospital for periods varying between three to twelve months. Discharges were followed up by the clinic and, with the help of the Welfare Officer who is now attached on a full time basis to the Hassanali Karimjee Jivanjee Hospital, it was possible during 1957 to maintain closer touch with outpatients who tended to default in their attendances at the clinic.

2. The Welfare Officer also assisted in the tracing of contacts. In all, 695 contacts reported at the weekly 'contact' clinic and, of this number, 144 were found to be negative reactors to the tuberculin test. Of these, 108 accepted and received B.C.G. vaccination.

3. Many outpatient cases are still dependant on the help they receive from the Zanzibar Voluntary Welfare Society. This body not only helps to maintain the family of the tuberculous patient in necessitous cases, but also assists the patient himself once he is discharged from hospital but before he is able to take up remunerative employment once again. The Society has also assisted over the transport of patients required to attend the clinic from a distance.

4. During the year, two hospital assistants were trained in the technique of pneumo-peritoneum refills. These men are now in charge of the treatment centres at the extreme ends of Zanzibar Island, and it is now possible for patients living in this vicinity to receive their refills, under instructions from the clinic doctor, without incurring the expense of travelling to Zanzibar.

5. Another development has been the provision of specific drugs at the different treatment centres throughout the island. It is now possible for any patient to receive, on instructions from the clinic doctor, a regular supply of a combined P.A.S. and I.N.A.H. tablet from any dispensary centre. Formerly, it was necessary for patients to travel to Zanzibar each week in order to replenish supplies.

6. Of the 277 patients admitted during the year, 21 died in hospital.

7. Past practice has been to send all patients suffering from tuberculosis in Pemba to Zanzibar for treatment, but for various reasons, this arrangement has proved unsatisfactory, and with recent developments in the chemotherapy of the disease, patients are now being treated in Pemba as outpatients. In 1958 it is hoped to provide under the Protectorate Development programme, a tuberculosis ward block in Wete Hospital where all patients may be hospitalised initially, and thereafter continue their treatment through the medium of an outpatient clinic.

8. During the year, 144 cases of tuberculosis were notified in Pemba, the majority of whom received outpatient treatment at either Wete or Chake Chake hospitals. Each was given written instructions stressing the importance of regular drug therapy, and detailing the precautions to be taken in the home.

**DENTAL SERVICES.**

1. Early in the year one of the dental surgeons proceeded on four months' leave. On his return, a second proceeded on sabbatical leave for five months.

During the absence on leave of the Dental Surgeon from Pemba, a dental surgeon from Zanzibar paid periodic visits to the island.

2. The school dental service was maintained during the year, but with some difficulty owing to the absence on leave of two of the officers for a considerable period. In all, 60 schools were visited and a total of 12,063 pupils were examined. Despite staffing difficulties, these figures compared favourably with figures for 1956 when 41 schools were visited and the number of pupils examined was 11,214.

3. The mental hospital was also visited and 61 patients were given attention.

4. A total of 14,865 attendances were recorded at the dental clinics, 16,468 teeth were extracted, 849 were filled and 123 "scalings" were performed.

#### AMBULANCE SERVICES.

1. Towards the end of the year a new Bedford ambulance arrived, increasing the Department's establishment of vehicles to four, two of which are maintained in Zanzibar and two in Pemba. The second Pemba ambulance is stationed at Chake Chake for service in particular in the southern part of the island. It is mounted on a Landrover chassis, and is thus capable of negotiating by-roads under all weather conditions.

2. During 1957, there was a further increase over previous years in demands for assistance, as is shown by the figures below:

	No. of Calls				Miles travelled		
	1955	1956	1957		1955	1956	1957
Zanzibar . . . . .	1,122	2,083	3,148	...	23,705	27,980	32,220
Pemba . . . . .	139	349	279	...	3,526	6,169	8,067
<b>TOTAL</b> . . . . .	<b>1,261</b>	<b>2,432</b>	<b>3,427</b>		<b>27,231</b>	<b>34,149</b>	<b>40,287</b>

#### SCHOOL MEDICAL SERVICES.

1. The School medical service in Zanzibar is the responsibility of the medical officer-in-charge of Zanzibar district. In view of his other commitments, he is only able to devote one day a week to school medical inspections. This, however, allows him to examine every new admission to school and of checking up on the school leavers. A total of 1,098 children were examined during the year and 541 children, who had not previously received vaccination, were vaccinated. Children found to be suffering from any sickness or disability are referred by the school to the nearest treatment centre or, if necessary, to hospital.

2. The following points, taken from the School Medical Officer's report, are of interest:

- (i) 30 per cent. of all children examined were found to have enlargement of the spleen.
- (ii) Out of the 1,098 children examined, 87 showed clinical evidence of anaemia.
- (iii) Only five children were found to be suffering from yaws. Each was attending a different school, and the Medical Officer comments; "Since the introduction of penicillin for the treatment of yaws, this disease is becoming scarce".
- (iv) Infection with jiggers was a common finding. Very few children in the rural schools were wearing shoes.
- (v) The general nutritional state of the children was assessed as follows:

Poor	...	...	12 per cent.
Fair	...	...	40 "
Good	...	...	48 "

**STORES SERVICES.**

1. Reference has already been made in section 2 to the completion of the new stores. These were occupied in mid-November, and it has been possible for the first time to arrange the numerous stores items in accordance with their appearance in the ledgers. To facilitate store management, the stores list is similarly set out so that on receipt of an order, it can be promptly executed merely by a systematic collection from the shelves of the various items appearing on the indent as a trolley is pushed round the Store. Another improvement in stores organisation has resulted from the provision of a properly appointed dispensary in the new stores unit. This allows all stock mixtures, ointments, etc. to be made 'on the spot' for subsequent issue to sections instead of the former arrangement where all such items had to be made up in the Hassanali Karimjee Jivanjee Hospital dispensary and transported from there to Stores.

2. The stores work has increased considerably during the year. This is mainly because of the additional work connected with the World Health Organization projects which are now in progress, and it has been made no easier since the departure on leave, pending termination of contract, of the pharmacist/storekeeper.

**9. Legislation**

1. The following Decrees and Rules relating to the Health Department were enacted during the year:—

Dangerous Drugs (Amendment) Decree, 1957.  
Food and Drugs (Amendment) Decree, 1957.  
Medical Practitioners and Dentists (Amendment) Decree, 1957.

**Orders under:**

Dangerous Drugs Decree;  
Food and Drugs Decree;  
Public Health Decree;  
Town and Country Planning Decree;  
Towns Decree.

**10. Communicable Diseases****SMALLPOX.**

1. Only one case of smallpox was reported during the year. This occurred in Zanzibar in the month of February. In the Report for 1955, a similar isolated case was also recorded from Pemba. This occurred at a time when chickenpox was prevalent and the suggestion was made that there may have been an error of diagnosis. The case now referred to, however, did not occur in relation to any known outbreak of chickenpox and appears to have been a true case of variola. Why further cases do not occur in these instances cannot be explained. Reference has already been made in Section 2 of the Report to the vaccination campaign carried out in Zanzibar during the clove season. In addition to the 41,617 vaccinations performed in Zanzibar, a further 20,095 were done in Pemba making a total for the year of 61,712.

**YELLOW FEVER.**

In view of the recent revision of the International Sanitary Regulations, and the consequent amendments to the definition of yellow fever "areas",

the Zanzibar Protectorate in common with the other East African Territories declared itself, with effect from 1st March, 1957, a yellow fever receptive area. This means that it is no longer necessary for those travelling between the various East African territories to be in possession of valid yellow fever certificates. Persons likely to undertake international travel are, however, advised to provide themselves with a certificate and to renew it when required.

#### PLAGUE.

No case of this disease has been reported for many years now. A constant watch is kept on the ports in both islands, and systematic trapping of rats is undertaken to detect the appearance of the infection in the rat population. No positive blood smears were obtained during the year. Rat control is maintained by the use of 'Warfarin' in shops, godowns and wharf installations in the port areas. Rats are also trapped in private houses. In Zanzibar, 10,006 'Warfarin' baits were laid and 873 dead rats subsequently recovered. Traps were set in 34,714 premises on 96,145 occasions, and these yielded a further 3,125 rats. In Pemba, a total of 3,953 rats were destroyed in the town of Wete. It is clear from these figures that "Warfarin" baiting is nearly three times as efficient as trap setting. As the laying of the bait takes no longer than setting a trap, the 'Warfarin' method is more economical in manpower. It is not popular with the householder, however, who complain that the rats tend to retire to inaccessible corners where they die and later become offensive.

#### MALARIA.

1. The main interest in malaria has centred on the work done in the latter half of the year under the direction of the World Health Organization Malaria Survey Team. The technical officers arrived in June and set about establishing their headquarters at Mtoni, some four miles from Zanzibar, in a house rented by Government for the purpose. Their first task was to conduct sensitivity tests to determine whether there was any evidence of the existence of dieldrin resistant strains in the local *anopheles gambiae* population. By the end of the year, 1,839 mosquitoes taken from various parts of Zanzibar Island had been tested with satisfactory results. On this finding, a final decision was taken to use dieldrin as the insecticide of choice for the residual spraying campaign to be undertaken in 1958.

2. In addition to this investigation, the World Health Organization entomologist and his assistant have continued the work initiated by Dr. Gillies of Amani of studying the behaviour of the vector in the field, particularly in connection with its feeding and resting habits. Systematic catching of mosquitoes in houses in various parts of the island has continued in order to determine the "mosquito density" per hut, while considerable numbers have been dissected to discover what percentage are actually infected. The study of the mosquito's choice of host in respect of its feeding habits has also started.

3. The malariologist has meanwhile been investigating the spleen rates and parasite rates in children, and results obtained to date are closely in accordance with the findings of Macarthy over twenty years ago. During September and November, over seventeen different villages were visited and 1,863 children were examined. The spleen rate varied from 53.4 per cent. to 81.4 per cent. and the parasite rate from 26.3 per cent. to 83.3 per cent. It was not possible to use school children in this assessment as most of them had been given paludrine as a prophylactic in the schools.

4. The sanitarian attached to the project has been occupied in a systematic numbering of all the houses in the island as a preparatory to spraying, and with the co-operation of the District Medical Officer in Pemba, work on house numbering has also commenced there. Towards the end of the year nine driver/supervisors were engaged and it has been the responsibility of the sanitarian to instruct them in the technique of spraying.

5. In view of the unexplained increase in the fly population in the Nandi district of Kenya following the residual spraying of huts with dieldrin, a fly assessment was conducted in Zanzibar under the direction of the Malaria Institute at Amani. As a result of this, it will be possible in due course to study what effects the spraying in Zanzibar may have on the local fly population.

6. During the year, larvicidal control measures have been continued by the Public Health division of the Department in all the main townships. It is not intended to relax this work in any way in view of the spraying project which is pending, but rather to intensify it in the hope that the incidence of nuisance mosquitoes in the towns generally may be further reduced.

7. Tables giving more precise details of the Survey team's work appear as Appendix I to this Report.

#### SCHISTOSOMIASIS.

There is little to add to what has been said of this condition in earlier reports. One interesting and possibly significant report comes, however, from the District Medical Officer, Pemba, who writes as follows:

"One case of intestinal schistosomiasis was seen in Wete Hospital in a patient who had never been out of the island".

This is the first record of *schistosoma mansoni* occurring in the Protectorate and, though a thorough search was made in the swamp near the village from which the patient came, no specimens of *Biomphalaria* could be found. Snails of this species had, however, been previously reported from the island. To what extent *haematobium* infection affects the health of those so affected requires further assessment, though it is not generally considered to be of great importance.

#### POLIOMYELITIS.

It is again gratifying to report that the incidence of poliomyelitis throughout the Protectorate is very low, only one proved case, that of a European child, being reported during the year. It is thought that this particular case occurred as a result of contact with a carrier from the mainland. Nevertheless, small quantities of vaccine were obtained by the Department during the year, and opportunities were afforded to the public to have their children vaccinated on repayment. Despite the publicity given to the availability of this service, very few parents, other than those whose children are schooling on the mainland, took advantage of the facility.

#### TUBERCULOSIS.

1. Reference has already been made to the work of the Tuberculosis Clinic in Section 8 of the Report. The Welfare Officer attached to the Hassanali Karimjee Jivanjee Hospital continues to give valuable assistance with the tracing of 'contacts' and with the follow-up of those outpatients who default over treatment.

2. During the year the leader of the World Health Organization Tuberculosis Survey Team, at present operating in Tanganyika, visited Zanzibar at the request of the Director of Medical Services for preliminary discussions regarding the possibility of conducting a survey in the Protectorate at some time in the future. It is hoped to arrange for this in 1959/60. It is considered that the basic information, which a survey of this nature would provide, is essential before Government can consider the best methods to be adopted in the future control of tuberculosis.

3. Meanwhile, more and more infective cases appear to be presenting themselves for treatment and, after a period of hospitalisation during which time the majority are rendered non-infective, patients are now discharged and treated as outpatients through the medium of a special clinic. To relieve those outpatients inconvenienced by having to travel comparatively long distances to Zanzibar, facilities for drug therapy and the refilling of established pneumo-peritoneums are being provided at the two health centres at the extreme north and south ends of Zanzibar island.

#### YAWS.

The disease of yaws is still prevalent, particularly in the island of Pemba, but, apart from the introduction of one-dose penicillin for the treatment of patients and their contacts at all the district health centres, circumstances have not permitted of anything further being done in this field for the moment.

#### VENEREAL DISEASES.

Since the introduction of the one-dose treatment with penicillin of syphilis and gonorrhoea, patients appear to be coming more regularly for treatment, and the impression is gained that the incidence of venereal disease generally tends to be dropping. This is particularly so in the case of syphilis. From the evidence available, the general incidence of the venereal diseases does not appear to be high. Venereal infection generally is not, in fact, regarded as a particularly pressing public health problems.

#### ASIAN 'FLU.

The only disease to assume minor epidemic proportions during the year was an outbreak of Asian 'flu. This was almost entirely of a mild type and of short duration. The infection appears to have come by way of the adjoining mainland territories, as the first cases to be reported in Zanzibar occurred when the epidemic was already at its height in Mombasa and Dar es Salaam. Though no exact figures are as yet available, the impression gained generally is that the outbreak in Zanzibar was less widespread than in many places on the mainland. No schools were closed and neither Government nor other employers of labour were at any time seriously affected by absenteeism. Only one or two deaths which could be directly attributed to the infection have been reported.

#### LEPROSY.

During the year an attempt has been made, with the help of district administrative officers, to trace cases of leprosy not already under treatment at Government centres or institutions. Full returns have not yet been received, but it would appear the numbers are not great, and there is every hope that the eradication of leprosy may now be in sight. Meanwhile, the number of patients under treatment in each of the leprosaria in Zanzibar and Pemba is steadily decreasing, and it may soon be possible to consider closing one or other of these centres.

## 11. Hygiene and Sanitation

### REFUSE DISPOSAL.

1. The Health Department is responsible for the collection and disposal of refuse in the four towns of Zanzibar, Wete, Chake Chake and Mkoani. In addition, the suburb of Mazazini, four miles from Zanzibar Town, is catered for.

2. The method consists of house to house collection in the "Stone Town" of Zanzibar and in the towns in Pemba, and of collections from recognised communal dumps in the Ngambo area of Zanzibar. House to house collection in the latter area has not yet been achieved owing to the difficulty of enforcing the legal requirement that each occupier shall provide a dustbin and because of the problems connected with road communications in the area.

3. In Zanzibar, refuse is transported to the main dump by two motor refuse trucks, and by a number of hand carts, which are necessary for operation in the narrow streets of the "Stone Town" and for much of Ngambo where motor vehicles cannot operate.

4. Refuse is disposed of by controlled tipping except in the case of very offensive matter, such as condemned meat, dead animals, hospital refuse, etc., which is destroyed in a forced draught incinerator operated by the Public Works Department in Zanzibar, and by ordinary incineration in Pemba.

5. During 1957, a total of 17,666 tons of refuse was disposed off in Zanzibar Town, and about five thousand tons in the Pemba townships.

6. Reclamation of the old Creek in Zanzibar Town is proceeding steadily. By the end of 1957, the tipping of refuse had reached a point well below the former Darajani Bridge. The portion of the Creek between there and Hollis Road will be reclaimed during 1958 on a level lower than the remainder to allow for a stormwater catchment should future conditions require it, when the tidal portion of the creek in the Fufuni area is eventually reclaimed.

7. In Zanzibar Town, the streets of the Stone area are all swept daily and the main streets twice daily; or even, three times daily. This deployment of labour is unfortunately necessary because of the habit of many householders of throwing rubbish into the street instead of putting it into dustbins for collection.

### INSPECTION OF REGISTERED PREMISES.

1. This is an important part of the duties of the health inspector staff, both prior to the granting of the annual licence and throughout the year. The standard obtaining generally in the towns in respect of these premises though still low is steadily improving.

2. The following is a list of the registered premises which were regularly inspected in Zanzibar town during 1957;

Lodging houses	...	...	...	68
Eating houses	...	...	...	101
Dairies	...	...	...	9
Bakehouses	...	...	...	15
Laundries	...	...	...	42
Aerated water and ice factories	...	...	...	3

## MILK.

Dairies are few in number and milk is sold mainly in small quantities direct from the farm to the householder. Sampling of milk is done as the purveyor hands the milk to the purchaser. During 1957, 358 samples of milk were taken in this way in Zanzibar, and where it was found to be below the standard quality the vendor was prosecuted. There were 61 prosecutions and 59 convictions.

## FOODSTUFFS.

Meat is inspected in the slaughterhouse in Zanzibar by the Veterinary staff. All other food inspection is carried out by health inspectors. Food found to be unfit for human consumption is condemned. In Zanzibar, during 1957, this included 6,095 lb. of wheat flour, 2,948 lb. of sugar, 1,535 lb. of rice, 3,660 lb. of onions and a number of other foodstuffs such as fish, cheese and some tinned goods. In Pemba, 64,437 lb. of beans and other pulses were condemned along with smaller quantities of other foodstuffs such as fish, meat, vegetables and milk.

## SEWAGE AND DRAINAGE.

1. No general water-borne system of sanitation operates in any of the towns. In the low-cost housing areas, pit latrines are universal, while many still exist in the 'Stone Town'. Efforts are continually being made, however, to introduce water-borne sanitation in the permanent stone houses and, in Zanzibar Town, 84 water-closets were installed during the year. Plans for new permanent houses are not now approved unless there is provision for water-closets. In 1957, 65 such plans were approved. There being no sewage disposal plant in any of the towns, closets discharge into septic tanks and the effluent from these is carried away by a closed drainage system to the sea.

2. Stormwater is carried away mainly by closed drains, but, in certain low-lying areas, there are open cement channels for the purpose. During the heavy rains, some areas become flooded and require regular anti-malarial control.

## WATER SUPPLIES.

1. Springs and wells are the source of the water supply for the population on both islands. During the heavy rains, swamps form and these are also used by many as a source of supply.

2. Zanzibar Town is supplied by two fresh water springs which are fully protected. The supply is for the most part adequate. During the year, a new underground service tank was brought into use, enabling more water to be stored, and thus avoiding the necessity to cut off the supply during peak demand periods in the dry season.

3. The purity of the water is regularly checked by bacteriological examination, and only when the supply is low or when maintenance work is being carried out is there any necessity for chemical treatment of the water. The average consumption of water in Zanzibar Town is approximately 1,800,000 gallons per day.

4. The water supply of the three towns of Pemba is also from springs. During the year, efforts to find additional sources in the neighbourhood of these towns have proved successful.

## PORT HEALTH WORK.

1. The main port of the Protectorate is Zanzibar, at which all ships and their passengers are cleared on arrival. Maritime Declarations of Health are demanded from all ocean-going vessels and coastal shipping, and valid international certificates of vaccination against smallpox are required from all passengers and crew. Under a Government Notice, published in 1953, certain coastal vessels are permitted to proceed direct to the port of Wete in Pemba, and clearance is effected by the Health authorities there. All other shipping must first receive pratique in Zanzibar.

2. During the year, 450 ships and 17,52 other craft, including dhows, were cleared in the port of Zanzibar, and a total of 29,552 passengers arrived by sea.

3. At the airport, which is five miles from Zanzibar Town, there were 2,627 aircraft arrivals bringing 20,310 passengers.

## 12. Housing and Town Planning

1. Housing in the rural areas is almost entirely of a temporary type consisting of mud and wattle walls with makuti (palm leaf) roofs. No rules exist for controlling these, and any improvement in standards can only come with an advance in rural health education.

2. In the towns, all new building and alterations to existing buildings are controlled by Rules made under the Towns Decree. These are operated by the respective Building Authority, and every effort is made to maintain standards.

3. The year 1957 was the first full year in which the Town and Country Planning Decree, 1955, was operated. This allows control to be exercised over the size and appearance of buildings, the lay-out of estates, the planning of zones for various types of building, and so on. This control extends beyond the statutory boundary of Zanzibar Town because peri-urban development started some years ago and is likely to be continued on an increasing scale.

4. The provisions of the Town and Country Planning Decree are put into effect in Zanzibar Town by the Town Planning Authority, which includes technical and professional officers and representatives of the public under an unofficial independent chairman.

5. In Zanzibar, the Building Authority dealt with applications to erect 65 new stone houses and 165 new huts, and applications for alterations and additions to 186 stone buildings and 1,710 huts. Of these, 262 were also considered by the Town Planning Authority; the Building Authority in Zanzibar refers to the Town Planning Authority any application which may appear to require their particular consideration.

6. In Pemba, 12 applications to erect stone buildings, 267 applications to erect huts and 257 applications for repairs to huts and other buildings were dealt with by the Health Department staff.

## 13. Prisons

1. There are two central prisons situated at Zanzibar and Wete. In addition, four prison camps exist on Zanzibar Island and one in Pemba.

2. In Wete, a daily sick parade is held at the hospital out-patient clinic for prisoners; those at the prison camp attend Chake Chake Hospital.

3. In Zanzibar, the prison has its own treatment room and small 12 bedded ward under the control of the Medical Officer in charge Prisons and a resident Hospital Assistant. All new admissions to the prison were examined by the Medical Officer in charge on his regular visits.

4. In addition to the 12 beds mentioned above, three isolation cells are available for prisoners suffering from communicable diseases.

5. The camps in Zanzibar are supervised by Hospital Assistants at the rural dispensary nearest to the camp. Two of the camps receive visits daily while the others have twice weekly visits.

6. During the year the health of the prisoners remained good, the daily average number in the prison hospital being 3.5.

7. Of a total of 917 admissions to the prison during the year, 69 underwent medical treatment in the prison hospital, and there was an average of 17 attending the daily outpatient sick parade.

8. The outbreak of Asian Influenza, occurring during the year, affected a small number of prisoners, but did not attain serious proportions. The commonest conditions dealt with were ankylostomiasis and schistosomiasis, with mild respiratory affections in third place.

9. The prison hospital itself was improved during the year by the provision of new hospital beds, improved bedding and a general redecoration by the prison authorities.

#### 14. Building Construction

1. Steady progress was made with building work under the Protectorate Development Programme during the year.

2. The detailed plans and specifications of the new outpatient/laboratory block for the Hassanali Karimjee Jivanjee Hospital were completed, and tenders are to be called for early in 1958.

3. Work on the development plans for Wete Hospital has proceeded steadily. It is proposed that this should be undertaken in the following four stage :

- (a) Construction of main outpatient/administrative block.
- (b) Construction of new female medical and surgical unit.
- (c) Construction of new tuberculosis block.
- (d) Reconstruction of theatre block.

Plans for the first two stages, which are architect designed, are well advanced, and it is anticipated these will go out to tender about April 1958. Plans for the latter two stages will, in due course, be prepared in the drawing office of the Public Works Department.

4. Two further rural dispensaries were build during the year, one at Makunduchi, where the dispensary was temporarily accommodated in the ante-natal clinic room of the Maternity Centre, and the other at Chwaka. Previous reference has been made to each of these in Section 6 of the Report. Under the Development Programme, only one further dispensary now remains to be built, at Fufuni in Pemba.

5. Reference has already been made in section 2 to the completion of the new Headquarters/Stores block.

6. In the West Wing of the Hassanali Karimjee Jivanjee Hospital, one of the larger wards on the ground floor has been divided into two single-bedded rooms. This was required in order to relieve the pressure on single-bedded accommodation which tended to occur from time to time.

7. The old building by the sea, formerly known as the subordinate patients block, was converted into a "flat" for the World Health Organization Health Visitor. This is a temporary arrangement, the ultimate intention being to use this building as a hospital store.

8. In Wete Hospital, the room formerly used as the dental surgery was converted to a multiple-bedded male paying ward, and a small room adjoining has been converted to a bathroom for paying patients. This has considerably improved the amenities for paying patients, which were formerly a cause for complaint.

9. Considerable improvements have been effected at the malaria headquarters at Mtoni, which was commissioned in the middle of the year. Amongst other things, an electric light supply has been installed.

10. The dispensary and dispenser's house at Kizimkazi have both been reroofed and generally renovated.

11. The conversion of the Hassanali Karimjee Jivanjee Hospital boilers from coal fuel to oil burning was completed in December. The new system is both cleaner and cheaper to operate. The plant incorporates a photo-electric cell mechanism which switches off the oil supply in the event of a failure at the burner. There is also an arrangement for the thermostatic control of water temperature and a time switch to regulate the hours of operation of the plant.

D. A. BAIRD,  
*Director of Medical Services*

## Appendix I (a)

## SPLEEN AND PARASITE RATES IN VILLAGES IN ZANZIBAR ISLAND

(CHILDREN 2 TO 9 YEARS OLD)

Village	No. Examined	Spleen-Rate		Parasite-Rate		Gametocyte-Rate ( <i>P. falciparum</i> )	
		2-5 years	6-9 years	2-5 years	6-9 years	2-5 years	6-9 years
		per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Kilimani	(100)	65.5	66.2	65.5	51.5	...	...
Fujoni	(120)	75.5	69.2	77.1	67.2	2.1	1.6
Kigomani	(78)	79.5	77.7	92.3	70.4	7.7	...
Fuoni	(49)	74.2	80.0	83.9	66.6	12.9	6.6
Langoni	(174)	77.0	74.3	70.0	42.9	8.0	2.9
Kombeni	(148)	65.1	70.7	53.5	41.5	4.6	4.9
Uroa	(77)	59.1	80.0	54.5	53.3	4.5	...
Ndijani	(71)	55.3	75.0	48.9	31.2	12.8	6.2
Uzini	(212)	74.4	66.2	44.4	30.9	4.3	1.5
Mhangani	(76)	73.2	85.7	...	...	...	...
Pete	(185)	72.8	61.7	46.2	26.0	2.1	2.0
Kizimkazi	(77)	58.3	50.0	43.8	33.3	4.2	...
Ndimbani	(59)	81.8	80.0	54.5	50.0	3.0	...
Bwejuu	(150)	52.8	54.3	26.4	26.1	4.2	...
Unguja Ukuu	(97)	67.7	88.2	53.2	52.9	8.1	...
Kwebona	(48)	76.0	72.7	64.0	9.1	8.0	...
Moga	(142)	94.4	64.4	83.3	65.3	5.3	...
TOTAL	(1,863)	70.2	68.5	56.4	47.4	5.8	1.4

## PARASITE-RATE—INFANTS AND CHILDREN ONE YEAR OLD

	No. Examined	No. Positive	Parasite Rate	Gametocyte Rate
			Per cent.	Per cent.
Infants (1 to 12 months)	131	26	19.8	4.6
Children (1 year old)	142	23	44.4	7.0

## Appendix I (c)

## SUSCEPTIBILITY TESTS OF A. GAMBIAE AGAINST VARIOUS CONCENTRATIONS OF DIELDRIN AND DDT.

(BUSVINE AND NASH TECHNIQUE)

## DIELDRIN.

Conc. of Insecticide	No. of Mosquitoes treated	No. dead after 24 hours	Per cent. mortality
Per cent.			Per cent.
0.1	275	214	77.8
0.2	518	517	99.8
0.4	510	510	100
Controls	536	63	11.7

## DDT

Conc. of Insecticide	No. of Mosquitoes treated	No. dead after 24 hours	Per cent. mortality
Per cent.			Per cent.
0.5	94	21	22.3
1	88	65	73.8
2	94	94	100
Controls	92	4	4.3

## RETURN OF DISEASES: IN-PATIENTS, 1957

Code	List No.	Diseases	Remain- ing in Hospital at end of Dec. 1956	Admis- sions	Total cases treated	Deaths	Remain- ing in Hospital at end of Dec. 1957
<i>I. Infective and Parasitic Diseases</i>							
001008	A 1	Respiratory Tuberculosis ...	78	307	385	41	97
010	A 2	Tuberculosis of Meninges and Central Nervous System ...		2	2	-	-
011	A 3	Tuberculosis of Intestines, Peritoneum and Mesenteric Glands ...	-	2	2	1	-
012,013	A 4	Tuberculosis of bones and joints ...	2	8	10	-	1
014-09	A 5	Tuberculosis—all other forms ...	1	6	7	-	1
020	A 6	Congenital Syphilis ...	-	-	-	-	-
021.0.021.1	A 7	Primary Syphilis ...	-	4	4	-	-
022,2-021,4	A 7	Secondary Syphilis ...	-	1	1	-	-
024	A 8	Tabes Dorsalis ...	-	1	1	-	-
025	A 9	General Paralysis of Insane ...	-	1	1	-	-
022,023	A 10	Cardio Vascular Syphilis ...	-	6	6	-	-
026-029	A 10	All other Syphilis ...	1	13	14	1	1
030,031	A 11	Gonorrhoea, Genito-Urinary ...	2	54	56	-	3
033	A 11	Gonococcal infection of eye ...	1	-	1	-	-
032,034,035	A 11	Other Gonococcal infections ...	-	40	40	-	1
040	A 12	Typhoid Fever ...	-	4	4	-	1
041,042	A 13	Salmonella Infections ...	-	1	1	-	-
043	A 14	Cholera ...	-	-	-	-	-
044	A 15	Brucellosis ...	-	-	-	-	-
045	A 16	Bacillary Dysentery ...	-	109	109	5	15
046	A 16	Amoebiasis ...	1	67	68	1	2
047,048	A 16	Other Unspecified Dysentery ...	2	93	95	-	-
050	A 17	Scarlet Fever ...	-	-	-	-	-
051	A 18	Streptococcal Sore Throat ...	-	13	13	-	-
052	A 19	Erysipelas ...	-	-	-	-	-
053	A 20	Septicaemia and Pyaemia ...	-	3	3	-	1
055	A 21	Diphtheria ...	-	1	1	-	-
056	A 22	Whooping Cough ...	-	7	7	-	-
057	A 23	Meningococcal Infections ...	-	2	2	1	-
058	A 24	Plague ...	-	-	-	-	-
060	A 25	Leprosy ...	180	47	227	3	156
061	A 26	Tetanus ...	-	12	12	1	2
062	A 27	Anthrax ...	-	-	-	-	-
080	A 28	Acute Poliomyelitis ...	-	-	-	-	-
082	A 29	Acute infectious Encephalitis ...	-	1	1	-	-
081,083	A 30	Late effects Poliomyelitis and Infectious Encephalitis ...	-	1	1	-	-
084	A 31	Variola major ...	-	-	-	-	-
084	A 31	Variola minor ...	-	-	-	-	-
085	A 32	Measles ...	-	-	-	-	-
091	A 33	Yellow Fever ...	-	-	-	-	-
092	A 34	Infectious Hepatitis ...	-	32	32	1	1
094	A 35	Rabies ...	-	-	-	-	-
100	A 36	Louse-borne Epidemic Typhus ...	-	-	-	-	-
101	A 36	Flea-borne Endemic Typhus ...	-	-	-	-	-
104	A 36	Tick-borne Typhus ...	-	-	-	-	-
N.O.S.							
102-108	A 36	Other Rickettsial Diseases ...	-	-	-	-	-
110	A 37	B.T. Malaria ...	-	18	18	-	-
111	A 37	Qt. Malaria ...	-	-	-	-	-
112	A 37	S.T. Malaria ...	2	162	164	5	13
Carried forward ...			270	1,018	1,288	60	295

Code	List No.	Diseases	Remain- ing in Hospital at end of Dec. 1956	Admis- sions	Total cases treated	Deaths	Remain- ing in Hospital at end of Dec. 1956
		Brought forward	270	1,018	1,288	60	295
115 N.O.S.	A 37	Blackwater Fever ...	—	1	1	—	—
113-117	A 37	Other Forms of Malaria ...	2	397	399	5	—
123.0	A 38	Schistosomiasis (haematobium) ...	—	17	17	—	—
123.1	A 38	Schistosomiasis (mansoni) ...	—	1	1	—	—
123.2	A 38	Schistosomiasis (japonicum) ...	—	—	—	—	—
123.3	A 38	Other Unspecified Schistosomiasis ...	—	—	—	—	—
125.	A 39	Hydatid Diseases ...	—	1	1	—	—
127.	A 40	Onchocerciasis ...	—	17	17	—	1
	A 40	Loiasis ...	—	—	—	—	—
127	A 40	Filariasis (bancrofti) ...	—	31	31	—	2
127	A 40	Other Filariasis ...	1	34	35	—	—
129	A 41	Ankylostomiasis ...	1	16	17	—	—
126	A 42	Tapeworm and other cestode infestation ...	—	6	6	—	—
130.0	A 42	Ascariasis ...	—	16	16	—	—
130.3 N.O.S.	A 42	Guineaworm ...	—	—	—	—	—
124-130	A 42	Other diseases due to Helminths ...	—	1	1	—	—
037	A 43	Lymphogranuloma Venereum ...	—	2	2	—	—
038	A 43	Granuloma Inguinale ...	—	—	—	—	—
039	A 43	Other Unspecified Venereal Diseases ...	—	5	5	—	—
049	A 43	Food Poisoning, infective and toxic (excepting Salmonella infections) ...	—	2	2	—	1
071	A 43	Relapsing Fever ...	—	—	—	—	—
072	A 43	Weil's Diseases ...	—	—	—	—	—
073	A 43	Yaws ...	—	1	1	—	—
087	A 43	Chickenpox ...	—	16	16	—	—
090	A 43	Dengue ...	—	—	—	—	—
095	A 43	Trachoma ...	—	16	16	—	—
096.7	A 43	Sandfly fever ...	—	—	—	—	—
120	A 43	Leishmaniasis ...	—	—	—	—	—
121.0	A 43	Trypanosomiasis (gambiense) ...	—	—	—	—	—
121.0	A 43	Trypanosomiasis (rhodesiense) ...	—	—	—	—	—
121.2	A 43	Other Unspecified Trypanosomiasis ...	—	—	—	—	—
131	A 43	Dermatophytosis (Tinea) ...	—	3	3	—	—
135. N.O.S.	A 43	Scabies ...	—	9	9	—	—
036-122	A 43	Other infectious and protozoal diseases ...	—	4	4	—	—
N.O.S. 132-138	A 43	Other Parasitic Diseases ...	—	—	—	—	—

## II. Neoplasms

140-148	A 44	Malignant Neoplasm Mouth and Pharynx ...	—	2	2	—	—
150	A 45	Malignant Neoplasm of Oesophagus ...	—	1	1	1	—
151	A 46	Malignant Neoplasm of Stomach ...	—	7	7	2	—
152,153	A 47	Malignant Neoplasm of Intestine ...	—	4	4	2	—
154	A 48	Malignant Neoplasm of Rectum ...	—	3	3	—	—
161	A 49	Malignant Neoplasm of Larynx ...	—	1	1	—	—
162,163	A 50	Malignant Neoplasm of trachea, bronchus and lung not specified as secondary ...	—	2	2	2	—
170	A 51	Malignant Neoplasm of breast ...	—	2	2	1	—
171	A 52	Malignant Neoplasm of cervix uteri ...	1	7	8	2	—
		Carried forward	275	1,643	1,918	75	299

Code	List No.	Diseases	Remain- ing in Admis- Hospital sions at end of Dec. 1956	Total cases Deaths treated	Remain- ing in Hospital at end of Dec. 1957		
		Brought forward	275	1,643	1,918	75	299
172-174	A 53	Malignant Neoplasm of other unspeci- fied parts of uterus	—	1	1	—	—
177	A 54	Malignant Neoplasm of prostate	—	2	2	1	—
190,191	A 55	Malignant Neoplasm of skin	1	7	8	—	—
196,197	A 56	Malignant Neoplasm of bone and connective tissue	—	4	4	—	—
N.O.S.							
155-199	A 57	Malignant Neoplasm of all other and unspecified sites	—	19	19	5	—
204	A 58	Leukaemia and Aleukaemia	—	—	—	—	—
200-203,205	A 59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic systems	—	3	3	1	—
210-239	A 60	Benign Neoplasms and unspecified neoplasms	6	44	50	—	1
III & IV. Allergic, Endocrine System, Metabolic and Nutritional Diseases and Diseases of the Blood and Blood forming organs							
250,251	A 61	Non-toxic goitre	—	2	2	—	—
252	A 62	Thyrotoxicosis	—	1	1	—	—
260	A 63	Diabetes Mellitus	1	18	19	1	2
280	A 64	Beriberi	—	13	13	1	—
281	A 64	Pellagra	—	—	—	—	—
282	A 64	Scurvy	—	—	—	—	—
286.6	A 64	Kwashiorkor	1	6	7	—	—
283-286	A 64	Other Deficiency States	—	142	142	2	2
290	A 65	Pernicious and other hyperchromic anaemias	—	5	5	1	—
291	A 65	Iron deficiency anaemias	8	118	126	6	4
292,293	A 65	Other anaemias	1	69	70	4	—
341	A 66	Asthma	—	40	40	1	—
N.O.S.	A 66	Other allergic, endocrine, metabolic, nutritional and blood diseases	—	12	12	—	—
40-299							
V. Mental, Psychoneurotic, and Per- sonality Disorders							
300-309	A 67	Psychoses	186	86	272	9	205
310-324, 326	A 68	Psychoneuroses and disorders of Personality	—	4	4	—	—
325	A 69	Mental deficiency	—	—	—	—	—
VI. Diseases of the Nervous System and Sense Organs							
330-334	A 70	Vascular lesions affecting central nervous system	—	24	24	8	—
340	A 71	Meningitis (except meningococcal and tuberculous)	—	4	4	1	—
345	A 72	Multiple sclerosis	—	—	—	—	—
353	A 73	Epilepsy	—	3	3	—	—
370-379	A 74	Inflammatory diseases of eye	—	8	8	—	—
385	A 75	Cataract	1	78	79	—	1
387	A 76	Glaucoma	—	14	14	—	—
390	A 77	Otitis externa	—	1	1	—	—
		Carried forward	480	2,371	2,851	116	514

Code	List No.	Diseases	Remain- ing in Hospital at end of Dec. 1956	Admis- sions	Total cases treated	Deaths	Remain- ing in Hospital at end of Dec. 19
		Brought forward	... 480	2,371	2,851	116	514
391-393	A 77	Otitis media and mastoiditis	...	7	7	1	-
394	A 77	Other inflammatory diseases of ear	1	-	1	-	-
N.O.S.	A 78	All other diseases of nervous system, sense organs and auditory system	3	53	56	3	1
341-369							
395-398							
N.O.S.	A 78	All other diseases and conditions of eye	...	47	47	-	-
380-389							
<i>VII. Diseases of the Circulatory System</i>							
400-402	A 79	Rheumatic Fever	...	7	8	-	-
410-416	A 80	Chronic rheumatic heart disease	...	14	14	4	-
420-422	A 81	Arteriosclerotic and degenerative heart disease	...	37	37	5	3
430-434	A 82	Other diseases of heart	...	60	67	19	-
440-443	A 83	Hypertension with heart disease	...	16	16	2	-
444-447	A 84	Hypertension without mention of heart	...	15	15	2	-
450-456	A 85	Diseases of arteries	...	6	6	1	1
460-468	A 86	Other diseases of circulatory system	...	14	14	3	-
<i>VIII. Diseases of the Respiratory System</i>							
470-475	A 87	Acute upper respiratory infections	...	39	39	-	3
480-483	A 88	Influenza	...	252	252	-	3
490	A 89	Lobar pneumonia	...	445	454	27	9
491	A 90	Bronchopneumonia	...	106	112	11	6
492,493	A 91	Primary atypical, other and unspe- cified pneumonia	...	27	29	3	-
500	A 92	Acute bronchitis	...	121	122	1	10
501,502	A 93	Bronchitis, chronic and unqualified	...	17	17	-	1
510	A 94	Hypertrophy of tonsils and adenoids	...	12	12	-	-
518,521	A 95	Empyema and abscess of lung	...	10	10	3	-
519	A 96	Pleurisy	...	11	11	-	-
523	A 97	Pneumoconiosis	...	3	3	-	-
N.O.S.							
511-527	A 97	All other respiratory diseases	...	71	76	2	1
<i>IX. Diseases of the Digestive System</i>							
530	A 98	Dental Caries	...	29	29	-	-
531-535	A 98	All other diseases of teeth and sup- porting structures	...	24	24	-	-
540	A 99	Ulcer of stomach	...	8	8	-	-
541	A 100	Ulcer of duodenum	...	37	40	1	-
543	A 101	Gastritis and duodenitis	...	39	39	-	-
550-553	A 102	Appendicitis	...	25	26	2	-
560-561,570	A 103	Intestinal obstruction and hernia	...	456	473	8	18
571.0	A 104	Gastro-enteritis and colitis between four weeks and two years	...	21	21	2	-
571.1	A 104	Gastro-enteritis and colitis, ages two years and over	...	96	98	9	1
572	A 104	Chronic enteritis and ulcerative colitis	...	2	2	1	-
581	A 105	Cirrhosis of liver	...	14	15	3	-
584,585	A 106	Cholelithiasis and Cholecystitis	...	17	18	-	1
536-587	A 107	Other diseases of digestive system...	...	195	203	1	2
Carried forward			... 548	4,724	5,272	230	576

Code	List No.	Diseases	Remain- ing in Hospital at end of Dec. 1956	Admis- sions	Total cases treated	Deaths	Remain- ing in Hospital at end of Dec. 1957
		Brought forward	548	4,724	5,272	230	576
<i>X. Diseases of the Genito-Urinary System</i>							
590	A 108	Acute nephritis	—	10	10	2	1
591-594	A 109	Chronic, other and unspecified nephritis	—	11	11	2	—
300	A 110	Infections of Kidney	—	24	24	1	2
302,604	A 111	Calculi of urinary system	1	23	24	—	—
310	A 112	Hyperplasia of prostate	—	38	38	4	—
320,621	A 113	Diseases of breast	1	3	4	—	—
313	A 114	Hydrocele	5	127	132	—	—
334	A 114	Disorder of Menstruation	—	39	39	—	—
N.O.S.	A 114	Other diseases of genito-urinary system and male genital organs	5	334	339	3	2
301-617	A 114	Other diseases of uterus and female genital organs	—	166	166	3	6
322-637							
<i>XI. Deliveries and Complications of Pregnancy, child birth and the Puerperium</i>							
440-641, 681,682,684	A 115	Sepsis of pregnancy, childbirth and the puerperium	—	8	8	—	—
442, 652, 685, 686	A 116	Toxaemias of pregnancy and the puerperium	—	22	22	1	—
443,644	A 117	Haemorrhage of pregnancy and childbirth	—	24	24	1	—
450	A 118	Abortion without mention of sepsis or toxaemia	2	99	101	—	—
450	A 119	Abortion with sepsis	—	9	9	—	1
460	A 120	Delivery without complication	4	858	862	—	24
N.O.S.	A 120	Other complications of pregnancy, childbirth and puerperium	—	99	99	13	—
445-689							
<i>XII. Diseases of the Skin and Cellular tissue</i>							
690-689	A 121	Infections of skin and subcutaneous tissue	13	497	510	4	3
<i>XIII. Diseases of the bones and organs of movement</i>							
720-725	A 122	Arthritis and spondylitis	—	50	50	1	3
726,727	A 123	Muscular rheumatism and rheumatism unspecified	—	16	16	—	—
730	A 124	Osteomyelitis and periostitis	1	22	23	1	2
737,745,749	A 125	Ankylosis and acquired musculo-skeletal deformities	—	2	2	—	—
745	A 126	Chronic ulcer of skin	10	248	258	—	5
750-714,716	A 126	All other diseases of skin	2	49	51	—	—
751-736, 748-744	A 126	All other diseases of musculo-skeletal system	4	94	98	—	—
<i>XIV. Congenital Malformations</i>							
750-53	A 127	Monstrosity, Spina bifida and meningocele	—	1	1	—	—
754	A 128	Congenital malformations of circulatory system	—	2	2	—	—
N.O.S.	A 129	Other congenital malformations	—	10	10	—	—
750-759							
		Carried forward	596	7,609	8,205	266	625

Code	List No.	Diseases	Remain- ing in Hospital at end of Dec. 1956	Admis- sions	Total cases treated	Deaths	Remain- ing in Hosp at end Dec. 1
Brought forward			596	7,609	8,205	266	625
<i>XV. Certain Diseases of early infancy</i>							
760-761	A 130	Birth injuries	—	1	1	—	—
762	A 131	Postnatal asphyxia and atelectasis...	—	1	1	—	—
764	A 132	Diarrhoea of newborn (under four weeks)	—	—	—	—	—
765	A 132	Ophthalmia neonatorum	—	1	1	—	—
763,766,768	A 132	Other infections of newborn	—	3	3	2	—
770	A 133	Haemolytic disease of newborn	—	—	—	—	—
769,771,772	A 134	All other defined diseases of early infancy	—	2	2	—	—
773,776	A 135	Ill-defined diseases peculiar to early infancy, and immaturity unqualified	—	2	2	—	—
<i>XVI. Symptoms of Senility and Ill-defined conditions</i>							
794	A 136	Senility without mention of Psychosis	135	42	177	5	—
788.8	A 137	Pyrexia of unknown origin	2	81	83	6	1
793	A 137	Observation, without need for further medical care	—	160	160	1	8
N.O.S. 780-795	A 137	All other ill-defined causes of morbidity	—	51	51	3	2
<i>N.XVII. Accidents, Poisoning and Violence</i>							
N800-N804	AN 138	Fracture of skull	1	11	12	3	—
N805-N809	AN 139	Fracture of spine and trunk	1	60	61	7	4
N810-N829	AN 140	Fracture of limbs	4	135	139	3	2
N830-N839	AN 141	Dislocation without fracture	1	4	5	—	—
N840-N848	AN 142	Sprains and strains of joints and adjacent muscle	2	37	39	—	1
N850-N856	AN 143	Head injury (Excluding fracture)	3	36	39	2	—
N860-N869	AB 144	Internal injury of chest, abdomen, and pelvis	—	4	4	—	—
N870-N908	AN 145	Laceration and open wounds	7	172	179	—	4
N910-N929	AN 146	Superficial injury, contusion and crushing with intact skin surface	3	64	67	1	2
N930-N936	AN 147	Effects of foreign body entering through orifice	—	8	8	—	—
N940-N949	AN 148	Burns	4	39	43	2	—
N960-N979 N950-N959,	AN 149	Effects of poisons	—	27	27	—	—
N980-999	AN 150	All other and unspecified effects of external causes	4	146	150	1	—
TOTAL			763	8,696	9,459	302	649

N.O.S. means "Not Otherwise Specified", i.e. N.O.S. 102-108 means other diseases included between these numbers in the International Classification to be entered in this line if not otherwise specified any line elsewhere.

## Appendix III

## RETURN OF DISEASES: OUT-PATIENTS—1957

Code	Diseases	
011-008	Respiratory Tuberculosis ... ..	502
010-019	Other Tuberculosis ... ..	37
020-029	Syphilis ... ..	758
030-035	Gonorrhoea ... ..	2,416
036-039	Other Venereal Diseases ... ..	248
045	Bacillary Dysentery ... ..	794
046	Amoebic Dysentery ... ..	346
055	Diphtheria ... ..	1
056	Whooping Cough ... ..	372
057,340	Meningitis (Excluding Tuberculosis) ... ..	—
058	Plague ... ..	—
060	Leprosy ... ..	55
061	Tetanus ... ..	2
062	Anthrax ... ..	—
071	Relapsing Fever ... ..	—
073	Yaws ... ..	7,741
080	Acute Poliomyelitis ... ..	2
084	Variola major ... ..	—
084	Variola minor ... ..	—
085	Measles ... ..	74
086	Rubella ... ..	—
087	Chicken Pox ... ..	330
089	Mumps ... ..	282
092	Infectious Hepatitis ... ..	133
095	Trachoma ... ..	102
110	B.T. Malaria ... ..	954
111	Qt. Malaria ... ..	460
112	S.T. Malaria ... ..	4,233
113-117	Other forms of Malaria ... ..	12,054
115	Blackwater ... ..	2
121	Trypanosomiasis ... ..	—
123.0	Schistosomiasis (haematobium) ... ..	1,766
123.1	Schistosomiasis (mansoni) ... ..	187
126	Tapeworm ... ..	18
127	Onchocerciasis ... ..	41
129	Ankylostomiasis ... ..	2,545
130.0	Ascariasis ... ..	249
131	Tinea ... ..	247
135	Scabies ... ..	11,081
N.O.S.		
036.138	Other infective and parasitic diseases ... ..	598
140-205	Malignant Neoplasms ... ..	10
210-239	Benign and other Neoplasms ... ..	213
241	Asthma ... ..	1,078
286.6	Kwashiorkor ... ..	2
290-293	Anaemia ... ..	14,595
N.O.S.	Other allergic, endocrine, metabolic and nutritional diseases ... ..	692
300-326	Mental Disorder ... ..	10
353	Epilepsy ... ..	17
N.O.S.	Other diseases of the nervous system and sense organs ... ..	1,390
330-369	Conjunctivitis and Ophthalmia ... ..	6,377
370		
373	Stye ... ..	107
389	Blindness ... ..	72
N.O.S.		
371-388	Other diseases of eye (not trachoma) ... ..	1,187
390-398	Diseases of ear and mastoid process ... ..	4,741
400-447	Diseases of the Heart ... ..	145
450-468	Other Circulatory diseases ... ..	200
	Carried forward ... ..	79,466

Code	Diseases	
	Brought forward	79,466
490-493	Pneumonia ... ..	1,616
N.O.S.	Other diseases of the respiratory system (including	
470-527	coryza, pharyngitis and bronchitis) ... ..	36,495
530	Dental caries ... ..	5,521
538	Stomatitis and other diseases of the buccal cavity ...	1,314
560-561,570	Intestinal obstruction and hernia ... ..	568
571.0	Gastroenteritis under two years ... ..	813
571.1	Gastroenteritis over two years ... ..	2,551
N.O.S.		
537-587	Other Diseases of Digestive System ... ..	12,315
613	Hydrocele ... ..	660
N.O.S.	Other diseases of genito-urinary system and male	
590-617	genital organs ... ..	1,386
636	Sterility (female) ... ..	30
N.O.S.		
620-637	Other diseases of uterus and female genital organs ...	1,814
—	Normal pregnancy ... ..	3,126
650-652	Abortion ... ..	88
N.O.S.		
640-689	Other diseases of childbirth ... ..	33
690-698	Boils, and infection of skin and subcutaneous tissue	11,915
715	Chronic ulcers ... ..	15,123
N.O.S.		
700-716	Other diseases of the skin ... ..	5,788
720-759	Diseases of bones, joints, muscles and malformation	6,052
760-776	Neonatal diseases ... ..	2
788.8	Pyrexia of unknown origin ... ..	9,340
N.O.S.		
780.795	All other ill-defined causes of morbidity ... ..	10,574
N800-N839	Fractures and dislocations ... ..	197
N840-N848	Sprains ... ..	1,100
N930-N936	Foreign bodies ... ..	375
N940-N949	Burns and Scalds ... ..	420
N960-N979	Poisoning ... ..	21
N.O.S.		
N850-N999	Other injuries and wounds ... ..	9,466
Y00-Y18	Examination ... ..	1,632
	<b>Total</b> ...	<b>219,801</b>