Annual medical report / Colony and Protectorate of Kenya.

COLONY AND PROTECTORATE OF KENYA

MEDICAL DEPARTMENT ANNUAL REPORT 1947

INCLUDING

MEDICAL RESEARCH LABORATORY ANNUAL REPORT, 1947

INSECT-BORNE DISEASES DIVISION ANNUAL REPORT, 1947

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MEDICAL DEPARTMENT HEAD OFFICE,
NAIROBI

SIR,

I have the honour to submit for the information of His Excellency the Governor, and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary Conditions of the Colony and Protectorate of Kenya for the year 1947, together with the Returns, etc., appended thereto.

I have the honour to be,
Sir,
Your obedient servant,

N. M. MACLENNAN,
Director of Medical Services.

The Honourable the Chief Secretary, Nairobi.

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MEDICAL DEPARTMENT ANNUAL REPORT, 1947

SECTION I

INTRODUCTORY

On the approval of the Development Committee Report, plans for the improvement of the Medical Services in the Colony were put in motion and projects of prime urgency were initiated.

This year, the evacuation of the Group Hospital, Nairobi, by the Military allowed of the repair of dilapidations and the continuation of the building of the second African ward block extension. The finished scheme will house 600 beds, but even at this time it would appear that this number will be inadequate, and the Department will soon be faced with having to provide a hospital of at least 1,200 beds. This works out at the rate of only six general hospital beds per thousand of African population in Nairobi.

Outside Nairobi the extensions to Kitale Hospital were continued, and other projects of only slightly less urgency were in the planning stage. It was not very long before it became obvious that the approved schemes were going to be far more expensive and difficult of execution than had originally been contemplated. Building costs took a sharp upward trend during the latter part of the year, and this, coupled with the difficulties of the supply of material and of skilled artisans, has gone far to dislocate the conceptions of the original schemes. The inevitable result has been to retard the medical improvement programme to an unbelievable extent. This lack of progress in the improvement of the medical facilities is serious in its effects, as a record of the work done by the Department again shows a sharp upward trend in point of numbers treated, both in the hospitals and at the dispensaries.

The amount of medical relief provided and the cost thereof is shown below, and is compared with the two previous years:—

Year	Sanctioned Estimates (Recurrent)	Actual Expenditure	Qualified Medical Staff	European		Asiatic and African		Out-dispensary attendances
				In-patients	Out-patients	In-patients	Out-patients	
	£	£						
1945 ..	362,693	361,417	47	3,328	8,236	124,619	674,832	1,029,860
1946 ..	425,287	408,951	53	3,369	9,567	145,898	796,008	1,218,073
1947 ..	478,019	462,939	58	3,457	9,658	156,888	801,395	1,286,879

Not only have the numbers risen but higher standards of modern treatment are now expected, and as the medical services are now having to deal with many more patients than they were ever designed for, and at a higher standard than could be originally visualized, the strain can be imagined. Thanks are due to all medical personnel that this strenuous year has been successfully completed. It would appear that in the coming year there will be a further call upon their endeavours, and that their efforts will have to be intensified for there is no reason to believe that hospital and dispensary attendances will fall. Inevitably some little time will elapse before the buildings and improvements programmes, which are now in hand, can catch up with the ever-quickening demand for hospital services from the African.

It has been expected in some quarters that the establishment of health centres would go far to relieve the strain on the existing bed-space in the Colony. The danger, however, is that health centres may, in fact, lead to an even greater demand for beds, solely by reason that persons needing medical treatment will be discovered in the course of the surveys contemplated. Unless the health centre services are carefully designed this danger will inevitably mature so that it is necessary, in the first instance, not to effect too drastic a divorce from curative services in the Health Centre Schemes. There is every reason in fact to design health centres which will incorporate the curative side whilst fulfilling their prime function of a preventive medical service.

RESEARCH

Research has continued in the Colony chiefly through the Division of Insect-Borne Diseases whose report is appended. This research has been very satisfactory and successful, more especially on the work done against the *Simulium spp.* responsible for the propagation of onchocerciasis. It is quite probable that the foci of onchocerciasis in the Nyanza Province will be completely eliminated in the near future.

Problems concerning the transmission of relapsing fever have also been investigated and the incidence of *T. rhodesiense* in the Masai district was the subject of a special survey in view of the potential importance of this pathogen in the fly-infested regions of the Colony. Field experiments on adult anopheles control were continued in the Kericho district.

ADMINISTRATION

There has been no change in the higher administration of the Department which now works under the general control of the Hon. Member for Health and Local Government.

European Services

The European Hospital Authority, which was incorporated in 1946, has been gradually taking over control of its responsibilities for the provision and maintenance of European hospitals. As some of the European hospitals prior to 1946 were owned by the Government and run by the Medical Department, it has not been possible for a sudden transition to be made whereby the European Hospital Authority has been able to invest itself with full authority. The Medical Department has still found it necessary to assist the Hospital Authority in medical and nursing personnel, and by the supply of drugs and equipment.

Asian Services

As yet the Asian Hospital Committee has not reached the stage of becoming an incorporated authority with executive function. The need for this advance cannot be over-stressed as Asian hospital accommodation is far from satisfactory and it will be so until the Asian community possess a hospital authority of their own. The pitfall to be avoided by the Asian community in their search for better hospital accommodation is a tendency not to agree to inclusion in the Group Hospital schemes which have been designed by this Department. Any separation from these schemes must inevitably result in delay in the adequate provision of Asian hospital beds. On the financial side, the outlook has been considerably brightened by the generous bequests of Ismail Rahimtulla to the extent of £60,000 given towards the cost of an Asian hospital in Nairobi and £30,000 towards the cost of an Asian maternity home in Mombasa.

African Services

African medical services, of course, remain completely free except for the employers' contribution towards the hospital expenses incurred by their employees. As it has been pointed out above, the African medical services are overstrained to something beyond their capacity, notwithstanding the larger and larger votes, year by year, that are allocated to the Medical Department. The aim of the Department is to augment the services available, and to improve the facilities at present obtainable, but it is quite obvious that the improvement of services will be dependent upon our obtaining some direct contribution from the Africans in payment. A committee was appointed early in the year with the following terms of reference:—

(*a*) To examine the practicability of requiring Africans to pay a proportion of the cost of personal medical services provided by the Government and/or Local Native Council at hospitals and at dispensaries and, if found practicable,

(*b*) to make recommendation as to the procedure to be adopted to provide adequate safeguards against any loss of Government or Local Native Council revenue, and

(*c*) to make recommendations as to the scale of fees to be charged.

The report of this committee was made available on the 14th August, 1947, and their conclusions were:—

> "Weighing the administrative difficulties of a system of payment for medical services at hospitals and dispensaries, we are of the opinion that it is not impracticable to levy fees for in-patient treatment but that any satisfactory method of assessment, remission, collection and check of fees would be unduly expensive. As for out-patient treatment, the administrative difficulties are much greater and the cost would be relatively much higher. We cannot say that a fees system for out-patients is impossible, but it is our opinion that it is not practicable except with disproportionate administrative expense.
>
> The first of our terms of reference requires us 'to examine the practicability of requiring Africans to pay a proportion of the cost of personal medical services'. In point of fact, of course, payment is made through taxation and we consider we are not debarred from making a recommendation that, if it is considered desirable that more revenue be raised from Africans to meet the cost of these services, then the cheapest and simplest method is to increase direct taxation, local and central. We wish to emphasize that we express no view on the *desirability* of raising the revenue or of increasing taxation. We should, however, add that if the Government does consider it desirable to raise more revenue for medical services it should not be raised solely from the African taxpayer, since to do so would be to cut across the liability of the employer. We therefore make the suggestion that if it is decided to raise more revenue some system should be devised of collecting a levy from employers on the lines of the Health and Unemployment Insurance payments by employers in the United Kingdom."

Obviously no implementation of these recommendations is immediately possible, but the question must necessarily be further explored as the prize which is the improvement of the African medical services, resultant upon augmented finances, cannot be foregone.

STAFF

It cannot be stressed too strongly that an efficient and contented staff is the cornerstone of any improved medical service contemplated. There has been great difficulty in the recruitment of European medical staff due, apparently, to the unsatisfactory terms of service offered by the Department, for at the end of the year, the establishment in medical officers alone was short by 18 men. As far as medically trained African staff is concerned, the position is somewhat different. There is an absolute shortage of Makerere trained graduates available for posting within the Department and, here again, one cannot neglect the effect of somewhat unsatisfactory terms of service offered to intending African graduates. There is no doubt whatsoever that terms of service within the Medical Department must be improved commensurate with the standards attained in the United Kingdom. African personnel should also share in the improved standards, but for the moment the gap between our requirements for staff and the numbers of candidates coming forward for employment must be filled from the ranks of our experienced but subordinate medical personnel.

The staff which was retained to administer the public health and medical services provided by Government and its organization and disposition are set out in the table following, together with a descriptive list of the institutions which were maintained.

TABLE I.—AT MEDICAL HEADQUARTERS AND IN THE CAPITAL TOWN OF NAIROBI

	Medical Head-quarters	Medical Stores	Mathari Mental Hospital	European Hospital	Native Civil Hospital	Prison Hospital	Rehabilitation Centre	Infectious Diseases Hospital	General Dispensary	Loco Dispensary	Fort Hall Road Dispensary	Sandiford Road Clinic	Medical Research Laboratory	Railway Dispensary	Medical Training Depot
Director of Medical Services	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deputy Director of Medical Services	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Assistant Director of Medical Services	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chief Health Inspector	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Accountant	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medical Storekeeper	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Assistant Storekeeper	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Clerks (European)	7	..	..	1	..	..	..	..	..	..	..	..	1	..	..
Senior Specialist Anaesthetist	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Senior Specialist Surgical	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Senior Specialist Ophthalmic	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Medical Officers	..	..	1	1	4	..	1	..	1	..	..	..	..	1	1
Radiologist	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Radiographer	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Physiotherapist	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..
Wardmasters	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..
Matron-in-Chief	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Matrons	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..
Nursing Sisters	..	..	..	15	4	..	..	..	1	..	..	..	..	1	..
Housekeepers	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..
V.A.D.s	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..
Receptionist	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Superintendent, Mathari Mental Hospital	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Superintendent, Infectious Diseases Hospital	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Male Mental Nurses	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..
Female Mental Nurses	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..
Senior Pathologist	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Senior Parasitologist	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Pathologists	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Biochemist	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Entomologists	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Laboratory Superintendent	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Laboratory Technicians	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..
Technical Instructors	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Librarian	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Asian Medical Officers	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..
Asian Dental Officer	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Sub-Assistant Surgeons	..	..	..	..	..	1	..	..	2	..	1	..	..	..	..
Laboratory Assistants	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..
Entomological Field Officers	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Issuers	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Compounders	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..
Clerks (Asian)	5	3	..	..	1	..	..	..	..	..	..	..	1	..	..
Other Asian Staff	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..
African Assistant Medical Officers	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Hospital Assistants	..	..	1	1	29	1	4	13	4	..	..	..	..	..	..
Hospital Compounders	..	..	..	..	2	..	..	..	1	..	..	..	..	..	..
Laboratory Assistants	..	..	..	..	..	..	..	..	..	..	..	..	14	..	..
Clerks (African)	..	..	1	..	3	..	..	1	2	..	..	..	1	..	..
Other African Staff	8	19	105	54	156	13	22	80	46	3	3	3	6	4	12
Asian Nursing Sisters	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..

In the Larger Towns

	Mombasa	Kisumu	Nakuru	Eldoret	Kitale
European Officials—					
Senior Medical Officers	1	1	1	—	—
Medical Officers	2	1	2	1	2
Physiotherapist	1	—	—	—	—
Matron	—	1	—	—	—
Nursing Sisters	8	5	3	2	1
Wardmasters	1	1	1	—	—
Senior Health Inspectors	1	1	—	1	—
Health Inspectors	—	1	1	—	—
Entomological Field Officers	—	—	—	—	—
Laboratory Technician	1	—	—	—	—
Asian Officials—					
Asian Medical Officers	1	1	1	—	—
Sub-Assistant Surgeons	2	1	1	3	1
Laboratory Assistant	1	—	—	—	—
Nursing Sisters	5	—	—	—	—
Compounders	1	1	—	—	—
Clerks	1	1	1	—	—
Others	1	—	—	—	—
African Officials—					
Clerks	2	1	1	2	1
Hospital Assistants	10	6	5	4	3
Hospital Compounders	2	—	2	1	1
Laboratory Assistants	5	—	2	1	1
Sanitary Assistants	—	—	—	—	6
Other African Staff	135	97	87	58	44
Assistant Medical Officer	—	1	—	—	—

Distribution of Staff—In the Native Areas, the Turkana District and Northern Frontier District

	European Senior Medical Officers	Medical Officers	Nursing Sisters	Health Inspectors	Wardmasters	Asian Sub-Assistant Surgeons	Clerks	African Assist. Medical Officers	Hospital Assistants	Compounders	Laboratory Assistants	Clerks	Health Workers	Sanitary Assistants	Other African Staff
Thika	..	1	..	..	..	1	..	..	2	..	..	..	..	..	15
Kiambu	..	1	2	1	..	..	..	1	5	1	1	1	..	..	73
Fort Hall	..	1	1	1	..	..	..	1	5	1	1	2	2	4	52
Nyeri	1	1	2	1	..	1	..	..	..	1	..	1	..	..	67
Kerugoya	..	1	2	1	..	..	..	1	6	1	1	2	2	10	54
Meru	..	1	1	..	..	1	..	..	2	1	1	1	..	..	29
Machakos	..	1	1	1	..	1	1	..	5	1	3	1	2	7	69
Kitui	..	..	..	..	..	1	..	..	2	..	1	1	..	1	28
Kilifi	..	..	1	..	..	..	..	..	..	..	..	..	..	..	21
Malindi	..	..	..	..	..	..	..	..	..	..	..	..	1	1	14
Msambweni	..	1	1	..	..	..	..	..	2	1	1	1	1	7	37
Teita District	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Kapsabet	..	..	..	..	..	1	..	..	1	..	..	..	..	..	19
Kabarnet	..	..	..	..	..	..	..	..	1	..	..	..	..	..	13
Tambach	..	..	..	..	..	..	..	..	1	..	..	..	..	..	8
Rumuruti	..	..	..	..	..	..	..	..	1	..	..	..	..	..	6
Maseno	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
Kakamega	..	2	2	1	1	..	1	..	4	1	2	3	3	1	92
Kisii	..	2	1	1	..	..	1	..	..	..	..	..	..	..	43
Kericho	..	1	1	..	..	..	..	..	4	1	1	1	1	..	43
Narok	..	1	1	..	..	..	..	..	2	..	1	1	..	..	24
Muriranjas	..	..	..	..	..	..	..	..	2	..	..	..	..	..	15
Kapenguria	..	1	..	..	..	..	..	..	1	..	..	..	..	..	6
Lodwar	..	..	..	..	..	..	..	..	1	..	..	..	..	..	7
Lokitaung	..	..	..	..	..	1	..	..	..	..	..	..	..	..	8
Lamu	..	1	..	..	..	1	..	..	1	..	..	..	..	2	13
Wajir	..	1	..	..	..	1	..	..	2	..	..	1	..	..	21
Moyale	..	..	..	..	..	1	..	..	1	..	..	..	..	..	15
Isiolo	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2
Kajiado	..	..	..	..	..	1	..	..	1	..	1	..	..	..	14
Mandera	..	..	..	..	..	..	..	..	1	..	..	..	..	..	4
Garissa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Marsabit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Molo	..	..	..	..	..	..	..	..	1	..	..	..	..	..	12
Londiani	..	..	..	..	..	..	..	..	1	..	..	..	..	..	21
Thomson's Falls	..	..	..	..	..	..	..	..	1	..	..	..	..	..	4
Taveta	..	..	..	..	..	1	..	..	1	..	1	..	..	..	17
Voi	..	..	..	..	..	1	..	..	1	1	..	..	..	..	17
Wesu	..	1	1	..	..	..	..	..	2	1	2	2	1	3	21

INSTITUTIONS MAINTAINED

Medical Research Laboratory, Nairobi.
Medical Stores, Nairobi.
Medical Training Depot, Nairobi.

Hospitals in the Larger Towns, showing Bed Strength

	Beds
Nairobi—	
Native Civil Hospital (Asian 41)	420
European Hospital	50
Mathari Mental Hospital (European 15, Asian 26, African 308)	349
Rehabilitation Centre	31
Infectious Diseases Hospital (European 18, Asian 8, African 171)	197
General Dispensary	
Railway Dispensary	
Prison Hospital (Asian 12)	107
Police Depot Dispensary	
Mombasa—	
European Hospital	12
Native Civil Hospital (Asian 46, African 172)	218
Infectious Diseases Hospital (European 5, Asian 8, African 127)	140
Prison Hospital	14
Child Welfare Centres	
Kisumu—	
European Hospital	12
Native Civil Hospital (Asian 13)	179
Prison Hospital	8
Nakuru—	
Native Civil Hospital (Asian 6)	249
Eldoret—	
Native Civil Hospital (Asian 6)	79
Railway Dispensary	
Kitale—	
Native Civil Hospital (Asian 4)	103
Prison Hospital	10
In the Native Areas—	
Thirty-eight Hospitals with a total of 134 Out-dispensaries	2,240

Summary of Hospital Accommodation

	Beds
For Europeans	112
For Asians	184
For Africans	4,167

FINANCIAL

The total of the sanctioned estimates for the Medical Department for the year 1947 was £498,749, an increase of £54,102 on the previous year, and the actual expenditure during the year amounted to £462,939.

The comparative table of the sanctioned estimated expenditure of the Medical Department for the past three years is as follows:—

YEAR	Sanctioned Estimates (Recurrent)	Sanctioned Extraordinary Estimates	Total Sanctioned	Actual Recurrent Expenditure	Actual Extraordinary Expenditure
	£	£	£	£	£
1945	362,693	23,205	385,898	361,417	26,982
1946	425,287	19,360	444,647	408,951	26,907
1947	478,019	20,730	498,749	462,939	16,025

II.—PUBLIC HEALTH

GENERAL REMARKS

This year has been free of major epidemic disease. Precautions of a routine nature have been continued against smallpox, plague and yellow fever by means of vaccination, rat campaigns and anti-ædes measures. With regard to these last two diseases, active experimental attention has been devoted to the newer insecticides with the object of achieving economy in the application of our control measures, and to attain a combination of these measures with the control of malaria and relapsing fever.

Special precautions were found to be necessary towards the end of the year against the importation of cholera from Egypt, as Egypt had to be declared infected by cholera, and all immigrants were required to possess valid inoculation certificates against this disease.

In general, our attention is gradually shifting from the classical epidemic diseases towards the problems posed by tuberculosis and malnutrition. There is, as yet, no demographical basis to assess the incidence of these conditions in the population as a whole, and in the African in particular, for lack of notification and population figures. It is the opinion of most medical officers that malnutrition and tuberculosis are becoming more important, but it must be emphasized that these opinions are subjective and have no statistical basis. Towards the end of the year a tuberculosis survey was initiated to the end that specific and scientific data should be gathered in respect of this disease.

GENERAL DISEASES

The total number of cases treated during the year at Government Hospitals and Dispensaries, but not including out-dispensaries, was 971,398. Of this number, 811,053 were out-patients.

The total number of cases of all races treated as in-patients at Government Hospitals was 160,345. Among these occurred 4,467 deaths, giving a hospital death rate of 2·79 per cent. No deaths were recorded from out-patients treated.

Deaths recorded from among in-patients, within groups of diseases, were attributable in descending order of importance to:—

	Per cent of Total Deaths
Epidemic and Infectious Diseases	38·51
Diseases of the Respiratory System	26·83
Diseases of the Digestive System	7·14
External Causes	6·19
General Diseases	4·99

As in previous years, pneumonia was the highest single cause of death.

Epidemic, Endemic and Infectious Diseases

The total in this group of 223,207 was made up of 166,628 out-patients and 56,579 n-patients, among the latter 1,715 deaths being recorded.

Malaria, as in the previous year, was outstanding with a combined total of 118,303 cases as against 103,201 cases in 1946. Of these there were 20,292 cases amongst in-patients with 370 deaths, being 21·63 per cent of the deaths within the group, two deaths occurring in Europeans.

There were 3,350 cases of tuberculosis being treated as in-patients. Deaths from tuberculosis, numbering 596, were 34·75 per cent of all deaths within the group.

There were 84 cases of acute poliomyelitis, with seven deaths. This disease has shown no epidemic tendency in late years.

Only 14 cases of Kala-azar were recorded.

Respiratory System

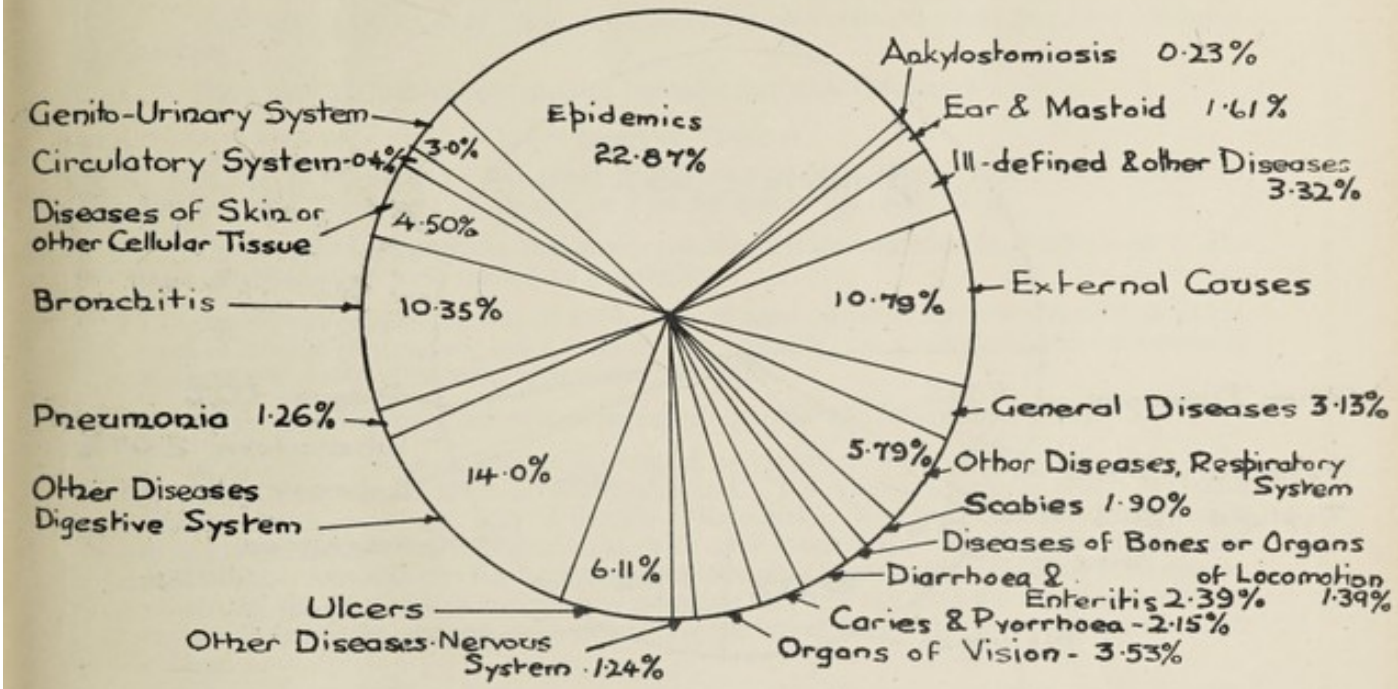
The total of 168,593 cases in this group was made up of 21,691 in-patients and 146,902 out-patients. Among in-patients there were 1,195 deaths, of which 1,049 were due to all types of pneumonia, this disease alone being responsible for 23·55 per cent of all deaths. 3,492 cases of asthma were recorded, including in-patients and out-patients.

Diseases of the Digestive System

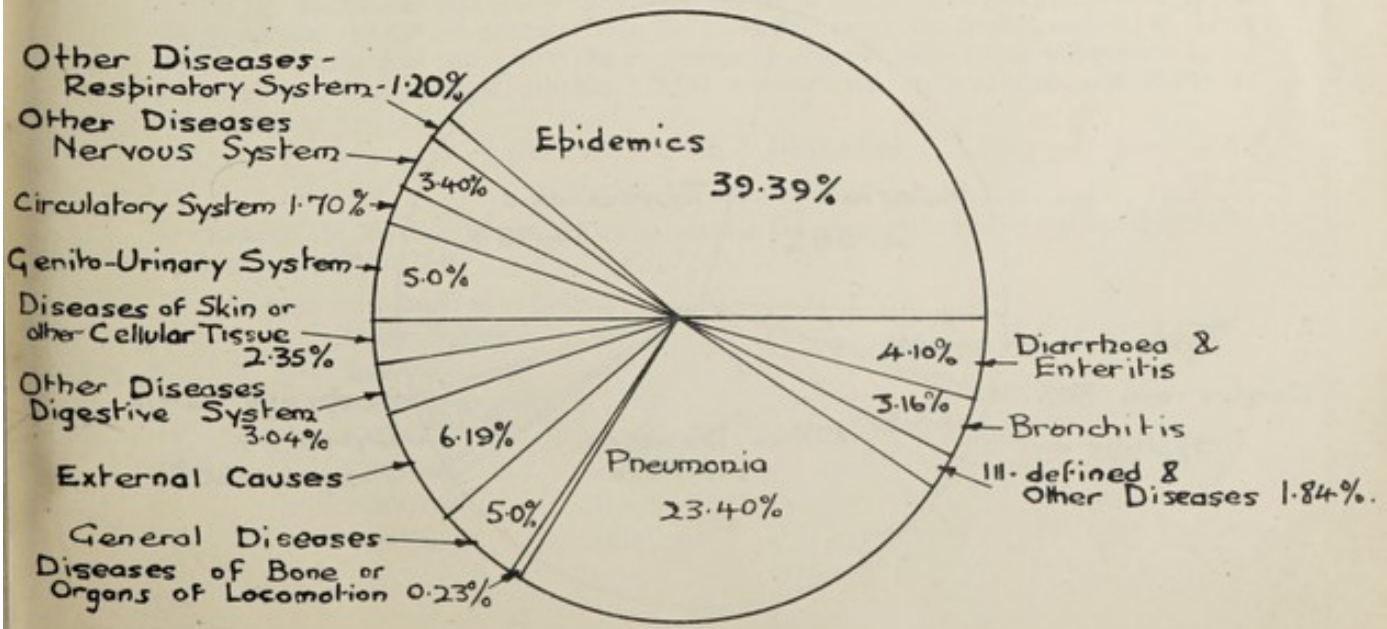
There were in this group 179,822 cases, or 17·43 per cent of the total; 13,137 being in-patients and 166,685 out-patients. Deaths, numbering 323, were 7·14 per cent of the total deaths from all causes.

Proportion of Epidemic, Endemic, Infectious, Systemic and other Diseases shown as Percentages of Total Cases treated at Hospitals and Dispensaries

TOTAL INCIDENCE: 971,398

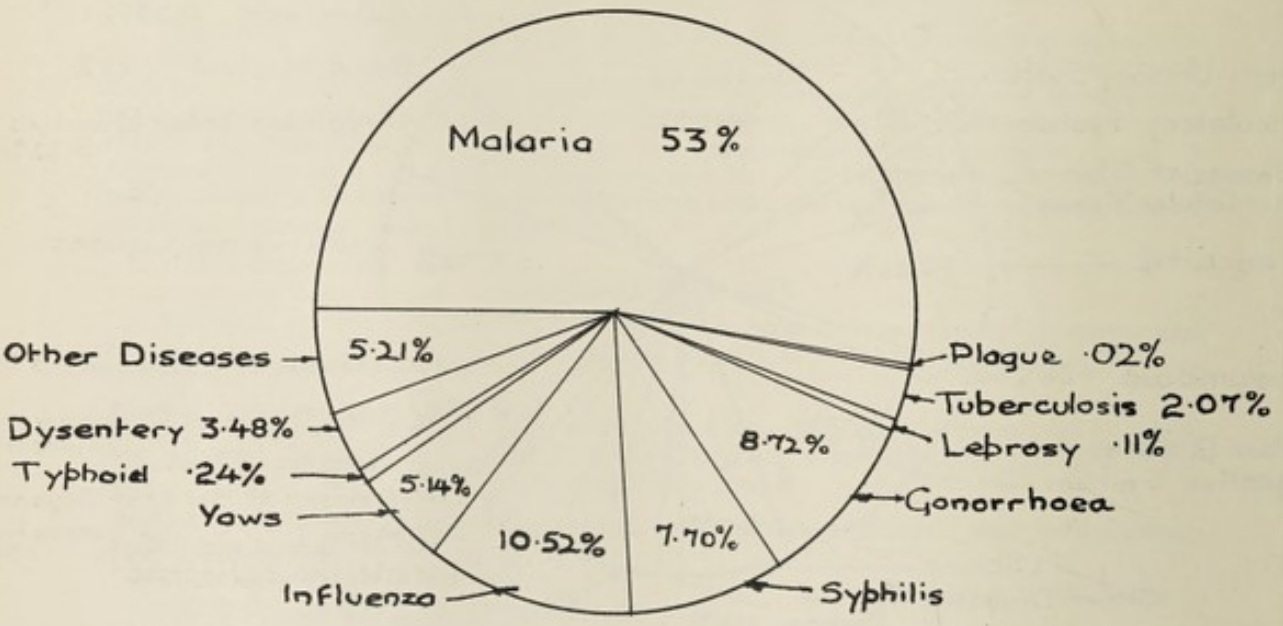


TOTAL DEATHS: 4,467

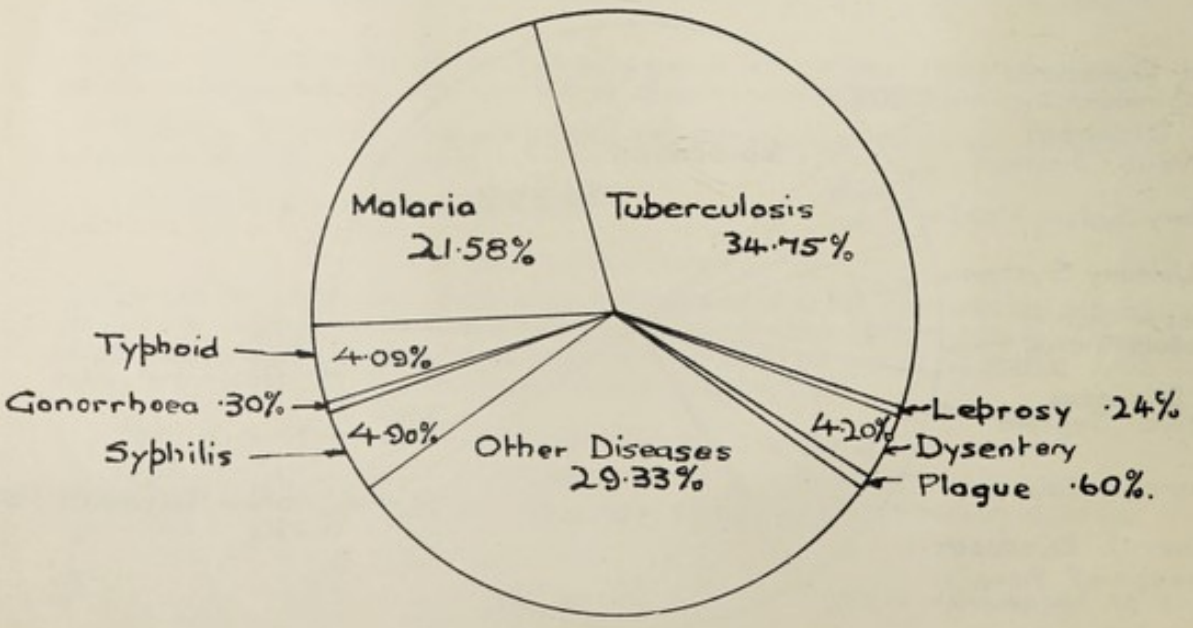


Proportion in Percentages of Epidemic, Endemic and Infectious Diseases, In-patients and Out-patients, treated at Hospitals and Dispensaries

TOTAL INCIDENCE: 223,207



TOTAL DEATHS: 1,715



The total number of in-patient cases of appendicitis was 340, with two deaths, 152 of these cases were European, 131 Asian and 57 African. If the incidence of appendicitis among Africans is believed to be increasing, it is still comparatively very low.

There were 1,534 in-patient cases of diarrhoea and enteritis, in children under two years; among these there were 142 deaths. Among the 1,481 cases of diarrhoea and enteritis in ages two years and over, deaths numbered 41.

External Causes

In this group there was a total of 104,841 cases, 13,820 being in-patients. Deaths among in-patients numbered 290, or 6·19 per cent of the total from all causes.

There were 3,195 cases of fracture, not including crush injuries which may have produced fracture.

There were 1,270 in-patient cases of burns by fire, with 129 deaths.

General Diseases

Of the 30,143 cases in this group, 3,890 were in-patients and 26,253 were treated as out-patients. There were 222 deaths, or 4·94 per cent of the total deaths.

The prominent diseases in this group are rheumatism and anæmia of all types. 1,552 cases of rheumatism were treated as in-patients.

Among out-patients, a total of 2,976 cases of acute rheumatism were treated and 19,151 cases of chronic rheumatism, but it is more than probable that while rheumatism is common, the numbers shown of the acute type are unduly high.

Of the anæmias, only one case of pernicious anæmia was treated, in a European.

A variety of deficiency diseases is included in this group. Important among these is the syndrome variously described as infantile œdema, "Kwashiakor", etc., of which 267 cases were treated as in-patients, with 66 deaths. "Kwashiakor" has been recognized increasingly in adults and the association of this disease with some forms of cirrhosis of the liver has become established. Although diet is a recognized and important factor in the causation of this disease, we are, as yet, at a loss to explain why adequate diet will not cure the disease even before noticeable anatomical changes in the structure of the bowel, liver and other viscera have become evident.

Of malignant conditions there was treated a total of 420 cases, with 90 deaths. Racially, these occurred: in Europeans, 23 cases and eight deaths; Asians, 15 and seven deaths; Africans, 382 and 75 deaths. The total is a considerable increase over the number recorded for last year.

Circulatory System

1,217 cases treated as in-patients and 3,027 as out-patients constituted a total of 4,244 cases treated in this group. There were 83 deaths among in-patients, this representing 1·86 per cent of total deaths.

Affections of the Nervous System and Organs of Sense

There were 56,537 cases in this group, with 151 deaths or 3·38 per cent of total deaths. In-patients numbered 4,710 and out-patients 51,827.

Skin and Cellular Tissue

Of the diseases in this group there was a total of 121,869 cases, composed of 11,396 in-patients and 110,473 out-patients. This was 12·58 per cent of the total cases treated, ulcers alone representing 6·14 per cent. The enormous numbers of ulcer cases still presenting for treatment constitute a great problem. 5,312 were treated as in-patients and 54,069 as out-patients.

COMMUNICABLE DISEASES

Mosquito or Insect-Borne

In 1947, 118,303 cases of malaria were treated in Government hospitals and in dispensaries, as against 103,201 in 1946.

The cases were classified as follows:—

Benign tertian	1,390
Quartan	642
Aestivo-autumnal	35,525
Clinical	79,038
Cachexia	1,574
Blackwater	33
Cerebral	101

The spread of malaria into the western Kenya Highlands was noted prior to 1946, and has been the object of special attention with a view to combating further encroachment. The aim has been to banish malaria from heights above 6,000 feet at least. Large-scale experiments have been carried out in the Kericho District on adult anopheline control with financial assistance from the Colonial Development and Welfare Vote. Particulars of these experiments are to be found in the sectional report of the Division of Insect-Borne Diseases.

Trypanosomiasis.

Fifty-five cases of trypanosomiasis were recorded. These were treated in hospital or at bedded-dispensaries which were specially constructed and staffed for the purpose in South Kavirondo. The preponderating infection was by *T. gambiense*, but the position with regard to *T. rhodesiense* in the Masai District has been investigated by the Division of Insect-Borne Diseases, especially in respect of the association of this pathogen with *G. swynnertoni* and *palpalis*.

Plague.

Forty-six cases of bubonic plague and three cases of septicæmic plague, with 11 deaths, were recorded from all sources, 41 being treated in hospital; 26 of the cases being notified from the Nakuru district, which has a long history of endemic plague. The remainder occurred in the Nairobi, Kiambu and Nyeri districts of the Central Province. Mombasa and Kisumu municipal areas remained free of the disease.

Typhus.

There were 76 cases of non-epidemic typhus reported, compared to 35 cases and one death in 1946.

Relapsing Fever.

There were 717 cases of relapsing fever treated, with 17 deaths. No recrudescence occurred of the epidemic of louse-borne relapsing fever which was experienced at the Coast late in 1946. Our experience from this epidemic leads us to the view that *T. duttoni* can be transmitted by body lice and even bed bugs, in addition to the better known *O. moubata*. Since this epidemic, very stringent precautions have been taken against the importation of this disease by dhows, as all cases of jaundice and indeterminate pyrexia amongst the vessel's complement are isolated in quarantine. The dhow itself and all personal clothing are disinsectized by D.D.T.

INFECTIOUS DISEASES

Smallpox

479 cases of smallpox were notified, with 81 deaths. The total number recorded was from all sources and that treated in Government hospitals as in-patients numbered 247, with 74 deaths. The disease generally was of a lesser virulence, though occasional small local outbreaks with high virulence occurred. Preventive measures consisted in isolation and vigorous pursuance of vaccination with lymph manufactured at the Medical Research Laboratory.

Pneumonia

A total of 12,234 cases of all types of pneumonia was treated as in-patients at Government hospitals, and among these there occurred 1,049 deaths, a mortality rate of 9·15 per cent.

Of the total in-patients, 6,299 were cases of lobar pneumonia, with 332 deaths, a hospital mortality rate of 4·25 per cent; and 4,885 were cases of broncho-pneumonia, with 638 deaths, a mortality rate of 14·32 per cent.

The position, technically speaking, with regard to this disease, has been much clarified by the publication from the Uganda Pathological Services which indicates that the pneumococcus in Africans takes the place of the streptococcus in Europeans, but we have yet to discover the reason for variation in susceptibility.

Venereal Diseases

These diseases are discussed later in the report under the heading "Venereal Diseases Clinics".

Tuberculosis

A total of 4,621 cases of tuberculosis of all kinds was treated at Government hospitals and dispensaries. 3,350 of these were in-patients and among this number there were 596 deaths.

As already mentioned, there is a general impression that tuberculosis is on the increase. Corroboration of this is awaited from the results of the Mantoux Sensitivity Survey which was initiated towards the end of the year. The only firm figures available at the moment are the hospital in-patient attendances, which may conveniently be given in the form of the number of cases of tuberculosis presenting per thousand total patients treated. These figures for the last three years were:—

1945—19 per thousand.
1946—19·2 per thousand.
1947—20·9 per thousand.

The rise shown is slow, and doubtfully significant, but tuberculosis is a chronic epidemic and dramatic rises are not to be expected. Just as its slow insidiousness is our enemy in clinical practice, so too is it our enemy in epidemiological practice. We are not to be lulled into a sense of false security by slowly rising figures, as there is no reason to expect a fall in tuberculosis incidence in view of the country's position with regard to increasing population densities, and the fall of available food supplies.

An incidental finding during the year indicates a somewhat different position with regard to the incidence of tuberculosis in cattle than was previously thought to be the case. Instead of substantially negligible incidence of tuberculosis, it has been found in parts of the Central Province at least, that the rate is more near 4 per cent in slaughter stock. The significance of this finding has not yet been assessed, but there may be a possibility that the cattle could be infected by human strains of tubercule bacilli. This point requires careful investigation.

Specific preventive measures against tuberculosis have yet to be applied in the Colony, but the problem can no longer be delayed, notwithstanding the enormous difficulties that lie in our way.

Enteric

A total of 497 cases of enteric fever was treated under Government ægis, 70 deaths occurring among the 497 hospital in-patients. Alcoholized T.A.B. vaccines for the control of enteric fevers were introduced during the year.

Dysentery

The classification of cases treated at Government hospitals and as out-patients is:—

	1945	1946	1947
Amœbic	4,268	4,530	3,544
Bacillary	2,082	2,773	1,518
Undefined	2,897	2,921	2,704

Diphtheria

The total number of cases reported from all sources, these being 73 with 15 deaths, was higher than for 1946. Eighty-six cases were treated in Government institutions, and among these there were 23 deaths. The mortality rate in 1947 rose appreciably over that for the previous year.

Cerebro-Spinal Fever

A total of 253 cases, with 63 deaths, was recorded, a considerable drop in the incidence from 1946.

Anthrax

Seven hundred and eighty-one cases in all were treated at Government hospitals and dispensaries, 653 being in-patients. Deaths from this cause were 40.

In some districts an attempt was made to control anthrax by the mass immunization of cattle. The inoculations were highly unpopular and met with considerable resistance from African stockowners. It has to be admitted that the beneficial effect of these inoculations, in so far as the reduction of the incidence of anthrax in cattle was concerned, was negligible. Possibly the trial was not continued for a sufficiently long time and viable spores were still present on the pasturages. Nevertheless, the inoculations had to be suspended as the result of the popular outcry. In any case, the African seems to be partially immune to this disease and he cannot be dissuaded from eating diseased carcasses or using the fat to smear his body. This last habit is the probable reason why cutaneous anthrax is relatively so much more common than the visceral forms. It would appear that we must attempt the control of this disease through propaganda and by prosecutions under the Meat Marketing Rules, where necessary.

Leprosy

While only 248 cases of leprosy, among whom there were four deaths, were under treatment during the year, the total number of cases throughout the Colony is unquestionably very much higher. A Colony-wide survey of the position with regard to leprosy is now due, and on the basis of the results obtained must rest our plans for the alleviation of this disease. Funds are available under the provisions of the Development and Reconstruction Authority Ordinance. The newer sulphones did not become available for trial during the year.

Helminthic Diseases

The comparative table of cases of helminthiasis treated over the last three years is as follows:—

	1945	1946	1947
Ancylostomiasis ..	2,517	1,898	2,240
Ascariasis	13,166	17,856	15,862
Tæniasis	27,880	26,203	24,501
Schistosomiasis ..	2,577	2,815	2,815

Trichiniasis has fortunately not yet been reported in the Colony, where it would be a calamity to the rising pig-breeding industry, especially in the African reserves.

Schistosomiasis has been treated at the Coast with success by means of the intensive course of antimony sodium tartrate, but the problem of control of all helminthic diseases depends upon the eventual improvement of rural sanitation services.

III.—HYGIENE AND SANITATION

(1) General Measures of Sanitation

A welcome increase in the health inspectorate occurred during the year and rendered possible an extension of activity in sanitary control. The new Health Inspectors tackled their duties with zeal and enthusiasm, and if the results achieved were less than their efforts might have expected, this can be accepted as being due to a post-war period when so many obstacles have to be surmounted. Their appreciation of the necessity for direct contact with the people, and for the further training of African subordinate staff, is encouraging.

In urban areas general measures of sanitation continued under the authority of one Municipal Council and four Municipal Boards, and for townships and trading centres, District Commissioners functioned as the local authorities. The burdens of responsibility for keeping pace with a rapid development, hampered by low standards of workmanship and a lack of proper material, has been no less than in 1946.

The most serious problem concerning local authorities is overcrowding. Almost without exception overcrowding is general in all built-up areas and alleviation of the position is a long way off. In spite of intensive building programmes for the provision of housing for people of all races, the demands for labour for industrial development have created influxes with which no local authority can hope to cope. It is no exaggeration to say that thousands of Africans are homeless and the erection of temporary type shelters and the occupation of premises never intended for human habitation are obvious consequences. The scrutiny of plans for new buildings and the inspection of hundreds of buildings in course of construction gives responsible officers little time to deal with illegalities and, in any case, as adequate accommodation does not exist, attempts at moving offenders merely means movement from one illegal occupancy to another. Although more accommodation is the solution, it is unlikely that demands can be met until such time as circumstances create a slowing-up of the pace of industrial development. Where overcrowding exists, the danger of outbreaks of infectious disease cannot be overlooked and credit must be given to health authorities whose vigilance and prompt actions have, so far, prevented expansion of threatening epidemics. With prolonged conditions of overcrowding, a general deterioration in the health of the population can be anticipated.

In so far as supervisory staff permitted, efforts continued to maintain and raise the standard of preparation, manufacture and sale of foodstuffs, and a fair degree of success has been attained. Apart, however, from improvements made by enforcement of the law in this respect, much remains to be done in educating many of the workers engaged in the trade towards habits of cleanliness higher than those to which they had previously been accustomed. Officers of most local authorities have, from time to time, submitted samples of food and drink for analysis, and prosecutions were instituted when deemed to be necessary.

Although co-operation between Military and Civil authorities has not been lacking, no easy solution to the demolition of dilapidated camp buildings or rapid removal of nuisances therein has yet been found. Military materials have been disposed of in large quantities and have added to the many problems facing health authorities. Few municipalities or townships are without premises having dumps of used material, none of which can have any great commercial value.

In the main municipal areas improvements in conservancy services have been attempted in so far as new equipment and the quality of labour would allow. In general, however, the state and efficiency of conservancy services throughout the Colony are at an extremely low level, and the necessity for a review of the position cannot be too strongly urged.

Efficient health services depend so much upon the installation of sewerage systems that it must be regretted that little progress has taken place in this direction. In accordance with recognized policy, Nairobi Municipality added to its existing sewerage system by several thousand linear feet.

Mosquito control continued to be regarded as an important part of health authorities' functions, and routine duties were successfully maintained in all urban areas.

Samples of domestic water supplies were regularly submitted to the Government Research Laboratory for bacterial analysis.

European Health Inspectors devoted much time to the improvement of trading centres. Unfortunately the types of buildings thereat are generally so unsound, and the occupiers and owners so uninterested in the work involved in raising public health standards, that no rapid material change can be expected.

In native areas public health activities continued with an educative bias; every opportunity being taken by European and African personnel to expound the benefits to be derived from better conditions of living. New houses of different types of materials increased in number and the renovation of huts of the old type has been particularly noticeable, especially in areas where anti-plague measures were deemed to be necessary.

Expansion of African trading centres proceeded without abatement and much responsibility for the design and structural works of business, as well as residential premises devolved upon Medical Department sanitation staff. Many good shop premises materialized and although it is gratifying to see foodstuffs stored and handled in improved buildings, it is disappointing to note the tendency to aim for superior type trading premises in preference to the residential portions of the buildings. The desire to make money predominates and it can only be hoped that success in this direction will be followed by an uplift in the standards of accommodation for traders' families.

It is still customary at African trading centres for hundreds of Africans to sit and trade their products in the market square and much consideration has been given to the provision of amenities on their behalf. Because of financial difficulties little progress has been made in the form of covered accommodation or for benches to display their wares, but from local native council funds water supplies and sanitary conveniences have been made available in many districts. The popularity of water supplies is never in doubt, but much propaganda remains to be done before the masses of Africans accept modern sanitary conveniences in preference to the bush.

Routine village cleaning has been a regular feature in districts wherein supervisory staff exists and, as no real opposition is ever met with, it can be said that the population on the whole appreciates the value of the work. Under Local Native Council resolution many villagers have been prosecuted, but failure to comply with requirements is generally due to apathy or laziness, rather than to any objections to the objects of the work.

For as long as the round mud, brush-wood and thatched hut remains predominant in native areas, no great reduction in the rodent population can be anticipated. At the wish of responsible African representatives a system of rat-trapping has been attempted instead of the more drastic measures of de-thatching, but with no great degree of success. It is notable, however, that the reluctance shown by owners to de-thatching soon disappears with a threatened epidemic of plague.

The protection of water supplies, the digging of wells and the maintenance of works completed during previous years has been an important part of the year's activity. Associated with this work is the provision of drinking troughs for cattle, bathing places for the people, and cement, concrete or stone slabs for clothes washing. Without exception very good use is made of these facilities.

Worthy of mention is the provision of a chain of wells in the South Kavirondo District, specially constructed to supply water to humans and cattle whose previous sources of supplies were in areas infected with trypanosomiasis.

With greater European supervision, the inspection of meat has been carried out on a fairly extensive scale, but the advantages gained in the control of the sale of meat, mainly in market places, is offset by the large quantities often available from other sources. It seems only to be human to accept something for nothing, and deaths, severe illnesses or minor disorders have had no real effect in teaching Africans to treat with suspicion the distribution of free meat. So often the slaughter of dying oxen is followed by invitations to meat-eating orgies, and it is not uncommon for lorry loads of victims of anthrax carcasses to arrive for treatment at hospitals. The remedy is not an easy one and, apart from propaganda, no more would appear to be possible than the present procedure of prosecuting, under Local Native Council resolution, the persons responsible for distributing meat unfit for human consumption.

No opportunity was lost in spreading public health propaganda in the schools, at exhibitions and at meetings whereat numbers of Africans gathered. The newer European Health Inspectors seemed to find their African assistants as the weakest link in the health organization, and quickly introduced series of lectures with the object of increasing efficiency. Without doubt some success was attained in this direction, but the educational background of the subordinate sanitation assistant, or village supervisor, is such as to limit the knowledge that can be absorbed. Nevertheless these lectures have had a value and have added interest to the duties of subordinate staffs.

Although brick-making can no longer be regarded as an innovation in African areas, the introduction of this craft to the more backward districts is gradually taking place and over a period of years, raising of the standards of dwellings and business premises can be anticipated.

Intensive vaccination or inoculation campaigns followed any evidence of the outbreak of smallpox or plague in a district.

(2) School Hygiene

As yet it has not been possible to set up a permanent section of the department to devote full-time duty to schools. As in previous years, however, District Medical Officers, Nursing Sisters and Health Inspectors have co-operated with responsible officers of the Education Department and no school has been without advice and assistance in matters concerning the hygiene of schools.

(3) Labour Conditions

Close liaison has continued between the Labour and Medical Departments and although much remains to be done before a stage of satisfaction is reached, it can be recorded that a general improvement in the living and working conditions of labourers has been attained. Success in this direction has been due in no small degree to the appointment to the Labour Department of an experienced Senior Medical Officer, who gave much thought to the raising of the housing and rationing standards of the workers.

A record of achievements and difficulties yet to be overcome is, no doubt, outlined in the annual report of the Labour Commissioner.

(4) Housing and Town Planning

Local Authorities and Government fully appreciate the need for additional housing and no relaxation has been permitted in the preparation and introduction of schemes for the housing of people of all races. Definite progress has been made, but this has been quite inadequate to meet the demand created by growing populations.

Major town planning schemes are in the course of preparation for the Municipalities of Nairobi and Mombasa, and the Government Town Planning Adviser has offered proposals for most of the smaller townships.

(5) Food in Relation to Health and Disease

A.—Food Supplies

In urban areas the inspection and control of food has been maintained at standards as reasonable as availability of staff permitted. In widespread native areas, however, lack of staff prevents any claim to efficiency in this connexion.

Basic food supplies were, in general, at a satisfactory level although, in limited areas, dry conditions gave some cause for anxiety. Supplies from other areas were, fortunately, available to relieve the situation.

B.—Markets, Dairies and Slaughterhouses

Established markets in the municipalities and larger townships have been well cared for and controlled, and in some cases extensions have been proposed to cater for the increase in trade activity.

Most of the Colony's milk supplies are from rural sources and so far it has not been possible to institute any efficient form of control. In two of the municipalities large quantities pass through inspection and testing depots, and in another strict sampling of milk at points of entry to the town is carried out. Many persons were prosecuted for selling adulterated and dirty milk.

Some milk producers and retailers endeavour to produce and distribute milk under reasonably satisfactory conditions, but it cannot be denied that much consideration and additional legislation and supervisory staff will be necessary before it can be recorded that milk supplies in general are clean and wholesome.

Slaughterhouses are satisfactorily maintained by all municipal authorities, but with the increased consumption of meat and the greater numbers of people in and around the towns, some difficulty was experienced in properly handling the demand.

In the smaller townships slaughtering places are provided and controlled by Government, but lack of trained personnel hampered adequate control.

In native areas Local Native Councils have given consideration to the need for suitable slaughter places at markets and programmes of works have been arranged. Several buildings were erected at selected places whereat the inspection of meat and the condition of premises could be controlled by Health Office staff.

(6) Measures taken to Spread the Knowledge of Hygiene and Sanitation

Propaganda continued to be an important part of departmental duties and, if no more than routine measures can be reported for the year, arrangements for an intensification of future activity are well in hand.

(7) Training of African Sanitation Personnel

The most important event in this connexion was the inclusion in the Medical Training School of an instructional course for African Health Inspectors. A European Instructor in Hygiene was appointed and 13 selected candidates commenced a three-year course of study with the object of attaining the overseas standard of the Royal Sanitary Institute. For different reasons two of the pupils gave up before completion of the first year, but those remaining show promise of being efficient additions, eventually, to the Public Health staff and should be particularly valuable for duty in their own native areas.

All training courses for personnel below the rank of African Health Inspector have been abolished, but the opportunity is still taken to move Sanitary Assistants from the backward areas to work for periods in districts where experience can be gained under the direct supervision of European Health Inspectors.

(8) Recommendations for Future Work

Future work is outlined in the Report of the Development Committee and, if ultimately implemented, a considerable and desirable expansion of health services will be the result. The provision of adequate training facilities at the Medical Training School and the establishment of proposed Health Centres in the provinces must be regarded as urgent if progress already made is to be maintained.

IV.—PORT HEALTH WORK AND ADMINISTRATION

(1) General

The ports on the Kenya seaboard are as follows:—

Kilindini (Mombasa), Mombasa (Old Port), Lamu, Malindi, Kilifi and Vanga.

Kilindini is the only port at which large ocean-going ships call.

Mombasa Old Port has a considerable seasonal trade in dhows and small motor vessels. Lamu accommodates a small number of ocean-going dhows. Malindi, Kilifi and Vanga deal mainly with coastal dhows and a very few trans-ocean dhows.

(2) Port Health Organization

The staff during the year was as follows:—

Post	Filled by	
Port Health Officer (1)	Dr. C. W. Davies	1.1.47-24.8.47
	Dr. R. S. Adam	24.8.47-31.12.47
Assistant Port Health Officer (1)	Dr. R. S. Adam	1.1.47-24.8.47
Port Health Inspector (1)	Mr. W. Carter	1.1.47-21.4.47
	Mr. A. C. Anderson	21.4.47-31.12.47
Entomological Field Officer (1)	Mr. M. Furlong	1.1.47-31.12.47
Clerk (1)	Mr. V. M. Vitor	1.1.47-31.12.47
African Sanitary Assistants (18)		

The Port Health Officer and Medical Officer of Health duties are vested in the same person and he is responsible for all health services in the town.

The Assistant Port Health Officer and Assistant Medical Officer of Health is responsible for the Infectious Diseases Hospital, V.D. Male Clinic and clearing of ships from the medical point of view.

The Port Health Inspector is responsible for all measures regarding ships and port from the general sanitation standpoint in Kilindini and Mombasa Old Port.

The Port Health Officer is in administrative charge of Anti-Aedes Measures on the whole coastal area and the Entomological Field Officer supervises the work.

(3) Application of the International Sanitary Convention of 1944

Measures taken under Article 6, i.e. Examination of Rats

Rat-trapping is carried out by the Sanitary Assistants. In Kilindini, where the menace is the greatest, the trapping is systematic and intensive. Figures for rats so caught in Kilindini during the past three years are as follows:—

	1945	1946	1947
Rattus rattus kijabius	2,193	1,965	2,506
Rattus norvegicus	91	53	143
Mice	2,683	2,321	1,596
Totals	4,967	4,339	4,245
Spleen smears examined	148	335	592

All spleen smears were found negative to *P. pestis*.

Since August, 1946, figures of the numbers of spleens examined with the results have been cabled to Singapore.

Measures taken under Article 8, i.e. Methods of Notification

The major five diseases are included in the Colony's list of notifiable diseases and in the event of a definite or suspected case of plague, cholera, yellow fever, typhus or smallpox being discovered in Mombasa or its vicinity, information would be sent from the Port Health Office by the speediest means to H.B.M. Special Commissioner, S.E.A., Singapore and the Hon. Director of Medical Services, Nairobi.

No cases of the five major diseases have occurred in Mombasa since January, 1947.

Measures taken under Article 13, Measures Adopted to Prevent the Exportation of Disease. i.e. the Embarkation of Individuals showing Symptoms of any of the Five Major Diseases

No individual examination of intending passengers is carried out. Persons without valid yellow fever and smallpox certificates are referred to the Port Health Officer.

Special Preventive Measures against Infectious Diseases

Plague.

There were no cases of plague during the year.

Cholera.

No cases of cholera were reported in East African territories during the year and therefore no specific steps were taken to prevent export of the disease.

Yellow Fever.

Strict control was still exercised in the port area, but persistent mosquito breeding continues in some areas. This is connected with the drainage channels in the area, which present long runs with little fall and, in some cases, pass beneath godowns and sheds. The question of redesigning the layout of such drains has been taken up with the District Engineer, Kenya and Uganda Railways and Harbours, and progress is awaited.

Aedes control in the Old Port of Mombasa is as described in the 1946 Annual Report.

Aircraft.

Thirteen Flying Boats were disinfected and yellow fever certificates checked. Flying Boats ceased operations on the Kenya seaboard in February, 1947.

Measures taken under Article 15, i.e. Preventive Measures against Importation of Infectious Diseases

In general, all shipping from ports infected with one or more of the five major diseases is boarded by the Port Health Officer and careful inquiries are made. Particular measures taken are as follows:—

Plague.

The Port Health Inspector inspects all vessels shortly after arrival for evidence of rat harbourage. Unfortunately during the year facilities for fumigation of vessels by HCN were withdrawn by the Kenya and Uganda Railways and Harbours Administration, so that this important procedure can no longer be carried out at Mombasa, nor can Deratization Exemption Certificates be granted in cases where the state of a vessel in respect of rat harbourage is satisfactory, but more than six months have elapsed since the last inspection.

Cholera.

With the outbreak of cholera in Egypt, on 3rd October that country was declared infected by a proclamation from the Governor. This designated Mombasa as the first port of call for any vessel proceeding to Kenya from Egypt. All passengers from Egypt arriving at Kilindini were carefully observed by the Port Health organization, but in view of the length of the voyage from the nearest Egyptian port, Suez, to Mombasa, which on the average lasts ten days and considering the short incubation period of cholera (five days), production of cholera inoculation certificates was not insisted upon.

Passengers arriving by air from Egypt were compelled to carry valid certificates of inoculation against cholera. Few such passengers came to Mombasa, but those who did not carry appropriate certificates reported to the Health Office on arrival.

Measures were taken to protect the crews and passengers of vessels travelling to Egypt by inoculation with anti-cholera vaccine.

Cases of cholera have been reported from other countries, especially Syria, and no relaxation of precautions can be permitted until no further cases are reported from the Middle East territories. The large numbers of troops arriving from Egypt and the Middle East during the last few months of the year represented a potential risk, but the military authorities undertook the necessary steps to protect their own personnel and to keep uninoculated troops under surveillance.

Yellow Fever.

Ships are inspected for possible mosquito breeding soon after arrival as a routine measure. All arriving dhows are inspected for breeding, and instructions are given for water tanks to be protected where necessary. Departing dhows are examined and given clearance certificates saying that no mosquito breeding was present at the time of departure.

The following table gives the incidence of *Aedes ægypti* in vessels inspected during the years 1942 to 1947:—

	1942	1943	1944	1945	1946	1947
ADULTS—						
Number of vessels inspected ..	495	304	302	277	303	366
Number with mosquitoes ..	72	52	33	5	—	21
Number with *A. ægypti* ..	16	3	2	2	—	9
Index—all species	14.5	17.1	10.9	1.8	—	—
Index—*A. ægypti*	3.2	2.6	0.6	0.8	—	—
LARVÆ—						
Number with larvæ	45	16	3	4	11	17
Number with *A. ægypti* ..	30	9	1	1	7	8
Index—all species	9.9	5.2	0.9	1.5	3.6	—
Index—*A. ægypti*	6.0	2.9	0.3	0.3	2.3	—

Smallpox.

The same procedure has been carried out as in the past. Immigrants were required to show evidence of good scars of previous vaccination in addition to which a valid certificate of vaccination on the international style was necessary. No case of smallpox was discovered on any vessel arriving at Mombasa during the year.

Relapsing Fever.

No relapsing fever was noted on dhows during the 1946-1947 season.

Measures taken under Article 57

The responsibility for the treatment of seamen suffering from venereal disease was largely taken out of the hands of the Kilindini dispensary as seamen prefer either to consult private practitioners at their own or the agents' expense, or to consult the Assistant Port Health Officer at the Infectious Diseases Hospital. This change has been brought about by the advances in the quick and efficient treatment of syphilis and gonorrhœa.

(4) APPLICATION OF THE PUBLIC HEALTH (PORT HEALTH) REGULATIONS, 1923

Importation of Secondhand Clothing.

A large consignment of secondhand clothing arrived at Kilindini without satisfactory fumigation papers. It was not found possible to re-export these clothes as they became highly offensive and it was necessary to certify and condemn the articles, which were eventually dumped at sea.

Condemnation of Foodstuffs.

A large consignment of maize arrived in the port for re-export which was found to be infested with weevils. It was found necessary to treat this consignment and to disallow its use for human consumption, being only fit for animal feeding. It may be pointed out that the powers of the Port Health Officer under the Public Health Ordinance and Rules thereto are not entirely satisfactory as there is no machinery whereby an importer can claim for destruction or down-grading of such material.

V.—STATISTICS

(*a*) Shipping entering the port during the year:—

	Number	Tonnage	Number	Tonnage
	1946	1946	1947	1947
STEAMSHIPS—				
Overseas	457	2,235,944	500	2,043,337
Coastal	153	38,865	181	55,474

(*b*) Empire Flying Boats 33

(*c*) Sailing ships, including native vessels:—

Number of foreign dhows entering port 307

Number of coastal dhows entering port 2,271

(*d*) Vessels medically inspected on arrival:—

Steamships	131
Sailing ships, including native vessels	191

(*e*) Vessels arriving in port infected or suspected—

Steamships	Nil
Sailing ships, including native vessels	Nil

(*f*) Vessels placed under quarantine restrictions or subjected to special measures—

Steamships	Nil
Sailing ships, including native vessels	Nil

(*g*) Passengers medically examined under special smallpox regulations—

Steamships	19,774
Sailing ships, including native vessels	1,025

(*h*) Passengers landed under surveillance—

Steamships	105
Sailing ships, including native vessels	581

(*i*) Bills of Health issued 960

VI.—MATERNITY AND CHILD WELFARE

Maternity and Child Welfare services continued under the control of Local Authorities and Local Native Councils with help from the Medical Department by the secondment of Nursing Sisters and Health Visitors where necessary. The assessment of the results of their efforts is difficult for lack of vital statistics. Their work is hampered by the large and yet unsatisfied demand for curative services which it is not their prime aim to fulfil. The ante-natal and Child Welfare sessions are swamped by numbers of patients suffering from manifold diseases and assistance cannot be withheld. Nevertheless, although these clinics are not exclusively fulfilling their intended functions, they are performing an invaluable service.

(1) Maternal and Child Welfare Work carried out in Larger Towns

(*a*) *Mombasa*

A lady Medical Officer was appointed by the Municipality to supervise the Ante-natal and Child Welfare Services in June, 1947. The staff position in respect of Health Visitors remained difficult, as recruitment was not easy due to the housing shortage. The Municipality found it necessary to invite the Department's assistance in the secondment of two Nursing Sisters to act as Health Visitors. Recruitment, however, improved towards the end of the year and it was confidently expected that Mombasa should be independent of our help in 1948. Treatment of venereal disease in women is undertaken among other activities at these clinics, and the following figures exemplify the work performed:—

Annual Attendances at Ante-natal and Child Welfare Clinics

	1945	1947
Child Welfare	18,851	15,915
Venereal Diseases	4,331	4,857
Ante-natal	6,355	7,467
Dispensary	25,298	28,274
Home Visits	32,623	40,204

Maternity Services in the town were covered by the Lady Grigg Municipal Maternity Home, which had been taken over by the Municipal Board in the previous year. This institution continued its valuable work in the training of midwives for the Coast Province and farther afield. Only African and Arab midwifery is conducted at this institution as Asian midwifery services are provided by the Pandya Memorial Clinic and various private nursing homes. This is not to say that an Asian maternity home in Mombasa is not badly needed. The work carried out for the past three years is as follows:—

Lady Grigg Municipal Maternity Home

Cases	1945	1946	1947
Patients admitted	688	824	809
Births	503	617	495
Stillborn infants	38	36	41
Deaths—Maternal	6	5	—
Deaths—Infants	14	—	12

(b) Nairobi

There has been a gratifying response, in point of numbers of attendances, at the Municipal Ante-natal and Child Welfare Clinics in Nairobi. It has been noted that greater attention to standards of hygiene has been shown by the African women attending these clinics, but the Health Visitors yet complain that these improved standards have not found their way into the homes. They find that there is a lack of co-operation and zeal in the acceptance of their advice with regard to domestic standards of hygiene that are considered desirable in the home.

Relevant figures of work performed are as follows:—

ATTENDANCES AT FIVE AFRICAN CLINICS

	1	2	3	4	5	Total
ANTE-NATAL—						
Total Attendances	984	950	552	1,102	1,049	4,637
New Cases	159	332	204	262	227	1,184
Confined at Home	51	91	36	148	96	422
CHILD WELFARE—						
Total Attendances, 0–5 years	11,798	7,664	3,126	5,705	5,530	33,823
Infants, New, 0–1 year	344	411	205	309	223	1,492
Toddlers, New, 1–5 years	193	359	199	374	212	1,337
HOME VISITS—						
By Health Visitors	1,949	2,461	1,886	1,579	1,417	9,292
By African Staff	2,018	5,742	1,909	2,272	3,217	15,158

ATTENDANCES AT THREE ASIAN CLINICS AND HOME VISITS

	1	2	3	Total
ANTE-NATAL—				
Total Attendances	2,438	454	1,129	4,021
New Cases	636	70	326	1,032
CHILD WELFARE—				
Total Attendances, 0–5 years	3,456	1,797	3,059	8,311
Infants, New, 0–1 year	396	98	239	733
Toddlers, New, 1–5 years	100	80	149	329
HOME VISITS—				
By Health Visitors	1,958	1,975	2,773	6,716
By Health Assistants	1,174	1,248	1,047	3,469

The Lady Grigg Welfare League Maternity Home has a similar constitution to its counterpart in Mombasa, but caters for Indian as well as African maternity work. Excellent progress is reported in their maternity services and in the training of midwives, chiefly for the Highland districts of Kenya. The following tables show the work performed in the Home during the year:—

	Resident in Nairobi	Non-Resident	Total
Cases admitted during the year	1,123	1,087	2,210
Number of beds	—	—	46
Patients days	—	—	9,780
Baby days	—.	—	7,705
Motherless baby days	—	—	795

LADY GRIGG INDIAN MATERNITY HOSPITAL, NAIROBI

CASES	1945	1946	1947
Admissions	586	588	682
Births	518	509	583
Twins	3	3	12
Stillbirths	17	10	26
Deaths—Maternal	6	2	5
Deaths—Infants	5	5	8
Triplets	—	—	1

(2) Ante-natal, Maternity and Child Welfare Work in Rural and Native Areas

Without exception all stations show a rise in numbers of maternity cases attended at the Local Native Council maternity homes in rural native areas. Figures are appended:—

At Government Hospitals, Including those Centres Established with the Help of Local Native Council Funds

Station	*Cases*
Kabarnet	63
Kapsabet	214
Kiambu	901
Kerugoya	684
Kisumu	1,338
Kakamega	452
Embu	125
Narok	28
Kericho	408
Wesu	188
Voi	12
Kitui	45
Eldoret	200
Nakuru	664
Kilifi	44
Malindi	32
Machakos	327
Fort Hall	976
Digo	10
Nyeri	805
Kajiado	8
Kitale	133
Kapenguria	44
Meru	186
Lamu	12
Muriranjas	223
Kisii	328
Nyahera Dispensary	201
Others	266
Total	8,917

VII.—HOSPITALS, DISPENSARIES, OUT-DISPENSARIES, VENEREAL CLINICS, THE MENTAL HOSPITAL, MEDICAL WORK CARRIED OUT BY MISSIONARY SOCIETIES, ETC.

The number of patients treated at hospitals and dispensaries during the year was as follows:—

European In-patients	European Out-patients	Asiatic and African In-patients	Asiatic and African Out-patients
3,457	9,658	156,888	801,395

In addition, 1,286,879 attendances were recorded at out-dispensaries in the native reserves.

In- and Out-Patients Treated at Government Hospitals, Dispensaries and Out-Dispensaries in 1947

Hospitals in Townships	In-patients	Out-patients
European Hospital, Nairobi	1,535	3,538
Native Civil Hospital, Nairobi	17,432	—
Mathari Mental Hospital, Nairobi	619	—
Infectious Diseases Hospital, Nairobi	6,739	—
Prison Hospital, Nairobi	1,520	2,215
General Dispensary, Nairobi	3,145	68,933
Loco Dispensary, Nairobi	905	17,128
European Hospital, Mombasa	543	698
Native Civil Hospital, Mombasa	6,746	61,185
Infectious Diseases Hospital, Mombasa	1,841	1,532
European Hospital, Kisumu	400	951
Native Civil Hospital, Kisumu	5,537	32,287
Native Civil Hospital, Nakuru	9,317	21,893
Native Civil Hospital, Eldoret	4,758	15,332
Railway Dispensary, Eldoret	1,181	3,424
Native Civil Hospital, Kitale	4,890	15,239
Total	67,108	244,355

Hospitals in Turkana and Northern Frontier Province and Lamu

	In-patients	Out-patients	Out-dispensaries
Isiolo	287	5,024	—
Lodwar	520	4,618	—
Lokitaung	248	3,017	—
Wajir	1,073	7,409	—
Moyale	755	9,997	—
Lamu	347	3,541	23,258
Garissa	206	4,606	—
Total	3,436	38,212	23,258

Hospitals in the Native Reserves

Districts	In-patients	Out-patients	Out-dispensaries
Wesu	3,492	19,177	27,573
Voi	1,989	12,276	—
Kabarnet	887	10,207	19,350
Kitui	2,847	32,371	62,682
Kapenguria	364	8,076	—
Narok	1,566	6,232	19,322
Malindi	407	17,024	—
Kakamega	7,682	28,543	112,572
Kilifi	1,686	6,643	45,960
Kericho	4,224	9,941	25,590
Machakos	4,197	32,610	97,661
Muriranjas	4,569	18,261	—
Kisii	4,455	17,751	99,745
Nyeri	6,124	41,384	211,539
Fort Hall	7,843	16,658	128,346
Meru	3,447	46,485	186,916
Kiambu	6,477	22,523	16,894
Embu (District)	2,309	18,885	82,534
Kajiado	1,475	4,819	21,463
Msambweni (Digo)	1,627	5,964	57,315
Kapsabet	2,423	9,054	39,371
Kerugoya (Embu District)	7,490	26,235	—
Tambach	683	5,982	—
Rumuruti	591	6,874	—
Naivasha	288	7,619	—
Shauri Moyo Dispensary	—	24,824	—
Wei Wei Dispensary	—	—	8,788
Thomson's Falls	473	14,096	—
Maralal	532	4,095	—
Thika	3,121	11,380	—
Maseno	—	—	—
Sandford and Fort Hall Dispensaries	329	8,885	—
Makindu	212	5,171	—
Taveta	1,313	5,136	—
Londiani	2,108	8,438	—
Molo	1,494	11,821	—
Total	88,724	525,440	1,286,879

Surgery

In spite of difficulties of accommodation, of staff and in the administration of the European hospitals, surgical practice in Kenya has progressed and kept pace with the recent world-wide advances. Every advantage has been taken to apply the improvements in technique that experience has shown to be suitable for local conditions in Kenya. The appended table indicates the work performed in respect of the total number of operations carried out on all races during the year:—

	1945	1946	1947
Europeans	1,246	1,012	1,275
Asians	1,798	1,616	1,315
Africans	22,195	22,178	18,822
Total	25,239	24,806	21,412

The Rehabilitation Centre has continued its work, of which a great part now consists of the alleviation of disability and deformity associated with tuberculous disease of the bones and joints. It is unfortunate that their material is more than ample, and the experience offered is almost unique. Advances in technique have been recorded in the professional journals.

In the latter stages of rehabilitation, great use is made of handicrafts and occupational therapy, which receive enthusiastic support from the patients themselves. This department is in a very flourishing condition, and work of a high standard is produced of a potentially saleable nature.

Anæsthetics

The administration of anæsthetics has mirrored the advances in surgery, in the larger stations at least but, in the small stations, anæsthetics are still given by specially trained hospital assistants by the older methods. During the year there was some difficulty in the supply of the usual inhalation anæsthetic agents, but this has not been reflected in the figures for numbers of anæsthetics given. The tendency has been to depend more upon the intravenous, spinal and local anæsthetics. Curare was introduced last year and "Myanesin" has had a trial this year in the hands of the Specialist Anæsthetist. The Report of the Specialist Anæsthetist, Nairobi, gives the following details of anæsthetics given in Nairobi in 1947:—

	General	Local	Spinal	Total
Europeans	1,045	87	5	1,137
Asians	773	268	96	1,137
Africans	8,851	2,907	610	12,368
Total	10,669	3,262	711	14,642

List of Operations

Nature of Operation	*Number performed*
1. Stomach and Duodenum:—	
(*a*) Closure of perforations	3
(*b*) Gastro-enterostomy	7
(*c*) Gastrectomy	3
Others	15
2. Intestines:—	
(*a*) Closure of wounds and perforations	8
(*b*) Resection and/or anastomosis	14
(*c*) Reduction of volvulus	27
(*d*) Reduction of intussusception	12
(*e*) Division of adhesions or bands	11
(*f*) For any other cause of obstruction	23
(*g*) Formation or closure of artificial anus	8
(*h*) Appendicectomy and/or appendicular drainage	287
(*i*) Drainage of other peritoneal abscesses	16
(*j*) Omentopexy	2
(*k*) Exploratory laparotomy	145
(*l*) Paracentesis	54
Others	11
3. Rectum and Anus:—	
(*a*) Excision of rectum	1
(*b*) Treatment of prolapse	25
(*c*) For fissure and fistula	38
(*d*) For ischio-rectal abscess	27
(*e*) Ligature of hæmorrhoids	67
(*f*) Injection of haemorrhoids	8
(*g*) Sigmoidoscopy	59
Others	9
4. Hernia:—	
(*a*) Inguinal	450
(*b*) Femoral	3
(*c*) Umbilical	17
(*d*) Incisional	7
Others	9
5. Liver, Spleen and Pancreas:—	
(*a*) Upon liver	28
(*b*) Cholecystectomy	12
(*c*) Other operations upon gall bladder and bile ducts	3
(*d*) Splenectomy	6
(*e*) For pancreatitis	1
Others	5

Nature of Operation	*Number performed*
6. Urinary System:—	
(*a*) Nephrotomy	7
(*b*) Nephrectomy	9
(*c*) Perinephric exploration	8
(*d*) Upon ureters (excluding operations for vesico-vagial fistula)	7
(*e*) Cystotomy and suprapubic drainage	98
(*f*) Prostatectomy	24
(*g*) Urethrotomy	20
(*h*) For urethral fistula and abscess	10
(*i*) Cystoscopy and ureteric catherterization	87
(*j*) Urethral catheterization and passage of sounds	479
Others	14
7. Male Organs of Generation:—	
(*a*) Circumcision	258
(*b*) Others for paraphimosis	78
(*c*) Amputation of penis	1
(*d*) Hydrocelotomy	226
(*e*) For varicocele	5
(*f*) Upon testis and epididymis	31
Others	18
8. Female Organs of Generation:—	
(*a*) Ovariotomy	74
(*b*) Salpingotomy	73
(*c*) Salpingostomy, for sterility	23
(*d*) Myomectomy	10
(*e*) Hysterectomy	123
(*f*) Hysteopexy	58
(*g*) Cæsarian section	72
(*h*) Uterine suture	4
(*i*) For extra-uterine gestation	15
(*j*) Drainage of pelvic abscess	15
(*k*) Instrumental delivery and destruction of fœtus	271
(*l*) For vesico- or recto-vaginal fistula:—	
(*i*) Plastic repair	38
(*ii*) Uretero-colic anastomosis	42
(*m*) Colporrhaphy and perineorrhaphy	36
(*n*) Removal of uterine contents and/or dilation and curettage	565
(*o*) Induction of labour or abortion	13
(*p*) Insufflation of fallopian tubes	79
(*q*) Uterine drainage	6
(*r*) Examination and/or manipulation of uterus or fœtus	85
(*s*) Upon cervix	27
(*t*) Others upon vagina and vulva	117
Others	23
9. Eye:—	
(*a*) For entropion	58
(*b*) For cataract	57
(*c*) For glaucoma	7
(*d*) Iridectomy	15
(*e*) Enucleation and evisceration	51
Others	68
10. Ear Nose and Throat:—	
(*a*) Myringotomy	1
(*b*) Mastoidotomy	28
(*c*) Removal of foreign bodies	78
(*d*) Reduction of nasal fracture	3
(*e*) Resection of septum	17
(*f*) Turbinectomy and/or drainage of sinuses	28
(*g*) Removal of tumours	38
(*h*) Tonsillotomy, by guillotine } both including removal of adenoids	17
(*i*) Tonsillectomy, by dissection } both including removal of adenoids	235
(*j*) For quinzy	9
(*k*) Uvulotomy	23
(*l*) Laryngoscopy, bronchoscopy and œsophagoscopy	25
Others	4
11. Mouth and Neck:—	
(*a*) Extraction of teeth	3,360
(*b*) Upon jaws (including treatment of fractures)	30
(*c*) Upon tongue and lips (including removal of tumours, but excluding plastic operations)	25
(*d*) Excision or treatment of glands in neck	127
(*e*) Tracheotomy	17
(*f*) Thyroidectomy (including ligature of thyroid vessels)	31
(*g*) For thyro-glossal cysts	3
Others	10

Nature of Operation	*Number performed*
12. Chest:—	
(*a*) Thoracotomy and pleural drainage	25
(*b*) Lobectomy	2
(*c*) Upon cardia	—
(*d*) Phrenic avulsion	11
(*e*) Artificial pneumothorax	—
(*f*) Paracentesis	83
Others	13
13. Mammary Glands:	
(*a*) Mastectomy	20
(*b*) Excision of tumour	18
(*c*) Incision of abscess	106
Others	2
14. Cranium:—	
(*a*) Decompression and treatment of fracture and hæmorrhage	45
(*b*) For intracranial tumour	—
(*c*) Drainage of intracranial abscess	5
Others	5
15. Spinal Column:—	
(*a*) Laminectomy	7
(*b*) Bone graft	23
(*c*) Manipulation and/or external fixation (for tuberculosis, fracture and other conditions, including application of plaster jacket)	154
(*d*) Lumbar and cisternal puncture	325
(*e*) Spinal injection	1
Others	1
16. Bones:—	
(*a*) For fractures:	
(*i*) Open operations (including bone graft, application of plates and other mechanical aids)	244
(*ii*) Manual and instrumental reduction and/or application of splints and plaster	2,140
(*b*) For osteomyelitis, osteitis and periostitis:	
(*i*) Acute	47
(*ii*) Chronic (including sequestrectomy and/or application of plaster)	364
(*c*) Removal of tumours	20
17. Joints:—	
(*a*) Arthrotomy:	
(*i*) For sepsis	15
(*ii*) For removal of loose or foreign bodies	26
(*b*) Excision of joint	50
(*c*) Reduction of dislocation	162
(*d*) Manipulation for other purposes	75
(*e*) External fixation (including application of plaster)	318
(*f*) Aspiration	156
Others	65
18. Amputations:—	
(*a*) Of fingers	205
(*b*) Of hand and forearm	28
(*c*) Of arm	12
(*d*) Of toes	67
(*e*) Of foot and leg	81
(*f*) Of thigh	40
19. Arteries, Veins and Nerves:—	
(*a*) For aneurysm	1
(*b*) Ligature of vessels	22
(*c*) For angioma	2
(*d*) Injection of varicose veins	6
(*e*) Nerve suture and neurolysis	11
(*f*) Others upon nerves (including stretching and injection)	4
20. Orthopædic and Plastic Operations:—	
(*a*) Osteotomy (for deformities)	25
(*b*) Other treatment of deformities and contractures (including manipulation and application of splints and plaster)	97
(*c*) For hare lip and cleft palate	20
(*d*) Upon ears, nose and lips	12
(*e*) For elephantiasis	16
(*f*) Skin graft	344
Others	12

Nature of Operation	*Number performed*
21. Conditions Unclassified Regionally:—	
(*a*) For ulcers (excluding skin graft)	1,134
(*b*) For other septic conditions (including incision of abscesses and whitlows)	2,834
(*c*) Suture and treatment of wounds (including tendon suture)	1,484
(*d*) Excision of superficial tumours (including cysts)	447
(*e*) Extraction of foreign bodies	336
(*f*) Removal of glands	72
(*g*) For bursitis and ganglion	77
(*h*) Treatment of burns	201
(*i*) Removal of parasites	1
Others	114
22. Surgical Procedures Otherwise Unclassified:—	
Others	236

Eye Clinic, General Dispensary, Nairobi

The following are details of work done and cases seen at the Eye Clinic held at the General Dispensary, Nairobi, during 1947:—

	Europeans	*Asians*	*Africans*
Conjunctivitis	91	376	3,070
Trachoma	13	88	806
Tumours	1	—	4
Others	511	1,111	2,604
Total number of new cases	616	1,575	6,484
Total number of re-attendances	666	4,267	16,504
Number of males	333	1,476	5,309
Number of females	283	99	1,175
"Others" include diseases of:—			
Orbit—			
Neuralgia	—	—	29
Cellulitis	—	—	—
Tumour	—	—	—
Injury	—	—	—
Extrinsic Musculture—Lids and Surrounding Structures—			
Blepharitis	—	7	21
Hardeolum	1	15	85
Chalazion	8	26	245
Trichiasis, distichasis	—	—	11
Entropion	1	5	26
Ectropion	—	1	3
Injuries	1	4	46
Others	8	8	78
Lacrimal Apparatus—			
Lachrymal gland	—	—	1
Lachrymal sac	2	—	6
Conjunctivia (other than Conjunctivitis and Trachoma)—			
Xerosis	—	—	3
Pinguecula	—	—	—
Pterigium	3	7	18
Hæmorrhage	1	4	64
Tumour	1	—	—
Injuries	1	—	—
Foreign body	9	19	144
Others	—	3	8
Cornea—			
Foreign body	14	112	360
Opacities	1	15	85
Ulcer	8	17	134
Interstitial keratitis	—	—	32
Other forms of keratitis	—	—	34
Staphyloma	—	—	13
Injuries	2	18	77
Others	—	1	8
Lens and Vitreous—			
Cataract	—	2	43
Injuries	—	—	6
Others	1	—	—
Uveal Tract—			
Irido-cyclitis	1	—	46
Others	1	—	6
Retina—			
Detachment	—	—	2
Retinitis	—	—	1
Night Blindness	—	2	55
Others	1	—	1

	Europeans	*Asians*	*Africans*
Optic Nerve and Central Connexions—			
Papilloedema	—	—	—
Optic neuritis	—	—	6
Atrophy	—	—	3
Others	—	—	—
Glaucoma	—	3	19
Panophthalmitis	—	—	8
Contusion of Globe	—	—	109
Vision tests	3	668	411
Errors of refractions	434	132	216
Examination and report	—	18	9
Miscellaneous	9	18	132

Medical Training of Africans

The work of the Medical Training School in Nairobi continued under the usual difficulties associated with lack of facilities and accommodation. The rebuilding of this school is a matter of prime urgency under the Development and Reconstruction Authority.

During the year 13 qualified Hospital Assistants were passed out, but there were no candidates for the Final Examinations for Masseurs and Laboratory Assistants. The training of African Compounders was taken in hand by a qualified Pharmacist who was appointed in August, but the good results envisaged from the appointment could not be expected within the current year. The output of compounders was disappointing as no compounder was passed out during the year. Another appointment made was that of a full-time European Health Inspector for the training of African Sanitary Assistants and Health Inspectors. Here, again, results in this sphere cannot be expected for a year or so.

As has been mentioned above, the Medical Training School has been labouring under great administrative difficulties. These difficulties have not been ameliorated by the apparently poor quality of the material available for training. In 1947 there were 29 discharges, or resignations, out of a total of 95 students. Although this figure appears to be highly unsatisfactory, it is considered better to weed out the misfits early rather than to waste time and accommodation in their training, only to find that they are unsuitable in their jobs when posted to out-stations.

The total number of qualified staff in the Colony at the end of December, 1947, was:—

(1)	Hospital Assistants, Special Grade	6
	Hospital Assistants, Grade I	39
	Hospital Assistants, Grade II	110
		155
(2)	Compounders, Grade I	11
	Compounders, Grade II	13
		24
(3)	Laboratory Assistants, Special Grade	3
	Laboratory Assistants, Grade I	14
	Laboratory Assistants, Grade II	35
	Laboratory Assistants, Grade III	3
		55
(4)	Masseurs, Grade II	8
(5)	Instructors, Special Grade	1
	Instructors, Grade I	1
		2
	Total	244

It is freely admitted that the output from the Medical Training School is by no means adequate for the work that has to be done throughout the Colony. At this moment the output of the school is not balancing the wastage; an instance of which is the fact that 13 new Hospital Assistants were passed out against a total of 15 Hospital Assistants who left the service for various reasons. The year 1947 was probably unusual in that six of these 15 Hospital Assistants left the service consequent upon a strike in the Nyanza Province.

The instruction of African female nurses has not yet been put on a proper footing. The main difficulty in this direction is that of recruitment, rather than administration. It is quite evident that the general standard of female schooling must rise before suitable candidates can become available to the Department. This expectation may soon be fulfilled, and the Department plans to build a well conducted hostel in Nairobi for the accommodation of these female trainees. This last matter is extremely important as the parents of the girls must be assured that their daughters can come to no harm during their period of training in Nairobi.

Venereal Diseases Clinics

Treatment of venereal diseases is afforded for men and women at Government and Municipal Clinics in Nairobi and Mombasa, while special clinics for women are maintained by Government at Nanyuki and Gilgil. Treatment is also carried out both for in-patients and out-patients at all Government hospitals throughout the Colony. Figures of cases treated for the last three years are as follows:—

	1945	1946	1947
Syphilis	17,105	16,763	17,174
Gonorrhœa	11,899	15,178	19,466

Rising figures for cases treated must not be construed as indicating a general increase of venereal disease in the Colony. Rises have been noted against the treatment of all diseases in every phase of activity of the Department. Rather, must it be taken that these higher figures indicate a greater degree of confidence shown by the African in our treatment, and it should be a matter of congratulation that they should more readily present themselves for treatment.

Gonorrhœa.

For gonorrhœa penicillin in blood serum has been the mainstay of our treatment. This technique was devised in Kenya at the Medical Research Laboratory, Nairobi. The advantage of the treatment is that one single dose only of penicillin need be given, with results that are comparable with those given by four separate injections of aqueous penicillin or one large injection of penicillin in oil. This last agent has not generally been available in Kenya during the year. In the male, excellent results have been achieved, but gonorrhœa in the female still presents a formidable problem in point of presenting for treatment, in diagnosis, and the attainment of therapeutic results comparable with those in the male. It is quite certain that chronic gonorrhœa in the female takes, with tuberculosis, the major share of blame for the apparently large amount of sterility that is experienced by African women.

Syphilis.

The intensive treatment of syphilis by arsphenoxide and bismuth was carried out at one centre with satisfactory results. It was not possible to determine whether a complete cure was achieved, but it was almost certain that patients were sent out of hospital in a non-infective state, for the time being at least. The great advantage of intensive courses as in-patients for syphilis has been the reduction of the rate of failure to complete the course to negligible figures. This aspect is of the highest importance in the treatment of any class of persons who do not clearly recognize the insidiousness of this disease in the absence of overt symptoms.

Other Diseases.

There is little to report on the remaining venereal diseases which are present in small numbers in the Colony. Reiters syndrome has not been reported by Medical Officers, chiefly, it is assumed, by reason of the relatively inadequate local laboratory facilities at their disposal.

Medical Work Carried out by Missionary Societies

The number of hospital beds maintained by the Missionary Societies receiving medical grants from Government, the number of patients treated in these Institutes and the amount of the grants given are shown in the following table:—

Mission	Place	No. of Beds	In-Patients	Out-Patients	Out-Dispensary Patients	Confinements	Amount of Grants £
C.S.M. ..	Kikuyu	85	2,256	17,333	—	450	900
,, ..	Chogoria ..	89	3,244	16,303	45,936	205	600
,, ..	Tumutumu ..	115	2,368	25,036	48,134	1,444	1,440
C.M.S. ..	Kaloleni ..	75	—	—	—	—	1,277
,, ..	Maseno	82	2,742	17,249	8,866	428	588
S.D.A. ..	Kendu	75	—	—	—	—	540
M.M.S. ..	Meru	56	—	—	—	—	360

C.S.M.—Church of Scotland Mission.
C.M.S.—Church Missionary Society.
S.D.A.—Seventh Day Adventists.
M.M.S.—Methodist Missionary Society.

Prisons and Asylums

A comparison of health statistics in 1947 with the four preceding years is shown below:—

Year	Daily Average in Prison	Total Admissions to Hospital	Daily Average Sick	Percentage of Daily Average in Prison	Deaths
1947 ..	6,799	3,657	180	2·6	81
1946 ..	5,683	5,106	303	5·3	102
1945 ..	5,248	5,935	175	3·2	67
1944 ..	5,227	5,428	202	3·8	115
1943 ..	4,902	4,776	176	3·5	143

Two deaths were due to accidents and one to suicide, the remaining 78 were from natural causes due to the following diseases:—

Diseases	Nairobi Prison	All other Prisons	Total
Pneumonia	5	12	17
Dysentery	1	1	2
T.B.	7	12	19
Malaria	1	5	6
Various	11	23	34
Total ..	25	53	78

Of the above, seven were lunatics. It is gratifying to report of reduction of 21 in the number of deaths in spite of a greatly increased prison population.

As formerly, the Nairobi Prison Hospital received all the hospital cases from Nairobi Prison, the Ngong River Prison and the Ruiru, Kamiti and Nachu camps.

The daily average of these centres totalled 1,812.

The Mathari Mental Hospital

Accommodation.

(*a*) *European.*—No additional buildings were provided in this section of the hospital. Owing to the large number of female admissions, the male ward was taken over by the female section. There were periods during the year when it was found extremely difficult to accommodate European patients and several cases who might have benefited by hospitalization had to be cared for outside. At all times, and with both sexes, the standard of comfort attained was not ideal because the buildings occupied do not allow for the proper segregation of the disturbed case from the convalescent and quiet. The problem of accommodating cases in an environment suitable to their different behaviour patterns at times imposed a severe strain on the nursing staff.

(*b*) *Asian.*—At the end of the year there were 14 females in a space allotted for eight, and 20 males where 18 should be accommodated. The provision of additional accommodation in this section is indeed an urgent requirement and if plans for the resiting at Kamiti are delayed much longer, temporary buildings will have to be considered.

(*c*) *African.*—Three prefabricated wards, each to accommodate 20 quiet and convalescent patients, were opened in July. These wards are far from being ideal so far as safety and the proper control of mental patients is concerned, but their provision did at least allow for the hospitalization of cases overcrowded in the prisons and the reduction in gross overcrowding in the female section. At the end of the year there were 38 vacant beds.

Patients Treated.

The record total of 619 patients received in-patient treatment. This is against 579 in 1946, 560 in 1945 and 522 in 1944. Of this number 42 were European, 56 Asian and the remainder African. The total number in residence on 31st December, 1947, was 379 (European 14, Asian 34, African 331).

The daily average number attained throughout the year shows the following steady increase:—

Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
360	365	355	358	360	364	366	364	366	370	375	384

Military.

Fifteen military cases were admitted as against four in 1946. Only two of this number were European and one Asian, the remainder being African.

Twenty-two military cases were also dealt with as out-patients by the Specialist Psychiatrist on behalf of the East African Command.

Deaths.

The percentage of deaths to the total number treated was 9·2 per cent. Causes of death were certified as follows:—

Insanity, Debility and Senility	17
Phthisis	9
Pneumonia	7
Septicæmia	6
Pellagra	3
Epilepsy	2
Cellulitis	2
Cirrhosis of liver	2
Bacillary dysentery	2
Syphilis	2
Cancrum Oris	1
Poisoning	1
Anæmia	1
Encephalitis	1
Typhoid	1

Patients' Occupational Recreation and Welfare

An average of 53 per cent of patients (male and female African) was daily employed. Fourteen per cent of those employed undertook essential maintenance work, such as in kitchens and laundry; 26 per cent performed essential cleaning and hygiene duties, and the remaining 60 per cent were employed in shambas, on grounds and on other heavy maintenance work within the hospital perimeter. Forty-seven per cent of patients were unemployable. Patients were not compelled to work but were encouraged to perform some task no matter how simple. The working hours were 29 per week, Wednesday, Saturday and Sunday afternoons being recreational times.

Every effort was made to keep patients of all races as active as their mental conditions permitted but the results obtained fell far short of the standard attained in the United Kingdom, where workshops and industrial instructors in the trades and in arts and crafts are employed, and where occupations have therapeutic importance.

Training of African Staff

A new departure this year has been an attempt to train, by lectures, the African staff. Twenty-four lectures of one hour's duration each were given to male and female African staff. The lectures were well attended in spite of having to give them during off-duty periods and on a voluntary basis. The average attendance was 44 out of a total number on the staff of 98. The staff on the whole were interested, but it is doubtful how far they benefited by the instruction. All the African staff are Swahili speaking and the absence of suitable books of reference in their language prevented their making a thorough study of the subject, in addition to making the lecturer's task one of real difficulty. However, further courses of lectures will be given during 1948, when it may be possible to assess their value better.

The syllabus of lectures was as follows:—

Anatomy and physiology	4 hours
First Aid	4 hours
Bedside Nursing	5 hours
Mental Nursing	6 hours
Mental Illness	5 hours

The New Mental Treatment Act

We were still embarrassed in 1947 by having to work under the antique terms of the Indian Lunacy Act of 1858. It is a pity that patients must still be certified insane or discharged at the end of 14 days, and the resentment felt by patients and their relatives in this matter is steadily becoming more acute.

Mental Deficiency

By calculations based on the incidence in the United Kingdom and on our own knowledge of cases in Kenya, it is deduced that there must be at least 50 mentally deficient European children in Kenya and at least 300 mentally deficient Asian children. For these there is no suitable institution in Kenya, other than Mrs. Glennie's home for backward children (for Europeans), which, unfortunately, is having to close down at the end of the year. The question of disposal and education of these children is now an urgent one and will have to receive the earnest consideration of Government as soon as possible.

Therapeutics

Three new types of treatment were instituted during the year, namely the Insulin treatment of Schizophrenia, the Penicillin treatment of Neurosyphilis and Prefontal Leucotomy for various conditions.

Prefrontal Leucotomy was introduced to Kenya in 1947 and performed, in consultation with the Specialist Psychiatrist, by a surgical team on eight subjects during the year. Six of the cases were Depressives and two were Schizophrenics. In one case the patient unfortunately died, but in the other seven the operation was successful. In all these seven there was mental and physical improvement, and in four cases (all depressives) the improvement was so dramatic as to savour of the miraculous.

General Statistics

A.—Types of Mental Disorders from which Patients Suffered and were Treated.

Manic Depression	49
Schizophrenia Paranoia	253
Psychopathic	20
Neurosyphilis	15
Senile Dementia	24
Other Organic Reactions	72
Epilepsy	29
Terminal Dementia	15
Neurosis	20
Mental Defect	63
N.A.D.	5
Unclassified	54
Total	619

B.—Total Number of Patients Treated.

Male	428
Female	191
Total	619

C.—Admissions were from the following places:—

Place	*Males*	*Females*	*Total*
Dagoretti	1	—	1
Embu	3	3	6
Eldoret	9	2	11
Fort Hall	—	4	4
Kiambu	5	1	6
Kericho	7	—	7
Kisumu	5	3	8
Kitale	—	2	2
Kapsabet	1	—	1
Kakamega	5	1	6
Kilifi	2	—	2
Kampala (Uganda)	1	—	1
Kwale	1	—	1
Kitui	1	—	1
Lamu	1	—	1
Mombasa	22	11	33
Malindi	1	—	1
Meru	2	3	5
Nairobi	96	48	144
Nakuru	4	5	9
Nyeri	4	2	6
Naivasha	1	—	1
Machakos	2	3	5
Thika	3	—	3
Total	177	88	265

D.—Percentage of Deaths to Total Treated.

Year	*Number Treated*	*Number of Deaths*	*Percentage*
1943	489	77	15·74
1944	522	48	8·43
1945	560	35	6·25
1946	579	43	7·42
1947	619	57	9·20

E.—Admissions, Discharges and Deaths for the last Three Years.

	Admissions			Deaths			Discharges		
	1945	1946	1947	1945	1946	1947	1945	1946	1947
Males	187	163	177	26	28	30	127	127	127
Females	70	65	88	9	15	27	47	52	56
Total	257	228	265	35	43	57	174	179	183

F.—Total Number of Patient-days.

	1945	1946	1947
European Male and Female	5,336	5,278	4,905
Asian Male and Female	9,633	10,360	10,950
African Male	75,714	82,339	85,044
African Female	29,743	31,203	32,589
Total	120,426	129,180	133,488

G.—Average Daily Numbers.

1945	1946	1947
330	354	365

H.—Remaining at the End of the Year.

	1945	1946	1947
Males	246	251	271
Females	91	105	108
Total	337	356	379

I.—European Section.

Total number treated was:—

Males	18
Females	24
Total	42

	Males	*Females*
Remaining from 1946	3	9
Admitted in 1947	15	15
Discharged in 1947	14	14
Died in 1947	—	—
Remaining at the end of 1947	4	10

Total Number of Days Resident—

	Males	*Females*
By those discharged	1,752	2,841
By those who died	—	—
By those remaining	372	10,362
Total	2,124	13,203

J.—Asian Section.

Total number treated was:—

Males	40
Females	16
Total	56

	Males	*Females*
Remaining from 1946	21	8
Admitted in 1947	19	8
Discharged in 1947	18	2
Died in 1947	2	—
Remaining at the end of 1947	20	14

Total Number of Days Resident—

	Males	*Females*
By those discharged	2,648	378
By those who died	4,825	—
By those remaining	25,808	17,655
Total	33,281	18,033

K.—African Section.

Total number treated was:—

Males	370
Females	151
Total	521

	Males	*Females*
Remaining from 1946	227	86
Admitted in 1947	143	65
Discharged in 1947	95	40
Died in 1947	28	27
Remaining at the end of 1947	247	84

Total Number of Days Resident—

	Males	*Females*
By those discharged	30,883	12,486
By those who died	8,350	19,469
By those remaining	369,787	119,632
Total	409,020	151,587

TABLE II.—FINANCIAL

The sanctioned medical budget for the year 1947 was a total of £498,749, as compared with £444,647 for the preceding twelve months.

The headings under which the Vote was arranged were as follows:—

MEDICAL DEPARTMENT

	Estimate	*Actual Expenditure*
	£	£
Administrative Division—Personal Emoluments	16,879	16,067
Medical Division—Personal Emoluments	54,854	54,646
Sanitation Division—Personal Emoluments	5,208	5,505
Laboratory Division—Personal Emoluments	26,428	22,728
Other Charges	65,950	64,383
Native Services—Personal Emoluments	161,859	156,494
Native Services—Other Charges	143,367	143,116
Health Services—Personal Emoluments	3,093	—
Health Services—Other Charges	381	—
	£478,019	£462,939
Extraordinary Expenditure	£20,730	£16,025

The total amount of revenue collected was as follows:—

	£	£
Hospital Fees	15,100	
Infectious Diseases Hospital	2,824	
Fees from Medical Research Laboratory	6,508	
Registration Fees	143	
Sales of Medicines, Stores, etc.: Sales of Quinine	1,457	
Medical Stores and Equipment issued to Local Native Councils	4,540	
Rehabilitation Centre Fees (including refunds from other East African territories)	2,264	
	£32,836	32,836
Reimbursement from Uganda Government on account of Zanzibar Sanitary Station	244	
Reimbursement from K.U.R. & H. on account of Medical Services	10,037	
Reimbursement from Municipalities on account of Public Health Staff	3,151	
Reimbursement on account of messing expenses, European Hospital, Nairobi	957	
	£14,389	14,389
		£47,225

Last year the total revenue collected amounted to £52,581.

TABLE III.—RETURN OF DISEASES—(IN-PATIENTS)

for the year 1947

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
I.—Epidemic, Endemic and Infectious Diseases																				
1. Enteric Group—																				
(*a*) Typhoid Fever	—	1	—	1	—	—	5	—	5	—	—	20	—	20	—	25	407	68	432	13
(*b*) Paratyphoid A	—	2	—	2	1	—	—	—	—	—	—	2	—	2	—	2	8	—	10	—
(*c*) Paratyphoid B	—	2	—	2	—	—	—	—	—	—	1	—	—	1	—	—	6	—	6	—
(*d*) Type not defined	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	1	11	2	13	2
2. Typhus	—	14	—	14	—	—	15	—	15	1	—	—	—	—	—	1	40	—	41	—
3. Relapsing Fever	—	1	—	1	—	—	1	—	1	—	—	2	—	2	—	8	528	17	536	5
4. Undulant Fever	—	3	—	3	—	—	—	—	—	—	—	2	—	2	—	7	102	—	109	—
5. Malaria—																				
(*a*) Tertian (Benign)	—	20	—	20	1	1	19	—	20	—	—	15	1	15	—	6	552	—	558	2
(*b*) Quartan	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2	211	5	213	—
(*c*) Aestivo-autumnal	—	57	—	57	—	1	82	—	83	1	3	234	3	237	6	169	8,468	225	8,637	78
(*d*) Clinical	1	63	—	64	—	—	67	1	67	2	21	1,129	4	1,150	15	140	8,772	93	8,912	109
(*e*) Cachexia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	130	6	139	—
(*f*) Blackwater	—	—	—	—	—	—	1	1	1	—	—	5	2	5	—	2	23	—	25	—
(*g*) Cerebral	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	1	98	29	99	—
6. Smallpox	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	8	236	74	244	—
Alastrim	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
7. Measles	—	26	—	26	—	1	119	—	120	3	1	103	—	104	4	35	2,133	28	2,168	29
8. Scarlet Fever	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	7	—	7	33
9. Whooping Cough	—	—	—	—	—	—	7	—	7	1	—	7	—	7	2	20	1,172	65	1,192	—
10. Diphtheria	—	—	—	—	—	—	1	—	1	—	1	5	4	6	—	6	73	19	79	1
11. Influenza	—	15	—	15	—	—	32	—	32	1	13	1,885	—	1,898	31	15	1,294	—	1,309	6
12. Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	6	16	1
13. Mumps	—	1	—	1	—	—	1	—	1	—	—	51	—	51	1	17	571	—	588	4
14. Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15. Epidemic diarrhoea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	93	—	95	—
16. Dysentery—																				
(*a*) Amœbic	—	35	—	35	—	2	52	—	54	1	2	45	—	47	—	40	1,367	14	1,407	25
(*b*) Bacillary	—	6	—	6	—	—	8	—	8	—	1	23	3	24	—	12	672	45	684	11
(*c*) Undefined or due to other causes	—	3	—	3	—	—	3	—	3	—	—	47	—	47	1	16	414	10	430	3

17. Plague—																					
(*a*) Bubonic	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	37	10	37	—
(*b*) Pneumonic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Septicæmic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2	—
(*d*) Undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Spirochætosis icterohæmorrhagica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20. Leprosy	—	—	—	—	—	—	—	—	—	—	5	3	—	8	2	29	105	4	134	25
21. Erysipelas	—	1	—	1	—	—	1	—	1	—	—	—	—	—	—	—	8	—	8	—
22. Acute Poliomyelitis	—	3	2	3	—	1	6	1	7	—	—	5	—	5	—	—	69	4	69	4
23. Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	33	—	33	—
24. Epidemic Cerebro-spinal Fever	—	1	—	1	—	—	1	—	1	—	—	1	1	1	—	18	231	62	249	5
25. Other Epidemic Diseases—																				
(*a*) Rubeola (German Measles)	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
(*b*) Varicella (Chicken-pox) ..	—	—	—	—	—	—	14	—	14	—	—	3	—	3	—	27	847	2	874	19
(*c*) Kala-azar	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	—	11	—	11	—
(*d*) Phlebotomus Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Dengue	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*f*) Epidemic Dropsy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	14	—
(*g*) Yaws	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	54	810	—	864	32
(*h*) Trypanosomiasis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2	49	—	51	3
26. Glanders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27. Anthrax	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	12	639	40	651	7
28. Rabies	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	43	1	44	—
(*a*) Developed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Prophylactic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
29. Tetanus	—	—	—	—	—	—	—	—	—	—	—	9	4	9	—	8	167	98	175	5
30. Mycosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44	9	44	—
31. Tuberculosis, Pulmonary and Laryngeal	—	1	—	1	—	—	3	1	3	—	5	43	3	48	—	141	2,029	451	2,170	111
32. Tuberculosis of the Meninges or Central Nervous System ..	—	—	—	—	—	—	1	—	1	—	—	4	4	4	—	—	94	66	94	2
33. Tuberculosis of the Intestines or Peritoneum	—	—	—	—	—	—	3	—	3	—	—	6	1	6	—	2	98	37	100	—
34. Tuberculosis of the Vertebral Column	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	13	132	14	145	—
35. Tuberculosis of Bones and Joints	—	—	—	—	—	—	2	—	2	2	—	9	—	9	1	8	182	8	190	—
36. Tuberculosis of Other Organs—																				
(*a*) Skin or Subcutaneous Tissue (Lupus)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	20	1	21	—
(*b*) Bones	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	—	21	—
(*c*) Lymphatic System ..	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	20	365	—	385	38
(*d*) Genito-urinary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	7	8	—
(*e*) Other Organs	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	4	49	3	53	—
37. Tuberculosis Disseminated—																				
(*a*) Acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48	—	48	1
(*b*) Chronic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	35	—
38. Syphilis—																				
(*a*) Primary	—	1	—	1	—	—	2	—	2	—	—	7	—	7	—	106	2,297	4	2,403	91
(*b*) Secondary	—	—	—	—	—	4	9	—	13	—	—	4	—	4	—	157	3,885	12	4,042	214
(*c*) Tertiary	—	—	—	—	—	—	1	—	1	—	—	1	—	1	1	10	235	23	245	29
(*d*) Hereditary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	301	43	316	6
(*e*) Period not indicated ..	—	—	—	—	—	—	—	—	—	—	—	11	—	11	—	41	352	2	393	4

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
I.—Epidemic, Endemic and Infectious Diseases—(*Contd.*)																				
39. Soft Chancre	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	102	358	—	460	6
40. A.—Gonorrhœa and its complications	—	—	—	—	—	—	22	—	22	—	—	23	—	23	—	212	9,119	5	9,331	172
B.—Gonorrhœal Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	5	101	—	106	—
C.—Gonorrhœal Arthritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	133	—	145	—
D.—Granulomo Venereum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	22	—	23	1
41. Septicæmia	—	1	—	1	—	—	1	—	1	—	—	9	5	9	—	6	76	58	82	—
42. Other Infectious Diseases	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	10	3	11	—
I.—General Diseases not Mentioned Above																				
43. Cancer or other Malignant Tumours of the Buccal Cavity	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	9	—	9	—
44. Cancer or other Malignant Tumours of the Stomach or Liver	—	—	—	—	—	—	3	3	3	—	—	1	—	1	—	1	94	42	95	—
45. Cancer or other Malignant Tumours of the Peritomeum Intestines, Rectum	—	1	1	1	—	—	7	2	7	1	—	6	1	6	—	—	30	4	30	—
46. Cancer or other Malignant Tumours of the Female Genital Organs	—	—	—	—	—	—	1	1	1	—	—	2	2	2	—	—	31	—	31	3
47. Cancer or other Malignant Tumours of the Breast	—	1	—	1	—	—	3	1	3	1	—	1	1	1	—	1	17	—	18	—
48. Cancer or other Malignant Tumours of the Skin	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	4	50	—	54	—
49. Cancer or other Malignant Tumours of Organs not Specified	—	—	—	—	—	—	7	—	7	—	—	3	2	3	—	3	142	29	145	—
50. Tumours, Non-Malignant	—	6	—	6	—	1	11	—	12	—	—	30	—	30	—	8	381	—	389	6
51. Acute Rheumatism	—	1	—	1	—	—	4	—	4	—	5	13	—	18	—	9	304	—	313	4
52. Chronic Rheumatism	—	6	—	6	1	—	5	—	5	—	—	386	—	386	2	20	799	—	819	—
53. Scurvy (including Barlow's Disease)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	14	—	15	1
54. (*a*) Pellagra	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	11	36	—	47	2
(*b*) Kwashiakar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	267	66	267	30
55. (*a*) Beri-beri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Malnutrition	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	238	18	238	2
56. Rickets	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	3	—	3	—

57. Diabetes (not including Insipidus)	—	3	—	3	—	—	3	—	3	—	2	46	5	48	1	3	25	3	28	—
58. Anæmia—																				
(*a*) Pernicious	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Other Anæmias and Chlorosis	—	1	—	1	—	1	4	—	5	—	1	51	—	52	—	11	444	26	455	30
59. Diseases of the Pituitary Body ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
60. Diseases of the Thyroid Gland—																				
(*a*) Exophthalmic Goitre ..	—	1	—	1	—	—	4	—	4	—	—	—	—	—	—	1	22	1	23	—
(*b*) Other Diseases of the Thyroid Gland, Myxœdema	—	—	—	—	—	1	8	—	9	—	—	2	1	2	—	—	29	—	29	1
61. Diseases of the Para-Thyroid Glands	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
62. Diseases of the Thymus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
63. Diseases of the Supra-Renal Glands	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	2	—	2	—
64. Diseases of the Spleen	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	121	6	122	—
65. Leukæmia—																				
(*a*) Leukæmia	—	3	—	3	—	—	1	—	1	—	—	1	—	1	—	—	2	—	2	—
(*b*) Hodgkin's Disease ..	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	14	—	14	—
66. Alcoholism	—	—	—	—	—	—	2	—	2	—	—	9	1	9	—	—	47	—	47	—
67. Chronic poisoning by Mineral Substances (Lead, Mercury, etc.)	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	3	—	3	—
68. Chronic Poisoning by Organic Substances (Morphia, Cocaine, etc.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
69. Other General Diseases—																				
Auto-intoxication	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	10	4	—	14	—
Purpura Hæmorrhagica ..	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	3	1	3	—
Hæmophilia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
Diabetes Insipidus	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	—	5	2	5	—
III.—Affections of the Nervous System and Organs of the Senses																				
70. Encephalitis (not including Encephalitis Lethargica) ..	—	1	—	1	—	—	1	—	1	—	—	3	2	3	—	1	36	11	37	—
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	—	—	—	—	—	—	1	—	1	—	—	6	1	6	—	11	236	105	247	7
72. Locomotor Ataxia	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	5	—	5	—
73. Other Affections of the Spinal Cord	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	—	31	—
74. Apoplexy—																				
(*a*) Hæmorrhage	—	3	—	3	—	—	1	1	1	—	—	3	2	3	—	1	22	9	23	—
(*b*) Embolism	—	1	1	1	—	—	—	—	—	—	—	1	—	1	—	—	10	—	10	—
(*c*) Thrombosis	—	1	1	1	—	—	4	1	4	1	—	3	—	3	—	1	15	—	16	—
75. Paralysis—																				
(*a*) Hemiplegia	—	—	—	—	—	—	1	—	1	—	—	6	—	6	—	8	65	5	73	—
(*b*) Other Paralyses	—	—	—	—	—	—	1	—	1	—	—	9	—	9	—	4	76	—	80	8
76. General Paralysis of the Insane ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5	—
77. Other Forms of Mental Alienation	—	2	—	2	—	—	7	—	7	—	—	4	—	4	—	8	229	—	237	8
78. Epilepsy	—	—	—	—	—	—	—	—	—	—	—	7	2	7	—	4	115	5	119	—

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in, Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
III.—Affections of the Nervous System and Organs of the Senses—(*Contd.*)																				
79. Eclampsia Convulsions (Non-Puerperal) Five Years or Over	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2	3	—
80. Infantile Convulsions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5	—
81. Chorea	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—	1	6	—	7	—
82. A.—Hysteria	—	—	—	—	—	—	1	—	1	—	—	17	—	17	—	2	49	1	51	—
B.—Neuritis	—	7	—	7	—	—	7	—	7	—	—	43	—	43	—	3	186	—	189	10
C.—Neurasthenia	—	9	—	9	—	—	—	—	—	—	2	30	—	32	1	1	25	—	26	—
83. Cerebral Softening	—	1	—	1	—	—	5	—	5	—	—	—	—	—	—	—	6	—	6	—
84. Other Affections of the Nervous System, such as Paralysis Agitans	—	2	—	2	—	—	3	—	3	1	1	1	—	2	—	—	38	—	38	—
85. Affections of the Organs of Vision—																				
(*a*) Conjunctivitis	—	7	—	7	—	—	6	—	6	—	1	22	—	23	—	29	1,269	—	1,298	20
(*b*) Trachoma	—	—	—	—	—	—	1	—	1	—	—	7	—	7	—	5	285	—	290	—
(*c*) Tumours of the Eye ..	—	1	—	1	—	—	1	—	1	—	—	14	—	14	—	—	37	—	37	—
(*d*) Other Affections of the Eye	—	6	—	6	—	—	11	—	11	—	1	50	—	51	—	19	887	2	906	34
86. Affections of the Ear or Mastoid Sinus	—	17	—	17	—	—	36	—	36	—	—	52	—	52	—	18	522	—	540	12
IV.—Affections of the Circulatory System																				
87. Pericarditis	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	5	8	—	13	—
88. Acute Endocarditis or Myocarditis	—	—	—	—	—	—	4	1	4	—	—	6	1	6	—	1	34	—	35	—
89. Angina Pectoris	1	1	1	2	—	—	—	—	—	—	—	2	—	2	—	—	8	—	8	—
90. Other Diseases of the Heart—																				
(*a*) Valvular:—																				
Mitral	1	1	—	2	—	—	—	—	—	—	—	17	4	17	—	4	133	32	137	6
Aortic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	—	17	—
Tricuspid	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	9	4	9	—
(*b*) Myocarditis	—	5	—	5	—	—	3	2	3	—	—	3	1	3	1	—	30	—	30	—
(*c*) Unclassified	—	1	—	1	—	1	7	1	8	—	—	21	—	21	—	1	91	31	92	—
91. Diseases of the Arteries—																				
(*a*) Aneurism	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2	—
(*b*) Arterio-Sclerosis	—	1	—	1	—	—	3	—	3	—	—	—	—	—	—	—	2	—	2	—
(*c*) Other Diseases	—	1	—	1	—	—	8	—	8	—	—	1	—	1	—	—	2	—	2	—
92. Embolism or Thrombosis (Non-Cerebral)	—	3	1	3	—	—	1	—	1	—	—	5	1	5	1	—	11	—	11	—

93. Diseases of the Veins—																					
Hæmorrhoids	—	4	—	4	—	1	19	—	20	—	—	51	—	51	1	1	30	—	31	2
Varicose Veins	—	1	—	1	—	—	2	—	2	—	—	2	—	2	—	—	8	—	8	—
Phlebitis	—	1	—	1	—	—	1	—	1	—	—	4	—	4	—	—	9	—	9	—
Unclassified	—	—	—	—	—	—	—	—	—	—	—	10	—	10	—	—	—	—	—	—
94. Diseases of the Lymphatic System—																					
Lymphangitis	—	2	—	2	—	—	5	—	5	—	—	1	—	1	—	—	61	—	61	—
Lymphadenitis, Budo (Non-Specific)	—	2	—	2	—	—	5	—	5	—	—	34	—	34	—	17	424	—	441	20
95. Hæmorrhage of Undetermined Cause	—	1	—	1	—	—	4	—	4	—	—	1	1	1	—	2	14	—	16	—
96. Other Affections of the Circulatory System	—	1	—	1	—	—	4	—	4	1	1	5	1	6	—	1	31	—	32	—
V.—Affections of the Respiratory System																					
97. Diseases of the Nasal Passages—																					
Adenoids	—	16	—	16	—	—	13	—	13	—	—	48	—	48	—	—	26	—	26	—
Polypus	—	—	—	—	—	—	24	—	24	—	—	1	—	1	—	—	16	—	16	—
Rhinitis	—	—	—	—	—	—	—	—	—	—	1	5	—	6	—	—	27	—	27	—
Coryza	—	15	—	15	—	—	57	—	57	—	—	22	—	22	—	9	928	—	937	13
98. Affections of the Larynx—																					
Laryngitis	—	5	—	5	—	—	6	—	6	—	—	5	—	5	—	8	141	—	149	—
99. Bronchitis—																					
(*a*) Acute	1	17	—	18	—	—	45	—	45	—	1	113	—	114	2	55	5,157	10	5,212	56
(*b*) Chronic	—	6	—	6	—	—	3	—	3	—	1	64	—	65	1	11	947	70	958	22
(*c*) Unclassified	—	—	—	—	—	—	1	—	1	—	—	190	—	190	3	21	249	58	270	—
100. Broncho-Pneumonia	—	3	—	3	—	—	6	—	6	—	—	88	3	88	—	50	4,738	635	4,788	88
101. Pneumonia—																					
(*a*) Lobar	—	13	2	13	—	—	11	—	11	—	2	69	3	71	1	139	6,065	327	6,204	127
(*b*) Unclassified	—	2	—	2	—	3	11	—	14	—	—	45	—	45	2	9	980	79	989	15
102. Pleurisy, Empyema	—	—	—	—	—	—	1	—	1	—	1	30	1	31	—	10	295	—	305	9
103. Congestion of the Lungs	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	8	21	3	29	—
104. Gangrene of the Lungs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	4	—	5	—
105. Asthma	—	8	—	8	—	—	15	—	15	2	2	194	3	196	1	9	527	—	536	6
106. Pulmonary Emphysema	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	9	—	10	—
107. Other Affections of the Lungs	—	1	—	1	—	—	2	1	2	—	—	4	—	4	1	—	18	—	18	—
Pulmonary Spirochætosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	37	—	37	—
VI.—Diseases of the Digestive System																					
108. A.—Diseases of Teeth or Gums—																					
Caries	—	13	—	13	1	—	—	—	—	—	—	16	—	16	—	—	114	—	114	—
Pyorrhœa	—	1	—	1	—	—	20	—	20	—	1	36	—	37	—	3	52	—	55	—
B.—Other Affections of the Mouth—																					
Stomatitis	—	—	—	—	—	—	5	—	5	—	1	10	—	11	—	8	169	4	177	—
Glossitis, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	24	—	25	—
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	48	—	50	—

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
VI.—Diseases of the Digestive System—(*Contd.*)																				
109. Affections of the Pharynx or Tonsils—																				
Tonsilitis	—	66	—	66	1	—	223	—	223	1	2	743	—	745	5	8	870	—	878	17
Pharyngitis	—	8	—	8	—	1	15	—	16	—	1	71	—	72	1	—	202	—	202	—
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52	—	52	1
110. Affections of the Oesophagus	—	—	—	—	—	—	2	—	2	—	—	2	—	2	1	—	38	—	38	—
111. A.—Ulcer of the Stomach	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	—	15	—
B.—Ulcer of the Duodenum	—	16	—	16	1	—	2	1	2	1	—	19	—	19	1	1	69	—	70	—
112. Other Affections of the Stomach—																				
Gastritis	—	10	—	10	—	—	12	—	12	—	—	77	—	77	3	2	356	—	358	4
Dyspepsia	—	2	—	2	—	—	11	—	11	—	1	245	—	246	—	1	347	—	348	1
Unclassified	—	2	1	2	—	—	26	1	26	—	—	1	—	1	—	—	42	8	42	—
113. Diarrhoea and Enteritis—																				
Under Two Years	—	1	—	1	—	—	12	—	12	—	—	55	—	55	1	23	1,443	142	1,466	12
114. Diarrhoea and Enteritis—																				
Two Years and Over	—	29	—	29	—	2	55	—	57	1	4	256	2	260	2	10	1,125	39	1,135	28
Colitis	—	15	—	15	—	—	15	—	15	2	3	34	1	37	—	—	107	—	107	—
Ulceration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	1	—	6	—
114A. Sprue	—	4	—	4	—	—	5	—	5	1	—	1	—	1	—	—	—	—	—	—
115. Ankylostomiasis	—	1	—	1	—	—	7	—	7	—	—	6	—	6	—	4	646	—	650	12
116. Diseases due to Intestinal Parasites—																				
(*a*) Cestoda (Tænia)	—	6	—	6	—	—	10	—	10	—	—	1	—	1	—	26	1,091	1	1,117	16
(*b*) Trematoda (Flukes)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	179	—	179	—
(*c*) Nematoda (other than Ankylostoma)	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	5	—	—	5	—
Ascaris	—	—	—	—	—	—	1	—	1	—	—	5	—	5	—	22	636	2	658	11
Trichocephalus dispar.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichina	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Dracunculus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Strongylus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Oxyuris	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
(*d*) Coccidia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Other Parasites	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	5	48	—	53	—
(*f*) Unclassified	—	3	—	3	—	—	6	—	6	—	—	2	1	2	—	—	52	—	52	—
117. Appendicitis	—	28	—	28	1	2	122	1	124	3	1	130	1	131	2	1	56	—	57	—
118. Hernia	—	10	—	10	—	—	20	—	20	—	2	72	2	74	—	24	517	11	541	34

119. A.—Affections of the Anus Fistula, etc.	—	5	—	5	—	—	10	2	10	—	—	21	—	21	—	3	84	5	87	6
B.—Other Affections of the Intestines	—	6	—	6	1	—	12	—	12	—	—	14	2	14	1	3	75	29	78	—
Enteroptosis	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	18	—	18	—
Constipation	—	4	—	4	—	—	1	—	1	—	1	21	—	22	—	3	703	—	706	9
120. Acute Yellow Atrophy of the Liver	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	12	—	12	—
121. Hydatid Cyst	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
122. Cirrhosis of the Liver—																				
(*a*) Alcoholic	—	—	—	—	—	—	1	—	1	—	—	1	1	1	—	1	31	—	32	—
(*b*) Other Forms	—	—	—	—	—	1	1	2	2	—	—	—	—	—	—	—	70	7	70	3
123. Biliary Calculus	—	1	—	1	—	—	16	—	16	—	—	—	—	—	—	—	6	—	6	—
124. Other Affections of the Liver—																				
Abscess	—	1	—	1	—	1	—	—	1	—	—	1	—	1	1	5	83	—	88	2
Hepatitis	—	6	—	6	—	—	7	—	7	—	1	61	1	62	1	—	317	19	317	7
Cholecystitis	—	3	—	3	—	1	8	—	9	1	—	20	—	20	—	—	11	—	11	—
Jaundice	—	—	—	—	—	—	3	—	3	—	—	4	—	4	1	3	183	10	186	—
Unclassified	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	1	13	—	14	—
125. Diseases of the Pacreas	—	—	—	—	—	—	—	—	—	—	—	1	—	1	2	5	2	—	7	—
126. Peritonitis (of Unknown Cause)	—	—	—	—	—	—	2	1	2	—	—	3	—	3	—	—	55	26	55	9
127. Other Affections of the Digestive System	—	2	—	2	—	—	7	—	7	—	—	1	—	1	—	—	142	—	142	4
VII.—Diseases of the Genito-urinary System (Non-Venereal)																				
128. Acute Nephritis	—	2	—	2	—	—	3	—	3	—	—	13	5	13	—	6	102	21	108	—
129. Chronic Nephritis	—	—	—	—	—	—	5	1	5	1	—	7	3	7	—	1	116	50	117	—
130. A.—Chyluria	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	1	4	—	5	—
B.—Schistosomiasis	—	3	—	3	—	—	—	—	—	—	—	9	—	9	—	24	1,047	10	1,071	28
131. Other Affections of the Kidneys—																				
Pyelitis	—	5	—	5	—	—	14	—	14	—	—	12	—	12	—	1	90	—	91	—
Unclassified	—	2	—	2	—	—	10	1	10	—	—	40	—	40	—	1	65	—	66	1
132. Urinary Calculus	—	8	—	8	—	—	11	—	11	—	1	5	—	6	—	—	16	—	16	—
133. Diseases of the Bladder—																				
Cystitis	—	4	—	4	—	1	20	—	21	—	2	57	—	59	1	4	139	8	143	—
Unclassified	—	—	—	—	—	—	—	—	—	—	—	10	—	10	1	—	26	—	26	—
134. Diseases of the Urethra—																				
(*a*) Stricture	—	—	—	—	—	—	6	—	6	—	—	23	—	23	—	6	73	—	79	—
(*b*) Other	—	—	—	—	—	—	7	—	7	—	1	9	—	10	—	4	187	—	191	—
135. Diseases of the Prostate—																				
Hypertrophy	—	—	—	—	—	—	5	—	5	—	—	4	1	4	—	—	15	—	15	—
Prostatitis	—	1	—	1	—	—	—	—	—	—	—	14	1	14	1	—	28	—	28	1
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
136. Diseases (Non-Venereal) of the Genital Organs of Man— ..																				
Unclassified	—	—	—	—	—	—	6	—	6	—	—	2	—	2	—	8	125	—	133	5
Epididymitis	—	—	—	—	—	—	3	—	3	—	—	2	—	2	—	—	85	—	85	2
Orchitis	—	—	—	—	—	—	—	—	—	—	—	14	—	14	—	1	178	—	179	11
Hydrocele	—	1	—	1	—	—	1	—	1	—	—	12	—	12	—	8	129	—	137	—
Ulcer of Penis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2	89	—	91	—
137. Cysts or other Non-Malignant Tumours of the Ovaries ..	—	5	—	5	—	—	10	—	10	1	—	14	—	14	—	8	116	4	124	2

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
VII.—Diseases of the Genito-urinary System (Non-Venereal)—(*Contd.*)																				
138. Salpingitis	—	4	—	4	—	—	6	—	6	—	—	26	—	26	1	8	760	—	768	—
Abscess of the Pelvis	—	—	—	—	—	—	1	—	1	—	—	4	—	4	1	1	85	—	86	12
139. Uterine Tumours (Non-Malignant)	—	5	—	5	—	—	13	—	13	—	—	8	—	8	—	2	84	—	86	—
140. Uterine Hæmorrhage (Non-Puerperal)	—	4	—	4	—	1	6	—	7	—	—	6	—	6	—	1	57	8	58	—
141. A.—Metritis	—	3	—	3	—	—	25	—	25	—	—	13	—	13	—	—	89	—	89	—
B.—Other Affections of the Female Genital Organs—	—	—	—	—	—	—	6	—	6	—	—	25	2	25	—	2	233	6	235	—
Displacement of Uterus	—	4	—	4	—	—	21	—	21	1	—	4	—	4	—	2	134	—	136	—
Amenorrhœa	—	2	—	2	—	—	—	—	—	—	—	2	—	2	—	—	44	—	44	—
Dysmenorrhœa	—	1	—	1	—	—	1	—	1	—	—	36	—	36	1	3	206	—	209	9
Leucorrhœa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	18	—	19	—
142. Diseases of the Breast (Non-Puerperal)—																				
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	—	13	—
Mastitis	—	—	—	—	—	—	2	—	2	—	—	4	—	4	—	4	149	—	153	4
Abscess of Breast	—	1	—	1	—	—	—	—	—	—	—	6	—	6	—	1	87	—	88	—
VIII.—Pregnancy and Peurperal State																				
143. A.—Ante-Natal	—	2	—	2	—	—	2	—	2	—	—	51	—	51	—	—	1,703	—	1,703	28
B.—Normal Labour	—	10	—	10	—	—	20	—	20	—	—	84	—	84	—	159	6,449	—	6,608	131
C.—Accidents of Pregnancy—																				
(*a*) Abortion	—	7	—	7	—	1	31	—	32	1	1	26	—	27	—	21	937	7	958	—
(*b*) Ectopic Gestation	—	1	—	1	—	—	—	—	—	—	—	3	—	3	1	4	117	—	121	—
(*c*) Other Accidents of Pregnancy	—	5	—	5	—	—	9	—	9	—	1	32	1	33	—	61	584	41	645	66
144. Puerperal Hæmorrhage	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	—	40	3	40	—
145. Other Accidents of Parturition	—	—	—	—	—	—	1	—	1	—	—	7	—	7	—	2	156	17	158	—
146. Puerperal Septicæmia	—	—	—	—	—	—	—	—	—	—	1	7	1	8	—	2	132	24	134	2
147. Phlegmasia Dolens	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
148. Puerperal Eclampsia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	—	8	—
149. Sequelæ of Labour	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—	75	6	75	—
150. Puerperal Affections of the Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	18	—	26	—

IX.—Affections of the Skin and Cellular Tissues																					
151. Gangrene	—	—	—	—	—	—	11	—	11	—	—	4	—	4	1	2	48	16	50	—
152. Boil	—	12	—	12	—	—	12	—	12	—	2	96	—	98	2	—	142	—	142	—
Carbuncle	—	5	—	5	—	—	8	—	8	—	—	2	—	2	—	4	25	—	29	—
153. Abscess	—	12	—	12	—	—	37	—	37	2	6	169	—	175	2	57	1,997	63	2,054	133
Whitlow	—	1	—	1	—	—	3	—	3	—	—	10	—	10	—	4	96	—	100	—
Cellulitis	—	20	—	20	—	1	26	—	27	1	1	49	—	50	2	15	1,075	19	1,090	45
Ulcers	—	5	—	5	—	—	13	—	13	1	3	42	—	45	—	209	5,040	—	5,249	211
154. A.—Tinea	—	1	—	1	—	—	1	—	1	—	—	2	—	2	—	1	15	—	16	—
B.—Scabies	—	—	—	—	—	—	—	—	—	—	1	22	—	23	—	10	570	—	580	17
155. Other Diseases of the Skin—																				
Erythema	—	1	—	1	—	—	1	—	1	—	—	2	—	2	—	—	10	—	10	—
Urticaria	—	6	—	6	—	—	5	—	5	—	2	141	—	143	2	3	111	—	114	—
Eczema	—	—	—	—	—	—	9	—	9	—	—	36	—	36	—	6	252	—	258	13
Herpes	—	1	—	1	—	—	1	—	1	—	—	3	—	3	—	1	74	—	75	2
Psoriasis	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	1	27	—	28	—
Elephantiasis	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	4	97	—	101	2
Myiasis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	28	—	28	—
Chigoes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59	—	59	—
Cutaneous Leishmaniasis	—	—	—	—	—	—	—	—	—	—	—	19	—	19	—	—	2	—	2	—
Dermatitis	—	4	—	4	1	—	12	—	12	—	—	97	—	97	1	—	303	—	303	10
Unclassified	—	3	—	3	—	—	9	—	9	1	3	60	—	63	—	15	95	6	110	—
X.—Diseases of Bones and Organs of Locomotion (Other than Tuberculosis)																				
156. Diseases of Bones—																				
Osteitis	—	3	—	3	—	—	8	—	8	—	—	21	—	21	3	11	325	—	336	18
157. Diseases of Joints—																				
Arthritis	—	8	—	8	—	—	8	—	8	1	—	56	—	56	—	26	574	—	600	27
Synovitis	—	10	—	10	—	—	4	—	4	—	1	28	—	29	1	12	279	4	291	9
158. Other Diseases of Bones or Organs of Locomotion	—	14	—	14	—	—	17	—	17	—	—	25	2	25	1	18	631	—	649	10
XI.—Malformations																				
159. Malformations	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	12	—
Unclassified	—	—	—	—	—	—	3	—	3	—	—	8	—	8	—	1	33	—	34	—
Hydrocephalus	—	—	—	—	—	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—
Hypospadias	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Spina Bifida	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	2	10	—
XII.—Diseases of Infancy																				
160. Congenital Debility	—	—	—	—	—	—	1	1	1	—	—	3	—	3	—	—	67	8	67	—
161. Premature Birth	—	—	—	—	—	—	—	—	—	—	—	5	1	5	—	—	51	21	51	3
162. Other Affections of Infancy	—	—	—	—	—	—	1	—	1	—	—	2	—	2	—	17	93	32	110	—
163. Infant Neglect—																				
(*a*) Infants of Three Months and over	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61	6	61	4
(*b*) Infants under Three Months	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	9	2

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947	Cases remaining in Hospital from previous year 1946	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1947
XIII.—Affections of Old Age																				
164. Senility—																				
Senile Dementia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	15	7	17	—
Unclassified	—	—	—	—	—	1	2	1	3	—	—	1	1	1	—	—	63	17	63	—
XIV.—Affections Produced by External Causes																				
165. Suicide by Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
166. Corrosive Poisoning (Intentional)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
167. Suicide by Gas Poisoning ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
168. Suicide by Hanging or Strangulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
170. Suicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
171. Suicide by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
172. Suicide by Jumping from a Height	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
173. Suicide by Crushing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
174. Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
175. Food Poisoning	—	1	—	1	—	—	3	—	3	—	—	2	—	2	—	—	156	6	156	—
Botulism	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	5	—	5	2
176. Attacks of Poisonous Creatures—																				
(*a*) Snake Bite	—	1	—	1	—	—	2	—	2	—	—	2	—	2	—	4	204	—	208	—
(*b*) Insect Bite	—	2	—	2	—	—	2	—	2	—	—	—	—	—	—	2	64	—	66	12
(*c*) Others	—	—	—	—	—	—	3	1	3	—	—	1	—	1	—	—	85	—	85	—
177. Other Accidental Poisonings ..	—	—	—	—	—	—	2	—	2	—	—	4	1	4	—	—	32	9	32	—
178. Burns (by Fire)	—	1	—	1	—	—	6	—	6	—	—	28	7	28	—	68	1,167	122	1,235	54
179. Burns (other than by Fire) ..	—	—	—	—	—	—	2	—	2	—	—	28	—	28	—	7	198	14	205	—
180. Suffocation (Accidental) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
181. Poisoning by Gas (Accidental) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
182. Drowning (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
183. Wounds (by Firearms, War excepted)	—	—	—	—	—	—	5	1	5	—	—	4	—	4	—	4	62	2	66	3
184. Wounds (by Cutting or Stabbing Instruments)	—	3	—	3	—	—	2	—	2	—	3	82	3	85	1	75	2,398	32	2,473	82
185. Wounds (by Fall)	—	10	—	10	1	—	2	—	2	—	—	34	—	34	1	15	504	—	519	—
186. Wounds (in Mines or Quarries)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	—	28	—
187. Wounds (by Machinery) ..	—	—	—	—	—	—	1	—	1	—	—	14	—	14	—	6	79	—	85	—
188. Wounds (Crushing, e.g. Railway Accidents, etc.)	—	—	—	—	—	—	3	1	3	1	—	5	—	5	—	4	195	—	199	—

189. Injuries Inflicted by Creatures, Bites, Kicks, etc.	—	1	—	1	—	—	3	—	3	—	—	11	—	11	—	22	499	—	521	26
190. Wounds Inflicted on Active Service	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
191. Executions of Civilians by Belligerents	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
192. A.—Over-fatigue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.—Hunger or Thirst	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	9	—	15	—
193. Exposure to Cold, Frost-bite, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
194. Exposure to Heat—																				
Heatstroke	—	1	—	1	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
Sunstroke	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—
195. Lightning Stroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	9	—
196. Electric Shock	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	3	—	3	—
197. Murder by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
198. Murder by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
199. Murder by Other Means ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
200. Infanticide (Murder of an Infant under One Year)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
201. A.—Dislocation	—	1	—	1	—	—	13	—	13	—	—	22	—	22	1	6	243	—	249	8
B.—Sprain	—	6	—	6	—	1	6	—	7	—	—	47	—	47	—	3	285	—	288	—
C.—Fracture	—	21	1	21	—	—	93	3	93	2	2	163	12	165	10	97	2,030	53	2,127	135
202. Other External Injuries	—	29	—	29	—	5	54	—	59	—	10	469	6	479	8	102	3,809	16	3,911	119
203. Deaths by Violence of Unknown Cause	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	—	107	—
XV.—Ill-Defined Diseases																				
204. Sudden Death (Cause Unknown)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	2	17	—
205. A.—Diseases not already Specified or Ill defined)—																				
Ascites	—	—	—	—	—	—	—	—	—	—	—	5	1	5	—	7	120	4	127	5
Oedema	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—	10	91	—	101	—
Asthenia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	43	—	45	—
Shock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	20	13	21	—
Hyperpyrexia	—	—	—	—	—	—	—	—	—	—	2	42	—	44	1	—	245	1	245	—
Myalgia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lumbago	—	—	—	—	—	—	—	—	—	—	—	15	—	15	—	—	2	—	2	—
Others	1	55	—	56	—	4	204	—	208	7	5	255	6	260	13	152	13,914	33	14,066	289
B.—Malingering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
XVI.—Diseases, the Total of which have not Caused Ten Deaths	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46	—	46	—
Grand Total ..	5	1,016	11	1,021	11	41	2,395	37	2,436	50	141	10,291	140	10,432	162	3,659	142,797	4,278	146,456	3,358

TABLE IV.—RETURN OF DISEASES (OUT-PATIENTS)

Numbers Treated during the year 1947

DISEASES	European Officials			European General Population			Asian Officials			Asian General Population			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
I.—Epidemic, Endemic and Infectious Diseases															
1. Enteric Group—															
(*a*) Typhoid Fever	—	—	—	—	—	—	—	—	—	32	12	44	—	1	1
(*b*) Paratyphoid A.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Paratyphoid B.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*d*) Type not defined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Typhus	4	1	5	1	—	1	—	1	1	—	—	—	—	—	—
3. Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Undulant Fever	—	—	—	—	—	—	—	—	—	3	—	3	93	81	174
5. Malaria—										—	—	—	6	2	8
(*a*) Tertian	22	2	24	17	8	25	—	—	—	12	5	17	432	279	711
(*b*) Quartan	—	—	—	—	1	1	—	—	—	1	1	2	245	179	424
(*c*) Aestivo-autumnal	37	4	41	12	15	27	49	13	62	114	52	166	16,698	9,522	26,215
(*d*) Clinical	70	15	85	22	23	45	856	287	1,143	588	402	990	39,097	27,485	66,582
(*e*) Cachexia	—	—	—	—	—	—	—	—	—	—	—	—	895	540	1,435
(*f*) Blackwater	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
(*g*) Cerebral	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
6. Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
Alastrim	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Measles	—	—	—	5	5	10	21	21	42	20	27	47	687	489	1,176
8. Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9. Whooping Cough	—	1	1	2	1	3	7	9	16	33	27	60	3,702	3,031	6,732
10. Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	65	68	133
11. Influenza	157	27	184	53	23	76	643	263	906	583	460	1,043	13,788	4,219	18,007
12. Miliary Fever	—	—	—	—	—	—	—	—	—	5	—	5	27	10	37
13. Mumps	3	4	7	—	—	—	16	18	34	15	12	27	1,071	553	1,624
14. Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15. Epidemic Diarrhoea	—	—	—	—	—	—	—	—	—	—	—	—	345	286	631
16. Dysentery—															
(*a*) Amœbic	9	5	14	3	5	8	7	—	7	21	19	40	1,131	801	1,932
(*b*) Bacillary	1	—	1	3	4	7	6	—	6	4	—	4	461	317	778
(*c*) Undefined or Due to Other Causes	4	1	5	2	4	6	42	53	95	12	12	24	1,291	800	2,091
17. Plague—															
(*a*) Bubonic	—	—	—	—	—	—	—	—	—	—	—	—	7	—	7
(*b*) Pneumonic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Septicæmic	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
(*d*) Undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Spirochætosis icterohæmorrhagica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

20. Leprosy	—	—	—	—	—	—	—	—	—	—	—	—	78	28	106
21. Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
22. Acute Poliomyelitis	2	—	2	—	—	—	—	—	—	—	—	—	4	1	5
23. Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
24. Epidemic Cerebro-Spinal Fever	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
25. Other Epidemic Diseases—															
(*a*) Rubeola (German Measles)	—	—	—	—	—	—	—	—	—	2	—	2	11	2	13
(*b*) Varicella (Chicken-pox)	—	2	2	5	2	7	3	—	3	11	4	15	289	110	399
(*c*) Kala-azar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*d*) Phlebotomus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Dengue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*f*) Epidemic Dropsy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*g*) Yaws	—	—	—	—	—	—	1	—	1	—	1	1	5,591	5,025	10,616
(*h*) Trypanosomiasis	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
26. Glanders	—	—	—	—	—	—	—	—	—	—	—	—	8	3	11
27. Anthrax	—	—	—	—	—	—	—	—	—	—	—	—	96	32	128
28. (*a*) Rabies	—	—	—	—	—	—	—	—	—	—	—	—	96	27	123
(*b*) Rabies Prophylactic	—	—	—	—	—	—	—	—	—	—	—	—	92	20	112
29. Tetanus	—	—	—	—	—	—	—	—	—	—	—	—	8	3	11
30. Mycosis	—	—	—	—	—	—	—	—	—	—	—	—	7	5	12
31. Tuberculosis, Pulmonary and Laryngeal	—	—	—	—	3	3	1	—	1	4	1	5	285	127	412
32. Tuberculosis of the Meninges or Central Nervous System	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
33. Tuberculosis of the Intestines or Peritoneum	—	—	—	1	—	1	—	—	—	—	—	—	1	—	1
34. Tuberculosis of the Vertebral Column	—	—	—	—	—	—	—	—	—	—	—	—	13	13	26
35. Tuberculosis of Bones and Joints	—	—	—	2	—	2	—	—	—	—	—	—	53	15	68
36. Tuberculosis of Other Organs—															
(*a*) Skin or Subcutaneous Tissue (Lupus)	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3
(*b*) Bones	—	—	—	—	—	—	—	—	—	—	—	—	17	8	25
(*c*) Lymphatic System	—	—	—	—	—	—	—	—	—	2	1	3	205	376	581
(*d*) Genito-Urinary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Other Organs	—	—	—	—	—	—	—	—	—	—	—	—	75	62	137
37. Tuberculosis Disseminated—															
(*a*) Acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Chronic	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
38. Syphilis—															
(*a*) Primary	—	—	—	—	—	—	1	—	1	6	—	6	2,399	1,312	3,711
(*b*) Secondary	1	—	1	4	—	4	—	—	—	—	1	1	2,318	1,354	3,672
(*c*) Tertiary	—	—	—	—	—	—	—	—	—	1	1	2	560	170	730
(*d*) Hereditary	—	—	—	—	—	—	—	—	—	1	—	1	160	186	346
(*e*) Period not indicated	—	—	—	—	—	—	—	—	—	—	—	—	968	292	1,260
39. Soft Chancre	—	—	—	—	—	—	—	—	—	1	—	1	146	10	156
40. A.—Gonorrhœa and its Complications	2	—	2	3	—	3	—	5	5	7	—	7	6,866	2,374	9,240
B.—Gonorrhœal Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	—	210	76	286
C.—Gonorrhœal Arthritis	—	—	—	—	—	—	—	—	—	—	—	—	209	59	268
D.—Granulomo Venereum	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
41. Septicæmia	—	—	—	—	—	—	—	—	—	1	—	1	1	—	1
42. Other Infectious Diseases—															
Trypanosomiasis	—	—	—	—	—	—	—	—	—	—	—	—	8	—	8

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asian Officials			Asian General Population			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
II.—General Diseases not Mentioned Above															
43. Cancer or other Malignant Tumours of the Buccal Cavity	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
44. Cancer or other Malignant Tumours of the Stomach or Liver	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2
45. Cancer or other Malignant Tumours of the Peritoneum Intestines, Rectum	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—
46. Cancer or other Malignant Tumours of the Female Genital Organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
47. Cancer or other Malignant Tumours of the Breast	—	—	—	—	2	2	—	—	—	—	—	—	—	3	3
48. Cancer or other Malignant Tumours of the Skin	1	—	1	4	—	4	—	—	—	—	—	—	22	28	50
49. Cancer or other Malignant Tumours of Organs not Specified	2	—	2	—	2	2	—	—	—	—	—	—	47	36	83
50. Tumours, Non-Malignant	34	14	48	15	30	45	7	3	10	—	1	1	445	187	632
51. Acute Rheumatism	47	20	67	10	22	32	45	1	46	4	1	5	1,632	1,222	2,854
52. Chronic Rheumatism	53	11	64	18	16	34	158	10	168	222	198	420	12,491	5,977	18,468
53. Scurvy (including Barlow's Disease)	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5
54. (*a*) Pellagra	—	—	—	—	—	—	—	—	—	—	1	1	189	44	233
(*b*) Kwashiakor	—	—	—	—	—	—	—	—	—	—	—	—	119	88	207
55. Beri-beri	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3
56. (*a*) Rickets	—	—	—	—	—	—	—	4	4	—	1	1	3	—	3
(*b*) Malnutrition, Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	66	20	86
57. Diabetes (not including Insipidus)	5	3	8	—	2	2	3	8	11	8	4	12	118	100	218
58. Anæmia—															
(*a*) Pernicious	8	—	8	—	6	6	—	24	24	2	9	11	28	20	48
(*b*) Other Anæmias and Chlorosis	14	12	26	4	27	31	23	88	111	29	75	104	439	320	759
59. Diseases of the Pituitary Body	—	—	—	—	—	—	—	—	—	—	—	—	—	10	10
60. Diseases of the Thyroid Gland—															
(*a*) Exophthalmic Goitre	—	4	4	—	3	3	—	—	—	—	—	—	2	4	6
(*b*) Other Diseases of the Thyroid Gland, Myxœdema	1	4	5	—	5	5	—	4	4	—	—	—	2	8	10
61. Diseases of the Para-Thyroid Glands	—	—	—	—	—	—	2	—	2	2	5	7	—	—	—
62. Diseases of the Thymus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
63. Diseases of the Supra-Renal Glands	—	—	—	—	—	—	—	—	—	—	—	—	—	59	59
64. Diseases of the Spleen	—	—	—	—	—	—	1	—	1	7	3	10	844	256	1,100
65. Leukæmia—															
(*a*) Leukæmia	—	—	—	—	—	—	—	—	—	—	—	—	35	8	43
(*b*) Hodgkin's Disease	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
66. Alcoholism	—	—	—	—	—	—	—	—	—	—	1	1	4	—	4
67. Chronic Poisoning by Mineral Substances (Lead, Mercury, etc.)	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2

68. Chronic Poisoning by Organic Substances (Morphia, Cocaine, etc.) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
69. Other General Diseases—																
Auto-Intoxication	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Hypoglycæma	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—
Purpura Hæmorrhagica	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—
Hæmophilia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diabetes Insipidus	—	—	—	—	—	—	—	—	—	3	—	3	—	1	1
III.—Affections of the Nervous System and Organs of the Senses																
70. Encephalitis (not including Encephalitis Lethargica)	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	—	—	—	—	1	1	—	—	—	—	—	—	7	1	8
72. Locomotor Ataxia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
73. Other Affections of the Spinal Cord ..	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
74. Apoplexy—																
(*a*) Hæmorrhage	—	—	—	—	—	—	—	—	—	—	3	3	5	8	13
(*b*) Embolism	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Thrombosis	2	1	3	—	—	—	—	—	—	—	1	1	1	—	1
75. Paralysis—																
(*a*) Hemiplegia	—	—	—	—	—	—	—	—	—	1	—	1	12	3	15
(*b*) Other Paralyses	—	—	—	—	—	—	—	1	1	1	—	1	63	35	98
76. General Paralysis of the Insane ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
77. Other Forms of Mental Alienation ..	4	—	4	—	2	2	—	—	—	5	—	5	23	6	29
78. Epilepsy	—	—	—	2	—	2	1	—	1	3	2	5	85	35	120
79. Eclampsia Convulsions (Non-Puerperal) Five Years or over	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80. Infantile Convulsions	—	—	—	1	—	1	1	2	3	—	—	—	13	20	33
81. Chorea	—	—	—	—	—	—	—	—	—	1	1	2	—	1	1
82. A.—Hysteria	—	2	2	—	1	1	—	5	5	—	11	11	80	28	105
B.—Neuritis	33	12	45	8	6	14	27	40	67	8	75	83	1,827	464	2,291
C.—Neurasthenia	21	10	31	7	22	29	22	—	22	10	7	17	2,331	1,674	4,005
83. Cerebral Softening	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
84. Other Affections of the Nervous System, such as Paralysis Agitans ..	6	2	8	—	2	2	—	—	—	2	—	2	3	—	3
85. Affections of the Organs of Vision—																
(*a*) Conjunctivitis	36	14	50	21	20	41	173	141	314	67	80	147	12,972	8,877	21,849
(*b*) Trachoma	—	—	—	—	—	—	19	14	33	2	7	9	621	499	1,120
(*c*) Tumours of the Eye	2	2	4	1	2	3	3	—	3	4	—	4	38	18	56
(*d*) Other Affections of the Eye ..	27	8	35	32	29	61	85	26	111	59	30	89	3,778	2,018	5,796
86. Affections of the Ear or Mastoid Sinus	153	28	181	30	59	89	219	168	381	92	132	224	8,929	5,188	14,117
IV.—Affections of the Circulatory System																
87. Pericarditis	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
88. Acute Endocarditis or Myocarditis ..	—	—	—	—	1	1	—	—	—	—	—	—	10	—	10
89. Angina Pectoris	2	—	2	1	—	1	—	—	—	1	—	1	4	—	4

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION			NATIVE GENERAL POPULATION (including OFFICIALS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM—(*Contd.*)															
90. Other Diseases of the Heart—															
(*a*) Valvular—															
Mitral	—	—	—	—	—	—	1	—	1	—	—	—	7	4	11
Aortic	—	—	—	—	—	—	—	—	—	2	—	2	3	1	4
Tricuspid	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary	1	—	1	1	—	1	—	—	—	—	—	—	1	1	2
(*b*) Myocarditis	2	—	2	2	2	4	—	—	—	1	1	2	11	15	26
(*c*) Unclassified	1	1	2	—	—	—	5	—	5	2	5	7	25	18	43
91. Diseases of the Arteries—															
(*a*) Aneurism	—	—	—	1	1	2	—	—	—	—	—	—	—	1	1
(*b*) Arterio-Sclerosis	—	3	3	3	1	4	—	—	—	1	—	1	—	—	—
(*c*) Other Diseases	4	—	4	—	1	1	—	—	—	—	—	—	—	—	—
92. Embolism or Thrombosis (Non-Cerebral)	3	—	3	—	1	1	—	—	—	1	—	1	—	—	—
93. Diseases of the Veins—															
Hæmorrhoids	19	9	28	4	11	15	11	2	13	10	2	12	31	3	34
Varicose Veins	2	—	2	5	21	26	—	—	—	—	—	—	25	4	29
Phlebitis	3	2	5	2	6	8	—	—	—	2	—	2	20	3	23
94. Diseases of the Lymphatic System—															
Lymphangitis	3	—	3	1	1	2	6	—	6	10	2	12	787	294	1,081
Lymphadenitis, Budo (Non-Specific)	6	5	11	4	6	10	39	29	68	8	16	24	1,003	411	1,414
95. Hæmorrhage of Undetermined Cause	—	—	—	2	—	2	—	—	—	—	1	1	6	4	10
96. Other Affections of the Circulatory System	9	2	11	3	2	5	2	2	4	3	1	4	6	2	8
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM															
97. Diseases of the Nasal Passages—															
Adenoids	39	20	59	27	42	69	6	17	23	6	12	18	134	74	208
Polypus	7	—	7	—	—	—	—	2	2	—	1	1	13	10	23
Rhinitis	32	7	39	7	19	26	22	1	23	10	9	19	291	159	450
Coryza	83	25	108	34	44	78	621	253	874	188	283	471	28,848	13,191	42,039
98. Affections of the Larynx—															
Laryngitis	54	18	72	24	13	37	41	49	90	9	6	15	967	497	1,464
99. Bronchitis—															
(*a*) Acute	48	14	62	34	32	66	274	177	451	181	250	431	35,754	23,419	59,173
(*b*) Chronic	3	1	4	5	1	6	107	—	107	493	442	935	13,194	6,274	19,468
(*c*) Unclassified	—	—	—	—	—	—	3	12	15	9	6	15	6,491	6,412	12,903
100. Broncho-Pneumonia	22	—	22	3	6	9	21	15	36	15	13	28	492	391	883
101. Pneumonia—															
(*a*) Lobar	3	—	3	—	1	1	11	14	25	10	3	13	308	169	477
(*b*) Unclassified	3	—	3	—	2	2	1	—	1	7	4	11	1,296	477	1,773
102. Pleurisy, Empyema	10	—	10	3	2	5	4	—	4	2	3	5	108	31	139

103. Congestion of the Lungs	—	—	—	1	1	2	1	—	1	—	1	1	32	16	48
104. Gangrene of the Lungs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
105. Asthma	8	3	11	13	9	22	121	62	183	81	87	168	1,757	596	2,353
106. Pulmonary Emphysema	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
107. Other Affections of the Lungs	—	3	3	—	2	2	—	—	—	—	—	—	453	353	806
Pulmonary Spirochætosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—
VI.—Diseases of the Digestive System															
108. A.—Diseases of Teeth or Gums—															
Caries	19	2	21	23	29	52	134	30	164	75	76	151	12,531	6,681	19,212
Pyorrhœa	3	2	5	—	2	2	9	—	9	8	7	15	655	304	959
B.—Other Affections of the Mouth—															
Stomatitis	10	4	14	3	9	12	52	28	80	29	32	61	1,689	876	2,565
Glossitis, etc.	1	—	1	—	—	—	1	—	1	3	6	9	24	31	55
Unclassified	—	—	—	5	1	6	—	—	—	—	—	—	—	—	—
109. Affections of the Pharynx or Tonsils—															
Tonsilitis	64	20	84	67	62	129	560	400	960	304	289	593	5,688	3,153	8,841
Pharyngitis	75	14	89	29	24	53	194	101	295	102	63	165	3,659	893	4,552
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	28	—	28
110. Affections of the Oesophagus	4	—	4	—	5	5	13	—	13	—	—	—	5	9	14
111. A.—Ulcer of the Stomach	2	3	5	—	1	1	—	—	—	—	—	—	5	1	6
B.—Ulcer of the Duodenum	20	1	21	3	2	5	—	—	—	—	1	1	2	—	2
112. Other Affections of the Stomach—															
Gastritis	43	9	52	16	10	26	58	25	83	150	71	221	1,485	1,135	2,620
Dyspepsia	46	14	60	28	49	77	194	95	289	157	208	365	9,536	5,836	15,372
Unclassified	3	—	3	2	7	9	—	—	—	—	—	—	203	233	436
113. Diarrhoea and Enteritis—															
Under two years	5	—	5	20	21	41	70	92	162	50	161	211	5,052	5,496	10,548
114. Diarrhoea and Enteritis—															
Two years and over	158	37	195	55	55	110	126	67	193	109	63	172	5,351	3,089	8,440
Colitis	17	4	21	2	9	11	24	12	36	7	6	13	2,105	1,503	3,608
Ulceration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
114A. Sprue	—	—	—	—	—	—	—	—	—	—	—	—	15	21	36
115. Ankylostomiasis	3	—	3	1	1	2	7	—	7	1	—	1	970	593	1,563
116. Diseases due to Intestinal Parasites—															
(*a*) Cestoda (Tænia)	7	—	7	4	4	8	2	—	2	14	3	17	16,571	6,762	23,333
(*b*) Trematoda (Flukes)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Nematoda (other than Ankylostoma)—															
Ascaris	1	—	1	—	3	3	7	3	10	17	8	25	7,109	8,050	15,159
Trichocephalus dispar.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trichina	—	—	—	—	—	—	—	—	—	—	—	—	4	2	6
Dracunculus	—	—	—	—	—	—	—	—	—	—	—	—	16	8	24
Strongylus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oxyuris	—	—	—	—	—	—	1	—	1	—	1	1	41	76	117
(*d*) Coccidia	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
(*e*) Other Parasites	—	—	—	1	—	1	—	—	—	10	10	20	233	225	458
(*f*) Unclassified	4	—	4	3	9	12	1	—	1	5	4	9	342	305	647
117. Appendicitis	17	5	22	10	21	31	2	6	8	4	2	6	35	10	45
118. Hernia	6	—	6	5	4	9	1	2	3	3	1	4	200	—	200

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asian Officials			Asian General Population			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
VI.—Diseases of the Digestive System—(*Contd.*)															
119. A.—Affections of the Anus Fistula, etc.	7	1	8	3	5	8	6	—	6	3	2	5	26	18	44
B.—Other Affections of the Intestines	—	—	—	3	5	8	23	2	25	2	—	2	135	84	219
Enteroptosis	3	1	4	1	4	5	—	—	—	—	—	—	—	3	3
Constipation	1	5	6	—	7	7	186	89	275	120	122	242	23,852	15,684	39,536
120. Acute Yellow Atrophy of the Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
121. Hydatid of the Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
122. Cirrhosis of the Liver—															
(*a*) Alcoholic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Other Forms	—	—	—	—	—	—	—	2	2	2	—	2	6	13	19
123. Biliary Calculus	—	1	1	2	1	3	—	—	—	—	—	—	—	—	—
124. Other Affections of the Liver—															
Abscess	—	—	—	—	—	—	—	—	—	—	—	—	55	12	67
Hepatitis	2	1	3	4	1	5	4	4	8	10	10	20	489	228	717
Cholecystitis	8	4	12	1	8	9	—	—	—	—	1	1	3	—	3
Jaundice	6	1	7	1	1	2	1	19	20	7	7	14	227	83	310
Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
125. Diseases of the Pancreas	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
126. Peritonitis (of Unknown Cause)	3	1	4	1	—	1	—	—	—	—	2	2	182	53	235
127. Other Affections of the Digestive System	2	1	3	4	7	11	41	28	69	4	1	5	218	55	273
VII.—Diseases of the Genito-Urinary System (Non-Venereal)															
128. Acute Nephritis	2	2	4	—	2	2	1	—	1	3	—	3	36	21	57
129. Chronic Nephritis	1	—	1	—	1	1	2	2	4	1	1	2	51	30	81
130. A.—Chyluria	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—
B.—Schistosomiasis	5	—	5	1	—	1	2	—	2	—	—	—	1,420	304	1,724
131. Other Affections of the Kidneys—															
Pyelitis	3	3	6	3	3	6	2	3	5	3	11	14	65	82	147
Unclassified	2	—	2	3	3	6	1	—	1	—	1	1	3	3	6
132. Urinary Calculus	9	1	10	2	2	4	—	1	1	—	—	—	13	2	15
133. Diseases of the Bladder—															
Cystitis	21	12	33	6	32	38	3	4	7	26	28	54	318	281	599
134. Diseases of the Urethra—															
(*a*) Stricture	—	—	—	1	—	1	3	—	3	6	—	6	109	—	109
(*b*) Other	6	—	6	3	—	3	1	—	1	5	2	7	530	77	607
135. Diseases of the Prostate—															
Hypertrophy	—	—	—	3	—	3	—	—	—	—	—	—	—	—	—
Prostatitis	1	—	1	—	—	—	—	—	—	—	—	—	2	—	2

136. Diseases (Non-Venereal) of the Genital Organs of Man—															
Unclassified	3	—	3	12	—	12	—	—	—	—	—	—	166	—	166
Epididymitis	4	—	4	—	—	—	4	—	4	1	—	1	40	—	40
Orchitis	1	—	1	1	—	1	2	—	2	1	—	1	579	—	579
Hydrocele	1	—	1	—	—	—	—	—	—	—	—	—	111	—	111
Ulcer of Penis	—	—	—	1	—	1	—	—	—	—	—	—	298	—	298
137. Cysts or other Non-Malignant Tumours of the Ovaries	—	4	4	—	2	2	—	—	—	—	2	2	—	16	16
138. Salpingitis	—	—	—	—	1	1	—	45	45	—	1	1	—	651	651
Abscess of the Pelvis	—	—	—	—	1	1	—	—	—	—	—	—	—	19	19
139. Uterine Tumours (Non-Malignant)	—	2	2	—	5	5	—	20	20	—	1	1	—	10	10
140. Uterine Hæmorrhage (Non-Puerperal)	—	7	7	—	10	10	—	10	10	—	9	9	—	56	56
141. A.—Metritis	—	9	9	—	3	3	—	13	13	—	4	4	—	24	24
B.—Other Affections of the Female Genital Organs	—	2	2	—	32	32	—	59	59	—	9	9	—	157	157
Displacement of Uterus	—	1	1	—	16	16	—	9	9	—	17	17	—	—	—
Amenorrhœa	—	6	6	—	14	14	—	6	6	—	8	8	—	46	46
Dysmenorrhœa	—	16	16	—	23	23	—	38	38	—	30	30	—	910	910
Leucorrhœa	—	1	1	—	3	3	—	15	15	—	2	2	—	30	30
142. Diseases of the Breast (Non-Puerperal)															
Mastitis	—	4	4	—	2	2	—	13	13	—	—	—	10	495	505
Abscess of Breast	—	—	—	—	3	3	—	—	—	—	4	4	—	259	259
Unclassified	—	—	—	—	—	—	—	—	—	—	2	2	—	—	—
VIII.—Pregnancy and Peurperal State															
143. A.—Ante-natal	—	33	33	—	68	68	—	61	61	—	95	95	—	8,594	8,594
B.—Normal Labour	—	—	—	—	3	3	—	—	—	—	36	36	—	8	8
C.—Accidents of Pregnancy—															
(*a*) Abortion	—	—	—	—	4	4	—	35	35	—	14	14	—	542	542
(*b*) Ectopic Gestation	—	—	—	—	—	—	—	—	—	—	1	1	—	3	3
(*c*) Other Accidents of Pregnancy	—	1	1	—	2	2	—	—	—	—	12	12	—	580	580
144. Puerperal Hæmorrhage	—	—	—	—	—	—	—	—	—	—	—	—	—	5	5
145. Other Accidents of Parturition	—	—	—	—	—	—	—	—	—	—	—	—	—	25	25
146. Puerperal Septicæmia	—	—	—	—	—	—	—	1	1	—	—	—	—	5	5
147. Phlegmasia Dolens	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
148. Puerperal Eclampsia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
149. Sequelæ of Labour	—	—	—	—	1	1	—	—	—	—	3	3	—	8	8
150. Puerperal Affections of the Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
IX.—Affections of the Skin and Cellular Tissues															
151. Gangrene	1	—	1	—	—	—	—	—	—	1	—	1	13	15	28
152. Boil	60	8	68	30	19	49	295	161	456	141	159	300	3,698	992	4,690
Carbuncle	4	1	5	2	—	2	—	—	—	—	—	—	27	3	30
153. Abscess	51	16	67	23	17	40	119	67	186	44	37	81	3,883	1,806	5,689
Whitlow	11	2	13	2	8	10	22	30	52	7	14	21	966	307	1,273
Cellulitis	18	5	23	6	12	18	126	70	196	26	28	54	5,172	1,769	6,941
Ulcers	39	7	46	20	12	32	438	375	813	151	73	224	35,806	17,148	52,954
154. A.—Tinea	10	4	14	2	6	8	9	13	22	11	19	30	1,186	1,235	2,421
B.—Scabies	1	—	1	—	1	1	158	125	283	144	107	251	11,371	6,306	17,677

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asian Officials			Asian General Population			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
IX.—Affections of the Skin and Cellular Tissues—(*Contd.*)															
155. Other Diseases of the Skin—															
Erythema	2	—	2	1	2	3	11	13	24	—	4	4	134	53	187
Urticaria	9	10	19	7	7	14	35	30	65	138	89	227	1,796	832	2,628
Eczema	12	9	21	5	23	28	52	87	139	40	51	91	1,699	1,051	2,750
Herpes	9	—	9	2	2	4	5	3	8	8	9	17	656	289	945
Psoriasis	1	—	1	—	2	2	1	—	1	2	1	3	—	—	—
Elephantiasis	—	—	—	—	—	—	—	—	—	—	—	—	158	160	318
Myiasis	—	—	—	—	—	—	—	—	—	—	—	—	160	141	301
Chigoes	—	—	—	—	—	—	2	—	2	5	4	9	—	—	—
Cutaneous Lieshmaniasis	—	—	—	—	—	—	9	—	9	—	—	—	—	—	—
Dermatitis	64	16	80	25	50	75	51	46	97	49	64	113	3,141	1,780	4,921
Unclassified	19	2	21	27	40	67	6	—	6	57	32	89	1,299	803	2,102
X.—Diseases of Bones and Organs of Locomotion (Other than Tuberculous)															
156. Diseases of Bones—															
Osteitis	6	—	6	7	1	8	7	4	11	3	—	3	160	79	239
157. Diseases of Joints—															
Arthritis	17	9	26	7	23	30	30	12	42	10	10	20	2,275	926	8,201
Synovitis	21	—	21	4	9	13	5	—	5	4	4	8	1,150	321	1,471
158. Other Diseases of Bones or Organs of Locomotion	38	10	48	32	35	67	63	11	74	9	6	15	4,256	1,436	5,692
XI.—Malformations															
159. Malformations	3	—	3	2	5	7	—	—	—	1	—	1	1	1	2
Unclassified	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Hydrocephalus	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Hypospadias	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spina Bifida	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
XII.—Diseases of Infancy															
160. Congenital Debility	—	—	—	2	1	3	2	10	12	4	—	4	119	106	225
161. Premature Birth	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
162. Other Affections of Infancy	—	2	2	2	5	7	1	—	1	8	4	12	113	49	162
163. Infant Neglect—															
(*a*) Infants, Three Months and over	—	—	—	—	1	1	—	—	—	—	—	—	—	42	42
(*b*) Infants, under Three Months	—	—	—	—	—	—	—	—	—	—	—	—	7	6	13

XIII.—Affections of Old Age																
164. Senility—																
Senile Dementia	—	—	—	—	—	—	—	—	—	—	—	—	338	89	427
Unclassified	—	—	—	—	—	—	—	—	—	1	—	1	27	37	64
XIV.—Affections Produced by External Causes																
165. Suicide by Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
166. Corrosive Poisoning (Intentional)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
167. Suicide by Gas Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
168. Suicide by Hanging or Strangulation	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
170. Suicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
171. Suicide by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
172. Suicide by Jumping from a Height	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
173. Suicide by Crushing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
174. Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
175. Food Poisoning—																
Botulism	—	—	—	—	—	—	—	—	—	—	—	—	62	38	100
176. Attacks of Poisonous Creatures—													23	3	26
(*a*) Snake Bite	6	—	6	—	3	3	5	—	5	—	—	—	152	58	210
(*b*) Insect Bite	9	1	10	7	6	13	16	16	32	7	13	20	415	158	573
(*c*) Others	2	—	2	—	—	—	6	1	7	—	—	—	201	69	270
177. Other Accidental Poisonings	1	—	1	1	—	1	2	—	2	—	—	—	—	—	—
178. Burns (by Fire)	5	—	5	3	—	3	102	40	142	29	68	97	3,802	2,274	6,076
179. Burns (other than by Fire)	—	—	—	2	2	4	8	1	9	7	4	11	951	525	1,476
180. Suffocation (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
181. Poisoning by Gas (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
182. Drowning (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
183. Wounds (by Firearms, War Excepted)	1	—	1	—	1	1	—	—	—	1	19	20	52	7	59
184. Wounds (by Cutting or Stabbing Instruments)	2	1	3	4	2	6	23	16	39	45	4	49	7,436	2,369	9,805
185. Wounds (by Fall)	5	1	6	4	9	13	19	—	19	45	4	49	2,959	683	3,642
186. Wounds (in Mines or Quarries)	—	—	—	—	—	—	—	—	—	—	—	—	14	—	14
187. Wounds (by Machinery)	—	—	—	—	—	—	19	—	19	52	8	60	1,576	10	1,586
188. Wounds (Crushing, e.g. Railway Accidents, etc.)	2	—	2	—	—	—	—	—	—	1	—	1	220	125	345
189. Injuries Inflicted by Creatures, Bites, Kicks, etc.	22	5	27	11	5	16	75	96	171	4	4	8	1,242	379	1,621
190. Wounds Inflicted on Active Service	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
191. Executions of Civilians by Belligerents	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
192. A.—Over-fatigue	1	—	1	—	—	—	—	—	—	—	—	—	14	4	18
B.—Hunger or Thirst	—	—	—	—	—	—	—	—	—	—	—	—	1	3	4
193. Exposure to Cold, Frost-bite, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
194. Exposure to Heat—															
Heatstroke	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—
Sunstroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
195. Lightning Stroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
196. Electric Shock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
197. Murder by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asian Officials			Asian General Population			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
XIV.—Affections Produced by External Causes—(*Contd.*)															
198. Murder by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
199. Murder by other Means	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
200. Infanticide (Murder of an Infant under One Year)	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
201. A.—Dislocation	1	—	1	2	—	2	3	1	4	3	—	3	185	58	243
B.—Sprain	63	12	74	28	19	47	37	12	49	57	16	73	4,308	1,468	5,776
C.—Fracture	51	7	58	53	50	103	12	4	16	13	—	13	462	137	599
202. Other External Injuries	159	32	191	94	75	169	850	304	1,154	240	306	546	44,459	10,722	55,181
203. Deaths by Violence of Unknown Cause	—	—	—	—	—	—	—	—	—	4	—	4	—	—	—
XV.—Ill-Defined Diseases															
204. Sudden Death (Cause Unknown)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
205. A.—Diseases not Already Specified or Ill defined—															
Ascites	—	—	—	—	1	1	1	—	1	—	1	1	47	14	61
Oedema	2	3	5	2	2	4	4	1	5	2	—	2	263	144	407
Asthenia	7	2	9	2	7	9	13	—	13	11	12	23	189	60	249
Shock	—	—	—	—	—	—	—	—	—	48	31	79	7	1	8
Hyperpyrexia	—	—	—	—	—	—	94	—	94	—	—	—	4	7	11
Myalgia	—	—	—	—	—	—	49	76	125	12	38	50	2,949	1,802	4,751
Lumbago	14	4	18	—	—	—	—	—	—	1	2	3	598	462	1,060
Others	1,349	432	1,781	918	873	1,791	246	1	247	544	121	665	5,921	711	6,632
B.—Malingering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
XVI.—Diseases, the Total of Which have not Caused Ten Deaths	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grand Total	3,827	1,161	4,988	2,142	2,528	4,670	8,508	4,810	13,318	6,296	5,650	11,946	503,825	272,306	776,131

TABLE V.—METEOROLOGICAL SUMMARY FOR EIGHT SELECTED STATIONS IN KENYA FOR 1947

Month	Temperature (°F)			Relative Humidity Percentage		Rainfall (inches)	
	Maximum	Minimum	Mean	0830 East	1430 East	1947	Average
Equator							
January	65·8	46·9	56·3	79	50	5·76	0·61
February	68·1	47·1	57·6	70	40	1·97	1·43
March	65·1	47·7	56·4	82	54	3·74	3·28
April	64·0	48·7	56·3	87	64	11·32	6·09
May	63·4	48·1	55·7	91	67	5·55	5·52
June	63·5	47·2	55·3	86	62	3·82	5·31
July	61·0	47·5	54·3	86	80	7·57	6·00
August	60·3	46·4	53·3	87	74	4·44	7·96
September	64·0	46·3	55·1	79	61	4·67	3·86
October	65·2	45·5	55·3	77	50	1·16	1·52
November	64·7	45·8	55·3	83	53	0·48	3·05
December	63·5	45·4	54·5	84	54	2·73	1·34
Year	64·0	46·9	55·5	83	59	53·21	45·97
Kisumu							
January	83·8	63·1	73·5	73	51	5·14	1·45
February	84·7	63·4	74·1	71	51	4·50	2·78
March	82·5	63·4	72·9	76	56	6·91	6·52
April	80·5	64·7	72·6	81	63	7·18	5·72
May	81·0	63·1	72·1	80	60	10·11	7·45
June	81·1	61·5	71·3	77	53	3·79	4·67
July	80·1	62·5	71·3	79	56	2·08	2·41
August	81·6	60·9	71·3	75	49	3·32	4·61
September	84·1	61·4	72·7	69	48	3·58	2·83
October	86·9	62·2	74·5	60	39	3·48	1·89
November	88·8	63·0	75·9	56	34	1·77	4·27
December	85·1	61·9	73·5	61	43	5·65	3·28
Year	83·3	62·6	73·0	71	50	57·51	47·88
Nairobi							
January	80·3	57·8	69·1	74	43	6·30	1·43
February	82·5	57·8	70·1	70	35	0·87	2·07
March	78·9	59·1	69·0	84	48	7·80	5·14
April	78·2	59·8	69·0	84	55	11·41	7·68
May	74·0	58·9	66·5	85	61	5·01	5·10
June	72·9	56·5	64·7	87	58	2·66	1·58
July	72·4	54·0	63·2	83	59	0·82	0·58
August	71·0	54·5	62·7	84	57	0·00	0·99
September	77·4	55·2	66·3	80	42	1·05	0·94
October	80·4	56·8	68·6	79	38	0·12	2·09
November	76·1	58·4	67·3	87	48	2·31	4·01
December	76·2	57·4	66·8	83	50	2·22	2·47
Year	76·7	57·2	66·9	82	49	40·57	34·08
Voi							
January	90·7	69·5	80·1	72	41	0·81	1·29
February	92·2	68·3	80·3	70	36	0·00	1·21
March	90·2	69·8	80·0	77	45	4·56	2·94
April	87·1	70·8	78·9	75	55	5·41	3·82
May	82·5	68·3	75·4	75	58	1·68	1·30
June	83·2	65·3	74·3	72	45	0·09	0·34
July	83·5	62·9	73·2	68	38	0·00	0·11
August	79·9	63·5	71·7	72	49	0·56	0·33
September	83·6	63·8	73·7	69	43	0·46	0·61
October	87·2	65·1	76·1	68	37	0·77	0·92
November	87·8	68·2	78·0	72	43	2·27	3·73
December	86·0	69·0	77·5	80	51	6·12	5·04
Year	86·2	67·0	76·6	73	45	22·73	21·64
Mombasa							
January	91·0	74·4	82·7	79	63	0·92	0·99
February	90·6	74·3	82·5	78	62	0·00	0·64
March	90·3	75·6	82·9	86	68	3·99	2·51
April	87·0	75·1	81·1	90	77	10·67	7·84
May	82·3	71·4	76·9	94	81	30·40	12·83
June	83·3	70·8	77·1	91	73	1·68	4·59
July	84·1	69·0	76·5	90	63	0·20	3·54
August	81·1	68·7	74·9	91	74	5·90	2·56
September	83·5	69·6	76·5	89	69	1·55	2·68
October	84·8	70·9	77·9	85	67	2·84	3·43
November	87·0	73·0	80·0	85	69	2·24	3·82
December	88·1	73·6	80·9	83	69	3·69	2·28
Year	86·1	72·2	79·1	87	70	64·08	47·71

TABLE V.—METEOROLOGICAL SUMMARY FOR EIGHT SELECTED STATIONS IN KENYA FOR 1947—(*Contd.*)

Month	Temperature (°F)			Relative Humidity Percentage		Rainfall (inches)	
	Maximum	Minimum	Mean	0830 East	1430 East	1947	Average
Garissa							
January	97·2	75·6	86·4	77	50	0·00	0·66
February	97·1	74·8	85·9	74	45	0·00	0·36
March	98·3	76·3	87·3	74	42	0·08	1·14
April	96·1	76·3	86·2	76	47	3·96	2·88
May	90·6	73·4	82·0	77	54	3·60	0·40
June	91·3	71·4	81·3	75	45	0·00	0·32
July	91·1	70·4	80·7	75	43	0·00	0·14
August	88·1	71·2	79·7	75	—	0·55	0·33
September	91·7	71·9	81·8	76	43	0·56	0·31
October	94·4	70·9	82·7	76	42	0·32	1·02
November	94·0	72·8	83·4	78	47	2·05	2·19
December	92·7	72·5	82·6	82	56	0·50	3·08
Year	93·5	73·1	82·3	76	—	11·62	12·83
Nakuru							
January	82·8	50·8	66·8	71	33	1·69	0·65
February	86·1	48·0	67·1	69	27	0·79	1·50
March	81·5	51·5	66·5	80	39	2·33	2·51
April	76·9	54·4	65·7	90	57	8·32	5·01
May	75·5	54·5	65·0	87	62	7·61	4·42
June	76·3	51·7	64·0	88	54	2·88	3·33
July	75·7	52·6	64·1	89	58	5·32	4·37
August	74·6	50·5	62·5	88	58	6·33	4·06
September	77·8	48·5	63·1	83	51	3·25	2·72
October	80·4	46·8	63·6	75	42	2·09	2·15
November	79·2	48·0	63·6	74	45	1·03	2·44
December	78·1	47·3	62·7	78	41	1·17	1·19
Year	78·7	50·4	64·6	81	47	42·81	34·35
Kitale							
January	80·9	50·5	65·7	76	38	2·92	0·62
February	82·2	50·2	66·2	82	36	0·82	1·77
March	80·1	51·8	65·9	83	45	3·08	3·06
April	76·9	55·3	66·1	88	63	9·07	5·44
May	76·7	53·8	65·3	87	64	8·51	6·55
June	75·9	50·4	63·1	88	61	3·93	4·68
July	74·2	52·7	63·5	90	63	6·30	5·84
August	74·3	52·2	63·3	90	63	7·81	6·59
September	77·4	49·9	63·7	82	53	2·35	4·12
October	79·8	47·4	63·6	72	44	2·65	3·24
November	81·0	47·4	64·2	69	36	0·46	2·16
December	79·7	47·4	63·5	74	37	1·47	1·11
Year	78·3	50·7	64·5	82	50	49·37	45·18

ANNUAL RAINFALL FOR SELECTED STATIONS IN KENYA—1947

	Total inches	Average inches
Central Province:—		
Embu, District Office	50·11	40·91
Donyo Sabuk Estate	41·10	31·85
Fort Hall, District Office	55·13	45·22
Githuma, A.I. Mission	86·28	57·94
Kabondori	33·74	27·34
Kanziko Dispensary	34·07	24·36
Katle Dispensary	30·53	17·87
Keriguva Hospital	73·15	53·19
Kiambu, District Office	57·74	40·27
Kiambu, Kianjibbi Estate	55·02	41·22
Kikuyu, Kikuyu Estates, Ltd.	49·11	43·57
Kitui, District Office	37·45	40·82
Kiu, Railway Station	30·04	22·16
Konza, Railway Station	21·66	17·68
Lamuria, Sirrima Estate	36·37	26·32
Limuru, Railway Station	56·25	38·40
Machakos, District Office	48·89	35·52
Makindu Meteorological Station	28·87	24·61
Matungulu	49·43	38·07
Meru, District Office	62·73	51·69
Nairobi, Railway Station	40·57	34·08
Nanyuki Meteorological Station	37·06	26·21
Ngong, Forest Station	40·23	35·17
Nyeri, P.W.D.	50·36	35·97
Ruiru, Sukari, Ltd.	35·32	27·33
Thika, District Office	38·43	30·59
Lombe Dispensary	43·51	30·31
Coast Province:—		
Gazi, Kenya Sugar Co., Ltd.	100·30	50·30
Kilifi, District Office	56·53	36·84
Kipini, District Office	42·24	44·76
Kwale, District Office	74·38	40·40
Lamu, Post Office	39·60	36·50
Malindi, District Office	63·59	40·42
Mombasa, Old Observatory	74·07	47·71
Ramisi, Kenya Sugar Co., Ltd.	76·57	56·89
Taveta, Sisal Estate	22·24	26·51
Voi, Meteorological Station	22·73	21·64
Wesu, Hospital	56·55	58·16
Nyanza Province:—		
Aluor Mission	67·57	56·18
Asumbi Mission	60·86	61·08
Bunyore, Dispensary	73·91	66·83
Equator, Meteorological Station	53·21	45·97
Kadimu, Dispensary	37·81	34·53
Kakamega, District Office	87·19	74·82
Kericho, District Office	92·17	70·79
Kisii, District Office	75·32	66·57
Kisumu, Provincial Commissioner's Office	43·29	44·87
Kitere, K.C. Gold Fields	83·36	70·47
Nyanza Province—(*Continued*)		
Litein Mission	71·41	63·65
Lumbwa, Railway Station	56·86	45·12
Masara, K.G. Syndicate	52·93	44·48
Miwani, Railway Station	48·57	49·50
Mugunga	76·61	73·50
Muhoroni, Railway Station	77·93	61·55
Nangina Mission	62·09	53·25
Oyugis, Dispensary	51·71	53·42
Rangala School	64·29	58·45
Songhor, Chematin Estate	73·07	56·35
Sotik, Monieri Estate	63·80	53·00
Rift Valley Province:—		
Cherangani, Kipkoitet Estate	63·87	42·22
Elburgon, Forest Station	60·89	40·97
Eldoret, District Office	51·31	40·96
Elmenteita, The Highlands	50·22	34·24
Gilgil, Railway Station	30·21	23·19
Hoey's Bridge, Kitani Estate	56·07	48·68
Kabarnet, District Office	73·47	51·61
Kapenguria, District Office	55·57	46·65
Kapsabet, District Office	69·16	61·14
Kaptagat, Forest Station	67·34	46·33
Kitale, District Office	52·20	45·18
Lugari, Railway Station	63·15	58·09
Maji Mazuri, Railway Station	64·05	47·26
Maralal, District Office	27·36	24·24
Moiben, Karuna Farm	48·35	39·86
Molo, Kweresoi	68·91	52·14
Mt. Elgon, Forest Station	63·26	46·31
Naivasha, Meteorological Station	31·02	23·16
Nakuru, District Office	42·81	34·35
Nakuru, Solai Menengai Crater	58·57	35·22
Njoro, Plant Breeding Station	50·80	35·58
Ol Joro Orok, Mutarakwa	58·99	46·76
Rongai, Miti Mingi Estate	45·31	34·67
Rumuruti, District Office	25·77	25·61
Subukia, Ol Momoi Estate	54·77	41·35
Tambach, District Office	66·12	44·71
Thomson's Falls, North's Estate	44·41	34·47
Turi, Home Farm	64·05	46·21
Extra Provincial Districts:—		
Garissa, District Office	11·62	12·83
Isiolo, District Office	27·45	21·13
Lodwar, District Office	10·10	5·53
Magadi Soda Co., Ltd.	18·93	14·66
Mandera, District Office	7·20	7·99
Marsabit, District Office	38·70	31·91
Moyale, District Office	23·88	25·62
Narok, Meteorological Station	39·09	26·37
Wajir, District Office	4·47	8·31

ANNUAL REPORT OF THE MEDICAL RESEARCH LABORATORY, 1947

STAFF

Assistant Director of Laboratory Services	1
Pathologists	2
Biochemist	1
Laboratory Superintendent	1
Senior Laboratory Technician	1
Laboratory Technicians	5
Junior Laboratory Technician (Seconded to H.M. Forces)	1
Laboratory Technician (Learner)	1
Laboratory Assistants (Asian)	4
Laboratory Assistants (African)	60
Laboratory Learners (African)	28
Laboratory Attendants	47
Clerk	1
Storekeeper (Asian)	1
Clerks (African)	3
Librarian	1

The title of Senior Pathologist was changed to that of Assistant Director of Laboratory Services.

FINANCE

The cost incurred on behalf of the Laboratory was:—

	£
Staff Emoluments	14,410
Upkeep of Laboratory	3,800
Stores and Equipment (Approximately)	7,500
TOTAL	£25,710

The Revenue, under separate headings, was approximately as follows:—

	£
Calf Lymph	2,657
Stock Vaccines	695
Fees for Laboratory Examinations	3,083
Sale of Sera (imported)	414
TOTAL	£6,849

The issues and value of some of the Laboratory products for the year were as follows:—

Items	Issues	Value on basis of published official charges	Value on basis of cost if purchased from South Africa
		£	£
Calf lymph	2,014,758 doses	10,074	8,395
T.A.B. vaccine	87,507 courses	820	6,564
Plague vaccine	46,412 doses	464	4,641
Rabies vaccine	615 courses	154	1,291
Metallic Bismuth	173,100 doses	433	1,082
	Total ..£	11,945	21,973

GENERAL

During the year systematic training of African Laboratory Assistants was started. The first course, commencing early in the year, was interrupted by tutorial staff changes.

The plans for the building of an animal house and new stores, mentioned in the last annual report, have not materialized.

PUBLICATIONS

HARVEY, D.—Report on the Physical Development of European School Children in Kenya: Records of the Medical Research Laboratory, No. 7.

TIMMS, G. L. (Garnham, P. C. C., Davies, C. W., Heisch, R. B.).—An Epidemic of Louse-borne Relapsing Fever in Kenya: Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. 41, No. 1, p. 141, September, 1947.

DOWDESWELL, R. M.—Observations on Single Injections of Penicillin with Blood and its use in the treatment of Acute Gonorrhœa: East African Medical Journal, Vol. 24, No. 5, p. 185, May, 1947.

A.—SECTION OF BACTERIOLOGY

Routine Specimens.

Twelve thousand nine hundred and thirty-one specimens were received for examination, of which 3,050 were examined culturally.

Among the results obtained were:—

Myco. Tuberculosis was present in 470 samples of sputum.

Salm. typhi was recovered from fourteen blood cultures and from thirty-eight stool cultures.

Salmonella manchester, a member of the *Salm. newport* group was isolated from the stool of a European. This is of interest as it was first isolated from a patient in England in February and provisionally named *Salm. manchester*, and recovered in Nairobi in late March.

Six strains of Salmonella were also recovered belonging to the *S. paratyphi* C group. These have been sent to England for identification.

Salm. morbificans bovis was recovered from one case.

Organisms of the Brucella group were isolated from four blood cultures.

Bacteria found in specimens of cerebro-spinal fluid were:—

Meningococci in 17, Pneumococci in 40 and *H. influenzæ in* 7.

From throat swabs *C. Diphtheriæ* was recovered in 73 cases and Vincent's organisms in 161 cases.

Serology.

Two thousand one hundred and forty-two samples of serum were sent in for agglutination tests. Of these, 180 samples were from Europeans.

Public Health Bacteriology.

The following examinations were carried out:—

83 samples of water from water supplies.

832 samples of milk for the Methylene Blue Reduction test.

11 samples of milk for general examination.

47 samples of various foodstuffs.

Anti-serum.

All but the anti-typhoid serum were obtained from the South African Institute for Medical Research.

Issues during 1947 were:—

Diphtheria Antitoxin (2,000 units)	125
Diphtheria Antitoxin (20,000 units)	388
Diphtheria prophylactic (courses)	481
Anti-Dysentery (20,000 Shiga units)	7
Gas-Gangrene Antitoxin (24,000 units)	116
Tetanus Antitoxin (3,000 units)	1,034
Tetanus Antitoxin (20,000 units)	1,509
Anti-Venene (10 c.c.)	212
Anti-Typhoid (20 c.c.)	194
Tetanus Anatoxin (courses)	28
Adult pooled serum (measles prophylaxis)	250 c.c.

Vaccines.

(*a*) Autogenous Vaccines: 45 courses were prepared.

(*b*) Stock Vaccines:—

	Quantity prepared	Total issues
	ml.	*ml.*
T.A.B. (alcoholized)	65,630	65,630
Plague	150,000	92,825
Rabies	37,680	36,900
For protein shock therapy	3,580	1,950

Issues of Polyvalent Staphylococcus, Polyvalent Staphylococcus and Streptococcus, Polyvalent Anti-catarrhal, Brucella abortus, H. pertussis and Mixed Gonorrhœal vaccines amounted to 257 courses.

Miscellaneous.

The distribution of Penicillin was continued. Six thousand seven hundred and thirty point five mega units were issued during the year. Penicillin solution for local application was prepared and issued.

B.—SECTION OF BIOCHEMISTRY

1.—Routine Work

The following table shows the number and nature of specimens examined during the year:—

(a) Urine—	
General examination—i.e. reaction, specific gravity, albumen, sugar and deposit	2,764
Albumen, qualitative and quantitative	17
Sugar, qualitative and quantitative	4
Sugar and acetone	191
Albumen, sugar and acetone	3
Acetone	5
Sugar and albumen	1
Deposit	36
Albumen and deposit	5
Quinine	1
Bile	61
Diazo reaction	1
Melanogen	1
Calcium	1
Chlorides	1
Diastatic index	3
Total	3,095
(b) Blood—	
Urea	321
Sugar	69
Uric acid	5
Calcium	16
Inorganic phosphate	1
Calcium and inorganic phosphate	4
Phosphatase	5
Chlorides	1
Cholesterol	7
Proteins-serum	6
Van den Bergh test	24
Icteric index	1
Carbon monoxide	1
Alkali reserve	4
Total	465
(c) Fæces—	
Occult blood	64
(d) Cerebro-spinal Fluid—	
Excess globulin	10
Protein	24
Chlorides	41
Lange gold curve	4
Chlorides and globulin	2
Chlorides and protein	109
Globulin and protein	10
Protein and gold curve	4
Chlorides, globulin and protein	49
Chlorides, protein and gold curve	10
Globulin, protein and gold curve	54
Chlorides, globulin, protein and sugar	1
Chlorides, globulin, protein and gold curve	13
Chlorides, globulin, sugar and gold curve	1
Chlorides, globulin, protein, sugar and gold curve	1
Total	333
(e) Miscellaneous—	
Acetic fluid—protein	3
Abdominal fluid—protein	4
Peritoneal fluid—protein	1
Renal calculi	6
(f) Physiological efficiency tests—	
(i) Renal efficiency tests:	
Urea concentration tests	15
Urea clearance tests	2
(ii) Pancreatic efficiency tests:	
Glucose tolerance curves	100
Fæcal fat estimations	19
(iii) Gastric contents analyses:	
Fractional test meals	168
(iv) Basal metabolic rate estimations	71

During the year the preparation of solutions for intravenous injection was continued in the Section but, with the appointment in the month of July of a pharmacist who was attached to the staff of the Native Hospital, responsibility for their preparation passed to him. To him also was given the duty of preparing metallic bismuth. The quantities of these which were issued were 1,506 pints and 173,100 doses respectively.

2.—Research Work

Interest in the subject of nutrition was maintained and between March and June examinations were made of a number of employees of the Kenya and Uganda Railway Administration. These formed part of the investigation made for the Administration by Dr. C. H. Northcott and a statement of results was submitted to Dr. Northcott for inclusion in his final report to the Colonial Social Science Research Council.

During the year too there were published the data which had been collected on the subject of the physical development of European school children in Kenya.

C.—SECTION OF PATHOLOGY

The following examinations were performed:—

Histological	1,107
Kahn Tests	26,329
Blood Sedimentation Rates (Westergren's method)	670
Friedman Tests for Pregnancy	123
Blood Groups	530
Miscellaneous	99

In about the middle of the year, regular supplies of high-titre dried anti-Rh (CD) serum began to arrive from America. From then on, Rh grouping was done all on volunteer donors and on the majority of recipients.

In November, this section undertook the grouping of donors, the testing of the blood and the maintenance and sterilization of apparatus for the Blood Bank which was then started in connexion with the Kenya Branch of the British Red Cross.

Post-Mortem Examinations.

European—	
Coronary thrombosis	1
Lateral sinus thrombosis	1
Epileptic fit	1
Violence	7
Asian—	
Natural causes	2
Poisoning	2
Violence	18
African—	
Poisoning	16
Suicide	5
Violence	58
Natural causes	188
Total	299

D.—SECTION OF MEDICAL BIOLOGY

Fæces Examinations.

Helminths and Protozoa	European	Asian	African	Total
Tænia	22	7	597	626
A. lumbricoides	7	28	365	400
A. duodenale	33	42	524	599
S. mansoni	10	13	111	134
O. vermicularis	9	8	37	54
T. trichura	3	10	9	22
H. nana	—	11	1	12
S. stercolis	11	1	44	56
Larvæ of S. stercolis	—	1	17	18
E. histolytica (active)	12	2	63	77
E. histolytica (cysts)	9	7	61	77
E. coli	156	119	889	1,164
I. butschlii	53	37	335	425
G. intestinalis	74	40	112	226
G. mesnili	42	19	147	208
I. hominis	2	—	—	2
E. nana	—	—	—	—
Flagellates cysts	193	94	727	1,014
Charcot-leyden crystals	97	28	101	226
Trichuris trichiura	28	30	167	225
Negative Stools	803	396	600	1,799
Total examinations	1,564	893	4,907	7,364

Total Stool Examinations for the Year 1947=15,068.

Urine Examinations.

Number of specimens examined	143
S. hæmotobium	12

Blood—Parasite infections.

	European	Asian	African	Total
P. falciparum	163	172	750	1,085
P. falciparum crescents	9	10	56	75
P. vivax	7	8	4	19
P. malariæ	2	1	21	24
P. ovale	2	—	3	5
Mixed infections	1	—	3	4
M. bancrofti	—	—	1	1
M. perstans	—	—	10	10
T. recurrentis	1	—	25	26
Negatives	2,038	3,134	10,387	15,829
Total	2,493	3,325	11,260	17,078

Hæmotological Examinations.

	European	Asian	African	Total
Total blood counts	842	214	777	1,833
Differential counts	261	526	39	826
Hæmoglobin and R.B.C.'s	20	4	45	69
White cells counts	63	34	710	807
Hæmoglobin and W.B.C.'s	6	—	143	149
Reticulocyte counts	4	2	3	9
Hæmoglobin	2	1	42	45
Platelets counts	2	—	1	3
Price—Jones curves	—	—	—	—
Packed cells volumes	2	—	—	2
Total	1,202	781	1,760	3,743

Miscellaneous Examinations.

Fifteen specimens of splenic pulp for Leishman Donovan Bodies.—One positive.
Five blood films for Leishman Donovan Bodies.—All negative.
Two specimens from sternal puncture for Leishman Donovan Bodies.—One positive.
One myelogram.
One blood film positive for Trypanosomes rhodesiense.

E.—CALF LYMPH SECTION

From January until July the Director of Veterinary Services supplied calves from the Laboratory at Kabete weekly for the preparation of vaccine. It had to cease in July, however, owing to the shortage of animals. It was therefore necessary to return to the hiring of calves from African owners in the reserves as in the past.

It will be observed that the average yield increased from 18·43 in 1946 to 27·7. This was partly due to larger and older animals sent from Kabete, as it was often difficult to obtain younger and more manageable ones, and also partly due to the activity of the seed lymph.

It has been possible to build up a good reserve during the year as no apparent outbreak of smallpox appeared, and consequently issues decreased.

Total number of calves:—		
Received	562	
From lymph collected	542	
Rejected, failed or died	20	
Total number of grammes of pulp collected	15,013·8	
Average yield per calf	27·7	
Total number of doses:—		
Prepared for issue	5,254,830	
Discarded (contaminated, etc.)	231,490	
Reclaimed (from discarded doses)	194,370	
Balance, 31–12–46	5,597,978	
Doses issued to:—		
Kenya	863,848	
Uganda	852,000	
Tanganyika	250,000	
Zanzibar	15,000	
Seychelles	3,900	
Military (E.A. Command)	28,760	
Northern Rhodesia	1,250	
TOTAL	2,014,758	doses.

Balance, 31st December, 1947: 8,800,930

ANNUAL REPORT OF THE WORKING OF THE LABORATORY ATTACHED TO THE NATIVE CIVIL HOSPITAL, MOMBASA, FOR THE YEAR 1947

General

A total of 52,106 specimens was examined, which is a slight decrease on the total figures for the previous year. This decrease has been accounted for by the lower number of malaria slide examinations, but in other branches work has considerably increased. The general effect has been that the laboratory has been more busy this year than before and the chance reduction in malaria need not necessarily be expected in future years. The laboratory has approached the limits of its capacity.

The following is the analysis of the work carried out during the year 1947:—

Analysis of Examinations

	1947	1946
Blood—		
Films for malarial parasites, etc.	17,295	19,043
Films for differential count	284	337
Total white cell and differential counts	375	307
Total red cell and hæmoglobin counts	249	52
Total red, white, hæmoglobin and differential counts	455	345
Hæmoglobin	46	310
Widal tests (39 for Brucella)	279	288
Weil Felix tests	8	3
Blood cultures	6	10
Glucose tolerance curves	31	27
Blood sugar—single specimen	22	7
Kahn tests	4,202	2,995
Blood urea estimation	178	115
Urea clearance tests	8	—
Recticulocyte counts	10	—
Van den Berg reaction	9	6
Blood groups	38	12
Ide test	14	14
Sedimentation rate	2	20
Platelet count	2	—
Fæcal Examinations:—		
Ova, cysts, etc.	11,773	10,580
Culture	2	38
Occult blood	3	10
Bile	1	—
Urine Examinations:—		
Routine	6,471	8,764
Culture	70	27
Sugar percentage	12	11
Urea concentration	4	—
Albumen percentage	2	—
Miscellaneous	3	—
Sputa for T.B., etc.	5,913	5,259
Smears, various for N. gonorrhœa	2,406	3,135
Miscellaneous smears, fluids, etc.	114	97
Cerebro-spinal fluid:—		
Organisms	30	42
Cell count	11	10
Kahn test	9	5
Cultures—Various:—		
Rat spleen smears for B. pestis	1,481	1,643
Throat swabs for K.L.B.	253	118
Tissues for Histological examination	56	45
Dark ground examinations	11	4
Fractional test meals	13	3
Water samples	1	13

The following is an analysis of the value of work carried out on behalf of the European Hospital, Mombasa, during the year 1947—

			Sh.	cts.
Blood malarial parasites	479	..	2,395	
Blood total count	43	..	1,290	
Blood differential count	26	..	130	
Blood total white and differential count	38	..	470	
Blood red cells, hæmoglobin, etc.	4	..	60	
Stools, ova, cysts, etc.	349	..	872	50
Urine, general examination	419	..	1,047	50
Urine, culture	9	..	90	
Urine, urea concentration	2	..	20	
Smears various—organisms	21	..	210	
Pus, fluids, etc.	7	..	70	
Blood, Kahn test	16	..	320	
Blood, Widal	11	..	110	
Blood, Weil Felix	1	..	10	
Glucose tolerance curves	1	..	50	
Blood group	2	..	20	
Blood Urea	8	..	240	
Blood Hæmoglobin	1	..	5	
Blood Sedimentation rate	1	..	10	
C.S.F. cells, organisms, etc.	1	..	20	
Fractional test meals	6	..	300	
Throat swabs	7	..	70	
*Tissue—histological examination	5	..	200	
Sputa, T.B., etc.	65	..	650	
	Total	..	Sh. 8,660	

*Sent to Nairobi.

DIVISION OF INSECT-BORNE DISEASES—ANNUAL REPORT FOR 1947

This Division had many difficulties to contend with during the year. In February the Senior Parasitologist retired and the loss of this extremely original research worker and director has been deeply felt. The persistent illness of two senior members of the staff severely dislocated the work of the Division but the year's programme was completed, although a curtailment seemed at times inevitable.

No anti-malarial engineer is at present attached to the Division and a suitable person should be appointed without delay, as this aspect of the work has been much neglected.

Routine Duties

Details of routine duties have been described in other reports and a brief recapitulation is all that is required.

Routine identifications of insects of medical importance from all parts of the Colony have been carried out throughout the year, the results being summarized in Appendix I. The following new mosquitoes were described during the course of this work.

New Species Described.

Eretmapodites mahaffi sp.n.
Eretmapodites haddowi sp.n.
Eretmapodites harperi sp.n.
Eretmapodites gilletti sp.n.
Megarhinus ruwenzori sp.n. pupa and larva.
Uranotæmia garnhami sp.n. pupa and larva.
Ficalbia (*Etorleptiomyia*) *xanthozona* sp.n.
Anopheles (*Myzomyia*) *notleyi* sp.n. pupa and larva.
Orthopodomyia vernoni sp.n. and larva.
Aedes (*Finlaya*) *phillipi* sp.n.
Aedes (*Finlaya*) *madagascarensis* sp.n.

New Species not yet Described.

2 *Aedimorphus* from Bwamba.
2 *Aedimorphus* from Langata.
1 *Uranotæmia* from Kericho.
1 *Stegomyia* from Taveta.

A key with drawings of *Simuliidæ pupæ* is being prepared which should prove of value. Dr. De Meillon of the South African Institute of Medical Research has very kindly provided some of the material for the drawings.

The *Aedes ægypti* colony has been maintained, and during the year batches of these mosquitoes were used for testing insecticides. Attempts to start a colony of *A. gambiæ* were unsuccessful.

At least four African assistants are now fairly skilled in examining blood slides and, if medical officers take blood slides during the course of malarial surveys in 1948, they can be examined by this Division.

The rapidly staining Ramanovsky "J.S.B." stain is still being used with success, and supplies can be made available for any medical officers who are interested.

Colonies of *O. moubata* and *O. savignyi* are being maintained and have been used for transmission work in connexion with relapsing fever.

Aedes Control.

These measures, often described in previous reports, are still in force, and the existence of jungle yellow fever in the Colony makes their continuance imperative. The indices for 1947 are shown in Appendix II and remain at the low level maintained since 1942. Further points concerning yellow fever are discussed later in this report.

Training of Staff.

Short courses of training have again been given to railway employees engaged on Aedes control this year. A systematic entomological course was prepared lasting two months for all younger African members.

Field Investigations and Surveys Carried Out During the Year

The following surveys and investigations were carried out during the year:—

(1) Onchocerciasis survey at Bassi, South Kavirondo.
(2) Investigations into Relapsing Fever at Meru.
(3) *T. rhodesiense* in the Narok District.
(4) Parasitological survey at Garsen.

Onchocerciasis at Bassi, South Kavirondo.

An onchocerciasis survey was carried out at Bassi in South Kavirondo after a report of a local increase in the disease. Thirty-five people were examined and 21 (60%) showed microfilaria in skin-snips; many had skin lesions without nodules, but no eye infections were found definitely due to the disease.

Relapsing Fever at Meru.

Relapsing fever at Meru has increased steadily for the last ten years. The monthly average is now 15 to 20 cases. In February, during a visit, the local strain was isolated in mice and hut searches revealed numerous *O. moubata* some of which were infected. This vector can evidently thrive at quite high altitudes (4,000 ft.). Louse counts of local natives showed an average of six per person.

T. rhodesiense near Narok.

It was concluded that the strain of polymorphic trypanosome isolated from a labourer near the Mara River was *rhodesiense*. In January, 37 blood slides from local Masai showed no trypanosomes, although 4 had *P. falciparum* and 3 unsheathed filaria (*Filaria perstans*). In March a further 10 were examined; 4 showed *falciparum* but no trypanosomes. In August a European, after hunting by the Mara River near Tanganyika border, became acutely ill with many trypanosomes in his blood; the strain was again *rhodesiense*.

While camping by the Mara a few mosquito observations were made. *A. gambiæ* was present in quite large numbers, with a few *A. funestus* and *A demeilloni*. The larvae of *Ae. vittatus* swarmed in rock pools on the river's edge and one adult *Ae. lineatopennis* was caught in my tent. Further details on work in the laboratory with the various strains of *rhodesiense* are discussed under "Research".

Parasitological Survey at Garsen.

A small survey was made at Garsen as land exists there at first thought suitable for groundnuts. Mosquito observations were begun at places near the ferry and on both sides of the Tana River in May, and a detailed survey of the local Natives followed in October. *A. gambiæ* was numerous between May and July, diminished in August and September, and had practically disappeared by October. *A. funestus* was seen but rarely.

In October, of 44 Galla, five had malarial parasites in their blood; four *P. falciparum*, and two *P. malariæ*. Their manyattas were about a mile from the Tana's edge and this afforded protection.

Of 200 Wapakomo, 63 had malarial parasites in their blood; mostly *P. falciparum* with an occasional quartan. Of 125 adults, 10 had parasites, mostly *P. falciparum*; and of 76 children, 38 had parasites, both *falciparum* and quartan. The local malaria is hyperendemic and all natives except the Galla have good immunity. About 5 per cent of the Wapakomo had sheathed filaria in their night bloods (*Filaria bancrofti*).

The commonest mosquitoes caught at Garsen were *Tæniorhynchus africanus* and *uniformis*; both species bit voraciously in the evening and even during the day. Two hundred and forty-one *T. africanus* were dissected and one was found infected with filaria.

Other mosquitoes caught in the area were *A. coustani*, *A. pharoensis*, *Ae. pembaensis*, *C. pipiens*, *C. fatigans*, *C. poicilipes* and *C. univittatus*.

A pigmented parasite was observed in the blood of pigeons caught at Garsen which was probably *Hæmoproteus columbæ*.

The island of Lamu was visited and thirty-five blood slides examined from natives at Shella; four showed *P. falciparum*. The disease was presumably caught locally and not on the mainland.

Research

Relapsing Fever.

Much work was done with several strains of *S. duttoni* from different parts of the Colony. A large-scale cross immunity experiment showed that *S. duttoni* far from forming a homogeneous group, as was thought to be the case, consists of many races differing immunologically. Even strains from the same area often differ although a certain amount of overlapping is sometimes evident. The effect of penicillin on a very virulent strain of tick-borne relapsing fever was studied in rats. In those treated with fairly large doses (1,500–3,000 units thrice daily) the spirochætes disappeared rapidly from the blood, and although modified relapses continued, eventual recovery occurred. All untreated rats died.

If bedbugs (*Cimex hemiptereus*) were fed on heavily infected rat, spirochætes could be detected in smears from the internal organs until the sixth day. The daily injection of emulsified contents into mice showed that the bugs remained infective until the eleventh day; the bites, however, were non-infective. Natural transmission of the disease might occur in this way.

Attempts to discover a natural reservoir of relapsing fever were continued and several hundred emulsified wild rat brains from Kisumu, an endemic area, were inoculated into monkeys and laboratory animals. No spirochætal strains were isolated in this way, and although the reservoir may be smaller rodents, none may exist.

Some batches of lice collected from patients with tick-borne relapsing fever at Kisumu were found infected with spirochætes, even after being kept for 72 hours. Preliminary work has shown that these strains are almost certainly of the local tick-borne variety.

Malaria.

The two field experiments at Kericho, one with D.D.T. and the other with paludrine were, with certain modifications, repeated this year. Although there was no malarial epidemic the results were of interest.

D.D.T. Impregnation of Huts—Second Year's Results. This year the D.D.T. area was enlarged to about 70 square miles and over 3,200 huts were treated on two occasions (March and June). Parasite rates for the control and treated areas were estimated for May and September; the initial rates were 9·3 per cent and 9 per cent, and the final 6 per cent and 3 per cent. This shows that transmission like last year was about halved in the treated area. The solution used was again 5 per cent D.D.T. in power kerosene at an approximate dosage of 200 mgs. per square foot, both storeys being sprayed.

A very striking feature this year was the almost complete absence of *A. gambiæ*, not only from the treated, but also from the control area, whereas at Kaptein a few miles away the usual number was caught. It appears possible that the effects of the treated areas may extend to adjacent areas.

A. gambiæ and *A. funestus* were both vectors this year and had infection rates of 1·3 per cent and 1·7 per cent. Meteorological observations were continued and included temperatures of *A. gambiæ* breeding places. The thermohydrograph was violently opposed as savouring of witchcraft; the tracings obtained were at irregular intervals.

Paludrine Prophylaxis. A further field trial with this drug was made on the Buret Tea Estate, two weekly doses instead of one being given between 16–5–47 and 26–8–47. The parasite rate was reduced from 15 per cent to 0·5 per cent by the end of the experiment but remained at 8 per cent in the control group. Even this year's dosage of paludrine did not appear sufficient to give complete protection against the East African form of *falciparum*.

Onchocerciasis.

A large-scale attempt to eliminate the vector (*Simulium neavei*) from Kakamega–Kaimosi area is at present in progress. The applications of D.D.T. emulsion to the various rivers should be completed in March, 1948. The experiment was at first nearly ruined by an ineffective emulsion; this difficulty has now been overcome.

No *S. neavei* were found in August along the banks of the Sandra and Kitare rivers in Kodera; the elimination of the vector from this area appears to have been complete.

Yellow Fever.

The following sera were sent to Entebbe for the mouse protection test:—

Kisii and Machakos monkeys	13	tested,	all	negative.
Taveta monkeys	10	,,	,,	,,
Langata monkeys	17	,,	,,	,,
Gallagos	8	,,	,,	,,
Langata human sera	5	,,	,,	,,

During the year a small Aedes survey was made at Taveta. The most frequent adult ædes is *Ae. simpsoni*, a vigorous daytime biter of man in the forest; *Ae. ægypti* was also taken in larval and adult form. Both these species are proven vectors of yellow fever. The larvæ of *Ae. taylori* and *Ae. metallicus* were also quite frequently found in treeholes and these species are laboratory vectors of the disease.

The presence of two known vectors (one in large numbers) and of two laboratory vectors in the Taveta Forest, together with monkeys, and the fact that Taveta is on a well known traffic route, make the eventual establishment of yellow fever in the area a not unlikely event. Sera from a few monkeys and Wataveta in the forest were non-protective, but it is hoped to send further specimens to Entebbe this year.

Trypanosomiasis.

Three strains of polymorphic trypanosomes are at present being maintained in rats in the laboratory.

(1) A strain isolated from a Kipsigis road labourer in the Western Masai Reserve.

(2) A strain from "wild caught" *G. swynnertoni* from the same area.

(3) A strain from a European who became ill a few days after camping by the Mara River near the Tanganyika border.

Strains (1) and (3) are almost certainly *rhodesiense*; they are easily maintained in rats and guinea pigs, and show many posterior nucleated forms.

Strain (2) was inoculated into a human volunteer without result; it is probably a strain of *T. brucei*. The appearance of Rhodesian sleeping sickness in Kenya is of grave significance, but fortunately it is in an area where rapid spread is unlikely.

Early this year a sharp epidemic of trypanosomiasis occurred at McCalder's Mines about 50 miles north-west of the Mara River in South Kavirondo, a *G. palpalis* area. Blood slides from patients contained many trypanosomes and the course of the disease was more like *rhodesiense* than *gambiense*. The possibility of *rhodesiense* being carried by *G. palpalis* was considered. The following experiment was done with the help of the Veterinary Laboratory:—

G. palpalis were fed in batches on strain (3) (European strain of *rhodesiense* in rats); out of 100 flies fed over 51 days two became infected (as shown by "spitting test"). Batches of *G. swynnertoni* were also fed on the same strain and of 35 flies fed over 44 days four became infected. It is evident that in the laboratory *G. swynnertoni* was infected more easily than *G. palpalis*. Nevertheless the fact that the last was possible suggests that it might occur in nature.

Injections of baboon serum (1 c.c. intraperit) into rats infected with strain (3) caused the trypanosomes, present in very large numbers, to disappear for 7 days. The trypanosomes reappeared and the serum became progressively less effective. However, the treated rats lived on an average of 30 days, whereas the controls died after 12 days. It was found that the baboon had been infected with strain (2) (which did not take as the animal is naturally immune) some months previously, and so it is difficult to know whether the immune bodies in the serum were natural or acquired. It would be interesting to investigate the Y-globulin fraction of the serum, but the apparatus is not available.

Testing Insecticides.

A series of tests on pyrethrum concentrates were again made in the Potter-Hocking chamber and *Aedes ægypti* mosquitoes from the laboratory colony were again used.

Tests were made with "Walpamur" D.D.T. paint which is made by the Walpamur Co. Ltd., London. A test cage was made measuring 11½ in.x11½ in.x11½ in. with walls of "Celotex" boarding, wooden floor, and metal gauze top. A sleeve for mosquito introduction was fitted to a hole in the side. The smooth inner surfaces of the walls were painted and allowed to dry. Tests with mosquitoes were done at a temperature of 28°–30°C. After three months the cage was found to cause almost a 100 per cent mortality among mosquitoes exposed for one hour.

A field experiment was planned in conjuction with Headquarters East Africa Command to test the efficacy of the D.D.T. Smoke Generator No. 31 against larval and adult mosquitoes. A swamp was chosen near Mombasa. Smoke generators were placed at one end and larval catching stations along one side approximately 100 yards apart. Bowls containing larvæ, and cages with adult mosquitoes were also placed at each station. Another swamp was used as a control. The D.D.T. smoke was found to have a slight effect with a wind velocity of 3 m.p.h., but was quite ineffective with higher velocities. The bombs tended to overcombust and usually became very hot; this may have caused depolymerization of the insecticide.

Publications

The following articles were published by members of the staff during the year:—

R. B. Heisch.—"Two Years Medical Work in the Northern Frontier District, Kenya Colony." *E.A. Med. J.* January, 1947.

P. C. C. Garnham, C. W. Davies, R. B. Heisch and G. L. Timms.—"An Epidemic of Louse-borne Relapsing Fever in Kenya." *Trans. Roy. Soc. Trop. Med. Hyg.* September, 1947.

R. B. Heisch and P. C. C. Garnham.—"The Transmission of *Spirochæta duttoni* Novy and Knapp by *Pediculus humanus corporis* De Geer." *Parasitology*. 1947.

P. C. C. Garnham.—"A New Blood Spirochæte in the Grivet Monkey." *E.A. Med. J.* January, 1947.

W. E. Grainger.—"The Experimental Control of Mosquito Breeding in Rice Fields in Nyanza Province, Kenya." *E.A. Med. J.* January, 1947.

R. B. Highton.—"The Technique of D.D.T. Impregnation of Native Huts." *E.A. Med. J.* January, 1947.

J. O. Harper.—"A Mosquito Survey of Mahe, Seychelles." *E.A. Med. J.* January, 1947.

E. C. C. van Someren.—"Description of New Mosquito from the Seychelles." *E.A. Med. J.* January, 1947.

M. Furlong.—"Aedes Control at Lamu." *E.A. Med. J.* January, 1947.

K. P. Bailey.—"A Preliminary Note on the Sylvan Mosquitoes of Gede." *E.A. Med. J.* January, 1947.

E. C. C. van Someren.—"The Description of a New Anopheles of the Myzorhynchus group from Madagascar." *E.A. Med. J.* January, 1947.

P. Bramwell.—"A Giant Fruit Bat from North Kavirondo." *E.A. Med. J.* January, 1947.

A. E. C. Harvey.—"The Care and Maintenance of Laboratory Animals and Arthropod Vectors of Disease." *E.A. Med. J.* January, 1947.

P. C. C. Garnham and J. P. McMahon.—"The Eradication of *Simulium neavei* Roubaud from an Onchocerciasis Area in Kenya Colony." *Bull. Ent. Res.* March, 1947.

P. C. C. Garnham.—"Exocrythocytic Schizogony in *Plasmodium kochi* Laveran." *Trans. Roy. Soc. Trop. Med.* May, 1947.

P. C. C. Garnham.—"Mortality of *Aedes ægypti* Feeding on Rabbits Receiving Oral 'Gammexane'." *Nature*. August, 1947.

E. C. C. van Someren.—"The Description of a New *Eretmapodites* Theobald. Proc. R Ent. Soc. London. Series B. Vol. 16, Parts 1–2, March, 1947.

E. C. C. van Someren.—"Ethiopian Culicidæ—Notes and Descriptions." Proc. R. Ent. Soc. London. Series B. Vol. 16, Parts 9–10, October, 1947.

Staff

Acting Senior Parasitologist in Charge	
Entomologist	1
Entomological Field Officers	3
Laboratory Technician	1
Junior Entomological Field Officers	3
Onchocerciasis Overseer	1
Laboratory Assistant	1
Asian Surveyor and Clerk	1

There were also 45 trained African Assistants.

APPENDIX I

Routine Identifications of Mosquitoes from Kisumu

Species	Larvæ	Adults
Anopheles (Anopheles) coustani Lav.	49	16
Anopheles (Myzomyia) funestus Giles	14	430
Anopheles (Myzomyia) gambiæ Giles	162	584
Anopheles (Myzomyia) pretoriensis Theo.	1	—
Anopheles (Myzomyia) pharoensis Theo.	17	1
Anopheles species	157	—
Uranotænia balfouri Theo.	29	2
Uranotænia mashonænsis	1	—
Uranotænia species	36	—
Ficalbia plumosa Theo.	—	6
Ficalbia uniformis	5	—
Ficalbia species	3	—
Tæniorhynchus fuscopennatus	—	1
Tæniorhynchus aurites	1	2
Tæniorhynchus uniformis Theo.	—	682
Tæniorhynchus africanus Theo.	—	719
Aedes (Mucidus) scatophagoides Theo.	17	—
Aedes (Aedimorphus) quansiunivittatus Theo.	7	—
Aedes (Aedimorphus) hirsutus Theo.	39	—
Aedes (Aedimorphus) ochraceus Theo.	9	—
Aedes (Aedimorphus) natronius Edw.	—	1
Aedes (Banksinella) lineatopennis Ludl.	54	18
Aedes species	4	—
Culex (Lutzia) tigripes Grp. and C.	57	7
Culex (Neoculex) rubinotus	—	1
Culex (Culiciomyia) nebulosus Theo.	—	2
Culex (Culex) poicilipes Theo.	3	—
Culex (Culex) annulioris Theo.	102	—
Culex (Culex) bitæniorhynchus	—	1
Culex (Culex) duttoni Theo.	39	3
Culex (Culex) univittatus Theo.	167	60
Culex (Culex) pipiens L.	66	6
Culex (Culex) fatigans W.	25	323
Culex (Culex) trifilatus	17	1
Culex (Culex) torænsis Edw.	—	3
Culex (Culex) antennatus Beck	34	80
Culex (Culex) decens Theo.	599	12
Culex species	419	—

SUMMARY

	Number of species	Total number of Larvæ examined	Total number of Adults examined
Anopheles	5	400	1,030
Uranotænia	2	65	2
Ficalbia	2	8	6
Tæniorhynchus	4	1	1,404
Aedes	6	130	19
Culex	14	1,528	499
Totals	33	2,132	2,960

APPENDIX II

Aedes Indices in Various Towns in Kenya, 1941 and 1947

Station	1941		1947	
	Yearly mean	Highest index for the year	Yearly mean	Highest index for the year
Lamu	7·91	18·0	0·79	2·05
Mombasa (Island)	9·4 (1937)	—	0·31	1·00
Mombasa (Mainland)	18·9 (1937)	—	0·37	1·40
Kwa Jomvu	3·08	17·47	0·66	2·60
Kilifi	1·83	6·0	0·49	1·10
Malindi	3·85	7·3	0·07	0·36
Vanga	7·9	11·5	0·52	1·50
Nairobi	5·8	5·8	0·19	1·20
Nambare	5·01	15·04	0·00	0·00
Miritini	5·33	38·8	0·55	2·00
Mazeras	6·86	54·9	0·70	2·70
Mariakani	7·82	50·4	0·14	0·80
Samburu	2·44	20·0	0·20	0·90
Kibwezi Area	12·7	28·1	0·04	1·88
Ft. Ternan	2·5	9·3	0·53	5·50
Muhoroni	1·51	4·7	0·23	5·90
Kibigori	4·46	11·7	0·13	2·00
Miwani	4·12	10·8	0·25	4·50
Kibos	4·15	12·7	0·25	5·55