Annual medical and sanitary report / Tanganyika Territory.

TANGANYIKA TERRITORY.

Annual Medical and Sanitary Report

FOR THE YEAR ENDING

31st December, 1926.

[Shircore J. O.]

Price 5/-

PUBLISHED BY
THE CROWN AGENTS FOR THE COLONIES,
4, MILLBANK, LONDON, S.W.I.
1927.

ERRATA.

Annual Medical and Sanitary Report, 1926.

Page 14.—*Table of Surgical Operations.*

Miscellaneous: others (including unclassified) should be "684" instead of "44".

Nose and Throat, Operations on: others (including unclassified) should be "44" instead of "684".

Page 16.—*Tuberculosis.*

The figures under the year 1926 should read "444 cases" and "81 deaths," and not as printed.

Page 30.—*Tuberculosis.*

In first line alter "365 cases" to "354 cases" and "64 deaths" to "67 deaths."

Page 31.—Table showing incidence of Tuberculosis.

Substitute new Table herewith for that printed in the Report.

Page 150.—*Return of Diseases, etc.*

The figures shewn against No. 203 should be added to those against No. 202. No. 203 should be nil.

With the Compliments of the Crown Agents for the Colonies.

Annual Medical Report 1926 and

Annual Report of the Medical Laboratory 1926

4, MILLBANK,
WESTMINSTER,
LONDON, S.W. 1.

November 1927

Form Y 10 15,000-3/26.

TABLE SHOWING INCIDENCE OF TUBERCULOSIS AT THE VARIOUS STATIONS IN THE TERRITORY DURING 1924, 1925 AND 1926.

	1924				1925				1926			
	Pulmonary		All other forms		Pulmonary		All other forms		Pulmonary		All other forms	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Arusha	4	3	3	2	18	4	9	2	29	3	4	...
Bagamoyo	2	1	...	...	...	...	...	...	...	...	...	...
Biharamulo	...	...	...	...	...	...	...	...	1	1	...	...
Bukoba	6	2	...	...	26	...	...	...	8	...	11	2
Dar es Salaam European Hosp.	...	...	3	...	1	1	...	...	1	1	...	...
Sewa Hadji Hosp.	22	3	...	...	50	3	...	...	41	3	...	...
*Medical Officer of Health ...	2	...	...	...	...	...	...	...	...	...	...	2
*Private Practitioners ...	3	...	...	...	1	...	...	...	...	...	7	...
Dodoma	6	1	...	...	2	...	...	...	...	...	7	3
Handeni	...	...	...	...	...	...	...	...	1	...	...	...
Iringa	1	...	...	...	...	...	...	...	1	1	...	...
Kahama	1	...	...	...	...	...	...	...	...	...	2	...
Kasanga	...	...	...	...	...	...	...	...	6	...	...	...
Kasulo	...	...	...	...	...	...	...	...	3	...	1	...
Kibata	...	...	...	...	...	...	...	...	7	...	...	...
Kibaya	...	...	...	...	1	...	...	...	5	...	...	...
Kigoma	8	4	...	...	10	2	1	1	4	1	1	1
Kilosa	2	2	..	...	7	4	...	...	5	1	...	...
Kilwa	1	1	...	...	...	...	3	...	...	...	...	...
Kisaki	...	...	...	...	...	...	...	...	...	...	...	...
Kondoa-Irangi ...	10	...	3	...	4	1	9	...	9	5	...	...
Lindi	...	...	...	...	...	...	...	...	12	1	...	...
Lushoto	12	...	...	...	10	2	...	...	11	3	...	...
Mafia	1	1	1	...	...	...	...	...	...	...	...	...
Mahenge...	5	2	...	...	3	1	...	...	1	...	...	...
Malangali	...	...	...	...	...	...	...	...	...	...	...	...
Manyoni	...	...	...	...	...	...	...	...	1	...	...	...
Mbulu	4	...	...	...	2	2	...	...	6	3	...	...
Mikindani	3	...	...	...	1	...	...	...	4	...	...	...
Mkalama	...	...	...	...	...	...	3	...	2	...	9	...
Morogoro	18	10	1	...	21	7	...	...	51	16	2	2
Moshi	69	2	...	...	73	5	...	...	36	6	7	...
Mpwapwa	...	...	...	...	...	...	...	...	...	...	...	...
Musoma	...	...	...	...	1	...	...	...	4	2	3	1
Mwanza	16	7	...	...	7	4	...	...	6	...	...	...
Namanyere	...	...	...	...	...	...	...	...	3	...	1	...
Nzega	...	...	...	...	...	...	...	...	...	...	...	...
Pangani	41	8	...	...	32	3	...	...	20	4	...	...
Shinyanga	3	...	...	...	2	1	4	...	1	...	4	...
Singida	...	...	...	...	...	...	1	...	1	...	13	1
Songea	6	4	...	...	9	1	...	...	9	1	2	1
Tabora	18	6	6	3	10	1	...	...	3	2	...	...
Tanga	38	8	...	...	57	20	...	...	48	11	1	...
Tukuyu	8	...	...	...	2	...	2	...	7	2	1	...
Tunduru...	...	...	...	...	...	...	...	...	...	...	...	...
Ujiji...	6	...	...	...	...	...	...	...	1	...	...	...
Utete	...	...	...	...	...	...	...	...	...	...	3	1
TOTAL ...	316	65	17	5	350	62	32	3	354	67	90	14

*Not included in Tables V and VI.

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4, MILLBANK, LONDON, S.W.1.

OFFICE OF THE
DIRECTOR OF MEDICAL AND SANITARY SERVICES,
DAR-ES-SALAAM,
TANGANYIKA TERRITORY.
24th June, 1927.

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 for the Colonies, the Medical Report on the health and sanitary condition of the Tanganyika Territory for the year 1926 together with the Returns, etc., appended thereto.

I have the honour to be,
Sir,
Your obedient servant,
J. O. SHIRCORE,
Director of Medical and Sanitary Services,
Tanganyika Territory.

THE HONOURABLE
THE CHIEF SECRETARY TO THE GOVERNMENT,
DAR-ES-SALAAM.

CONTENTS.

RETURNS.

TANGANYIKA TERRITORY.

Annual Medical and Sanitary Report, 1926.

I.—ADMINISTRATIVE.

(a) Staff.

European :

Director of Medical and Sanitary Services.
Deputy Director of Medical Service.
Deputy Director of Sanitary Service.
Deputy Director of Laboratory Service.
Venereal Diseases Officer (appointed during the year).
5 Senior Medical Officers.
1 Sleeping Sickness Officer (appointed during the year).
41 Medical Officers (8 appointed during the year).
2 Dental Surgeons.
1 Assistant Bacteriologist.
1 Entomologist (appointed during the year).
4 Senior Nursing Sisters.
2 Sisters and Health Visitors (1 appointed during the year).
24 Nursing Sisters (4 appointed during the year).
1 Chief Clerk.
2 Clerks (1 appointed during the year).
1 Storekeeper.
2 Assistant Storekeepers.
2 Hospital Quartermasters.
1 Superintendent of Lunatic Asylum.
1 Matron of Lunatic Asylum.
1 Building Inspector.
17 Sanitary Superintendents.
1 Laboratory Assistant.

Asiatic :

1 Assistant Surgeon.
2 Senior Sub-Assistant Surgeons.
49 Sub-Assistant Surgeons.
36 Compounders.
2 1st Grade Clerks.
9 2nd, 3rd and 4th Grade Clerks.
3 Sanitary Inspectors.

African :

9 Clerks.
30 Dispensers.
204 Urban and District Sanitary Inspectors.
30 Vaccinators.
447 Hospital Dressers, Hospital Attendants and Menials.
1161 Sanitary Labourers.

APPOINTMENTS.

European :—

Dr. J. G. McNaughton to be Venereal Diseases Officer, 20th February, 1926.
Dr. G. Maclean to be Sleeping Sickness Officer, 1st April, 1926.
Dr. H. van R. Mostert to be a Medical Officer, 19th March, 1926.

Dr. D. A. Skan	do.	1st April, 1926.
Dr. B. A. Coghlan	do.	do.
Dr. W. J. Aitken	do.	22nd July, 1926.
Dr. H. N. Davies	do.	do.
Dr. D. Plum	do.	6th August, 1926.
Dr. P. S. Bell	do.	3rd September, 1926.
Dr. J. H. McDonald	do.	do.

APPOINTMENTS—*continued.*

Miss A. L. Ryder to be a Sister and Health Visitor, 1st April, 1926.
Miss A. M. Hough to be a Nursing Sister, 27th May, 1926.
Miss C. B. Robinson do. do.
Miss B. A. D. Acton do. 14th September, 1926.
Miss G. D. Underwood do. 14th October, 1926.
Mrs. M. A. Cartlidge to be a temporary Sister and Health Visitor, 1st January, 1926.
Miss A. E. Dawes do. do.
Mr. J. H. Stafford to be a European Clerk, 22nd January, 1926.
Mr. C. E. W. Foster to be a Sanitary Superintendent, 9th July, 1926.
Mr. E. L. Morgan do. do.
Mr. J. Allan do. 3rd September, 1926.
Mr. W. A. Willox do. 14th October, 1926.
Mr. A. S. Murdison do. do.
Mr. J. W. McHardy to be Entomologist, 6th August, 1926.

Asiatic :—

Mr. Harcharam Singh to be a Sub-Assistant Surgeon, 15th January, 1926.
Mr. S. V. Gupte do. 28th April, 1926.
Mr. Basant Singh do. 26th May, 1926.
Mr. P. R. Dhavle do. 4th August, 1926.
Mr. G. K. Khot do. do.
Mr. S. N. Patel do. do.
Mr. M. G. Panvalkar do. 18th August, 1926.
Mr. G. V. Harischandraker do. do.
Mr. J. K. Dave do. 1st September, 1926.
Mr. G. R. Gore do. do.
Mr. P. K. Date do. 24th September, 1926.
Mr. Jagat Singh Dosangh do. 3rd November, 1926.
Mr. V. V. Apte do. 19th November, 1926.
Mr. M. A. Vaishnav to be a Compounder, 1st January, 1926.
Mr. G. P. Gandhy do. 1st April, 1926.
Mr. A. E. L. Fernandes do. 28th April, 1926.
Mr. R. E. Puram do. 12th May, 1926.
Mr. P. V. Mathew do. 22nd June, 1926.
Mr. A. C. Carvalho do. 2nd July, 1926.
Mr. S. P. Dube do. 21st July, 1926.
Mr. Kushal Khan do. 4th August, 1926.
Mr. Chanan Ram do. 26th September, 1926.
Mr. Y. N. Bhingarde do. 1st September, 1926.
Mr. E. Rebello to be a 4th Grade Clerk, D.M.S.S. Office, 14th April, 1926.

ACTING APPOINTMENTS.

Dr. C. L. Ievers, Acting Deputy Director Medical Service from 21st December, 1926, to the end of the year.

Dr. R. R. Scott, M.C., Acting Deputy Director Sanitary Service from 6th June, 1926, to 15th December, 1926.

Dr. G. R. C. Wilson, Acting Senior Medical Officer from 21st December, 1926, to end of the year.

Dr. C. F. Shelton, Acting Senior Medical Officer from January, 1926, to 12th August, 1926, and from 21st December, 1926, to end of the year.

Dr. R. Nixon, Acting Senior Sanitation Officer from 6th June, 1926, to 28th October, 1926.

Dr. A. I. Meek, Acting Senior Sanitation Officer from 28th October, 1926, to 15th December, 1926.

Miss M. Donald, Acting Senior Nursing Sister from 16th January, 1926, to 14th August, 1926.

Mr. J. H. Stafford, Acting Chief Clerk from 24th August, 1926, to end of the year.

Mr. H. W. Hassard, Acting Medical Storekeeper from beginning of year till 23rd June, 1926.

PROMOTIONS.

Dr. J. G. McNaughton, Medical Officer, to be Venereal Diseases Officer, 20th February, 1926.
Dr. G. Maclean, Medical Officer, to be Sleeping Sickness Officer, 1st April, 1926.
Miss A. L. Ryder, Nursing Sister, to be a Sister and Health Visitor, 1st April, 1926.

RETIREMENTS.—Nil.

AGREEMENT EXPIRED.

Miss W. R. Grant, Nursing Sister, 26th October, 1926.

AGREEMENT TERMINATED.

Dr. O. Fitzpatrick, Medical Officer, from 12th March, 1926.

RESIGNATIONS.

Miss J. B. Watt, Nursing Sister, 30th November, 1926.
Mr. K. R. Pagadalla, Sub-Assistant Surgeon, 9th December, 1926.

DEATHS.—Nil.

INVALIDINGS.

Miss L. M. Bishop, Nursing Sister, 17th April, 1926.
Dr. J. G. McNaughton, Venereal Diseases Officer, 22nd November, 1926.

(b) List of Ordinances affecting Public Health enacted during the year.

Government Notice No. 2, under the Whipping Regulations of 5th October, 1918, as amended by the Whipping Ordinance 1925, adds the following clause, viz.:—

> During the infliction of a sentence of whipping a piece of thin cotton cloth soaked in an antiseptic solution shall be spread over the buttocks of the person undergoing the punishment.

Government Notices No. 12, under the Master and Native Servants Ordinance 1923 (No. 32 of 1923), prohibits the recruiting of natives in the Maswa and Musoma Sub-Districts of the Mwanza District for employment without those Sub-Districts.

Government Notice No. 55 cancels the prohibition of recruiting in Dodoma District (with the exception of the Sultanate of Kiungu).

Government Notice No. 87, revokes the prohibition of recruiting in the Ufipa District, on the following conditions :—(1) That only inhabitants of the Ufipa Plateau be recruited ; (2) That recruiting be done only at Namanyere or at such other place as the District Officer may direct ; (3) That the natives to be recruited should travel to their destinations from Namanyere via Kasanga, Tukuyu and Iringa.

Government Notice No. 50 amends No. 48 of 1923 by substituting " The Survey Department " for " The Land Department " in the list of Members.

Government Notice No. 61 under The Diseases of Animals Proclamation 1920 (No. 5 of 1920), prohibits the importation into the Territory of any dog which has been in India or Egypt within the six months immediately preceding the date of importation into the Territory.

Government Notice No. 62, under the Customs Ordinance 1922 (No. 3 of 1922), revokes Government Notice dated 11th March, 1921, which prohibited the importation of condensed skimmed milk containing less than 9% milk fat.

Ordinance No. 7 of 1926.

An Ordinance further to amend the Medical Practitioners and Dentists Proclamation, 1920.

1. This Ordinance may be cited as the Medical Practitioners and Dentists Ordinance, 1926, and shall be construed as one with the Medical Practitioners and Dentists Proclamation, 1920 (herein called " the said Proclamation ").

2. The following section is hereby inserted between sections 9 and 10 of the said Proclamation :—

9a—(1) Whenever the Director of Medical and Sanitary Services, acting with the advice of a Board appointed in accordance with this Proclamation, is satisfied that there is not in the Territory a sufficient number of persons registered or licensed under this Proclamation as Medical Practitioners or Dentists to satisfy the needs of the Territory or of any part thereof, he may, with the advice of the Board, license such persons as he may consider suitable as Medical Practitioners or Dentists, subject to the following restrictions :—

(a) No such licence shall remain in force for longer than one year from the date thereof, but may be renewed ;

(b) No fee or reward for medical services may be taken by the licensee from any native in any circumstances, or from any non-native unless the licensee shall have been called to attend such non-native in case of urgent necessity.

(2) " Native " in this section means any member of an African race and includes a Swahili or a Somali.

(3) Nothing in this section shall be taken to prevent or restrict the charging of fees for services as a dentist by a person licensed hereunder or the practice of medicine, surgery or midwifery by any such person without fee or reward, or the receipt by any person licensed hereunder as a medical practitioner of any regular salary or emoluments paid by a person in whose service the licensee is regularly employed for the purpose of giving medical attention to others.

(4) A licence granted under this section may at any time be revoked by the Director of Medical and Sanitary Services with the advice of the Board, without assigning any reason for the revocation thereof, and their shall be no appeal from such decision.

(5) The issue or revocation of every licence under this section shall be notified in the Gazette.

3. The term " Director of Medical and Sanitary Services " is hereby substituted for the term " Principal Medical Officer " wherever appearing in the said Proclamation.

ORDINANCE NO. 18 OF 1926.

An Ordinance to prescribe the powers and duties of Native Authorities.

This Ordinance provides for the declaring and establishing of Native Authorities who are under obligation generally to maintain order and good Government among the natives residing in the areas over which authority extends; and it is incumbent on the natives to assist the Native Authorities in carrying out their duties. Subject to the provisions of any current law the Native Authority is empowered to issue orders to be obeyed by natives with his jurisdiction for, among other purposes, prohibition, restriction or regulating the manufacture, distillation, sale, transport, distribution, supply, possession, and consumption of intoxicating liquors; preventing the pollution of the water in any stream, watercourse or waterhole, and preventing the obstruction of any stream or watercourse; preventing the spread of infectious or contagious disease, whether of human beings or animals, and for the care of the sick; prohibiting, restricting or regulating the immigration of natives from or to the area under his authority; requiring the birth and death of any native within his jurisdiction to be reported to him or such other person as he may direct; for the purpose of exterminating or preventing the spread of tsetse fly; requiring any native to cultivate land to such extent and with such crops as will secure an adequate supply of food for the support of such native and of those dependent on him; for any other purpose, which may, by notice published in the Gazette, be specially sanctioned by the Governor, either generally or for any particular area.

(c) Financial.

Revenue	£8,959
Expenditure	£169,355

(See also Table II, page 138)

II. PUBLIC HEALTH.

(a) General Remarks.

This is the seventh Annual Medical Report of the Medical and Sanitation Department of the Tanganyika Territory and despite the fact that 1926 was the second consecutive season of abnormal rainfall, which naturally resulted in inflation of the returns for Malaria and Blackwater Fever, the general public health has been well maintained. The spheres of medical activity have been extended in several directions, the most outstanding feature of which has been the development of a subordinate African Medical and Sanitation Service. Apart entirely from the question of finance it is evident that a service of this nature is absolutely essential if adequate aid is to be available to the population as a whole, for it would be well nigh impossible for European staff to live and work for any lengthy period under the adverse climatic conditions and isolation inseparable from the remoter areas, which to the African is his normal habitat. To meet these contingencies the bases of certain organisations have now been definitely established, viz.:—

African District Dispensers.
African District Sanitary Inspectors.
Maternity and Child Welfare Clinics.
Tribal Dressers.

African District Dispensers.—Until two years ago the African District Dispenser was recruited, chiefly, from amongst applicants trained at the medical schools of Blantyre and Livingstonia in Nyasaland. They were employed at small stationary dispensaries, and for itinerant clinics in connection with the labour forces employed on road construction and our campaign against yaws and specific disease.

We have now a total number of 19 in the districts and 26 in training at the Medical Training School at Dar-es-Salaam. The curriculum consists of a full-time course of 18 months, and is, at present, divided between the school and one of our largest hospitals. The course besides elementary chemistry and physics, materia medica and dispensing, elementary anatomy and physiology, the elements of medicine, minor surgery and first aid includes a brief period of tuition in welfare work, practical village sanitation and elementary dental practice. Our endeavour is to turn out annually sufficient numbers ultimately to maintain a complement of 250, approximately 1 per 20,000 of the population. The movement is of course in its infancy and will improve with education and time.

African District Sanitary Inspectors.—See Deputy Director of Sanitary Service's report page 25. This organisation was forshadowed in my Annual Medical Report for 1921 and has now materialised. There are 185 trained men actually in the field bringing sanitation and education to the African at his village.

Maternity and Child Welfare Clinics.—See also page 64. The buildings, although of better structure, are not unlike large native houses; their appearance is calculated to disarm apprehension, and their situation in the native quarter of the town, in familiar surroundings, permit of approach, without undue misgivings, by women, who might otherwise avoid the publicity of a general hospital. Besides the ordinary routine duties of the Health Visitors in charge the training of the African Maternity Ayahs, in the first principles and practice of asepsis, elementary midwifery and welfare work, in their practical application, is being undertaken. Progress in this direction must of necessity, at this stage, be slow.

Tribal Dressers.—This unit has arisen out of demands of the rural population for medical aid. In the first instance it was explained to the District Officers, who represented the matter, that it was beyond the scope of my department to approach the problem without a large expenditure, involving staff, drugs, equipment and storage accommodation. But it was obvious that the time had arrived when something had to be done, and I came to the conclusion that it were best to get into touch with wholesalers at home and forwarding Agents at the coast, and leave to myself the creation of the machinery, whereby supplies could be indented for, according to the sums of money the different communities wished to expend upon themselves, for medical purposes. With this object in view, two schedules, one of drugs, the other of equipment, were drawn up, and a pamphlet issued detailing their usage and the methods of treatment that should be adopted, for such of the common medical and surgical conditions as might require relief and first aid. The schedules were registered at the Army and Navy Co-operative Stores, London, and a telegraphic code arranged whereby the District Officers could indent for the exact quantities required, which could then be consigned through the Coastal Agents, to the district concerned, and there distributed. The Tribal Dressers are selected by their chiefs from amongst the more intelligent members of their tribe, and undergo a three months training by the regular medical staff in the uses of the scheduled drugs and equipment, and have the pamphlet of instructions, which is printed in English and Kiswahili, issued to them for reference. They are also given an elementary course of practical sanitation as relating to housing, protection of food and water supplies, the destruction of refuse, the disposal of excreta and the destruction of animal and insect pests.

The arrangements described above were completed during September and before the end of the year 35 Tribal Dressers had been trained. It is the intention to bring this unit up to a strength of 1 per 5,000, or 1,000 for the approximate population. Certain specific drugs for the elimination of intestinal parasites, particularly for hookworm, are included amongst the scheduled drugs. Incidentally, be it noted hookworm is one of the most prevalent infestations, and a high percentage of the population throughout tropical Africa suffers from it. It is clear also that any localised effort against hookworm, whilst it would undoubtedly ameliorate the condition at a few centres, could not, in a country the size of Tanganyika, make any profound impression unless a widespread

campaign were undertaken, and this can be done by utilising the Tribal Dressers. An ample quantity of a specific drug is included in the schedule for the purpose and even if 100 cases of hookworm were treated by each Tribal Dresser, annually, an enormous advance would be made. more especially when it is considered that coincident with treatment we are pushing ahead with village sanitation.

In concluding this section on the development of a subordinate African Medical and Sanitation Service, I would emphasise that the greatest credit is due to the members of my staff who have displayed energy and enthusiasm, and have loyally and cheerily undertaken the extra labour involved, in training.

(I) General Diseases.

Fourteen cases of malignant disease were recorded. Several of these are reported upon in detail under the heading " Scientific." I incline to the view that, when further data are available, it might be possible to select an area, of high incidence, in which investigation and research might throw light on the octiology of the subject. Bilharzia is extensively distributed in certain sectors and cancer of the liver, bladder and rectum probably occurs with some frequency, but occupational cancer must be rare. Trauma and Chronic irritation may be safely considered to constitute the main factors in the incidence of malign growths in the African native.

Nervous and Mental Diseases.—The apparent decrease from 8,220 for the year 1925 to 4,035 during 1926 is to be accounted for by classification of ill-defined symptoms such as " headache " and vague neuralgias under the heading " Ill-defined Diseases." The number of deaths remain approximately the same, 18 as compared with 22. Two interesting cases of the treatment of Epilepsy with Bismuth Sodium Tartrate injections are referred to on page 116. From the evidence recorded up to date it would appear that Bismuth has a distinct place in the treatment of certain forms of Epilepsy. (See also the Report by the Superintendent of the Lunatic Asylum, Lutindi.)

Diseases of the Circulatory System.—The returns are the lowest for any group of systematic diseases and shew an incidence of less than 5 per 1,000 cases. An example of aneurysm of the Aorta, in a woman, is described on page 110.

Diseases of the Respiratory and Digestive Systems.—The figures remain remarkably constant in both these groups of diseases and supply 27·72% of the total cases treated at hospitals and dispensaries ; and when added to the epidemic, endemic and infectious diseases, which largely effect these two systems, amount to 68·02%.

Village sanitation and the treatment of intestinal parasites through the agency of the Tribal Dressers should shew results in a few years.

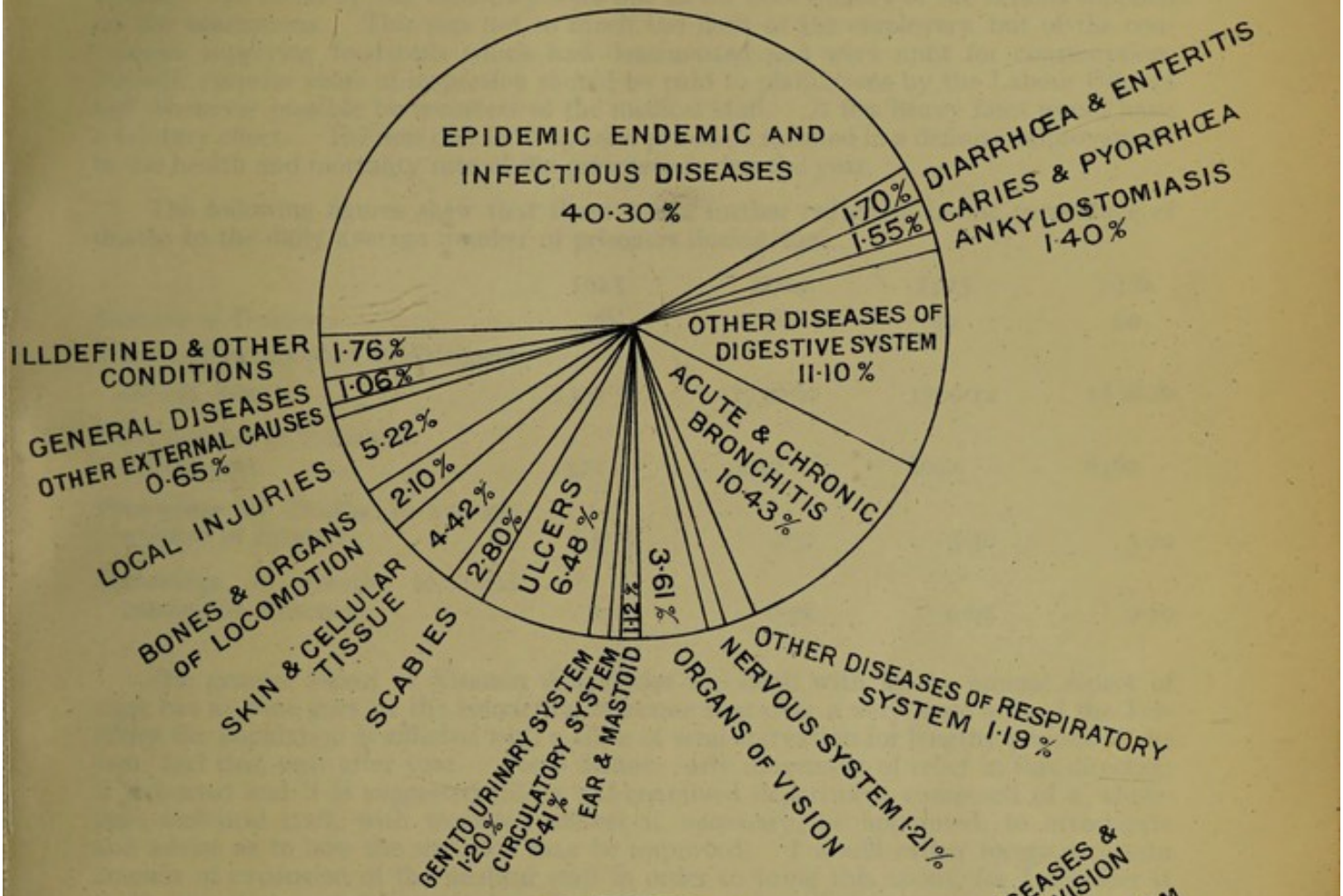
Diseases of the Skin and Cellular Tissue.—Ulcers accounted for 21,817 cases giving 6·48% as compared with 8·38% for the previous year ; and Local Injuries likewise have shewn some diminution. A particularly virulent type of ulceration is contracted by labourers working on sisal plantations, and some form of first aid should be made available for the immediate treatment of injuries however trivial.

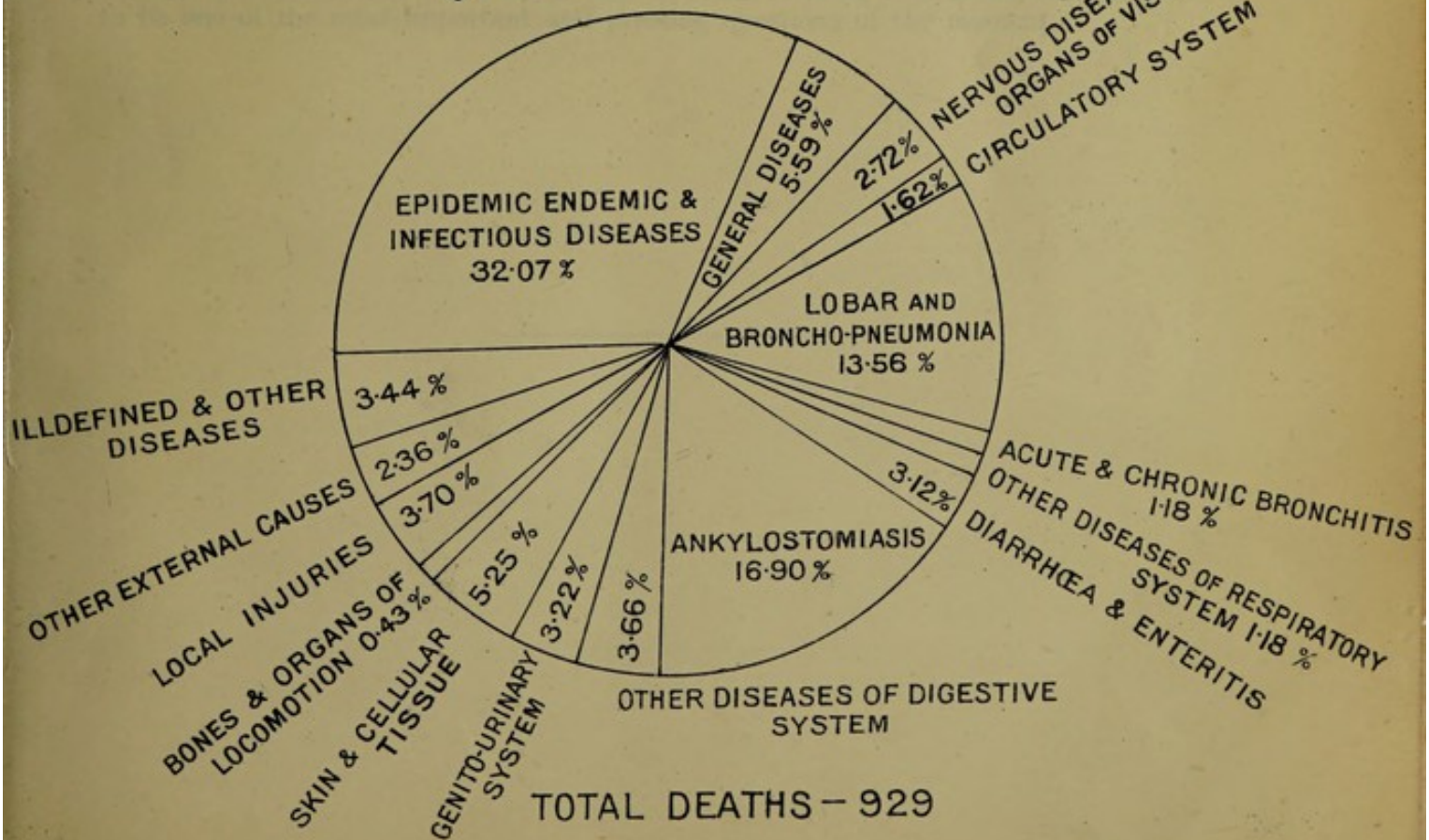
TABLE SHOWING TOTAL CASES, PERCENTAGES OF GROUPS TO TOTAL CASES TREATED, DEATHS AND PERCENTAGE OF DEATHS TO TOTAL NUMBER OF DEATHS.

	Cases.		Deaths.		Percentage to total number of cases treated.		Percentage of deaths to total number of deaths.	
	1925.	1926.	1925.	1926.	1925.	1926.	1925.	1926.
Epidemic, Endemic and Infectious Diseases	103,531	134,712	233	298	38·01	40·30	29·75	32·07
General Diseases	6,194	3,539	54	52	2·27	1·06	6·90	5·59
Diseases of the Nervous System	8,220	4,035	18	22	3·02	1·21	2·12	2·40
,, ,, ,, Organs of Vision	9,823	12,155	1	3	3·61	3·64	0·30	0·32
,, ,, ,, Ear and Mastoid Sinus	3,087	4,296	—	—	1·13	1·21	—	—
,, ,, ,, Circulatory System	1,199	1,383	17	15	0·44	0·41	2·20	1·62
Acute and Chronic Bronchitis	27,677	34,890	5	11	10·01	10·43	0·63	1·18
Lobar and Broncho-pneumonia	704	741	114	126	0·17	0·22	14·56	13·56
Other Diseases of the Respiratory System	1,095	3,250	6	11	0·64	0·97	0·77	1·18
Caries and Pyorrhœa	5,356	5,199	—	—	1·96	1·55	—	—
Diarrhœa and Enteritis	5,401	5,664	30	29	1·98	1·70	1·28	3·12
Ankylostomiasis	3,963	4,632	124	157	1·45	1·40	18·39	16·90
Other Diseases of the Digestive System	30,201	38,267	36	34	11·10	11·45	4·60	3·66
Diseases of the Genito Urinary System	2,884	3,423	20	30	1·06	1·02	2·55	3·22
Ulcers	22,817	21,652	18	21	8·38	6·48	2·30	2·25
Scabies	6,599	9,271	—	1	2·42	2·80	—	0·10
Other Diseases of the Skin and Cellular Tissue	9,464	14,769	19	27	3·48	4·42	2·42	2·90
Diseases of Bones and Organs of Locomotion	3,326	6,890	5	4	1·22	2·10	0·63	0·43
Local Injuries	17,921	17,450	37	34	6·57	5·22	4·72	3·70
Other External Causes	2,435	2,169	23	22	0·90	0·65	2·94	2·36
Ill-defined and Other Diseases	476	5,868	23	32	0·18	1·76	2·94	3·44
	272,373	334,255	783	929	100·00	100·00	100·00	100·00

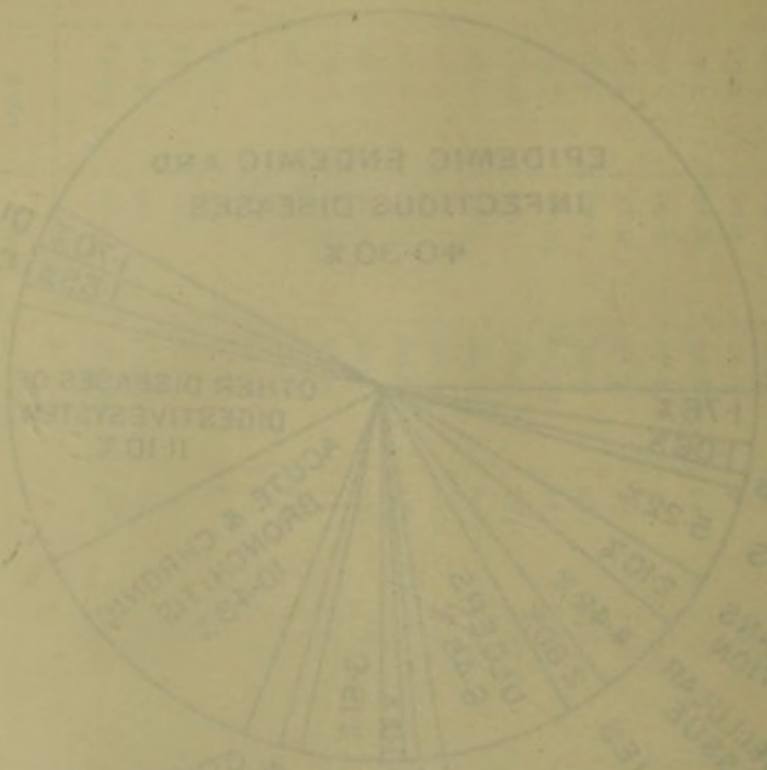
THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC, AND OTHER DISEASES SHEWN AS PERCENTAGES OF TOTAL CASES TREATED AT HOSPITALS AND DISPENSARIES.

TOTAL INCIDENCE — 334255





TOTAL DEATHS — 929



Deficiency Diseases.

A few isolated outbreaks of scurvy have occurred amongst the labourers in the Morogoro district. It would appear that they were due to the poor quality of the rations supplied on the plantations. This was not so much the fault of the employers, but of the contractors supplying foodstuffs which had deteriorated and were unfit for consumption. Periodic surprise visits of inspection should be paid to plantations by the Labour Officers and whenever possible by members of the medical staff. A few heavy fines would have a salutary effect. The new diet for long term prisoners resulted in a definite improvement in the health and mortality rate of the prisoners during the year.

The following figures shew that there was a further reduction in the percentage of deaths to the daily average number of prisoners during 1926.

	1923.	1924.	1925.	1926.
Number of Deaths	76	76	59	60
Daily average number of Prisoners during year	1397·50	1736·60	1760·12	1858·80
Total number of Prisoners during year	7571	9947	9091	8460
Percentage of Deaths to average number of Prisoners	5·36	4·31	3·30	3·22
Percentage of Deaths to total number of Prisoners	1·00	0·76	0·65	0·70

The general aspect of Vitamin deficiencies was dealt with in the annual report of 1925 but as time goes on the conviction increases that over a very large area of the Territory the population is afflicted with a state of semi-starvation for lengthy periods of the year, and this, year after year. Some definite early movement of relief in this direction is indicated and it is suggested that a self-contained department composed of a whole-time technical staff, with seconded officers if necessary, be appointed, to investigate and advise as to how the situation may be improved. I would rather forego a certain amount of expansion of the medical staff in order to bring this about, for I consider it to be one of the most important and pressing questions of the moment.

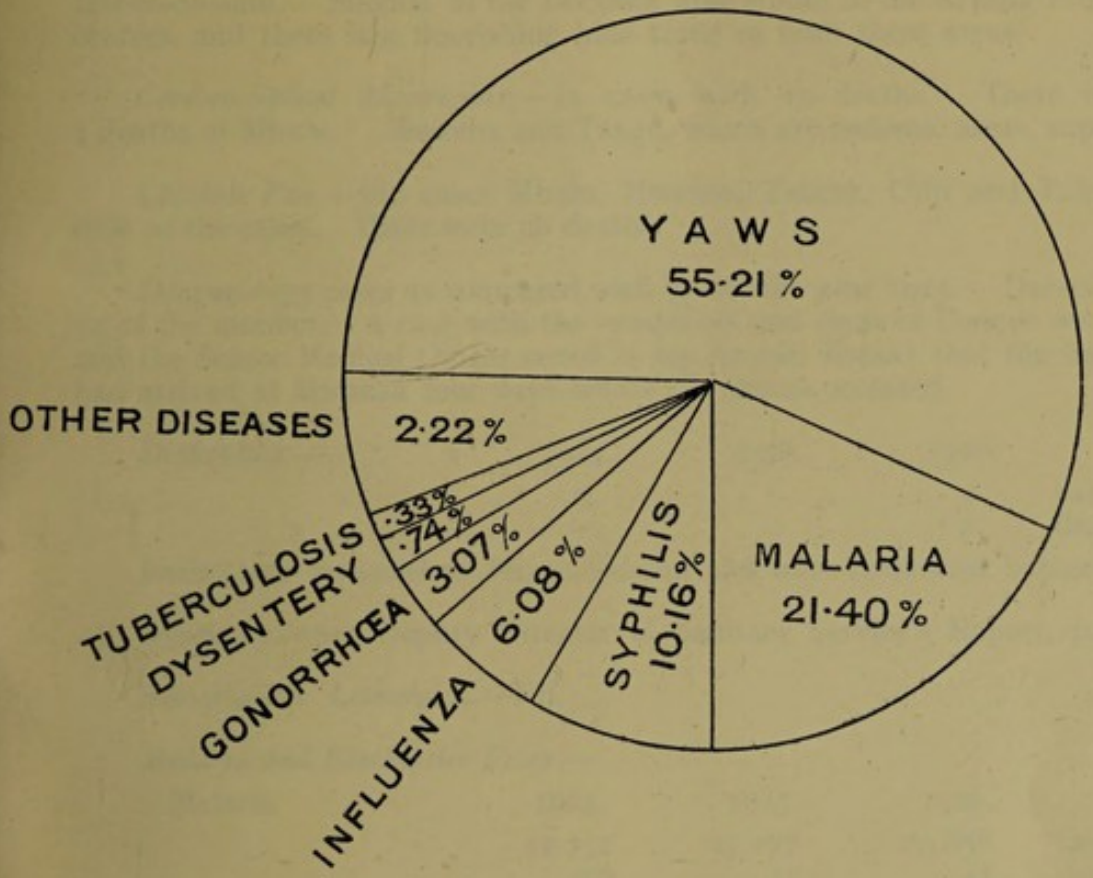
SURGICAL OPERATIONS PERFORMED DURING 1926—THE FIGURES REPRESENT THE NUMBER OF OPERATIONS CONDUCTED WITH AND WITHOUT A GENERAL ANÆSTHETIC.

BONES, OPERATION :	
Fractures, simple	24
,, compound	11
Osteotomy	14
Resection	5
Maxillary Antrum Empyema	1
Others (unclassified)	14
CHEST, OPERATIONS ON :	
Breast abscess, incision of	5
Thoracotomy	1
LAPAROTOMY :	
Abdomen, penetrating wound of	7
Abscess of Liver, laparo-hepatotomy	2
,, ,, ,, aspiration	1
Appendectomy with local peritonitis	6
Appendix, abscess	1
Exploratory	3
,, carcinoma of Liver	1
Fibroids	1
Intestinal obstruction	3
Broad Ligament Cysts	2
Ovarian cystectomy	2
Paracentesis abdominalis	2
Hepatectomy, partial	1
Others (including unclassified)	8
OBSTETRICAL :	
Abortions	2
Births, forceps operations	3
,, abnormal presentations	3
Repairs of perineum	6
Others (including unclassified)	13
GENITO-URINARY TRACT :	
Circumcisions	91
Curettage uteri	6
Hæmatocele	10
Hydrocele, single, radical cure	137
,, double ,, ,,	8
Hæmatoma	3
Orchidectomy	3
Urethrotomy, external	3
Others (including unclassified)	42
HERNIOTOMY :	
Inguinal, single	97
,, double	2
Femoral	1
Strangulated	5
Others (including unclassified)	1
ADENECTOMY :	
Cervical	1
Others (including unclassified)	3
Carried forward	555

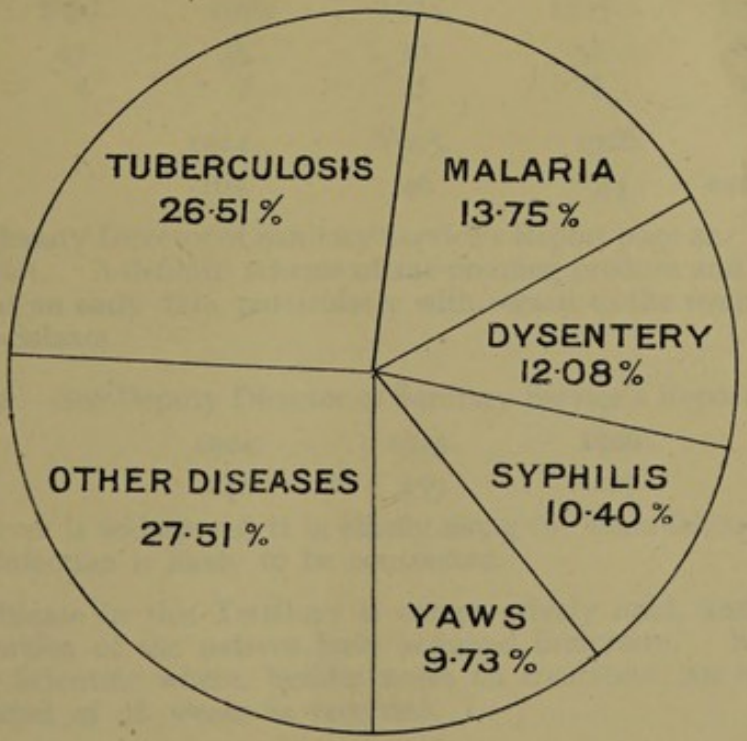
Brought forward	555
AMPUTATIONS :	
Hand	3
Arm	7
Leg	8
Foot	5
Digitis	33
Penis	1
Thigh	1
Unclassified	10
JOINTS, OPERATIONS ON :	
Arthrectomy	2
Reduction of dislocation	8
Others (including unclassified)	11
MUSCLES AND TENDONS, OPERATIONS ON :	
Eternal hæmorrhoids	7
MISCELLANEOUS :	
Abscess, treatment of	323
Cysts	11
Elephantiasis, treatment of	58
Fistulous tracts	3
Neoplasm, excision of benign	43
,, ,, ,, malignant	18
Rodent ulcers, excision of	1
Plastic operations for congenital defects	4
Removal of foreign body	2
Skin graft	6
Tooth extractions	265
Ulcers, treatment of	107
Varicose veins, treatment of	4
Wounds, gunshot	1
,, others	158
Various other minor operations	157
Others (including unclassified)	44
EAR, OPERATIONS ON :	
Mastoid operations	5
Removal of foreign bodies	1
EYE, OPERATIONS ON :	
Cataract, extraction of	11
Enucleation	6
Lid operations	4
Removal of foreign body	2
Others (including unclassified)	7
NOSE AND THROAT, OPERATIONS ON :	
Tonsillectomy	1
Others (including unclassified)	684
Total	2595

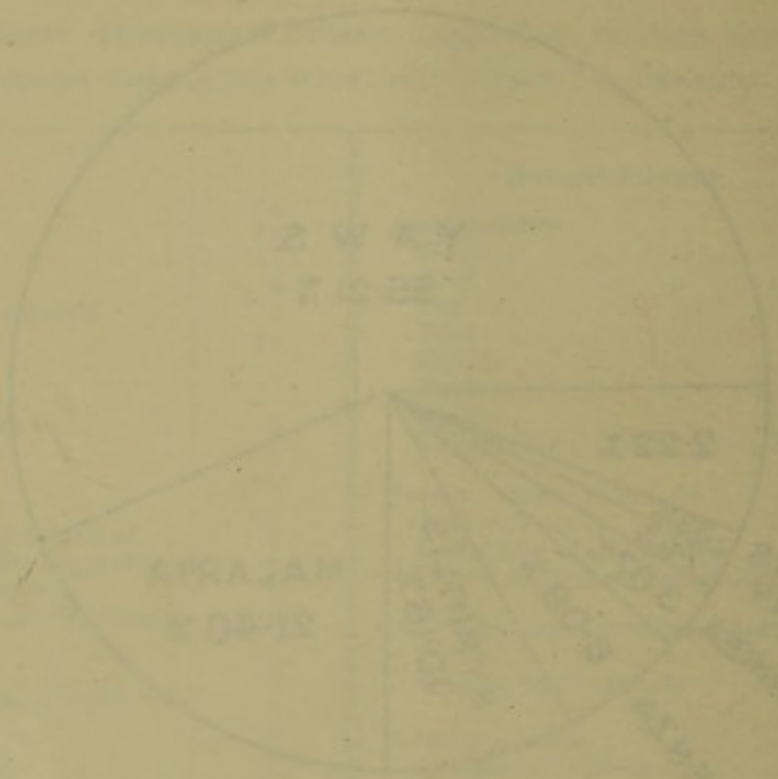
PROPORTION IN PERCENTAGES OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES, IN AND OUT PATIENTS, TREATED AT HOSPITALS AND DISPENSARIES.

TOTAL INCIDENCE – 134732



TOTAL DEATHS – 298





(II) Communicable Diseases.

Anthrax.—There were 110 cases, 98 at Singida, 8 at Mbulu, 3 at Dodoma and 1 at Dar-es-Salaam. Singida in the Dodoma and Mbulu in the Arusha Province are endemic centres, and there is a flourishing hide trade in both these areas.

Cerebro-Spinal Meningitis.—14 cases with 10 deaths. There were 5 cases with 4 deaths at Mbulu. Musoma and Tanga, which are endemic areas, supplied 1 case each.

Chicken Pox.—560 cases Mbulu, Mwanza, Tabora, Ujiji and Tukuyu returned the bulk of the cases. There were no deaths.

Dengue.—73 cases as compared with 71 for the year 1925. Dar-es-Salaam provided 54 of the number. A case with the symptoms and signs of Dengue occurred at Mwanza, and the Senior Medical Officer noted in his Annual Report that the sister of the patient had arrived at Mwanza four days before the illness occurred.

Diphtheria.—	1924.	1925.	1926.	
	1	–	2	cases.
	–	–	2	deaths.

Both cases occurred at Dar-es-Salaam and were confirmed bacteriologically.

Dysentery.—See Deputy Director of Sanitary Service's Report, page 30.

Encephalitis Lethargica.—Nil.

Malaria and Blackwater Fever.—

Malaria	1924.	1925.	1926.	
	22,732	27,277	29,856	cases.
	26	35	41	deaths.

The rains were again abnormally heavy, as they were last year, and the result is reflected in the greater incidence of Malaria and Blackwater Fever. Of the latter there were 18 cases at Dar-es-Salaam and 19 at Tabora, with 4 deaths and 1 death, respectively.

Blackwater	1922.	1923.	1924.	1925.	1926.	
	47	35	30	52	85	cases.
	4	7	5	15	19	deaths.

Mumps.—	1924.	1925.	1926.	
	165	46	44	cases.

Plague.—See Deputy Director of Sanitary Service's Report page 42. No cases occurred in the Singida district. A definite scheme of rat-proofing produce and hide stores should be taken in hand at an early date, particularly with regard to the townships of Mwanza, Tabora and Dar-es-Salaam.

Relapsing Fever.—See Deputy Director of Sanitary Service's Report, page 42.

1924.	1925.	1926.
148	259	227

whilst Spirillum Fever is widespread it is chiefly along the main labour routes that it is disseminated and infection is likely to be contracted.

The type of disease in this Territory is comparatively mild, and it would appear that a great proportion of the natives have acquired immunity. See also page 105, under the heading Scientific where, besides notes on treatment, an interesting case of relapse after a period of 26 weeks is recorded.

Trypanosomiasis.—See the Sleeping Sickness Officer's Report, pages 85 to 101. Much progress has been made especially in the Ufipa–Tabora section where the cleared settlement areas are being increased steadily.

Tuberculosis.—	1924.	1925.	1926.	
	236	382	446	cases.
	70	63	79	deaths.

During 1926 a Medical Officer was detailed for duty in the Moshi district for the purpose of carrying out a Tuberculosis survey of the rural population. His preliminary investigations support strongly the views that have been expressed in previous Annual Medical Reports of the Territory. It is hoped that material of a comprehensive nature might be available for review in the Annual Medical Report for the forthcoming year.

Yaws and Syphilis.

Satisfactory progress continues in the campaign against Yaws and Syphilis. Large numbers however still remain untouched in the districts and periodic visits will be paid to the sufferers, of whom many are maimed or too feeble to undertake lengthy journeys. Travelling clinics must therefore be augmented during future years, and, in view of the number of African Dispensers now in training it is proposed to bring several units into action during the forthcoming year. Medical Missions have undertaken work on our behalf in the Bukoba, Dodoma, Kasanga, Lindi, Tabora and Tanga districts; Bismuth and equipment being supplied by us. 11,744 cases of Yaws and 2,042 of Syphilis were thus treated; for the greater proportion of which we are indebted to the medical staffs of the Church Missionary Society and the Universities Mission of the Tanga and Lindi districts. Similarly the Sub-Assistant Surgeons, employed for their labour at the Ngerengere Estate by the Rosehaugh Coy., treated 725 cases of Yaws. The total dealt with during the year is 97,807 cases of Yaws and 17,483 of Syphilis of which the distribution and figures are shewn tabulated.

	Yaws	Syphilis
Arusha	1,252	95
,, District	792	609
Kibaya	55	6
Mbulu	116	17
Bagamoyo	3,111	635
,, District	777	76
Bukoba	1,417	2,045
,, District	—	—
Biharamulo	243	92
Dar-es-Salaam	5,569	751
Mafia	294	164
Maneromango	1,158	534
Ruvu	80	—
Dodoma	212	67
Manyoni	27	7
Mpwapwa	17	—
Singida	424	53
Iringa	34	38
Malangali	5	—
*Tosamaganga	4	7
Kasanga	1,642	316
,, District	958	374
*Kerema	446	179
Kigoma	1,969	161
Kasulo	1,642	678
Kibondo	435	36
,, District	96	8
Ujiji	390	154
Carried forward	23,165	7,102

	Yaws	Syphilis
Brought forward	23,165	7,102
Kilwa	1,874	64
Kibata	1,871	392
Liwale	578	—
,, S.S. area	513	—
Kondoa-Irangi	1,654	129
Mkalama	7,074	40
Lindi	5,532	38
*Lulindi	3,760	53
Mikindani	6,218	573
*Newala	2,635	17
Tunduru	87	5
Lushoto	67	75
Mahenge	1,768	20
,, District	50	1
Morogoro	1,428	740
*Berega	7	—
Kilosa	1,061	17
Kisaki	540	384
*Kongwa	2	—
Moshi	3,221	172
,, District	1,198	163
Mwanza	1,503	1,884
,, District	—	—
Maswa	10	29
Musoma	1,314	970
Namanyere	121	64
†Ngerengere	725	—
Carried forward	67,976	12,932

YAWS AND SYPHILIS—*continued.*

	YAWS	SYPHILIS		YAWS	SYPHILIS
Brought forward ..	67,976	12,932	Brought forward ..	78,788	15,530
PANGANI	890	66	TANGA	1,558	345
Handeni	157	—	*Korogwe	675	1,118
SONGEA	1,580	113	*Kwa Mkono	17	—
TABORA	544	458	Moa	614	159
Kahama	984	487	*Mkuzi	616	—
Negezi	198	135	*Msalabani	3,263	202
Nzega	672	169	*Muheza	—	—
*Ndala	2	71	*Tongwe	157	9
Shinyanga	484	433	TUKUYU	281	36
*Sekonge & Ipole ..	11	168	Mwaya	4,695	50
*Usoke	197	218	UTETE	7,143	33
Usumbwa	5,093	280			
Carried forward ..	78,788	15,530	TOTAL	97,807	17,483

* Cases treated by the Staff of Medical Missions.
† Cases treated by S.A.S. employed by the Rosehaugh Coy.

The treatment with Bismuth Sodium Tartrate is becoming increasingly popular and patients undertake long and sometimes dangerous journeys, of their own freewill, to attend for relief. The following extract from the Senior Medical Officer's Annual Report from Mwanza is among others an eloquent example.

" 1,564 were treated. The number was somewhat less than last year, but the last three months, the numbers have increased. Most of the cases, as heretofore, have come from the islands of Ukerewe and Ukara. More and more are coming from Ukara, especially women and children, with typically secondary eruptions. Ukara must be very heavily infected, judging from the numbers attending. It is a densely populated island, and the inhabitants wear extremely scanty clothing, so there is more chance of infection than in other parts with a scattered population. Patients are now coming more as out-patients than in-patients. It says a lot for their belief in the treatment when young children and babies, to say nothing of the conservative aged, are brought in frail canoes over the stormy waters of the Speke Gulf weekly, for an injection."

The figures for the four years 1923–1926 are as follows :—

	YAWS.	SYPHILIS.
1923	3,616	2,667
1924	20,751	4,348
1925	75,638	11,829
1926	97,807	17,483
TOTALS ..	197,812	36,327

(b) Vital Statistics.

(1) GENERAL NATIVE POPULATION.

The most recent estimate of the population of the Territory is computed at 4,319,000. No reliable statistics relating to Birth, Death and Infant Mortality Rates are available at present.

(2) GENERAL EUROPEAN POPULATION.

Acknowledgment is made to the Registrar General of Births and Deaths for a return of the registered deaths, a total of 52, which are summarised as follows :—

Blackwater Fever	10	Carcinoma of Colon	1
Cerebro-Spinal Fever	1	Cirrhosis of Liver	1
,, Meningitis Pneumococcal ..	1	Drowning, accidental	1
Cerebral Hæmorrhage	2	Diphtheria	1
Cardiac Failure	5	Embolus	1
Cancer	1	Enteritis	1
Fracture, Base of Skull, accidental ..	1	Pneumonia	1

VITAL STATISTICS—*continued.*

Gunshot Wound, accidental	..	..	1
,, ,, suicidal	..	..	2
Injuries inflicted by elephant	..		2
Influenza	..	..	1
Illness unknown	..	..	1
Malaria	..	..	4
Myocarditis	..	..	1
Old Age	..	..	2
Perforation of Bowel	..	..	1
Prostatic Disease	..	..	1
Premature Birth	..	..	1
Quinsy	..	..	1
Relapsing Fever and Broncho-pneumonia	..	..	1
Sunstroke	..	..	2
Tetanus	..	..	1
Valvular Disease of Heart	..		2

Of the 10 cases of Blackwater Fever the Tanga, Usambara and Moshi areas returned 2 each; the 4 remaining cases occurred at Rungwe, Mwanza, Morogoro and Dar-es-Salaam.

(3) EUROPEAN OFFICIALS.

Deaths.—There were 4 deaths among European Officials, all of them being due to disease.

	1924	1925	1926
Malaria	1	1	—
Blackwater Fever	—	1	2
Accidental	2	—	—
Enteric	1	—	—
Myocarditis, Pericarditis, Atheroma ..	—	—	1
Phthisis	—	—	1
Double Pneumonia	—	1	—
Heart Failure supervening Appendicitis	—	1	—
Heart Failure	—	1	—
Acute Pyœmia	—	1	—
TOTAL	4	6	4

Invalidings.—16 European Officials were invalided during the year as compared with 13 and 7 during the two preceding years.

	1924	1925	1926
Malaria	1	—	—
Blackwater Fever	1	—	1
Tuberculosis (Pulmonary)	1	—	1
Neurasthenia	1	4	1
Delusional Insanity	—	1	—
Paralysis Agitans	1	—	—
V.D.H.	1	—	—
Fracture of Patella and Septic Knee Joint	1	—	—
Intra-ocular Hæmorrhage	—	1	—
Delusions	—	2	—
Injury to Leg (gunshot wound) ..	—	1	—
Tabes Dorsalis	—	1	—
Melancholia	—	1	—
Symptoms pointing to Renal Calculus	—	1	—
Chronic recurring Appendicitis ..	—	1	1
Suppurative Phlebitis	—	—	1
*Aortic Aneurion	—	—	1
Inflammation of the Appendix	—	—	1
Chronic Synovitis	—	—	1
Chronic Colitis	—	—	1
General Debility	—	—	1
Debility following Enteric and Malaria	—	—	1
Carried forward	7	13	11

* Died at Mombasa on the way to England.

	1924	1925	1926
Brought forward	7	13	11
Depressed fracture of the Orbital ..	—	—	1
Indifferent health following Typhoid ..	—	—	1
Inguinal Hernia (left)	—	—	1
Perianal Fistula	—	—	1
Cerebellar Thrombosis	—	—	1
TOTAL	7	13	16

(4) ASIATIC OFFICIALS.

Deaths.—There were 7 deaths among Asiatic Officials, all of them being due to disease.

	1924	1925	1926
Blackwater Fever	1	5	2
Pneumonia	1	1	2
Septicæmia	1	—	—
Fatty Degeneration of Heart	—	1	—
Acute General Peritonitis supervening Appendicitis	—	1	—
Tuberculous Meningitis	—	1	—
Asthma and Bronchitis	—	1	1
Cerebral Malaria	—	—	1
Typhoid Fever	—	1	—
Heart Failure	1	—	—
Pulmonary Tuberculosis	—	—	1
TOTAL	4	11	7

Invalidings.—12 Asiatic Officials were invalided during the year.

	1924	1925	1926
Malaria	1	—	—
Diabetes	1	—	—
Hemiplegia	1	—	—
Paralysis	1	—	—
Neurasthenia	1	1	—
Physically unfit	1	—	—
Syphilis	1	—	—
Blackwater Fever	—	1	—
Heart Disease	—	2	—
Pulmonary Tuberculosis	—	1	—
Chronic Bronchitis	—	—	1
Chronic Bronchitis and Emphysema ..	—	1	1
Anæmia, Debility and Chronic Bronchitis	—	1	—
Chronic Gastric Ulcer	—	1	—
Disease of Gall Bladder	—	—	1
Gastritis	—	—	1
Malaria and Relapsing Fever	—	—	1
Rheumatic Fever	—	—	1
Old age	—	—	1
Cerebral Hæmorrhage	—	—	1
Hypochendriasis	—	—	1
General Debility and Muscular Rheumatism	—	—	1
TOTAL	7	8	12

TABLE I.

SICK, INVALIDING AND DEATH RATES, EUROPEAN OFFICIALS, 1924, 1925 AND 1926.
(For the three Principal Towns and the Whole Territory.)

	Dar-es-Salaam.			Tabora.			Tanga.			Whole Territory.		
	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924c	1925	1926
1. Total number of Officials Resident ..	343	370	398	72	104	111	51	50	62	861	855	983
2. Average number Resident	232	247	268	72	57	59	51	50	62	594	618	728
3. Total number on Sick List	358	251	276	50	63	47	36	63	48	646	646	662
4. Total number of days on Sick List ..	2,795	2,156	2,148	317	418	255	229	512	347	4,584	4,750	4,980
5. Average daily number on Sick List ..	7·66	5·90	5·88	0·87	1·14	0·69	0·63	1·40	0·95	12·56	13·01	13·64
6. Percentage of Sick to average number Resident	3·30	2·39	2·19	1·21	2·00	1·16	1·24	2·80	1·53	2·11	2·10	1·87
7. Average number of days on Sick List for each Patient	7·81	8·59	7·78	6·34	6·63	5·42	6·36	8·13	7·23	7·10	7·35	7·52
8. Average Sick Time to each Resident	12·05	8·73	8·01	4·40	7·33	4·32	4·49	10·24	5·60	7·72	7·68	6·83
9. Total number Invalided	6	9	14*	—	—	—	1	2	—	7	13	16
10. Percentage of Invalidings to Total Resident	1·75	2·43	3·52	—	—	—	1·96	4·00	—	0·81	1·52	1·62
11. Total Deaths	1	1	1	1	1	—	—	1	—	4	6	4
12. Percentage of Deaths to Total Resident	0·29	0·27	0·25	1·39	0·96	—	—	2·00	—	0·46	0·70	0·40
13. Percentage of Deaths to average number Resident	0·43	0·40	0·37	1·39	1·75	—	—	2·00	—	0·67	0·97	0·54
14. Number of Cases of Sickness contracted away from Residence.	—	—	—	—	—	—	—	—	—	20	29	20

*—1 died at Mombasa en route for England.
c.—" Whole Territory," implying those Stations from which reliable returns were received, *i.e.*, Districts shown in Table XIV. in the 1924 Annual Report.

TABLE II.

Sick, Invaliding and Death Rates, Asiatic Officials, 1924, 1925 and 1926.

(For the three Principal Towns and the Whole Territory.)

	Dar-es-Salaam.			Tabora.			Tanga.			Whole Territory.		
	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926
1. Total number of Officials Resident ..	707	701	658	139	267	273	92	94	100	1,250A	1,427A	1,524A
2. Average number Resident	585	540	562	139	154	182	92	94	100	1,011A	1,037A	1,171A
3. Total number on Sick List	1,377	1,616	1,169	341	541	647	123	171	195	2,189	2,776	2,436
4. Total number of days on Sick List ..	3,239	4,939	5,845	1,420	2,015	2,712	538	1,005	1,226	7,140	10,017	12,040
5. Average daily number on Sick List ..	8·87	13·53	16·01	3·89	5·52	7·43	1·47	2·75	3·36	19·56	27·44	32·98
6. Percentage of Sick to average number Resident	1·52	2·51	2·84	2·79	3·58	4·08	1·60	2·93	3·26	1·93	2·64	2·73
7. Average number of days on Sick List for each Patient	2·35	3·06	5·00	4·16	3·72	4·19	4·37	5·88	6·29	3·26	3·60	4·94
8. Average Sick Time to each Resident..	5·54	9·15	10·40	10·22	13·08	14·90	5·84	10·69	12·26	7·06	9·66	10·28
9. Total number Invalided	3	6	10	2	—	—	1	2	1	7	8	12
10. Percentage of Invalidings to Total Resident	0·42	0·86	1·49	1·40	—	—	1·08	2·13	1·00	0·56	0·56	0·79
11. Total Deaths	2	5	4	—	5	2	1	1	—	4	11	7
12. Percentage of Deaths to Total Resident	0·28	0·71	0·59	—	1·87	0·73	1·08	1·06	—	0·32	0·77	0·46
13. Percentage of Deaths to average number Resident	0·34	0·93	0·71	—	3·25	1·10	1·08	1·06	—	0·40	1·06	0·59
14. Number of Cases of Sickness contracted away from Residence	—	—	—	—	—	—	—	—	—	11	17	8

A.—Approximate only—accurate figures not available.

TABLE III.

MORBIDITY RATES FOR MALARIA AND BLACKWATER FEVER AMONGST OFFICIALS.—DAR-ES-SALAAM.

	EUROPEAN OFFICIALS.									ASIATIC OFFICIALS.								
	Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.			Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.		
	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926
January	219	204	223	65	17	69	—	—	—	443	236	668	173	145	348	—	—	3
February	282	133	157	74	13	26	—	—	—	257	317	300	89	193	94	—	1	—
March	329	130	219	64	41	13	—	—	—	282	461	224	151	233	71	—	32	—
April	231	183	171	92	49	21	21	—	—	228	396	260	153	219	128	—	—	—
May	312	273	189	163	56	62	25	—	—	235	500	612	144	62	107	—	—	22
June	254	206	301	91	54	121	20	—	—	327	591	714	214	46	248	16	—	—
July	225	232	179	39	28	74	26	—	—	236	436	646	117	68	232	—	32	—
August	142	127	69	23	28	29	—	—	—	283	301	443	134	22	58	20	—	29
September	152	135	67	17	12	16	—	—	—	297	289	539	85	19	76	—	—	—
October	234	161	145	33	14	53	—	—	—	238	491	568	95	69	104	—	—	26
November	205	183	258	1	16	73	—	—	—	233	433	496	103	47	118	—	—	—
December..	210	222	140	43	78	16	—	—	—	180	579	457	89	177	87	—	12	8
TOTAL	2,795	2,189	2,118	705	406	573	92	—	—	3,239	5,030	5,927	1,547	1,300	1,671	36	77	88

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 28·52
Do. do. do. 1925 .. 18·55
Do. do. do. 1926 .. 27·05

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 48·87
Do. do. do. 1925 .. 27·38
Do. do. do. 1926 .. 28·19

TABLE IV.

Morbidity Rates for Malaria and Blackwater Fever amongst Officials.—Tanga.

	European Officials.									Asiatic Officials.								
	Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.			Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.		
	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926
January	16	85	28	8	26	7	—	—	—	84	160	140	31	63	89	—	—	—
February	4	41	27	4	9	—	—	—	—	89	86	112	35	53	64	—	—	1
March	18	60	4	—	33	—	—	—	—	89	91	80	32	44	23	—	—	30
April	10	41	13	10	—	—	—	—	—	48	62	56	31	59	20	—	—	—
May	31	21	9	4	4	—	—	—	—	21	23	118	9	16	73	—	—	—
June	33	42	29	—	8	10	—	—	—	61	97	134	50	40	102	—	—	—
July	30	52	61	12	—	28	—	—	—	125	71	142	40	25	66	—	—	—
August	32	55	33	1	—	4	—	—	—	33	86	106	9	34	38	—	—	—
September	4	40	34	4	—	8	—	—	—	30	52	75	18	20	31	—	—	5
October	31	15	20	—	—	7	—	—	—	25	103	94	10	34	3	—	—	25
November	16	28	29	4	17	9	—	—	—	2	52	72	2	20	15	—	—	—
December..	3	32	56	—	19	—	—	—	—	58	133	89	18	44	25	—	—	—
Total	228	512	343	47	116	73	—	—	—	665	1,016	1,218	285	452	549	—	—	61

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 20·61
Do. do. do. 1925 .. 22·65
Do. do. do. 1926 .. 21·28

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 42·86
Do. do. do. 1925 .. 44·68
Do. do. do. 1926 .. 50·08

TABLE V.

Morbidity Rates for Malaria and Blackwater Fever amongst Officials.—Tabora.

	European Officials.									Asiatic Officials.								
	Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.			Total days off duty.			Days off duty for Malaria.			Days off duty for B.W. Fever.		
	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926	1924	1925	1926
January	91	50	52	3	46	36	—	—	6	80	153	488	58	78	417	—	—	—
February	64	32	45	13	6	28	—	—	3	117	139	366	63	92	278	—	—	54
March	108	39	38	43	11	20	—	19	—	157	150	332	67	106	211	—	4	35
April	108	36	17	28	29	1	—	5	—	202	172	268	111	96	165	—	23	42
May	96	52	39	39	13	20	—	7	—	83	202	283	23	148	172	—	12	29
June	51	53	47	3	8	14	—	5	13	122	203	281	73	143	255	—	—	—
July	22	73	6	7	1	—	—	—	1	167	147	147	40	97	118	—	—	—
August	23	9	7	2	—	6	—	—	—	102	103	156	50	75	91	—	—	—
September	51	51	17	11	14	8	—	—	7	128	163	71	84	81	22	—	4	5
October	82	6	16	21	3	—	—	—	4	70	173	131	44	56	60	—	—	20
November	33	27	8	2	4	6	—	—	—	93	146	94	76	108	20	6	—	16
December..	33	14	7	14	1	—	—	—	—	104	267	60	59	162	16	14	—	—
Total	762	442	299	186	136	139	—	36	34	1,425	2,018	2,677	748	1,242	1,825	20	43	201

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 24·00
Do. do. do. 1925 .. 38·91
Do. do. do. 1926 .. 58·19

Percentage of days off duty for Malaria and Blackwater Fever to total days off duty, 1924 .. 53·89
Do. do. do. 1925 .. 61·05
Do. do. do. 1926 .. 75·68

Recommendations.

A larger staff of Medical Officers, Health Visitors, and European Sanitary Superintendents is required.

2. More Senior Medical Officers should be appointed for the purposes of local administration and supervision.

3. The improvement of water supplies, drainage generally, and particularly in connection with anti-malarial measures, are pressing needs.

4. The formation of an organisation, which has been referred to in the body of the report, for dealing with the malnutrition of the district population, should receive early attention.

5. Public Health Legislation is still pending.

6. Rat-proofing of produce stores and hide godowns, should not be unduly delayed.

HYGIENE AND SANITATION.

REPORT BY DR. A. H. OWEN, B.A. (CAMB.), M.R.C.S. (ENG.), L.R.C.P. (LOND.), D.T.M. & H. (CAMB.) ; DEPUTY DIRECTOR OF SANITARY SERVICES.

(a) General Review of Work done and Progress made.

Satisfactory progress has been made during 1926 in the Public Health organisation of the Territory though much remains to be done. It is unfortunate that it has been necessary, as a temporary measure, to withdraw the Sanitation Officers from Mwanza and Lindi ; it has been possible however to station European Sanitary Superintendents at both these ports. The increase in the staff of European Sanitary Superintendents has enabled the department to provide skilled supervision of the Sanitary labourers and anti-mosquito brigades in five additional townships, viz. Moshi, Lindi, Mwanza, Morogoro and Kigoma. These Sanitary Superintendents can also when required assist in the Public Health work at Arusha, Kilwa, Mikindani, Ujiji and Bukoba. At the more important stations of Dar-es-Salaam, Tanga and Tabora it has been possible to detail more experienced European Sanitary Superintendents to pay occasional visits of inspection to the African District Sanitary Inspectors posted for duty amongst village communities. Owing to the necessity for economy it has not been possible to bring the staff of African Native Sanitary Inspectors up to the full strength desired. 185 of these men had been trained and posted by the end of the year. Each Inspector is placed in charge of a group of villages to each of which he pays visits of inspection. His duties are to point out defects in the village sanitation to the chiefs and headmen and to advise them how these may be remedied. Reports are rendered in Swahili each month to the Sanitation or Medical Officer of the district who informs the Administrative Officer in Charge when chiefs and headmen do not see that the necessary improvements are carried out.

The training of these men is not elaborate and is mainly practical. They are taught how to construct satisfactory native dwellings ; the necessity for, and the construction of latrines and incinerators ; simple methods of improving and protecting native water supplies and the removal of mosquito breeding places. In addition they are given instruction in native dietaries particularly of infants and are trained as vaccinators.

Two factors are essential if any marked improvement in village sanitation is to result from the appointment of these inspectors. The first is the co-operation of the Native Authorities. An intelligent village chief or headman once convinced of the benefits of improved sanitation, can undoubtedly induce the villagers to comply with a simple sanitary code. In a vast Territory such as Tanganyika conditions both of village life and tribal customs vary widely. Some tribes are naturally clean and live in well built native houses, others live under the worst hygienic conditions.

The second factor necessary is adequate European supervision of the Native Inspectors. An Inspector stationed at a group of villages remote from a Township, and faced with the problem of stimulating into sanitary activity an apathetic and unprogressive community, will almost certainly become discouraged and adopt a policy of "laissez-faire" unless his area is visited at fairly frequent intervals by a European Medical Officer or Sanitary Superintendent. The Inspector himself will see that his monthly reports must give a correct account of the conditions in the villages and that an interest is being taken in his work, while the Native Authorities and local inhabitants will realise that the advice of the Native Inspector is backed by European Authority.

Further references are made to the work of the N.S.Is. under sections B and C of this Report.

(1) *Preventive Measures.*—Mosquito and insect-borne Diseases :—

29,856 cases of all types of Malaria were treated at Government Hospitals during 1926 as compared with 27,277 during 1925. As stated in previous reports no conclusion as to the incidence of Malaria can be drawn from the attendances at hospitals. 3,942 cases with 41 deaths were admitted as in-patients the figures for 1925 being 4,234 and 35. The mortality rose from ·8% to 1%. Abnormal rainfalls were experienced in several stations particularly Tabora and Dar-es-Salaam where heavy rains provided many additional potential anopheline breeding places. One large concrete drain has been constructed in the native quarter of Dar-es-Salaam by the Public Works Department at a cost of approximately £1,200. This should very considerably reduce flooding which took place periodically in this area with a consequent reduction in the mosquito breeding places. Much work to diminish the area of swampy ground within the townships has been done by the staffs of the different Health Offices. At Dar-es-Salaam considerable areas have been drained by contour drains constructed of agricultural pipes. During the 1927 rainy season observations will be made to estimate the improvement resulting from this experiment. Should the result be as successful as is expected further agricultural tile drains will be constructed with a consequent saving in the cost of labour required to clean and oil the present system of open surface drains.

Blackwater Fever.—85 cases with 19 deaths occurred during the year. Reports on these cases are rendered separately.

Sleeping Sickness.—During the year six Medical Officers have been seconded exclusively for Sleeping Sickness work. In addition the Assistant Bacteriologist has been stationed in the Musoma area and has spent a great deal of his time on the investigation of Sleeping Sickness in the Musoma Ikoma area.

No new foci of infection have been discovered during 1926 and the activities of the Sleeping Sickness staff have been mainly concentrated on the infected areas in the Tabora and Ufipa districts. The policy adopted in this enormous area, approximately 10,000 square miles in extent, has been to concentrate the population in fly free clearings. Tribal organisations have been maintained and the people still live under the control of their own chiefs. Up to the end of 1926 seven clearings had been completed extending over a total area of more than 60 square miles while two more clearings are still under construction. 7,500 square miles of fly infested forest have now been evacuated and the inhabitants numbering approximately 14,500 have been accommodated in the clearings. During 1927 the two clearings previously mentioned will be completed and a further 4,000 square miles of fly forest evacuated.

To maintain and extend these clearings it is necessary to keep the population contented otherwise they will inevitably stray back to the forest or to other areas. Their activities are at present fully occupied in cultivating foodstuffs for themselves and their families but it will be necessary to provide them with facilities for producing economic crops in the future ; this question is now being investigated by the Director of Agriculture.

The Mwanza Ikoma infected area is still under investigation. From observations made by the Assistant Bacteriologist, who himself became infected with Rhodesian Sleeping Sickness in this district, it appears probable that the disease is endemic throughout the whole of the fly infected area round Ikoma which extends in a north-easterly direction towards the Kenya border. The population in this area do not as a general rule live in intimate contact with the fly but acquire infection while travelling through fly belts and when engaged in hunting and fishing expeditions. There is little to record that is new with regard to the position in the remaining endemic areas, systematic examination of the inhabitants continues to provide a number of cases scattered throughout the fly infested area. The disease shows no signs of becoming epidemic and until the fly can be eliminated or the inhabitants removed to fly free areas sporadic cases will continue to occur.

Treatment as in previous years has been almost exclusively by Bayer 205, Fourneau 309 and Tryparsamide.

The Report of the Sleeping Sickness Officer will be found on page 85.

Yellow Fever.—No case of Yellow Fever occurred during the year.

Filariasis.—32 cases with no deaths were treated in Government hospitals, in addition 238 cases of Elephantiasis were reported. 101 of these were admitted to Hospital and four patients died.

Dengue.—73 cases of Dengue Fever were reported during 1926 as compared with 71 for 1925, 54 of these occurred at Dar-es-Salaam. The reports received from Medical Officers all stress the irritability and great depression experienced by the patients after the acute attack has subsided. The Medical Officer of Health, Dar-es-Salaam, states in his report that upwards of a thousand larvæ brought in by the mosquito finders and generally classed as Stegomyia were bred out and examined; all but five proved to be Aedes argentius.

Relapsing Fever.—227 cases were treated in Government hospitals during the year as compared with 259 during 1925, of these 173 were admitted as in-patients and six patients died.

Epidemic Diseases.

The incidence of dangerous infectious diseases throughout the Territory during 1926 was very low. A total of twenty cases of small-pox was reported from five districts, no deaths occurred. It is satisfactory that there has been no recrudescence of the severe epidemic in the Kilimanjaro area which occurred during 1925, no cases were reported from this district during the year under review.

Cerebro-spinal Meningitis showed no signs of becoming epidemic, only eight cases with four deaths were reported in the weekly telegrams three of these amongst labourers returning from the Uganda to the Belgian Congo, and who were travelling along the Tanganyika Uganda border in order to reach their homes. With the exception of six fatal cases reported from the remote district of Shirati, an endemic area situated on the Tanganyika Kenya border, no cases of plague were reported in the whole of the Territory.

Influenza, as in previous years, has been responsible by the largest number of deaths. 209 deaths were reported during the year. The number of cases is not known. Mild cases would certainly not be reported by the Native Authorities. All but four of the deaths occurred in the districts of Usambara, Rungwe and Tabora; the two former are mountainous cold districts while in Tabora, although the altitude is not

so high, bitterly cold nights occur at certain seasons. In all three districts the climatic conditions are exceedingly favourable for the production of complications, such as pneumonia, amongst an ill-clad population suffering from even a mild epidemic of Influenza. A table showing the numbers of cases of dangerous infectious diseases for the last four years follows :—

Year.	Smallpox.		Cerebro-Spinal Meningitis.		Plague.		Influenza.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1923	217	33	101	89	39	26	1,933	291
1924	30	12	2	1	42	35	—	38
1925	1,388	466	6	3	44	27	692*	64
1926	22	0	8	4	6	6	1,552*	209

* Total cases not known.

A more detailed table showing the incidence of dangerous infectious diseases throughout the different districts of the Territory follows, and also a table showing the Vaccinations performed.

TABLE SHOWING VACCINATIONS PERFORMED DURING 1926.

District.	Number Vaccinated.	Successful.	Modified.	Failed.	Not seen again.
NORTHERN AREA :					
Bukoba	2,399	150	—	450	1,799
Mwanza	3,744	785	610	823	1,526
Arusha	16,195	7,424	1,179	4,656	2,936
Usambara	8,266	4,270	1,720	1,825	451
Moshi	38,220	24,643	—	13,577	—
CENTRAL AREA :					
Tabora	55,061	15,257	9,020	4,860	25,924
Dodoma	25,648	17,098	155	2,484	5,911
Kondoa-Irangi	2,197	1,661	188	328	20
Morogoro	7,021	3,394	762	1,072	1,793
SOUTHERN AREA :					
Iringa	8,600	3,708	2,930	1,420	542
Mahenge	2,117	851	463	647	156
Songea	2,300	1,331	528	441	—
WESTERN AREA :					
Kigoma	4,044	1,550	207	282	2,005
Ufipa	5,568	2,579	902	1,967	120
Rungwe	6,439	3,184	716	1,336	1,203
COASTAL AREA :					
Tanga	1,159	2	—	—	1,157
Pangani	1,409	1,157	48	126	78
Dar-es-Salaam	213	7	—	—	206
Rufiji	4,366	2,441	701	615	609
Kilwa	7,627	4,696	88	1,316	1,527
Lindi	5,083	2,761	1,101	635	586
Mafia Island	1,802	597	19	181	1,005
Totals	209,478	99,546	21,337	39,041	49,554

Incidence of Principal Infectious Diseases during 1924, 1925 and 1926.

Compiled from telegraphic returns received weekly from Medical Stations. The figures are frequently obtained from Native information and are not always reliable.

Districts.	Small-pox.						C. S. M.						Plague.						Influenza.						Population 1921 Census.
	1924.		1925.		1926.		1924.		1925.		1926.		1924.		1925.		1926.		1924.		1925.		1926.		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Northern Area:																									
Bukoba	25	12	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	20	—	—	—	—	—	320,100
Mwanza	—	—	—	—	—	—	2	1	3	1	3	2	17	12	39	22	6	6	—	—	—	—	—	—	702,300
Arusha	—	—	3	3	—	—	—	—	—	—	—	—	17	17	5	5	—	—	—	—	—	—	—	—	97,700
Usumbara	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	484	37	*	34	107,400
Moshi	—	—	1362	461	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	158,200
Central Area:																									
Tabora	3	—	10	2	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1450*	93	502,100
Dodoma	—	—	2	—	—	—	—	—	—	—	—	—	8	6	—	—	—	—	—	—	—	—	—	—	270,900
Kondoa-Irangi ..	—	—	—	—	—	—	—	—	2	2	1	1	—	—	—	—	—	—	—	—	—	—	43	—	196,700
Morogoro	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	174,300
Southern Area:																									
Iringa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	104,800
Mahenge	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	1	—	—	74,600
Songea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48	—	—	—	—	—	148,200
Western Area:																									
Kigoma	—	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	139,500
Ufipa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	234	9	76	3	—	—	93,600
Rungwe	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	8	—	17	—	*	78	237,200
Coastal Area:																									
Tanga	—	—	1	—	4	—	—	—	—	—	1	1	—	—	—	—	—	—	—	26	—	—	—	—	86,700
Pangani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74,900
Bagamoyo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59	4	57,100
Dar-es-Salaam ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	149,100
Rufigi	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	25	—	—	—	—	—	83,200
Kilwa	2	—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	84,000
Lindi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	209	3	78	23	—	—	243,400
Mafia Island	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,000
	30	12	1388	466	22	—	2	1	6	3	8	4	42	35	44	27	6	6	544	38	692	64	1552	209	4,116,000

* Total number of cases not known.

Enteric Fever shows no signs of becoming a serious menace, 15 cases with two deaths were reported from seven stations during the year as compared with 28 cases from 11 stations during 1925.

Dysentery.—A total of 985 cases was recorded from all the hospitals in the Territory, these are classified as Amœbic 471, Bacillary 337, unclassified or other causes 177. As stated in previous reports it is probable that considerable numbers of cases of enteritis due to unsuitable diet are classified as dysentery. In the final stages of severe ankylostomiasis dysenteric symptoms are not infrequent. In areas where ankylostomiasis is common it is probable that some cases recorded as dysentery are due to this disease. The total number of cases reported in the Dar-es-Salaam hospitals, where Laboratory facilities are available for diagnosis, was 47, while the large general hospitals at Tanga and Tabora reported 24 and 15 respectively.

Tuberculosis.—365 cases of Pulmonary Tuberculosis with 64 deaths were recorded from the different hospitals during the year as compared with 350 and 62 and 316 and 65 in 1925 and 1924. The highest incidence is in the coastal towns and amongst the inhabitants of the mountainous country round Moshi and Arusha. Towards the end of 1926 a definite beginning was made in investigating tuberculosis amongst the Moshi natives. A Medical Officer has been stationed in this area who has visited a large number of villages, his investigations are as yet far from complete but much interesting information has been obtained. Dr. Davies, the Medical Officer working in this district, estimates that 4% of all serious cases of Chest complaints are tubercular, though the bacilli are difficult to demonstrate except in the worst cases whose sputum frequently teems with tubercle bacilli.

Dr. Davies classifies 154 cases of Tuberculosis examined by him as :—

Pulmonary	76	Bones	5
Laryngitis	1	Arthritis	7
Glands	64	T. B. Diathesis	1

In addition he found amongst other diseases in children 98 cases of Diarrhœa, 66 cases of Tonsillitis and 90 of Inflammation of the Ear.

In his report for December he states that in almost every case the family history is the same. An adult found suffering from pulmonary tuberculosis or one of the parents has recently died from a " bad cough." The children on examination are found to have tubercular glands or at least tonsillitis. The natives in this area live under the worst hygienic conditions; human beings, cattle and goats all occupy the same hut. The climate is cold at night and the rainfall heavy and in order to keep warm the hut is closed as far as possible.

The inhabitants expectorate freely over the mud floor while milk is kept in open receptacles for a period of a week or more. The Medical Officer states that neither he nor the Veterinary Officer of the district have found tuberculosis in the local cattle. These natives although living in such bad hygienic surroundings are intelligent, and it is hoped that very considerable improvements in the conditions under which they live will be effected in the immediate future. The question whether the surgical tuberculosis in children is caused by milk contaminated by human bacilli or whether bovine tuberculosis is responsible is of great importance, and it is hoped that during 1927 the Deputy Director of Laboratory Services and the Veterinary Pathologist will be able to visit the area to determine this question. A small hospital and a dispensary will be opened at Kibongoto as soon as possible and branch dispensaries at a later date.

With regard to the other areas of the Territory there is little to add to the comments made in the 1925 report. Two Medical Officers have tried treatment with Oscol-Stibium and Moogrol with poor results. At Dar-es-Salaam and Tanga actively infectious native cases are treated in the Infectious Diseases Hospitals as far as the accommodation available permits, eight cases were discharged during the year from the Infectious Diseases Hospital, Dar-es-Salaam, as cured. A table showing incidence of Tuberculosis at the various stations during 1924, 1925 and 1926 follows :—

TABLE SHOWING INCIDENCE OF TUBERCULOSIS AT THE VARIOUS STATIONS IN THE TERRITORY DURING 1924, 1925 AND 1926.

	1924.				1925.				1926.			
	Pulmonary.		All Forms.		Pulmonary.		All Forms.		Pulmonary.		All Forms.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Arusha	4	3	3	2	18	4	9	2	4	—	29	3
Bagamoyo	2	1	—	—	—	—	—	—	—	—	—	—
Biharamulo	—	—	—	—	—	—	—	—	—	—	1	1
Bukoba	6	2	—	—	26	—	—	—	5	2	14	—
Dar-es-Salaam :												
European Hospital ..	—	—	3	—	1	1	—	—	—	—	7	1
Sewa Hadji Hospital..	22	3	—	—	50	3	—	—	1	1	38	2
*Medical Officer of Health	2	—	—	—	—	—	—	—	—	—	11	2
*Private Practitioners ..	3	—	—	—	1	—	—	—	—	—	7	—
Dodoma	6	1	—	—	2	—	—	—	—	—	—	—
Handeni	—	—	—	—	—	—	—	—	—	—	1	—
Iringa	1	—	—	—	—	—	—	—	—	—	1	1
Kahama	1	—	—	—	—	—	—	—	—	—	—	—
Kasanga	—	—	—	—	—	—	—	—	—	—	6	—
Kasulo	—	—	—	—	—	—	—	—	1	—	3	—
Kibata	—	—	—	—	—	—	—	—	—	—	7	—
Kibaya	—	—	—	—	1	—	—	—	—	—	5	—
Kigoma	8	4	—	—	10	2	1	1	1	1	4	1
Kilosa	2	2	—	—	7	4	—	—	—	—	5	1
Kilwa..	1	1	—	—	—	—	3	—	—	—	—	—
Kisaki	—	—	—	—	—	—	—	—	—	—	—	—
Kondoa-Irangi	10	—	3	—	4	1	9	—	—	—	11	5
Lindi	—	—	—	—	—	—	—	—	1	1	11	—
Lushoto	12	—	—	—	10	2	—	—	—	—	11	3
Mafia	1	1	1	—	—	—	—	—	—	—	—	—
Mahenge	5	2	—	—	3	1	—	—	1	—	1	—
Malangali	—	—	—	—	—	—	—	—	—	—	—	—
Manyoni	—	—	—	—	—	—	—	—	—	—	1	—
Mbulu	4	—	—	—	2	2	—	—	—	—	6	3
Mikindani	3	—	—	—	1	—	—	—	—	—	2	—
Mkalama	—	—	—	—	—	—	3	—	9	—	2	—
Morogoro	18	10	1	—	21	7	—	—	2	2	45	16
Moshi..	69	2	—	—	73	5	—	—	6	1	38	6
Mpwapsa	—	—	—	—	—	—	—	—	—	—	1	—
Musoma	—	—	—	—	1	—	—	—	3	—	5	2
Mwanza	16	7	—	—	7	4	—	—	—	—	7	—
Namanyere	—	—	—	—	—	—	—	—	—	—	—	—
Nzega	—	—	—	—	—	—	—	—	—	—	—	—
Pangani	41	8	—	—	32	3	—	—	—	—	20	3
Shinyanga	3	—	—	—	2	1	4	—	4	—	1	—
Singida	—	—	—	—	—	—	1	—	13	1	1	—
Songea	6	4	—	—	9	1	—	—	2	1	9	1
Tabora	18	6	6	3	10	1	—	—	—	—	4	2
Tanga	38	8	—	—	57	20	—	—	3	—	48	11
Tukuyu	8	—	—	—	2	—	2	—	1	1	1	—
Tunduru	—	—	—	—	—	—	—	—	—	—	—	—
Ujiji	6	—	—	—	—	—	—	—	—	—	1	—
Utete..	—	—	—	—	—	—	—	—	3	1	—	—
TOTAL	316	65	17	5	350	62	32	3	60	12	365	64

* Not included in Tables V. and VI.

HELMINTHIC DISEASES.

Although no special campaign has been carried out against these diseases considerably more attention has been given to preventive measures and also to treatment. The Native Sanitary Inspectors and Tribal Dressers are taught how infection is carried and instructed to explain to the rural population how the diseases may be avoided. A circular was sent to all Medical Officers during the year pointing out the necessity of constant propaganda amongst patients and Native Authorities. The Tribal Dressers are supplied with Carbon Tetrachloride, and as the establishment of trained natives is increased it will be possible to treat considerable numbers of natives whose homes are situated at a distance from Government hospitals and dispensaries.

(2) *General Measures of Sanitation.*—These have been fully discussed in previous Annual Reports. The situation at Dar-es-Salaam with regard to sewage disposal becomes more serious each year as building activities increase. The shortage of sites for Government quarters which is mentioned in the section on Housing and Town Planning has necessitated houses being erected on low lying ground where the water table is very near the surface. Porous cesspits for these houses will certainly not act as soakage pits during the rainy season and flooding can hardly be avoided. Even with the additional facilities provided by the new mechanical cess emptier, which has been in use during the year, the Health Office finds great difficulty in providing an adequate service for the removal of cess. The ground around the older cesspits is becoming water-logged and this fact, together with the considerable building programme which will be carried out in the immediate future, makes provision of the sewerage scheme for Dar-es-Salaam an urgent question. Even when plans are available and approved and money provided a considerable period must elapse before the sewers can be constructed. The appointment of an experienced consulting Sanitary Engineer whose opinion will be authoritative should no longer be delayed. He should be required to prepare plans for a complete sewerage system for Dar-es-Salaam, it may not be possible to provide money to complete the whole scheme at one time but once the plan has been definitely approved it would be possible at least to start on the more urgent portions of the scheme. Even the construction of the outfall to the sea would probably result in some parts of the residential area being connected up without heavy expense.

The provision of two motor lorries for the removal of domestic refuse from the residential and commercial areas of Dar-es-Salaam has enabled the Health Office to provide a more satisfactory service. These lorries are fully employed dealing with domestic refuse and considerable difficulty is experienced in arranging for the removal of garden refuse, grass cuttings, bush and undergrowth. Tropical vegetation is of rapid growth and too often considerable quantities of this type of refuse have to remain for days on the roadside. Additional motor transport is lent by the Transport department when available and special gangs are then employed for the removal of this refuse. In the smaller towns ox or hand drawn carts are employed, a considerable number have been distributed from the sanitary store during the last two years. Difficulties arise in arranging for the transport of carts to Townships which are not on the sea or railway. Several types of wheels and axles, which can be sent to outstations and on which a cart can be built locally, have been obtained from England and from India during the last two years, some of these have proved unsuitable but recently supplies have been obtained which appear to be quite satisfactory.

As mentioned in previous reports the surface drainage in the towns is unsatisfactory, the earth drains require constant supervision and much labour is expended in maintaining them particularly during and after the heavy rains. Masonry drains in the larger Townships would be more economical in the end; improvements have been made during the year, particularly in Dar-es-Salaam, but much remains to be done.

Water Supplies.—The water supply at Dar-es-Salaam continues to improve. A new well with seven six-inch boreholes has been constructed, new mains laid and thirty-five more houses connected to the mains making a total of 211 receiving pipe-borne water. Additional standpipes in the native quarter, which is rapidly expanding, are urgently needed. The water supplied during the year totalled 33,485,719 gallons as against 24,284,154 during 1925. It was hoped that the appointment of a Sanitary Engineer would result in improvement in the water supplies of many of the Townships. The officer selected to fill this appointment unfortunately proved unsuitable ; he has left the Government service and the vacancy has not yet been filled.

Offensive Trades.—Considerable difficulty is experienced in convincing traders that it will be to their advantage to remove their business to the sites selected for offensive trades. Firms dealing in hides have in the past been allowed to use godowns in the commercial area and in many cases they are unwilling to incur the expense required to erect godowns on the new sites. The necessary expenditure would no doubt inconvenience the smaller trader but something must be done to alter the practice of storing seed cotton, hides, grain and other rat attracting produce in any room or shed situated in the densely populated commercial area. Legal powers exist under the Township rules to compel the removal of offensive trades to selected sites and the question whether these powers should be exercised is receiving consideration at the present time.

Sanitary Inspection.—The Townships are regularly inspected by the Sanitation Officers or Medical Officers in charge, assisted by European Sanitary Superintendents and trained African Urban Sanitary Inspectors and Mosquito searchers. The following stations have been visited by either the Director of Medical and Sanitary Services, the Deputy Director Medical Service, or the Deputy Director of Sanitary Service during the year, Tanga (twice), Pangani, Moshi (twice), Arusha (twice), Lushoto, Bukoba and Mwanza.

(3) *School Hygiene.*—Regular inspections of the pupils at Government Schools are made by Sanitation Officers, Medical Officers and Health Visitors. From the reports received it appears that the general standard of cleanliness is relatively high, and that the health of the pupils is satisfactory. Systematic instruction in hygiene is given in all Government Schools, further details will be found under Section B, " Measures taken to spread the knowledge of Hygiene and Sanitation."

(4) *Labour Conditions.*—The labour conditions throughout the Territory were fully discussed in the Annual Report for 1925, and there has been little change during the year under review. The Labour Commissioner states that there has been a marked improvement in the scale of rations on most of the estates, and that it has usually only been necessary to point out deficiencies which are then promptly remedied. It is seldom that there is any shortage of quantity in the rations issued, troubles when they do arise are due to ignorance of what constitutes a properly balanced diet.

The majority of employers recognise the fact that their labour supply depends on keeping their employees contented and in good health. The best recruiter is the satisfied native who returns from the plantation to his village and reports favourably on the conditions under which he has been living and working.

The establishment of a Labour Department with inspecting Labour Officers must result in improvements in housing and sanitation on the estates.

A commencement has been made in the provision of rest camps for labourers proceeding to and from plantations ; the erection of these camps will enable more thorough medical examinations to be made, and this should be a useful check to the spread of disease by large bodies of men travelling along the main traffic routes. Practically the whole of the organised labour employed by private individuals is engaged in agriculture, there are no factories of importance and there are no underground mines.

(5) *Housing and Town Planning.*—Fifteen meetings of the Central Town Planning and Building Committee were held during the year. The most important subject under consideration was the provision of sites for Government quarters in Dar-es-Salaam. The difficulties with regard to housing accommodation throughout the Territory were discussed in the 1925 report. A considerable building programme particularly of smaller houses has been sanctioned for the Public Works Department, and also for the Railway, but the Central Town Planning and Building Committee have found much difficulty in recommending suitable sites; practically all the Government owned ground in the residential area of Dar-es-Salaam has now been built on, and it will be necessary in the immediate future either to develop Government land on the outskirts of the Township or to purchase privately owned sites in the neighbourhood of the residential area. The new type of houses now being erected, although small, are well designed, and are a great improvement on the old German flat system.

The development of the Native Township of Dar-es-Salaam is proceeding satisfactorily, the houses are of very good native type properly spaced and aligned; the population is increasing rapidly and more ground for native occupation is urgently required.

(6) *Food in Relation to Health and Disease.*—The measures adopted to ensure inspection of foodstuffs and the control of premises, manufactories, markets, etc., were detailed in the 1925 report. Owing to the quantity of milk being brought in for sale from premises outside the Township over which the Authority had no control it was found necessary during the year to strengthen the rules applying to the sale of milk by the addition of the following words:—

> "No person shall sell or offer or expose for sale within a Township any milk which is the produce of cows kept and milked in premises outside the Township, unless such premises are approved in writing by the Authority for such purposes. Such approval may be withdrawn by the Authority if at any time it appears to the Authority that the premises have become unsuitable for such purposes."

A survey of the premises outside the Township area is being undertaken and efforts will be made to design a type of milking shed for the use of owners of milking herds. During the year under review the conditions throughout the Territory with regard to the quantity of native foodstuffs available were generally satisfactory except in the Mahenge and Lindi provinces. In the Mahenge province shortage of rainfall caused a partial failure of the harvest, but this did not endanger the food supply, although there was a scarcity in a few areas. In the Masasi sub-district of Lindi the harvest was an almost complete failure, and it was necessary to provide against famine by importing grain from other areas.

There is no doubt that even when the quantity of native foodstuffs is satisfactory the normal diet of the African native is ill-balanced, and that much of the preventable sickness both amongst children and adults is due to a faulty dietary. In some districts a new born baby is not put to the breast for at least a week, and is in the meantime fed on "uji" a form of gruel made of coarsely ground meal and water, it is not surprising that the infantile mortality during the first month of life is heavy. In December, 1925, the Director of Medical and Sanitary Services drew up a memorandum entitled "Rules for the Information of African Adults." These dealt with the health of the pregnant woman; the management of labour and the feeding and care of mother and child. The memorandum has been translated into three languages and large numbers issued to Native Authorities and Missionary Societies. In addition the African District Sanitary Inspectors have been instructed to do everything they can to bring the teaching to the notice of the villagers amongst whom they work. A further circular was sent to Provincial Commissioners and Medical Officers early in 1926, containing simple instructions as to the use of cows' and goats' milk in those cases where breast feeding is impossible owing to the death of the mother or other cause. In the section of the Annual Report for 1925, dealing with scales of diet, the Director of Medical and Sanitary Services pointed out the necessity for the provision of a better and more varied dietary for natives living in their own homes. This section of the report has been circulated to the Provincial Commissioners by the direction of the Governor, and it is hoped that considerable improvement will result.

(b) Measures taken to spread the knowledge of Hygiene and Sanitation.

Reference has been made in other sections of this Report to the work of the Native Sanitary Inspectors and Tribal Dressers. These trained natives are constantly being impressed with the necessity for explaining to the native population the reasons why improvements in sanitation will result in diminished incidence of disease. The greatest assistance to the cause of Hygiene is given by the Education Department. The following extracts from the Syllabus of Instruction show how thoroughly this work is being carried out.

SYLLABUS OF INSTRUCTION FOR ELEMENTARY VERNACULAR SCHOOLS.

Sub-Standard I.—The elements of Hygiene will be introduced during the lessons on Nature Study.

Sub-Standard II.—Talks on Hygiene will continue during Nature Study lessons.

Standard I.—Hygiene Preliminary survey. Read through "Afya" lightly. ("Afya" is a simple textbook in Kiswahili on Hygiene written by the Director of Education.)

Standard II.—Hygiene. Thorough understanding of laws of Health ("Afya").

SYLLABUS OF INSTRUCTION FOR THE VERNACULAR OR GRADE II TEACHERS' CERTIFICATE.

Hygiene. Personal and village Hygiene ; alcohol, venereal diseases, etc.

SYLLABUS OF INSTRUCTION FOR THE ENGLISH OR GRADE I TEACHERS' CERTIFICATE.

1st Year.—School Hygiene and Sanitation, care of hair, teeth, nails, feet, etc.

2nd Year.—Hygiene and Physiology—further advanced.

3rd Year.—Physiology. Hygiene and Physical Training.

4th Year.—Revision keeping in view the fact that "teachers" are being taught.

SYLLABUS OF INSTRUCTION FOR CENTRAL SCHOOLS.

1st Year or Standard III.—Hygiene. Personal Hygiene : Textbook Hygiene, Part I, by Mary G. Blacklock, or equivalent.

2nd Year or Standard IV.—Hygiene. Village Hygiene : Textbook by M. G. Blacklock, Part I.

3rd Year or Standard V.—Hygiene. Textbook by M. G. Blacklock, Part II.

4th Year or Standard VI.—Hygiene as for 3rd Year.

Somewhat similar instruction is given in the early classes in girls' schools, but in the higher classes most attention is paid to sick nursing, invalid cookery and mother-craft.

Teaching of this nature, constantly repeated, must in time result in great improvements being made in the conditions under which the pupils live in their own homes.

(c) Training of Sanitary Personnel.

Reference has already been made to the training and work of the African District Sanitary Inspectors under Section A of this Report. As was anticipated considerable differences of opinion have been expressed as to the utility of the work of these Inspectors. Medical Officers and Sanitation Officers in the more progressive areas are enthusiastic as to the good work done and the manifest improvements in village sanitation which have resulted from their teaching. In a few areas neither the Native Authorites nor the Administration have welcomed their arrival and Medical Officers have stated that a considerable time must elapse before any marked improvement can result from their teaching. This divergence of views was to be expected in a country where conditions vary so widely in different areas. Even in civilized communities the family doctor and the cottage hospital are welcomed, while the Medical Officer of Health and the Sanitary Inspector are too frequently viewed with suspicion. No one who has had experience of the African native will expect that the habits of centuries will be completely changed in a few months or even years, but at least a beginning has been made in bringing a a knowledge of elementary Hygiene to the native in his own village. The training of the African District Sanitary Inspectors has prevented any classes being held for the instruction of English speaking African Urban Sanitary Inspectors during 1926. The training of these Inspectors is much more advanced ; instruction is given in English, the more difficult points being explained in Swahili, and the course lasts from nine months to a year. Suitable candidates are not easy to obtain, but a new class has been formed early in 1927 at the Health Office, Dar-es-Salaam, which is being attended by twelve probationers. The training of the Native Sanitary Inspectors takes up much of the time of the Health Office staffs, and a great deal of instruction has to be given out of office hours, the greatest credit is due to the Sanitation Officers and their staffs who have given up much of their leisure to this work.

(d) Recommendations for Future Work.

(1) The appointment at once of a Consulting Sanitary Engineer to draw up a complete sewerage scheme for Dar-es-Salaam, which can be proceeded with as funds allow. The Engineer appointed should be of sufficient eminence in his profession that his opinions and recommendations will be accepted by the technical advisors to the Colonial Office without question.

(2) The establishment of a properly staffed medical school where, in addition to the training for hospital and dispensary personnel, more advanced training can be given to Native Sanitary Inspectors.

(3) Major anti-malarial work, improvement in water supplies, extensions of metalled roads in Townships and the provision of permanent surface water drains instead of earth channels. These improvements have been the subject of recommendations in previous reports. They are all contingent on the provision of additional staff and funds for the Public Works Department.

A. H. Owen,

Deputy Director of Sanitary Services.

REPORT OF THE MEDICAL OFFICER OF HEALTH FOR DAR-ES-SALAAM.

By

Alan McKenzie, M.B., B.S. (Lond.), L.M.S.S.A. (Eng.), D.T.M. & H. (Eng.),

Sanitation Officer.

The year 1926 has produced no event of outstanding importance in the Sanitary history of Dar-es-Salaam. Progress was made in previously established directions rather than along new lines.

The Health Office has suffered during this year from frequent changes of personnel, especially in the post of Meat and Food Inspector, an office which has been held by four different officers. An added difficulty since the departure of Mr. Humphrey has been the lack of an officer holding the Meat and Food Inspector's certificate which is most necessary for this post.

The advent of an Entomologist, at present engaged upon a survey of the mosquitoes of Dar-es-Salaam, and of a Sanitary Engineer, marked a step towards the establishment of expert advisers whose counsel will be available when technical matters are under consideration.

There has been one small outbreak of measles (*morbill*) during the year; very few of the cases were serious, and broncho-pneumonia was not common. The King's African Rifles, the Government School and the Msimbazi Mission contributed the majority of the cases.

One case of diphtheria, the first I believe reported in Dar-es-Salaam, occurred in a Goan child, the bacillus being isolated and proved virulent. Following this a large number of Goan and African children from the Catholic Schools and Indian children from the Aga Khan Schools were examined by the Director of Laboratory and the Sanitation Officer, and although cultures of what appeared to be the Klebs-Loeffler bacillus were grown in a few cases, they all proved virulent.

Two batches of African District Sanitary Inspectors were trained during the year and distributed to the various districts. During the last months of the year a tour of inspection was commenced by one of the European Sanitary Superintendents of the rural districts of Dar-es-Salaam, and it is hoped that the whole of these districts will be visited before the middle of February. So far the inspection has shown that the establishment of African District Sanitary Inspectors is of great utility, and has much improved the sanitary conditions of the smaller villages. The necessity for a regular inspection by an European Officer is apparent, as the Native Inspector needs a periodical visit in order that his past work may be assessed and his more difficult problems settled for him, otherwise, lacking support and appreciation of his work, a good man may deteriorate while a lazy one may continue along the path of least resistance to the discredit of the department.

A training class for African Urban Sanitary Inspectors has been started with an attendance of twelve.

GENERAL REVIEW OF WORK DONE DURING THE YEAR.

1. Preventative Measures.

Malaria and other mosquito borne diseases.—Anti-malaria work this year was hampered by an unprecedentedly heavy rainfall during the months of March, April and May, many large collections of water being formed where water had previously never laid for any length of time. New drains had to be cut and routine work was consequently disorganised. The new lay-out in the Native Quarter suffered severely and an earthern drain grew to colossal proportions in the space of a few days. The sandy nature of the soil in this area makes the cutting of unlined drains a work of risk as the damage done by the scour of water is sometimes very great indeed. A large masonry and concrete drain has been built by the Public Works Department to replace the old drains and to serve this area ; it should greatly improve the state of this part of the town during the on-coming rains. Another result of the heavy rainfall was a large increase in the number of seepage areas in Gerezani and Msimbazi Creek, opportunity was taken to discover the most dangerous areas and to encircle them with contour drains cut on the principle of those which have been so successful in the Malay States. As agricultural pipes were available they were used and these drains buried. A start has also been made in the piping of the drains in the Kurasini Creeks and the cost of maintenance of these drains should be considerably reduced thereby.

Owing to the allocation of a special grant, it was possible to reclaim a large area of swampy land in Gerezani, thus reducing the dangerous area in this region very considerably. Much, however, remains, and to achieve a permanently safe result the ground should be raised all over at least eighteen inches or two feet.

In August a new system of routine oiling of the town and creeks by sections at definite intervals was commenced. A mixture of Crude road oil, Kerosine and Castor Oil was used in the proportion of 4.1.1/40. This oil has proved very satisfactory and its cheapness enables areas to be treated more frequently. The results of the routine oiling as shown in the larva chart appear promising.

Experimental Work.—Early in the year experiments were performed with three proprietary brands of insecticide which were advertised as being rapidly lethal to adult culicines. The results showed that though of considerable service their use is more restricted than the manufacturers have claimed.

Paris Green.—Experiments with the use of this larvicide were carried out and though moderate success was achieved its action, except in specially selected places, was inferior to oil and the control and training of Natives in its application make its use inadvisable as a routine.

Mosquito enemies.—In Msimbazi fresh water prawns were observed to reduce the breeding of larvæ to a minimum. Further experiments are in progress.

What appears to be *Anopheles maculipalpis* were bred from larvæ during August and September. This mosquito was reported as being present in Dar-es-Salaam by Pomeroy in 1919, but has not been found since. Specimens have been sent to the Museum of Natural History, London, for confirmation.

Malaria Epidemiology.—A spleen survey of the town was undertaken area by area and it was remarkable how the splenic index decreased from the periphery of the town to the centre, showing both where danger comes from and the utility of a human screen in protecting the centre from infection.

(1) Comparative Table Showing Collections of Mosquito Larvæ Found in the Township.

	1924.	1925.	1926.
Anopheles	574	824	359
Culex	1,115	1,431	716
Stegomyia	630	1,674	1,266
Total	2,319	3,929	2,341

(2) Analysis of Findings of Mosquito Larvæ—Dar-es-Salaam Township, 1926.

Monthly Totals.

	Rainfall in inches.	Anopheline.	Culex.	Stegomyia.
January	0·074″	31	58	158
February	2·202″	26	45	114
March	3·526″	28	43	134
April	13·242″	49	114	201
May	7·329″	105	194	154
June	0·040″	55	64	64
July	0·000″	33	51	75
August	0·200″	8	43	53
September	2·126″	8	28	74
October	1·592″	12	47	113
November	5·550″	2	18	72
December	0·400″	2	11	54
Total ..	36·281″	359	716	1,266

Comments :—

Some routine oiling August and September.

Routine oiling throughout the Township from October.

Inspection and oiling Cesspits in Residential Area from November (1 Boy).

Stegomyia.—Houses are visited once weekly by Mosquito Brigade—Larvæ are in most cases small—some houses have as many as 18 vessels containing water—One house inspected was sub-let to 12 different people and contained 5 Barrels and 13 Jars. The storing of drinking water is unavoidable under present system of purchase from Stand Pipes.

The Chief Recorded Breeding Places of Anopheles were :—

	No. of collections found.		
	1924.	1925.	1926.
1. Dockyard and Kurasini : 7 Creeks containing fresh water springs	183	240	123
2. Gerezani Valley	126	192	105
3. Town (Swampy Places, Road Pools and Surface Drains within the actual Town regularly searched by a special Man)	50	123	48
4. Msimbazi Valley	123	155	28
5. Town (Casual finds by Sectional Inspectors)	92	114	55

Comparative Table of Artificial Mosquito Breeding Places.

	Anopheles.			Culex.			Stegomyia.		
	1924.	1925.	1926.	1924.	1925.	1926.	1924.	1925.	1926.
Tins	—	—	—	13	34	13	52	245	72
Jars	—	—	—	14	14	14	60	244	221
Flower pots, etc.	—	—	—	7	—	—	8	4	—
Drums and barrels	2	2	—	47	74	50	111	595	564
Roof tanks and gutters	—	—	—	3	—	1	7	4	7
Unclassified Iron containers	1	2	—	17	25	22	28	66	150
Defective structure	1	—	—	5	—	—	3	5	—
Excavations and borrow pits	4	7	—	1	13	2	—	—	5
Dhows (water containers)	—	—	—	2	11	—	85	23	3
Tanks	4	3	—	85	59	31	225	341	178
Drains	31	31	—	100	89	13	6	4	6
Pools	24	64	—	38	90	70	1	19	6
Soakagepits and cesspits	—	—	*3	103	187	121	1	12	2
Wells	8	2	1	29	22	2	5	6	1
Rubbish	—	—	—	2	7	5	4	66	50
Gully traps	—	3	—	191	172	63	—	5	—
Flushing cisterns	—	—	—	—	3	—	—	5	—

The largest number of larvæ (453) was found in May ; the smallest number (67) in December.
The greatest number (564) of Stegomyia larvæ was found in Drums and Barrels.
The greatest number (121) of Culex larvæ was found in Soakage and Cesspits.
One collection of Stegomyia was found in a tree.

* In course of construction.

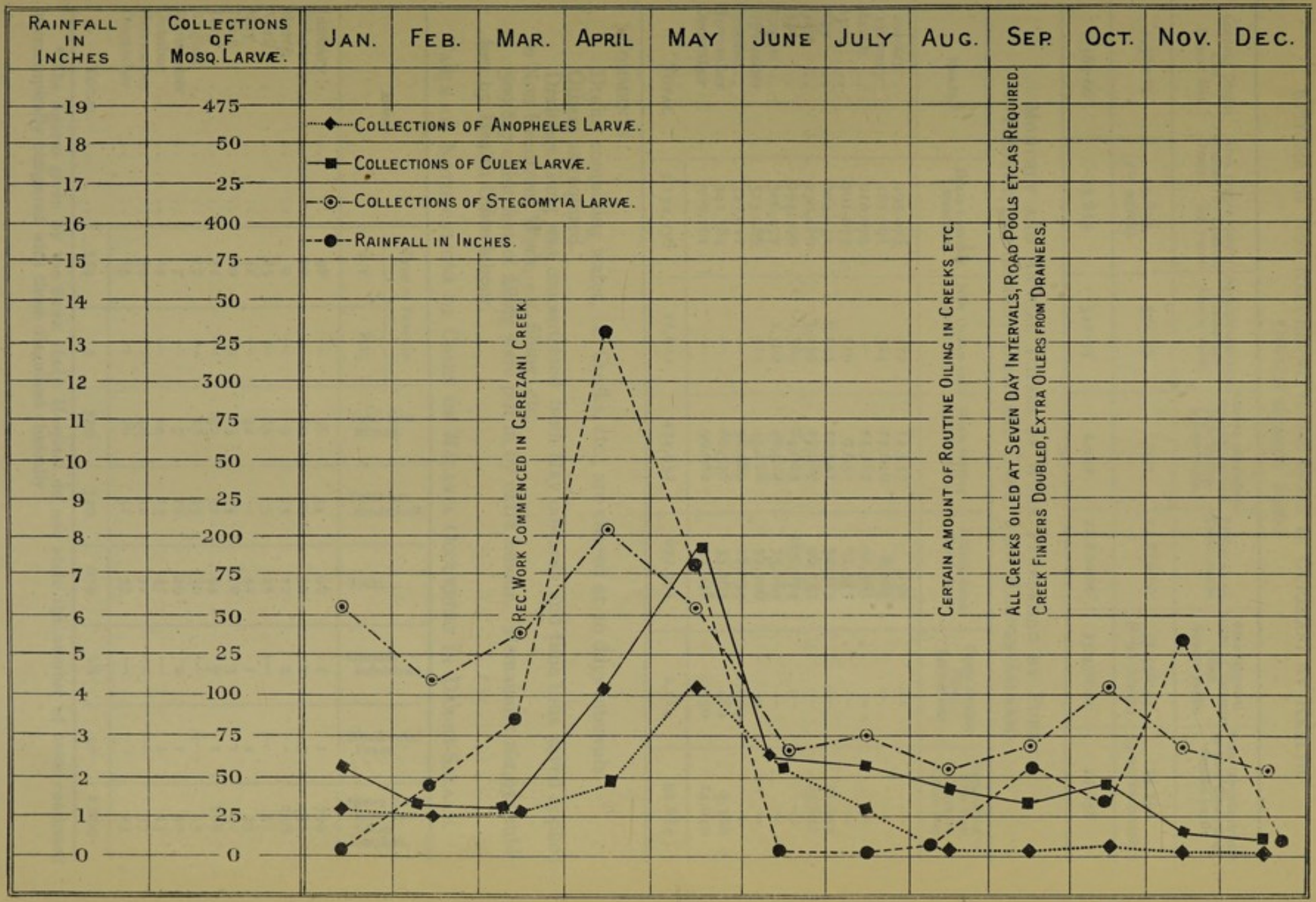
Adult Mosquitoes caught, 1926.

Anopheles	195
Culex	18,894
Stegomyia	3

The anopheles were caught in the following Buildings which are searched weekly for Adult mosquitoes :—

K.A.R. Depot	On 10	occasions.
,, New Mess (above Dockyard)	,, 6	,,
,, House No. 1 (above Gerezani Creek)	,, —	,,
,, Mess—Old (South Lines)	,, 8	,,
Gerezani Road—(House No. 2)	,, —	,,
Kichwele Street—House of Mr. Friend	,, 1	,,
,, ,, ,, ,, Mzee Hussein	,, 1	,,
,, ,, ,, ,, Fundi Mika	,, —	,,
,, ,, ,, ,, Ahmed Abed	,, 1	,,
,, ,, ,, ,, Abdalla Kilonda	,, —	,,
European Hospital	,, 3	,,
Park Road—House of Mr. Fraser	,, —	,,
Main Avenue—Dar-es-Salaam Club	,, 3	,,

Mosquito Larvæ Chart, Dsm. 1926.



Epitome of Non-Recurrent Work Done in Gerezani by Health Office during 1926.

Contour Drains Cut. Linear feet.	Area (approximate) drained by Contour Drains. Sq. yards.	Agricultural Pipe Drains laid. Linear yards.	Drains abolished by Contour and Pipe Drains. Linear yards.	Filling Done. Cubic yards.	Area (approximate) of Swamps filled. Square yards.	Area (approximate) of New Creek dug. Square yards.
1,387·66′	13,813 (2·5 acres)	521·33′	1,021	22,810·66′	33,456·44′ (6·91 acres)	14,258 (3 acres nearly)
1,387·66′	13,813	521·33′	1,021	22,810·66′	33,456·44′	14,258

Monthly and Annual Totals of Work Performed by Public Health Department Drainage Gang, 1926 (Dar-es-Salaam).

Month.	Drain Clearing. Linear feet.	New Drains cut. Linear feet.	Grass cutting. Square yards.	Filling done. Cubic feet.	Open Drains Piped. Linear feet.	Excavation of New Pool, Gerezani. Cubic feet.
January ..	195,973	312	12,537	650	—	—
February ..	181,791	324	17,626	6,884	—	—
March	210,079	—	14,287	91,365	—	—
April	201,877	519	9,637	61,533	—	—
May	224,432	6,145	10,541	52,913	—	11,032
June	230,466	1,259	29,687	96,733	—	65,652
July	274,090	2,380	84,625	125,074	—	—
August	306,277	1,362	40,524	73,689	—	—
September ..	313,286	321	45,228	72,706	—	—
October.. ..	323,922	—	38,980	18,033	1,084	—
November ..	341,384	—	80,578	35,263	480	2,160
December ..	369,161	—	90,682	37,948	550	14,040
Total ..	3,172,738	12,622	474,932	672,791	2,114	92,884

Comments:

Drains containing water, i.e. Creeks, etc., are cleared at 10 days intervals.

Others as required.

Drainage Gang was concentrated from May onwards and time thus saved applied to Non-Recurrent Work, e.g. filling, etc.

509,837 cubit feet of filling were put in by extra labour. Remainder 162,954 cubic feet by Health Office labour.

Table of Notifications of Cases of Malaria Occurring in Dar-es-Salaam.

Month.	Type of Parasite.		Total Confirmed.	Total not confirmed.	Total.	Outside Infections.	Blackwater Fever.	*Sewa Hadji Hospital. Total notified.
	S.T.	B.T.						
January	56	—	56	34	90	1	1	729
February..	10	—	10	20	30	2	3	452
March	9	—	9	13	22	2	—	256
April	23	—	23	5	28	—	—	51
May	42	—	42	—	42	1	2	45
June	60	3	63	55	118	3	1	51
July	42	—	42	52	94	7	1	108
August	17	—	17	33	50	—	—	35
September	7	—	7	22	29	2	1	30
October	24	—	24	23	47	—	1	43
November	39	1	40	32	72	—	—	37
December	25	1	26	31	57	—	—	23
Total	354	5	359	320	679	18	10	1,860

* The figures given by the Sewa Hadji Hospital do not state the number of cases confirmed microscopically compared with those diagnosed clinically.

Dengue.

As it appears to have been established by the Manila Commission that the infecting agent in Dengue is *Aedes argentius* upwards of a thousand larvæ brought in by the mosquito finders and generally classed as Stegomyia were examined and bred out. All but five proved to be the potential carriers of Dengue. The five exceptions were recognized as *Eretmopodites quinquevittatus.*

Relapsing Fever.

Five cases occurred among the scholars soon after the re-opening of the Government Central School in September. In all but one case it was shown that infection had occurred outside Dar-es-Salaam. In the fifth case the place of infection was doubtful.

Plague.

The extermination of rats has proceeded as usual and is still much hampered by the state of the Indian quarter and the large stocks of grain, etc., stored by the petty traders in all parts of their shops and living rooms. Among the rats sent to the Laboratory for examination no signs of Plague were seen.

Number of rats caught during the year :—

Rattus rattus	19,528
Rattus norvegicus	143
Total ..	19,671

Sent to Laboratory for examination 3,915

Number of boys employed is four by this Office and one K.A.R. Askari.

From 266 to 206 traps were used daily.

Total set during the year—78,986.

Smallpox.

In September cases of Smallpox were reported from Zanzibar. In December it was reported that a case had been introduced into Mafia Island. Steps were immediately taken to deal with the case and to vaccinate the inhabitants there.

At present there is much doubt as to whether this case was true Smallpox or not. No fresh cases occurred and upwards of 2,000 people were vaccinated in Mafia.

Towards the end of the month of December cases were reported from Shungu-Mbweni on the main land, the outbreak is being dealt with. Vaccination has been carried on in the Town and K.A.R. Lines as usual.

Statement of Vaccinations Performed by the Health Office during 1926.

Month.	No. of Persons Vaccinated.	No. of Persons inspected a second time.	No. of Persons *not* inspected a second time.	No. of *successful* Vaccinations from those seen a second time	No. of modified results of those seen again.	No. of unsuccessful results of those seen again.	Percentage of Successes from those seen again.	Remarks.
January ..	77	24	53	16	—	8	66%	The apparent small figure of those who are seen again is due to the fact that most of those vaccinated are from dhows or leaving the town for some distant destination.
February ..	41	7	34	6	—	1	86%	
March	12	3	9	3	—	—	100%	
April	42	—	42	—	—	—	—	
May	55	18	37	3	—	15	33·3%	
June	144	12	132	4	—	8	40%	
July	72	5	67	2	—	3	60·3%	
August.. ..	153	15	138	9	—	6	100%	
September ..	142	6	136	6	—	—	100%	
October ..	152	3	149	3	—	—	100%	
November ..	81	2	79	2	—	—	100%	
December ..	50	1	49	1	—	—	100%	

Tuberculosis.

A number of cases continued to be treated at the Infectious Diseases Hospital. Early in the year the effect of Moogrol in Pulmonary Tuberculosis was tried, but it proved to be of little utility. Under general treatment, eight cases have recovered and been discharged as cured.

Tuberculosis in 1926.

1. Notified by the Medical Officer in Charge, European Hospital	7
2. Notified by the Medical Officer in Charge, Sewa Hadji Hospital	26
3. Notified by the Sanitation Officer	11
4. Notified by outside practitioners	7
Total notified	51
Admitted to the Infectious Diseases Hospital	21

No. of deaths from Pulmonary Tuberculosis :—

	European.	Asiatic.	African.	Total.
Certified	—	7	17	24
Notified	—	1	2	3
Total	—	8	19	27

Beri-Beri.

Four cases of Beri-Beri occurred among the boarders and resident native teachers at the Government School, Dar-es-Salaam. The scale of diet has been revised and there should be no fear of a further outbreak.

Ankylostomiasis.

Some treatment has been carried on in the Town and in the small villages outside with Carbon Tetrachloride and has proved popular. The drainage gang employed at the Health Office were treated and their improved conditions and capacity for work were most noticeable.

Schistosomiasis.

This disease is quite common among all classes of Africans. Attempts to discover the site of infection and the snails responsible have so far proved unsuccessful.

Leprosy.

The practice of treating all suitable cases of Leprosy at the Infectious Diseases Hospital and the segregation of the apparently hopeless ones at Nunge has continued. In treatment Moogrol has been used most exclusively but latterly Hydnocarpus Ester has also been used on a selected series of cases. It is, however, too early yet to be able to report upon the comparative merits of the two drugs.

Sixteen people were released from the Infectious Diseases Hospital on parole during the year.

Two previously released cases returned with active signs of disease. One who had originally been a nerve case and apparently cured relapsed again as a nodular infection.

Leprosy Figures for 1926.

N.

Type of Leprosy as classified by R. Muir.	A.1.	A.2.	B.1.	B.2.	B.3.
	37	36	6	5	2

Nunge Leprosy Settlement 1926.

Remaining from 1925	71
Admitted during 1926	35
Remaining December 31st, 1926	88
Discharged as cured	—
Number absconded	12
Died	6

Infectious Diseases Hospital.

There is urgent need for increased and better accommodation especially for patients suffering from Pulmonary Tuberculosis. As time goes on it may be expected that more patients will be admitted and the overcrowding of Phthisical subjects cannot be contemplated. Better facilities are needed for the treatment of Goan and Indian patients. It is next to impossible to admit patients of these races to this Hospital, and as usually the Steamship Companies refuse to carry them, and as the Government cannot compel, the situation at times proves very difficult.

The need for a fence around the Hospital is evident from the number who have escaped during the year.

Nunge Leprosy Camp.

The buildings here are in a very dilapidated condition and the erection of more permanent housing is urged. The water supply is still very unsatisfactory. A well has been bored near the Settlement, but the yield of water was so small and the labour involved so great that to those who are not in complete health the effort required to obtain water is prohibitive.

Statement of Cases of Infectious Diseases Admitted to the Infectious Diseases Hospital.

Disease.	No. remaining from 1925.	No. admitted during 1926.	Total No. treated during 1926.	Total No. remaining at the end of 1926.	Total No. discharged as cured during 1926.	Total No. who absconded during 1926.	Total No. of deaths during 1926.	Remarks.
Beri-Beri	—	—	—	—	—	—	—	4 cases reported by the Sanitation Officer from the Government Central School. Treated outside.
Chickenpox.. ..	—	18	18	—	18	—	—	—
Diphtheria	—	—	—	—	—	—	—	1 case reported by the Medical Officer in Charge, European Hospital.
Leprosy	13	86	36	37	16	17	3	26 cases transferred to the Leprosy Settlement, Nunge, during 1926.
Measles	—	91	91	16	74	—	1	—
Mumps	1	—	1	—	1	—	—	—
Relapsing Fever ..	—	5	5	—	5	—	—	—
Sleeping Sickness ..	—	—	—	—	—	—	—	1 case reported by the Medical Officer in Charge, European Hospital.
Tuberculosis ..	6	20	26	2	7	8	9	1 case admitted as Tuberculosis but diagnosis was changed Ankylostomiasis infection.
Typhoid	—	—	—	—	—	—	—	1 case reported by the Medical Officer in Charge, European Hospital. 1 case reported by the Medical Officer in Charge, Sewa Hadji Hospital.

GENERAL MEASURES OF SANITATION.

Public Latrines.

A new water flushed public latrine, which is now in use, has been erected at the European Hospital to take the place of the old one (now removed) near the 4th tee on the golf course. The building to contain the new latrine near the Old Market has been completed, but the fittings have not yet arrived from England.

The public latrine near the New Market has given much trouble during this year, usually on account of the drains becoming choked with solid fæces or other objects carelessly thrown in. The flushing cistern on the men's side has proved insufficient in size, but it is hoped that when augmented, a great deal of blocking of drains will be prevented. The second absorption pit constructed in 1925 is proving inadequate; so far pumping out cess has sufficed to prevent any serious nuisance, but the quantity that it is necessary to remove is daily increasing and the necessity for subsoil irrigation may occur very soon.

The public latrine at the Pombe Market has proved inadequate and an extension is in course of erection.

The old public latrine in Smuts Street has been abolished, as the ground was required for building.

Sewage Disposal.

A new Vacuum Cess Lorry and gully cleanser arrived in June, and has done good work since. Owing, however, to its weight, and the fact that many of the sanitary lanes are not metalled it is not available for a large number of cesspits not situated near a main road. The number of loads of cess removed by this lorry was 1,326, corresponding to 530,400 gallons of cess. The old Daimler lorries removed between them 3,417 equivalent to 854,250 gallons. Much trouble was experienced with the two latter, as mechanical defects were of constant occurrence, and since August the two lorries have only been on duty together for a period of 10 days.

Even with the increased cess lorry emptying facilities, it is not possible to keep all the cesspits in a satisfactory condition; old cesspits which were able to soak away their own cess without help now appear to be choked and the ground around incapable of absorbing more, those which had to be emptied previously now need attention at more frequent intervals, the result being that the demands on the cess lorries are more than they can fulfil. Thus during the year 1925, 54 cesspits required emptying; this year the number rose to 75 which required to be mechanically emptied, and five which have to be emptied by hand. New cesspits which have been constructed during the year have, before being connected up to the drainage of the house they are to serve, been filled up very close to the surface of the ground by the subsoil water, and this too even in the driest portions of the year. It seems certain that these cesspits will require mechanical emptying very soon otherwise they will overflow and drains will be blocked, and a very offensive state of affairs occur.

With the large number of new houses that are being constructed, the cesspit system is becoming more and more unsuitable and the necessity for the laying down of a sewerage scheme more apparent day by day.

Refuse Disposal.

The Health Office has received this year a new covered dust cart with a Tipping device mounted on a two ton Albion chassis which has been detailed to collect household rubbish in the European and Commercial quarters. An additional lorry with raised sides has also been allocated for removal of grass cuttings, etc. These are both doing good work. Incineration is proceeding at the old Amani Street Swamp, and a large area is now completely filled with the slag from the fires.

Water Supply.

See page 33.

House Drainage.

The previous policy of the Health Office has been continued, namely to persuade all owners of the well built houses in Zone I and II to recondition all faulty drainage. Where a nuisance exists as a result of a defective or antiquated system of drainage and complaints are received, pressure is brought to bear upon the owner when he appears disinclined to put in hand the necessary works.

Offensive Trades.

The offensive trade site has been laid out, and some of the Railway sidings are now in existence. Owners of the Offensive Factories and Godowns have all received notices to move to those plots at periods ranging from March 31st of 1927 to October 1927.

Sanitary Inspection.

The Sanitation Officer makes three regular rounds of inspection each week—one dealing chiefly with building and land questions, one in connection with meat and food inspection, and one with house drainage and rubbish disposal.

REPORT ON THE GOVERNMENT CENTRAL SCHOOL, DAR-ES-SALAAM.

By Dr. W. J. Aitken, M.B., Ch.B. (Glas.), D.T.M. & D.T.H. (Liv.).

The conditions of health among the pupils in the School are generally satisfactory. The outbreak of measles during the latter half of the year affected the School, but no serious cases occurred, all making an uneventful recovery. The outbreak of Beri-Beri in the early part of the year was quickly controlled and the new scale of diet should prevent any further occurrence. Bilharzia is not rare among the boys who are sent to the Sewa Hadji Hospital for treatment. A few boys have been affected by Yaws; the majority of the ailments are of a minor nature.

The cleanliness of the pupils' bodies is, upon the whole, good, although there is—yet room for improvement. At least one class is inspected each day for dental disorders and scabies, etc., and it is not uncommon to pick out two with scabies each day. The card index system is continued and the boarders are weighed each week, and are watched by the Medical Officer.

A dental survey of the whole school was performed by Mr. Newton, the Government Dentist in July, and the worst cases sent for conservative treatment.

Difficulty still continues because of the lack of space allotted to the School Clinic. Two inspection rooms were allotted to the Medical staff, but these have recently been acquired by the Educational staff to the inconvenience of the Health Visitor. The cesspit continues to give trouble, as it requires emptying so frequently, and a bad odour often arises therefrom, otherwise the sanitary arrangements are good. The new latrine accommodation should be installed forthwith.

Summary of Children's Ailments Treated.

Number of Patients	3,743
„ „ Attendances	19,777
„ sent to Sewa Hadji Hospital	57
„ „ „ Infectious Diseases Hospital—Measles	12
„ „ „ „ „ „ Relapsing Fever	2
„ „ „ the Dentist	51
Number with Ulcers and Septic Sores	629
„ „ Ringworm	356
„ „ Scabies	332
„ „ Coughs and Colds	537

SUMMARY OF CHILDREN'S AILMENTS TREATED—*continued.*

Number with Malaria	68
,, ,, Fevers	344
,, ,, Impetigo	128
,, ,, "Mba"	77
,, ,, Jiggers	98
,, ,, Injuries	238
,, ,, Colic and Constipation	239
,, ,, Eyes various conditions	91
,, ,, Sore Throats	19
,, ,, Discharging Ears	54
,, ,, Yaws	15
,, ,, Venereal Disease..	3
,, ,, Ankylostomiasis	29
,, ,, Bilharzia	27
,, ,, Abscesses	6
,, of specimens sent to Laboratory	310

GOVERNMENT CENTRAL SCHOOL.

Number of residents including Boarders, Teachers and Native Staff is 34.

DAILY ATTENDANCE, 1926.

Month.	Roll.	Average attendance.
January	277	228
February	274	237
March	275	234
April	271	219
May	288	238
June	275	235
July	307	264
August	282	253
September	295	256
October	436	279
November	374	312
December	372	339

HOUSING AND TOWN PLANNING.

Number of meetings of the Dar-es-Salaam Township Authority	53
,, ,, ,, ,, ,, Dar-es-Salaam District Town Planning and Building Committee	18
,, ,, plans approved by the Township Authority (of which 23 were for shops at the Trading plots around the New Market)	132
,, ,, dwelling houses (of stone) completed and occupied	10
,, ,, Government houses erected and occupied (including 2 houses for the Railway)	11
,, ,, shops in the Trading area completed and occupied	10
,, ,, permits for new "choos" to be dug	530

The amount of new building in progress in all Zones is on the increase and the standard appears in general to be improving although on account of the increase in building costs it is difficult to persuade builders to reach the standard required by the Township Authority.

Much difficulty is found especially with regard to owner builders in impressing upon them the necessity of adhering exactly to the plans as approved. Deviations often of considerable magnitude are only discovered after the work is in progress. The detection of these deviations often made at instance of cheapness in construction and to the prejudice of the safety of the building makes a large toll upon the time of the Building Inspector.

The number of stone shops erected and in the course of erection about the New Market is large and on the whole they are well built though owing to the increased cost of construction the standard is tending to fall. It is not possible to erect buildings which can be approved by the Township Authority within the cost as laid down by the Land Officer in the terms of the lease of these plots and to approximate as closely as possible, poor material is often used.

The re-numbering of the Native area has been commenced and is in progress. Owing to the lack of a complete survey it is not possible to proceed other than slowly as the numbering has necessarily to wait for the survey, which is still very far from complete.

The number of plots available in the Native Town is growing more inadequate every day. It is imperative that a further piece of land which can support at least 500 plots should be allocated and laid out without delay.

FOOD IN RELATION TO HEALTH AND DISEASE.

The work of this department of the Health Office has been seriously held up this year on account of the frequent changes of personnel and because it has been necessary to combine it with the care of stores and the supervision of repair work in the Health Office yard. Consequently, especially in regard to the milk services of this town, it has not been possible to achieve the progress that was hoped for earlier in the year.

Regular inspection of markets, shops, eating houses and bakeries is carried on, and progress in the installation of cleanliness has been made.

Milk.

The new milk room at the Old Market has proved popular, and is the only place where those who are not able to afford suitable premises of their own are permitted to sell milk.

An effort has been made to abolish the old insanitary milk kettle, and to substitute a more modern type of can which is provided with a tap and can be locked. This has been well received by milk vendors who realise that its use saves them from adulteration or other tampering by their servants.

The provision of the Township Rules relating to dairies have been extended to include those situated without the Township boundaries which supply milk for consumption in Dar-es-Salaam, accordingly a survey of the dairies outside the Township is in progress, and it is hoped to draw up a standard type of milking room which shall be as inexpensive as is compatible with hygienic conditions.

Soda Water Factories.

One new Soda Water Factory has been licensed during the year. All factories have now installed mechanical washing machines which are a great improvement on the old hand methods.

Eating Houses.

The small *eating rooms* at the Old Market were opened in May. They do not appear to be very successful from the business point of view, and many proprietors complain that they cannot pay their way.

A renewal of licence for one Indian eating house was refused until the sanitary arrangements had been reconstructed. It was necessary to bring the matter to court before the requisite work was performed.

The general condition of Non-European eating houses throughout the Town is fair. Frequent inspections compel cleanliness, but the sanitary arrangements of the majority leave much to be desired.

Pombe Market.

The new Pombe Market was opened in May this year, and all the small pombe shops closed. It has proved a success, in that practically no hidden drinking now goes on. The size of the kitchens is inadequate, and an allocation for their extension has been requested. The profits made here by the sale of pombe appear large, and if it should ever be taken over by the Government it would prove a useful source of revenue.

Samples of Foodstuffs Submitted to the Laboratory for Analysis.

Number of samples sent to Laboratory :—

Milk	136
Soda Water	18
Syrups	9
Filtered Water..	3
Total ..	166

Twelve samples of milk were taken this year which were not up to standard. Seven dealers were prosecuted and convictions obtained in all but one case. Nine prosecutions for carrying on businesses connected with the sale of milk without the necessary permit were brought this year and a conviction and fine obtained in each case. The average of 120 samples of milk taken during the year was :—

Specific Gravity.	Total Solids.	Fatty Solids.	Solids non-fatty.
1031·6	13·13%	4·19%	8·94%

During the year 199 lots of foodstuffs were condemned and destroyed. All were voluntarily surrendered.

PORT HEALTH WORK AND ADMINISTRATION.

By Dr. Aitken, M.B., Ch.B. (Glas.), D.T.M., D.T.H. (Liv.).

No case of infectious disease arrived on board any ship calling at the port of Dar-es-Salaam. The Messageries Maritimes vessel " Aviateur Roland Garros " was declared an infected ship during the month of August owing to a death from plague occurring on shipboard. The steamer was " Claytonised " and resumed calling. The new method of giving " pratique " before the actual inspection of passengers continues to work smoothly ; the advent of a medical inspection room on shore will greatly facilitate the Port Health Officer's work, especially in regard to the weekly Zanzibar boat.

No cases of infectious diseases were found on dhows ; the unvaccinated members of the crews were all vaccinated.

An outbreak of Smallpox in Zanzibar at the latter end of the year necessitated the quarantine of vessels entering that port and that they should be worked by vaccinated labour. The Zanzibar Authorities vaccinated every person leaving or entering the island and gave certificates, thereby obviating the necessity for quarantining vessels entering Dar-es-Salaam. The Health Officer in Dar-es-Salaam vaccinated and certified all persons proceeding to Zanzibar.

Various ports in Madagascar were declared infected with plague during the year, but no cases were recorded on ships. Durban had an outbreak of Smallpox, but ships entering that port were not quarantined.

Number of steamers entering the port during 1926 361
,, ,, dhows ,, ,, ,, ,, ,, ... 974

Number of immigrants who arrived during 1926 :—

	European.	Asiatic.	Total.
Male	409	629	1,038
Female	119	99	218
TOTAL ..	528	728	1,256

MATERNITY AND CHILD WELFARE.

By Dr. Aitken.

This branch of the work continues to work smoothly. Miss Allardes carried on until September when she departed on leave, her place being taken by Miss Donald. Although the number of in-patients has been small, it is greater than in the previous year. Normal confinements are rare as Native women endeavour to manage their own confinements unless a complication occurs; the case is often then sent in too late. The out-patients seen daily are numerous, but again difficulty is experienced in getting the women and children to return for further treatment; this is especially the case with fevers, as they say they feel better after one dose of medicine and see therefore no reason to return. Chest conditions among young babies are common, and no attempt seems to be made by the mothers to combat them by the simplest of common-sense methods.

The Sister-in-charge endeavours to visit all babies born in the district, but these visits are few owing to birth notification being still far too rare.

The following duties are also carried out by the Sister :—

Daily visit to the Infectious Diseases Hospital.
Daily visit to the Government Central School (excepting Saturdays and Sundays).
Bi-weekly visits to the K.A.R. Lines.
Weekly visits to the Police Lines.
Supervision of vaccination of women and children.
Home visiting of maternity cases and school children where necessary.

House visiting is in many ways unsatisfactory as the sick are kept well out of sight, although the healthy seem glad to see the Sister and volunteer any information about themselves but *not* about the sick.

A certain amount of treatment of cases of Ankylostomiasis has been carried on and has proved very attractive to all classes, many coming up from their shambas to visit the Clinic.

The difficulty of training mothers in the proper care of new-born children is extreme. The native woman is very reluctant to keep the child at the breast for a proper period. It is not an uncommon occurrence for a child whose age is numbered in days to be stuffed with " uji " and other native foods. Regular breast or artificial feeding is of course entirely unknown.

Summary of In-Patients for 1926.

Number of confinements admitted	14
Other cases	12
Total in-patients	26
Number of children born	14
„ „ „ still-born and died in the Clinic	7

Six only of these confinements were normal, and most were brought in labour. Includes four abortions and one retained placenta, a case of ankylostomiasis of unusual severity and seven malaria and one case of pneumonia in women before term.

Maternity Clinic Out-Patients.

	Mothers.	Children.	Total.
Number of Patients	913	1,827	2,740
Attendances	2,069	6,209	8,278
Number sent to Hospital	—	—	62
Specimens sent to Laboratory	—	—	211
Number with Scabies	—	—	373
„ „ Fevers	—	—	258
„ „ Coughs and Colds	—	—	411
„ „ Eyes various conditions	—	—	622
„ „ Otorrhœa and other condition	—	—	51
„ „ Ankylostomiasis	—	—	117
„ „ Colic and Constipation	—	—	189
„ „ Ringworm	—	—	29
„ „ Ulcers and Septic Sores	—	—	237
„ „ Injuries	—	—	69
„ „ Venereal Disease	—	—	22
„ „ Yaws	—	—	39
„ „ Malaria	—	—	80
Vaccinations in K.A.R. Lines, Police Lines and Clinic	—	—	582

An average of 140 native houses were visited each month.

RAINFALL FOR THE YEAR 1926 (As recorded at the Health Office Gauge).

Month.	Total fall for the month.	Highest fall on one day.	Date of highest fall.	No. of days on which rain fell.	Total fallen to date at end of month.
January	0·074″	0·044″	15th	2 (+6s)	0·074″
February	2·202″	1·800″	23rd	4 (+2s)	2·276″
March	3·526″	0·900″	28th	8 (+7s)	5·802″
April	13·242″	2·750″	26th	13 (+10s)	19·044″
May	7·329″	2·650″	4th	8 (+5s)	26·373″
June	0·040″	0·030″	9th	2 (+3s)	26·413″
July	0·000″	?	23rd	— (+2s)	26·413″
August	0·200″	0·150″	12th	2 (+6s)	26·613″
September	2·126″	1·012″	24th	5 (+6s)	28·739″
October	1·592″	0·500″	12th	8 (+4s)	30·331″
November	5·550″	2·220″	1st	7 (+2s)	35·881″
December	0·400″	0·400″	6th	1 (+6s)	36·281″
Total	36·281″	—	—	60 (+59)	36·281″

SANITATION OF DAR-ES-SALAAM RURAL DISTRICT.

During the past year visits have been made to Ruvu by the Medical Officer of Health and Assistant Medical Officer of Health, and an extensive " safari " was undertaken by Mr. Rowe, Sanitary Superintendent, which covered a large proportion of this district.

On these visits the villages have been thoroughly inspected and the work of the African District Sanitary Inspectors assessed. Unfortunately it is not possible to compare the present condition (the African District Sanitary Inspectors have been in charge of their districts now for about eighteen months) with that which existed before their arrival, as there has not previously been a sanitary survey of the area ; however, from reports by Europeans who have lived near some of the native villages both before and after the advent of the African District Sanitary Inspectors it appears that in most places they have effected considerable improvements. In other places the reports received have not been so much to the credit of the Inspector concerned, and it has been possible to appreciate in some measure the causes which contribute to his failure to produce an adequate standard of sanitation in his district.

Personality of course counts most and but few Africans are capable of the sustained effort of teaching sanitation to an indifferent and unwilling people when left alone with their work, unknown except by the monthly report they furnish. Lack of backing from the local Jumbes and Akidas appears to be the next cause. The African District Sanitary Inspector is warned during his course that he is on no account to give orders, that his duty is to instruct only and that where his advice is not carried out, and in his opinion and according to what he has been taught, unhealthy conditions may result, he is to report the matter to the local representatives of the Administration, usually a Jumbe or Akida who will himself put pressure on the offenders. Unfortunately it is a frequent complaint that little or no support is given by these officers and that it is impossible to get the most necessary things done. Under these circumstances it is understandable that the keenness of the African District Sanitary Inspector wanes rapidly, and he confines his attention to the cleaner villages in his district and neglects those which are dirty where if he attempted any radical work he would become unpopular.

Other factors such as the sluggishness of the people can only be affected by constant teaching backed up by the Authority of the Administration where it is necessary to call offenders to book.

That the District Sanitary service should become as efficient as possible, I consider that a regular visit by a European Officer to all or part of each man's district should be paid each quarter or six months, thus the African District Sanitary Inspectors will feel that their work is being watched and both their virtues and faults are known to their superiors. In many matters too, they need the guidance of a European where anything occurs a little out of the ordinary. The training given to the boys is of course general and its adaption to local circumstances, if left entirely to the Inspector, may not always prove successful.

Next, it is necessary that the Administration encourage the Jumbes and Akidas to support by every means the work of the Inspectors. At present there seems to be a great reluctance to bring pressure to bear upon offenders, and though of course education is vastly preferable to compulsion yet in the initiation of a programme of sanitary reform it is impossible to proceed except by steps of heart-breaking slowness unless, in addition to the hypothetical dangers prophesied by the African District Sanitary Inspector, there is added some brisker and more obvious punishment for those who flout its teachings.

It is hoped that the establishment of Native Authorities will do much to solve the latter part of the problem.

REPORT ON THE HEALTH OF TANGA FOR THE YEAR 1926.

By Dr. R. Mackay, M.B., Ch.B. (Aberd.), Sanitation Officer, Tanga.

(a) General Review of Work done and Progress made.

(1) Preventive Measures.

Anti-Mosquito Work.

The figures for 1926 are lower than those for 1925—they are as follows :—

Number of Inspections :—	1925.	1926.
Houses and Compounds	133,546	107,521
Drains	17,193	23,164
Pits	131,886	177,165
Wells and Waterholes	21,418	16,935
Tanks and Barrels	261,623	234,091

Collection of larvae (Mosquitoes) are :—

1924	3,664
1925	4,022
1926	3,936

The Mosquito Indices $\left(\frac{\text{collection} \times 100}{\text{Inspections}}\right)$ for the last three years are :—

1924	5·6	(Average)
1925	3·0	Do.
1926	3·7	Do.

Analysis of collections for 1926 :—

	Culex.	Steg.	Anoph.	Megh.	Total.
In household receptacles	796	1,101	28	8	1,933
In casual water	661	528	50	9	1,248
In wells	445	73	27	3	548
In pits	182	23	—	2	207
	2,084	1,725	105	22	3,936

The percentage rate works out as follows :—

Culex	52·94%
Stegomyia	43·86%
Anopheline	2·60%
Megarhinus	·60%

The rainfall for 1926 shows a curve which is somewhat above the normal curve for March but considerably lower than the normal for May. The curve, on the whole, approximates the normal rather than that of last year and the Mosquito-index curve for 1926 is thus more regular (with the maximum in May) than the corresponding index for 1925.

Malaria.

The incidence of Malaria amongst Europeans as treated at the Hospital shows a lower figure than that of last year. The Malaria figure for Non-Europeans is, however, higher. The following is a comparison of the last three years :—

	1924	1925	1926
Europeans	34	50	40
Non-Europeans	762	1,210	1,622

There were three cases of Blackwater Fever in Natives and four in Europeans during the year.

Smallpox.

On the 17th of April a case of Smallpox was admitted to Tanga Hospital. He came from Moshi. There were no other cases. He was treated in the Infectious Diseases Hospital and made a complete recovery. The incidence of Smallpox is thus the same as last year, and the index has practically followed a straight line from the last three years.

The difference in the incidence of Smallpox between the periods 1920 to 1923 and 1924 to 1926 is striking. The figures are as follows :—

	1920	1921	1922	1923	1924	1925	1926
Cases	1,823	412	82	81	—	1	1
Deaths	752	136	16	16	—	—	—

Ankylostomiasis.

The returns of Ankylostomiasis (Hospital) for the year show a higher figure than those of last year, the total number treated being 1,284 as compared with 1,176 in 1925.

Treatment of Ankylostomiasis by Carbon Tetrachloride has been carried out in the district from time to time. The drug is given to cases suspected of Ankylostomiasis, i.e. those with anæmia and asthenia; no attempt is made to withold the drug from any number of the community whose symptoms may be those of the disease. Treatment is not confined to cases diagnosed microscopically. The Compounder attached to this Office has been engaged on this work for the latter part of the year but sufficient data is not available to judge of its results.

The importance of Ankylostomiasis as a menace to the welfare of the community was impressed on the African District Sanitary Inspectors in training here, and it is hoped that these measures, to bring the seriousness of the disease home to the native, will help in the campaign against Ankylostomiasis. Some figures of the incidence and percentages of deaths of the disease in the last two years are quoted for purposes of comparison :—

	1925	1926
Number of cases	1,176	1,284
Number of deaths	28	42
Percentage of total cases	8	6·9
Percentage of total deaths	35	62

The returns of Ankylostomiasis Mortality as submitted by the Akidas in the district are less reliable than the previous figures. They are quoted below for purpose of comparison with previous years only.

	1924	1925	1926
Deaths attributed to Ankylostomiasis	241	149	176
Percentage of total deaths due to Ankylostomiasis	21	15	20
Death rate per 1,000 due to Ankylostomiasis	2·8	1·7	2·5

Schistosomiasis.

The number of cases of Schistosomiasis treated in the Native Hospital during the year is 149 as compared with 100 cases in 1925.

The number of Schistosomiasis cases treated in the Government School is 17. The numbers for the two preceding years were 49 (1925) and 27 (1924).

Beri-Beri.

The failure of the crops of 1925 was not repeated in 1926 and the incidence of deficiency diseases is much lower as the result ; 9 cases only (Beri-Beri) having been treated during the year. The number treated in 1925 was 38. No cases of the disease were met with in School children during the year.

Tetanus.

Three cases of Tetanus occurred during the year ; two were fatal.

Yaws.

1,560 cases of Yaws were treated at the Native Hospital during the year. The number admitted is 39, 38 of which were discharged cured.

GENERAL MEASURES OF SANITATION.

The disposal of excreta in the Native Town is by the use of pit latrines. Although the water-table is quite near the surface of the ground no infection of water-borne diseases has been traced to this source. Pit latrines are almost invariably used among the native and Asiatic population. Excreta from public latrines and institutions is disposed of by means of entrenchment or incineration. The method of sewage disposal in European houses is by means of the water-carriage system, each house having its own water-carriage unit complete.

The disposal of refuse is by incineration. A destructor with five furnaces and a powerful ventilating shaft is used for this purpose.

The drainage system comprises a main concrete drain (open) leading into an underground channel also of concrete and opening into the railway cutting drain and thus to the sea. Manholes are provided for the purpose of inspection and cleaning of the main underground portion of the drain. The main drain deals with water from a part of Native Town, Market Street and School Street. It is joined by the Railway drain. Another drain runs past the Roman Catholic Mission into the sea and accounts for water from the Gaol, Boma and New Bungalows.

A third drain runs parallel to Swahili Street and accounts for part of the water from the Native Town ; it joins the main drain.

The water supply of the Township is from wells ; some are covered in and fitted with pumps, but the majority are not provided with covers.

SCHOOL HYGIENE.

The number of school children on the Register for 1926 was 420.

1,671 cases of disease were treated at the school clinic during the year. The more important are :—

Malaria	32
Pulmonary Tuberculosis	4
Ankylostomiasis	12
Measles	59
Gonorrhœa	2
Syphilis	1
Influenza	79
Yaws	44
Scabies	168
Local injuries	403
Mumps	20
Pneumonia	2
Elephantiasis	1

With the exception of malaria the incidence of disease among school children is lower than last year. An epidemic of measles was encountered in the latter part of the year, but it died out among school children after adopting quarantine measures, i.e. closing the school for a short period at the most critical time after the first cases were diagnosed. Sporadic cases occurred later in school children in the district.

A medical inspection of all children on the Register was made and all diseases thereby revealed treated.

Vaccination and re-vaccination of 420 boys was done throughout the course of the year.

Personal cleanliness and sanitary condition of the school buildings, class-rooms, dormitories, etc., are satisfactory. The sanitary improvements introduced in 1925, adequate water supply, proper disposal of sewage (reconstructed latrine and a native water-closet system), etc., have been beneficial.

The diet is satisfactory.

HOUSING AND TOWN PLANNING.

Twenty-four Meetings of the Township Authority were held during the year.

Several plans of the Township showing ex-enemy, Government, and private lands—the alignment of streets and buildings, etc., are in existence.

Rigid control of building structures of even a temporary nature is exercised, and permission must be obtained from the Township Authority for the construction of all houses and premises which are regarded as approaching Western Standards; all sites for huts and other similar buildings are inspected and permits issued before such buildings can be proceeded with. Plans are submitted in the case of buildings of western standards and all buildings are inspected when finished. A person building a hut or any other structure without permission is prosecuted.

Facilities for recreation exist in the case of Europeans, Asiatics and in such institutions as the Gaol, Police Lines and School. The form of exercise is usually some western form of recreation as football, tennis, etc.

The following is a synopsis of Houses and Huts in Tanga Township :—

(1) Houses of Western standards of Sanitation :—

Europeans	35
Goans	21
Indians	138
Natives	1
TOTAL	216

(2) Buildings of Native standards of Sanitation :—

Goans	13
Indians	146
Arabs	160
Natives	1,311
TOTAL	1,630

EXTRACT FROM THE ANNUAL REPORT ON THE HYGIENE AND SANITATION OF TABORA.

By Dr. A. I. Meek, L.R.C.P., L.R.C.S., D.P.H. (Edin.), L.R.F.P. & S. (Glas.), Sanitation Officer, Tabora.

(a) General Review of Work done and Progress made.

(1) PREVENTIVE MEASURES.

Mosquito and Insect Borne Diseases.

Malaria, etc. :—

Summary of Anti-Mosquito Work carried out at Tabora Township.

Premises Inspected	38,221
Collections of Mosquito Larvæ found	4,041
Anopheline (40% of total collections)	1,645
Culex	2,013
Stegomyia	383
In Pools and open spaces	2,695
In Wells, Earth Drains, etc., outside Compounds	952
In Houses and Compounds	394
% of Houses and Compounds inspected found to be breeding Mosquito Larvæ	1%
Notices served for Mosquito Nuisances	142
Prosecutions	Nil.
Drains Inspected	3,568
Cesspits and Soakage Pits Inspected	31,192
Pools Inspected	5,017
Pools Inspected and Oiled	4,715
Areas Inspected by Mosquito Finders	814
Wells Inspected	3,502
Tanks and Barrels Inspected	103,285
Yards of Drains cleared	42,785
Yards of New Drains dug	2,121
Square yards of Bush and Grass cut	257,500
Holes and Excavations filled in	371
Gallons of Kerosine used	178

The Senior Medical Officer, Tabora, reports that 1,513 cases of Malaria were treated at Tabora—an increase of 335 cases over the number treated for the year 1925. This was due to the phenomenal rains at the end of 1925 and early months of 1926 with abnormally heavy breeding of anopheline mosquitoes. It is worthy of mention that more than half of the cases reported by the S.M.O. were diagnosed and treated by the S.A.S. at the Railway Dispensary at Rufita. As these cases were not microscopically confirmed it is possible that about 50% of them were P.U.O's.

In addition to above the following cases of malaria were diagnosed microscopically at the Child Welfare Clinic :—

Sub-Tertian Malaria	24
Benign Tertian Malaria	2
Sub-Tertian and Benign Tertian	2
Sub-Tertian Malaria and Spirillum	1

574 doses of Prophylactic Quinine were issued at the Health Office and Child Welfare Clinic during the year. Prophylactic Quinine is also available daily at the Railway Workshops at Rufita for the benefit of Asiatic staff.

From January to May 1926, 1,497 collections of Anopheline larvæ were found and destroyed; the number of collections found during a corresponding period in 1925 was 153.

66% of the Anopheline larvæ were found in pools and swamps, 33% in earth drains, wells, etc., outside compounds and 1% in houses and compounds. Preventive measures should therefore include :—

(1) The elimination of pools. (2) Drainage of swamps. (3) Replacement of earth drains as far as possible by stone built channels. (4) The proper covering of wells.

Pools.—The Native now knows that he must obtain a permit from the Executive Officer, Township Authority, before attempting to procure building clay. During the year an endeavour was also made to apply the same rule to Government Departments in connection with the indiscriminate digging of pits to obtain earth for road repair, etc. 371 holes and excavations were filled in by the Health Department during the year, and many others were filled in, at the request of the Executive Officer, by the various Departments responsible.

Swamps.—A Public Works Extraordinary Estimate to the extent of £3,000 was included by the Township Authority in their Estimates for 1927-28 for the drainage of swamps at Kitete, Chem Chem and the area between the Kilimatinde Road and Tabora Station ; these areas being the main Anopheline breeding places in the Township, with the exception of the swampy ground on Railway land north of the line. This expenditure however has not been sanctioned.

Drains.—The provision of stone built drains in place of earth channels for surface water drainage must necessarily be carried out gradually in conjunction with road repairs.

Wells.—The provision of covers and carrying out of repairs to non-revenue-producing wells in the native area was sanctioned, and the work is expected to be completed before the end of the present financial year.

SUMMARY OF ANTI-MOSQUITO WORK CARRIED OUT AT FIFTEEN OUT-STATIONS OF TABORA DISTRICT.

Premises Inspected	65,239
Collections of Mosquito Larvæ found	5,263
Anopheline (25% of total collections)	1,337
Culex	2,157
Stegomyia	1,769
In Pools and Open Spaces	1,626
In Wells, Drains, etc., outside Compounds	1,273
In Houses and Compounds	2,364
% of Houses and Compounds inspected found to be breeding Mosquito Larvæ	3·6%
Drains Inspected	1,549
Cesspits and Soakage Pits Inspected	24,238
Pools Inspected	3,330
Areas Inspected by Mosquito Finders	553
Wells Inspected	6,495
Tanks and Barrels Inspected	115,148
Yards of Drains cleared	7,388
Yards of New Drains dug	1,695
Holes and Excavations filled in	2,284

The above work was carried out by fifteen African District Sanitary Inspectors. A large number of collections of Mosquito larvæ are still found in connection with houses and compounds, but in very many cases it has been noted that householders are really making an attempt to prevent mosquito breeding—one must be content with gradual improvements at these out-stations.

SUMMARY OF ANTI-MOSQUITO WORK CARRIED OUT AT ELEVEN OUT-STATIONS OF SHINYANGA, KAHAMA AND NZEGA DISTRICTS.

	Shinyanga District.	Kahama District.	Nzega District.	Totals.
Premises Inspected	15,211	6,892	5,625	27,728
Collections of Larvæ found ..	1,900	455	2,695	5,050
Anopheline	850(45%)	172(38%)	1,024(38%)	2,046(40%)
Culex	777	155	965	1,897
Stegomyia	273	128	706	1,107
Drains Inspected	2,299	975	956	4,230
Cess and Soakage Pits Inspected	6,268	1,594	1,404	9,266
Pools Inspected	953	116	882	1,951
Areas Inspected by Mosquito Finders	83	26	95	204
Wells Inspected	823	205	705	1,733
Tanks and Barrels Inspected ..	20,448	12,682	7,675	40,809
Yards of Drains cleared	—	990	90	1,080
Yards of New Drains dug ..	—	573	5	578
Gallons of Kerosine used	—	—	—	6

The above work was carried out by eleven African District Sanitary Inspectors.

TICK FEVER AND ANTI-SPIRILLUM WORK—TABORA TOWNSHIP.

48 cases of Spirillum Fever were treated at Tabora Hospital during the year—a reduction of 14 compared with the return for 1925.

It is interesting to note that two spirillum fever cases were observed among local Wanyamwezi children attending the Child Welfare Clinic, which seems to indicate that the immunity to this fever said to be possessed by local natives, is probably an "acquired" and not a natural immunity.

15 collections of "*Ornithodorus moubata*" were found during the year as follows :—

1. Police Askari Lines .. .. 11 collections.
2. European Residence .. .. 1 ,,
3. Native Serfants Quarters at European Residences .. 1 ,,
4. Other Native dwellings .. 2 ,,

Preventive measures were carried out. The infestation at the Police Askari lines was so great as to justify the recommendation that the lines should be removed to a new site. Meantime temporary measures have been carried out.

HELMINTHIC DISEASES.

Ankylostomiasis.—Twelve cases were treated at Tabora Hospital during the year and a total of ten deaths were notified by the Senior Medical Officer and Akidas in the Township. Nine cases were treated at the Child Welfare Clinic.

During November and December fourteen stools of C.W. Clinic patients were examined and exhibited the following helminthic infections :—

Ankylostomiasis	8
Strongyloides	2
Ankylostomiasis and Ascaris	1
Tænia	1
Negative	2

Time did not permit of a proper investigation of hookworm incidence in the Township, but the above results might indicate that hookworm is rather more prevalent in the Town than previous statistics suggested.

The following deaths from " Safura " were notified by African District Sanitary Inspectors :—

	Deaths.	% of Total Deaths.
1. Outstations of Tabora District	137	13·5%
2. Shinyanga District	41	13·4%
3. Nzega District	11	7·1%
4. Kahama District (return probably very unreliable)	Nil	—

A total of 24,822 pit latrines were reported by African District Sanitary Inspectors to have been dug in the out-stations of Tabora Province during the year.

With regard to pit latrines construction—the African District Sanitary Inspectors have been taught to emphasise the importance of sufficient depth and adequate covering, but it is to be feared these points have not always been attended to, judging by the large number of collections of fly maggots reported to have been found breeding in latrines. In many out-stations it has been found very undesirable to push the question of latrine digging during the rainy months of the year when subsoil water may rise to within a few feet of the surface thus preventing pits of sufficient depth being constructed. Cases have been reported where natives have dug excellent latrines but refuse to use them ; such instances are however in the minority.

Bilharzia.—Seven cases were treated at Tabora Hospital and thirteen cases were noted among children attending the Child Welfare Clinic.

Samples of Bullinus molluscs collected from pools at Ibiri, Karunde and Ussoke in the Tabora District were forwarded to the Director of Laboratory for identification.

No Bullinus molluscs were observed at Tabora Township during the year—the pools, where previously infected molluscs had been collected, having subsequently been filled in or completely dried up during the dry season of 1925.

African District Sanitary Inspectors at Out-stations of Tabora District reported nine deaths said to be due to Bilharzia.

(2) GENERAL MEASURES OF SANITATION—TABORA PROVINCE.

Conservancy Work.

Summary of Work carried out at Tabora Township.

Sanitary Inspections of Premises	38,221
Collections of Fly Maggots found and destroyed	1,791
Number of Pit Latrines dug	879
Dumps of Refuse removed	3,879
Cart Loads of Refuse collected	9,848
Rats caught	280
Burial Permits issued	306
Burials performed by P.H.D.	39
Square Yards of Grass and Bush cleared	257,500
Gallons of Disinfectant used	175
Notices served for Nuisances other than Mosquitoes and Fly Maggots	156
Prosecutions and Convictions .. .. (For burying body in unauthorised place)	1

There are seven Native public latrines of the dry pan type at Tabora Township. These latrines are situated at the principal places where natives congregate daily, viz. :— Two at the Public Markets, two near the Native Hospital, one at the Charge Office, one at the Court House, and one at the Boma. An estimate for two additional latrines to be built at the Public Laundry at Kitete was included in Estimates 1927-28 with the approval of the Township Authority. The Laundry is in close proximity to the main water supply of the town, where indiscriminate defæcation is extremely undesirable.

In addition to above, there are pan latrines for native use at practically all Government European Quarters and Offices, and also at the Native Hospital, Gaol and Police Askari Lines. Great difficulty is experienced in keeping many of these latrines in a decent sanitary condition on account of the lack of cement floors and proper drainage.

Fourteen Government European Quarters are provided with the commode type of pan closet. As the bathrooms of these quarters have now water service connections, the W.C. system of latrine might well be instituted, and in any case drainage for waste water from bathrooms and kitchens is an urgent necessity.

With regard to the disposal of excreta—with the exception of Native Hospital, Askari lines and Market latrines, this is at present mainly carried out by " burying," there being no incinerator capable of satisfactorily destroying excreta on a large scale. The burying system has been found much more satisfactory than the incomplete incineration formerly carried out and which resulted in many breeding places for flies throughout the Township. A suitable trenching ground is available immediately without the Township boundary.

Small extemporaneously-built incinerators exist at the Boma, Native Hospital, Gaol, Askari and Katikiro lines in the European area, and at Main Street in the Native area. These are insufficient to cope with all household and other refuse collected. The surplus refuse is utilised to fill in holes and excavations, of which many are available throughout the town, the refuse being first burnt there and then covered over.

Improvements to native latrines and drainage to European quarters, also for the erection of additional incinerators and latrine bucket washing arrangements were included by the Township Authority in their draft Estimates for 1927-28.

The pit system of latrine is the one in general use in connection with Asiatic and Native dwellings. The main objection to this type is that they provide many breeding places for flies, and that they pollute the water in private wells. A special effort has been made to see that pits are dug sufficiently deep and provided with tight fitting lids. With regard to private wells—these will probably be abolished when service pipes have been laid on to the main streets in the native area.

Summary of Work carried out at Out-Stations.

Tabora Province.

	Tabora.	Shinyanga.	Kahama.	Nzega.	Totals.
Sanitary Inspections of Premises ..	65,239	15,211	6,892	5,625	92,967
Collections of Fly Maggots found ..	1,561	813	131	472	2,977
Number of New Pit Latrines dug ..	16,336	5,327	981	2,178	24,822
Dumps of Refuse removed	15,315	7,191	519	5,071	28,096
Rats caught	1,548	856	233	—	2,637
Burial Permits (verbal) issued ..	1,008	305	53	154	1,520

The above work was carried out by twenty-six African District Sanitary Inspectors.

During the year the work of these African District Sanitary Inspectors was periodically inspected by a European Sanitary Superintendent. The Sanitation Officer also inspected several Out-stations of the Tabora District.

Reference has already been made throughout the report to the work of these Native Sanitary Inspectors. As a rule they appear to enjoy the co-operation of the Native Chiefs, and the general native population, on the whole, seem willing to comply with instruction given in spite of the element of force having been absent.

The general cleanliness of houses, compounds and surroundings of villages shows a distinct improvement.

An attempt has been made in most cases to provide increased ventilation for huts, and although in many instances the inlets provided can hardly be called windows, the attempt appears to be a step in that direction.

Pit latrine accommodation is being provided for practically all houses and the majority of natives appear willing to make use of these conveniences.

At most villages a plot of ground has been reserved for use as a cemetery.

With reference to water supply at these out-stations—in some cases an endeavour is being made to have properly built wells instituted. Where this is not possible the present water holes are being protected.

At villages where cattle are slaughtered, a position has been delegated for this purpose and the slaughtering is carried out when possible under the supervision of the African District Sanitary Inspector.

With regard to the provision of separate accommodation for cattle—with few exceptions the general practice in this Province is to keep the cattle outside in open bomas.

It is expected that under the new Native Authority Ordinance, sanitary improvements will be accelerated at these Out-stations and that a still better standard of hygiene will be attained.

Water Supply :—Tabora Township.

Water service taps have now been laid on to bathrooms and kitchens of Govern ment European Quarters and the Kaiserhof Hotel, and outside standpipes have been abolished.

It is hoped that eventually service pipes will be laid on to the main streets of the Native area. At present the only Native supply, in addition to several unsatisfactory wells, is from one standpipe gravitation supply at the Market. Otherwise, natives have to carry their supplies from Kitete.

The water drawn from Kitete wells is very milky in appearance due to the large amount of silicates present. A gravity pressure sand and alum filter or a sedimentation tank for lime treatment is required to clear the water.

It is intended that the Geological Surveyor should investigate the question of Tabora water supply. Meantime the Public Works Department, with the approval of the Township Authority, has estimated for an increased supply.

Cemeteries :—Tabora Township.

The following cemeteries are at present recognised for burials :—

European	.. ..	1
Indian, etc.	..	2 (1 Railway)
Hindu	.. ..	2 (1 ,,)
Native and Arab	..	3
Mission	.. ..	2

The above cemeteries with the exception of two Asiatic and Mission cemeteries were maintained in a clean condition by this Department during the year. Two Belgian Memorial cemeteries, one formerly used as King's African Rifles and Native cemetery and a German War cemetery were also periodically cleaned.

The War Graves Commission have now erected individual monuments on the majority of European war graves. Memorial columns have also been erected at the Indian and Hindu cemeteries containing war graves. A supply of shrubs and trees was received from the War Graves Commission and these were planted in the European, Indian and Hindu Cemeteries.

Tabora District Out-Stations.

Thirty-seven plots were set aside for burial grounds throughout the district, during the year.

Drainage :—Tabora Township.

Reference, under Anti-Mosquito Work, has already been made to the question of swamp drainage and the provision of stone built surface drains.

2,121 yards of new earth drains were dug by this Department mainly in the native area to prevent flooding of dwellings.

With the exception of work carried out by the Railway Department at the Rufita and Station areas, no new masonry drains were constructed. Several culverts, broken up by the heavy floods, were reconstructed.

Tabora Province Out-Stations.

2,273 yards of drains were dug under the supervision of African District Sanitary Inspectors.

Railway Sanitation :—Itigi to Kigoma.

The Sanitation Officer inspected the Tabora section during the year. The general sanitary condition of stations was found to be well maintained. Several gang camps were found unsatisfactory and without latrine accommodation. This is being remedied.

From January to October there was only one European Sanitary Inspector available for line sanitation between Dar-es-Salaam and Kigoma. On this account, the European Sanitary supervision of the Tabora area—especially with regard to anti-mosquito work—had to be carried out by Health Office staff.

Improvements to drainage at Rufita and station areas and to several Asiatic quarters were carried out during the year.

K.A.R. Sanitation :—Tabora.

Weekly inspections are carried out by the Sanitation Officer.

Four Sanitary Policemen were trained at the Health Office for the supervision of sanitation generally and especially with regard to anti-mosquito work.

New quarters for European Non-Commission Officers were built during the year.

IV. PORT HEALTH WORK AND ADMINISTRATION.

The quarantine station for the sea ports of the Tanganyika Territory is at Zanzibar and is well organised and equipped. During the greater part of the year there were two fully qualified Sanitation Officers at Dar-es-Salaam and one at Tanga. Medical Officers function as such, at Bukoba, Mwanza, Musoma, Kigoma and Lindi, Sub-Assistant Surgeons at Kilwa, Pangani, Bagamoyo, Mikindani and Mafia. It is the intention when qualified staff is available to post Sanitation Officers at Kigoma, Mwanza and Lindi. The total numbers of Steamers and Dhows given pratique during the year at the different ports are as follows. There were no circumstances which required quarantine measures of any importance.

	Steamers.			Dhows.		
	1924.	1925.	1926.	1924.	1925.	1926.
Dar-es-Salaam	273	325	362	830	773	803
Tanga	154	200	243	609	697	797
Lindi	48	48	46	121	158	169
Kilwa	25	22	23	222	279	178
Pangani	8	26	25	180	312	283
Bagamoyo	2	2	1	560	447	466
Mikindani	20	17	19	116	163	162
Mafia	26	23	23	276	283	224
Kigoma	152	153	126	49	24	21
Mwanza	52	51	66	1,343	798	863
Bukoba	58	62	63	2	10	2
Musoma	53	50	61	44	48	48
Total	871	979	1,058	4,352	3,992	4,016

V. MATERNITY AND CHILD WELFARE.

The foundations of a definite organisation dealing with Maternity and Child Welfare have been established, and as circumstances permit will be extended to embrace all the district medical headquarters. Later, in conformity with the development of African units, medical and sanitary, one looks forward to seeing self-contained systems, including trained African staff for maternity and child welfare work, functioning side by side, at rural centres, under the supervision of Medical and Sanitation Officers, Health Visitors and European Sanitary Superintendents.

Both the Dar-es-Salaam and Tabora clinics, in immediate charge of Health Visitors, forming part of the health organisations under the Sanitation Officers of those townships, have been working for the whole year. The Health Visitor at Tanga was active for several months, although the clinic has not yet been completed. The clinic at Kahama in the care of another Health Visitor has been open since November. A certain amount of welfare work was also undertaken at Machame in the Moshi district, Lindi and Mwanza.

A summary of the year's work is given below :—

	1925.	1926.
Visits by Health Visitor :—		
Confinements	8	10
New Births	20	197
Premature Births	—	10
Still ,, ...	3	6
Other visits	1,998	3,505
Mothers admitted to Hospital through Clinic	—	8
,, ,, ,, Clinic in Ante-natal State	—	3
,, ,, ,, ,, for confinement	—	21
,, ,, ,, ,, in Post-natal State	—	13
,, ,, ,, ,, other conditions	—	15
Children admitted to Hospital through clinic	—	15
,, ,, ,, Clinic	—	36
Ante-natal examinations	—	96
Special examinations, dental treatment, vaccination, etc. ..	—	2,114

Total Numbers seen at Clinics and Out Visits :—	1925.	1926.
Mothers—New cases	—	2,506
,, —Attendances	—	6,164
Children —New cases	*4,207	4,224
,, —Attendances	—	12,924

* The large numbers of children, 4,207, that were attended to during 1925, as compared with 4,224 for 1926, is to be accounted for by the initial effort required for the immediate improvement of health of the school children, when the school clinic was first opened, whereas the latter figure includes a greater proportion of the general child population. Injuries, respiratory, eye and skin conditions, and diseases referable to the digestive system were the main causes of illness: Venereal Disease was almost negligible.

The Kahama Clinic is the prelude to an intensive investigation to be conducted in that area by a staff composed of a special Medical Officer, two Health Visitors, four Sub-Assistant Surgeons, an African complement of four Dispensers, four District Sanitary Inspectors, sixteen Tribal Dressers, and, when trained, Maternity Ayahs for welfare work.

The investigation will comprise enquiry into the medical, sanitary, ethnological, sociological, and economic influences bearing on the population in general and the mother and child in particular, and records of relevant statistics.

VI. HOSPITALS AND DISPENSARIES.

Additions and alterations to the hospital accommodation in the Territory are detailed below :—

	Cases Treated.		
	1924.	1925.	1926.
In-patients	21,946	27,931	26,620
Out-patients..	169,032	244,442	307,635
	190,978	272,373	334,255

This figure does not include cases of Yaws and Syphilis treated in the districts, those attended to at the Maternity and Child Welfare Clinics, and an unknown number of cases seen by the medical staffs attached to the Public Works Department labour forces on road construction.

Total In and Out-patients treated at Hospitals and Dispensaries	334,255
Yaws and Syphilis treated in the Districts	27,198
Maternity and Child Welfare Attendance	6,730
Total ..	368,183

New Buildings Erected and Improvements and Repair to Existing Medical Buildings Effected during 1926.

The following summary of work, and the expenditure incurred during the year 1926 has been supplied through the courtesy of the Director of Public Works.

	Shs.
Arusha.	
Mortuary	5,622
Bukoba.	
Native Hospital	10,551
Biharamulo.	
Dispensary and Hospital	436

	Shs.
Dar-es-Salaam.	
Re-roofing of Prison Hospital and Industrial Cells ..	1,747
Sanitary Fittings of European Hospital	1,536
Public Latrines	6,088
Latrines for Native Staff, European Hospital ..	2,528
Dodoma.	
Indian and Native Hospital	96,775
Central Lunatic Asylum	95,447
Conversion of Existing Buildings into Medical Officer's Quarters	6,856
Kigoma. ..	
Native Hospital	3,600
Kilosa.	
Native Hospital	45,978
Quarters for Sub-Assistant Surgeon	5,363
Kibondo.	
Dispensary and Hospital	4,825
Lindi.	
Extension of Hospital	1,352
Mwanza.	
Operating Theatre, Store and Hospital	7,981
Latrines for Township	911
Moshi.	
Mortuary	124
Manyoni.	
Dispensary and Hospital	1,162
Mpwapwa.	
Vaccine Lymph Institute	2,082
Mahenge.	
Repairs to Native Hospital	816
Songea.	
Native Hospital	6,733
Repairs to Quarters of Medical Officer	7,100
Tanga.	
Quarters for Sub-Assistant Surgeon	16
Public Latrines	2,810
Utete.	
Hospital and Dispensary	105
Ujiji.	
Special Repairs to Hospital	123

Name of Prison	1 Number of Prisoners in Prison on 31.12.25	2 Number of Prisoners committed to Prison during 1926	3 Number of Prisoners in Prison on 31.12.26	4 Daily average number of Prisoners 1926	5 Number admitted to Prison Sickbay 1926	6 Number admitted to Native Hospital 1926.	7 Daily average on sick list	8 Number of Deaths of Prisoners in 1926	9 Cause of Death in each case	Period of Detention in Prison prior to date of death Y.	M.	D.	10 Prisoners released on Medical grounds	Cause of release in each case
Arusha	75	276	42	57·7	Nil	—	1·1	Nil	—	—	—	—	Nil	N.a.
Bukoba	105	368	166	123	57	—	—	5	1. Pneumonia	—	—	212	Nil	N.a.
									2. Pneumonia	—	—	329		
									3. Dysentery	—	—	362		
									4. Dysentery (a lunatic)	—	—	78		
									5. Psoas Abscess	—	—	311		
Dar-es-Salaam	163	599	229	222·3	85	—	8	6	1. Bronchitis & Colitis	—	5	—	1	Tuber-
									2. Tuberculosis of Lungs	5	—	346		culosis
									3. Intra-cardiac Throm-	2	—	20		
									4. Pneumonia [bosis	2	2	26		
									5. Cerebral malaria	5	—	22		
									6. Pneumonia	—	—	10		
Dodoma	128	364	113	121·5	58	—	9	6	1. Septicæmia	—	—	70	2	(1) Ill -
									2. Ankylostomiasis and Anæmia	—	6	14		health Lunatic in regaining lost mentality
									3. Lobar Pneumonia	2	—	132		
									4. Broncho-Pneumonia	4	—	56		
									5. Pneumonia	3	—	31		
									6. Heart failure	—	1	24		
Iringa	44	88	31	37·7	Nil	—	2·2	Nil	—	—	—	—	Nil	N.a.
Kahama	11	101	31	14·6	Nil	—	1·1	Nil	—	—	—	—	Nil	N.a.
Kasanga	9	33	6	9	Nil	—	0·6	Nil	—	—	—	—	Nil	N.a.
Kigoma	84	216	44	57	46	—	0·3	Nil	—	—	—	—	Nil	N.a.
Kilosa	58	261	17	35·3	Nil	—	0·8	1	1. Bronchitis (probably Tuberculosis)	—	—	109	None, but who died w ded before through	the prisoner as recommen- orders came
Kilwa	16	81	29	28	1	—	0·2	Nil	N.a.		N.a.		Nil	N.a.
Kondoa-Irangi..	43	125	16	21·7	—	3	3·4	1	1. Accident—bank falling while at work	—	2	3	None	N.a.
Lindi	45	317	38	40	36	28	3	1	1. Influenza	1	—	—	Nil	N.a.
Lushoto	29	109	23	30	—	12	3·8	1	1. Lobar Pneumonia	—	6	12	Nil	N.a.
Mahenge	8	42	7	8·6	—	—	—	Nil	N.a.		N.a.		None	N.a.
Mikindani	18	58	11	7·3	—	—	0·1	Nil	N.a.		N.a.		Nil	N.a.
Morogoro	108	478	75	91	66	—	4	7	1. Diarrhœa & Tubercular Enteritis	—	—	423	Nil	N.a.
									2. Ankylostomiasis	—	—	65		
									3. Cystitis and Tertiary Syphilis	2	—	40		
									4. Diarrhœa and Chest Symptoms	—	—	33		
									5. Pulmonary Tuberculosis	—	—	61		
									6. Pulmonary Tubercu- culosis & Enteritis	—	—	13		
									7. Pulmonary Tubercu- losis both lungs	—	—	28		

Name of Prison	1 Number of Prisoners in Prison on 31.12.25	2 Number of Prisoners committed to Prison during 1926	3 Number of Prisoners in Prison on 31.12.26	4 Daily average number of Prisoners 1926	5 Number admitted to Prison Sickbay 1926	6 Number admitted to Native Hospital 1926.	7 Daily average on sick list	8 Number of Deaths of Prisoners in 1926	9 Cause of Death in each case	Period of Detention in Prison prior to date of death Y.	M.	D.	10 Prisoners released on Medical grounds	Cause of release in each case
Moshi..	30	303	28	27	—	—	2·9	1	1. " Misadventure "— Taking native poison	1	7	—	Nil	N.a.
Musoma	59	371	69	75	—	3	7	3	1. Bacillary Dysentery	—	—	20	Nil	N.a.
									2. Bilharzia complicating Pneumonia	—	—	43		
									3. Ditto	—	—	19		
Mwanza	202	464	174	175	75	70	12	3	1. Malaria	—	—	43	Nil	N.a.
									2. Cellulitis	—	—	78		
									3. Pneumonia	—	—	28		
Namanyere ..	11	87	16	20	Nil	Nil	3·3	Nil	N.a.	—	—	—	Nil	N.a.
Pangani	23	79	14	21	8	—	·39	1	1. Tape worm complicated with chronic malaria	6	weeks		Nil	N.a.
Shinyanga.. ..	14	120	84	14	15	Nil	0·3	Nil	N.a.	—	—	—	Nil	N.a.
Singida	15	132	23	18·5	Nil	2	0·6	Nil	N.a.	—	—	—	Nil	N.a.
Songea	12	63	16	18·3	Nil	2	0·4	1	1. Epilepsy	—	8	—	Nil	N.a.
Tabora	215	545	124	200	197	59	1·9	3	1. Lunacy with general debility & diarrhœa	—	7	8	Nil	N.a.
									2. Phthisis	3	—	11		
									3. Ankylostomiasis— Lunacy	1	6	18		
Tanga	113	426	131	103	11	156	5·1	4	1. Acute mania	2	—	7	Nil	N.a.
									2. Tubercular peritonitis	3	8	18		
									3. Pulmonary tuberculosis	2	7	—		
									4. Chronic interstitial nephritis	2	7	7		
Tukuyu	107	271	95	110·8	—	128	5·7	4	1. P. U. O.	8	weeks		Nil	N.a.
									2. Liver abscess	125	,,			
									3. P. U. O.	11	,,			
									4. Broncho-pneumonia	3	,,			
Utete..	19	100	9	13	—	12	2·1	Nil	N.a.	—	—	—	Nil	N.a.

Name of Prison	11 System of confinement Association Cells (A.C.) Single Cells (S.C.)	12 Cubic space available at per prisoner taking average number	13 Floor space in square feet per prisoner taking average number of prisoners	14 Labour on which prisoners are employed and hours of work	15 Sanitary condition of Prison	16 Are all cells cemented ?	17 Prevailing diseases	18 Rules as to diet and hours of meals, what variety is provided, green food ? meat ?
		Cubic feet.	Sq. feet					
Arusha	A.C.	468	40	Woodcutting, mending roads, sanitary work in gaol, water carrying. Hours of work from : Week days 6.30 a.m. to 4 p.m., Saturdays 6.30 a.m. to 12 noon. Sundays no work. Break of one hour for meals each midday	Excellent	Yes	Intestinal parasites ; Chest complaints and Gonorrhœa	According to the Prison Ordinance.
Bukoba	A.C. & S.C.	397	43	Firewood cutting, stone quarrying, road making, sanitation, carpentry, mat weaving and pottery. Hours 6 a.m. to noon, 1 p.m. to 4 p.m.	Very good	Yes	Ulcers, Bronchitis, Malaria and Chest complaints	Prisoners fed thrice daily : 6 a.m., noon and 5 p.m. as per Ordinance.
Dar-es-Salaam ..	2 large A.C. and 21 small S.C.	500	175	Tailoring, carpentry, mat weaving, masonry, rope making, strikers and assistants to smiths, boilermakers and carpenters at the Government Dockyard, stone breaking, pumping and other general hard labour. Hours 6.30 a.m. to 12 noon, 1 p.m. to 4.30 p.m.	Good	Yes	Pneumonia, Malaria and Anæmia	12 noon to 1 p.m., 4.30 p.m. to 5.30 p.m. Good variety of food stuffs. *Scale A :* Long term and civil prisoners : meat with bones 6 oz., maize 18 oz., beans 6 oz., potatoes 8 oz., ghee ½ oz., salt ¼ oz., lemons 2 a week. *Scale B :* Short term and remand prisoners : maize 2 oz., beans 5 oz., ghee ½ oz., salt ¼ oz., lemons 2 a week,
Dodoma	A.C.	388·5	276·3	General. 6.30 a.m. to 12 noon, 1 to 4 p.m. outside, 1 to 4.30 p.m. inside	Good	Yes	Bronchitis, Constipation and Diarrhœa	Ugali (porridge, beans, ghee, vegetables, salt). Long term prisoners have meat in addition.
Iringa	A.C.	784	60	Cleaning Prison Latrine, wood cutting, cultivation, and town improvement. Hours of work 6.30 a.m. to 12 noon, 1 p.m. to 4.30 p.m.	Good	Yes	Malaria, Bronchitis, Diarrhœa, Conjunctivitis and Ulcers	Rationed as per scale laid down in Government Notice No. 171 of 1924. Hours of meals 6 a.m., 12 noon and 4 p.m.
Kahama	A.C.	770	52·7	Road making, repairing prison and other general labour	Good	Yes	Malaria, minor injuries and Bronchitis	Food is supplied according to dietary scale laid down for all prisoners.

Name of Prison	11 System of confinement Association Cells (A.C.) Single Cells (S.C.)	12 Cubic space available at per prisoner taking average number	13 Floor space in square feet per prisoner taking average number of prisoners	14 Labour on which prisoners are employed and hours of work	15 Sanitary condition of Prison	16 Are all cells cemented ?	17 Prevailing diseases	18 Rules as to diet and hours of meals, what variety is provided, green food ? meat ?
		Cubic feet	Sq. feet					
Kasanga ..	A.C.	753	82·2	Road and water duties. Work on roads and bridges, Work on Government buildings. Grass cutting and bush clearing. 9½ hours daily, Saturdays 5½ hours, Sunday nil	Satisfactory	Yes	Malaria and minor injuries	Meals 12 noon and 5 p.m. Cassava or mealie meal 2 lbs., beans 5 oz., salt ¼ oz., lemons and sweet potatoes occasionally.
Kigoma	A.C.	752	64	Fuel, Prison shamba, water, sanitation and whitewashing. Hours 7.30 a.m. to 12 noon, 1 p.m. to 3.30 p.m.	Good	Yes	Chickenpox, Ankylostomiasis, Malaria, Gonorrhœa and Syphilis	3 meals per day, 7 a.m., noon, 4.30 p.m. Mealie meal, manioc flour, beans, sweet potatoes, meat, salt, lemon juice, green food, native spinach. Meat to long term prisoners ½ lb. twice a week. Short term prisoners none.
Kilosa	A.C.	500	30	Building Police lines, carrying wood and water. Hours of work 6.30 a.m. to 12 noon, 1 to 4.30 p.m.	Good	Yes	Ulcers, Malaria and Bronchitis	Males 6 a.m., 12 midday and 5 p.m. Lemons are supplied. Meat to long term prisoners and remands.
Kilwa	A.C.	643	75	Drawing water, station and town improvement, wood cutting and lime burning. 6.30 a.m. to 12 noon, 1 to 4 p.m.	Good	Yes	Malaria, Bronchitis and minor injuries	Prison Ordinance of 1921 : Three meals a day at regular hours. Green food and fish provided ; meat not available at Kilwa.
Kondoa-Irangi ..	A.C.	1718	114	Prison shamba, roads, wood cutting, lime burning and water drawing	Satisfactory	Yes	Malaria, Bronchitis and minor injuries	As per Prison Ordinance : 6 a.m., 12 noon and 5 p.m. Meat and milk are allowed to Masai prisoners.
Lindi	A.C.	1,046	52	Unskilled labour. 7 a.m. to 12 noon and 1 to 4 p.m.	Good	Yes	Yaws, Debility, Malaria and Schistosomiasis	6 a.m. porridge, 12 noon grain, vegetables and ghee, 5 p.m. fish, grain and fruit,
Lushoto	A.C.	634	45	Prison shamba, water transport, wood cutting	Latrines require rebuilding and draining	Yes	Local injuries, Chest complaints and Constipation	12 noon and 5.30 p.m., vegetables twice a week and meat for long term prisoners.
Mahenge	A.C.	246·72	55·73	Cultivating prison farm, carrying firewood, drawing water and cleaning the police lines daily. Working hours are from 6 a.m. to 12 noon and from 1 p.m. to 4 p.m.	Satisfactory	No ; beated lime and sand	Minor injuries, Stomach and Bowel troubles and colds	As laid down in the diet scale of the Prison. Meat or fish are always available and bananas, pumpkins and European vegetables are also supplied when necessary.

Name of Prison	11 System of confinement Association Cells (A.C.) Single Cells (S.C.)	12 Cubic space available at per prisoner taking average number	13 Floor space in square feet per prisoner taking average number of prisoners	14 Labour on which prisoners are employed and hours of work	15 Sanitary condition of Prison	16 Are all cells cemented ?	17 Prevailing diseases	18 Rules as to diet and hours of meals, what variety is provided, green food? meat ?
		Cubic feet	Sq. feet					
Mikindini	A.C. & S.C.	600	84	Fuel cutting, cleaning compounds and road making and repairing	Good	Yes	Injuries, Gonorrhœa, Ulcers, Orchitis, Conjunctivitis, etc.	2 lbs. of mtama, ½ lb. beans and ¼ oz. of salt, ½ oz. ghee twice a day : 12 noon and 5 p.m. according to the Prison Dietary Scale.
Morogoro	5 S.C., 14 A.C., with 1 Hospital ward	376	50	General labour, wood cutting, Prison buildings, etc. Saturdays 7 a.m. to 12 noon. Sundays no work. Weekdays : 7 a.m. to 12 noon, 1 p.m. to 4 p.m.	Good	Yes	Chest troubles, Tuberculosis, Coughs, etc., Intestinal troubles, Diarrhœa, Tapeworm, etc., Minor injuries, Bruises, Malaria—comparatively few cases	As in Official Gazette 45, 1924, for Natives, as in Prison Ordinance 14, 1921, for Europeans, Indians and Arabs. Mealie meal, whole, meat fresh, beans fresh and dried, sweet potatoes, ghee, etc. Fresh vegetables are procured from Prison shamba in season and fruits such as limes, lemons, tomatoes, pawpaws, have been available free of charge on the requisition of the M.O. from the Agricultural Experimental Station, and the sick and ailing have never been without a supply and care has been taken that the long term prisoners are not neglected in this respect.
Moshi..	A.C.	364·64	36·47	6.30 a.m. to 12 noon, 1 p.m. to 4 p.m. Prison industries	Good	Yes	—	Two meals a day : 12 noon, 5.30 p.m., also porridge at 6 a.m. Meat supplied, plantains and lemons, etc.
Musoma	A.C.	340	27	Manual labour 6—12 & 1—4	Good	Yes	Nil	The dietary scale as per Prison Ordinance is strictly adhered to. Fresh sweet potatoes, lake fish and fresh meat is also supplied when available. Latterly the preserved meat from Mwanza ia also supplied.

Name of Prison	11 System of confinement Association Cells (A.C.) Single Cells (S.C.)	12 Cubic space available at per prisoner taking average number	13 Floor space in square feet per prisoner taking average number of prisoners	14 Labour on which prisoners are employed and hours of work	15 Sanitary condition of Prison	16 Are all cells cemented ?	17 Prevailing diseases	18 Rules as to diet and hours of meals, what variety is provided, green food ? meat ?
		Cubic feet	Sq. feet					
Mwanza	A.C.	140	14	6.30 a.m. to 12 noon, 1 p.m. to 4 p.m. Road making, etc.	Good	Yes	Malaria, Chicken-pox and Diarrhœa	Meals are served at 6 a.m., noon and 5 p.m. The scale of rations is authorised in two scales : *Scale A :* Long Term Convicts and Civil prisoners : Meat with bones 6 oz., maize whole 16 oz., beans 6 oz., potatoes 8 oz., ghee ½ oz., salt ¼ oz., lemons 2 weekly. *Scale B :* Short term : Maize whole 2 oz., beans 5 oz., ghee ½ oz., salt ¼ oz., lemons 2 weekly. Penal diet : 1 lb. maize with water daily.
Namanyere ..	A.C.	486·6	48·05	Gardening, brick making, building, carpentry and general hard labour. Hours : 9½ daily except Saturday when only 5½. Sunday nil	Very good	No ; burnt bricks	I.C.T., Bronchitis, Diarrhœa and Malaria	Rations issued as per scale laid down.
Pangani	A.C.	400	37	Cleaning the prison, repairing roads of township and bridges. 6.30 a.m. to 12 noon, 1 p.m. to 4 p.m.	Good	Yes	Nil	Meat, maize, millet and fruits. 12 noon and 6 p.m.
Shinyanga.. ..	A.C.	1,080	60	Bringing firewood and water and assisting building works at Kizumbi. 6.30 to 12 noon, 1 to 4 p.m.	Good	No	Malaria, Bronchitis, Diarrhœa, Constipation, Wounds and minor injuries	Short term prisoners : millet flour 2 lbs., beans 5 oz., ghee ½ oz., salt ¼ oz. Long term prisoners : meat 6 oz., millet flour 22 oz., beans 6 oz., ghee ½ oz., salt ¼ oz.
Singida	A.C.	500	40	Carrying water for Boma, gaol and hospital. Carrying firewood for Boma and gaol. One for cleaning and other for cooking purposes. General labour round the Boma, gaol and shamba	Good	Yes	Nil	Millet, ghee, lemons and vegetables. Meals twice a day. No meat.

Name of Prison	11 System of confinement Association Cells (A.C.) Single Cells (S.C.)	12 Cubic space available at per prisoner taking average number	13 Floor space in square feet per prisoner taking average number of prisoners	14 Labour on which prisoners are employed and hours of work	15 Sanitary condition of Prison	16 Are all cells cemented ?	17 Prevailing diseases	18 Rules as to diet and hours of meals, what variety is provided, green food ? meat ?
		Cubic feet	Sq. feet					
Songea	A.C.	505	44	Unskilled : road making, building repairs, station improvements, general labour. Hours 6.30 a.m. till 12 noon, 1 p.m. to 4.30 p.m.	Not very good : building is in bad repair, roof leaks and ticks infest the walls. As regards ordinary cleanliness, it is excellent	No ; the floors are of mud	Pneumonia and Bronchitis	Scale as laid down in Government Notice 191, 1924. Meals at 6 a.m., 12 noon and 5 p.m. Dried fish once a week in lieu of fresh meat. Manioc, potatoes, germinated beans and lemons.
Tabora	16 S.C. and 5 A.C.	290	25	Gang Police and Prison duties. Town improvement, other non-Police and Prison duties. All gangs leave lot Prison at 6.30 a.m., return 12 noon and 1 to 4 p.m. Prison industries: 6.30a.m. to 12 noon, 1 p.m. to 4.30 p.m.	Very satisfactory	Yes	Coughs and colds	6 a.m. maize manioc, 12 noon maize beans, 6 p.m. maize beans. Long term prisoners get 6 oz. meat, ½ oz. ghee, ½ oz. salt daily and also receive 8 oz. green vegetables on Tuesdays, Thursdays, Saturdays and Sundays. Short term prisoners receive 8 oz. of green vegetables on Tuesdays, Thursdays, Saturdays and Sundays and also ½ oz. ghee and ½ oz. salt daily.
Tanga	A.C.	343	44	Soap making, tailoring, lime burning, wood cutting, sanitary work, building and town improvement. 6.30 to 12 noon and 1 p.m. to 4.30 p.m.	Satisfactory	Yes	Malaria, Influenza, Diarrhœa and Venereal Disease	Three meals a day : 6 a.m., noon and 5.30 p.m. Long term : Natives get lemon 4 times a week and meat 6 oz.; Europeans, vegetables and lemons, 12 oz. of meat 4 times a week. All others are fed as per Prison Ordinance Scale 191 sec. 61.
Tukuyu	S.C. & A.C.	1,350	72	Repairs to prison, prison garden, sanitation, cleaning, etc., 6.30 to noon, 1.30 to 4.30 p.m.	Good	No	Influenza and P.U.O.	Rice, maize, beans and salt. Meat thrice weekly for long term prisoners.
Utete..	A.C.	602·30	74·76	Prison industries, police lines and prison's improvements and sanitary work for gaol	Unsatisfactory	No	Fever (presumably Malaria), Diarrhœa, Constipation, local injuries, Headache and Bronchitis	Twice a day, 12 noon and 5 p.m. Mealie meal, beans and rice, arrow-roots for long term prisoners. No meat or limes or lemons.

Name of Prison	19. Vaccinations						20. Infective Diseases			
	Number during 1926.						Number of Cases of			
	Vaccinated,	Successful	Modified	Failures	Number excused vaccination on account of previous smallpox or successful recent vaccination	Number not protected against smallpox	Chickenpox	Dysentery	Influenza	Others
Arusha	152	73	13	66	—	—	—	2	—	Gonorrhœa 3 and Malaria 1
Bukoba	—	—	—	—	—	—	—	2	—	—
Dar-es-Salaam ..	None	—	—	—	—	—	—	—	—	Tuberculosis Lungs 3, Leprosy 1, Measles 2
Dodoma	All vaccinated in May	—	—	—	—	—	—	—	—	—
Iringa	76	56	—	20	—	—	—	—	—	—
Kahama	—	—	—	—	—	—	—	—	—	—
Kasanga	12	6	—	6	No figures	—	—	—	—	—
Kigoma	The vaccination of all prisoners who had not been vaccinated within two years was carried out on their commitment to prison	—	—	—	—	—	Chickenpox	—	—	—
Kilosa	50	36	4	10	—	—	—	—	—	—
Kilwa	Nil	—	—	—	Nil	—	—	—	—	—
Kondoa-Irangi ..	42	39	—	3	83	—	—	—	—	—
Lindi	Every prisoner is vaccinated on admission to gaol	—	—	—	—	—	—	—	—	1 Nerve Leprosy
Lushoto	No record available	—	—	—	—	—	9	—	—	—
Mahenge	10	8	—	2	32	—	There were no infective diseases and no deaths	—	—	—
Mikindani	25	20	—	5	—	—	—	—	—	—
Morogoro	70	41	20	9	It is difficult to keep such a record as we have to use lymph at the prison when available and not required more urgently elsewhere		—	—	—	Tuberculosis 8 and Diarrhœa 15

Name of Prison	19. Vaccinations						20. Infective Diseases			
	Number during 1926.				Number excused vaccination on account of previous smallpox or successful recent vaccination	Number not protected against smallpox	Number of Cases of			
	Vaccinated	Successful	Modified	Failures			Chickenpox	Dysentery	Influenza	Others
Moshi	36	20	12	6	95	—	—	—	4	—
Musoma	All vaccinated. New comers are vaccinated on admission	—	—	—	—	—	Chickenpox	—	—	—
Mwanza	60	—	—	—	—	—	Chickenpox	—	—	—
Namanyere.. ..	Prisoners are vaccinated on their admission; remainder not vaccinated as no lymph being available at the time and prisoners being discharged prior to receipt	—	—	—	—	—	—	1	—	—
Pangani	—	—	—	—	—	—	—	—	—	—
Shinyanga	—	—	—	—	—	—	—	—	—	—
Singida	—	—	—	—	—	—	—	—	Influenza	Malaria and Broncho-pneumonia
Songea..	22	22	—	—	—	—	—	—	—	—
Tabora	94	35	36	23	90	—	50	1	—	—
Tanga	15	14	1	—	119	*	No cases of severe infectious diseases were reported during the year. A mild epidemic of influenza was experienced however. No deaths occurred as a result of this epidemic			
Tukuyu	—	—	—	—	—	—	—	—	—	—
Utete	All vaccinated previously	—	—	—	—	—	—	—	—	—

*Arrangements are being made whereby prisoners are to present themselves at the Health Office for vaccination periodically in order that records may be kept.

Name of Prison	21 Insect and other Pests in Prison					
	Lice	Bugs	Fleas	Ornithodorus Moubata	Rats	Mice
Arusha	—	—	—	—	—	—
Bukoba	—	—	—	—	—	—
Dar-es-Salaam ..	—	—	—	—	Rats	Mice
Dodoma	—	—	—	—	—	—
Iringa	—	—	—	—	—	—
Kahama	—	—	—	—	—	—
Kasanga	—	—	—	—	—	—
Kigoma	Lice, bugs, fleas occasionally present. Clothing frequently washed, boiled and exposed to the sun. Cells flushed with weak disinfectant. Heads and bodies of prisoners kept shaved. Lower portion of cells painted with coal tar			—	—	—
Kilosa	Yes ; bed bugs. They were dealt with by whitewashing and disinfectant			—	—	—
Kilwa	Bugs. Any crevice or small hole in the wall is cemented			—	—	—
Kondoa-Irangi ..	—	—	—	—	—	—
Lindi	—	—	—	—	—	—
Lushoto	—	—	—	—	—	—
Mahenge	White ants	—	—	—	—	—
Mikindani	Bugs. Blankets and clothings kept in sun daily ; rooms disinfected.			—	Rats ; traps have been supplied	—
Morogoro	Lice, bugs and fleas are very seldom seen. One may occasionally be seen in new comers			—	—	—
Moshi	—	—	—	—	Rats sometimes come in from outside but are very soon got rid of either by traps or by poison and all foods are well protected	—
Musoma	—	—	—	—	—	—
Mwanza	—	—	—	—	—	—
Namanyere.. ..	The prison is a new-built one of burnt bricks during 1925-26 No trace of lice, bugs, fleas, etc.			—	—	—
Pengani	—	—	—	—	Rats and mice are killed quickly	—
Shinyanga	—	—	—	—	—	—
Singida	Lice and bugs ; disinfectant used			—	—	—
Songea..	—	—	—	Ticks—Ornithodorus Moubata abound in the gaol. Gaol has been fumigated and recommended for demolition.	Rats ; laying traps and barium carbonate	—
Tabora	—	—	—	—	—	—
Tanga	There are no evidences of lice, bugs or mice in the gaol. Fleas, which were numerous last year, have now been practically abolished. Blankets are laid out in the open daily between the hours of 7 a.m. and 5 p.m. while prisoners are at work			—	—	—
Tukuyu	—	—	—	—	—	—
Utete	The mud plastered floor is full of ticks and fleas ; methylated spirit sprinkled			—	—	—

Name of Prison	22. Suggestions by the Medical Officer in charge as to improvements required and date when made			
	(a) Accommodation and Ventilation	(b) Diet	(c) Sanitation	(d) Others
Arusha	Nil	—	—	—
Bukoba	Nil	—	—	—
Dar-es-Salaam ..	That the sick bay was inadequate. That separate accommodation for women, lepers and lunatics was not sufficient	Several consignments of food were not considered of proper quality	—	(1) Requested issue of two blankets per sick prisoner (2) Requested replacement of blanket stock (3) Requested removal of European prisoner as it was not considered the building and climate suitable for his detention
Dodoma	Adequate	—	Drainage from latrines and bath rooms to be rectified. New sump pit to be made	—
Iringa	Nil	—	—	—
Kahama	—	—	—	—
Kasanga	—	Vegetables, 4.2.26	Latrines, kitchens, blankets and bathing, 4.2.26	—
Kigoma	—	—	Indenting for new latrine buckets to replace the ones in use which were old, and in some cases leaky	Provision of a cover for water storage tank
Kilosa	Food bins and general repairs required, 16.1.26	—	New choopits required. White-wash required	—
Kilwa	Nil	Regular supply of meat and vegetables for long sentence prisoners	—	—
Kondoa-Irangi ..	That if there are no asylums available for lunatics special cells be constructed in the hospital for these people	—	—	—

Name of Prison	22. Suggestions by the Medical Officer in charge as to improvements required and date when made			
	(a) Accommodation and Ventilation	(b) Diet	(c) Sanitation	(d) Others
Lindi	None	None required	Small details occasionally	None
Lushoto	—	—	Repeated recommendations for building new latrines	—
Mahenge	None	None required	Small details occasionally	None
Mikindani	Nil	—	—	—
Morogoro	—	—	—	—
Moshi	—	—	—	—
Musoma	—	—	—	—
Mwanza	Nil	—	—	—
Namanyere.. ..	Nil	—	—	—
Pangani	Nil	—	—	—
Shinyanga	—	—	—	—
Singida	—	—	—	—
Songea..	Demolition has been recommended	—	—	—
Tabora	Increased ventilation and sunproofing of European cells	—	A soakage pit be constructed to take bath waste water	—
Tanga	Adequate	Satisfactory	Re-roofing of prison completed (old portion only)	—
Tukuyu	—	—	—	—
Utete	—	—	—	—

Name of Prison	23. Attention taken by the Prison Authorities as a result of 22.			
	(a)	(b)	(c)	(d)
Arusha	—	—	—	—
Bukoba	—	—	—	—
Dar-es-Salaam ..	Excellent sickbay provided in main building. Partition erected to completely separate these classes	Food replaced by suitable consignments	—	(1) and (2) Blankets supplied as requested (3) Prisoner transferred to another gaol
Dodoma	—	—	—	—
Iringa	—	—	—	—
Kahama	—	—	—	—
Kasanga	—	Remedied	New arrangements complete	—
Kigoma	—	—	Action taken	—
Kilosa	Attended to	—	Attended to	—
Kilwa	N.a.	Unobtainable	—	—
Kondoa-Irangi ..	None	—	—	—
Lindi	—	—	Always attended to	—
Lushoto	—	—	Reported to Headquarters but no action taken	—
Mahenge	—	—	Always attended to	—
Mikindani	N.a.	—	—	—
Morogoro	—	—	—	—
Moshi	—	—	—	—
Musoma	—	—	—	—
Mwanza	N.a.	—	—	—
Namanyere	N.a.	—	—	—
Pangani	N.a.	—	—	—
Shinyanga	N.a.	—	—	—
Singida	N.a.	—	—	—
Songea	Building of a new goal has been sanctioned	—	—	—
Tabora	Done	—	Done	—
Tanga	—	—	—	—
Tukuyu	—	—	—	—
Utete	—	—	—	—

Name of Prison	24 What sanitary arrangements are there in the cells for use at night?	25 Is drinking water provided for use at night?	26 Is there a weight register and is it kept up to date?	27 What number of blankets is provided for each prisoner?	28 Is the clothing sufficient?	29 Further remarks and suggestions
Arusha	Sanitary buckets, etc.	Yes	Yes	One to two in cold weather	Yes	Owing to the good food, dry sleeping accommodation and regular hours, the great majority of the prisoners enjoy excellent health
Bukoba	Night pans provided	Yes	Yes	One	Yes	Nil
Dar-es-Salaam ..	Latrine buckets are supplied in the cells, and emptied first thing in the morning	Yes	Yes	One blanket and one sleeping mat are provided per prisoner. One bed and two blankets are supplied per sick prisoner	It is again suggested that two blankets per prisoner are necessary during the cold and wet season	The gaol is not a suitable place for detention of female prisoners or lunatics for a longer period than can be helped
Dodoma	Latrine receptacles	Yes	Yes	One blanket skin	Yes	Drainage from latrines and bathrooms was rectified and is now in good order. The old sump pit was opened and drained off. A temporary gutter was made to carry away the water till such a time as was practically possible to make a new sump pit. The rains prevented the making of a new sump pit
Iringa	Buckets placed in each cell at night and removed in the morning	Yes	Yes	One; in certain cases two	—	Nil
Kahama	—	Yes	No	One	Yes	None
Kasanga	Sanitary buckets are in use in wards at night	Yes	No long sentence prisoners here	One blanket and one mat	Yes	—
Kigoma	Latrine buckets	Yes	Yes	One blanket	Yes	—
Kilosa	Latrine pans	Yes	Yes	One blanket	Yes	The roof of the prison requires to be repaired as it leaks badly during the rains
Kilwa	There are all sanitary arrangements in the cells for use at night	Yes	Yes	One blanket and one sleeping mat	Yes	Nil
Kondoa-Irangi ..	Latrine pans	Yes	Yes	Two	Yes	—
Lindi	Buckets	Yes	Yes	One blanket	Yes	Sleeping mats are required
Lushoto	A pan is placed in each cell every night, removed and disinfected in the morning	No	Yes	Two	Yes	Latrines should be dealt with without delay
Mahenge	Each cell is provided with a covered pail	Yes	Yes	Two blankets	Yes	None
Mikindani	Buckets kept	Yes	No	Two blankets supplied	Yes	—

Name of Prison	24 What sanitary arrangements are there in the cells for use at night ?	25 Is drinking water provided for use at night ?	26 Is there a weight register and is it kept up to date ?	27 What number of blankets is provided for each prisoner ?	28 Is the clothing sufficient ?	29 Further remarks and suggestions
Morogoro	Sanitary buckets provided	Yes	Yes	One and a mat ; more when ordered by Medical Officer	Yes	Roof leaking but was repaired during the year. Considerable discomfort was experienced by the prisoners during the period of repair but any suggestions by the Medical Officer to mitigate discomfort were always carried out. The general condition of the prisoners has been very good and the evidence of the prison weight register serves to show that the large majority have been maintained in excellent condition and the daily average of 4 on the sick list speaks for itself and one sees practically the same old faces at the morning sick parade
Moshi	Buckets	Yes	Yes	One and a sleeping mat	Yes	—
Musoma	Two empty kerosene tins are kept in each cell at night	Yes	Yes	One blanket	Yes	This prison is usually crowded so that no accommodation is available for sick prisoners. It is most essential that a prison hospital be erected inside the gaol. It would be a small building and it should be equipped with three or four beds and bed pans as diarrhœa is the commonest ailment. A cupboard of drugs and other equipment would also be necessary. Two or three feeding cups would also be advantageous as it is sometimes difficult to feed a very sick prisoner. More urinal buckets and drums are needed for sanitary purposes
Mwanza	Sanitary buckets are supplied	Yes	Yes	One	Yes	Improvements : The condemned cell has been built next door to the scaffold. A new store of stone with cement floor has been built. A roofing of reed has been put in the tailoring and in the female prisoners' cell. A reed fence has been put up segregating the female prisoners. A large zinc tank for water on a stone base has been moved to near the other lavatories. The floor of the wood store has been cemented. Expanded metal has been put in the cell windows. All cell doors have had windows put in. All the drains have been cemented afresh. Hospital beds, 6

Name of Prison	24 What sanitary arrangements are there in the cells for use at night ?	25 Is drinking water provided for use at night ?	26 Is there a weight register and is it kept up to date ?	27 What number of blankets is provided for each prisoner ?	28 Is the clothing sufficient ?	29 Further remarks and suggestions
Namanyere.. ..	Two sanitary buckets are placed in each cell for use of inmates during the night	Yes	Yes	Two	Yes	Nil
Pangani	—	Yes	—	One blanket and one mat	Yes	It is recommended that the water pumps may be removed from the well of the goal and be erected at the hospital wall and may be brought in order
Shinyanga	Sanitary pans and urine drums are placed in the wards at night	No	—	One blanket and a mat	—	Nil
Singida	Outside latrine	Yes	—	Two	Yes	—
Songea..	Latrine buckets with lid, one to each cell	Yes	Yes	Two blankets	Yes	The building of a new goal should be expedited
Tabora..	One pan in each cell	Yes	Yes	One blanket and one sleeping mat	Yes, except during the cold weather	An open grass banda was constructed to provide shed for the lunatics during the day time
Tanga	Urine pails and one sanitary pail are placed in each cell at night	Yes	Yes	One blanket and a mat. Aged prisoners provided with two blankets	Yes	Special diet is ordered by the M.O. when found necessary. The diet consists of :— Whole maize, beans, sushogo (cassava), spinach, limes
Tukuyu	Pails	Yes	Yes	Two	Yes	That it is unsatisfactory to keep civil lunatics in prison, and that they should be sent to a proper mental hospital
Utete	Latrine pans are placed at 6 p.m. for use at night	Yes	No	Two	Yes	The goal building should be demolished at the earliest opportunity and a new one built. At least the floor should be cemented if the present is to stand another monsoon which is an experiment

LUTINDI LUNATIC ASYLUM—ANNUAL REPORT, 1926.

Numbers.

	Males.	Females.	Total.
On January 1st, 1926, there were in residence	43	32	75
Admitted during the year	14	5	19
Discharged during the year	9	3	12
Died during the year	4	3	7
Remaining on December 31st, 1926	44	31	75
Average daily number resident..	45	32	77

	Males.	Females.	Total.
Average length of stay of those discharged	1 yr. 8 mths.	5 yrs.	2 yrs. 6 mths.
„ „ „ „ „ „ who died	6 „ 7 „	3 „ 8 mths.	7 „ 4 „
„ „ „ „ „ „ remaining	5 „ 9 „	8 „ 2 „	6 „ 9 „

Admissions.

The total admitted during the year was 19 of whom 4 had previously been inmates of this asylum.

They were classified as follows :—

7 suffered from Mania.
3 „ „ Delusional Insanity.
1 „ „ Epileptic Insanity.
3 „ „ Melancholia.
4 „ „ Imbecility.
1 „ „ suspected G.P.I.

A female child was admitted whose mother has been an inmate since 1923.

Discharges.

The total discharged during the year was 12 of whom 3 were regarded as recoveries, the remainder were discharged improved to the care of their relatives. With 4 exceptions the recoveries suffered from recent mania when admitted, and so far as could be ascertained, from their first attack.

Deaths.

There were 7 deaths during the year ; 10 less than last year's total.

The principal cause in each case appeared to be as follows :—

2, Exhaustion following a succession of Epileptic seizures.
2, „ „ prolonged excitement and restlessness.
2, Intestinal Complications.
1, Phthisis.

Health.

The general health of the Asylum has been satisfactory ; during the period under review no cases of Dysentery and no serious casualty has occurred.

Female No. 172 gave birth to twin children on January 27th, both infants died four days later.

Seclusion was resorted to upon 5 occasions in the controlling of 2 males and 3 females suffering from acute excitement. It is 14 months since any form of artificial restraint has been employed at this Asylum.

A course of Bismuth S. P. Tartrate injections (grs. 30) was given to 35 patients with markedly beneficial effects in the case of 6 patients suffering from epilepsy, 2 patients suffering from venereal disease and one patient suspected of General Paralysis of the Insane who recovered and was subsequently discharged.

An average of 44 patients were daily employed in occupations congenial to themselves and useful to the asylum.

Visitors.

The Provincial Commissioner, Tanga, one visit.
The District Officer, Usambara.
The Assistant District Officer, Korogwe, two visits.
The Medical Officer, Lushoto, two visits.

Maintenance.

Total expended in upkeep during calender year, Shs. 9,986-64.

Average monthly expenditure on each patient :—

Details :—	Shs.
In food and tobacco	5–97
In wages of employers	3–74
In clothing materials	0–88
In lighting and cleaning	0–20
In sundry replacements	0–02
Approximate monthly cost per head	Shs. 10–81

Farm Produce.

Grown in asylum grounds during the year and taken on Ration Ledger charge :—

	lbs.	Value Shs.
Sweet potatoes and vegetables	7,359	294–36
Muhogo	6,170	493–60
Beans	1,159	162–21
Tobacco	16	11–20
Fruit and sugar cane	—	15–60
Total value		Shs. 976–97

Revenue paid in to Treasury, Tanga, during the year :—

	Shs.
From sales of asylum ox hides	33–00
„ „ „ medicines to sundry natives	19–00
Asylum coffee crop—not yet sold	—
Total	Shs. 52–00

Out-Patients Treated at the Asylum Dispensary.

Diseases.	*Out-Patients.*
Aural discharge	33
Bronchitis	156
Burns	4
Constipation	260
Conjunctivitis	15
Cardiac disorder	16
Debility	12
Dysentery	15
Excema	12
Indigestion	4
Laryngitis	17
Local Inflammation	15
Injuries	70
Malaria	87
P.U.O.	31
Rheumatism	31
Scabies	21
Tonsillitis	13
Teeth extracted	42
Ulcer	186
Worms	623
Total Treated	1,663

VIII. RAINFALL.

For particulars of rainfall see Annual Report of the Agricultural Department.

IX. SCIENTIFIC.

A Report on Human Trypanosomiasis in Tanganyika Territory for the year Ending 31st December, 1926, by Dr. G. Maclean, Sleeping Sickness Officer.

There are in this Territory five separate areas where human Trypanosomiasis is known to exist, and up to the present, infection has not been traced from any one of these areas to another.

These areas are :—

(*a*) Maswa-Ikoma Area, Mwanza Province.
(*b*) Tanganyika Lake Shore Area, Kigoma Province.
(*c*) Ufipa-Tabora Area, partly in Kigoma and partly in Tabora Province.
(*d*) Liwale Area, Lindi Province.
(*e*) Rovuma Area, partly in Lindi and partly in Mahenge Province.

In the Tanganyika Lake Shore Area the Trypanosome is probably *T. gambiense* ; in all the other areas it is found to be *T. rhodesiense.*

The probable insect vectors are ; in the Maswa-Ikoma area, *Glossina swynnertoni* ; in the Tanganyika Lake Shore Area, *G. palpalis* (sub-spec. *fuscipes*) ; in the remaining areas *G. morsitans.*

On the " Palpalis " Areas of Lake Victoria where 1,405 cases were recorded by German workers in 1908–09 and 27 in 1912–13 no cases have as yet been reported by British Medical Officers.

II. CASES.

The following table shows the cases and deaths for 1925 and 1926 respectively :—

Province	Remaining from previous year		Diagnosed during the year		Deaths reported during the year		Remaining at end of the year	
	1925	1926	1925	1926	1925	1926	1925	1926
Mwanza ..	3	74	120	217	49	90	74	201
Tabora ..	2	85	99	87	16	28	85	144
Kigoma								
Tanganyika Lake Shore	4	19	17	14	2	2	19	31
Ufipa ..	41	117	154	136	78	76	117	177
Lindi	0	53	0	2	0	30	53	25
Eastern ..	0	0	0	1	0	0	0	1
Mahenge ..	0	2	2	2	0	0	2	4
Total ..	50	350	392	459	145	226	350	583

III. SYMPTOMATOLOGY OF THE RHODESIAN FORMS.

(1) *Incubation Period.*

In one European whose movements are known the incubation period could not have been longer than 27 days, i.e. the length of time between his arrival in tsetse forest and the onset of symptoms ; and was probably as short as 18 days, i.e. the length of time between his arrival in the vicinity of an infected village and the onset of the disease.

The species of tsetse present was *G. swynnertoni.*

(2) *The General Symptoms.*

These have already been frequently described and it is only necessary to refer here to two points, viz. :—

(*a*) Spontaneous recovery.

Dr. Dye has collected some evidence which suggests that this may occur in endemic centres with more frequency than was formerly supposed (see Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. XX, Nos. 1 and 2).

(*b*) The symptoms of the disease in "Swynnertoni" Areas as compared with "Morsitans" Areas.

No essential difference has been observed. Cases seen in the "Swynnertoni" Area in 1922 and 1923 were characterised by an absence of eye symptoms, forming a marked contrast with the frequency of such symptoms in "Morsitans" Areas. In 1925 and 1926, however, a number of cases in the former area showed keratitis, and it is now very doubtful if there is any manifestation of the disease that can be exclusively associated with either of the two species of tsetse.

IV. RESERVOIRS of *T. rhodesiense.*

In Liwale and Northern Ufipa there is no evidence to suggest that there is any vertebrate host of the parasite other than man.

Newly infected forest villages have had inter-communications with other infected villages, were asylums for infected refugees, or were situated along the more frequented roads.

This also applies, for the most part, to Tabora, though here, in a few cases, the history of infection is not yet clear.

In Southern Ufipa there have been some obscure cases which suggest that there may be foci of infection in certain uninhabited places.

In Maswa the situation is obscured by the fishing and hunting habits of natives living in fly free villages.

V. PREVENTIVE MEASURES. (Policy followed.)

These, briefly, consist in sterilising the peripheral blood of infected cases; reducing the contact between man and tsetse and controlling the movements of natives in infected areas.

(1) *Sterilisation of the Peripheral Blood.*

This, generally, goes hand in hand with an attempt at curative treatment. So far as resources allow all except very advanced cases are now treated, the drugs employed being almost exclusively, Bayer 205, Fourneau 309, Tryparsamide, and Tartar Emetic.

A point to be remembered in connection with drug treatment, and particularly with Bayer 205, is the fact that after apparent cure parasites may be found in the peripheral circulation long before there is any clinical sign of relapse, so that this method as a preventive measure may be fallacious unless carefully watched.

(2) *Reducing Contact between Man and Tsetse.*

(*a*) "Morsitans" Areas.

It is not always desirable to move people from the forest into open country. So long as the forest exists there must be a certain proportion of the population living near it. Fly bearing scrub generally invades abandoned arable land and its advance is only checked by clearing and cultivation.

For this reason when people have had to be removed in recent years they have been settled in clearings made on the edge of the forest whenever this was practicable. It was not always practicable and then a large clearing was made within the forest itself (e.g. in Ufipa).

The object of making these settlements is not merely to remove the people's homes from contact with tsetse ; it is the first step in an attempt to re-organise the mode of life of forest communities.

Normally these people cultivate a minimum of crops, very imperfectly protected from inroads by Game ; they hunt a good deal in spite of Game Laws ; they fish in parties on the rivers, living in temporary camps for variable periods ; they collect the honey and wax of wild bees, sometimes in parties with a common camp which they use as a rendezvous ; they collect gum ; when grazing is scarce stock owners take their flocks and herds to the forest to graze ; there are occasions for festivities which people may walk several days' journey to attend.

At all these occupations they are in contact—frequently relays of them in the same place—with tsetse, and sometimes with actual Sleeping Sickness cases, so that mere removal of the houses to fly-free areas only solves part of the problem.

It will take a long time before bee-keeping and agriculture on modern lines take the place of the present primitive pursuits but a beginning is being made.

Simple forms of bee hives, types that can be made by the natives themselves, are being introduced. Seeds are distributed, free of charge, to the more backward settlements. The Game Department supplies native hunters for the protection of crops where wild animals are troublesome. Some of the more important fishing places on rivers and the paths leading to them have been cleared. A system of permits assists the regulation of fishing on others.

Transport of produce through infested forest by motor rather than by porters is encouraged.

(*b*) In " Palpalis " Areas.

Bush is cleared round all the main villages on Lake Tanganyika. On Lake Victoria, which is, comparatively, much less fly infested than Lake Tanganyika similar clearings are being now undertaken at Musoma.

It may be remarked that clearing round settlements is not an absolute safeguard so far as fishermen are concerned. These people fish along uninhabited parts of the coast and *G. fuscipes* will fly many yards—probably 50 at least— from the shore to a canoe.

(3) *Controlling the Movements of Natives.*

Movements of natives to and from the infected areas is being limited as much as possible, movement without permit, being in the more dangerous areas, a punishable offence. Tens of thousands of square miles of almost uninhabited forest cannot however be effectively policed, and quarantine is not likely to be really effective until native public opinion comes to favour it.

VI. TREATMENT OF RHODESIAN SLEEPING SICKNESS AND ITS RESULTS.

A.—Routine Treatment.

In this form of the disease treatment is still largely experimental. The drugs used, almost exclusively, are :—Bayer 205, Fourneau 309, Tryparsamide and Tartar Emetic.

The methods of treatment mostly in favour at present are :—

(1) *For Early Cases.*

(*a*) Bayer 205, grm. 1·2 on the 1st, 10th and 28th day, or
(*b*) ,, ,, ,, 1 once weekly for 4 to 5 weeks, or
(*c*) ,, ,, ,, 1 on the 1st, 3rd, 5th, 11th days

and thereafter every 6 days till 8 grammes are given.

It is impossible to say definitely at the moment which of the three methods will give the best results.

Either of these may be followed by a course of Tryparsamide—from 18 to 36 grammes—but this is not considered necessary in the average early case.

(2) *For Late Cases.*

(*a*) The same as (*b*) above, followed after an interval of 1 to 2½ months by Tryparsamide in doses of 2 grammes (usually increased to 3 and occasionally to 4 grammes). These doses are given weekly for 4 weeks, repeated after a month's interval, and then repeated again after a second similar interval, until at least 24 and perhaps 36 grammes are given, in 12 injections and spread over 5 months.

(*b*) The same as (*c*) for early cases followed directly by 5 to 6 weekly injections of 3 gramme doses of Tryparsamide.

B.—The Results.

(1) *Bayer 205 alone.*

If given sufficiently early in the disease in doses of 1 to 1·2 grammes over a period of 4 to 5 weeks till 3·6 to 8 grammes are given it is probable that the majority of cases will recover.

In trying to get conclusive evidence on this point the difficulty is to get cases that can be observed from the beginning.

It may be pointed out here that it is by no means always easy to be certain whether the Central Nervous System is involved in certain cases. A negative result in the examination of the cerebro-spinal fluid, viz., cell count below 30 per CMM., and absence of trypanosomes cannot be considered as excluding cerebro-spinal involvement. On the other hand the cerebro-spinal cell count after a few (3 to 4) injections of Bayer is probably a sign of value—a rise in the cell count (a common occurrence) suggesting infection ; the absence of such a rise, or arrest of infection.

In late cases the drug is disappointing. Dramatic improvement and then apparent recovery, followed, after a variable period (which may exceed a year), by relapse and death is the common history.

There is a third class of case in which the drug may be of more than usual value, namely, the " ambulant " case with high natural resistance to the disease. Experience of workers both in Liwale and in Ufipa suggests this to be the case.

(2) *Fourneau 309.*

The physical characters and therepeutic action of this drug appear to be the same as Bayer 205. Dr. Keevill of the Moravian Mission, Sekonge, Tabora, who, of workers in the Territory, has had most experience with it, considers that it is rather more apt to cause albuminuria than Bayer.

(3) *Tryparsamide alone.*

This drug has given good results in a few cases ; more frequently it fails to arrest the disease even when as much as 30 grammes are given in 2 to 3 gramme doses.

There has not been sufficient experience with it to state what results would be expected if given at the very beginning of the disease.

(4) *Bayer and Tryparsamide combined.*

This course of treatment requires to be spread over a period of 4 to 6 months. This is extremely irksome to patients who may feel in perfect health after their course of Bayer : hence it is difficult to get a large series who have received a full course. Where full courses have been given the results on the whole have been good, but hardly better than might be expected at the beginning with full courses of Bayer alone, and no series has been sufficiently long under observation to enable one to say what the ultimate results are going to be.

One serious drawback to this form of treatment is the fact that a course of Bayer preceding Tryparsamide Administration appears to increase the patient's liability to optic atrophy. This view however lacks absolute proof.

The difficulty cannot be overcome by administering the Tryparsamide first as it is generally agreed that this method is unsatisfactory and may give poorer results than Bayer alone.

C.—Relapsed Cases.

These are generally treated in the same way as late cases, but they usually react badly to treatment.

VII. TREATMENT OF GAMBIENSE SLEEPING SICKNESS.

Some cases are treated with Bayer 205 but the routine treatment favoured is with Tryparsamide. The number of cases available for treatment have, so far, been very few and even with these it has been almost impossible to get any to complete a course of treatment.

VIII. THE SITUATION IN THE RESPECTIVE AREAS.

Is given below in more detail. It should be noted that " cases reported " during the month does not mean " cases infected " during that month and the figures must not be regarded as showing the incidence of infection during the different months. Most cases must have been infected from one to four months before being reported.

A—The Maswa-Ikoma Area.

(1) *History.*

The first known case occurred in 1918 (Balfour) but not till 1922 was the disease discovered at Maswa on a large scale.

The evacuation of the Sick from the forest villages about the middle of 1922, and of the whole population of the most heavily infected parts towards the end of the same year was followed by a considerable reduction in the number of cases. This reduction was general except in Ntussu where, though the incidence fell, the fall was not nearly so marked. In 1923 Ntussu contributed 66% of all the cases ; in 1924, 50% ; and 1925 25%. In 1925 the cases totalled 120 as against the previous year, but this does not necessarily mean a recrudescence of the disease ; it is more probably due to the fact that, for the first time, a Medical Officer was appointed for whole time Sleeping Sickness duty in the latter year.

In 1925 the disease was found for the first time around Ikoma. In spite of quarantine there was enough inter-communication between this area and Maswa to explain the presence of infection at the former. At Ikoma the people have still been allowed to remain at their old villages.

After the evacuation of forest villages in 1922 preventive measures were mainly confined to treating such cases as were accessible and maintaining bush clearings along the main roads.

In 1926 certain other measures were commenced in co-operation with the Director of Game Preservation and the Provincial Commissioner. Both banks of a section of the Simiyu River have been cleared of scrub. Paths leading to some of the main fishing places, both on this river and on the Duma, were similarly cleared. It is proposed to extend this work next year.

No new focus of the disease was found in 1926.

(2) *Table of Cases.*

	Cases.	Deaths.
Total cases diagnosed during 1925	120	49
Total cases remaining 31st December, 1925	74	—
Cases diagnosed 1926:—		
Reported January	58	10
,, February		
,, March		
,, April	6	—
,, May	34	—
,, June	13	5
,, July	13	10
,, August	—	—
,, September	9	9
,, October	25	12
,, November	5	5
,, *December	54	39
TOTAL ..	217	90

* Dr. Corson who has been working on Sleeping Sickness in this district during the year was incapacitated owing to Sleeping Sickness for part of this period. Cases and deaths shown for December represent patients diagnosed in previous months but not reported.

Total Cases remaining 31st December, 1926, 201.

(3) *Incidence of the Disease.*

It is impossible to give the incidence among those exposed with any accuracy as a large number whose homes are in open country frequently get exposed for long periods while fishing, hunting, wax and salt collecting, etc.

(4) *The Type of Trypanosome is "Rhodesiense."*

(5) *Tsetse.*

The predominant species is *G. swynnertoni*. Both *G. pallidipes* and *G. brevipalpis* occur in a few isolated places.

(6) *Game.*

Is abundant in the Ikoma Area, the commonest being wilde-beeste, Eland, Thomson's Gazelle, Zebra, Giraffe, and Topi. In Maswa the commonest found near settlements are Impalla and Zebra, and next to them, Hartebeeste and Thomson's Gazelle.

(7) *Staff.*

There is at Maswa one full time Medical Officer, assisted by one Compounder, three Dressers and three Scouts.

At Ikoma there is one full time Medical Officer, assisted by two dressers.

B.—TANGANYIKA LAKE SHORE AREA.

(1) *General.*

In 1912–13 there were 3,303 cases under observation on the German side of Lake Tanganyika, but it appears that most of these were from Ruanda-Urundi, now Belgian Territory.

It is stated that cases were found at the Malagarassi Delta (Lat. 5°10'S., Long. 29° 45' E.) by the Belgian Authorities during their occupation of Kigoma and Western Ufipa between 1918 and 1921. No records are, however, available and the numbers are unknown.

The first cases since the British Administration took over were found in 1924. Since that year sporadic cases have been found between the Anglo-Belgian Border (Lat. 4°22′ S., Long. 29°38′ E.) and Tongwe (Lat. 6°, Long. 30° E.), where the disease appears to be endemic. No cases have been found South of this though a thorough search has been made since October 1925.

That part of the Lake Shore within this Territory was at one time infested with *G. fuscipes* almost throughout its whole length. Extensive clearings have been made round the main villages both during the German Administration and now, but much still remains to be done. From the Malagarassi Delta (Lat. 5° 10′ S., Long. 29° 45′ E.). Southwards the position is complicated by the fact that *G. morsitans* belts actually reach the Lake Shore in many places and it is not uncommon to find both this species and *G. fuscipes* at the same spot. These belts of *G. morsitans* are not isolated ones but are continuous with the main belt that extends from Ufipa through Kigoma and Tabora to Mwanza and Bukoba.

The main danger here appears to be in the possibility of fishermen spreading the disease from one part of the coast to another where the two flies intermingle and the movements of neither *G. morsitans* nor of the non-fishing population are confined to the Lake Littoral.

Clearing of the whole Lake Shore both inhabited and uninhabited, where *G. fuscipes* is present and *G. morsitans* absent is under consideration, but it is not yet certain whether it will be practicable. Clearing of uninhabited parts where *G. morsitans* is present is not recommended until more urgent measures directed against this fly elsewhere are completed.

Biting flies other than tsetse are comparatively rare. The commonest are Tabanidæ, and next to them, Hæmatopota.

(2) *Cases.*

	Cases.	Deaths.
Total cases diagnosed 1925	17	—
Total cases remaining 31st December, 1925 (including cases remaining from 1924)	19	—
Reported during 1926 :—		
January	—	—
February	—	—
March	4	—
April	2	—
May	1	—
June	1	1
July	3	—
August	—	—
September	1	—
October	1	1
November	—	—
December	1	—
	—	—
TOTAL (for 1926) ..	14	2
	—	—
Total cases remaining 31st December, 1926 ..	31	—

(3) *Incidence of the Disease.*

For the purpose of ascertaining this the two most seriously affected sections of the Lake Shore have been taken, viz. (1) From the Anglo-Belgian Boundary to (but not including) Kigoma Town—a coast length of about 35 miles; and (2) from Luichi (Lat. 4° 50′ S., Long. 29° 45′ E.) to Kibwesi (Lat. 6° 25′ S., Long. 29° 50′ E.).

The incidence in these sections for the first two years have been as follows :—

	Estimated Population 1925–1926.		Number of Cases. 1925.	1926.
(1)	596	.. ..	—	5
(2)	1,000	.. ..	3	1
		Percentage (1)	0%	·8%
		,, (2)	·3%	·1%

(4) *Type of Trypanosome.*

Sub-inoculations into rats have not been made but the parasite is considered, on clinical and entomological evidence, to be *G. gambiense.*

(5) *Staff.*

There is no whole time Medical Officer doing Sleeping Sickness duty on the Lake. The Medical Officer, Kigoma, and one of his Sub-Assistant Surgeons make periodic visits to the fishing villages from the Anglo-Belgian Boundary to Tongwe.

The Medical Officer, Kasanga, has surveyed the Coast—the more populous parts of it repeatedly—from near the Rhodesian Border to the most Northerly villages South of Tongwe.

There are three Native Guards regularly employed. Their duties are to supervise clearings and report any suspicious cases.

(6) *Policy followed in connection with persons proceeding to and from the Belgian Congo.*

Persons wishing to proceed from Kigoma by steamer or dhow must present themselves at the Hospital for examination. Examination of the blood and of the gland juice is made whenever necessary, and persons found to be infected detained.

All crews and passengers of steamers and dhows coming from the Belgian Congo are examined on their arrival at Kigoma.

C.—Ufipa–Tabora Area.

(1) *History.*

The first cases found here were in 1924, but there is ample evidence to show that the disease has been there at least since 1921. European Hunters who visited Ufipa in 1915 state that a disease resembling Sleeping Sickness was present in the forest villages then but the information is very vague. The natives have throughout maintained that the disease is new to them.

Since 1921 gradual spread has taken place, first to the villages to which infected people were taken or where people escaping from infected villages subsequently took ill ; later it spread to the villages on the main Ufipa–Tabora roads and to the fishing villages on the Ugalla and Wala Rivers.

By 1925 the disease was known to be spread over at least 10,000 square miles ; numerous villages had been abandoned by their inhabitants, and it became clear that if the natives were to be controlled it would be necessary to choose sites for new settlements.

Accordingly six large clearings were made in 1925 ; an area of about 5,000 square miles was evacuated and the population removed into the clearings. During 1926 most of these clearings were enlarged and an additional area of about 2,500 square miles was evacuated. Preparations are now going on for the evacuation of 4,000 square miles more next year.

In nearly all the new settlements the incidence of the disease showed a considerable fall in 1926, but towards the West where no evacuation and little treatment had been done in 1925 there was definite spread of the disease, particularly in Ufipa.

This was in no way a new outbreak but a continuation of the insidious spread that has been going on for several years. Hence the necessity of more clearing operations in 1926.

The situation in the new settlements is tabulated below :—

Settlement	Area of original Settlement	Area after clearing 1925	Area after clearing 1926	Estimated Population at the end of 1924	Estimated Population at the end of 1925	Estimated Population at the end of 1926	Remarks
Rungwa ..	Under 2 sq. m.	4 sq. m.	15 sq. m.	—	3,000	5,000	Borders on fly-free Mbuga
Nyonga	Few acres	3¼ sq. m.	9 sq. m.	10	1,400	2,326	In forest
Ilunde	2 sq. m.	6 sq. m.	10 sq. m.	450	1,000	2,000	In forest
Ussoke	—	8 sq. m.	9 sq. m.	—	1,350	1,400	Borders on open country
Kaluia	2 sq. m.	6 sq. m.	6½ sq. m.	250	570	600	In forest
Morogoro ..	—	1½ sq. m.	2 sq. m.	—	271	280	Borders on open country
*Urwira	¼ sq. m.	—	10 sq. m.	—	—	2,884	In forest
*Manga	Work in progress						
*Kaliuwa ..	Work in progress						

* The last three are 1926 clearings.

The figures given in the table both for area and for population are only rough estimates and are subject to revision.

(2) *The Incidence of the Disease.*

In Northern Ufipa, which has been under fairly close observation for over two years the incidence is as follows :—

	Rate per thousand of new cases. 1925.	1926.
People now concentrated at Nyonga	28	9·45
,, ,, ,, ,, Ilunde	7	Nil
,, ,, ,, ,, Urwira	—	18·03
(people concentrated this year only)		

In Rungwa concentration the incidence for 1926 was 7·2 per 1,000.

In Tabora the people who were moved have so mingled with the contiguous population that it is difficult to get an accurate estimate of the incidence. Within the last six months there have been only ten cases in all the Tabora concentrations, namely, in Ussoke, Kalula, and Morogoro.

(3) *Table of Cases.*

	Cases.	Deaths.
Total cases diagnosed 1925	253	—
Total cases remaining 31st December, 1925 (including untraced cases). ..	202	—
Untraced cases 1925	41	—
Cases reported during 1926 :—		
January	26	7
February	34	9
March	20	6
April	21	13
May	27	15
June	17	7
July	18	15
August	—	—
September	9	3
October	12	13
November	11	9
December	28	7
TOTAL ..	223	104

Total cases remaining 31st December, 1926, 321.

(4) *Type of Trypanosome is "T. rhodesiense."*

(5) *Tsetse and other Biting Flies.*

The only species of Tsetse seen is *G. morsitans*. Of other biting flies Tabanus and Hæmatopota are the commonest genera. Crysops occurs in places, but is rare.

(6) *Game.*

Is fairly abundant. The species most commonly associated with cultivated areas are—roan, various small buck like oribi, and bush pig; next to these are eland, bush-buck, hartebeest, waterbuck, baboons, and, in some instances, elephant.

(7) *Staff.*

Besides the Sleeping Sickness Officer there are in Tabora one full time Medical Officer, and Dr. Keevill of the Moravian Mission, Sekonge, doing part time work.

In Ufipa two full time Medical Officers, one Sub-Assistant Surgeon (leaving at the end of the year).

Assisting these there are for the whole area :—

Three Native Dispensers (one just arrived to relieve the Sub-Assistant Surgeon).
Eleven Dressers, Scouts and Guards.
Three Messengers.

D.—Liwale Area.

(1) *General.*

German workers are said to have found cases in this area before the War. Cases were reported during the British Administration for the first time in 1924, but not till 1925 was a proper survey made. Dr. Dye, who has conducted all the investigations here, considers that some of the villages most heavily infested with fly have, for a considerable time past, formed endemic centres and that the disease is spread from these centres by the movements of infected people.

(2) *Preventive Measures.*

Reliance has been placed mainly on the sterilisation of the peripheral blood by means of Bayer 205, and this method has been vigorously carried out, probably very few cases remaining hidden and untreated. Whether due to this or to more obscure causes there has been a remarkable fall in the incidence of the disease since this measure was commenced.

As a further precaution the following measures are now being carried out :—

(*a*) Evacuation of the more heavily infested villages in the endemic area, and building new ones in more favourable sites.

(*b*) Bush clearing, gradually increased until the fly disappears from the vicinity of the houses, around the villages that are not being evacuated.

(3) *Tsetse.*

The predominant species is *G. morsitans*. *G. pallidipes* and *G. brevipalpis* also occur, but so rarely that they can be of no practical significance.

(4) *Cases.*

Deaths reported 1.12.24 to 31.3.35 of cases not seen by the Medical Officer, but, probably, mostly due to Sleeping Sickness	79
Cases remaining 31.3.25 (including untraced cases)	3
Total cases diagnosed 31.3.25 to 31.12.25	73
Total cases remaining 31.12.25	53

New cases reported during 1926 :—	Cases.	Deaths.
January	1	—
February	—	—
March	—	4
April	—	1
May	—	2
June	—	—
July	1	—
August	—	—
September	—	—
October	—	1
November	—	12
December	—	10
	—	—
TOTAL	2	30

Total cases remaining 31.12.26, 25.

(5) *The Incidence of the Disease in the Main Villages.*

The following are the figures for a group of 14 villages :—

Estimated Population			Number of Cases		
Dec., 1924.	Apr., 1925.	1926.	1.12.24. 31.12.25. * Suspected	1.4.25. 31.12.25. known	1926. known
1,505	1,426	1,414	79	71	1
	Percentage		5·2	5·0	·07

* These cases were not seen by the Medical Officer and they may not all have been Sleeping Sickness, but there is no doubt a very large percentage must have been.

(6) *The Type of Trypanosome is "T. rhodesiense."*

(7) *Staff.*

There is one whole time Medical Officer, assisted by one Compounder and two Dressers.

E.—The Rovuma Area.

Cases were recorded from this area by German workers before the War. The first cases recorded during the British Administration were in 1926 and then only two, one being a European.

A complete survey of this area has not yet been made ; when this is done it is not improbable that more cases will be found.

The predominating tsetse is *G. morsitans.*

The Trypanosome is probably *T. rhodesiense.*

Work of Agricultural Surveyors.

The Agricultural Surveyor, Maswa, since his engagement on 1.9.26, has been engaged on :—

(1) Supervision of the clearings North of Duma River.

(2) Supervision of labourers building Maswa Hospital during the Medical Officer's absence on safari.

(3) A survey of the banks of the Duma River between Ntussu and Ututwa with a view to ascertaining whether agriculture could be carried on after clearing at the main fishing places.

(4) A survey of other fishing places on the Duma and Simiyu Rivers, particularly those parts cleared this year, with a view to ascertaining the extent of contact between man and tsetse while fishing is going on.

The Agricultural Surveyor Ufipa, since his engagement on 1.10.26 has been employed on :—

(1) Making well-reservoirs at the concentrations on the lines recommended by Dr. Teale, Director of Geological Survey.

(2) Surveying of land for the extension of Nyonga.

APPENDIX I.

(1) *Results of treatment with Bayer* 205.

1924 and early 1925 cases :—

No. and Sex.	Age (approx.).	Stage of Disease.	Amount given and Dates of Injections.	Remarks.
Ufipa Series. 1 ♀	Adult ..	Very ill 5 months	18 grs. on 24.11.24	Died about a week after.
3 ♂	Adult ..	Very ill 5 months	18 grs. on 25.11.24	Died about a week after.
5 ♀	Adult ..	Very ill 5 months	18 grs. on 26.11.24 18 ,, ,, 9.12.24 18 ,, ,, 17.12.24 18 ,, ,, 24.12.24 18 ,, ,, 31.12.24 15 ,, ,, 9.4.25 15 ,, ,, 11.4.25 15 ,, ,, 23.4.25	Apparent recovery followed by relapse in April, 1925. A second series of injections followed by recovery and later by relapse and finally by death on 26.7.25.
8 ♂	Adult ..	Very ill 4½ months	18 grs. on 27.11.24 16 ,, ,, 3.12.24 18 ,, ,, 10.12.24 18 ,, ,, 17.12.24 18 ,, ,, 24.12.24 18 ,, ,, 31.12.24 Tryparsamide :— 30 grs. on 2.10.25 45 ,, ,, 9.10.25	Apparent recovery followed by clinical relapse Aug., 1925. Blood examined Aug. and Sept., 1925. Improved after Tryparsamide ; seen 8.7.26, quite fit.
9 ♂	Adult ..	Very ill 4 months	18 grs. on 27.11.24	Died a few days after.
10 ♂	Adult ..	Very ill 2 months	18 grs. on 3.12.24 18 ,, ,, 18.12.24 18 ,, ,, 28.12.24	Apparent recovery followed by relapse December, 1925. Died February, 1926.
11 ♂	Adult ..	Ambulant 2 months	16 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24	Apparent recovery seen 11.10.25, was apparently fit but C.S.F. 900 cells per cmm. blood negative. Later relapsed and died 4.7.26.
12 ♀	Adult ..	Ambulant 1 month	16 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24	Apparent recovery last seen 11.7.26, was quite fit and had child 6 months old.
13 ♂	Adult ..	Ambulant 1 month	18 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24 Fourneau given :— 15 grs. on 1.1.26 15 ,, ,, 3.1.26 30 ,, ,, 5.1.26 30 ,, ,, 7.1.26 45 ,, ,, 9.1.26	Apparent recovery followed by relapse December, 1925. Tryps. in blood and C.S.F. 12.12.25. Symptoms became acute 1.1.26. Died 12.1.26.
14 ♂	Adult ..	Ambulant 2 months	16 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24 Tryparsamide given : 30 grs. on 5.10.25 45 ,, ,, 12.10.25 60 ,, ,, 19.10.25	Apparent recovery, but though well had Tryps. in blood 8.9.25. HB. 70%. Health fair 28.3.26. Reported died May, 1926.
15 ♂	30 years ..	Ambulant 1 month	16 grs. on 2.12.24 18 ,, ,, 11.12.24 21 ,, ,, 29.12.24	Apparent recovery seen 21.12.25. Looked fit. Blood negative HB. 75%. Was fit 10.10.26.

APPENDIX I.—(*Continued*).

No. and Sex.	Age (approx.).	Stage of Disease.	Amount given and Dates of Injections.	Remarks.
16 ♂	—	Ambulant 2 months	16 grs. on 2.12.24 18 ,, ,, 11.12.24 21 ,, ,, 29.12.24	Apparent recovery seen 26.10.25. Tryps. in blood, though fit, HB. 75%. Apparently fit April, 1926. Relapsed May, 1926. Died 9.10.26.
17 ♀	25 years ..	Ambulant 3 months, weak	18 grs. on 2.12.24 18 ,, ,, 11.12.24 21 ,, ,, 29.12.24 15 ,, ,, 9.9.25 15 ,, ,, 16.9.25 15 ,, ,, 23.9.25 15 ,, ,, 30.9.25 15 ,, ,, 7.10.25 15 ,, ,, 10.3.26 15 ,, ,, 14.3.26	Apparent recovery seen 8.9.25, fit, but Tryps. in blood HB. 80%. Seen 19.12.25, fit, blood negative HB. 85%. Relapsed Feb. or March, 1926. On 11.3.26 blood positive. Died 22.3.26.
18 ♂	9 years ..	Ambulant 1 month	7 grs. on 2.12.24 7 ,, ,, 12.12.24 7 ,, ,, 30.12.24	Apparent recovery. Remained well some months. Reported died towards end of 1925.
19 ♀	25 years	Ambulant ? Duration	18 grs. on 2.12.24 18 ,, ,, 12.12.24 21 ,, ,, 29.12.24 Fourneau :— 15 grs. on 1.1.26 Bayer :— 15 grs. on 3.1.26 30 ,, ,, 5.1.26 45 ,, ,, 8.1.26 15 ,, ,, 22.1.26 30 ,, ,, 25.1.26 45 ,, ,, 4.2.26 Tryparsamide :— 40 grs. on 19.4.26 60 ,, ,, 25.5.26 40 ,, ,, 8.7.26	Apparent recovery followed by relapse Nov., 1925. Tryps. in blood 19.12.25, HB. 60%. Improved with subsequent treatment. Was fit 10.10.26.
20 ♀	30 years ..	Ambulant 1 month	18 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24	Apparent recovery. Quite fit 8.7.26.
21 ♂	40 years ..	Ambulant 1 month	18 grs. on 2.12.24	Apparent recovery but though fit Tryps. were found in blood 27.8.25. On 3.9.25 C.S.F. no Tryps., cells numerous, HB. 70%. Subsequently treated elsewhere with Bayer and Tryparsamide. Reported well December, 1926. No details.
22 ♀	60 years ..	Ambulant 1 month	18 grs. on 2.12.24 18 ,, ,, 12.12.24 21 ,, ,, 29.12.24	Apparent recovery, very fit and working July, 1926.
23 ♀	? 30 years	Ambulant 3 weeks	18 grs. on 2.12.24 15 ,, ,, 30.12.25 15 ,, ,, 1.1.26 30 ,, ,, 3.1.26 30 ,, ,, 5.1.26 45 ,, ,, 9.1.26 15 ,, ,, 5.2.26 45 ,, ,, 9.2.26 45 ,, ,, 12.2.26	Apparent recovery followed by relapse Dec., 1925. Tryps. in blood 29.12.25. Treatment subsequent to 30.12.25. Was accompanied by albuminurea. No improvements. Died 23.2.26.
24 ♀	? 60 years	Ambulant 1 month	18 grs. on 1.12.24	Apparent recovery. Fit 10.10.26.

APPENDIX I.—*Continued.*

No. and Sex.	Age (approx.).	Stage of Disease.	Amount given and Dates of Injection.	Remarks.
25 ♂	25 years ..	Ambulant 4 months Ankylostomiasis	18 grs. on 1.12.24 18 ,, ,, 14.12.24 21 ,, ,, 30.12.24 Fourneau :— 20 grs. on 14.2.26 Tartar Emetic :— ½ gr. on 16.2.26 Bayer :— 15 grs. on 31.3.26	Apparent recovery followed by indifferent health Dec., 1925. Blood positive 16.3.26. April, 1926, treatment abandoned as hopeless. Died 7.10.26.
29 ♂	65 years ..	Ambulant ? Duration	18 grs. on 2.12.24 18 ,, ,, 12.12.24 18 ,, ,, 29.12.24	Apparent recovery. In good health 24.10.26.
30 ♀	28 years ..	Ambulant 1 month	16 grs. on 2.12.24 18 ,, ,, 11.12.24 18 ,, ,, 29.12.24	Apparent recovery. In good health 8.7.26.
33 ♂	10 years ..	Ambulant 2½ months	7 grs. on 10.12.24 7 ,, ,, 17.12.24 7 ,, ,, 24.12.24 7 ,, ,, 31.12.24 15 ,, ,, 7.11.25 15 ,, ,, 9.11.25 15 ,, ,, 11.10.26	Apparent recovery followed, relapsed in Nov., 1925. On 7.11.25 had fever and Tryps. in blood. On 11.10.26 weak Malaria, Ankylostomiasis, rectal Bilharzia. 22.10.26 Tartar Emetic per rectum. Quinine given and condition improved 15.12.26. Apparently fit.
41 ♂	35 years ..	Actually ill 14 days	18 grs. on 4.1.25 18 ,, ,, 13.1.25 18 ,, ,, 1.2.25	Apparent recovery. Sustained fatal injury Feb., 1926.
66 ♂	20 years ..	Very ill 4½ months	15 grs. on 27.3.25	Died May, 1925.
85 ♂	6 years ..	Actually ill 3 days	4 grs. on 12.2.25 4 ,, ,, 22.2.25 4 ,, ,, 12.3.25	Apparent recovery followed by relapse. Reported died August, 1925.
113 ♂	30 years ..	Very ill 1 month	15 grs. on 26.3.25 15 ,, ,, 2.4.25 15 ,, ,, 9.4.25	Apparent recovery followed by relapse in September, 1925. Tryps. in C.S.F. 11.10.25. Died 27.10.25.

The Cerebro-spinal fluid was not examined in any of the above cases before treatment.
The drug was given intramuscularly or intravenously.

(2) *Results of Tryparsamide Treatment.*

(*a*) 1925–26 cases (Dr. Fairbairn's series).

No. and Sex.	Age (approx.)	Stage of Disease.	Amount given and Dates of Injection.	Remarks.
T 1 ♂	35—40	Ill 5 months. Able to walk ; condition fair	45 grs. per dose Oct. 24, 31, Nov. 9, 17, Dec. 23, 30, Jan. 5, 12. 20 grs. only Jan. 19	Tryps. present 8 days after 9th injection. Course of Bayer then given.
T 2 ♂	30—35	Ill over 3 months. Able to walk. Nutrition fair	45 grs. per dose Oct. 26, Nov. 2, 9, 17, Dec. 22, 30, Jan. 5, 12, 19	Tryps. in blood 6 days after 8th injection. Bayer then given.
T 4 ♂	40	Ill 5 weeks. Apparently fit but for pain in legs	45 grs. per dose Oct. 31, Nov. 7, 13, Dec. 22, 30, Jan. 5, 12, 19	Condition worse than before treatment. Tryps. present in blood 8 days after 8th injection. Bayer then given.
T 5 ♂	25	Fever 8 months before. For 2 months recovery. Not ill 1 month. Nutrition good	45 grs. per dose Nov. 2, 9, 17, Dec. 22, 30, Jan. 5, 12, 19	Tryps. in blood 8 days after 8th injection. Bayer then given.

APPENDIX I.—*Continued.*

No. and Sex.	Age (approx.).	Stage of Disease.	Amount given and Dates of Injection.	Remarks.
T 7 ♀	30	Duration ? Swelling of legs 1 month. Nutrition fair	45 grs. per dose Nov. 4, 11, 18, Dec. 22, 30, Jan. 5, 12, 19	Tryps. present in blood 8 days after 8th injection. Bayer then given.
T 8 ♂	50—55	Ill 2 months. Able to walk. Nutrition good. Very anæmic	45 grs. per dose Nov. 4, 11, 18, Dec. 22, 30, Jan. 5, 12, 19	Condition worse than before treatment. Tryps. in blood 8 days after 8th injection. Bayer then given.
T 9 ♂	40	Ill 6 weeks. General condition good	45 grs. per dose Nov. 7, 13, Dec. 23, 30, Jan. 6, 13, 20	Tryps. in blood 9 days after 7th injection. Bayer then given.
T 10 ♂	40	Ill 4½ months. General condition good	45 grs. per dose Nov. 7, 13, Dec. 23, 30, Jan. 6, 13, 20	Tryps. in blood 6 days after 6th injection. Negative after 7th injection. Bayer given after 7th. Died 2.12.26.
T 13 ♂	35	Ill 1 month. General condition very good	45 grs. per dose Nov. 10, 17, Dec. 23, 30, Jan. 6, 13, 20	Tryps. in blood 8 days after 7th injection. Bayer then given.
T 16 ♂	25—30	Ill 10 days; acute, hardly able to work	45 grs. per dose Nov. 17, Dec. 23, 30, Jan. 6, 13, 20	Tryps. in blood 6 days after 5th injection. Neg. after 6th. Bayer then given.
T 17 ♂	25—30	Ill ? 7 months Able to walk. General condition good	45 grs. per dose Dec. 23, 31, Jan. 7	Tryps. in blood 5 days after 3rd injection. Bayer then given. Died 3.8.26.

The Cerebro-spinal fluid in the above was not examined.
The injections were given intravenously.

(*b*) 1924 cases.

No. and Sex.	Age (approx.).	Stage of Disease.	Amount given and Dates of Injection.	Remarks.
Ufipa Series 6 ♀	25 years ..	Ambulant 1 month	45 grs. on 26.11.24 45 „ „ 3.12.24 45 „ „ 10.12.24 45 „ „ 17.12.24 45 „ „ 24.12.24 45 „ „ 31.12.24 *45 „ „ 7.1.25 *45 „ „ 14.1.25 20 „ „ 16.12.25 45 „ „ 6.1.26 60 „ „ 12.1.26 60 „ „ 20.1.26 30 „ „ 19.3.26 60 „ „ 24.3.26 60 „ „ 31.3.26 60 „ „ 7.4.26 60 „ „ 15.4.26	Improvement was slow but steady and was fairly fit when discharged 15.1.25. Blood was positive on 24.12.24 and 7.1.25. Seen 15.12.25 she looked quite strong and fit but Tryps. were present in blood. 15 examinations since were negative. Patient was well July, 1926.
7 ♂	30 years ..	Very ill several months	45 grs. on 26.11.24 45 „ „ 3.12.24 45 „ „ 10.12.24 45 „ „ 17.12.24 45 „ „ 24.12.24 45 „ „ 31.12.24 *45 „ „ 7.1.25 *45 „ „ 14.1.25	Improvement was rapid. Tryps. were present after 7th injection. A few weeks after discharge on 15.1.25 she contracted Pneumonia and died. Blood was negative during last illness.

* On these dates solution of the drug was boiled. On other dates it was given a little warmer than room temperature. Drug was dissolved in filtered water and given intramuscularly or intravenously.

(3) *Treatment with Fourneau 309 in Oil intrathecally.*

With reference to the Fourneau emulsion for Intrathecal injection sent to me last October I have the honour to report on the first case treated by Dr. Park Noble and myself as follows :—

The case (Ufipa No. 26) was one who had reacted unfavourably both to Bayer and to Tryparsamide and whose only hope appears to be in some other form of treatment. At the time he was blind and extremely emaciated and weak.

On 27.12.25 four minims of the emulsified Fourneau containing 1·2 grains of the drug was injected intrathecally the injection being followed by a few minims of sterile water.

There was no apparent result at all from this injection. On 6.1.26 a second injection was given, this time 2·4 grains in eight minims of the emulsion. Before the injection a little of C.S.F. was drawn off and subsequently examined. It contained cells but no Trypanosomes.

The injection was given at 10 a.m. and the patient was fairly comfortable after it.

Dr. Park Noble gives the following full account of what happened afterwards.

By mid-day the patient complained of great pain in testes and was talking loudly and rather incoherently. There was some retraction of the head and some rigidity of the posterior cervical muscles. He voided fæces involuntarily. Morphine Gr. 1·6 was given and fomentations to scrotum. Seen at 2.30 there were occasional tonic contraction of the muscles of respiration, of the face muscles and of the muscles of the back. The muscles of the limbs were not involved. Head retraction was marked and during the convulsions lordosis was extreme. The pulse was palpable but uncountable, and respirations were slow and laboured. Several times just before a convulsion fæces were passed. The pupils were semi-contracted and remained so.

When the convulsions became more definitely established the order of occurrences was as follows :—(1) Twitching of the hands and eyelids. (2) Slowing of respiration. (3) Tonic contractions of the eyelids, then of the muscles of the face, neck, chest and abdomen. There was profuse salivation. The duration of the earlier convulsions was not noted but later, 5 to 6 p.m., they lasted a minute, with but slight variation, and recurred every 3 to 5 minutes. Later and till 7 p.m. the duration of the fits was rather less then one minute and the intervals between very variable—up to 13 minutes.

At 8 p.m. he died in a convulsion.

There can be little doubt that death was directly attributable to the drug, but it is possible that a stronger patient would have tolerated a larger dose. Should experiments on infected monkeys show this mode of administration to be of therapeutic value it should be worth while in such a grave disease to try a series of cases with a dosage in the neighbourhood of that first given to the above case.

APPENDIX II.

Staff Engaged on Sleeping Sickness Work.

1. Full Time Officers :—

	Station.
Sleeping Sickness Officer—	
G. Maclean	Tabora.
Medical Officers :—	
J. C. R. Buchanan	Southern Ufipa.
W. H. Dye	Liwale.
H. Fairbairn	Tabora (*transferred from Maswa, October*).
T. Langan	Maswa (*transferred from Tabora, October*).
G. S. P. Noble	Northern Ufipa.

Agricultural Surveyors :—

C. MacQuarrie	Maswa.
A. H. MacColl	Ufipa.

Sub-Assistant Surgeon :—

A. M. Bhosle	Northern Ufipa (*transferred Dar-es-Salaam*, 31.12.26).

Compounders :—

F. Lopez	Liswale.
J. X. E. Gomes	Maswa.

Native Dispensers :—

T. Wesley Llanga	Southern Ufipa.
Peter Masanche	Tabora.
John Wright Nkwazi	Tabora (*en route for Northern Ufipa, Jan.* 1927).

Dressers, Scouts and Guards :—

8	Maswa-Ikoma.
3	Lake Tanganyika.
11	Ufipa-Tabora.
2	Liwale.

Dressers in training :—3

Regular Messengers :—3

2. Officers doing part time Sleeping Sickness work :—

Dr. A. J. Keevill, Medical Officer, Moravian Mission	Sekonge, Tabora.
Senior Medical Officer	Mwanza.
Medical Officer	Kigoma.
Medical Officer	Kasanga.
Medical Officer	Songea.

Dr. J. F. Corson, Assistant Bacteriologist, who is temporarily stationed in the Musoma and Ikoma District.

SPECIAL REPORT ON TICK FEVER BY DR. T. H. SUFFERN, B.A.O., CH.B. (ROY. UNIVERSITY, IRELAND), SENIOR MEDICAL OFFICER, TABORA.

The following Table shows the monthly racial and sex incidence :—

MONTHS.	EUROPEANS.		INDIANS.		NATIVES.	
	Males.	Females.	Males.	Females.	Males.	Females.
January	—	—	1	—	4	—
February ..	—	—	—	—	2	—
March	—	—	—	—	3	1
April	—	—	2	—	6	—
May	—	—	—	—	2	—
June	—	—	1	—	—	1
July	2	—	—	—	4	—
August	—	—	1	—	—	—
September ..	1	—	—	—	1	—
October	—	—	—	—	1	1
November ..	—	—	3	—	—	1
December ..	—	—	—	—	—	—
TOTAL ..	3	—	8	—	23	4

The following table shows the results of treatment with each of the three drugs Neokharsivan, Kharsulphan and Mercurochrome :—

Cases treated with Neokharsivan, 4. Average number of relapses per case 0·25.
Cases treated with Kharsulphan, 8. Average number of relapses per case 0·50.
Cases treated with Mercurochrome, 16. Average number of relapses per case 0·81.

A case showing the prolonged misery and disability this disease may cause was that of an Indian Trader, aged 26 years, who first came under observation for an attack of Tick Fever on 8.6.26, when he was given ·75 grms. Neokharsivan. He was under periodic observation for the next five months and on two occasions, viz.:—5.7.26 to 8.7.26 and 20.8.26 to 24.8.26, was in Hospital. During all this time his constant complaint was of headache and weakness. He became quite melancholic. Sitting with his head between his hands he looked the picture of misery. He was never caught with a temperature of over 100°. Repeated blood examinations failed to show spirilla. Finally on 5.11.26 he came under observation with a temperature of 102°, and spirilla in his blood. He was given ·6 grms. Kharsulphan. This ended his troubles most dramatically. He left Hospital three days after perfectly fit and cheerful and has had no relapse.

There was no palsy or other sign of motor nerve lesion ; the infection apparently selecting the sensory tracts.

Note on the Treatment of Ulcers by Dr. C. L. Ievers, L.R.C.S., L.R.C.P. (Edin.), D.T.M. (Liv.), L.R.F.P.S. (Glas.), Senior Medical Officer, Tanga.

It is well known that ulcer is one of the common incapacitating conditions from which Africans suffer and, in untreated cases, is a cause of much misery and indeed sometimes of death as a result of gangrene, exhaustion or malignant new growth. It is also well known that certain factors are concerned in the aetiology of ulcer such as syphilis, yaws, ankylostomiasis, food deficiency of the scurvy type, local injuries by poisonous or irritating plants and so on. And often the treatment of ulcer is a matter of concern and embarrassment to a Medical Officer who finds that his in-patients are suffering from this condition in such numbers as to choke the wards.

Thus it may be of interest to some, though no doubt familiar to most, if I describe a method of treatment in which I have the greatest faith and which shows results superior to any other treatment of which I have knowledge, and it has the advantage too of simplicity. It is a modification of a treatment recommended a year or two ago by a Danish Surgeon.

The general treatment is that appropriate for the causative disease, if known, such as syphilis, yaws, scurvy, anæmia, etc. ; but the local treatment is the same in every case.

The type of ulcer that I particularly refer to is that commonly seen in a community ignorant of anti-sepsis, where the ulcerative process has sloughed through the deep fascia down to the muscles and at times even to the bone. If the periosteum has been destroyed the prognosis is bad, otherwise the ulcers will be nearly always healed by the following treatment.

Treatment.

1. When the patient presents himself with a foul sloughing ulcer the sore is thickly dusted with powdered Potassium Permanganate which with the serum of the wound forms a black paste. The wound is bandaged and left for three days and the patient is given 20 grains of Potassium Iodide daily. He is warned that the pain will be great ; but hardly ever removes the dressing. All patients are given an Iron and Arsenic Tonic as a routine and only rarely is it necessary—in cases of extreme anæmia—to give an intravenous injection of Neokharsivan.

2. When the dressing is removed the wound will be wonderfully improved. It may be necessary to complete the " toilet " of the wound by removing pieces of sloughing skin or tendon under chloroform ; but this is not usual.

3. The patients then undergo the following routine treatment daily :—each is given 20 grains of Potassium Iodide and half an hour later they are placed sitting in a row the ulcers being covered with plain gauze which is kept soaked in Potassium Permanganate Solution (1-500)—the bottle passing from hand to hand. This is done for two hours, the ulcers are then exposed to sunshine for one hour, and afterwards treated with a dry dressing. The following morning the treatment is repeated.

4. As a rule the results are very good indeed under this treatment, the wounds rapidly contract in size and begin to granulate. A brisker treatment is instituted for those that seem to lag and they are stimulated with Iodine and dressed with B.I.P. ; but the Permanganate routine treatment continues in all cases.

5. When the wounds are clean, healing and contracting but hollows remain to be filled up they are treated with normal saline on the gauze each morning for two hours, instead of Permanganate, and moist dressings instead of dry.

6. A certain percentage of the ulcers, owing to the large area of skin destroyed, require to be skin grafted. This is always advisable as the soft skin of the grafts breaks up the hard scar area and probably prevents subsequent cracking and " breaking down." The Permanganate and Potassium Iodide routine treatment is now discontinued. The skin grafts—shavings from the thigh—are easily put on ; the dressings should be left for four or five days—in spite of the smell—before they are removed and in ninety per cent of cases some of the grafts at least will have taken and will rapidly hasten healing under simple ointment or moist Boracic Dressings.

7. I may add that it is advisable during the Rains to cover the dressings with strips of Banana leaves which have been smoke dried and treated with an antiseptic, as the patients will not stay in bed and soil their wounds and dressings walking in the mud—to which dirty element Banana leaves are almost impervious.

Notes on Schistosomiasis by Dr. J. H. Thomson, M.B., Ch.B. (Aberd.), Senior Medical Officer, Mwanza.

This year there were 63 cases treated, all of the hæmatobium type. Most of those cases were admitted from the school at Nassa on the Speke Gulf. The Medical Officer at Maswa found the school children heavily infected. I have known before that there was Bilharzia at Nassa and other places round the lake, but the heavy infection shown made me make inquiries so as to find out the actual extent of the disease in the district as far as possible. We have had cases this year from Urima at the bottom of Smith Sound, Ututwa near Maswa and Nassa. As regards places infected, there seems a general infection all over the district, with some places worse than others. All round Speke Gulf is heavily infected. Ukerewe mainland is very heavily infected. Two European children were infected there, about three years ago. Through Nassa and Ututwa to Ntussa there is fairly heavy infection. Round Mwanza the disease is said to be fairly common, though I have known no cases in Mwanza itself. It is common on the east side of Smith's Sound and in Urima, and Sima to the south of the Sound. I tried to get statistics of the disease in the various sultanates, but so far I have only got from four.

Urima has 338 cases with a population of	35,000
Usukuma has 83 cases with a population of	18,000
Magu (Speke Gulf) 97 cases with a population of	7,590
Sima has 115 cases with a population of	9,116

In Sima they have a disease called Mshipa wa ngiri, which the chief describes as a recurrent and less virulent type of the disease. The natives call the disease Kisambare.

When I came here cases were being treated by interrectal injections of Tartar Emetic, which did not seem to be doing much good. I tried four on Bismuth, four on intravenous injection of Tartar Emetic, and two on Oscol Stibium intravenously. The ones getting Bismuth 2 grs. weekly cleared up first, and they were all discharged cured after four injections.

All the rest cleared up. In December I tried six cases on Bismuth. After three injections the urine cleared up, but eggs were still found in the urine; I am not sure of the complete efficacy of Bismuth injections. I have not tried enough cases. It certainly seems to do good, as it appears to clear up the urine, and in the first lot of cases to cause disappearance of eggs in the urine. It is so much easier to give than Tartar Emetic, and not so toxic.

Notes on Excision of Protruding Portions of the Liver by Dr. C. R. H. Tichborne, L.A.H. (Dub.), Medical Officer, Kondoa-Irangi.

The history of the case was: the patient, a young native man, while celebrating a Harvest Festival, with numerous potations, made an amateur attempt at Hari Kari, by stabbing himself with a long hunting knife in the abdomen.

From this wound, which was directed from above downwards, that portion of the liver substance which lies towards the left and beneath the left lower margin of the sternum, protruded to the extent of six inches in length by four inches in breadth.

As the patient had come a long way (three days journey on foot), it was impossible to think of replacing the gland within the abdominal cavity; three ligatures were passed round the pedicle of the protruding portion of the gland, clip forceps were also fixed at this point, then the entire mass was cut away close to the parietal rent; the abdominal wound healed up by first intention, and the patient made an uneventful recovery. The operation was bloodless.

Notes on Malignant Diseases by Dr. G. R. C. Wilson, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Ag. Senior Medical Officer, Tanga.

Malignant Diseases.

Three cases of Malignant Disease were reported among the African Patients during the year and were confirmed by the Laboratory.

Case 1.—Patient a man of from 35 to 40 years old reported with a large fungating gangrenous ulcer of the leg, with fracture of both tibia and fibula (lower ends). He gave a history of having scratched his leg in the bush. The scratch formed an ulcer which did not heal. He was brought to the hospital three months after the initial injury.

The fractures of the bones were spontaneous. The leg was amputated above the knee and the patient, while still in hospital, developed enlarged inguinal glands, which appeared to suppurate and then formed a fungating mass similar to the initial lesion.

The patient had two secondary hæmorrhages and eventually died some two months after the amputation.

Laboratory findings showed—Malignant Glands probably Sarcoma secondary to bone.

Case 2.—An Epithelioma of Forehead—Patient a man of about 30, an Albino, was admitted to hospital with an ulcer, shallow with everted edges, of the forehead. A small piece was sent to the Laboratory, where the above diagnosis was confirmed. Patient was discharged, while waiting for the Laboratory report, and has not reported since.

Case 3.—A patient of about 25 years old was operated on for a Tumour of the left side of face, about the size of a lemon. The operation was successful, the Tumour removed, and the patient discharged (May, 1925).

He was re-admitted on the 21st April, 1926, with a fungating mass on the left side of the face with protrusion of the left eye and displacement of nose to the right.

A portion of the growth was sent to the Laboratory, where the diagnosis Sarcoma was confirmed. The condition was considered inoperable, and the patient died on the 8th November, 1926.

Notes on Relapsing Fever by Dr. C. B. B. Reid, M.B., Ch.B. (Edin.), D.T.M. (Liv.), Medical Officer, Tukuyu.

Patient.—European, aged 45.

History.

Developed fever on safari, 11.8.25.
Fever subsided, 13.8.1925.

(*1st relapse.*)

Developed fever at Tukuyu, 19.8.25.
Blood found positive for Spirillum.
Grm. 0·45 Neokharsivan administered.
Under observation, 20.8.25 to 6.9.25.
No relapse.

(*2nd relapse.*)

Developed fever on safari, 10.9.25.
Returned to Tukuyu, 22.9.25.
Had no fever.
Grm. 0·45 Neokharsivan, 23.9.25.
Grm. 0·6 Neokharsivan, 30.9.25.
In uninfected country, 1.10.25 to 8.3.26.

(*3rd relapse.*)

Developed fever at Tukuyu, 9.3.26.
Spirillum present.
Grm. 0·6 Neokharsivan, 9.3.26.
Under observation till, 10.4.26.
No relapse.

Notes.—As the patient was in country where there are no ticks, between his second and third relapse, the latter must have been a relapse rather than a re-infection.

The period between his second and third relapse was exactly 26 weeks. The case was a very straightforward one, reacting to Neokharsivan promptly; and there were no eye or other complications.

A Report on Cerebral Symptoms in a Case of Yaws in a Male African by Dr. G. A. Williams, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Medical Officer, Morogoro.

A native African labourer admitted to Hospital on June 20th suffering from well-marked Secondary Yaws. His general health otherwise was fairly good, but he was thin, and of slight build.

He received three intramuscular injections of Bismuth Sodium Tartrate grs. 5 in solution in the ordinary routine method.

1st injection	grs. 5 B.S.T.	21.6.26.
2nd „	„ „	28.6.26.
3rd „	„ „	7.7.26.

On the morning of July 14th he came to the Office to beg to be discharged, as several of his friends were going away that day. He seemed in good general health, but, as some of the scabs had not disappeared, he was advised to stay longer. Up to this date he had not been confined to bed, but was able to walk about and was on ordinary diet.

After midnight he was discovered to have become unconscious, and the Sub-Assistant Surgeon Sant Ram was summoned and he saw him at 1 a.m. and found him in a comatose condition.

He was seen by the Medical Officer at 9 a.m. the same morning, and his condition was as follows :—

1. Quite unconscious and could not be roused.
2. Body turned slightly to the left side.
3. Head turned markedly to the left.
4. Knees drawn up and arms flexed at elbows, with the hands up to the shoulders, and palms to the front.
5. Eyes had pupils widely dulated, and there was conjugate deviation to the right, and I could not be sure if the pupils were unequal.
6. No eye reflexes present.
7. Respiration slow, slight stertor, with a suspicion of Cheyne-Stokes breathing.
8. Pulse, high tension, rate 60 about.
9. No sign of any local trouble at site of injections and no trouble had been complained of.

He was given calomel and enemata, and kept under strict observation.

Next day his temperature rose to 99·2 F. and continued about 99 until the third day, when it became sub-normal, as it remained to the end, and the general condition remained practically unchanged, except for the following :—

1. General hyperæsthesia after 5th day.
2. Contractures of arms and legs persisted to the end and resistance to attempts at extension increased.
3. Loss of control of bowel and bladder and catheter had to be used:
4. Unable to feed by mouth till two days before his death and he had to be rectally fed.
5. About the 10th day the skin over the left great trochanter gave way in spite of precautions.
6. Three days before death œdema appeared in region of right elbow for no apparent cause.
7. Died 27.7.26, 13 days after onset of symptoms.

Post-Mortem Examination.

No signs of disease were found in any of the organs, except in those of the cranium.

Signs of thrombosis of veins in buttock or abdomen looked for but none found.

On removal of the skull-cap, the membranes were found to be thickened and very adherent to the brain substance, especially at the vertex.

The brain was removed, and placed in 2% formalin to await the instructions of the Director of Medical Services, to whom the case had been already reported.

The right hemisphere had engorged veins on the surface, and the right lateral sinus was thrombosed, and ante-mortem blood-clot, about 2½ inches long was found in its distal end, which clot thinned off towards the exit from the cranium, and the clot shewed signs of being more recent at this end.

The preserved brain was sent to the Director of the Government Laboratory, at the suggestion of the Director of Medical and Sanitary Services.

The patient was a young man of about 23 to 25.

The Director of the Laboratory reports " changes in the brain similar to those found in General Paralysis of the Insane."

An Experiment on the Effect of Carbon Tetrachloride on the Physical Condition of a Group of African Labourers by Dr. A. McKenzie, M.B., B.S. (Lond.), D.T.M. and H. (Lond.), L.M.S.S.A., Sanitation Officer, Dar-es-Salaam.

The object of this experiment was to find out in what way and to what extent a single or in some cases a repeated dose of Carbon Tetrachloride influenced the physical condition of an African who had previously been suffering from Ankylostomiasis. Firstly, it must be pointed out that this experiment falls short of exact scientific method in that not all of the subjects of the experiment were examined coprologically and thus it is possible that by no means all were infested with Necator or Ankylostoma. Owing to the large number it was considered wise to treat, the stool examination would have taken such time that it might have prevented the carrying out of the therapeutic part of the experiment. An examination of a fair proportion of the labour employed by this Office had shown that the majority were to a greater or less extent infested and it was considered that the only modification of the result would be that the final figures would show (if they showed anything at all) a less striking testimony to the value of the drug, or more correctly to the economic value of clearing the system of these helminths, for I have never heard of any tonic effect produced by Carbon Tetrachloride, nor has it been claimed that it has action upon other human parasites which carry serious debility in their train. On the other hand it would show very well what might be expected as a result of a single mass treatment by Carbon Tetrachloride on, for example, an estate or labour station.

The subjects chosen for this examination were the drainage gang and mosquito finders attached to this Office. The drainage gang are the most interesting as it may perhaps be presumed that owing to their constant work in moist ground they would be more heavily infested than others and also it was possible very accurately to keep a record of the work done by them. Their work consists in :—

(*a*) Clearing drains, this is reckoned in linear feet of drains cleaned ;

(*b*) Filling hollows and swamps which is recorded in cubic feet of earth used ;

(*c*) New drains cut which has been recorded in linear feet of drain but unfortunately makes no mention of depth of drain, etc. ;

and (*d*) Cutting grass estimated in square feet.

Technique.

The blood of each man treated was examined by the Tallqvist method and he was then weighed. These figures were recorded together with a brief note as to the man's fitness and development and after this he was given a dose of Carbon Tetrachloride which was swallowed under supervision.

The majority received 50m. of CCl_4 together with 1 oz. magnesium sulphate in water but those under 7 stone 6 lbs. or who looked unfit received 40m of CCl_4 with the same quantity of Salts.

The weight and Hæmoglobin value were measured by two observers who, in the subsequent stages of the experiment, exchanged their tasks so that there might be no suspicion that the results were being influenced in the way one wished them to go. A third person recorded the figures told him by the two observers who has had no opportunity to compare the previous records until after the last figure was recorded.

The first examination was made on May 24th, when the initial dose of Carbon Tetrachloride was given. The second on June 22nd, and the third on August 26th. On the last occasion no treatment was given except in a few special cases. Thus there was approximately one month between the first two examinations and three until the end of the experiment.

The number of Africans treated was eighty-five.

The figures analysed gave the following results :—

Weight in lbs.	May 24th—June 22nd.	June 22nd—Aug. 26th.	May 24th—Aug. 26th.
Total gained	264	161	383
Total lost	20	87	7
Average gain per man	3·1	1·0	4·4
Number of men who :—			
(*a*) Gained weight	63	39	66
(*b*) Lost weight	7	23	5
(*c*) Remained stationary ..	15	21	13
2. *Hæmoglobin* %.			
Total gained	665% / 85	475% / 83	1,010% / 84
Total lost	105% / 85	70% / 83	25 / 84
Average gain per person ..	6·5%	4·5%	11·7%
No. of men whose hæmoglobin %			
(*a*) Rose	59	54	71
(*b*) Fell	14	11	4
(*c*) Remained stationary ..	10	16	9

The slight discrepancies in the figures are due to the fact that two people were absent at the second re-examination and one at the first.

The greatest weight gained by any man in the course of the experiment was 48 lbs. This man weighed 7st. 7 lbs. on May 24th and his Hæmoglobin value was 50%. On June 22nd his weight had not increased but his Hæmoglobin was 65%. He received a second dose of CCl_4, and on August 26th his weight was 10st. 13 lbs. and his Hæmoglobin 85%. The greatest increase of Hæmoglobin value was 35% occurring in this same man. Many others gained over 20% during the course of the experiment.

The work done by the drainage gang for several months is shown below :—

Month.	Drains cleaned. Ft.	Filling. C. ft.	New Drains cut. Ft.	Grass cut. Ft.
May	224,432	4,746	6,045	10,541
June	230,466	9,848	1,295	2,968
July	274,090	10,306	2,380	84,625
August	306,177	11,904	1,362	40,124

It is a pity that the work done each month cannot be expressed by a single number but it is possible to see that the amount of work done each month has steadily increased.

The experiment thus proves most conclusively that the result of single treatment of a group of men is that their physical standard, as estimated by their weight and blood, is raised and that they are capable of, and will perform more work.

Some indication can also be obtained from these figures as to how soon a second treatment should follow the first. It will be noticed that a greater improvement in weight is evident during the first month of the experiment than during the second two and that more men lost more weight during the latter portion.

The improvement in weight is not important, but I think it may be justifiable to assume that most if not all of the men who lost weight during the second half did so on account of an infection following their treatment. Thus it would seem that an infection may make itself known by a fall in weight during the second or third month after infection.

The hæmoglobin value appears to rise after the weight and it may be suggested that the anæmia produced by an infeetion with hookworm follows an initial loss of weight.

Working over the individual records it was not possible to show an absolute correlation between (1) loss of weight or a stationary weight and (2) a corresponding change in the hæmoglobin value when the two periods May to June and June to August are examined separately, although this did occur in a large proportion of the cases. The weight frequently rises while the hæmoglobin remains stationary and vice versa but when the whole period May to August is reviewed the increase in weight goes much more hand in hand with an increase of hæmoglobin.

It is I think possible to recommend from this analysis that where the subjects are exposed to reinfection the second dose should follow the first at an interval of two months in order that a fresh infection may not undo the good work of the first treatment.

As to subsequent treatments, these will be modified by the proportion of the populace who are treated; for where all or the majority receive an efficient anti-helmintic, soil pollution and the possibility of reinfection will decrease side by side.

In conclusion I may state that no ill effects were felt by anybody and there was no reluctance to attend the subsequent examinations.

EXTRACT FROM THE ANNUAL REPORT ON THE YAWS AND SYPHILIS BY DR. J. F. CORSON, M.D., CH.B., (MANCH.), D.P.H., D.T.M. & H. (CANTAB.), MEDICAL OFFICER, MUSOMA.

TABLE OF YAWS AND SYPHILIS.

Particulars.	In-patients.	Out-patients.	
		Male.	Female.
Yaws	241	551	552
Syphilis, Primary	14	41	22
,, Secondary and Tertiary ..	71	390	416
,, Congen	4	1	10
,, Condylomata	1	0	0
Gonorrhœa	2	28	3
TOTAL ..	333	1,011	1,003

Injections of Bismuth Sodium Potassium Tartrate.—There were 3,226 injections during the year. The injection has been found very successful especially in Yaws of all varieties, etc., and large numbers of cases came every Monday and Thursday for injection. As well as Venereal Diseases injections were given also in the following diseases :—

Disease.	Number of Injections.
Tabes dorsalis	10
Psoriasis	7
Skin diseases	1
Periostitis	1
Glossitis	1
Paralysis	3
Epilepsy	3

Remarks.—In all the above diseases Bismuth Sodium Potassium Tartrate was found very successful. Bismuth Sodium Potassium Tartrate twice a week followed by Potassium Iodide in large doses gave wonderful results in tabes dorsalis cases.

B.S.P.T. Injections in Veneral Disease.

Syphilis.		Yaws.	
New.	Repeated.	New.	Repeated.
970	463	1,314	479

After 3,226 injections of Bismuth Sodium Potassium Tartrate very few number of cases were treated for Stomatitis, enlarged salivary glands and inflammation of the buttocks. No death took place from B.S.P.T. injections. With Bismuth Sodium Potassium Tartrate nobody complained of mouth trouble and the cases of mouth trouble were only seen while injecting Bismuth Sodium Tartrate. All cases of mouth troubles were treated with Potassium chlorate gargles.

NOTES ON BILHARZIASIS BY DR. J. F. CORSON, M.D., CH.B., (MANCH.), D.P.H., D.T.M & H. (CANTAB.), MEDICAL OFFICER, MUSOMA.

Bilharziasis.—The following identifications of snails collected in the district were kindly made by Mr. Robson and Major Connolly of the British Museum.

Place where found.	Name.
Ushashi	Isidora (Physopsis) martensi Germain
Ikisu	Ditto.
	Plaorbis tanganicanus Bgt.
Busegwe	Isidora forskali Ehrn.

NOTES.

At Ushashi 18 of 20 unselected children had eggs of *S. hæmatobium* in the urine. At Ikisu they were present in 8 of 14 children. Nine other cases of urinary bilharziasis afterwards presented themselves. No cercariæ resembling that of *S. hæmatobium* were found though other cercariæ were frequently present. At Busegwe no cercarial infection of *I. forskali* was found and, according to Major Connolly, this snail has not yet been convicted as a carrier. Eggs were found in 8 of 23 specimens of urine examined. The percentage infection at other places was as follows :—

Suguti 25%, Muganza 16%, Nagusi 33%, Isenye 40%.

Opportunity for further investigation did not occur.

AN INTERESTING CASE OF ANEURISM, BY DR. A. R. LESTER, M.B., B.S. (BOMBAY), F.R.F.P.S. (GLAS.), D.P.H., D.T.M. & H. (EDIN.), MEDICAL OFFICER, MWANZA.

An old woman of sixty-five or so came to hospital in August, complaining of a tumour on the back and of neuralgic pains in the left side from beneath the axilla to the loins. The tumour extended from an inch below the spine of the scapula to the eighth rib on the left side of the back. It stood out from the general surface of the back to a height of two to two and a half inches at its middle and could not be comfortably covered by a man's hand. Its greatest length from above downwards over the convexity was nearly eight inches and it was about five and a half inches across. On palpitation and auscultation it was found to be a pulsating tumour. A loud rasping bruit was audible, and the vertebral border of the scapula in its lower two-thirds and the greatest concavity of the ribs up to the superior border of the eighth, were found to be eroded.

The patient gave a history of Syphilis of long standing but was emphatic in stating that the tumour in the back was of two months duration only. Be this as it may, the patient was warded and treated for aneurism. An increased difficulty in breathing and swallowing was also complained of.

On the afternoon of the second day she left her bed to go out of the ward, collapsed on the steps and died. The tumour disappeared at the same time.

Post-mortem examination revealed a large fusiforem aneurism commencing from the descending aorta and extending to the diaphragm. The heart was enlarged and the œsophagus and trachea displaced slightly to the right. The aneurism had burst posteriorly at about the middle and the left lung was collapsed with the blood which had poured into the thorax.

The erosion of the ribs, scapula and vertebræ was marked and the intervertebral cartilages which escaped erosion stood out like broad discs.

The distension of the aorta appeared even, but one or two atheromatous patches were observed. Layers of laminated fibrin were found where denudations of the endothelial lining had occurred. The specimen was preserved.

A Case of Congenital Hydrocele, by Dr. A. R. Lester, M.B., B.S. (Bombay), F.R.F.P.S. (Glas.), D.P.H., D.T.M. & H. (Edin.), Medical Officer, Mwanza.

A native was admitted to hospital during August suffering from what appeared and was considered to be an acquired Hydrocele. On his being laid on the operation table, however, it was found that the fluid could be emptied into the abdomen by persuasive pressure in a direction at first inwards and upwards, then backwards, outwards and upwards. On release of the pressure, the fluid returned, and pressure in any other direction failed to empty the tunica vaginalis. It was discovered on operation that a valve-like flap in the tunica vaginalis below the external abdominal ring, made what appeared to be an acquired, of a congenital Hydrocele. The fluid removed on pressure of the abdomen was about three times as much as the sac could ordinarily hold.

The neck of the sac was ligatured and inverted. No recurrence is reported and the patient was discharged in ten days.

A Case of Malignant Endothelioma of the Orbit, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

Makingira.—Male African.— Middle-aged.—Non-Official.—Admitted hospital 22.6.25. He had a large, cauliflower growth, apparently originating in the eyeball. This growth was of the size of a Tangerine orange, and it was ulcerated on the surface. It had fungated through the right upper eyelid. The eye itself was shrunken and perfectly opaque and visionless. On 23.6.25, under open $CHCl_3$, I performed a complete Exenteration of the affected orbit, removing the entire orbital contents complete in their periosteal envelope, together with both eyelids. Patient was very little inconvenienced by the operation and had practically no after pain. The orbit was dressed daily with moist 1–20 Carbolic. Patient was discharged from hospital on 5.9.25, but he continued to attend as a daily out-patient until his wound was completely healed. I was astonished at the rapidity with which the huge cavity became filled with clean granulations. When seen by me on 20.10.25, these granulations were almost completely covered with epidermis. I sent the excised mass to the Laboratory, Dar-es-Salaam, and the pathologist there reported that, though he had some doubt as to the exact nature of the specimen, he considered it to be an Endothelioma.

I did not see my patient again until 27.6.26, when he reported because of headaches and a lump in the region of the right Parotid Gland. Both the headaches and the lump had commenced about one month previously. The headache was unilateral; starting in the region of the exenterated orbit and extending up from that point to about the centre of the vertex. It was unaccompanied by vomiting or vertigo, and there was no evidence of "Optic Neuritis" in the sound eye. I examined the nasal fossæ and the naso-pharynx with the electric trans-illuminator, but could detect no abnormality. There was no limitation whatever in the free mobility of the jaw. For these reasons I did not think that the new tumour in the Parotid region could possibly be due to a direct *extension* of the original orbital growth. The new tumour was of about the size of a duck's egg;

it was freely movable under the skin, and partially so on the deep structures ; it conformed pretty exactly to the normal shape of the Parotid Salivary Gland and extended forwards over the Masseter ; it was of absolutely even consistency ; it extended from about ½" above the Zygoma to about ½" below the angle of the jaw. The skin over the tumour was perfectly normal and showed no dilated veins. There was no facial paralysis. The consistency of the tumour was extremely hard. There was no evidence of secondary deposits in the Lungs, Liver or other organs ; and the Cervical Glands were not enlarged. The patient's general health was excellent. There was certain amount of pain in the region of the Parotid growth, but it was not severe. There was not the slightest trace of recurrence in the scar of the original operation ; the orbital hollow was completely covered over with sound skin, and there was strikingly little deformity.

On 26.7.26, I endeavoured to remove the Parotid growth under $CHCl_3$. By this time, the tumour had increased considerably in size and had become adherent both to the skin and to the deep structures, but the Cervical Lymphatic Glands had not become palpably enlarged. Complete right-sided facial paralysis had developed.

As a preliminary to the excision, I endeavoured to ligature the External Carotid Artery, but I found the tissues surrounding this vessel so infiltrated with growth that ligature was impossible, and I accordingly abandoned the operation.

I have no doubt that the secondary growth is a metastasis in the Parotid Lymphatic Glands. It might have been operable when I first saw it, but a month had to elapse while I *safaried* to the Rovuma, to investigate the question of Sleeping Sickness.

The original growth doubtless arose from the Choroid of the eyeball.

A Case of Ulcerating Granuloma, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

Young African boy, aged about 14 years. Penis, Scrotum and both Groins involved in an ulcerated, granulomatous mass. Scrapings from the edges were stained with Methylene Blue and showed enormous numbers of Diplococci in the pus cells. As patient's veins were very small, I decided to treat with intramuscular injections of Bismuth Sodium Tartrate. He got one injection of 5 grs. I saw him about a week later and the local condition was quite definitely improved. This patient, however, absconded before further treatment could be given ; but I feel encouraged to use Bismuth in the treatment of any other case of this disease that I may come across.

A Case of Sleeping Sickness with Some Unusual Features, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

Patient was a Greek (K.K.). His illness began at Mitomone, on the Rovuma, where he had been badly bitten by Tsetse Flies (*G. Morsitans* exclusively), the onset being marked by swelling of face and neck, headache, fever and, for the first two days, abnormal drowsiness. Thereafter, the drowsiness was replaced by most obstinate insomnia. About a week after the start of the illness, excruciating neuralgic pains began to affect both arms and were accompanied by progressive weakness of the upper limbs. I saw K.K. first on 30.3.26, about 10 days after the start of his illness, and he then looked as though in the last stages of fatal illness. In fact, as he was anæmic, and emaciated and suffered from a chronic cough, I suspected Phthisis, but I could find no T.B. Trypanosomes were not found until 2.4.26, probably because I was not on the look-out for them. Thereafter, they were found to be teeming in the peripheral blood, often as many as 3 or 4 in a single field. Œdema of feet. Hand-grasp very weak on both sides—practically non-existent on the left. Partial wrist-drop on left side ; hand could not be extended above level of long axis of forearm. No Babinsky ; no Ankle Clonus. Moderate remittent fever, always highest at night. Occasional rigors.

3.4.26—8 ccs. 2% Mercurochrome intravenously. The only effect was apparently to increase the number of parasites in the blood, as tested on the following day.

5.4.26—1 gr. Tartar Emetic intravenously. Alarming collapse followed, also excessive coughing. On the following day, no Trypanosomes could be found, but I decided not to risk Tartar Emetic again. For 9 days after this injection, no Tryps. could be found.

7.4.26—4½ grs. Soamin intramuscularly.

9.4.26—6 grs. Soamin intramuscularly. To-day, on careful examination, I discovered that K.K. had a complete paralysis of the left Deltoid muscle. The Spinati appeared to be unaffected. Spinal puncture was refused, as were also further injections. On 12.4.26, an attempt to inoculate a rat failed.

15.4.26—Condition very much worse. Tryps. re-appeared for first time since the Tartar Emetic injection.

18.4.26—3 grs. Soamin hypodermically.

19.4.26—Tryps. decidedly less and showing signs of granular degeneration.

20.4.26—3 grs. Soamin. Tryps. much less.

22.4.26—3 grs. Soamin. Tryps. apparently absent from peripheral blood.

24.4.26—1 gm. Bayer 205 subcutaneously.

25.4.26—Patient felt much better. To-night, for the first time since I began to treat him, he had a sound natural sleep without Morphia.

26.4.26—1 gm. Bayer 205 intravenously. No Tryps.

27.4.26—Arm pains practically gone. Tryps. continually absent.

28.4.26—1 gm. Bayer intravenously.

4.5.26—Anorexia (which had been persistent) gone and patient ravenous. Sleeps tolerably well every night. Marvellous improvement.

Patient now put on Hexamine (grs. 10) and Sodium Biphosph. (grs. 30) T.I.D. for remainder of his stay in Songea. Arms almost free from pain and the partial wrist-drop cured, but the Deltoid Paralysis remains as complete as ever.

5.5.26—1 gm. Bayer intravenously.

12.5.26—Fifth and last intravenous injection of Bayer. Throughout the course of Bayer, no Albumen was ever found in the urine which was examined daily. From 22.4.26 until patient's discharge on 26.5.26, Tryps. remained continually absent from the blood. (Blood examinations were made every day throughout patient's illness). Since 13.5.26, the temperature remained persistently normal.

17.7.26—2 gms. Tryparsamide intravenously.

24.7.26—2·5 gms. Tryparsamide intravenously.

31.7.26—3 gms. Tryparsamide intravenously.

I had wanted to give a course of 12 weekly injections of Tryparsamide, but patient decided to go to Mahenge, so I gave him a note for the Mahenge Medical Officer and discharged him. When he left Songea, he looked fat and healthy, with plenty of colour in his once pale cheeks. He was to all outward appearance a perfectly healthy and normal man except for one thing—viz., his Deltoid Paralysis remained as absolute as ever.

The five points of special interest in this case are :—

(1) The fact of the disease *starting* with somnolence and progressing to Insomnia.

(2) The unusually large number of parasites—sometimes as many as 3 or 4 in an oil immersion field.

(3) The development of wrist-drop (which disappeared under treatment) and of Deltoid Paralysis (which persisted in spite of treatment).

(4) The wonderful improvement, even if it should prove to be only temporary, brought about by Bayer 205.

(5) The fact that no albuminuria appeared throughout the course of Bayer treatment.

A Case of Simple Goitre with a Huge Secondary Deposit in the Skull, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

This case exemplifies the statement made on page 1,001 of "Rose and Carless' Surgery" (10th edition, 1921), viz.—"As a rare complication may be mentioned general dissemination, giving rise to secondary growths, which are usually found in the short and flat bones, especially the cranium and vertebræ. . . . . The Thyroid may be apparently normal or the site of a simple goitre."

Likongolieni.—Female African.—Non-Official.—Age about 50 years.—Admitted hospital 2.9.26. Large, soft, fleshy lump on back of left side of head; lump adherent to skin and covered with a network of enormously dilated veins; considerable pain complained of in region of the lump. No enlargement of the cervical glands. On close examination, I discovered a small, hard, apparently completely encapsuled lump, of about the size of a walnut, in the right lobe of the Thyroid gland; it had no features suggestive of malignancy, and the patient, though aware of its existence, had thought it too trivial to bring to my notice. On questioning patient closely, she said that her Thyroid lump had first appeared about three years ago and that the Cranial lump had begun to develop about one year later. The latter had been of very slow growth. When seen by me, it was of the size of a very large orange.

On 8.9.26, under open $CHCl_3$, I attempted to excise the cranial tumour; but hæmorrhage from the skin vessels was so severe that I abandoned this design and decided merely to remove a wedge for section. My first cut into the tumour tissue was, however, followed by such furious bleeding that I thought it wisest to desist; so, arresting the hæmorrhage with a mattress suture, I closed the skin incision and sent the patient back to bed.

Elephantiasis of the Male External Genitalia, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

From my experience here, I conclude that four types of this affection exist:—

(*a*) Elephantiasis affecting both Penis and Scrotum, the Penis being completely buried in the scrotum. This is the commonest type.

(*b*) Elephantiasis affecting both Penis and Scrotum, these retaining their normal relations to each other. Fairly common.

(*c*) Elephantiasis affecting the Penis only. Fairly common.

(*d*) Elephantiasis affecting the Scrotum only. Decidedly uncommon.

It would be interesting to know what determines the particular type. It is not just a matter of development—of one type merging slowly into another; because the most extreme case of elephantoid enlargement that I have yet seen belonged to type (*b*). In other words, excessive enlargement does not necessarily lead to absorption of the penis into the scrotum. Why is this? The point is one to which attention should be directed.

Treatment of the Denuded Penis after Radical Excision.—The methods which I have so far adopted are two in number:—

(1) "The Tunnel Method."—I am certain that this is the ideal method when practicable, as it usually is. The penis is drawn through a 4" subcutaneous tunnel on the inner aspect of the thigh, the divided mucous membrane round the Corona being fixed with a few stitches to the skin edges forming the distal end of the tunnel. The base of the penis is covered by the approximation in the mid-line of the two small skin flaps which are used to cover the testicles with. Some three weeks after, when healing is complete, the penis is freed from the thigh by an incision which marks out two small, lateral flaps, which, when united by a few sutures, complete the cutaneous investment of the now mobile penis. The wound left on the inner aspect of the thigh is closed by under-cutting and then approximating its edges.

As yet I have been able to perform this operation on only one case ; but it was a great success and resulted in a most elegant penis. The great advantage of the method is that, by using it, no raw surfaces are left at the conclusion of a radical excision.

(2) The Granulating Flap Method.—The flap is raised from the thigh. It is about 2 inches wide and must be at least 10 inches long. After dissecting it up, sterile gauze is placed beneath it and the flap is replaced and fixed by a few sutures in its original bed. After 3 weeks, one end of the flap is *obliquely* divided and the whole flap is again raised and applied to the distal portion of the granulating penis like a roller bandage—only a single turn being, however, taken. The patient's legs and thighs are now firmly bandaged together and flexion of the thighs on the abdomen maintained by tying a sling between the neck and the knees. This uncomfortable position must be kept up for another 2 weeks—i.e. until the distal end of the flap has become firmly united to the penis. The proximal end of the flap is now divided obliquely and the process of bandaging the penis with skin completed. The wound in the thigh can be approximated by undercutting.

This method has many disadvantages. It is a very slow method. The unfortunate patient has to be trussed up like a fowl. There is some risk of sepsis. Finally, the ultimate cosmetic result is poor, the penile skin retaining its bandage-like appearance. Sometimes, however, this method (or some modification of it) may be the only one available. This is the case where the skin on the inner aspect of the thighs is unhealthy, thus rendering the " Tunnel " operation impossible.

I have performed the method successfully on two cases. It is perfectly simple and a little sepsis does not interfere with ultimate healing.

I have seen neither of these methods described in text-books with reference to Elephantiasis. Ordinary skin-grafting is, of course, referred to ; but Wolfe's method is very uncertain, and Thiersch's method is, I think, absolutely unsuitable for the penis which surely ought to be covered with whole-thickness integument.

A Case of Dentigerous Cyst, by Dr. W. K. Connell, M.B., Ch.B. (Glas.), Medical Officer, Songea.

Joseph ; a male non-official native aged about 25 years. Reported at hospital on 3.8.26. The left Superior Maxilla was expanded to the size of a large Ostrich egg, and so great was the expansion that the left eyeball had been displaced upwards and outwards, rendering binocular vision impossible. The history was that of continuous slow growth over a period of 6 years. No pain. General health unaffected. No glandular enlargement.

The enlargement was hard and uniform, the soft tissues being freely movable over it. No egg-shell crackling could be definitely made out. The Maxilla was apparently expanded equally in all directions. The hard palate on the left side was markedly depressed ; and expansion of the outer wall of the left nasal cavity had led to complete occlusion of that cavity, from which, however, there was no hæmorrhage or discharge. The mouth could be freely opened.

The left upper Canine tooth was found to be missing, its place being marked by a slight bluish depression, and the patient was emphatic that *this tooth had never erupted*.

When I first saw this case, I suspected Sarcoma ; but against this are the long history, even nature of the swelling, absence of any constitutional symptoms, absence of hæmorrhage and discharge from the nostril, absence of pain. I was thus forced to rule out malignant disease, and it seemed plain that I was dealing with some sort of Odontome. The non-eruption of the left upper Canine made a diagnosis of Dentigerous Cyst almost unavoidable.

At first the patient agreed readily to operation, after I had explained to him that further enlargement of the tumour would eventually destroy the left eye ; but his courage failed him at the last moment and he absconded on the morning fixed for the operation.

I think that this is probably one of the very biggest Dentigerous Cysts ever recorded.

NOTES ON EPILEPSY, BY DR. D. V. LATHAM, B.A., M.B., CH.B., B.A.O. (DUB.), MEDICAL OFFICER, LUSHOTO.

Two cases of Epilepsy were treated with bi-weekly injections of Bismuth et Sod. Tart. The first was a major epilepsy case aged about 20 who had fits about three times a week. He improved rapidly under treatment, the fits getting less frequent after each injection. After 10 injections of 2 gr. each he was discharged and he reports that now after two months he rarely gets a fit and they are so mild that they pass off in a few seconds. The second was a child of 10, had suffered from minor epilepsy for two years, almost daily attacks, given a similar course to above, after the first injection had no fits in two months observation. The results are sufficiently encouraging to justify systematic experiment.

EXTRACT FROM A PAPER PUBLISHED IN THE GEOGRAPHICAL JOURNAL OF DECEMBER, 1926, ENTITLED "KILIMANJARO AND SOME OBSERVATIONS ON THE PHYSIOLOGY OF HIGH ALTITUDES IN THE TROPICS," BY DR. D. V. LATHAM, B.A., M.B., CH.B., B.A.O. (DUB.), MEDICAL OFFICER, LUSHOTO.

Kilimanjaro rises to 19,710 feet, the expedition extended over ten days and the summit was reached six days after leaving Moshi. The primary object of the expedition was to reach the highest point in Africa, and in this it was successful. The physiological observations were at all times secondary to this and as the conditions were extremely rough, especially at the higher altitudes, they are naturally very sketchy.

Respiration and Circulation.—Shortness of breath made itself felt first at 12,000 feet, but was never very distressing even at 19,000 feet. Acclimatisation of respiration was the most marked accommodation to reduced pressure we noticed. Breathing was less distressed at 18,000 feet than at 15,000 feet four days previously; but from 18.000 feet onwards especially when the gradient was steep the respiratory rate rose rapidly while climbing and it was necessary to stop and rest for a minute after each forty paces or so; but as only a few hours were spent at the highest altitude acclimatisation could not be expected to have been effected. However, when resting at 19,000 feet the respiratory rate was only 20 per minute and there was no suspicion of distress. I noticed Cheyne Stokes respiration in my companion while resting at 15,000 feet.

The power of holding the breath is not in my opinion a good test. One can train to the extent of a 25% improvement in the course of a few days. I give my table for what it is worth :—

Time breath held in seconds	4,500 feet	— 75
	8,400 ,,	— 64
	11,500 ,,	— 40
	14,700 ,,	— 49

The expiratory force of the lungs for an individual varies with the method the subject adopts for blowing. My table does not show any marked variation at different altitudes. The test is chiefly one of physical fitness.

Expiratory force of breath in mm. of mercury	4,500 feet	— 158
	8,400 ,,	— 122
	11,500 ,,	— 144
	14,700 ,,	— 138

The pulse rate during rest at varying altitudes was not markedly altered, but on exertion at 18,000 feet palpitation became a hindrance to progress, but a rest of two minutes brought the pulse rate down to normal. During the early stage of the climb as low an altitude as 11,400 feet caused sufficient palpitation to interfere with sleep, but strangely was relieved by sitting up or walking about the hut. My companion had a normally intermittant pulse, the intermissions were very marked during the endurance

tests which consisted of blowing a bag to pressure 40 mm. of mercury and maintaining it at that pressure as long as possible. During the endurance test the pulse rate was counted for each period of 5 seconds. We did not find so marked a slowing as Major Hingston on Everest (3).

Time in seconds pressure maintained at 40 mm. of Hg.	4,900 feet	— 68
	8,400 ,,	— 43
	11,500 ,,	— 20
	14,700 ,,	— 30

Endurance Test.

Pulse rate in five-second periods		R.v.D.
	4,500 feet	..5·5·3·7·7·7·7·5·4·4·4·
	8,400 ,,	..9.8.6.5.5.5.7.7.5.3.
		D.V.L.
	4,500 ,,	..6.6.6.6.7.8.8.8.8.8.8.
	8,400 ,,	..7.7.6.6.7.7.7.7.
	11,500 ,,	..6.7.7.7.
	14,700 ,,	..7.7.6.6.6.

The blood pressure did not vary with altitude.

Red Blood—Count.

Date.	Altitude.	R.v.D.	D.V.L.	Offoro.	Mount Everest (3).
June 27	2,500	6,600,000	6,550,000	5,800,000	5,000,000
June 28	8,400	6,750,000	7,270,000	6,750,000	6,040,000
June 29	11,500	7,050,000	7,850,000	6,850,000	6,760,000
July 1	11,500	7,900,000	7,700,000	6,475,000	6,760,000
July 5	11,500	8,000,000	8,725,000	7,440,000	6,760,000
,, ...	15,600	—	—	—	7,840,000
,, ...	16,900	—	—	—	7,640,000
,, ...	18,200	—	—	—	8,320,000
July 9	4,500	8,650,000	7,450,000	—	5,240,000
July 10	4,500	7,900,000	6,950,000	—	—
July 15	4,500	—	6,800,000	—	—
July 25	4,500	—	7,020,000	—	—

Between 1.7.26 and 5.7.26 R.v.D. had been at 15,700 feet for 3 nights. D.V.L. had slept at 15,700 feet for 3 nights and had ascended to 19,400 feet and 19,700 feet on successive days reaching the greater altitude 18 hours before the blood-count of 5.7.26. Offoro had done the same as D.V.L.

It can therefore be roughly assumed that R.v.D. on 5.7.26 represented red blood-cell count for 15,700 feet and that D.V.L. and Offoro for 5.7.26 represented red blood-cell count for roughly 19,000 feet. An interesting feature is the slow decrease in red blood-cell count on returning to 4,500 feet, R.v.D. even continued to increase for one day on return. The question arises as to how long would it have taken at any altitude for the red blood-cell count to reach a steady maximum for that altitude. The rapidity with which the system can manufacture red blood cells is marked; to produce over 2,000,000 red blood cells per cubic mm. in 8 days is marvellous.

My climbing companion and I had been resident for some months at an altitude of 4,000 feet and, although this is no considerable height, it had given us a few more red blood cells than those on the coast. I can support the theory put forward by Kestner (1) in as far as he suggests that a tropical sun will cause an increased red blood-cell count in a normal individual. " The effective factor of high climate is not diminished oxygen content but the increased and more intense irradiation by the sun's rays. By the effect of rays substances are formed in the air which stimulate the formation of red blood

corpuscles if they (the rays) are inhaled." The tables show that in our experience, even though sufficient time did not elapse between the different altitudes for the red blood-cell count to become steady, we showed an increase above the average number for each particular altitude found by observers in temperate zones. If the red blood-cell increase is a proportional index of oxygen carrier requirement for any given conditions, it follows that the oxygen want in the tropics is greater than out of them ; but if this assumption be not true then the erythrocytosis of the equator should render the attainment of high altitudes in these regions relatively easier than away from the vertical noontide sun. We had more red blood cells than the Everest climbers for corresponding altitudes ; but nevertheless mountain sickness prevented one of us from reaching the summit and caused the other appreciable discomfort. An incomplete deduction is that the red blood cell requirement for any altitude is greater on Kilimanjaro than in the Himalayas.

Muscular power was markedly diminished at 19,000 feet. It required far more energy to raise the feet in climbing a steep gradient than would have been expected. We felt that it would have been impossible to have performed any feat requiring all one's muscular power such as heavy-weight lifting, and even such simple operations as unfastening a rucksack or unfolding a camera stand caused appreciable exhaustion. The mentality also was markedly diminished at 19,000 feet. I determined to count the number of paces from Kaiser Wilhelm Spitze to Hans Meyer's Notch on the return trip, but found my mind wandering so much that I had to give it up. I wrote an entirely irrelevant report and placed it in the beacon at Gillman's Point, my memory was not as sound as I had hoped and I found difficulty in calculating the difference between compass readings taken in reverse directions. I found it necessary to write every reading down at the time and check them against each other at a lower altitude. The first time I reached the crater rim I suffered from a distinct impairment of vision. I had with me a photographic exposure meter which required the operator to examine the object to be photographed through it, shutting down the diaphragm until a number was just visible. I found that I had been giving my films about six times as much light as they needed. This impairment of vision was a manifestation of mountain sickness and was not present on my second visit to the crater the following day when I was not suffering from this complaint. The expedition lasted barely ten days, I was in good training at the commencement, but unfortunately we did not weigh ourselves before or after the trip but all my friends avowed that I was decidedly thinner on my return from the mountain.

When we first reached 15,000 feet both of us felt slight nausea and decided cephalagia —the first undoubted symptoms of mountain sickness. Contrary to expectation the nausea was worse when resting than when walking, and even moderate uphill progress produced no marked palpitation or breathlessness. Here then were two of the classical symptoms of mountain sickness in a mild form without the essential manifestation of oxygen want being present, which would appear to be contrary to Barcroft's theory (2) that " mountain sickness is due to oxygen want and oxygen want is the discrepancy between oxygen supply and oxygen demand." Our oxygen demand was surely greater when walking uphill than when resting and yet our mountain sickness was relieved by walking.

Mountain sickness is in my opinion the greatest obstacle after bad weather to the attainment of the summit of Kilimanjaro, but even in a susceptible individual otherwise physically sound this disability should be satisfactorily overcome by a sufficiently prolonged acclimatisation. The length of time required for acclimatisation varies considerably with the individual, one of us was able to reach 19,700 feet six days after arriving on the mountain without discomfort while the other was so mountain sick at 15,000 feet that he had to return to 12,000 feet for two days rest but was then able to climb to 17,000 feet on Mavenzi. A striking confirmation of the fact that persons who had previously attained high altitudes acclimatise more effectively than new-comers is found in the case of our guide Offoro who, the previous year was so mountain sick at 16,000 feet with Kingsley Latham that he had to go back to 12,000 feet, on this occasion reaching the summit without a trace of mountain sickness.

So little is known of the nature and cause of sunstroke, that it is unwise to venture too much, but assuming that sunstroke, whatever it may be, exists, it is presumably caused by certain of the sun's rays and further that these rays are absorbed by the earth's atmosphere in direct proportion to the amount of air interposed between the sun and the earth's surface. Now at the coast in the tropics the sun's rays traverse on an average a thinner layer of air at mid-day than in a temperate zone owing to the fact that the sun is more vertical. So we are told that one is liable to get sunstroke unless suitably protected (no one knowing exactly what substances are opaque to the sunstroke rays or what substances are conductors). How much more should one be liable to sunstroke at 19,000 feet in the tropics where the sun's rays have the added advantage over one of only having to traverse one half of the atmospheric air at the tropical coast. It would seem that one should take special precautions against sunstroke in an attempt on Kilimanjaro. Perhaps my companions disability was sunstroke and not mountain sickness—" Who shall decide when doctors disagree."

References :—

(1) Kestner, Zeitsch. f. Biol. LXXIII, 1, 1921.
(2) J. Barcroft, " The Respir. Funct. of the Blood " 1925, pt. 1, pp. 6.
(3) Hingston, The Geographical Journal, Vol. LXV.

Clinical Summary of 559 Cases of Yaws Treated by Dr. J. W. Graham, M.B., Ch.B. (Glas.), Medical Officer, Kigoma, in the Sultanate of Sultan Lusimbi (Altitude 5,500 Feet).

Classification.

Stage.	Adults.				Children.				Total.	
	Male.		Female.		Male.		Female.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Primary, I ..	—	—	—	—	3	2·6	2	3·1	5	0·9
I and II ..	7	3·5	6	3·4	20	17·5	14	21·9	47	8·4
Secondary, II ..	7	3·5	14	7·8	34	29·8	21	32·8	76	13·6
Tertiary, III ..	187	92·6	155	86·6	57	50	27	42·2	426	76·2
Gangosa, IV ..	1	0·5	4	2·2	—	—	—	—	5	0·9
	202	—	179	—	114	—	64	—	559	—

Average Ages.

I	5·4 Years
I & II	11·8 ,,
II	11·5 ,,
III	24·9 ,,
IV	41· ,,

Situation of Primary.

The situation of the primary was noted in 119 cases, in which it was either present, or could be determined by enquiry, supported by inspection of the scar.

Situation.	Right.	Left.
Foot	16	10
Ankle	15	14
Leg	9	7
Knee	3	2
Thigh	5	4
Hand	3	1
Wrist	1	4
Elbow	3	4
	55	46

SITUATION OF PRIMARY—*continued.*

Chest	2
Abdomen	2
Face	2
Scalp	1
Buttock	5
Back	1
Scrotum	1
Arm and Forearm	1
Pinna of Ear	1
Nipple	1
Penis	1
	18

SUMMARY.

Right side 55. Left Side 46

Upper extremity	17	or	14·3%
Lower ,,	90	,,	75·6%
Thorax and Abdomen	7	,,	5·9%
Head and Neck	5	,,	4·2%

DISTRIBUTION OF SECONDARIES.

The distribution of the Secondary eruption was noted in 60 cases, and the following table gives the number of times the eruption was seen in the corresponding situation :—

Skin around mouth	26	(n.b. Especially at angles of mouth and Mucocutaneous junction)
Scalp	22	
Buttocks	19	
Arms	17	
Face	14	(other than parts specially mentioned)
Legs	13	
Elbows	12	
Axillæ	9	
Feet	8	
Hands	8	
Popliteal space	7	
Back	7	
Thighs	7	
Skin over nose	7	
Pinnæ of ears	7	
Back of neck	6	
Forehead	6	
Chest	5	
Knees	5	
Skin over eyelids	3	
Eyebrows	2	
Abdomen	2	
Shoulder	2	
Anti-cubital space	1	
Under chin	1	
Ankles	1	
Penis	1	
Scrotum	1	
Sole of foot	1	
	220	

Relative Frequency.

Lower extremity	..	42	or 19·1%
Upper ,,	..	40	,, 18·2%
Head and neck	..	94	,, 42·7%
Thorax and abdomen		44	,, 20·0%

Tertiary Cases, including Gangosa (IV), 431.

Classification of Symptoms and Signs.

	No.	%	
Arthralgia	319	74·0	Ulceration of septumnasi 1, 0·2%
Arthritis	18	4·2	
Ostealgia	90	20·9	Ulceration of Palate 2, 0·5%
Osteitis	28	6·5	
Ulceration	86	19·9	
Dactylitis	89	20·6	
Juxta-articular Nodes ..	16	3·7	
Contractures	9	2·1	
Leucoderma	9	2·1	
Nodular Cutaneous Framboeside	100	23·2	
Pseudo-mycetoma	1	·2	
Moth-eaten Soles	52	12·1	
Pitted palms	26	6·0	
Hyperkeratosis	50	11·6	
Latent	14	3·2	
Gangosa	5	1·2	
Ganglion	14	3·2	

Symptoms and Signs in Detail.

Arthralgia, 319.—Pains in the joints, without any signs of pathological change apparent to the physician. Usually worse at night.

Elbows	207
Knees	187
Shoulders	135
Wrists	122
Ankles	102
Sacro-iliac and spine	33
Hips	24
Sterno-clavicular	1
Temporoomandibular	1

Arthritis, 18.—A definite inflammatory condition of the joint, with pathological changes apparent to the physician, such as accumulation of fluid, swelling, synovitis, erosion of articular surfaces.

Knee	17
Elbow	2 (1 case both)

Ostealgia, 90.—Pains in the bones without physical signs of disease.

Tibia	27
Bones of Skull..	15
Radius and ulna	10
Humerus	7
Femur	6
Sternum and ribs	27

Some of these may be associated with severe coughing which was commonly complained of.

Osteitis, 28.—An actual inflammatory condition of the bones, usually with thickening, localised or general, occasionally with sinus formation.

Tibia	24
Os calcis	4
Radius and ulna	2
Femur	1

Ulceration, 86.

Right leg, anterior aspect	23	Left leg, anterior aspect	18
,, ,, posterior ,,	3	,, ,, posterior ,,	4
,, ,, internal ,,	1	,, ,, internal ,,	2
,, ,, external ,,	5	,, ,, external ,,	6
	32		30
Right ankle, anterior ,,	11	Left ankle, anterior ,,	3
,, ,, posterior ,,	5	,, ,, posterior ,,	5
,, ,, internal ,,	2	,, ,, internal ,,	0
,, ,, external ,,	6	,, ,, external ,,	4
	24		12
Right foot	5	Left foot	9

Scalp	3
Arms	3
Forearms	3
Scrotum	2
Buttocks	1
Penis	1
Elbows	3
Knees	1
Wrist	2
Axilla	1

SUMMARY.

Right side 61. Left side 51.

Lower extremity	113
Upper ,,	11
Thorax and Abdomen	5
Head and Neck	3

Juxta-articula Nodes, 16.

Elbows	4
Wrists	6
Knees	2
Phalanges	1
Metatarso-phalangeal	1
Not specified	2

Contractures, 9.

Talipes equinus	4
" Claw Hand "	3
Flexion, Elbows	1
Flexion, Knees	1

Leucoderma, 9.

Hands	3
Arms	3
Penis	1
Not specified	2

Ganglion, 14.

Left Wrist	8
Right „	7
Left Knee	1
Right „	2 (4 patients had 2)

Moth-eaten Soles, 52.

Care is needed in discriminating between the moth-eaten appearance of the sole of the foot due to yaws and a similar appearance due to other conditions. Severe jiggers with secondary infection may produce a moth-eaten appearance of the heels and ball of the feet, while many natives develop a cracked condition of the heel due to trauma in walking. The moth-eaten sole due to yaws, however, is distinctive—an irregular, patchy destruction of the epidermis, which, due to access of secondary infection, may invade the deeper layers, and become very painful.

Sabre-blade Deformity.

I have not included any cases in which this condition was seen under yaws, preferring to class them as syphilis, though admitting the possibility of it occurring in yaws.

Nodular Cutaneous Frambœside, 100.

Right leg	15	Left leg	17
„ thigh	5	„ thigh	9
„ ankle	6	„ ankle	3
„ arm	8	„ arm	12
„ foot	10	„ foot	11
„ elbow	4	„ elbow	7
„ wrist	4	„ wrist	5
„ knee	6	„ knee	6
„ hand	3	„ hand	2
	61		72

Shoulders	6
Buttocks	21
Chest	3
Neck	1
Face	4
Scalp	5
Back	3

SUMMARY.

Right side 61. Left side 72.

Upper extremity	45
Lower „	88
Thorax and Abdomen	33
Head and Neck	10

(*Note.*—Compare with Ulceration, of which the nodular cutaneous frambœside is the antecedent condition. The *order* of distribution as to regions of the body is the same, but in Ulceration the *proportion* on the lower extremity is much higher. This may be due to the greater liability to trauma as compared with other regions of the body.)

CLASSIFICATION OF YAWS CASES TREATED AT KIGOMA HOSPITAL DURING 1926.

Stage.	Percentage of cases to total cases.	Average age in years.
Primary	1·9	9·0
Primary and Secondary	14·2	16·3
Secondary	10·4	20·0
Tertiary	71·6	33·2
Gongosa	1·9	44·0

Clinical Summary of 126 Cases of Tertiary Yaws Treated at Kigoma Hospital during 1926.

The following table shows the number and percentage frequency of the symptoms and signs seen :—

	Number.	Percentage.
Ulceration	91	72·2
Arthralgia	45	35·7
Nodular Cutaneous Framboeside	42	33·3
Dactyllitis	24	19·0
Moth-eaten Soles	21	16·7
Hyperkeratosis	14	11·1
Osteitis	13	10·3
Ostealgia	13	10·3
Arthritis	12	9·5
Contracture	9	7·1
Pitted Palms	6	4·8
Juxta-articular Nodes	3	2·4
Gangosa	3	2·4
Leucoderma	2	1·6
Pseudo-mycetoma	2	1·6
Ganglion	1	0·8

Ulceration, 91 (72·2%).

Leg, 31.

Left leg, anterior aspect	9	Right leg, anterior	14
,, posterior ,,	2	,, posterior	1
,, internal ,,	0	,, internal	0
,, external ,,	2	,, external	3
	13		18

Feet, 20.

Left foot	12	Right foot	8

Ankle, 15.

Left ankle, anterior	2	Right ankle, anterior	0
,, posterior	2	,, posterior	2
,, internal	1	,, internal	1
,, external	4	,, external	3
	9		6

Thighs	11	Left thigh 5, Right thigh 6
Knees	9	
Scrotum	8	
Shoulders	7	
Wrists	6	Left wrist 2, Right wrist 4
Face	6	
Arms	6	
Elbows	5	Left elbow 2, Right elbow 3

Ulceration—continued.

Forearms	5	Scalp	3
Chest	4	Back	3
Hands	4	Penis	2
Buttocks	4	Pudenda	11
Forehead	3	Perineum	1

SUMMARY.

Left side, 43. Right side, 45.

Upper extremity	26
Lower ,,	86
Thorax and Abdomen	31
Head and Neck	12

Arthralgia, 45 (35·7%).

Knees	29
Elbows	19
Shoulders	16
Ankles	15
Wrists	9
Hip Joints	6
Sacro-iliac	2
Cervical Vertebræ	1

Nodular Cutaneous Frambœside, 42 (33·3%).

Buttocks	18	Knees	3
Thighs	10	Axillæ	2
Elbows	10	Wrists	2
Legs	8	Neck	1
Arm and Forearm	8	Popliteal space	1
Back	7	Forehead	1
Feet	7	Scrotum	1
Ankles	5	Scalp	1
Chest	5	Face	1
Shoulders	3	Hand	1

SUMMARY.

Upper extremity	21
Lower ,,	34
Thorax and Abdomen	36
Head and Neck	4

(As in the other series, note the comparative distribution of Ulceration, and its antecedent stage, the nodular cutaneous framboeside; it will be seen that ulceration is much commoner in the lower extremity.)

Osteitis, 13 (10·3%).

Bones of lower extremity	12
,, upper ,,	1

Ostealgia, 13 (10·3%).

Tibia and Fibula	8
Humerus	6
Radius and Ulna	5
Femora	3
Mandible	1

Arthritis, 12 (9·5%).

Knee	5
Ankle	4
Wrist	2
Elbow	1

Contractures, 9 (7·1%).

Flexion contracture of Elbow	2
Talipes Equinus	2
Talipes Equino-varus	1
Flexion contracture of Foot	1
Hyperextension of Toes	1
Claw Hand	1
Flexion contracture of both Knees	1

The Incidence of Stomatitis in Natives of Africa Treated with Intramuscular Injections of B.S.T., 2 Grains Twice Weekly, for Yaws.

1. First Six Months of 1926.

(Dental treatment given before course, i.e., extraction of carious teeth and pyorrhoea treated.)

Number of cases 92. Number of injections 530.
Average number of injections per patient 5·76.

Number of cases who developed stomatitis once	51	or	55·43%
„ „ „ „ „ „ twice	23	„	25·00%
„ „ „ „ „ „ thrice	10	„	10·87%
„ „ „ „ „ „ four times or more	5	„	5·43%

Average number of injections after which stomatitis developed :—

Once	3·12
Twice	5·22
Thrice	6·10
Four times or more	7·80

2. Second Six Months of 1926.

(In addition to dental treatment as above, these patients were given a Pot. Chlor. mouth wash, from the day of admission, until completion of their course, which was used four to six times daily.)

Cases, 49. Number of injections, 316.
Average number of injections per patient, 6·45.

Number of cases who developed stomatitis once	29	or	59·18%
„ „ „ „ „ „ twice	13	„	26·53%
„ „ „ „ „ „ thrice	5	„	10·20%
„ „ „ „ „ „ four times or more	1	„	2·04%

Average number of injections after which stomatitis developed :—

Once	4·00
Twice	5·31
Thrice	5·00
four times or more	6·00

Average number of injections, for whole year, 6·00.

FIGURES FOR 1925.

Cases, 87. Number of injections, 452.
Average number of injections per patient, 5·20.

Number of cases who developed stomatitis	once	47	or 54·02%
„ „ „ „ „ „	twice	16	„ 18·39%
„ „ „ „ „ „	thrice	5	„ 5·75%

Average number of injections after which stomatitis developed :—

Once	3·00
Twice	5·19
Thrice	7·00

SUMMARY OF LABORATORY WORK PERFORMED AT KIGOMA HOSPITAL DURING 1926.

1. *Blood Slides.*

Month.	Total.	Malaria.			Positive.			Remarks.
		S.T.	B.T.	Quart.	Spirilla.	Filaria.	Tryps.	
January ..	38	11	4	—	1	2	—	—
February ..	22	8	1	—	—	1	—	—
March	30	2	2	—	2	—	1	—
April	10	3	1	—	1	—	1	—
May	11	—	—	—	—	—	—	Rain stopped.
June	17	6	4	1	2	—	—	—
July	8	—	1	—	1	—	—	—
August.. ..	16	2	—	—	1	1	2	—
September ..	17	2	1	1	2	3	—	—
October ..	34	4	—	—	—	—	1	Rain commenced.
November ..	19	1	1	—	2	1	—	—
December ..	16	2	—	—	3	1	—	—
TOTAL ..	238	41	15	2	15	9	5	

Percentage of positives to total examinations :—

S.T. Malaria	17·23 per cent.
B.T. „	6·30 „ „
Quartan „	0·84 „ „
Spirilla	6·30 „ „
Filaria	3·78 „ „
Trypanosomes	2·10 „ „

Other findings in the examination of blood slides :—

Eosinophilia (marked)	19
Punctate basophilia	4
Poikilocytosis (marked)	4
Leucocytosis „	5
Leucopenia „	2
Mononuclear increase (marked)	3
Pigmented Leucocytes	2
Polychromasia	5
Nucleated reds	2

2. *Microscopic Examinations of Stools.*

Positive.

Month.	Total.	Hookworm.		Ascaris.		Tænia.		Strongylus.		Tricocephalis.		Amœbahistolytica.		Tricomonas.		Smansoni.		Shæmatobium.	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
January	53	26	49·06	2	3·77	1	1·89	3	5·66	3	5·66	2	3·77	3	5·66	—	—	—	—
February	55	38	69·09	—	—	1	1·82	3	5·45	1	1·82	—	—	3	5·45	2	3·64	—	—
March	67	45	67·01	9	13·40	3	4·48	2	2·99	1	1·49	—	—	3	4·38	1	1·46	—	—
April	63	27	42·86	9	14·29	2	3·17	8	12·70	2	3·17	—	—	5	7·95	—	—	—	—
May*	59	33	55·93	9	15·25	5	8·47	6	9·56	2	3·18	—	—	4	6·78	—	—	1	1·69
June	63	29	46·03	5	7·94	5	7·94	5	7·94	6	9·52	—	—	—	—	3	4·76	—	—
July	34	15	47·06	2	5·88	3	8·82	3	8·82	3	8·82	—	—	—	—	—	—	—	—
August†	78	37	47·44	22	28·21	5	6·41	2	2·56	4	5·13	—	—	1	1·28	—	—	—	—
September.. ..	43	17	39·53	3	6·98	2	4·68	7	16·28	3	6·98	—	—	—	—	1	2·33	1	2·33
October‡§	72	19	26·53	38	52·78	6	8·33	1	1·39	2	2·78	—	—	3	4·17	—	—	—	—
November.. ..	52	20	38·46	8	15·38	3	5·77	7	13·46	—	—	—	—	1	1·92	2	3·84	1	1·92
December	53	34	63·96	2	3·77	5	9·43	4	7·55	1	1·88	—	—	3	5·66	2	3·77	3	5·66
Totals ..	692	340	49·13	109	15·75	41	5·93	51	7·37	25	3·61	2	0·29	26	3·75	11	1·59	6	0·85

* Rain stopped.

† Includes 25 stools of school children at Lusimbi, with 16 ascaris and 4 hookworm positives.

‡ Includes 50 stools of Patients at Lusimbi and Mkigo's with 37 ascaris and 12 hookworm positives.

§ Rain commenced.

3. *Other Examinations.*

Month.	Gland punc.	Tryps. pres.	Urine (micro.).	S. Haem. pres.	Sputum for T.B.	T.B. pres.	Smears Gon'oci.	Gon'oci pres.	Smear lep.	Bac. lep. pres.
January	8	—	6	—	3	1	3	2	—	—
February.. ..	13	—	2	2	5	1	2	2	1	—
March	8	1	2	—	1	—	2	2	—	—
April	9	3	—	—	4	—	—	—	—	—
May ..	4	1	2	—	1	—	—	—	—	—
June	8	1	3	—	3	—	—	—	—	—
July	12	—	1	1	—	—	2	2	—	—
August	14	1	3	—	3	—	2	1	4	—
September ..	9	—	2	—	1	—	4	3	3	1
October	3	—	3	1	1	—	3	1	1	—
November ..	2	—	8	1	—	—	1	1	3	—
December ..	3	—	4	—	3	—	1	1	3	1
TOTAL ..	93	7	36	5	25	2	20	15	15	2

NOTE.—These are first examinations, prior to treatment. Subsequent examinations not included.

A CASE OF VESICO-ABDOMINAL FISTULA IN AN AFRICAN NATIVE.

Ramazani, male, age about 25, admitted the Kigoma Hospital on 18.2.26, complaining of dribbling of urine from an abdominal sore, inability to micturate normally, and debility.

History.—About 4 years ago patient, while at work on Malagrassi Bridge, had a severe fall, which was followed by suppression of urine and swelling of the abdomen, for which he was admitted to this hospital. There was no external wound caused by the fall. In 1920, patient had gonorrhœa, which was untreated. Patient states that instruments were passed into his bladder several times, and urine was drawn off, the swelling of the abdomen disappearing each time, but re-appearing soon. Supra-pubic puncture of the bladder was eventually necessary, and drainage was established in this way for some time. When patient left hospital, he was able to pass urine normally, but a little still dribbled from the abdominal puncture. Shortly afterwards the dribbling ceases, and patient was well until 3 months ago, when the puncture scar broke down, and urine again commenced to dribble. Also micturation became more and more difficult.

Examination.—Temperature and pulse normal. Patient was of average height, but lightly built and somewhat emaciated.

No stricture was palpable. Three inches above the symphysis pubis in the middle line was a pouting mass of granulation tissue, roughly circular, about 1½ inches in diameter, covered with unhealthy epithelium. The mass was sodden and infected. Centrally there was sinus through which urine dribbled. The urine was very foul, and the odour bad. The bladder was obviously infected.

Treatment.—The pouting mass was cleansed, and the bladder washed out twice daily by the ordinary route with boric lotion. The lotion passed into the bladder per urethram, and dribbled out through the fistula on the abdomen.

23.2.26.—General anæsthetic. Bougie passed per urethram into the bladder. Just beyond the neck of the bladder the point was felt to grate against a hard object, thought to be a phosphatic concretion. A catheter was passed into the bladder and tied. Ounces 6 of very purulent urine withdrawn. The bladder was washed out through the catheter with boric lotion, followed by Silver proteinate solution ½%, and tubing was attached to provide for continuous drainage. The catheter was kept in position for 48 hours, then withdrawn, so that a fresh one could be passed, but the patient complained so much

that he was given a rest. Overnight the patient passed urine naturally without difficulty, and the catheter was not introduced, but bladder lavage carried out daily for another fortnight. By this time he was passing urine normally, and dribbling from the fistula had ceased. The urine was free from pus. It was therefore decided to close the fistula.

Second Operation.—General anæsthetic. A double elliptical incision was made, surrounding the fistula, 3 inches long. This was deepened till the peritoneum was reached. The subcutaneous tissues were found to be much fibrosed, and the upper surface of the bladder was bound to the peritoneum by dense adhesions. The track of the fistula was excised down to the bladder, without opening into the peritoneum. The bladder, on digital inspection through the sinus, was found to be thickened and friable, but no calculus was felt. The opening was closed with a pursestring suture, covered by a band of fascia, and the subcutaneous tissues were sutured over this. A drainage tube was left in for 24 hours. This operation appears to have been premature, as the wound broke down, from within outwards, and supra-pubic drainage through the wound had to be established, and bladder lavage begun again.

This was successful in combating the infection, and granulation of the sinus was allowed to proceed, reducing the size of the tube gradually. Improvement was progressive, and the patient was discharged on 17.4.26, able to pass urine normally, and with the abdominal wound firmly healed and no trace of dribbling.

Treatment of Schistosomiasis with Rectal Injections of Tartar Emetic.

In 1925 a number of cases were reported in which treatment of *S. mansoni* infection was successfully carried out. No cases of *S. hæmatobium* were available for treatment by this method, and doubt was expressed as to whether it would be successful. As a result of the finding in the following case, the method was discontinued, and treatment by intravenous injection of the drug carried out in other cases. Possibly success would have been attained with larger doses.

Husseni, African native, adult, admitted to Kigoma Hospital on 5.2.26, complaining of passing blood in the urine, and of pain in the testicles and lower abdomen.

Urine.—*S. hæmatobium* ova present. Stool.—Negative.

On day of admission, in the absence of the M.O., patient received an intravenous injection of 1½ grains tartar emetic.

8.2.26, Urine.—*S. hæmatobium* ova present.

9.2.26, Tartar emetic gr. 6 per rectum in 4 oz. water. The injection was given high up into the rectum by means of a rubber catheter attached to the saline infusion apparatus, and succeeding injections were given in the same way.

10.2.26, Urine.—*S. hæmatobium* ova absent, r.b.c. present.

12.2.26, Tartar emetic gr. 8 in 6 oz. water.

15.2.26, Urine.—*S. hæmatobium* absent. No r.b.c.

16.2.26, Tartar emetic gr. 8 in 6 oz. water.

17.2.26, Urine.—*S. hæmatobium* absent. No r.b.c.

18.2.26, Tartar emetic gr. 8 in 6 oz. water.

20.2.26, Urine.—*S. hæmatobium* absent. No r.b.c.

22.2.26, Tartar emetic gr. 8 in 6 oz. water.

23.2.26, Urine.—*S. hæmatobium* absent. No r.b.c.

Total Tartar emetic intravenously, 1½ gr.

,, ,, ,, per rectum, 38 gr.

Patient reported for examination a month later, on 29.3.26, and was then free from symptoms and urine contained no ova or r.b.c. He again reported after 4 months, on 16.7.26, when *S. hæmatobium* ova and numerous r.b.c. were found in his urine.

Differential Diagnosis of Yaws (Tertiary) and Syphilis (Tertiary).

Some Doubtful or Interesting Cases.

1. Bilalo, male, Af., Muha, age 25. Appearance that of a typical hereditary syphilitic. Bridge of nose fallen in, pronounced sabre-blade deformity of tibiæ, which he states he has been aware of since childhood. Denies having had acquired syphilis. States definitely that he had primary yaws 4 years ago, and that the primary sore was on the back. There is a healed scar in that situation which appears like a healed primary yaw. States that a few weeks later the usual crop of secondary yaws developed, all over the body, including under the armpits. Complained of pains in the elbow, and knee-joints and wrists.

Heart, liver, lungs normal.

Differential blood cell count :—(300 cells).

Lymphocytes	61·00%
Polymorphonuclears	32·33%
Large mononuclears	5·67%
Eosinophils	1·00%

The large percentage of lymphocytes is in keeping with a diagnosis of hereditary syphilis. As far as can be judged the patient has had a yaws infection superimposed upon hereditary untreated syphilis.

2. Male, adult, Muha. States definitely that he had yaws 12 years ago. Has a severe deep punched-out ulcer of the postero-internal aspect of the right forearm. No pains in joints or limbs, no constitutional disturbance. Ulceration of the posterior portion of the hard palate, and of the soft palate. There are 2 oval patches about ½ in. diameter, base covered with greyish-yellow slough. Complains of pain in throat. Voice normal. Nasal mucous membrane normal.

In all cases of gangosa seen there was a history of yaws. In gangosa there is severe destruction of the hard and soft palate. There must therefore be an earlier stage in which there is merely inflammation and ulceration, and if gangosa is due to yaws it will have to be admitted that lesions of the mucous membranes may occur in tertiary yaws as well as in tertiary syphilis. This case may be an example.

3. Female, Af., age approx. 40. States emphatically that she had yaws when a child. Early gangosa, with partial destruction of the hard and soft palate, nasal twang. Osteitis of left radius. Sabre-blade deformity of right tibia. Early ulceration of nasal mucous membrane. Nodes, in appearance like Parrot's nodes, on skull.

Query—Syphilis, yaws, or the double infection.

4. Male, adult, Af., Muha. Left hemiparesis due to gumma cerebri. Improved greatly on anti-syphilitis treatment, viz., 18 grains B.S.T., in 9 bi-weekly injections of 2 grains each, with concurrent mercury and Pot. Iod.

5. Male, Af., Adult. Weeping eczematous condition of calf of right leg.

History of syphilis. Parrot's nodes on skull.

6. Male, Af., adult. Syphilitic aortitis. Upper border of heart on level of lower margin of 3rd rib. Left border, 1 in. to left of mid-clavicular line. Right border, ½ in. to right of right sternal margin. Apex beat visible and palpable in 3rd, 4th and 5th intercostal spaces. (Dullness of left upper lobe in front, with increased V.R. and V.F., and broncho-vesicular breathing. Sputum neg. to T.B. Hookworm ova in stool, scanty.) Systolic murmur at apex of heart, not conducted to axilla. Systolic murmur at aortic region. History of syphilis and gonorrhœa.

7. Female, Af., adult. History of 7 abortions, no live births, is 6 months pregnant and anxious to have a child. Complains of backache and pain in stomach, present every day, no relation to food. Is a very stout, flabby woman. Vomited at beginning of her pregnancy very severely in the mornings. Now has a feeling of persistent nausea, and sometimes vomits in the evenings. Has a troublesome cough. History of yaws as a child, denies syphilis. Conjunctivæ pale. Urine normal. Tricocephalus ova in stool.

Well-marked systolic murmur at aortic region, well heard downwards over the sternum.

Was given a lengthy course of anti-syphilitic treatment (2 injections Neokharsivan, 0·45 and 0·60 gms., 2 of Karsulphan 0·3 and 0·45 gms., and 6 of B.S.T. gr. 2). Was delivered of a live child at term.

8. Male, Af., 46. Was in hospital 3 years ago, treatment not known. History of yaws as a child. Complete destruction of penis by sloughing. Represented by a stump in anterior aspect of scrotum. Punched out ulcer of inner aspect of right leg. Sabre-blade tibiæ. Ulceration of palate. Gumma of tibiæ. No constitutional symptoms.

COMPARISON OF THE RESULTS OF SERIES OF BLOOD-SLIDE EXAMINATIONS AT NKALINZI (LUSIMBI'S ALTITUDE, 5,000 FT.) AND UJIJI (ALTITUDE 2,500 FT.).

The slides in both cases were taken from the School Children, whose ages ranged from 7 to 14 years.

Nkalinzi.

Examinations 29.

Sub-tertian parasites positive in	4	Spleen examinations.	
Negative	25	Just palpable	3
		1 finger	1
Polychromasia	4	Not palpable	25
Nucleated reds	2		
Eosinophilia	1		
S.T., polychromasis and nuc. reds.	1		
Polychromasia and nuc. reds	1		
Spleen just palpable and S.T.	1		

Ujiji.

Examinations 37.

Sub-tertian parasites found in	12
Benign tertian „ „ „	6
Quartan parasites found in	2
Negative	22
S.T. and B.T.	4
B.T. and Q.	1

EXPERIMENTAL TREATMENT OF LEPERS, BY DR. B. O. WILKIN, M.B., CH.B. (EDIN.), MEDICAL OFFICER, MOSHI.

The result of the experimental treatment with *Oscol Stibium* is undecided as yet.

The series of cases treated consisted of nodular and anæsthetic lesions which were less advanced than the majority in the camp.

It appears as if the nodules are shrinking and these patients all stated that they felt better after injections (weekly); a slight break (3 weeks) occurred in the treatment and these cases all asked for continuance of the injections which has since been regular.

It is impossible to make any definite statement in dealing with a disease so prone to cyclic variations and with so few patients, except that no startling improvement has yet occurred.

NOTES ON NODULAR LEPROSY, BY DR. P. S. BELL, M.R.C.S. (ENG.), L.R.C.P. (LOND.), MEDICAL OFFICER, LINDI.

One case of Nodular Leprosy was treated with *Oscol Stibium*. After 3 injections of 1 c.c. at a time there was marked improvement in her general condition so much so that she left the Hospital of her own accord. The facial nodules had diminished in numbers and all open sores had healed. The result justified more prolonged trials.

More cases could not be experimented upon for lack of accommodation but certainly this deserves thorough trial on more patients of Leprosy before anything definite could be said regarding the utility of the drug. *Oscol Stibium* was also tried on patients suffering from Tuberculosis of Lungs, with no satisfactory result.

DENTAL REPORT FOR THE YEAR 1926, BY H. M. FISHER, ESQ., L.D.S., R.C.S. (ENG.), DENTAL SURGEON.

The undersigned, proceeding on leave early in January, and returning to duty at the beginning of August, was on duty for a period of just over five months during the year.

Morogoro was visited for a few days at the beginning of the year, and Iringa in October; it was intended to go on to Tukuyu from Iringa, but the cost of transport was prohibitive.

Increase of work renders it more difficult every year to leave the Capital, in order to visit the outstations; apart from the Officials and their families resident in Dar-es-Salaam, others are constantly arriving, prior to departure, and on return from leave. The dental operations performed continue to increase, and as will be seen from the list below, the attendances for the five and a half months are considerably greater than for a corresponding period for 1925, during which year, for the twelve months, the attendances were 1,488.

Thirty school children have been treated and made dentally fit; the treatment consisted chiefly in the extraction of septic temporary teeth, but some conservative work was also done; it is regretted that time was not available to do more.

The X-Ray apparatus acquired last year continues to give most satisfactory results; a large number of radiograms have been taken, and these have been most helpful as an aid to diagnosis.

In the list below, the figures refer to Officials and their families.

The Scalings shewn refer to cases of pyorrhœa treated, simple removal of tartar is carried out as a routine measure and is not recorded.

The figures are for a period of five and a half months.

Attendances	928
Fillings	361
Extractions	251
Scalings (pyorrhœa)	26
Pulp treatment	33
Dentures made	36
Repairs to dentures	43

A number of Asiatic and Native Officials have also been treated; as well as natives employed in the various Government Departments, and as house boys; native inhabitants of the Town have also received treatment from time to time.

Interesting cases treated include one of Vincent's Angina in a most acute form in a young child; one of chronic empyema of the Maxillary Sinus; several patients suffering from subacute toxæmia, as a result of dental sepsis, have shewn marked improvement in their general health when radical dental treatment has been carried out.

I am indebted to Dr. Shelton for his ready assistance in administering all the general anæsthetics which have been given.

Signed H. M. FISHER.

J. O. SHIRCORE,
Director of Medical and Sanitary Services,
Tanganyika Territory.

RETURNS.

TABLE I.

Medical Staff.—Disposition of as on 31st December, 1926.

NAME AND QUALIFICATION.	RANK.	STATION.	REMARKS.
J. C. SHIRCORE, C.M.G., M.B., Ch.B. (Edin.), L.R.C.P., L.R.C.S. and L.R.F.S. (Edin. and Glas.), M.R.C.P. (Edin.).	D.M.S.S.	Dar-es-Salaam ..	
J. PUGH, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	D.D.M.S... ..	On leave	
A. H. OWEN, B.A. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M. and H. (Camb.).	D.D.S.S.	Dar-es-Salaam ..	
P. A. CLEARKIN, M.B., Ch.B., B.A.O. (Belf.), D.P.H. (Irel.).	D.D.L.S... ..	Dar-es-Salaam ..	
J. F. CORSON, M.D., Ch.B. (Manch.), D.P.H., D.T.M. and H. (Cantab.).	Asst. Bacteriologist	Musoma	
J. G. MCNAUGHTON, M.D., C.M., M.R.C.P. (Edin.).	V.D. Officer ..	On Sick leave ..	
J. W. MCHARDY	Entomologist ..	Dar-es-Salaam ..	
T. H. SUFFERN, M.B., B.A.O., Ch.B. (Roy. University)	S.M.O.	Tabora	
C. L. IEVERS, L.R.C.S., L.R.C.P. (Edin.), D.T.M. (Liv.), L.R.F.P.S. (Glas.).	Ag. D.D.M.S. ..	Dar-es-Salaam ..	
J. M. CLARK, M.B., Ch.B. (Aberd.), D.T.M. (Liv.).	S.M.O.	On leave	Pending retirement.
R. R. SCOTT, M.C., M.B., B.S. (Durham), M.R.C.S. (Eng.), L.R.C.P., D.P.H. (Lond.).	S.S.O.	Dar-es-Salaam ..	
J. H. THOMSON, M.B., Ch.B. (Aberd.)	S.M.O.	Mwanza	
G. MACLEAN, M.B., Ch.B. (Glas.), D.T.M. (Liv.).	Sleeping Sickness Officer	Tabora	
C. R. H. TICHBORNE, L.A.H. (Dub.).	M.O.	Kondoa-Irangi ..	
G. R. C. WILSON, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Tanga	
C. B. B. REID, M.B., Ch.B. (Edin.), D.T.M. (Liv.).	,, ...	Tukuyu	
J. H. PARRY, B.A. (Cantab.), M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Dar-es-Salaam ..	
A. MCA. BLACKWOOD, M.B., Ch.B. (Glas.).	,, ...	Dodoma	
C. H. PHILIPS, L.M.S.S.A. (Lond.)	,, ...	On leave ..	
G. A. WILLIAMS, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Morogoro ..	
W. H. DYE, M.R.C.S. (Eng.), L.R.C.P. (Lond.), L.D.S., R.C.S. (Eng.), D.T.M. and H. (Lond.).	,, ...	Kilwa (Liwale) ..	S.S. Duty.
C. F. SHELTON, M.D., L.R.C.P. (Lond.), M.R.C.S. (Eng.).	,, ...	Dar-es-Salaam ..	
R. NIXON, M.B., Ch.B., D.T.M., D.P.H. (Liv.).	S.O.	On leave	
A. I. MEEK, L.R.C.P., L.R.C.S., D.P.H. (Edin.), L.R.F.P. and S. (Glas.).	,, ...	Tabora	
J. J. B. EDMOND, M.C., M.B., Ch.B. (Edin.), D.T.M. and H. (Lond.).	M.O.	Ufipa (Kasanga)	
A. R. LESTER, M.B., B.S. (Bombay), F.R.F.P.S. (Glas.), D.P.H., D.T.M. and H. (Edin.).	,, ...	On leave	
W. K. CONNELL, M.B., Ch.B. (Glas.)	,, ...	,, ,, ...	
F. R. LOCKHART, M.B., Ch.B. (Manch.).	,, ...	,, ,, ...	
D. V. LATHAM, B.A., M.B., Ch.B., B.A.O. (Dub.).	,, ...	Lushoto	
T. LANGAN, M.B., Ch.B., B.A.O. (Dub.).	,, ...	Maswa	S.S. Duty.

RETURNS—*Continued.*

TABLE I.—*Continued.*

Medical Staff:—Disposition of as on 31st December, 1926—*Continued.*

NAME AND QUALIFICATION.	RANK.	STATION.	REMARKS.
H. FAIRBAIRN, M.B., Ch.B. (Glas.)	M.O.	Tabora	S.S. Duty.
J. WILLIAMSON, M.B., Ch.B. (Edin.)	,, ...	On leave	
C. R. STEEL, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Dar-es-Salaam ..	
J. W. GRAHAM, M.B., Ch.B. (Glas.)	,, ...	Kigoma	
R. C. SPEIRS, M.B., Ch.B. (Edin.) ..	,, ...	Kilosa	
J. S. ARMSTRONG, M.C., B.A., M.B., B.Ch., B.A.O. (Dublin).	,, ...	Arusha	
H. J. O'D. BURKE-GAFFNEY, M.B., B.Ch., B.A. (Dublin).	,, ...	Dar-es-Salaam ..	Attached Laboratory.
R. MACKAY, M.B., Ch.B. (Aberd.) ..	,, ...	Tanga	
B. O. WILKIN, M.B., Ch.B. (Edin.)	,, ...	Moshi	
J. C. R. BUCHANAN, M.B., Ch.B. (Edin.), D.T.M. and H.	,, ...	Ufipa-Tabora ..	S.S. Duty.
A. MACKENZIE, M.B., B.S. (Lond.), D.T.M. and H. (Lond.), L.M.S.S.A.	,, ...	Dar-es-Salaam ..	Attached H.O.
G. S. P. NOBLE, M.B., Ch.B. (Glas.)	,, ...	Ufipa-Tabora ..	S.S. Duty.
L. A. Willmott, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Bukoba	
I. SANDERSON, M.B., Ch.B. (Edin.)	,, ...	Singida	
H. VAN R. MOSTERT, B.A. (Transvaal), M.B., Ch.B. (Edin.).	,, ...	Tabora	
D. A. SKAN, M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.T.M., D.T.H. (Liv.).	,, ...	Dar-es-Salaam ..	
B. A. COGHLAN, M.B., B.Ch. (Dublin), D.T.M. (Liv.).	,, ...	Songea	
W. J. AITKEN, M.B., Ch.B. (Glas.), D.T.M. and H. (Liv.).	,, ...	Dar-es-Salaam ..	Attached H.O.
H. N. DAVIES, M.B., Ch.B. (Edin.), D.T.M. (Liv.).	,, ...	Moshi (Rombo) ..	
D. PLUM, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Tabora	
P. S. BELL, M.R.C.S. (Eng.), L.R.C.P. (Lond.).	,, ...	Lindi	
J. H. MCDONALD, M.B., Ch.B. (Aberd.).	,, ...	Dar-es-Salaam ..	
H. M. FISHER, L.D.S., R.C.S. (Eng.)	Dental Surgeon ..	,, ..	
A. S. NEWTON, L.D.S. (Liv.) ..	,, ,, ..	Tanga	
MISS F. M. PLANT	S.N.S.	Dar-es-Salaam ..	
MISS J. FRASER	,, ...	Tanga	
MISS E. L. KEMSLEY, R.R.C. ..	,, ...	Kahama	Maternity and C.W. Clinic.
MISS E. BISHOP	,, ...	On leave	
MISS B. G. ALLARDES	S. and H. Visitor	,, ,, ...	
MISS A. L. RYDER	,, ,,	Tabora	
MISS M. B. H. MACRAE	Nursing Sister ..	Tanga	
MISS M. DONALD	,, ,, ..	Dar-es-Salaam ..	
MISS K. THOMPSON	,, ,, ..	Tanga	
MISS A. MUNCASTER	,, ,, ..	Tabora	
MRS. M. K. TURNLEY	,, ,, ..	Dodoma	
MISS J. E. WOOTTEN	,, ,, ..	Mwanza	
MRS. E. L. EVANS	,, ,, ..	Dar-es-Salaam ..	
MISS E. HASLETT	,, ,, ..	Lindi	
MISS K. P. HECKFORD	,, ,, ..	On leave	
MISS D. A. PORTER	,, ,, ..	Tabora	
MISS O. BORRETT	,, ,, ..	Moshi	
MISS I. D. MCDONALD	,, ,, ..	Tabora	
MISS M. C. L. MAPP	,, ,, ..	Dar-es-Salaam ..	
MISS C. M. BISHOP	,, ,, ..	,, ..	
MISS E. B. CRICHTON	,, ,, ..	,, ..	
MISS M. E. FRASER	,, ,, ..	,, ..	
MISS M. KAY	,, ,, ..	Tanga	

RETURNS—*Continued.*

TABLE I.—*Continued.*

Medical Staff:—Disposition of as on 31st December, 1926—*Continued.*

NAME AND QUALIFICATIONS.	RANK.	STATION.	REMARKS.
MISS M. D. WHITE	Nursing Sister ..	Dar-es-Salaam ..	
MISS A. M. HOUGH	,, ,, ..	,, ..	
MISS C. B. ROBINSON	,, ,, ..	Tanga	
MISS B. A. D. ACTON	,, ,, ..	Dar-es-Salaam ..	
MISS G. D. UNDERWOOD	,, ,, ..	,, ..	
J. C. LEMOS, F.C.P.S. (Calcutta) ..	Asst. Surgeon ..	Iringa	
B. G. PANDIT, L.C.P. and S. (Bombay).	Sen. S.A.S. ..	Bukoba	
D. G. KELKAR, L.C.P. and S. (Bombay)	,, ..	Bagamoyo ..	
D. A. FURANDRE, L.C.P. and S. (Bombay).	S.A.S.	Mwanza	
Y. L. MOOLE, L.C.P. and S. (Bombay)	,, ...	Biharamulo ..	
C. K. BORSADA, L.C.P. and S. (Bombay).	,, ...	Kilwa	
P. S. PARANJPE, L.C.P. and S. (Bombay).	,, ...	Arusha	
J. F. MACEDO, L.C.P and S. (Bombay)	,, ...	Mpapwa	
Y. B. KELSIKER, L.C.P. and S. (Bombay).	,, ...	Utete	
M. C. K. THOMAS, L.M.S. (Travancore).	,, ...	Tabora	
G. V. SAKRIKAR, L.C.P. and S. (Bombay)	,, ...	Dar-es-Salaam ..	
B. K. CHRISTIAN, L.C.P. and S. (Bombay).	,, ...	,, ..	
M. P. DAVE, L.C.P. and S. (Bombay)	,, ...	,, ..	
A. K. PATREKAR, Certificate Hyderabad Deccan Med. School.	,, ...	Bukoba	
T. M. JOSEPH, L.M.P. (Madras) ..	,, ...	Mkalama	
CHUNILAL KHANAN	,, ...	On leave ..	
S. R. ABHYANKAR, L.C.P. and S. (Bombay).	,, ...	Tanga	
C. K. DESAI, L.C.P. and S. (Bombay)	,, ...	On leave	
P. V. GOKHALE, L.C.P. and S. (Bombay).	,, ...	Moshi	
M. B. PANDYA, L.C.P. and S. (Bombay).	,, ...	On leave	
SANT RAM, Certificated Lahore Med. School.	,, ...	Tabora	
A. M. BHOSLE, L.C.P. and S. (Bombay).	,, ...	S.S. Duty ..	Ufipa-Tabora Area.
HARI SINGH, L.S.M.F.	,, ...	Tabora	
D. A. MHAISKAR, L.C.P. and S. (Bombay).	,, ...	Lindi	
W. R. BOWRY, L.M.F. (Bengal) ..	,, ...	Musoma	
DIWAN SINGH, M.F.L. (Lahore) ..	,, ...	Kilosa	
V. S. NIJASURE, L.C.P. and S. (Bombay).	,, ...	Shinyanga ..	
G. V. GODBOLE, L.C.P. and S. (Bombay).	,, ...	Songea	
HARBAL SINGH, L.M.F. (Punjab) ..	,, ...	Manyoni	
S. E. PURAM, L.C.P. and S. (Calcutta).	,, ...	Kibaya	
G. A. MHAISKAR, L.C.P. and S. (Bombay).	,, ...	Mafia	
N. B. TOTE, L.C.P. and S. (Bombay)	,, ...	Kondoa-Irangi ..	
G. V. SANE, L.C.P. and S. (Bombay)	,, ...	Kasulo	
MALUK SINGH, L.S.M.F. (Punjab) ..	,, ...	Kisaki	
RAM SINGH, L.S.M.F. (Punjab) ..	,, ...	Mwaya	
P. N. NAIR, L.M.F. (Madras) ..	,, ...	Mikindani ..	
HARCHARAN SINGH, L.N.P. (Southern Prov.)	,, ...	Pangani	

RETURNS—*Continued.*

TABLE I.—*Continued.*

Medical Staff:—Disposition of as on 31st December, 1926—*Continued.*

NAME AND QUALIFICATIONS.	RANK.	STATION.	REMARKS.
S. V. GUPTE, L.C.P. and S. (Bombay)	S.A.S.	Kilwa	
BASANT SINGH, L.M.P. (Agra) ..	,, ...	Kahama	
P. R. DHAVLE, I.M.D. (Poona) ..	,, ...	Dar-es-Salaam ..	
B. D. KHOT, L.C.P. and S. (Bombay)	,, ...	Kasanga	
S. N. PATEL, L.C.P. and S. (Bombay)	,, ...	Kibondo	
M. G. PANVALKAR, L.C.P. and S. (Bombay).	,, ...	Tabora	
G. V. HARICHANDRAKAR, L.C.P. and S. (Bombay).	,, ...	Tukuyu	
J. K. DAVE, L.C.P. and S. (Bombay)	,, ...	Mwanza	
G. R. GORE, L.C.P. and S. (Bombay)	,, ...	Dodoma	
P. K. DATE, L.N.P. (Central Prov.)	,, ...	Tanga	
V. V. APTE, L.C.P. and S. (Bombay)	,, ...	Morogoro.. ..	
JAGAT SINGH DOSANJE, L.M.F. (Bengal).	,, ...	Kahama	

PRINCIPAL CHANGES.

TRANSFERS.

Dr. C. R. Wallace, Medical Officer to Uganda, 7.3.26.
Mr. J. S. Humphrey, Sanitary Superintendent to Federated Malay State, 26.7.26.

LEAVE OF ABSENCE.

European.

Dr. J. Pugh, Deputy Director of Medical Services, 21.12.26 till the end of the year.
Dr. A. H. Owen, Deputy Director of Sanitary Service, 6.6.26 till 15.12.26.
Mr. J. L. Mason, Chief Clerk, 24.8.26 till the end of the year.
Dr. J. G. McNaughton, Venereal Diseases Officer, beginning of the year till 19.3.26.
Dr. J. H. Thomson, Senior Medical Officer, beginning of the year till 14.8.26.
Dr. C. R. Wallace, Medical Officer, beginning of the year till 6.3.26.
Dr. G. R. C. Wilson, Medical Officer, beginning of the year till 8.9.26.
Dr. J. H. Parry, Medical Officer, 11.3.26 till 30.12.26.
Dr. A. Mc.A. Blackwood, Medical Officer, 13.3.26 till 3.11.26.
Dr. C. H. Philips, Medical Officer, 30.5.26 till the end of the year.
Dr. R. Nixon, Medical Officer, 28.10.26 till the end of the year.
Dr. A. R. Lester, Medical Officer, 22.10.26 till the end of the year.
Dr. W. K. Connell, Medical Officer, 29.10.26 till the end of the year.
Dr. F. R. Lockhart, Medical Officer, 31.8.26 till the end of the year.
Dr. J. Williamson, Medical Officer, 23.11.26 till the end of the year.
Mr. H. M. Fisher, Dental Surgeon, 12.1.26 till 27.7.26.
Miss F. M. Plant, Senior Nursing Sister, 16.1.26 till 14.8.26.
Miss E. L. Kemsley, Senior Nursing Sister, 16.1.26 till 14.8.26.
Miss E. Bishop, Senior Nursing Sister, 6.12.26 till the end of the year.
Miss B. G. Allardes, Sister and Health Visitor, 31.8.26 till the end of the year.
Miss W. R. Grant, Nursing Sister, 28.6.26 till 26.10.26.
Miss K. Thompson, beginning of the year till 27.1.26.
Miss A. Muncaster, Nursing Sister, beginning of the year till 16.5.26.
Mrs. K. M. Turnley, Nursing Sister, 11.4.26 till 3.11.26.
Miss J. E. Wootten, Nursing Sister, beginning of the year till 24.6,26.
Mrs. E. L. Evans, Nursing Sister, 21.1.26 till 18.8.26.
Miss E. Haslett, Nursing Sister, 8.6.26 till 15.12.26.
Miss K. P. Heckford, Nursing Sister, 23.11.26 till the end of the year.
Mr. C. D. Dovey, Medical Storekeeper, beginning of the year till 24.6.26.
Mr. W. H. Jones, Assistant Storekeeper, 11.5.26 till the end of the year.

Mr. P. W. Morgan, Building Inspector, beginning of the year till 19.7.26.
Mr. H. Hammond, Laboratory Assistant, 6.3.26 till 1.10.26.
Mr. W. A. Moore, Sanitary Superintendent, beginning of the year till 16.5.26.
Mr. Thomas Bell, Sanitary Superintendent, beginning of the year till 20.4.26.
Mr. W. M. Mackay, Sanitary Superintendent, 11.3.26 till 29.10.26.
Mr. B. T. Bailey, Sanitary Superintendent, 14.12.26 till the end of the year.
Mr. N. McL. Moore, Clerk Storekeeper, beginning of the year till 29.1.26.

Asiatic.

Mr. B. G. Pandit, Senior Sub-Assistant Surgeon, 7.4.26 till 11.10.26.
Mr. Y. L. Moole, Sub-Assistant Surgeon, beginning of the year till 11.6.26.
Mr. G. V. Sakrikar, Sub-Assistant Surgeon, 5.5.26 till 9.11.26.
Mr. K. R. Pagadala, Sub-Assistant Surgeon, beginning of the year till 31.1.26.
Mr. B. K. Christian, Sub-Assistant Surgeon, 24.8.26 till 21.12.26.
Mr. M. P. Dave, Sub-Assistant Surgeon, 1.6.26 till 1.10.26.
Mr. C. K. Desai, Sub-Assistant Surgeon, 19.11.26 till the end of the year.
Mr. M. B. Pandya, Sub-Assistant Surgeon, 22.10.26 till the end of the year.
Mr. J. C. X. Rodrigues, Compounder, beginning of the year till 27.3.26.
Mr. E. Dias, Compounder, beginning of the year till 14.5.26.
Mr. Habibullah Khan, Compounder, beginning of the year till 26.4.26.
Mr. Ahmed Din, Compounder, beginning of the year till 12.5.26.
Mr. A. Varma, Compounder, beginning of the year till 26.4.26.
Mr. Jagat Singh, Compounder, 17.4.26 till 11.10.26.
Mr. Gurdit Singh, Compounder, 17.6.26 till 8.11.26.
Mr. M. M. Das, Compounder, 25.12.26 till end of the year.
Mr. Abdul Sattar Khan, Compounder, 27.7.26 till end of the year.
Mr. J. de Souza, 1st Grade Clerk, beginning of the year till 26.4.26.
Mr. P. de Mello, 3rd Grade Clerk, beginning of the year till 29.3.26.
Mr. E. de Mello, 3rd Grade Clerk, 4.5.26 till 9.11.26.

TABLE II.

Expenditure :— FINANCIAL.

PERSONAL EMOLUMENTS.

	£	£
Medical Division :		
Director of Medical and Sanitary Services, Deputy Director of Medical Service	2,757	
Clerical Staff, Medical Storekeepers, Packers, Messengers, etc.	4,955	
Senior Medical Officers	4,000	
Medical Officers	22,740	
Venereal Diseases Officer	875	
Sleeping Sickness Officer	980	
Dental Surgeons	1,650	
Nursing Staff	7,195	
Superintendent and Matron Lunatic Asylum, Hospital Quartermasters and Building Inspector	1,960	
Indian Medical Assistants, i.e. Sub-Assistant Surgeons and Compounders	16,870	
Native Dispensers and Native Hospital Attendants ..	5,000	
Other charges	1,170	
		70,010
Sanitation Division :		
Deputy Director of Sanitary Service and Sanitation Officers	6,405	
Subordinate Staff for the suppression of Epidemic Diseases	12,860	
		19,265

	£	£
Laboratory Division :		
Deputy Director of Laboratory Service, Assistant Bacteriologist, Laboratory Assistant and other personnel temporarily attached to Laboratory ..	2,840	
Total Personal Emoluments		92,115
OTHER CHARGES.		
Administrative Division :		
Incidental Expenditure	860	
Medical Division :		
Miscellaneous Charges	1,985	
Sanitation Division :		
Maintenance of Lepers and Incurables	3,380	
Sanitary Labour	11,840	
Upkeep of Infectious Diseases Hospitals..	1,490	
Sanitary Oils and Disinfectants	430	
Sanitary Equipment	1,410	
Uniforms	600	
Laboratory Division :		
Vaccines and Serum	140	
Miscellaneous	290	
Special Expenditure :		
Sleeping Sickness and Special Sanitary Measures ..	3,940	
Venereal Diseases and Yaws	1,375	
Maternity and Child Welfare	320	
Hospitals, Dispensaries and Lunatic Asylum : Maintenance of :		
Medical and Surgical Stores	15,125	
Equipment, Furniture, Microscopes, etc.	7,430	
Upkeep of Hospitals	11,865	
Upkeep of Lunatic Asylum at Lutindi	405	
Uniforms	300	
Miscellaneous Expenditure :		
Books of References	195	
Travelling Equipment	580	
Transport, Railage and Passages	13,280	
Total Other Charges		77,240
TOTAL		£169,355

Receipts :

STATEMENT OF REVENUE, 1926.

	£
From Hospital Fees, Sale of Drugs, etc.	7,153
Fees collected by Port and Marine Department for Bills of Health ..	905
Sale of Lymph, Vaccine and Serum..	901
	£8,959

TABLES V AND VI.

Return of Diseases and Deaths (In-Patients) and of Diseases (Out-Patients) for the Year 1926.

DISEASES.	In-Patients					Out-Patients			Total Cases In and Out-Patients
	Remaining in Hospital at the end of 1925	Yearly Total: Admissions	Yearly Total: Deaths	Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
I. Epidemic, Endemic and Infectious Diseases									
1. Enteric Group—									
(*a*) Typhoid Fever ..	4	14	1	18	—	—	—	—	18
(*b*) Paratyphoid A ..	—	1	—	1	—	—	—	—	1
(*c*) Paratyphoid C ..	—	—	—	—	—	—	—	—	—
(*d*) Type not defined ..	—	2	1	2	—	—	—	—	2
2. Typhus	—	—	—	—	—	—	—	—	—
3. Relapsing Fever	7	173	6	180	2	39	8	47	227
4. Undulant Fever	—	2	—	2	—	—	—	—	2
5. Malaria	1	56	—	57	5	847	167	1,014	1,071
(*a*) Tertian	12	1,434	11	1,446	15	12,672	3,435	16,107	17,553
(*b*) Quartan	—	1	—	1	—	10	3	15	14
(*c*) Aestivo-autumnal ..	43	2,248	23	2,291	12	6,337	1,138	7,475	9,766
(*d*) Cachexia	5	199	7	204	3	952	296	1,248	1,452
(*e*) Blackwater	2	79	19	81	1	3	1	4	85
6. Smallpox	—	3	—	3	—	1	—	1	4
Alestrim	—	—	—	—	—	—	—	—	—
7. Measles	—	120	1	120	3	60	35	95	215
8. Scarlet Fever	—	—	—	—	—	—	—	—	—
9. Whooping Cough	—	5	—	5	—	66	48	114	119
10. Diphtheria	—	2	2	2	—	—	—	—	2
11. Influenza	5	405	5	410	—	5,619	2,169	7,788	8,198
12. Military Fever	—	16	—	16	—	—	—	—	16
13. Mumps	—	11	—	11	—	30	3	33	44
14. Cholera	—	—	—	—	—	—	—	—	—
15. Epidemic Diarrhœa ..	—	3	—	3	—	—	—	—	3
16. Dysentery—									
(*a*) Amœbic	8	178	17	186	3	210	75	285	471
(*b*) Bacillary	1	140	14	141	2	143	53	196	337
(*c*) Undefined or due to other causes	8	55	5	63	—	84	30	114	177
17. Plague—									
(*a*) Bubonic	—	—	—	—	—	—	—	—	—
(*b*) Pneumonic	—	—	—	—	—	—	—	—	—
(*c*) Septicæmic	—	—	—	—	—	—	—	—	—
(*d*) Undefined	—	—	—	—	—	—	—	—	—
18. Yellow Fever	—	—	—	—	—	—	—	—	—
19. Spirochætosis icterohæmorrhagica	—	—	—	—	—	—	—	—	—
20. Leprosy	5	172	2	177	47	385	309	694	871
21. Erysipelas	—	3	—	3	—	3	—	3	6
22. Acute Poliomyelitis ..	—	—	—	—	—	—	—	—	—
23. Encephalitis Lethargica	—	—	—	—	—	—	—	—	—
24. Epidemic Cerebro-Spinal Fever	—	13	10	13	—	—	1	1	14
25. Other Epidemic Diseases—									
(*a*) Rubeola (German Measles	—	2	—	2	—	1	—	1	3
(*b*) Varicella (Chicken-pox)	14	276	—	290	11	228	42	270	560
(*c*) Kala Azar	—	—	—	—	—	—	—	—	—
Carried forward ..	115	5,613	124	5,728	104	27,690	7,813	35,503	41,221

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total: Admissions	Yearly Total: Deaths	Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
Brought forward ..	115	5,613	124	5,728	104	27,690	7,813	35,503	41,221
(*d*) Phlebotomus Fever	—	2	—	2	—	1	—	1	3
(*e*) Dengue	4	57	—	61	—	9	3	12	73
(*f*) Epidemic Dropsy ..	—	—	—	—	—	—	—	—	—
(*g*) Yaws	215	4,208	29	4,423	193	39,865	30,105	69,970	74,393
(*h*) Trypanosomiasis ..	31	57	22	88	—	4	1	5	93
26. Anthrax	—	10	—	10	—	56	45	101	111
27. Glanders	—	—	—	—	—	—	—	—	—
28. Rabies	—	—	—	—	—	1	1	2	2
29. Tetanus	—	14	8	14	1	3	2	5	19
30. Mycosis..	1	—	—	1	—	1	—	1	2
31. Tuberculosis, Pulmonary and Laryngeal ..	13	200	67	213	14	119	35	154	367
32. Tuberculosis of the Meninges or Central Nervous System	—	1	—	1	—	—	—	—	1
33. Tuberculosis of the Intestines or Peritoneum..	—	5	3	5	—	—	—	—	5
34. Tuberculosis of the Vertebral Column ..	—	1	1	1	—	4	—	4	5
35. Tuberculosis of Bones and Joints	—	11	3	11	1	6	—	6	17
36. Tuberculosis of other Organs—									
(*a*) Skin or Subcutaneous Tissue (Lupus)	—	2	—	2	—	—	1	1	3
(*b*) Bones	2	—	—	2	1	—	—	—	2
(*c*) Lymphatic System	—	3	—	3	1	11	1	12	15
(*d*) Genito-Urinary ..	—	—	—	—	—	1	—	1	1
(*e*) Other Organs.. ..	1	11	2	12	—	4	1	5	17
37. Tuberculosis disseminated—									
(*a*) Acute	—	—	—	—	—	—	—	—	—
(*b*) Chronic	—	7	3	7	1	1	1	2	9
38. Syphilis—									
(*a*) Primary	37	575	10	612	4	1,974	1,131	3,105	3,717
(*b*) Secondary	51	619	5	670	43	3,167	2,542	5,709	6,379
(*c*) Tertiary	14	165	11	179	11	1,141	1,106	2,247	2,426
(*d*) Hereditary	—	47	5	47	1	152	138	270	317
(*e*) Period not indicated	—	9	—	9	3	591	260	851	860
39. Soft Chancre	6	35	—	41	3	77	2	79	120
40. A.—Gonorrhœa and its complications ..	27	775	2	802	43	3,064	221	3,285	4,087
B.—Gonorrhœal Opthalmia	1	2	—	3	—	16	—	16	19
C.—Gonorrhœal Arthritis	1	10	—	11	1	15	8	23	34
D.—Granuloma Venereum	—	3	—	3	—	5	—	5	8
41. Septicæmia	—	4	2	4	1	12	4	16	20
42. Other Infectious Diseases	—	42	1	42	—	8	56	314	356
Carried forward ..	523	12,547	298	13,070	426	78,238	43,480	121,718	134,788

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES.	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	523	12,547	298	13,070	426	78,238	43,480	121,718	134,788
II. General Diseases not mentioned above									
43. Cancer or other malignant Tumours of the Buccal Cavity	—	2	2	2	—	—	1	1	3
44. Cancer or other malignant Tumours of Stomach or Liver	—	7	5	7	—	1	—	1	8
45. Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum	—	2	1	2	—	—	—	—	2
46. Cancer or other malignant Tumours of the Female Genital Organs	—	1	—	1	—	—	—	—	1
47. Cancer or other malignant Tumours of the Breast	—	2	1	2	—	—	1	1	3
48. Cancer or other malignant Tumours of the Skin	—	6	—	6	1	1	—	1	7
49. Cancer or other malignant Tumours of Organs not specified	3	17	5	20	1	8	2	10	30
50. Tumours non-malignant	4	97	3	101	11	78	31	109	210
51. Acute Rheumatism ..	3	19	2	22	—	190	68	258	280
52. Chronic Rheumatism ..	1	80	—	81	1	737	304	1,041	1,122
53. Scurvy (including Barlow's Disease)	42	177	6	219	5	21	11	32	251
54. Pellagra	—	—	—	—	—	—	—	—	—
55. Beri-Beri	9	9	1	18	1	2	—	2	20
56. Rickets	—	1	1	1	—	25	3	28	29
57. Diabetes (not including Insipidus)	—	—	—	—	—	3	3	6	6
58. Anæmia	—	4	—	4	—	54	26	80	84
(*a*) Pernicious	—	14	4	14	—	26	12	38	52
(*b*) Other Anæmias and Chlorosis	2	82	12	84	6	428	183	611	695
59. Diseases of the Pituitary Body	—	—	—	—	—	—	—	—	—
60. Diseases of the Thyroid Gland—									
(*a*) ExophthalmicGoitre	—	1	—	1	—	2	15	17	18
(*b*) Other Diseases of the Thyroid Gland, Myxœdema	—	1	—	1	—	16	12	28	29
61. Diseases of the Parathyroid Glands	—	1	—	1	—	—	—	—	1
62. Diseases of the Thymus	—	—	—	—	—	—	—	—	—
63. Diseases of the Supra-Renal Glands	—	—	—	—	—	1	—	1	1
64. Diseases of the Spleen	1	2	—	3	—	52	24	76	79
Carried forward ..	584	13,013	341	13,597	452	79,873	44,173	124,046	137,643

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total: Admissions	Yearly Total: Deaths	Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
Brought forward ..	584	13,013	341	13,597	452	79,873	44,173	124,046	137,643
65. Leukæmia—									
(*a*) Leukæmia	—	—	—	—	—	—	—	—	—
(*b*) Hodgkin's Disease	1	1	—	2	—	1	1	2	4
66. Alcoholism	—	8	—	8	—	—	—	—	8
67. Chronic Poisoning by mineral substances (lead, mercury, etc.) ..	—	—	—	—	—	—	—	—	—
68. Chronic Poisoning by organic substances (Morphia, Cocaine, etc.) ..	—	—	—	—	—	1	—	1	1
69. Other General Diseases	1	78	9	79	3	450	64	514	593
Auto-intoxication ..	—	—	—	—	—	—	2	2	2
Purpura Hæmorrhagica	—	—	—	—	—	—	—	—	—
Hæmophilia	—	—	—	—	—	—	—	—	—
Diabetes Insipidus ..	—	—	—	—	—	—	—	—	—
III. Affections of the Nervous System and Organs of the Senses.									
70. Encephalitis (not including Encephalitis Lethargica)	—	5	—	5	—	4	—	4	9
71. Meningitis (not including Tuberculous Meningitis or Cerebro-Spinal Meningitis)	—	—	—	—	—	—	—	—	—
72. Locomotor Ataxia ..	1	11	1	12	1	4	4	8	20
73. Other affections of the Spinal Cord	1	5	—	6	—	296	177	473	479
74. Apoplexy	—	3	1	3	—	—	—	—	3
(*a*) Hemiplegia	1	17	1	18	—	5	—	5	23
(*b*) Embolism	—	—	—	—	—	—	—	—	—
(*c*) Thrombosis	—	1	—	1	—	—	—	—	1
75. Paralysis	3	16	—	19	1	7	4	11	30
(*a*) Hæmorrhage	2	1	—	3	1	3	—	3	6
(*b*) Other Paralyses ..	6	39	4	45	2	24	6	30	75
76. General Paralysis of the Insane	—	—	—	—	—	—	—	—	—
77. Other Forms of Mental Alienation	3	56	5	59	1	30	6	36	95
78. Epilepsy	—	—	—	—	—	—	—	—	—
79. Eclampsia, Convulsions (non-puerperal) 5 years or over	—	3	3	3	—	—	—	—	—
80. Infantile Convulsions..	—	4	—	4	—	—	1	1	5
81. Chorea	—	1	1	1	—	—	—	—	1
82. A.—Hysteria	—	12	—	12	—	3	13	16	28
B.—Neuritis..	4	40	—	44	1	412	123	535	579
C.—Neurasthenia ..	4	36	—	40	4	433	34	467	507
83. Cerebral Softening ..	—	4	—	4	1	—	—	—	4
84. Other affections of the Nervous System, such as Paralysis Agitans ..	4	83	5	87	1	1,679	401	2,080	2,167
Carried forward ..	615	13,437	371	14,052	468	83,225	45,009	128,234	142,286

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES.	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	615	13,437	371	14,052	468	83,225	45,009	128,234	142,286
85. Affections of the Organs of Vision—									
(*a*) Diseases of the Eye	2	17	—	19	1	174	121	295	314
(*b*) Conjunctivitis ..	9	172	3	181	3	6,744	3,273	10,017	10,198
(*c*) Trachoma	—	6	—	6	2	102	41	143	149
(*d*) Tumours of the Eye	—	11	—	11	—	36	5	41	52
(*e*) Other affections of the Eye	15	176	1	191	8	968	283	1,251	1,442
86. Affections of the Ear or Mastoid Sinus.. ..	1	59	—	60	3	3,143	1,093	4,236	4,296
IV. Affections of the Circulatory System.									
87. Pericarditis	—	2	—	2	—	13	3	16	18
88. Acute Endocarditis or Myocarditis	—	—	—	—	—	6	6	12	12
89. Angina Pectoris	—	1	—	1	—	—	—	—	1
90. Other Diseases of the Heart	—	7	1	7	—	30	11	41	48
(*a*) Valvular..	—	2	2	2	—	14	17	31	33
Mitral	7	28	4	35	2	41	14	55	90
Aortic	—	1	1	1	—	9	2	11	12
Tricuspid..	—	—	—	—	—	2	1	3	3
Pulmonary	—	—	—	—	—	—	—	—	—
(*b*) Myocarditis	—	1	—	1	—	1	—	1	2
91. Diseases of the Arteries	—	4	1	4	—	2	—	2	6
(*a*) Aneurism	—	1	—	1	—	5	1	6	7
(*b*) Arterio-Sclerosis ..	—	1	—	1	—	1	—	1	2
(*c*) Other diseases ..	—	—	—	—	—	7	1	8	8
92. Embolsim or Thrombosis (non-cerebral) ..	—	—	—	—	—	—	—	—	—
93. Diseases of the Veins—									
Hæmorrhoids	—	18	—	18	1	96	11	107	125
Varicose	—	4	—	4	—	2	—	2	6
Phlebitis	1	3	—	4	—	—	1	1	5
94. Diseases of the Lymphatic System ..	—	8	1	8	—	122	33	155	163
Filariasis	—	15	—	15	1	13	4	17	32
Lymphangitis	—	12	—	12	—	85	20	105	117
Lymphadenitis, Bubo (non-specific)	1	89	1	90	3	474	49	523	613
95. Hæmorrhage of undetermined cause	—	—	—	—	—	7	—	7	7
96. Other affections of the Circulatory System ..	1	16	4	17	1	47	9	56	73
V. Affections of the Respiratory System.									
97. Diseases of the Nasal Passages	—	10	—	10	—	28	8	36	46
Carried forward ..	652	14,101	390	14,753	493	95,397	50,016	145,413	160,166

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES.	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	652	14,101	390	14,753	493	95,397	50,016	145,413	160,166
Adenoids	—	—	—	—	—	1	—	1	1
Polypus..	—	—	—	—	—	4	2	6	6
Rhinitis..	—	2	—	2	—	25	5	30	32
Coryza	—	24	—	24	—	360	42	402	426
98. Affections of the Larynx—Laryngitis ..	—	20	1	20	—	121	22	143	163
99. Bronchitis	2	193	3	195	5	7,634	1,409	9,043	9,238
(*a*) Acute	3	361	4	364	7	12,748	4,850	17,598	17,962
(*b*) Chronic	3	162	4	165	2	5,122	2,403	7,525	7,690
100. Broncho-Pneumonia..	7	101	19	108	2	71	30	101	209
101. Pneumonia..	2	18	5	20	—	1	3	4	24
(*a*) Lobar	10	406	101	416	10	63	24	87	503
(*b*) Unclassified	—	2	1	2	—	2	1	3	5
102. Pleurisy, Empyema ..	4	90	5	94	2	110	16	126	220
103. Congestion of the Lungs	—	—	—	—	—	—	—	—	—
104. Gangrene of the Lungs	1	—	—	1	—	—	—	—	1
105. Asthma	1	62	4	63	—	313	57	370	433
106. Pulmonary Emphysema	—	2	—	2	—	2	—	2	4
107. Other affections of the Lungs	—	37	1	37	1	1,644	237	1,881	1,918
Pulmonary Spirochætosis	—	—	—	—	—	—	—	—	—
VI. Diseases of the Digestive System.									
108. A.—Diseases of Teeth	—	6	—	6	—	160	66	226	232
Gums	—	—	—	—	—	162	69	231	231
Caries, Pyorrhœa, etc.	—	52	—	52	—	3,271	1,876	5,147	5,199
B.—Other affections of the Mouth	—	4	—	4	—	86	16	102	106
Stomatitis	1	19	—	20	—	697	305	1,002	1,022
Glossitis, etc.	—	1	—	1	—	3	1	4	5
109. Affections of the Pharynx or Tonsils	—	3	—	3	—	644	205	849	852
Tonsillitis	1	92	—	93	—	656	120	776	869
Pharyngitis..	—	34	—	34	—	826	112	938	972
110. Affections of the Oesophagus	—	—	—	—	—	34	10	44	44
111. A.—Ulcer of the Stomach	—	3	—	3	—	31	1	32	35
B.—Ulcer of the Duodenum	—	—	—	—	—	—	—	—	—
112. Other affections of the Stomach	3	24	3	27	—	185	25	210	237
Gastritis	2	59	—	61	—	230	68	298	359
Dyspepsia, etc.	—	34	—	34	1	962	342	1,304	1,338
113. Diarrhœa and Enteritis	1	138	4	139	1	1,143	279	1,422	1,561
Under two years ..	4	169	12	173	2	1,347	399	1,746	1,919
114. Diarrhœa and Enteritis	—	6	—	6	—	14	6	20	26
Two years and over ..	4	275	13	279	—	1,448	431	1,879	2,158
Carried forward ..	701	16,500	570	17,201	526	135,517	63,448	198,965	216,166

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	701	16,500	570	17,201	526	135,517	63,448	198,965	216,166
Colitis	3	43	—	46	2	377	123	500	546
Ulceration	1	13	—	14	—	447	104	551	565
114a. Sprue..	—	—	—	—	—	—	—	—	—
115. Ankylostomiasis ..	49	684	157	733	29	2,479	1,420	3,899	4,632
116. Diseases due to Intestinal Parasites ..	1	10	—	11	—	22	2	24	35
(*a*) Cestoda (Tænia) ..	—	102	—	102	1	2,619	738	3,357	3,459
(*b*) Trematoda (Flukes)	—	54	—	54	9	311	20	331	385
(*c*) Nematoda (other than Ankylostoma)	1	6	1	7	—	200	71	271	278
Ascaris..	—	29	1	29	—	3,018	2,084	5,102	5,131
Tricocephalus dispar..	—	—	—	—	—	3	—	3	3
Trichina	—	—	—	—	—	—	—	—	—
Dracunculus	—	1	—	1	1	—	—	—	1
Strongylus	—	—	—	—	—	—	—	—	—
Oxyuris	—	2	—	2	—	53	29	82	84
(*d*) Coccidia	—	—	—	—	—	4	1	5	5
(*e*) Other Parasites ..	—	—	—	—	—	—	—	—	—
(*f*) Unclassified	—	—	—	—	—	—	—	—	—
117. Appendicitis	1	14	—	15	2	9	2	11	26
118. Hernia..	8	167	7	175	5	98	4	102	277
119. A.—Affections of the Anus, Fistula, etc.	1	11	—	12	1	36	5	41	53
B.—Other affections of the Intestines ..	—	49	3	49	3	1,408	733	2,141	2,190
Interoptosis	—	5	1	5	—	200	38	238	243
Constipation	4	202	—	206	1	11,641	3,659	15,300	15,506
120. Acute Yellow Atrophy of the Liver..	—	—	—	—	—	—	—	—	—
121. Hydatid of the Liver..	—	2	1	2	—	—	—	—	2
122. Cirrhosis of the Liver	—	9	6	9	—	3	1	4	13
(*a*) Alcoholic	—	1	—	1	—	1	—	1	2
(*b*) Other forms	—	6	3	6	1	4	—	4	10
123. Biliary Calculus.. ..	—	1	—	1	—	2	—	2	3
124. Other affections of the Liver	—	—	—	—	—	1	—	1	1
Abscess	—	5	1	5	1	2	—	2	7
Hepatitis	2	34	1	36	—	116	21	127	173
Cholecystitis	1	5	—	6	—	—	—	—	6
Jaundice	2	19	3	21	1	59	15	74	95
125. Diseases of the Pancreas	—	—	—	—	—	—	—	—	—
126. Peritonitis (of unknown cause) ..	—	5	1	5	—	9	1	10	15
127. Other affections of the Digestive System ..	—	143	2	143	2	2,293	415	2,708	2,851
VII. Diseases of the Genito-Urinary System (Non-Venereal).									
128. Acute Nephritis.. ..	2	41	2	43	1	57	10	67	110
129. Chronic Nephritis ..	—	12	4	12	—	9	6	15	27
130. A.—Chyluria	1	1	—	2	—	2	—	2	4
B.—Schistosomiasis ..	3	142	2	145	2	635	225	880	1,025
Carried forward ..	781	18,318	766	19,099	588	161,655	73,175	234,830	253,929

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	781	18,318	766	19,099	588	161,655	73,175	234,830	253,929
131. Other affections of the Kidneys	—	14	1	14	—	9	1	10	24
Pyelitis, etc.	—	5	—	5	—	4	—	4	9
132. Urinary Calculus ..	—	8	—	8	2	4	—	4	12
133. Diseases of the Bladder Cystitis	—	20	1	20	1	87	11	98	118
134. Diseases of the Urethra	—	7	—	7	—	15	—	15	22
(*a*) Stricture	1	32	3	33	1	42	1	43	76
(*b*) Others	4	47	7	51	—	118	3	121	172
135. Diseases of the Prostate	—	4	—	4	—	25	—	25	29
Hypertrophy	—	—	—	—	—	—	—	—	—
Prostatitis	—	5	—	5	—	8	1	9	14
136. Diseases(non-Venereal) of the Genital Organs of Man..	1	56	2	57	1	54	—	54	111
Epididymitis	—	17	—	17	—	66	—	66	83
Orchitis	4	112	—	116	1	447	—	447	565
Hydrocele	14	185	5	199	13	134	—	134	333
Ulcer of Penis	1	25	1	26	—	77	—	77	103
137. Cyst or other malignant Tumour of the Ovaries	—	13	—	13	—	5	9	14	27
138. Salpingitis	1	4	2	5	—	—	5	5	10
Abscess of the Pelvis..	—	2	—	2	1	—	—	—	2
139. Uterine Tumours (non-malignant)	—	1	—	1	—	—	21	21	22
140. Uterine Hæmorrhage (non-puerperal)	—	4	—	4	—	—	8	8	12
141. A.—Metritis	—	9	—	9	—	—	13	13	22
B.—Other affections of the Female Genital Organs..	—	15	—	15	—	—	72	72	87
Displacement of Uterus	—	6	—	6	1	—	35	35	41
Amenorrhœa	—	1	—	1	—	—	30	30	31
Dysmenorrhœa	1	7	—	8	—	—	103	103	111
Leucorrhœa	—	1	—	1	—	—	35	35	36
142. Diseases of the Breast (non-puerperal)	1	7	—	8	—	—	64	64	72
Mastitis	—	5	—	5	1	1	71	72	77
Abscess of Breast ..	—	8	—	8	1	—	30	30	38
VIII. Puerperal State	—	10	1	10	—	—	—	—	10
143. A.—Normal Labour ..	1	96	—	97	4	—	7	7	104
B.—Accidents of Pregnancy	—	2	1	2	—	—	2	2	4
(*a*) Abortion	1	33	—	34	—	—	15	15	49
(*b*) Ectopic Gestation ..	—	1	—	1	—	—	—	—	1
(*c*) Other accidents of Pregnancy	—	18	—	18	—	—	8	8	26
144. Puerperal Hæmorrhage	—	2	1	2	—	—	10	10	12
145. Other accidents of Parturition..	1	33	5	34	—	—	5	5	39
146. Puerperal Septicæmia	—	6	4	6	—	—	6	6	12
147. Phlegmasia Dolens ..	—	—	—	—	—	—	—	—	—
Carried forward ..	812	19,139	800	19,951	615	162,751	73,741	236,492	256,443

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES.	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	812	19,139	800	19,951	615	162,751	73,741	236,492	256,443
148. Puerperal Eclampsia	—	4	—	4	—	—	14	14	18
149. Sequelæ of Labour ..	—	2	—	2	—	—	1	1	3
150. Puerperal affections of the Breast	—	—	—	—	—	—	—	—	—
IX. Affections of the Skin and Cellular Tissues ..	14	299	—	313	12	3,032	187	3,219	3,532
151. Gangrene	—	16	9	16	—	1	—	1	17
152. Boil	5	77	—	82	—	1,805	270	2,075	2,157
153. Abscess	17	405	7	422	18	1,480	335	1,815	2,237
Carbuncle	—	10	—	10	1	29	12	41	51
Whitlow	1	9	—	10	1	61	5	66	76
Cellulitis	12	186	4	198	7	1,018	112	1,130	1,328
154. A.—Tinea	—	4	—	4	—	213	44	257	261
B.—Scabies	8	135	1	143	1	6,897	2,231	9,128	9,271
155. Other Diseases of the Skin—									
Ulcers	125	2,113	21	2,238	152	15,012	4,402	19,414	21,652
Erythema	—	1	—	1	—	16	11	27	28
Urticaria	—	12	—	12	—	123	24	147	159
Eczema	2	51	—	53	4	795	218	1,013	1,066
Herpes..	—	12	—	12	2	107	31	138	150
Psoriasis	—	6	—	6	3	47	9	56	62
Elephantiasis	10	91	4	101	10	114	23	137	238
Myiasis	2	22	1	24	1	26	3	29	53
Chigoes	2	50	—	52	2	725	169	894	946
Cutaneous Leishmaniasis	12	262	1	274	10	1,849	285	2,134	2,408
X. Diseases of the Bones and Organs of Locomotion other than Tuberculosis	—	1	—	1	1	1	—	1	2
156. Diseases of Bones ..	4	9	—	13	—	7	7	14	27
Osteitis	3	34	—	37	5	296	173	469	506
157. Diseases of Joints ..	—	2	—	2	—	3	2	5	7
Arthritis	5	112	3	117	—	1,053	301	1,354	1,471
Synovitis	1	39	—	40	—	190	21	211	251
158. Other Diseases of Bones or Organs of Locomotion	3	205	1	208	—	3,680	738	4,418	4,626
XI. Malformations.									
159. Malformations	3	6	—	9	—	3	1	4	13
Hypospadias	—	—	—	—	—	—	—	—	—
Hydrocephalus	—	—	—	—	—	—	—	—	—
Spina Bifida, etc. ..	—	—	—	—	—	1	—	1	1
XII. Diseases of Infancy.									
160. Congenital Debility ..	—	—	—	—	—	1	—	1	1
161. Premature Birth ..	—	1	—	1	—	—	1	1	2
Carried forward ..	1,041	23,315	852	24,356	845	201,336	83,371	284,707	309,063

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total		Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
		Admissions	Deaths						
Brought forward ..	1,041	23,315	852	24,356	845	201,336	83,371	284,707	309,063
162. Other affections of Infancy	—	8	1	8	—	—	—	—	8
163. Infant Neglect (infants of three months or over)	—	—	—	—	—	—	—	—	—
XIII. Affections of Old Age	—	—	—	—	—	10	11	21	21
164. Senility	—	2	—	2	—	2	1	3	5
Senility Dementia ..	—	1	—	1	1	—	—	—	1
XIV. Affections produced by External Causes	—	—	—	—	—	196	72	268	268
165. Suicide by Poisoning..	—	—	—	—	—	—	—	—	—
166. Corrosive Poisoning (intentional)	—	—	—	—	—	—	—	—	—
167. Suicide by Gas Poisoning	—	—	—	—	—	—	—	—	—
168. Suicide by Hanging or Strangulation ..	—	—	—	—	—	—	—	—	—
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—
170. Suicide by Firearms..	—	—	—	—	—	—	—	—	—
171. Suicide by Cutting or Stabbing Instrument	—	1	—	1	—	—	—	—	1
172. Suicide by Jumping from a Height	—	—	—	—	—	—	—	—	—
173. Suicide by Crushing..	—	—	—	—	—	—	—	—	—
174. Other Suicides	—	—	—	—	—	—	—	—	—
175. Food Poisoning	—	8	—	8	—	—	—	—	8
Botulism	—	—	—	—	—	—	—	—	—
176. Attacks of Poisonous Animals	—	1	—	1	—	2	—	2	3
Snake Bite	1	23	—	24	—	28	4	32	56
Insect Bite	—	13	—	13	—	67	2	69	82
177. Other Accidental Poisoning	—	14	—	14	—	7	1	8	22
178. Burns (by Fire)	4	73	9	77	—	277	106	383	460
179. Burns (other than by Fire)	—	3	1	3	—	38	25	63	66
180. Suffocation(accidental)	—	—	—	—	—	—	—	—	—
181. Poisoning by Gas (accidental)..	—	—	—	—	—	—	—	—	—
182. Drowning (accidental)	—	—	—	—	—	—	—	—	—
185. Wounds (by Firearms, war excepted)	—	3	1	3	—	2	1	2	5
184. Wounds (by Cutting or Stabbing Instrument)	14	282	6	296	5	2,610	324	2,934	3,230
185. Wounds (by Fall) ..	12	117	5	129	—	1,441	214	1,655	1,784
186. Wounds (in Mines or Quarries)	2	23	1	25	3	140	84	224	249
187. Wounds (by Machinery)	6	125	1	131	6	1,217	1	1,218	1,349
188. Wounds (Crushing, e.g. Railway Accidents, etc.)	—	18	—	18	2	—	—	—	18
Carried forward.. ..	1,080	24,030	877	25,110	862	209,773	84,216	291,589	316,699

TABLES V AND VI—*Contd.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1926.—*Contd.*

DISEASES.	IN-PATIENTS					OUT-PATIENTS			Total Cases In and Out Patients
	Remaining in Hospital at the end of 1925	Yearly Total: Admissions	Yearly Total: Deaths	Total Cases Treated	Remaining in Hospital at the end of 1926	Males	Females	Total	
Brought forward ..	1,080	24,030	877	25,110	862	209,773	84,216	291,589	316,699
189. Injuries inflicted by Animals, Bites, Kicks, etc.)	9	140	8	149	6	2,432	359	2,791	2,940
190. Wounds inflicted on Active Service	—	4	—	4	1	—	—	—	4
191. Executions of Civilians by Belligerents	—	—	—	—	—	—	—	—	—
192. A.—Over Fatigue ..	—	—	—	—	—	—	—	—	—
B.—Hunger or Thirst	—	5	3	5	—	1	—	1	6
193. Exposure to Cold, Frost Bite, etc.	—	1	—	1	—	—	—	—	1
194. Exposure to Heat ..	—	—	—	—	—	—	—	—	—
Heat Stroke	—	2	—	2	—	—	—	—	2
Sun Stroke	—	2	—	2	—	1	2	3	5
195. Lightning Stroke ..	—	—	—	—	—	—	—	—	—
196. Electric Shock	—	—	—	—	—	—	—	—	—
197. Murder by Firearms..	—	2	2	2	—	—	—	—	2
198. Murder by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—
199. Murder by Other Means	—	—	—	—	—	—	—	—	—
200. Infanticide (Murder of an Infant under one year)	—	—	—	—	—	—	—	—	—
201. A.—Dislocation.. ..	1	4	—	5	1	5	—	5	10
B.—Sprain	2	16	—	18	2	114	10	124	142
C.—Fracture	1	33	1	34	3	117	27	144	178
202. Other Injuries	31	546	11	577	16	6,594	370	6,964	7,541
203. Deaths by Violence of Unknown Cause.. ..	3	72	7	75	2	976	136	1,112	1,187
XV. Ill-defined Diseases.									
204. Sudden Deaths (cause unknown)	—	—	—	—	—	—	—	—	—
205. Diseases not already specified or ill-defined	—	7	1	7	—	34	24	58	65
Ascites..	7	25	13	32	—	565	227	792	824
Oedema	1	35	—	36	4	6	6	12	48
Asthenia	—	—	—	—	—	—	—	—	—
Shock	—	—	—	—	—	—	—	—	—
Hyperpyrexia	—	—	—	—	—	—	—	—	—
Neuralgia and Headache	—	37	—	37	1	824	195	1,019	1,056
Sequelœ or Relapsing Fever	—	—	—	—	—	1	—	1	1
Observation for Relapsing Fever and Tuberculosis	—	3	—	3	—	—	—	—	3
Pyrexia of uncertain origin	4	494	6	498	10	2,536	66	2,602	3,100
Debility	—	15	—	15	—	24	8	32	47
B.—Malingering.. ..	—	8	—	8	—	317	69	386	394
TOTAL	1,139	25,481	929	26,620	908	221,920	85,715	307,635	334,255

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