Annual medical report / East Africa Protectorate.

EAST AFRICA PROTECTORATE.

ANNUAL MEDICAL REPORT

FOR THE

YEAR ENDING 31ST DECEMBER, 1919.

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YEAR ENDING 31ST DECEMBER, 1919.

No. 16/599/48.

MEDICAL DEPARTMENT,

HEAD OFFICES,

NAIROBI,

22*nd November*, 1920.

SIR,

I HAVE the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the health and sanitary condition of the East Africa Protectorate for the year 1919, together with the Returns, &c., appended thereto.

I have the honour to be,

SIR,

Your obedient servant,

JOHN L. GILKS,

Acting Principal Medical Officer,

Kenya Colony and East Africa Protectorate.

The Honourable,

The Acting Chief Secretary,

Nairobi.

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I.—ADMINISTRATION.

SECTION I.—DEPARTMENTAL.

1.—ESTABLISHMENT.

The Medical Staff of the Protectorate as sanctioned for the year 1919-20 was as follows :—

ADMINISTRATIVE DIVISION.

Principal Medical Officer	1
Deputy Principal Medical Officer	1
Office Superintendent	1
European Clerks	2
3rd Grade Clerks	3
4th Grade Clerks	3
5th Grade Clerks	2
Medical Storekeeper	1
Issuer of Medical Stores	2
Messengers and Packers	15

MEDICAL DIVISION.

Senior Medical Officers	2
Dental Surgeon	1
Medical Officers	24
District Surgeons	2
European Dispensers	4
Matron	1
Nursing Sisters	15
Superintendent, Lunatic Asylum	1
Warders, Lunatic Asylum	2
Matron, Lunatic Asylum	1
Assistant Matron, Lunatic Asylum	1
Assistant Surgeons	7
Sub-Assistant Surgeons	53
Compounders	15
Clerks	3
Native Hospital Attendants, &c.	(as necessary)
Lunatic Asylum Attendants	(as necessary)

SANITATION DIVISION.

Principal Sanitation Officer	1
Medical Officers of Health	12
Sanitary Inspectors...	14
Nurses	2
Assistant Surgeons	6
Sub-Assistant Surgeons	7
Chief Vaccinator	1
Vaccinators	56
European Clerk	1
3rd Grade Clerk	1
4th Grade Clerks	3
5th Grade Clerks	6
Compounders	3
Mechanics for Clayton Disinfectors	4
Native Hospital Attendants, &c.	(as necessary)

2.—APPOINTMENTS.

The following appointments were made during the year :—

Medical Officers.

Dr. A. C. Rendle, 10th February, 1919 (temporary 12 months agreement).
„ T. B. Welch, 1st March, 1919 (temporary 12 months agreement).
„ A. H. Boon, 14th March, 1919 (temporary 12 months agreement).
„ V. M. Fisher, 17th March, 1919 (temporary 12 months agreement).
„ J. H. Neill, 20th March, 1919 (temporary 12 months agreement).
„ M. F. Murphy, 1st May, 1919 (temporary 12 months agreement).
Lt.-Col. M. C. Wetherell, 20th June, 1919 (temporary 12 months agreement).
Dr. J. P. McLulich, 21st June, 1919 (temporary 12 months agreement).
„ G. Walker, 20th September, 1919.
„ A. S. Mackie, 26th September, 1919.
„ H. A. Bodeker, 9th October, 1919 (temporary monthly agreement).
„ F. T. Auden, 18th October, 1919.
„ W. H. Kauntze, M.B.E., 6th January, 1919 (transferred from West African Medical Service as Bacteriologist).

Nursing Sisters.

Miss M. Walton, 1st March, 1919 (temporary 12 months agreement).
„ A. E. Davis, 8th March, 1919 (temporary 12 months agreement).
„ K. L. Fletcher, 20th May, 1919 (temporary 12 months agreement).
„ F. O'Neill, 26th May, 1919 (temporary 12 months agreement).
„ R. Anderson, 26th May, 1919 (temporary 12 months agreement).
„ A. St. Clair Nicholl, 14th February, 1919.
„ R. K. Sharp, 14th February, 1919.
„ M. I. Rhind, 28th March, 1919.
„ A. B. Wharin, 9th May, 1919.
„ H. M. Friedricks, 11th September, 1919.
„ P. S. Joubert, 11th September, 1919.
„ A. Glen Leary, 11th September, 1919.
„ V. B. Painter, 11th September, 1919.
„ M. A. Perkin, 11th September, 1919.
„ A. L. Stuart, 11th September, 1919.
„ A. B. Wishart, 11th September, 1919.

European Clerks.

Mr. R. Davis, 15th February, 1919.

Dispensers.

Mr. T. R. Wilson, 25th June, 1919.

SANITARY INSPECTORS.

Mr. F. R. Creighton, 1st April, 1919.
„ R. C. Mills, 1st April, 1919.
„ A. P. Ling, 17th September, 1919.
„ G. C. Wellington, 30th September, 1919.
„ H. E. Taylor, 2nd October, 1919.
„ A. Bunker, 18th October, 1919.
„ C. F. Bickell, 31st October, 1919.

ASYLUM WARDERS.

Mr. A. Brown, 31st July, 1919.
„ S. J. Bosch, 31st July, 1919.

MALE NURSING ORDERLIES.

Mr. A. F. Summerfield, 14th March, 1919.

SUPERINTENDENT I. D. HOSPITAL.

Mr. W. J. Edwards, 25th July, 1919.

SUB-ASSISTANT SURGEONS.

Mr. R. S. Kibe, 5th March, 1919.
„ Ali Bakhsh, 11th June, 1919.
„ Mohamed Bashir, 2nd July, 1919.
„ I. W. Comfort, 11th September, 1919.
„ Bhagwan Singh, 1st November, 1919.
„ Bhag Singh, 1st November, 1919.
„ Kartar Singh, 1st December, 1919.

COMPOUNDERS.

Mr. Harnam Das, 20th February, 1919.
„ Mirza Suleman, 1st May, 1919.
„ Mohamed Ibrahim, 5th December, 1919.

ISSUERS OF MEDICAL STORES.

Mr. F. A. Sequeira, 1st April, 1919.

NON-EUROPEAN CLERKS.

Mr. M. B. Jamidar, 1st January, 1919.
„ A. G. Monteiro, 1st February, 1919.
„ J. O. D'Souza, 10th February, 1919.
„ A. Alvares, 3rd May, 1919.
„ K. U. Patel, 15th July, 1919.

3.—REDUCTIONS IN STAFF.

DEATHS.

Senior Sub-Assistant Surgeon Maula Bukhsh, 4th December, 1919.

INVALIDED.

Nursing Sister Miss P. R. di Menna, 20th March, 1919.
„ „ H. G. Tyrell 26th June, 1919.
Sub-Assistant Surgeon Abdullah Khan, 3rd August, 1919.
„ „ S. V. Pantwaidya, 30th September, 1919.

RESIGNATIONS, ETC.

Dr. H. F. Hamilton, 2nd February, 1919 (left for West Coast).
,, J. P. McLulich, 11th August, 1919.
,, J. O. Shircore, 15th October, 1919 (transferred to Tanganyika territory).
Nursing Sister Miss A. E. Drewe, 26th June, 1919.
,, ,, A. E. Hobson, 17th September, 1919.
Sanitary Inspector W. H. Wood, 14th January, 1919 (transferred to Administration).
Assistant Surgeon R. Holmes, rejoined Indian Army, August, 1919.
Assistant Surgeon A. E. Lewis, rejoined Indian Army, 27th September, 1919.
Sub-Assistant Surgeon Abdul Karim, rejoined Indian Army, September, 1919.
Sub-Assistant Surgeon Seyed Asghar Ali, rejoined Indian Army, August, 1919.
Sub-Assistant Surgeon K. H. Bhatt, rejoined Indian Army, October, 1919.
Sub-Assistant Surgeon Bhawani Varma Shanker, dismissed 6th July, 1919.
2nd Class Senior Sub-Assistant Surgeon Dula Ram, rejoined Indian Army, September, 1919.
1st Class Sub-Assistant Surgeon Diwan Chand, rejoined Indian Army, 9th January, 1919.
1st Class Sub-Assistant Surgeon Harkishen Das, rejoined Indian Army, August, 1919.
2nd Class Senior Sub-Assistant Surgeon Zorowar Singh, rejoined Indian Army, September, 1919,
Clerk A. R. Valles, resigned 20th February, 1919.
,, D. M. Nunes, services terminated 8th October, 1919.

4.—LEAVE OF ABSENCE.

Name.	Appointment.	Period.	
		Departed.	Returned.
Dr. C. L. Chevallier...	Senior Medical Officer ...	20th April, 1919 ...	25th December, 1919.
Mr. P. Cairns ...	Sanitary Inspector ...	19th June, 1919 ...	...
,, J. P. Cook ...	,, ...	31st October, 1919...	...
,, F. Cribb... ...	Dispenser	6th October, 1919 ...	...
Dr. J. A. Haran, C.M.G.	Deputy Principal Medical Officer	6th November, 1919	...
,, N. P. Jewell, M.C.	Medical Officer	11th December, 1919	...
Mr. J. D. Nightingale	Clerk	4th August, 1919 ...	...
Dr. W. Owen-Prichard	Senior Medical Officer ...	21st October, 1919...	...
,, A. R. Paterson ...	Medical Officer	30th August, 1919...	...
Mr. J. S. Robertson, M.B.E.	Medical Storekeeper ...	12th October, 1919...	...
,, R. Stanley, M.B.E.	Office Superintendent ...	31st October, 1919...	...
Dr. V. G. L. van Someren	Dental Surgeon... ...	26th June, 1919 ...	...
,, J. O. Shircore ...	Medical Officer	20th March, 1919 ...	...
,, J. H. Thomson ...	,, ...	26th June, 1919 ...	...
,, C. J. Wilson, M.C.	,, ...	4th May, 1919 ...	...
,, A. D. J. B. Williams, O.B.E.	,, ...	8th November, 1919	...
Miss P. R. di Menna	Nursing Sister	20th March, 1919 ...	...
,, H. G. Tyrell ...	,, ...	26th June, 1919 ...	...
,, A. E. Drewe ...	,, ...	26th June, 1919 ...	...
,, A. E Hobson ...	,, ...	6th March, 1919 ...	...
Mrs. S. J. Harrison ...	,, ...	19th June, 1919 ...	...
Miss H. M. Whitburn	,, ...	20th April, 1919 ...	...

5.—RESUMPTION OF DUTY FROM LEAVE GRANTED IN 1918.

Name.	Appointment.	Date.
Dr. F. L. Henderson	Medical Officer	2nd November, 1919.
Dr. T. H. Massey, M.C.	Medical Officer	8th February, 1919.
Mr. F. Strawbridge	Sanitary Inspector	8th March, 1919.

6.—LEAVE.

OFFICERS ABSENT THROUGHOUT 1919.

The following Officers were absent throughout the year :—

Dr. T. F. Lumb, Medical Officer, seconded for military service in Europe.

Mr. T. Preston, Clerk, seconded for military service in Europe.

Dr. P. F. Nunan, Medical Officer.

7.—ADDITIONAL STAFF.

The undermentioned Officers of the West African Medical Service were attached temporarily for duty, for periods stated :—

Dr. P. A. Clearkin, 1st January, 1919, to 31st December, 1919.

Dr. H. F. Hamilton, 1st January, 1919, to 2nd February, 1919.

8.—STAFF POSTINGS THROUGHOUT THE YEAR.

THE COAST ZONE.

Dr. C. L. Chevallier, Senior Medical Officer, continued to act in this appointment till April, when he proceeded on leave, Dr. J. Pugh acting in this capacity until the former's return from leave in December.

Dr. J. Pugh was in Medical charge of the European Hospital, Mombasa, throughout the whole year.

Dr. J. O. Shircore continued in Medical charge of the Native Civil Hospital, Mombasa, until March, when he proceeded home on leave and was succeeded by Dr. T. H. Massey, M.C., who continued in charge for the remainder of the year.

Assistant Surgeon R. Holmes continued in Medical charge at Lamu until February, when he proceeded on leave, being succeeded by Dr. V. M. Fisher who continued in charge until the 18th November, 1919.

THE MOUNTAINOUS ZONE.

Dr. J. L. Gilks was in Medical charge of the European Hospital, Nairobi, till November, when he proceeded to Engiand as Medical Attendant to His Excellency the Governor, being succeeded by Dr. W. H. Kauntze, M.B.E., who continued in Medical charge for the remainder of the year in addition to his duties as Senior Bacteriologist.

Dr. J. H. Thomson continued in Medical charge of the Native Civil Hospital, Nairobi, and Lunatic Asylum till June, when he proceeded on leave and was succeeded by Dr. G. R. H. Chell, who was subsequently relieved by Dr. F. L. Henderson in November, the latter continuing in charge for the remainder of the year.

Dr. V. M Fisher was in Medical charge of the Lunatic Asylum, Police and Prison, Nairobi, from November, 1919.

Dr. A. D. J. B. Williams, O.B.E., was in Medical charge of the K.A.R. Hospital, Nairobi, till November, when he proceeded home on leave and was succeeded by Dr. G. R. H. Chell, who continued in charge for the remainder of the year.

Dr. N. P. Jewell, M.C., was in Medical charge of the Naivasha Province with headquarters at Nakuru till early December, when he proceeded home on leave and was succeeded by Dr. F. T. Auden.

Dr. M. C. Wetherell assumed Medical charge of Eldoret in June and continued throughout the year.

THE KENYA AND NYANZA PROVINCES.

Dr. H. F. Hamilton was in Medical charge of the Kisumu Hospital and Nyanza Province till beginning of February, when he returned to the West Coast, being relieved by Dr. P. A. Clearkin, who continued in charge throughout the whole year.

Assistant Surgeon A. N. Nyss was in Medical charge of Fort-Hall Hospital and Kenya Province (excepting Nyeri district) till the beginning of March, when he was relieved by Dr. T. B. Welch who continued in charge throughout the year.

Dr. H. R. A. Philp continued to carry out the duties of District Surgeon, Nyeri, throughout the year.

THE DESERT ZONE.

Lieut. Pick, of the R.A.M.C,, was in medical charge of the Northern Frontier District till March, when he was relieved by Dr. A. H. Boon, who remained in charge throughout the year.

Captain L. H Booth, of the R.A.M.C., was in medical charge at Kismayu till March, when he was relieved by Dr. J. H. Neill, who continued in charge throughout the year.

9.--MILITARY MEDICAL SERVICE.

The military unit known as the East Africa Medical Service was finally demobilised on the 31st March, 1919.

10.—LABORATORIES.

The Analytical and Bacteriological Laboratories were separated as from 1st April, 1919, the Bacteriological section coming under this Department with Dr. W. H. Kauntze, M.B.E., Senior Bacteriologist in charge.

SECTION II.—EXTRA DEPARTMENTAL.

11.—REGISTRATION OF MEDICAL PRACTITIONERS AND DENTISTS ORDINANCE.

The Ordinance governing registration came into force on the 24th September, 1910, since when and up to the end of the year the following have been placed on the Register :—

Registered Medical Practitioners	82
Licensed Medical Practitioners	6
Dentists	6

54 of the Medical Practitioners, including the Government Dental Surgeon, were in Government service and 40 were private practitioners.

During the year the following were admitted to the roll :—

Miss A. G. Lillingstone	... L.R.C.P., L.R.C.S., Irel., L.F.P.S., Glas.
Arthur C. Rendle ...	... M.B., B.C., M.D., U. Camb., M.R.C.S., Eng., L.R.C.P. Lond.
Thomas B. Welch ...	... M.R.C.S., Eng., L.R.C.P., Lond.
Alfred H. Boon ...	... M.R.C.S., Eng., L.R.C.P., Lond.
Vicars M. Fisher ...	... M.B., B.Ch., U. Dubl.
James H. Neill ...	... M.B., B.Ch., U. Edin.
Alexander Abetti ...	... M.D., Royal University of Cagleari, Italy.
William H. Kauntze, M.B.E.	M.B., Ch.B., V.U. Manc., M.B., B.S., U. Lond.
Michael F. Murphy ...	... L.L.M., R.C.P., L.L.M., R.C.S., Irel.
John P. MacLulich...	... M.B., B.Ch., M.D., U. Dubl.
Marmaduke C. Wetherell ...	M.B., B.S., U. Durh.
William H. Matthews	... L.D.S., R.C.S., Eng.
Mary M. de Souza ...	... L.M.S., Bombay.
Francis T. Auden ...	... M.B., C.M., U. Edin.
Alfred S. Mackie ...	... M.B., B. Ch., U. Aberd.
Gerald Walker ...	... B.C., M.B., D.P.H., U. Camb.

The Board convened for the purpose of the Ordinance consisted of :—

Dr. R. W. Burkitt,
„ C. L. Chevallier,
„ W. Owen-Prichard,
„ W. J. Radford,
„ J. A. Haran, C.M.G.,

with the Principal Medical Officer as President and Registrar.

The Board held two meetings during the year.

12.—THE DRUGS AND POISONS ORDINANCE, 1909.

This Ordinance controls the licensing of chemists and druggists as well as the sale of poisons throughout the Protectorate.

22 names have been placed on the register since the introduction of the Act to the end of 1919. Of these three were by examination.

The Board appointed under the Ordinance consisted of the following :—

Mr. L. A. Howse,
„ A. A. White,
„ V. H. Kirkham,
Dr. C. L. Chevallier,
„ W. J. Radford,
„ J. A. Haran, C.M.G.,

with the Principal Medical Officer as President and Registrar.

One meeting was held during the year.

II.—PUBLIC HEALTH.

GENERAL REMARKS.

THE PROTECTORATE.

The numbers attending the various hospitals and dispensaries may be fairly claimed to indicate in a comparative manner from year to year the amount of sickness present, and although in this report the numbers treated slightly exceed those of last year the mortality has been appreciably less. Last year famine and pestilence were over the land, but seasonal rains and more bounteous crops during the present year have at least had the marked effect of making the native stronger and less liable to succumb to illness. The results of the war in the persons of the returned carriers will be evident for some time to come, and the great increase in the number of cases of malaria, more particularly in the centres where the carriers were recruited and subsequently returned, is significant. Influenza appeared again both in the early and concluding months of the year, but in a much milder form than last year. It was observed that in its journey north and across "the vast spaces washed by sun" the organism lost much of its virulence.

On the whole the past year was more favourable to the general health of all classes than 1918. The increased personnel in Government service—both European and Native Official—has not resulted in any disproportionate amount of illness, but the same cannot be said in respect of invalidings and deaths amongst European Officials.

In some instances, the ravages on health by active service, and in others the heavy strain occasioned by overwork as a result of being terribly understaffed during the years of war, can be considered as contributory causes of this year's increased invaliding and mortality.

The following table gives the total cases treated with deaths recorded as compiled from the returns received from hospitals and dispensaries :—

	Cases.	Deaths.
1919	122,901	1,253
1918	122,643	2,030
1917	112,426	1,141

The numbers of births and deaths amongst Europeans throughout the Protectorate were :—

Births	148
Deaths	75

No census has been taken since 1911. Registration of births and deaths is not compulsory amongst the native population.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE EAST AFRICA PROTECTORATE.

	1917.	1918.	1919.
Total number of officials resident	968	909	1,118
Average number resident	703	691	663
Total number on sick list	427	679	748
Total number of days on sick list	3,725	7,042	5,997
Average daily number on sick list	10·20	19·29	16·43
Percentage of sick to average number resident... ...	1·45	2·79	2·47
Average number of days on sick list to each patient ...	8·72	10·37	8·01
Average sick time to each resident	3·84	7·74	5·36
Total number invalided	33	33	38
Percentage of invaliding to total residents	3·41	3·63	3·39
Total deaths	3	10	15
Percentage of deaths to total residents	·31	1·10	1·34
Percentage of deaths to average number resident ...	·42	1·44	2·26
Number of cases of sickness contracted away from residence	—	—	—

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE EAST AFRICA PROTECTORATE.

	1917.	1918.	1919.
Total number of officials resident	2,017	1,999	2,252
Average number resident	1,617	1,614	1,717
Total number on sick list	3,343	4,755	4,703
Total number of days on sick list	25,214	33,563	33,159
Average daily number on sick list	69·07	91·95	90·84
Percentage of sick to average number resident ...	4·27	5.69	5·29
Average number of days on sick list to each patient ...	7·54	7·05	7·05
Average sick time to each resident	12·50	16·79	14·72
Total number invalided	18	63	62
Percentage of invaliding to total residents	·89	3·15	2·75
Total deaths	3	33	15
Percentage of deaths to total residents...	·14	1·65	·66
Percentage of deaths to average number resident ...	·18	2·04	·87
Total number of cases of sickness contracted away from residence	—	—	—

I.—THE MOUNTAINOUS ZONE.

(*a*). GENERAL REMARKS.

On the whole, a slight improvement can be recorded, although the in-patient figures differ little from those of last year. The deaths amongst the native population were considerably less than the number recorded in 1918.

(i). GENERAL DISEASES.

A big increase in the number of cases of malaria is to be observed when compared with the two previous years, but the numbers that presented themselves may possibly indicate a greater appreciation of the value and benefit derived from quinine treatment. Dysentery was not so prevalent as last year, but the extensive plateau and surrounding districts embraced in the Naivasha Province again furnished fully half the cases which came under observation.

The tables of hospital admissions and deaths for the past three years are as follows :—

	In-patients.			Deaths.		
	1919.	1918.	1917.	1919.	1918.	1917.
European Officials	491	453	269	10	9	2
Native Officials...	3,137	3,120	2,288	6	22	3
European General Population	218	246	207	11	21	12
Native General Population	6,938	6,959	4,811	691	1,048	637

(ii.) COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—The greater rainfall of last year and the more marked tendency of the native to seek treatment are the reasons given for the big increase in the number of admissions under this heading. Whilst in some districts the numbers are fewer, in others a greater prevalence has been recorded. More particularly does the Uasin Gishu come under the latter, where the medical officer, Lieut.-Col. M. C. Wetherell,

recommends that every effort be made to issue large quantities of quinine at reduced rates to settlers for prophylactic and curative purposes. Machakos last year reported a decrease of 40 per cent., and this year records a further drop of 23 per cent. in the numbers treated.

The table of admissions and deaths for the past three years is as follows :—

	Cases.	Deaths.
1919	7,975	26
1918	4,499	22
1917	5,273	14

Blackwater Fever.—28 cases and 5 deaths were recorded, 22 of the admissions with 5 deaths occurred amongst Europeans. The recorded figures for the past three years are as follows :—

	Cases.	Deaths.
1919	28	5
1918	4	3
1917	8	2

The Medical Officer of the Uasin Gishu Plateau (Lieut.-Col. M. C. Wetherell) remarks that blackwater fever certainly seems to recur in definite houses and localities. It is possible that an increasing number of Europeans, some of them debilitated after prolonged war conditions, are attempting to make a living in this country without the necessary means or knowledge to avoid infection from malaria. Further, this class of settler is apt to neglect these attacks which especially predispose to this dangerous sequelæ.

INFECTIOUS OR EPIDEMIC.

Cerebro-Spinal Meningitis.—Did not appear in epidemic form, but a scattered number of cases occurred amongst the native population :—

	Cases.	Deaths.
1919	69	36
1918	52	28
1917	297	191

Dysentery.—The conditions generally were not so conducive to widespread propagation as last year, when drought and resultant shortage of food were contributory factors. The town of Nakuru, as in the previous year, furnished the greater number of cases, viz. :—428, and of this figure 44 were Europeans with, fortunately, no deaths. 25 deaths occurred amongst the native population :—

	Cases.	Deaths.
1919	1,634	163
1918	2,969	236
1917	1,404	97

Typhoid group.—40 cases were admitted, of which 20 were Europeans ; 8 deaths occurred, 2 amongst officials and 6 amongst the general European population. Of the total European cases, 16 occurred in the Nairobi area and 4 in Mombasa :—

	Cases.	Deaths.
1919	40	8
1918	17	2
1917	8	1

Leprosy.—Three cases were admitted as compared with 8 last year and 1 in 1917.

Plague.—One case each at Nairobi and Nakuru, the one at the first-named ended fatally. Last year there were 8 cases with 5 deaths—all at Nakuru—whilst in 1917 there were 157 cases with 90 deaths reported.

Small-pox.—The extensive vaccination which had been carried out last year, and continued this, enables a marked decrease to be recorded under this heading when compared with 1918 :—

	Cases.	Deaths.
1919	157	48
1918	1,047	282

Beri-beri.—95 cases with 5 deaths occurred, the majority of the cases being prisoners employed on road-making between Londiani and Eldoret. 40 cases were recorded last year and 2 in 1917.

Tetanus.—One case, not fatal, the same as 1918.

Influenza.—1,006 cases came under treatment, of which 19 proved fatal. Last year the figures were 6,350 and 74 respectively. The cases met were milder in character than in the epidemic of 1918.

Pneumonia.—Pneumonic infection was again prevalent, the figures being :—

	Cases.	Deaths.
1919	750	198
1918	951	283

17 cases and 3 deaths were Europeans as compared with 37 and 4 respectively for 1918.

Tuberculosis.—99 cases with 9 deaths were recorded. Last year 64 cases came under treatment, 4 of whom died. Tuberculosis is much more widespread amongst Africans in East Africa than these figures would indicate.

Venereal Diseases.—The numbers which present themselves for treatment for these affections are on the increase :—

	In-patients.		Out-patients.	
	1919.	1918.	1919.	1918.
Syphilis ..	154	60	341	153
Gonorrhœa ..	157	56	344	221

One death was returned under the heading of syphilis.

HELMINTHIC.

The cases treated and their classification for the past three years are as under :—

		1919.	1918.	1917.
Cestoda	T. solium	231	144	62
	T. saginata ..	24	4	2
Nematoda,	A. lumbricoides ..	37	25	20
	T. dispar	1	4	2
	A. duodenale ..	141	2	—
	O. vermicularis ..	—	5	5

(*b*) EUROPEAN OFFICIALS.

The statistics for the year show a slightly smaller daily average on the sick list than those of last year. The admissions to hospital were greater but were accounted for by a largely increased personnel :—

	In-patients.	Out-patients.
1919	491	350
1918	453	236
1917	275	194

There were 10 deaths as against 9 in 1918. The causes were :—Enteric, 2 ; blackwater fever, 2 ; pneumonia, 2 ; mental, 1 ; circulatory affections, 2 ; and urinary disease, 1.

The principal causes of admission were :—Malaria, 160 ; digestive troubles, 95 ; dysentery, 11 ; respiratory, 17.

The number invalided was 23, as compared with 17 for last year and 19 in 1917. The causes were : Debility (9), injuries (2), anæmia (2), colitis, neuralgia, ulcer, tubercle, Bright's disease, malaria, neurasthenia, pleurisy, bronchitis and urinary (1 each).

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE MOUNTAINOUS ZONE.

	1917.	1918.	1919.
Total number of officials resident	691	645	830
Average number resident	507	483	465
Total number on sick list	275	453	491
Total number of days on sick list	2,618	5,220	4,261
Average daily number on sick list	7·17	14·30	11·67
Percentage of sick to average number resident ...	1·41	2·96	2·50
Average number of days on sick list to each patient ...	9·52	11·52	8·67
Average sick time to each resident	3·78	8·15	5·13
Total number invalided	19	17	23
Percentage of invaliding to total residents	2·74	2·63	2·77
Total deaths	2	9	10
Percentage of deaths to total residents	·28	1·39	1·20
Percentage of deaths to average number resident ...	·39	1·86	2·15
Total number of cases of sickness contracted away from residence	—	—	—

(*c*) NATIVE OFFICIALS.

Although the number of in-patients exceeds last year's figure by 17, the official establishment is some 200 more. The constantly sick rate is less than last year.

Malaria was responsible for 1,440 cases, respiratory affections 410, dysentery 125, and local injuries 240.

There were 6 deaths as compared with 22 in 1918 and 3 in 1917. The deaths were due to malaria (1), blackwater fever (1), pneumonia (1), tubercle (1), alcoholism (1), bronchitis (1).

47 men were invalided, and the causes were :—Debility (11), eye diseases (4), rheumatism (4), asthma (6), tubercle (3), malaria (3), epilepsy (2), valve disease of heart (2), bronchitis (2), gonorrhœa (1), anæmia (1), nephritis (1), splenitis (1), arthritis (1), tumour (1), paresis (1), neurasthenia (1), piles (1), injury (1).

In 1918, 43 cases were invalided.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE MOUNTAINOUS ZONE.

	1917.	1918.	1919.
Total number of officials resident	1,152	1,102	1,337
Average number resident	873	914	1,077
Total number on sick list	2,308	3,120	3,137
Total number of days on sick list	19,687	23,576	22,747
Average daily number on sick list	53·93	64·59	62·32
Percentage of sick to average number resident ...	6·17	7·06	5·78
Average number of days on sick list to each patient ...	8·53	7·55	7·25
Average sick time to each resident	17·09	21·39	17·01
Total number invalided	13	43	47
Percentage of invaliding to total residents	1·12	3·90	3·51
Total deaths	3	22	6
Percentage of deaths to total residents	·25	1·99	·44
Percentage of deaths to average number resident ...	·34	2·41	·55
Number of cases of sickness contracted away from residence	—	—	—

(*d*) GENERAL EUROPEAN POPULATION.

Only cases which came under treatment of Government medical officers are recorded under this heading :—

	In-patients.	Out-patients.
1919	218	1,076
1918	246	1,028
1917	207	823

The ailments treated were :—Malaria (461), influenza (104), and digestive system (199).

11 deaths occurred and were due to enteric (3), blackwater fever (2), pneumonia (1), tubercle (1), alcoholism (1), circulatory (2), urinary (1).

The births and deaths registered were :—

	Births.	Deaths.
1919	128	64
1918	111	72
1917	159	66

(*e*) GENERAL NATIVE POPULATION.

The numbers that presented themselves for hospital treatment are much the same as last year :—

	In-patients.	Out-patients.
1919	6,938	35,196
1918	6,958	36,086
1917	4,811	34,406

The principal causes of sickness were :—Malaria (5,413), dysentery (1,125), influenza (859), pneumonia (723), respiratory (7,535), digestive (6,649), injuries (8,417).

The following table shows the number of deaths and death rate to admissions :

1919	691	9·95%
1918	1,048	15·05%
1917	637	13·24%

The principal causes of death were :—Pneumonia (190), dysentery (163), cerebro-spinal meningitis (36), small-pox (48), malaria (26), tuberculosis (7), digestive (46), and injuries (28).

Registration of births and deaths is not compulsory except within the limits of a few townships.

II.—THE COAST ZONE.

(a.) GENERAL REMARKS.

The records show a decrease as compared with last year in the amount of sickness amongst the native groups and a slight increase amongst Europeans who have lately increased in numbers.

(i.) GENERAL DISEASES.

As in previous years, malaria has been the chief cause of illness amongst all sections of the community. Following malaria, local injuries are the next most common cause of disability.

The table of admissions and deaths for the past three years is as follows :—

	In-patients.			Deaths.		
	1919.	1918.	1917.	1919.	1918.	1917.
European Officials	126	105	58	1	1	1
Native Officials	891	1,071	555	2	6	—
European General Population	219	173	51	7	7	1
Native General Population	4,305	4,762	2,544	198	225	137

(ii). COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—There is a drop of nearly 1,000 in the number of cases treated when compared with last year. The numbers treated and died for the past three years are as follows :—

	Admissions.	Deaths.
1919	4,877	10
1918	5,818	4
1917	4,748	8

Filariasis.—Three cases were treated, a similar number to last year.

INFECTIOUS OR EPIDEMIC.

Cerebro-spinal Meningitis.—Has not shown itself in virulent form. The figures for the past three years were as follows :—

	Cases.	Deaths.
1919	15	11
1918	18	11
1917	19	10

Dysentery.—328 cases came under treatment and 29 deaths recorded; 6 of the cases treated were Europeans and all recovered. In 1918, there were 519, with 46 deaths, and in 1917, 312 cases with 11 deaths.

Enteric.—There were 8 cases (4 European) and 1 death, the latter being a female official of the postal department. In 1918, there were 3 cases, and in 1917, 1 case with no deaths in either year.

Leprosy.—There were 6 admissions and one death during the year. In 1918, 7 and 2 deaths occurred, and in 1917, there were 2 admissions.

Plague.—Only 2 cases were recorded—1, an Italian, and 1 native—and both died.

Small-pox.—There was a greater incidence recorded than in the previous three years. The figures were :—

	Cases.	Deaths.
1919	111	27
1918	36	9
1917	11	7
1916	71	23

Tetanus.—Six cases were treated and 3 died. In 1918, 2 cases and 1 death occurred.

Tuberculosis.—The admissions and deaths for the past three years were :—

	Cases.	Deaths.
1919	51	21
1918	63	21
1917	53	15

Venereal Diseases.—An increase in the number of cases seeking treatment is recorded :—

	In-patients.	Out-patients.
Syphilis	73	206
Gonorrhœa	61	390

The figures for the previous year were :—

Syphilis	224
Gonorrhœa	323

HELMINTHIC.

The cases which came under observation were classified as follows :—

		1919.	1918.
Cestoda	T. solium	110	55
	T. saginata	34	55
Nematoda	A. lumbricoides	188	133
	A. duodenale	59	268
	T. dispar	—	4

(*b*) EUROPEAN OFFICIAL.

The statistics for the past three years were as follows :—

	In-patients.	Out-patients.
1919	126	200
1918	105	99
1917	58	85

Malaria (66), digestive disorders (85), chest affections (41), and injuries (17) were the principal causes of admission. One death (enteric) was recorded.

Six officials were invalided as compared with 10 in 1918 and 9 in 1917. The causes were :—Neurasthenia, rheumatism, laryngitis, otitis media, colitis and anæmia.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE COAST ZONE.

	1917.	1918.	1919.
Total number of officials resident	186	182	192
Average number resident	109	118	105
Total number on sick list	58	105	126
Total number of days on sick list	436	843	868
Average daily number on sick list	1·19	2·30	2·37
Percentage of sick to average number resident... ...	1·09	1·94	2·25
Average number of days on sick list to each patient ...	7·51	8·02	6·88
Average sick time to each resident	2·34	4·63	4·52
Total number invalided	9	10	6
Percentage of invaliding to total residents	4·84	5·49	3·12
Total deaths	1	1	1
Percentage of deaths to total residents	·53	·55	·52
Percentage of deaths to average number resident ...	·91	·84	·94
Total number of cases of sickness contracted away from residence	—	—	—

(*c*) NATIVE OFFICIALS.

The indoor-patients record of admissions is lower and the out-patients higher when compared with last year. The figures for the past three years were :—

	In-patients.	Out-patients.
1919	891	1,540
1918	1,071	995
1917	555	594

Two deaths occurred, as against 6 last year and nil in 1917. The causes were pneumonia and blackwater fever.

The invalidings were 11 against 10 in 1918 and 7 in 1917. The causes were :— Tubercle (2), eye affections (2), nephritis (1), anæmia (1), rheumatism (1), mental (1), debility (1), valve disease of heart (1), dyspepsia (1).

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE COAST ZONE.

	1917.	1918.	1919.
Total number of officials resident	691	667	683
Average number resident	517	473	401
Total number on sick list	555	1,071	911
Total number of days on sick list	2,481	6,111	4,931
Average daily number on sick list	6·79	16·74	13·50
Percentage of sick to average number resident... ...	1·31	3·53	3·36
Average number of days on sick list to each patient ...	4·46	5·70	5·41
Average sick time to each resident	3·57	9·16	7·21
Total number invalided	4	10	11
Percentage of invaliding to total residents	·58	1·50	1·61
Total deaths	—	6	2
Percentage of deaths to total residents...	—	·90	·29
Percentage of deaths to average number resident ...	—	1·27	·49
Total Number of cases of sickness contracted away from residence	—	—	—

(*d*). GENERAL EUROPEAN POPULATION.

The number treated last year was greater than those during the two preceding years :—

	In-patients.	Out-patients.
1919	219	204
1918	173	174
1917	51	236

Seven deaths occurred amongst these patients, a like number to 1918, the causes being :—Malaria (3), plague (1), tubercle (1), circulatory (1), respiratory (1).

The chief causes of illness were :—Malaria (104) and digestive troubles (90) ; 3 cases of enteric were admitted.

Births.—The number registered in 1919 was 10, in 1918, 15, and in 1917, 16.

Deaths.—The deaths registered were 7 for 1919, 9 for 1918, and 14 for 1917.

(*e*). NATIVE GENERAL POPULATION.

The cases which presented themselves for the past three years were as follows :

	In-patients.	Out-patients
1919	4,305	23,714
1918	4,762	19,494
1917	2,544	17,877

The deaths in hospitals for the past three years were as follows :—

1919	198
1918	225
1917	137

The chief causes of mortality were :—Dysentery (29), cerebro-spinal meningitis (11), influenza (12), malaria (7), pneumonia (40), tuberculosis (20), ankylostomiasis (14), injuries (6).

The principal ailments treated were :—Malaria (4,101), digestive (4,621), dysentery (308), parasitic infections (611), pneumonia (111), tuberculosis (48), skin affections (2,090), and local injuries (6,103).

Registration of births and deaths is not compulsory except in a few townships.

III.—THE KENYA AND NYANZA PROVINCES

(a.) GENERAL REMARKS.

The lamentable famine conditions chronicled last year were fortunately absent in 1919, and a big drop in the mortality rate is observable in the figures for the native general population.

(i). GENERAL DISEASES.

The number of malarial cases treated was greater than last or preceding year. Dysentery was less prevalent than in 1918.

The table of admissions and deaths for the past three years is as under :—

	In-Patients.			Deaths.		
	1919.	1918.	1917.	1919.	1918.	1917.
European Officials	76	85	54	4	Nil	Nil
Native Officials	649	534	439	7	5	Nil
European General Population	86	109	67	2	2	2
Native General Population	3,475	4,435	3,414	277	628	257

(ii). COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—More cases came under treatment than in the two preceding years, a sequel to the large number of natives demobilized and returned to these provinces after campaigning in the adjoining territory where the disease was largely contracted by porters.

The cases treated and deaths recorded in hospitals for the triennial period were :

	Cases.	Deaths.
1919	5,831	4
1918	4,632	15
1917	5,477	12

132 Europeans came under treatment, compared with 65 and 70 in previous years.

Blackwater fever.—Seven cases came under notice, all Europeans. Four were officials, and all four proved fatal. In 1918, no European cases were reported, but 6 occurred amongst others.

INFECTIOUS OR EPIDEMIC.

Cerebro-spinal Meningitis.—Only 1 fatal case, a native, was recorded during the year. In 1918, there were 21 cases and 13 deaths, and in 1917, 128 and 92 respectively.

Dysentery.—The total number of cases was less than last year, but the death-rate amongst cases was higher.

The figures for the past three years were :—

	Cases.	Deaths.
1919	584	81
1918	923	87
1917	569	47

Plague.—57 cases and 35 deaths were reported. Last year 2 cases were recorded.

Small-pox.—The extensive and successful vaccination carried out amongst the populations of the two provinces, both by military and the civil medical department, shows, as a result, almost a clean bill of health from this generally prevalent disease.

The figures for the past three years were :—

	Cases.	Deaths.
1919	15	4
1918	224	62
1917	55	19

Tetanus.—Two cases, both natives, with 1 death. In 1918, there was 1 fatal case recorded.

Yaws.—The numbers treated for the past three years were :—

	Cases.
1919	515
1918	213
1917	262

The apparent increase this year is probably due to the disease being more fully recognised and more satisfactorily treated.

Influenza.—In the beginning of the year, and again in October, a recurrence manifested itself. In all, 870 cases and 54 deaths were recorded.

Venereal diseases.—The total number of cases treated were :—

	In-patients.	Out-patients
Syphilis	76	222
Gonorrhœa ..	56	175

The numbers treated in 1918 were :—

Syphilis	311
Gonorrhœa	189

HELMINTHIC.

The figures recorded were :—

Cestoda	T. solium	46
	T. saginata	1
Nematoda	A. lumbricoides	15
	A. duodenale	10
	O. vermicularis	—

(*b*) EUROPEAN OFFICIALS.

Four deaths were due to Blackwater fever. The average health of officials in these provinces was maintained.

The cases treated were :—

	In-patients.	Out-patients.
1919	76	100
1918	85	60
1917	57	62

Malaria and diseases of the digestive tract were the principal ailments.

Six officials were invalided—debility (3), malaria (2), dysentery (1). Last year 10 were invalided.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE KENYA AND NYANZA PROVINCES.

	1917.	1918.	1919.
Total number of officials resident	119	123	131
Average number resident	76	74	75
Total number on sick list	57	85	76
Total number of days on sick list	462	688	688
Average daily number on sick list	1·26	1·88	1·88
Percentage of sick to average number resident ...	1·67	2·54	2·50
Average number of days on sick list to each patient ...	8·10	8·09	9·05
Average sick time to each resident	3·88	5·59	5·25
Total number invalided	4	5	6
Percentage of invaliding to total residents	3·36	4·06	4·58
Total deaths	—	—	4
Percentage of deaths to total residents...	—	—	3·05
Percentage of deaths to average number resident ...	—	—	5·33
Number of cases of sickness contracted away from residence	—	—	—

(*c*) NATIVE OFFICIALS.

Both in and out-patient lists show an increased attendance, but a larger establishment accounts for this to some extent:—

	In-patients.	Out-patients.
1919	649	865
1918	534	260
1917	439	251

There were 7 deaths as against 5 in 1918. The causes were :—Tuberculosis (2) broncho-pneumonia (4), Bright's disease (1).

There were 4 invalidings due to tuberculosis (2), piles (1), neurasthenia (1).

The maladies mainly treated were :—Malaria (595), respiratory diseases (59), digestive (202), injuries (149).

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE KENIA AND NYANZA PROVINCES.

	1917.	1918	1919.
Total number of officials resident	288	257	254
Average number resident	201	187	196
Total number on sick list	445	534	649
Total number of days on sick list	2,800	3,704	5,362
Average daily number on sick list	7·67	10·04	14·69
Percentage of sick to average number resident ...	3·81	5·42	7·49
Average number of days on sick list to each patient ..	6·31	6·93	8·26
Average sick time to each resident	9·72	14·41	21·11
Total number invalided	1	9	4
Percentage of invaliding to total residents	·34	3·50	1·57
Total deaths	—	5	7
Percentage of deaths to total residents...	—	1·94	2·75
Percentage of deaths to average number resident ...	—	2·67	3·57
Number of cases of sickness contracted away from residence	—	—	—

(*d*) GENERAL EUROPEAN POPULATION.

Excepting a few missionary doctors whom Europeans can consult when ill, there were no other general practitioners apart from the Government doctor, and consequently most of those who were ill are probably shown in these returns :—

	In-patients.	Out-patients.
1919	86	223
1918	109	173
1917	67	116

Two deaths were reported, one from dysentery and one from pneumonia.

Births.—10 were registered as against 14 last year.

Deaths.—4 were registered in 1919 and 3 in 1918.

(*e*) GENERAL NATIVE POPULATION.

The admissions and deaths were considerably less than in 1918, indicating an improvement when compared with 1918, a year of drought and food shortage :—

	In-patients.	Out-patients.
1919	3,475	30,170
1918	4,436	30,937
1917	3,414	26,413

The deaths recorded were :—

1919	277
1918	628
1917	297

The chief causes were dysentery (80), influenza (54), pneumonia (19), digestive (22), plague (35).

The main causes of sickness were :—Dysentery (560), influenza (819), malaria (4,904), respiratory (3,975), digestive (4,402), injuries (9,342).

Births and Deaths.—Legislation is seldom compulsory.

IV.—THE DESERT ZONE.

(a.) GENERAL REMARKS.

Notwithstanding the difficulty in obtaining medical personnel, it was fortunately possible to maintain a small staff to, at least partially, administer to the wants of the scattered and nomadic peoples in these vast, and in places almost inaccessible, areas, besides keeping in touch with the military detachments and administrative posts where these were established.

The figures, so far as statistics could be collected, showing the numbers treated for the past three years, are as follows :—

	Cases.			Deaths.		
	1919.	1918.	1917.	1919.	1918.	1917.
European Officials	55	36	37	—	—	—
Native Officials	26	30	35	—	—	—
European General Population	2	—	1	—	—	—
Native General Population	2,373	1,402	2,056	37	56	50

(ii.) COMMUNICABLE DISEASES.

MOSQUITO OR INSECT-BORNE.

Malaria.—Is to be contracted anywhere in these areas, and was the principal malady which confronted the medical staff, over 80 per cent. of the cases treated being due to this cause. The number of cases treated during the past three years were :—

	Cases.	Deaths.
1919	1,998	2
1918	2,024	1
1917	2,395	4

INFECTIOUS OR EPIDEMIC.

Beri-beri.—No cases recorded during the year. Last year there were 8 cases among the convicts employed on road operations, and a further 18 cases on the return of these convicts to Nairobi. In 1917, 84 cases and 19 deaths were shown in returns.

Cerebro-spinal Meningitis.—The returns contained no record of cases treated. Last year 57 and 2 deaths occurred, and in 1917, 5 cases with 1 death.

Dysentery.—The incidence is represented by 50 per cent. less admissions than in the preceding year :—

	Cases.	Deaths.
1919	77	1
1918	152	6
1917	339	5

Scurvy.—Only 12 cases and 3 deaths have appeared in the returns. In 1918, 203 cases with 16 deaths, and in 1917, 5 cases and 1 death were recorded. Seasonable rains and better crops conduced to the better health of the inhabitants in 1919.

Venereal Diseases.—The cases treated were :—

	In-patients.	Out-patients
Syphilis	11	60
Gonorrhœa ..	43	58

The numbers for last year were :—

Syphilis	28
Gonorrhœa	82

HELMINTHIC.

Cestoda	T. solium	59
	T. sanginata	3
Nematoda	A. duodenale	4
	A. lumbricoides	47
	O. vermicularis	—

The numbers for last year totalled 141, and for 1917, 115 cases.

(*b*) EUROPEAN OFFICIALS.

The small number of officials located in these arid regions maintained a fair standard of health :—

	In-patients.	Out-patients.
1919	55	24
1918	36	113
1917	37	77

No deaths occurred, but three officials were invalided for rheumatism, mental, and eye affection.

Malaria (27), digestive complaints (15), and 3 cases of dysentery were the more frequent ailments.

TABLE SHOWING THE SICKNESS, INVALIDING AND DEATH RATES AMONGST EUROPEAN OFFICIALS IN THE DESERT ZONE.

	1917.	1918.	1919.
Total number of officials resident	17	21	27
Average number resident	11	16	17
Total number on sick list	37	36	55
Total number of days on sick list	209	291	180
Average daily number on sick list	·57	·79	·49
Percentage of sick to average number resident ...	5·18	4·93	2·88
Average number of days on sick list to each patient ...	5·64	8·08	3·27
Average sick time to each resident	11·94	13·86	6·66
Total number invalided	1	1	3
Percentage of invaliding to total residents	5·88	4·76	11·11
Total deaths	—	—	—
Percentage of deaths to total residents	—	—	—
Percentage of deaths to average number resident ...	—	—	—

(*c*) NATIVE OFFICIALS.

	In-patients.	Out-patients.
1919	26	39
1918	30	100
1917	35	108

There were neither deaths nor invalidings amongst this class of official.

The chief ailments were :—Malaria (21), and diseases of the digestive system (20)

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES AMONGST NATIVE OFFICIALS IN THE DESERT ZONE.

	1917.	1918.	1919.
Total number of officials resident	31	50	51
Average number resident	26	40	41
Total number on sick list	35	30	26
Total number of days on sick list	246	172	119
Average daily number on sick list	·67	·47	·32
Percentage of sick to average number resident ...	2·57	1·17	·78
Average number of days on sick list to each patient ...	7·02	5·73	4·57
Average sick time to each resident	7·93	3·44	2·33
Total number invalided	—	1	—
Percentage of invaliding to total residents	—	2·00	—
Total deaths	—	—	
Percentage of deaths to total residents	—	—	—
Percentage of deaths to average number resident ...	—	—	—
Number of cases of sickness contracted away from residence	—	—	—

(*d*) GENERAL EUROPEAN POPULATION.

Only 4 Europeans applied for treatment. No births or deaths were registered.

(*e*) GENERAL NATIVE POPULATION.

The numbers treated were :—

	In-patients.	Out-patients.
1919	1,373	6,434
1918	1,402	8,552
1917	2,056	8,650

There were 37 deaths as against 56 and 50 in the preceding years.

The causes of deaths were :—Influenza (7), pneumonia (3), scurvy (3), tuberculosis (6), small-pox (5), other causes (13).

III.—SANITATION.

REPORT BY DR. W. J. RADFORD, PRINCIPAL SANITATION OFFICER, E.A.P.

(i.) ADMINISTRATION.

1. The sanctioned personnel of the Sanitation Division at the commencement of the year 1919 was as follows :—

	Sanctioned.	Actually Entertained.
Principal Sanitation Officer	1	1
Medical Officers of Health	12	3
Sanitary Inspectors	14	14
Camp Superintendent (European) ...	1	1
Nurses	2	2
Assistant Surgeons	6	–
Sub-Assistant Surgeons	7	5
Compounders	3	–
Chief Vaccinator	1	1
Vaccinators	56	57
Clerks (European)...	1	–
Clerks (Asiatic)	10	8
Mechanics	4	2

2. Appointments during the year :—
   1 Medical Officer of Health.
   4 Temporary Acting Medical Officers of Health.
   8 Sanitary Inspectors.
   1 Nurse.

3. Invalided during the year :—
   Nil.

4. Leave during the year :—
   2 Medical Officers of Health.
   2 Sanitary Inspectors.

5. Resumption of duty :—
   1 Sanitary Inspector.

6. Deaths during the year :—
   Nil.

(ii.) LEGISLATION DURING 1919 AFFECTING THE MEDICAL DEPARTMENT.

Townships, Ordinance 1903.

Dustbin rules, Mombasa, Kisumu, Nakuru and Nairobi.
Public health rules, disposal of bodies, Kisumu.
Latrine rules, Mombasa
Rickshaw rules, Nairobi.
Suppression of mosquitoes, all townships.
Nairobi Building (Amendment) Rules.
Powers of Medical Officer of Health, Mombasa.
Refuse removal, Nairobi.

Township Fees and Conservancy Ordinance, 1908.
Rules controlling fees to be levied.

Townships Public Health Rules.
Appointment of local authority at Mombasa.

Infectious Diseases Ordinance, 1903.
Rules *re* leaving a declared plague area, Kisumu.
Sleeping sickness rules, revoked.
Plague rules, Mombasa, Kisumu, Kyambu.

Municipal Corporation Ordinance.
Application to Nairobi.

Vaccination Ordinance.
Application to Giriama, Jubaland.

(iii.) PREVENTIVE MEASURES.

MOSQUITO AND INSECT-BORNE DISEASES.

MALARIA.

MALARIA, RECORDED CASES AND DEATHS.

Year.	Cases.	Deaths.
1916	18,238	206
1917	17,968	305
1918	21,194	195
1919	20,778	139

Gangs of natives trained in anti-malarial work are attached to the staff of the Health Offices at Kisumu, Nairobi and Mombasa. Their duties embrace house to house visitation and supervising the means to control mosquito breeding, clearing drains, filling in excavations and oiling water. From time to time some of the gangs are sent to other townships and stations in the Protectorate. The campaign against mosquito breeding has been well supervised and maintained, and it is encouraging to report that the anopheline breeding grounds in Mombasa are practically under control. All the anopheline which have been found as adults or bred out from larvæ were *anopheline costalis* The breeding places of *culex* and *stegomyia* are carefully watched

In Nairobi malaria heads the list of diseases as far as the actual number of cases treated in the various hospitals.

In the Native Civil Hospital 2,460 cases were admitted with 14 deaths; but there is no doubt that a larger number of natives contracted the infection in outlying districts than in the township itself, where anti-malarial measures are constantly prosecuted. 101 cases were treated in the European Hospital.

In the township 20 deaths occurred among Africans and eight among Asiatics and five among Europeans.

The satisfactory condition of Kisumu, reported in 1918, has been well maintained during the period now under review, the field work of the mosquito gangs being especially good, but the condition of the houses assigned to the staff leaves much to be desired, as experience has shown it has been a matter of great difficulty to effect the necessary repairs to gutters, drains and water pipes.

Registered number of deaths :—

Kisumu 16, Mombasa 34, Nairobi 47.

In Protectorate 139.

Towards the end of the year it was possible to station a Sanitary Inspector at Lamu.

BLACKWATER FEVER.

An increase in the number of cases is observed, 47 cases with 21 deaths have been recorded. The low death rate calls for favourable comment.

EPIDEMIC DISEASES.

PLAGUE.

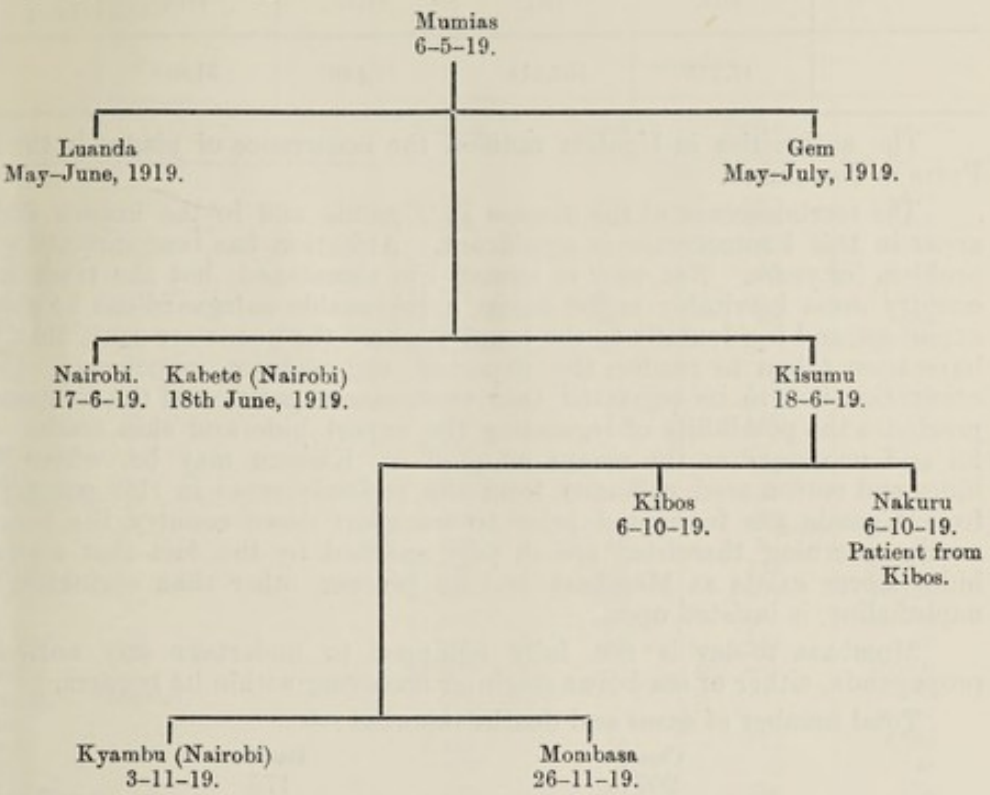
On May 6th, 1919, an Interpreter's Boy died from Plague at Mumias a sub-station in Kavirondo some 42 miles North of Kisumu. Investigations revealed the following facts. Dead rats were found in the Interpreter's lines on 10th April and 1st May, and from 1st to 7th May in the Police lines also. None of the instances of rats dying were notified at the time. From May onwards cases were reported in Luanda-Gem the neighbouring districts, and the condition was recognised in Kisumu on 18th June, 1919, and in Nairobi on the 17th June.

The total number of cases, as far as could be determined up to the end of the year in this centre, were as follows :—

	Cases.	Deaths.
Native Reserve	111	102
Mumias	28	24
Kisumu	41	31
Kibos	2	2
	182	159

Kisumu was not declared free of plague until the end of December, 1919 ; cases occurred sporadically for 6 months.

The following diagram shows the date of plague incidence and its locality and its progression through the country.



2 cases occurred at Kibis (6 miles from Kisumu) in October.

It is interesting to observe that only 2 fatal cases occurred in Nairobi as proved by post mortem examination. The first case occurred in a patient at the Native Civil Hospital, and the second in a dead native found near the Railway Landies

Sporadic plague appeared in Mombasa in November and December (3 cases). This ushered in a localized epidemic which at the time of writing (April, 1920) has every appearance of being well under control.

Great attention has been paid to the rat trapping and investigations of all rodents secured during the year.

These were examined for rat plague, the numbers caught being as follows :—

Kisumu	1,185	31 infected and 13 others suspicious.
Nairobi	4,008	1 infected.
Mombasa	5,811	4 infected.

Measures taken to combat the disease—

(1) General sanitation with special regard to bush clearing and removal of rubbish.

(2) Destruction of huts riddled with rat runs.

(3) Fumigation of hides, skins, cotton seeds collected from endemic areas.

(4) Prophylactic inoculation.

(5) Segregation of contacts, surveillance and control of travelling public.

PROPHYLACTIC INOCULATION (HAFFKIN).

1916.	1917.	1918.	1919.
18,273	100,214	37,430	31,046

The authorities in Uganda notified the occurrence of plague in the Lake Ports in November.

The recrudescence of the disease in Uganda and in the known endemic areas in this Protectorate is significant. Attention has been directed to the problem for years. Not only is human life threatened, but the trade of the country must inevitably suffer unless a reasonable safeguard can be given to exporters, and incidentally to the country where the goods are sent, that steps have been taken to render the exported commodities innocuous. In this connection it is to be regretted that the financial position of the Protectorate precludes the possibility of regulating the export hide and skin trade. Useful and necessary as the means adopted at Kisumu may be, where skins, hides and cotton seed collected from the endemic areas in this country and from Uganda are fumigated prior to transport down country, the beneficial results accruing therefrom are in part nullified by the fact that no proper hides stores exists at Mombasa and no process, other than sprinkling with naphthaline, is insisted upon.

Mombasa to-day is not fully equipped to undertake any anti-plague propaganda, either of sea-borne origin or occurring within its borders.

Total number of cases and deaths reported :—

Cases.	Deaths.
207	175

SMALL-POX.

This disease appeared sporadically in all parts of the Protectorate where 543 cases and 168 deaths were reported ; only 8 Europeans were included, with no deaths.

	1916.	1917.	1918.	1919.
Cases of small-pox	2,513	1,520	2,576	543
Vaccinations	977,055	297,303	428,079	263,829

VACCINATION.

The vaccination ordinance is now operative in practically the whole of the country, Native vaccinators are trained at the Health Offices, and then detailed for duty wherever their services may be required. Financial restrictions have precluded the appointment of trained overseers whose services would be of great advantage, as at the moment little opportunity is afforded of estimating the results of vaccination in out districts and of correcting faulty technique in the operators. There are most encouraging reasons to assist the opinion that trained native vaccinators working under proper supervision will exert a beneficial effect in conferring immunity on the general population.

Owing to the same cause (financial restrictions) it has been found impossible to conduct experiments in preparation of a suitable vaccine strain or to estimate the causes that undoubtedly influence the potency and immunity conferring powers of any one strain or groups of strains.

STATEMENT SHOWING THE PLACES AND NUMBER OF VACCINATIONS PERFORMED AT EACH DURING THE YEAR 1919.

Stations.	Vaccinations.			
	Number.	Failed.	Perfect.	Unknown.
Mombasa	12,424	—	—	12,424
Lamu	4,000	700	883	2,417
Malindi	3,119	9	17	3,093
Kilindini	26	6	12	8
Machakos	11,378	—	—	11,378
Nairobi Prison	1,050	105	60	885
Nairobi	62,496	—	—	62,496
Kyambu	1,048	49	65	934
Makindu	2,223	15	152	2,056
Kitui	268	34	168	66
Nakuru	1,840	—	—	1,840
Naivasha	329	77	14	238
Eldama Ravine	1,751	—	—	1,751
Kabarnet	969	—	66	903
Kacheliba	126	40	57	29
Fort Hall	51,206	508	334	50,364
Nyeri	48,237	500	1,501	46,236
Embu	11,548	—	—	11,548
Meru	560	92	449	19
Kisumu	30,300	—	—	30,300
Kisumu N. C. Hospital	131	—	—	131
Mumias	4,217	—	—	4,417
Kericho	3,550	18	177	3,355
Nandi	222	4	23	195
Mombasa Prison	473	64	250	159
Eldoret	4,900	465	970	3,465
Kismayu	1,820	1,026	684	110
Kisii	382	40	163	179
Police Depôt	280	50	110	120
Archer's Post	2,456	—	—	2,456
Serenli	500	—	—	500
Total	263,829	3,802	6,155	253,872

ENTERIC.

77 cases with 17 deaths were recognised during the year, of these 35 cases with 7 deaths occurred in Nairobi. The possibility of the Nairobi water supply being a responsible agent cannot be disregarded. The bacteriological investigations of this water submitted during the year are a serious indictment to its purity, which from European standard can only be regarded as dangerous.

Voluntary inoculation is not popular in this country, advantage was taken in only 22 instances.

CEREBRO-SPINAL MENINGITIS.

The prevalence of this disease is declining :—

1916.		1917.		1918.		1919.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
128	82	796	615	202	104	133	95

there being a marked diminution in its incidence since the pandemic of 1913.

CHICKEN-POX.

Only 226 cases, with no deaths, were reported.

MEASLES.

22 cases were observed.

DYSENTERY.

As in previous years the prevalence of this disease calls for comment.

The following table shows the number of observed cases and deaths in Government Institutions only :—

1916.		1917.		1918.		1914.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
3,323	191	2,529	160	4,401	320	2,626	274

but in addition the Medical Officers of Health at Nairobi, Kisumu and Mombasa have reported 178 deaths occurring in those towns.

Dysentery of bacillary origin is responsible for by far the larger number of cases.

It is interesting to note that since cessation of hostilities in this country two years ago bacillary dysentery is steadily declining.

MUMPS.

One hundred and thirty-one cases with no deaths.

ANTHRAX.

Forty-three cases with four deaths were reported; of these 38 cases with two deaths were observed in Nairobi.

INFLUENZA.

Though the pandemic practically ended in December, 1918, localised outbreaks occurred, but the type generally was not severe, and the death rate did not exceed 47 per 1,000. The total number of reported cases in the Protectorate was 2,278 with 111 deaths.

TABLE SHOWING THE NUMBER OF PATIENTS TREATED IN QUARANTINE CAMPS.

Disease.	Mombasa.		Nairobi.		Kisumu.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Cerebro-spinal-meningitis	—	—	32	23	1	1	33	24
Chicken-pox	6	—	11	—	3	—	20	—
Enteric	—	—	7	—	—	—	7	—
Dysentery	1	—	—	—	—	—	1	—
Influenza	9	1	—	—	—	—	9	1
Leprosy	12	1	3	—	3	1	18	2
Measles	2	—	7	—	1	—	10	—
Plague	1	1	—	—	26	16	27	17
Small-pox	91	21	178	32	11	3	280	56
Tetanus	—	—	1	—	—	—	1	—
Yaws	4	—	—	—	3	—	7	—
Mumps	—	—	2	—	—	—	2	—
Anthrax	—	—	21	1	—	—	21	1
Other Diseases	27	—	13	—	7	—	47	—
Total	—	—	—	—	—	—	483	101

HELMINTHIC DISEASES.

ANKYLOSTOMIASIS.

Two hundred and twelve cases with 48 deaths were reported during the year.

It is the general experience of Medical Officers that a widespread infection exists on the Coast.

On the Northern Frontier District 26 cases with 6 deaths have been observed.

LEPROSY.

It has been found impracticable to establish any Lazaretto in the country where lepers can be received, treated and properly supervised. The accommodation provided at Mzizima and at the Leper Camp near Malindi cannot be regarded as satisfactory in any particular, and the position of the former situated within the compound of the Infectious Diseases Hospital is condemned from every point of view.

The return of 137 lepers with 12 deaths among those who reside in these areas does not include the many who by force of circumstances must be returned to their own homes. This especially applies to lepers from up country districts.

TETANUS.

Sixteen cases with 12 deaths have been observed in various parts of the country.

(iv.) GENERAL MEASURES.

SEWAGE DISPOSAL.

No schemes for water-borne disposal are in operation in any of the towns as a general measure ; though in Nairobi there is a growing tendency for private individuals to use the septic tank system.

A movement is on foot to dispose of the sewage from the new factory and godown areas in Nairobi by means of a water-borne system and septic tank disposal and subsequent irrigation, but this is a private enterprise without any financial support from Government.

Sewage is in the majority of cases disposed of by dumping in the sea, trenching, incineration, cesspool collection or cast broadcast on the ground, with the resulting dangers to public health.

SCAVENGING.

This important activity is not controlled by the Health Officers, but by the Administration or local authorities. In no instance can this service be said to be satisfactorily performed owing to financial strictures and difficulty in the labour supply.

During the plague epidemic at Kisumu it was necessary for the Health Office to supplement the scavenging and bush cutting gangs that properly should be included in the Municipal staff by 109 labourers for some months.

WATER SUPPLY.

The supplies in the principal towns are controlled by Government. During the year it has been impossible to effect any improvement with regard to storage treatment (filtration or chemical) or in protecting gathering grounds or intakes.

Reference has already been made to the conditions of the Nairobi supply which constitutes a danger to public health. Efforts are now being directed to treating the water at the intake, where a plant is being installed, and the water subjected to the action of chloride of lime with subsequent additions of metabisulphite of soda.

General expansion and development in the out districts is responsible for an increasing degree of pollution in streams and rivers. Coffee, sisal and flax factories with their attendant polluted effluents are generally erected near streams and on river banks; a control is urgently needed to prevent pollution of the water supplies throughout the Protectorate.

DRAINAGE.

No masonry new drains were constructed at Kisumu, or Mombasa; in Nairobi 5,771 yards.

Special gangs of workmen are entertained at the principal towns whose duties include those of cleaning drains, regrading and general repairs the necessity for this becomes more obvious year by year.

	Cleaned.	Dug and Graded.
Kisumu	40,000	1,986
Nairobi	200,689	97,929
Mombasa	The whole system dealt with.	

BUSH CLEARING.

Is another activity largely dependent on the Health Offices. Grants are made from the Sanitation Funds to Administration officers in certain centres in order to overtake the work.

Areas kept clear of bush and grass:—

Mombasa	785½	acres
Nairobi	680	,,
Kisumu	18	,,

HOUSING.

Areas for Native and Asiatic locations are being included in all town planning schemes, but the development of these locations has not been possible owing to the financial position of the country.

Inspection of commercial premises is part of the duties of the Health Officers who issue licences prior to occupation. In addition the Sanitary Inspectors are regularly employed in general inspection of all premises in townships.

Mombasa	28,777
Nairobi	19,059
Kisumu	10,094

During the year 4,900 samples of mosquitoes were brought into the Health Office for identification, the percentage of anopheles in samples brought in in relation to the total number of samples was 2.25.

(v.) CONDITION OF TRADES AND FACTORIES.

PUBLIC MARKETS.

Mombasa	2
Nairobi	2
Kisumu	2

But little improvement has been effected in the structure of these premises during the year.

The Jevanjee Market, Nairobi, is now thrown open for occupation, the precincts and structure leave much to be desired.

SLAUGHTER-HOUSES.

Kisumu	2
Nairobi	2
Mombasa	2

No water is laid on to the slaughter-houses in Mombasa; with the exception of the abattoir in Nairobi the lack of this necessary provision is most obvious.

Meat inspection is undertaken by the Sanitary Inspectors at Mombasa, and the Municipal Inspector at Nairobi. More definite examination of beasts before slaughter by the Veterinary Department is needed, and the meat inspected by trained inspectors before sale. This programme cannot be carried out until the staffs of the two Departments are augmented.

NAIROBI.

Number of animals slaughtered and carcases examined :—

	Examined.	Condemned.
Oxen	6,864 ...	145
Sheep and Goats	23,305 ...	20
Pigs	514 ...	9
Game	196 ...	2

and 216 carcases were removed by the Municipal staff from slaughter houses, roads and private premises.

MOMBASA.

Portions of beasts condemned :—

Beef	367
Livers	23
Guts	4
Lungs	7
Heart	1

AERATED WATER AND ICE FACTORIES.

171 inspections were made at Nairobi and 231 at Mombasa.

The Acting Medical Officer of Health, Nairobi, reports as follows :—

AERATED WATER FACTORIES.—There are four factories in the Township, and samples of soda and other ærated waters have been submitted periodically to the Government Analyst and Bacteriologist for examination. According

to various reports both the quality and purity of aerated waters have been contaminated on several occasions.

In the chemical reports a trace of either lead or copper and zinc have been found on different occasions, and in some samples it was attributed to the tin lining of the brass or bronze parts of the apparatus being worn away, and metal underneath exposed.

The Bacteriological reports, during the month of June, indicated a serious contamination in the process of manufacture, and the results showed that the samples were considerably worse than the drinking water supply. To obviate the danger to the public it was necessary to issue strict injunctions to all factories that the water must be boiled as well as filtered. In spite of this precaution samples examined in July and August gave no satisfactory reports, and the Bacteriologist suggested that the cleaning of the bottles was defective, and proposed that the soakage of bottles in a solution of bleaching powder followed by soakage in a sulphite bath might lead to a great improvement as recommended by the Government Analyst. Apparently no action was taken to adopt this recommendation until in October when a sample of the Uganda Railway soda water was found to be very badly contaminated, and after careful examination by the Bacteriologist of the following points :—

(*a*) Water before filtration
(*b*) Water in tanks after filtration
(*c*) Soda water after bottling

it was found that the filtration was adequate, but that subsequent procedure added bacteria to the water. Steps were taken to enforce sterilisation of bottles by the bleaching powder method, and in conjunction with other instructions relating to cleanliness of tanks, bottles, supervision of apparatus and personnel, with the result that there was a marked improvement in all samples, after bacteriological examination, and passed fit for human consumption.

Twenty-five samples of soda water were received ; of those only 14 were satisfactory, eight were contaminated by poisonous metals and three contained sediment.

DAIRIES AND MILK SUPPLY.

The regulation of the milk supply is urgently needed. Control should be exercised at the place of production, during transit, and where the commodity is exposed for sale, but in the absence of controlling legislation (Public Health Act) and a sufficient staff, but little can be done to remedy the dangerous state of affairs that has persisted for many years.

The following extract from the Government Analyst Report of samples of milk analysed during the year is appended.

	Satisfactory.	Watered.	Added water.	Doubtful.	Total.
Submitted officially ...	9	15	Maximum 50% Minimum 12% Average 33%	1	25
Private individuals ...	2	—	—	—	2
Condemned	3	—	—	1	4

In Mombasa 762 inspections of 50 cowsheds were made, and 205 inspections of 32 milk sellers' premises, and 108 cattle sheds and stables in Nairobi.

FOOD INSPECTION.

147,540 samples of foodstuffs were inspected at Mombasa and 122 at Kisumu.

The following samples were condemned :—

Mombasa	2,751
Nairobi	384
Kisumu	60

The condemned foodstuffs included :—

Beef, 483 lbs. ; livers, 23 ; guts, 4 ; lungs, 7 ; ox heart, 1 ; 437 bags rice, 9 bags flour, 931 bags onions, 113 bags dhall, 2 bags maize, 567 cases condensed milk, 200 tins condensed milk, 34 lbs. bacon, 217 tins sausages, 55 bottles soda water, 1 sample water, 3 samples milk, 24 packets chocolate, 20 packets soup powder, 2 dozen soup squares and other items, 60.

DISINFECTION.

This branch of the sanitary work is undertaken by the Division. The following schedule showns the nature and extent of the work performed.

Premises	4,125
Ships and dhows	288
Railway trucks	525
Carts	1,068
Articles	4,804
Hides and skins	244½ tons

With regard to the last item (disinfection of hides and skins) as plague has appeared at the ports on Lake Victoria Nyanza, in Uganda the work will be much heavier, as all skins, cotton seed, etc., from Port Bell and Jinja have now to be disinfected. During the year 1918–1919 the cargoes received from these ports included 880 tons of skins and hides alone.

In this connection the possibility of anthrax-infected hides must not be neglected, as no system of disinfection should be considered complete and satisfactory that does not aim at the destruction of anthrax spores.

SHIPPING.

Bills of Health issued :—

Port.	1917.		1918.		1919.	
	Steamers.	Dhows.	Steamers.	Dhows.	Steamers.	Dhows.
Mombasa	107	400	99	495	178	480
Lamu	1	175	5	117	1	203
Kismayu	16	45	17	155	14	104

Revenue derived from Bills of Health at Coast Ports :—

Mombasa	Rs. 3,960–00
Lamu	Rs. 1,560–00
Kismayu	Rs. 885–00
	Total Rs. 6,405·00

IV.—METEOROLOGY.

This scientific subject is not pursued by any Department to an extent beyond the recording of rainfall and temperature at certain places. For the statistics given in this report we are indebted to the Department of Agriculture. Until the science is placed on a more satisfactory basis for collection of complete data and a qualified man appointed, the many interesting and scientific phenomena to be derived and learned from this study must remain at a standstill.

TABLES SHOWING MEAN ANNUAL RAINFALL AT VARIOUS POINTS IN THE DIFFERENT AREAS FOR THE YEAR 1919.

Coast Area.

Station.	1919.
Malindi, District Commissioner	59·54
Mombasa, Provincial Commissioner	39·33
Mazeras, Station Uganda Railway	34·90
Mackinnon Road Station, Uganda Railway ...	24·26
Voi, District Commissioner	21·84
Taveta	Station closed.

Mountainous Area.

Masongaleni Station, Uganda Railway	33·62
Makindu Station, Uganda Railway ...	36·15
Kiu Station, Uganda Railway	31·22
Athi River Station, Uganda Railway	25·74
Nairobi Laboratory	33·75
Kabete Farm (near Nairobi)	41·73
Naivasha Station, Uganda Railway	37·54
Nakuru, District Commissioner	42·53
Molo	47·72
Eldama Ravine, District Commissioner ...	42·08

Nyanza and Kenia Provinces.

Lumbwa Station, Uganda Railway	35·24
Muhoroni Station, Uganda Railway	62·66
Kisumu, Provincial Commissioner	46·70
Mumias, District Commissioner	67·47
Karungu	Station closed.
Kericho, District Commissioner	76·39
Nandi, District Commissioner	67·03
Fort Hall, District Commissioner	38·80
Nyeri, District Commissioner	42·33
West Kenia	27·34

Desert Area.

Kismayu, District Commissioner	10·86
Gosha Alexandra	No records.
M'fudu	No records.

V.—HOSPITALS, DISPENSARIES AND INSTITUTIONS.

1.—EUROPEAN HOSPITALS AT NAIROBI AND MOMBASA.

The number of cases treated at these institutions is increasing annually to an extent commensurate with the increasing population and settlement in the country.

The table appended gives the numbers treated, etc. :—

	1919.	1918.	1917.
Total number of beds...	27	27	24
Total number treated	500	396	269
Total number discharged	452	347	247
Total number of deaths	24	33	11
Total number remaining	24	16	11

Of the total number treated 209 were officials and 291 belonged to the general population. 8 officials died and 16 of the civil population.

Administration.—The pressure of work necessitated the nursing staff being increased by 5 sisters and 1 nursing orderly.

Dr. J. L. Gilks was in charge at Nairobi from January to November and Dr. J. Pugh at Mombasa throughout the year. Dr. W. H. Kauntze temporarily replaced Dr. Gilks at Nairobi when the latter proceeded home on duty in medical attendance on His Excellency the Governor.

The cases treated at the two hospitals were as follows :—

	Officials.	Non-officials.
Nairobi	162	182
Mombasa	47	109

Malaria was the principal cause of admission, 123 cases having been admitted to Mombasa Hospital and 90 to Nairobi. 12 cases of blackwater fever were admitted at Nairobi and four of these terminated fatally.

The cases of malaria admitted to the European Hospital, Nairobi, were classified as follows :—

Sub-Tertian	59
Benign Tertian	11
Undifferentiated	18
Mixed infections	2

The treatment adopted was again by means of quinine injections followed by administration of quinine by mouth, and I am still of opinion that this form of treatment results in a large proportion of permanent cures in first attacks if the quinine by mouth is persisted in for three months.

Very gratifying results were again obtained in the treatment of chronic cases of Sub-tertian malaria by means of *Novarsen Obillon*, one dose only, after a preliminary treatment by quinine injections.

The treatment of Benign tertian infections with *Novarsen Obillon* was not persisted with this year, as the results of this treatment had proved so disappointing on previous occasions.

Enteric.—16 cases with 5 deaths were recorded in Nairobi and at Mombasa 4 cases with one death.

The type of the disease was unusually severe. One case which ultimately recovered had very marked meningeal symptoms with coma, retraction of head, etc. A lumbar puncture was not done, as the case was so critically ill. The results of vaccine treatment seemed satisfactory, but the cases were too few to form any definite conclusion. There were at any rate no ill effects.

Operations.—The amount of surgical diseases and surgical operations has again increased very largely during the year. Major surgical operations performed numbered 47 and included the following:—

Epididymectomy.—1 case.

Trephining.—2 cases, one for penetrating fracture of skull and the second for bullet wound. Both cases necessitated the removal of a large amount of bone.

Cholecystostomy.—2 cases; both for gall stones, from one of which over 200 stones were removed.

Evisceration of eye.—1 case.

Nephrectomy.—1 case of septic pyelitis and pyonephrosis.

Hernia.—4 cases, of which one was strangulated.

Perforated gastric ulcer.—1 case.

Intestinal obstruction by adhesions—1 case involving the excision of 12 inches of intestine.

Appendicectomy.—5 cases.

Carcinoma of breast.—1 case of extensive disease with infection of glands necessitating a complete removal of breast, pectoral muscles and axillary contents.

The results obtained were most satisfactory and cures resulted in all cases except that of nephrectomy. The subject of carcinoma of breast is in good health over a year after the operation. It was most gratifying to note the increased confidence in the hospital which was again observed, and patients were anxious to come into hospital rather than travel to other countries for treatment.

One case of strangulated hernia was operated on at Mombasa and radical cure resulted.

A new hospital with an operating theatre is noted as wanted at Mombasa hospital.

No structural alterations or increase in the accommodation has occurred.

2.—THE CIVIL HOSPITALS AND DISPENSARIES.

The statistics furnished for the past year show a decrease in the number of in-patients and a slight increase in the number of out-patients treated, while the deaths recorded are 594 less than in 1918.

The following table gives the number of cases treated and deaths which occurred in native hospitals :—

	1919.		1918.		1917.	
	In.	Out.	In.	Out.	In.	Out.
Admissions	14,371	95,574	17,215	95,069	12,825	92,376
Deaths	1,112	—	1,706	—	1,121	—
Death rate per 1,000 of admissions	77·37	—	90·09	—	87·40	—

The above figures can be considered as an indication of the amount of medical work done by the medical staff, but hardly as a reliable basis whereon to judge the general health of the native population. The prevalence of various forms of disease in the large native reserves is only too well known, and can hardly be dealt with for many reasons, among these being (*a*) the tendency of the inhabitants of many reserves to object to other than the treatment of native medicine men and witchcraft, (*b*) distance from established medical centres, (*c*) absence of mobile dispensaries and staff, etc., to equip such, and (*d*) the enormous expenditure required to bring the whole vast country with its primitive populations within the scope of medical aid and sanitary protection. Fortunately the hardships experienced by the natives generally were not nearly so severe, except in the first quarter, as compared with 1918, when starvation, diarrhœa and dysentery played havoc, owing to failure of the rains with shortage of crops as a consequence.

The blight of that fatal year was further accentuated by the epidemic of influenza, the worst on record. This year influenza prevailed in a less epidemic form in February, March and October. No serious outbreak of infectious disease occurred, but cases of plague, small-pox and cerebro-spinal-meningitis continued to occur in sporadic form. Excepting the four main towns on the Railway line, and even these are far from satisfactory, the remaining hospitals and dispensaries in the very few places where they exist at all are most primitive, with limited medical supplies, instruments, equipment, furniture, etc. The medical vote is only allotted £7,500 for surgical and medical stores. This sum is totally inadequate to provide all hospitals in the Colony and East Africa Protectorate with surgical and medical supplies, and with present day prices it may easily be imagined why hospitals must be more or less starved in this respect.

The establishment of medical officers and subordinates was much below that sanctioned, notwithstanding efforts made in every direction to obtain personnel. The native nursing staffs have to be recruited from the most unpromising material, and the want of European matrons at the three principal hospitals to supervise and train them is keenly felt.

Government has made grants to medical missions in respect of services rendered to sick natives. If medical missions are subsidized in this country it is difficult to see where distinctions can be made between the very large variety of sects which are established in the Colony. It is felt that Government should realize its own responsibility and itself undertake the work, especially as the natives are now taxed to a much greater extent than was formerly the case.

3.—LUNATIC ASYLUM.

The following table gives the number of admissions and deaths during the last three years :—

	Admissions.			Deaths.		
	1919.	1918.	1917.	1919.	1918.	1917.
Males	78	75	71	22	36	17
Females	13	21	11	6	7	2
Total	91	96	82	28	43	19

Dr. J. H. Thomson was in medical charge until June, when he proceeded home on leave and was relieved by Dr. V. M. Fisher, who submits the sixth Annual report on the Asylum as follows :—

1.—ACCOMMODATION.

NUMBER OF BEDS.

	1919.	1918.	1917.
European Male	8	8	8
European Female	4	—	—
Asiatic and African Male ...	40	40	40
Asiatic and African Female ...	12	12	12
Total	64	60	60

This is an increase of 4 beds for European females over previous years.

2.—CRIMINAL LUNATICS.

There are 8 male (including 3 convicted of murder) and 3 female (all 3 convicted of murder) Criminal Lunatics in the Asylum.

3.—STAFF.

EUROPEAN (MALE).		
Medical Officer	1	
Superintendent	1	
European male attendants	2	First appointed 1919.
TOTAL	4	
EUROPEAN (FEMALE).		
Matron	1	
Assistant Matron	1	First appointed 1919.
TOTAL	2	
NATIVE (MALE).		
Head Attendant	1	
Second Attendant	1	
Male Attendants...	11	
Cook	1	
Messenger	1	
Sweeper	1	
TOTAL	16	
NATIVE (FEMALE).		
Female Attendants	4	
TOTAL	4	

4.—ASYLUM POPULATION.

Number on Register on January 1st.

	1919.	1918.	1917.
Males	43	48	42
Females	20	14	11
Totals	63	62	53

Total Admitted.

1919.	1918.	1917.
91	96	82

(*a*) Number of cases under treatment during :—

	1919.			1918.			1917.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Recovered	32	6	38	35	5	40	42	6	48
Relieved	9	1	10	10	2	12	9	1	10
Not improved	60	18	78	43	20	63	48	14	62
Dead	22	6	28	36	7	43	17	2	19
Total	123	31	154	124	34	158	116	23	139

(*b*) Cases transferred, discharged and died :—

	1919.	1918.	1917.
Transferred	Nil	Nil	Nil
Discharged	41	52	58
Died	28	43	19
Total	69	95	77

Total cases on Register on 31st December, 1919 ... 78
Average daily number 1919 72

Admissions.—The 91 cases admitted during 1919 were classified as follows :—

Idiocy	1
Melancholia	1
Mania	38
Dementia	17
Delusional Insanity	15
Other mental diseases *e.g.*, General Paralysis of the Insane and acute Alcoholic Mania	19
Total	91

Aetiology.—Insanity among Europeans during 1919 was almost entirely due to excessive consumption of alcohol. Three of these cases were of short duration and were discharged after ten days' observation without having been definitely certified insane. One case of alcoholic mania complicated by double pneumonia died on the second day following admission. One case, in which the acute symptoms had subsided but in which the memory remains very defective, is awaiting early transfer to England.

A case of marked delusional insanity in an ex-infantry officer who has seen service and been wounded in France is, in my opinion, largely due to active service.

Among the natives it is hard to assign the aetiology of their conditions. They themselves frequently blame "Munguu" and witchcraft, but there is no doubt in my mind that the *spirochoeta pallida* has a considerable predisposing effect.

Discharges.—58 cases were discharged cured during 1919 and ten who had improved were handed over to the care of their friends. These latter were all harmless cases whose chief disability was that they were not able to look after themselves. One Frenchwoman was sent to South Africa.

Deaths.—22 male and six female deaths occurred during the year. They were classified as follows:—

	Male.	Female.	Total.
Mania	12	5	17
Delusional Insanity ...	1	—	1
Dementia	3	1	4
Melancholia	1	—	1
G.P.I.	4	—	4
Pneumonia	1	—	1
TOTAL	22	6	28

Escapes.—One male patient escaped while working at fencing with a working party. Disciplinary action was taken against the native male attendant in charge of the party.

Casualties.—There were no accidents except those of such trivial nature as not to require medical attention.

Restraint and Seclusion.— These are practically non-existent. All the patients, European and Native, are free to walk about the grounds in the daytime and are supervised by the attendants. They spend most of their time in supervised working parties on the shamba and asylum grounds.

One female patient has attacks of violence periodically. Even during these attacks she is usually taken out with the other women to the shamba and has her feet and hands tied when she becomes quite unruly. Beyond this case no restraint of any kind has been applied during the year and there is no seclusion.

Operations.—Nil.

Health.—There is practically no sickness, the patients mostly put on weight and improve in their general health after a short time in the Asylum.

The ordinary cuts and bruises inseparable from ordinary life alone have occurred and these were not serious enough to require medical attention. Two patients could not be prevented from injuring their eyes by rubbing them with dirty hands and by putting sand and dirt into them if ever they got the chance.

Progress of the Asylum.—1. A new European female block to accommodate 4 patients and including attendants' quarters has been opened.

2. The native male accommodation has been increased by 4 beds by slight structural alteration in the main block.

3. A new European male block to accommodate 12 patients with rooms for attendants, offices, bathrooms, lavatories, kitchens and stores is under construction and will probably be completed early in 1920.

4. A Tennis Court and Pavilion has been constructed for the use of convalescent patients entirely by lunatic labour.

Occupation of Patients.—The entire work of the Asylum is done by patients, including tailoring and repair of clothes, laundry, cooking, gardening and upkeep of Asylum and grounds. European patients, when able, assist in clerical work. The shamba is entirely worked by the lunatics and in addition the women do basket making.

Board of Visitors.—Meets monthly. At each meeting all the patients and the Asylum premises are inspected and patients recommended for discharge are brought before the Board for examination.

Farm.—All native patients who are able, and are not employed elsewhere, work on the shamba. During 1919 the following crops were produced :—

	lbs.
Maize	5,000
Maize meal	400
Beans	5,500
Potatoes	680

There are at present 20 acres under maize which is now ripening and in good condition and gives promise of an excellent crop.

Staff Discipline.—There has been no serious breach of discipline during the year. The Head and Second Native attendants have been on the staff for some years and their conduct has continued to be very satisfactory.

4.—GOVERNMENT DENTAL SURGERY, NAIROBI.

Dr. V. G. L. van Someren states that the report for this year must of necessity be incomplete and somewhat complex, as during the greater part of the time he was on leave and during his absence the government dental work was carried out by private Dentists.

During the period January to May inclusive, the Dental Surgeon was on the sick list for two periods and on sick leave for 10 days aggregating roughly a month, during which no work was performed.

Whether or not the arrangement made for the dental treatment of Government officials during his absence at home was satisfactory, is a matter of opinion, but he submits that such arrangements are excessively expensive to the Government, as illustrated in the appended tables.

During the period the Dental Surgeon was on duty the following work was done :—

Total number of individual patients treated	270
Appointments	482

TREATMENT :—

Conservative :—

Fillings (plastic)	420
Root fillings	28
Crowns (various)	14
Scalings, done in most cases and not recorded particularly	—
Extractions	52

Prosthetic Work :—

Dentures	20
,, repairs	37
Bridges	4

From records supplied to him by Messrs. Palmer and Melhuish, of work done for Government during the period June, 1919, to April, 1920, 11 months, the following tables are compiled :—

Total number of patients treated	130
Appointments	440
Fillings	260
Extractions	79
Crowns	10
Scaling	37
Dentures	13
Bridges	—
Repairs	13

It is of interest to compare this with the above table.

The total sum paid out by Government to Messrs. Palmer and Melhuish, and Dr. Grice amounts to the surprising sum of Rs. 13,223/- odd.—£1,322 odd for 11 months' work.

A sum equivalent to twice the Dental Surgeon's annual salary.

A few examples taken at random from the records supplied may with advantage be subjected to comparison as follows :—

COMPARATIVE TABLE SHOWING THE APPARENT COST TO GOVERNMENT, OR PATIENT, OR BOTH, WITH EQUIVALENT COST TO BOTH, HAD THE WORK BEEN DONE AT THE GOVERNMENT SURGERY.

	Cost at			
	Private Rates.		Government Rates.	
	Patient.	Government.	Patient.	Government.
Miss A.	10	80	10	—
Mr. W.	47	99	35	—
Miss D.	6	18	6	—
Capt. S.	—	100	—	—
Mr. H.	—	239	—	—
Mr. C.	160	240	80	—
Mr. K.	195	255	120	—
Mr. F.	—	112	—	—
Mr. J.	90	125	36	—

Examples could be multiplied, but sufficient have been given to show the unsatisfactory state which existed and is likely to be repeated, unless the staff is increased.

The deplorable lack of dental treatment for the Non-European Government Staff still exists, though recommendations were asked for in 1913.

Eleven urgent cases of the Non-European Staff were treated during January to May.

5.—GAOLS.

The general health of prisoners in the three principal gaols of the country has been satisfactory. The admission and mortality rates have been appreciably smaller than the figures recorded for last year, Kisumu gaol returns, however, recording a slightly higher figure for admissions. No serious outbreak of infectious disease was recorded. 69 cases of beri-beri came under treatment and occurred chiefly among gangs employed on the making of the Londiani-Eldoret road; no deaths from the disease were recorded. Dysentery, influenza and pneumonia, which last year were responsible for rather high numbers of admissions and deaths, show a marked decrease for the year under review. Overcrowding of the gaol hospitals at Nairobi and Kisumu has again been reported and supplementary accommodation had to be provided under canvas. Improved sanitary arrangements and more intelligent and better trained nursing staffs continue to be demanded for these institutions.

TABLE SHOWING SICK AND DEATH RATES AMONGST PRISONERS AT THE MOMBASA, NAIROBI AND KISUMU GAOLS.

	Mombasa.		Nairobi.		Kisumu.	
	1919.	1918.	1919.	1918.	1919.	1918.
Total number of prisoners on 1st January	338	235	667	767	140	117
Number admitted during year ...	1,228	484	2,903	2,623	1,188	514
Average daily number in gaol ...	291	257	627	717	112	125
Total number placed on sick list ...	206	361	1,041	1,430	364	348
Total number of days on sick list ...	2,286	3,556	15,826	15,784	2,443	5,515
Average number sick daily	6·26	9·74	43·36	43·24	6·69	15·11
Total number of deaths	4	9	54	206	5	33
Percentage of deaths to average daily strength	1·37	3·50	8·61	28·73	4·46	26·40

The principal causes of admissions and deaths were:—

Dysentery.—66 cases and 13 deaths as compared with 381 and 57 respectively for last year.

Influenza.—There were 139 cases and 14 deaths recorded. The previous year's figures were 358 and 28. The incidence was chiefly recorded in January, February and November. The cases were milder in character than in the epidemic of last year.

Malaria.—This heading shows 357 cases with 5 deaths. The figures show no appreciable increase when compared with the last two years.

Pneumonia.—The figures for admissions and deaths for the past two years were :—

	Admissions.	Deaths.
1919	131	2
1918	265	85

Diarrhœa.—131 admissions with 1 death were recorded.

Local Injuries.—The 270 admissions recorded call for no special comment and were chiefly the result of accidents, cuts and bruises amongst gangs engaged on out-door works.

Mortality.—The causes of recorded deaths during the year were as follows :—

Enteric	1
Dysentery	13
Malaria	5
Influenza	14
Pneumonia	19
Tuberculosis	2
Abscess of lung	1
Enteritis	2
Diarrhœa	1
Other diseases	5
Total	63

RETURNS.

TABLE I.

ADMINISTRATIVE DIVISION.

Dr. A. D. Milne, C.M G.	...	Principal Medical Officer.
Dr. J. A. Haran, C.M.G.	...	Deputy Principal Medical Officer.
Mr. R. Stanley, M.B.E.	...	Office Superintendent.
Mr. T. Preston	...	Clerk.
Mr. J. D. Nightingale ...	...	,,
Mr. R. Davis	...	,,
Mr. J. S. Robertson, M.B.E.	...	Medical Storekeeper.

MEDICAL DIVISION.

Dr. W. Owen-Prichard...	...	Senior Medical Officer.
Dr. C. L. Chevallier ...	...	,, ,, ,,
Dr. F. L. Henderson ...	...	Medical Officer.
Dr. J. O. Shircore (transferred to Tanganyika Territory, 15/10/19).		,, ,,
Dr. G. R. H. Chell ...	...	,, ,,
Dr. T. F. Lumb	...	,, ,,
Dr. J. L. Gilks	...	,, ,,
Dr. J. Pugh	...	,, ,,
Dr. C. J. Wilson, M.C. ...	...	,, ,,
Dr. V. G. L. van Someren	...	Dental Surgeon.
Dr. N. P. Jewell, M.C.	...	Medical Officer.
Dr. A. D. J. B. Williams, O.B.E.		,, ,,
Dr. T. H. Massey, M.C.	...	,, ,,
Dr. P. F. Nunan ...	...	,, ,,
Dr. J. H. Thomson ...	...	,, ,,
Dr. P. A. Clearkin (temporarily seconded from the West African Medical Service).		,, ,
Dr. F. T. Auden ...	...	,, ,
Dr. A. S. Mackie ...	...	,, ,,
Dr. H. R. A. Philp ...	...	District Surgeon.
Dr. J. Forbes	...	,, ,,
Dr. T. B. Welch	...	Medical Officer, temporary 12 months' agreement
Dr. A. H. Boon		,, ,, ,, ,, ,,
Dr. V. M. Fisher ...		,, ,, ,, ,, ,,
Dr. J. H. Neill		,, ,, ,, ,, ,,
Dr. J. P. McLulich ...		,, ,, ,, ,, ,,
Dr. M. F. Murphy ...		,, ,, ,, ,, ,,
Dr. M. C. Wetherell ...		,, ,, ,, ,, ,,
Dr. W. H. Kauntze, M.B.E.	...	Senior Bacteriologist.
Mr. H. Ogden	...	Dispenser.
Mr. F. Cribb	...	,,
Mr. T. R. Wilson ...	...	,,
Miss F. L. Neave ..	...	,,

TABLE I.—*continued.*

MEDICAL DIVISION—*continued.*

Mrs. E. R. Barrett	Matron.
Miss H. H. Whitburn	Nursing Sister.
Miss L. Merryweather	,, ,,
Miss I. Wilson	,, ,,
Mrs. S. J. Harrison	,, ,,
Miss A. E. Hobson	,, ,,
Miss A. E. Drewe	,, ,,
Miss A. St. C. Nicholl	,, ,,
Miss P. R. di Menna	,, ,,
Miss H. G. Tyrell	,, ,,
Miss M. Walton	,, ,,
Miss A. E. Davis	,, ,,
Miss M. I. Rhind	,, ,,
Miss K. Fletcher	,, ,,
Miss F. O'Neill	,, ,,
Miss R. Anderson	,, ,,
Miss A. B. Wharin	,, ,,
Miss H. M. Friedricks	,, ,,
Miss P. S. Joubert	,, ,,
Miss A. Glen Leary	,, ,,
Miss V. B. Painter	,, ,,
Miss A. L. Stuart	,, ,,
Miss A. B. Wishart	,, ,,
Miss M. A. Perkin	,, ,,
Mr. A. F. Summerfield	Nursing Orderly.
Mr. W. Henfrey	Supt., Lunatic Asylum.
Mrs. L. A. Henfrey	Matron, Lunatic Asylum.
Miss D. Godden	Asst. Matron, Lunatic Asylum.
Mr. A. Brown	Warder, Lunatic Asylum.
Mr. S. J. Bosch	,, ,, ,,

SANITATION DIVISION.

Dr. W. J. Radford	Principal Sanitation Officer.
Dr. A. R. Paterson	Medical Officer of Health.
Dr. G. Walker	,, ,, ,, ,,
Dr. A. C. Rendle (temporary 12 months' agreement).	,, ,, ,, ,,
Dr. H. A. Bodeker (temporary)	,, ,, ,, ,,
Mr. A. F. Dennett	Sanitary Inspector.
Mr. B. E. F. Wetkin	,, ,,
Mr. E. E. Williams	,, ,,
Mr. F. Strawbridge	,, ,,
Mr. P. Cairns	,, ,,
Mr. J. P. Cook	,, ,,
Mr. E. Holness	,, ,,
Mr. R. C. Mills	,, ,,
Mr. F. A. Creighton	,, ,,
Mr. A. P. Ling	,, ,,
Mr. C. F. Bickell	,, ,,
Mr. A. Bunker	,, ,,
Mr. H. E. Taylor	,, ,,
Mr. G. C. Wellington	,, ,,
Miss M. A. Thomlinson ...	Nurse attached to Health Office, Mombasa.
Miss R. K. Sharp	,, ,, ,, ,, ,, Nairobi.
Mr. W. J. Edwards	Supt. Infectious Diseases Hospital, Nairobi.

TABLE II.

FINANCIAL.

The sanctioned Medical Budget for the year 1919–20 was a total of £94,362, as compared with £78,989 for the preceding year.

Of the 1919–20 grand total, £78,287 16s. 0d. was expended, leaving an unexpended sum of £16,074 4s. 0d.

The saving was chiefly due to appointments provided for not being able to be filled, curtailment of leave and other matters due to the general upset resulting from war conditions.

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

SCHEDULE XIV.—MEDICAL DEPARTMENTS.

	Estimates.	Actual Expenditure		
	£	£	s.	d.
Administrative Division.				
Personal Emoluments	4,164	3,914	14	8
(Under this heading are included the salaries and any duty allowances granted of the Principal Medical Officer, Deputy Principal Medical Officer, Office Superintendent, Medical Storekeeper, clerical establishment, messengers and packers.)				
Medical Division.				
Personal Emoluments	35,992	29,331	18	4
(Under this heading are included the salaries and any duty allowances granted of the Senior Medical Officers, Medical Officers, Dispensers, Nurses, Superintendent, Warders, Matron and Assistant Matron Lunatic Asylum, Assistant Surgeons, Sub-Assistant Surgeons, Hospital Compounders, Native Hospital Attendants and Lunatic Asylum Attendants.)				
Sanitation Division.				
Personal Emoluments	16,951	8,943	18	4
(Under this heading are included the salaries and any duty allowances granted of the Principal Sanitation Officer, Medical Officers of Health, Sanitary Inspectors, Nurses, Assistant and Sub-Assistant Surgeons, Hospital Compounders, Vaccinators, Native Attendants for Infectious Diseases Hospitals, Leper Lazaretto and Quarantine stations, clerical establishment, mechanics for Clayton disinfectors, office, gharri and boat boys.)				
Medical Departments.				
Other charges	34,291	34,552	5	4
(Under this heading are included medical and surgical stores, contingencies, transport, up-keep of hospitals, uniforms, furniture and equipment, electric lighting, water supplies, epidemics, bush clearing, ambulance and motor services, etc.)				
Special Expenditure (purchase of disinfectors)... ...	1,200			

TABLE II.—*continued.*

SCHEDULE XIV.—MEDICAL DEPARTMENTS—*continued.*

REVENUE.

The total amount of revenue collected as hospital fees, sales of medicines and surgical stores, bills of health and registration fees, was as follows:—

	£	s.	d.
Hospital fees and sales of medicines	3,486	17	0
Bills of Health	424	12	0
Registration Fees	24	15	0
TOTAL ...	£3,936	4	0

Last year the total revenue collected amounted to £2,825 3s. 4d.

TABLE III.

RETURN OF STATISTICS OF POPULATION FOR THE YEAR 1919.

EAST AFRICA PROTECTORATE.	Europeans and Whites.	Africans and Others.	Asiatics.
Number of Inhabitants in 1919	8,000*	3,000,000*	25,000*
Number of Births registered in 1919	148	†	†
Number of Deaths registered in 1919	75	†	†
Number of Immigrants during 1919	2,742	1,282	8,168
Number of Emigrants during 1919	(Figures not obtainable.)		
Number of Inhabitants during 1918	8,000*	3,000,000*	25,000*

* Approximately. † Not registered.

N.B.—The last census taken was in 1911, and the number of European and Asiatic inhabitants shown in this table is not, therefore, very reliable.

TABLE IV

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF NAIROBI.

FOR THE YEAR ENDING 31ST DECEMBER, 1919.

	Approximate Area.	Number of proclaimed Open Spaces.
1917	7 sq. miles ...	Public Park.
1918		Jeevanjee Gardens.
1919		Arboretum.
		Municipal Forest.
		Show Ground, Parkland.

2.—POPULATION.

	Number of Natives.		Number of Europeans.		Total Approx.
	Males.	Females.	Males.	Females.	
1917	No estimate possible.		No estimate possible.		
1918	No estimate possible.		No estimate possible.		21,565
1919	No estimate possible.		No estimate possible.		

3.—HOUSING.

	Number occupied by Europeans.	Number occupied by Natives and Asiatics.
Number of Houses :—		
1917	438	622
1918	524	335 Asiatics only.
1919	662	417 do.

Number of Huts :—

1917	...	...	1,500 approximately.
1918	...	...	1,475 do.
1919	...	...	1,450 do.

4.—MOSQUITO PROTECTION OF HOUSES.

	1917.	1918.	1919.
Number of European houses wholly mosquito-protected ...	*Nil*	*Nil*	*Nil*
Number of European houses with mosquito room			
Number rendered during the year wholly mosquito-protected			
Number rendered during the year partially mosquito-protected			

TABLE IV.—*continued.*

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1917.	1918.	1919.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	...	1	...
Number of houses erected with sanction as to site, construction, and relation to other buildings	47	37	49
Number of huts erected with sanction as to site, construction, and relation to other buildings	...	2	...
Number of houses built without sanction	...	1	...
Number of huts built without sanction	...	3	...

ACTION TAKEN.

	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1917	...	...	...	...
1918	3	1	2	...
1919	...	...	...	...

6.—MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1917	2	1	1
1918	2	1 paved 1 undrained	1
1919	2	1 paved 1 undrained	1

7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1917 ... ... 1918 ... ... 1919	2	2	*Nil*

TABLE IV.—*continued.*

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—			Europeans.	
1917	28	226	1	2
1918	26	212	...	...
1919	24	200	...	...
Number of new public latrines erected during the year :—				
1917	2	16	...	...
1918	...	...	...	...
1919	...	...	...	...
Number of public latrines repaired during the year :—				
1917	4	64	...	...
1918	5	40	...	...
1919	3	24	...	...
Number of public latrines demolished during the year :—			Europeans	
1917	...	...	...	...
1918	2	14	1	2
1919	2	12	...	...

	1917.	1918.	1919.
Number of private latrines	2,482	2,223	2,263
Average number of pails of night-soil daily removed... ...	2,482	2,432	2,436
Average number of soiled pails removed and clean pails substituted	...	...	...
Number of night-soil men employed to clean latrines and to remove excreta	91	99	99
Number of cesspools	5	1	1
Number of cesspools cleaned	5	1	1
Number of new cesspools constructed during the year ...	...	...	...
Number of old cesspools abolished	4	4	...
Number of cesspools oiled regularly by Department	...	...	...

9.—REMOVAL OF REFUSE.

	1917.	1918.	1919.
Number of dustbins	1,381	1,400	1,282
Number of carts at work daily to remove refuse from streets	10	12	15
Amount of refuse removed daily	20	24	24
Number of carts at work daily to remove refuse from yards and premises	22	22	22
Amount of refuse removed daily from yards and premises ...	40	40	45
Number of men employed for removing refuse	88	90	95

TABLE IV.—*continued.*

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of slaughter-house and market offal.		
	1917.	1918.	1919.	1917.	1918.	1919.	1917.	1918.	1919.
Buried or trenched	2,710	2,436	2,436	...	...	...	6	2	2
Burnt	...	...	...	44	44	46	1	1	1
Thrown into sea	...	...	...	...	...	...	...	...	...
Otherwise dealt with	...	...	...	...	...	...	...	...	...

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

	1917.	1918.	1919.
Cartloads	20	20	22

12.—WATER SUPPLY.

Nature of Water Supply.	1917.	1918.	1919.
Pipe-borne water :—			
Source (river, lake or spring)—	River and Spring.	River and Spring.	River and Spring
Number of linear yards	514,326	518,897	520,773
Number of standpipes along roads	53	...	...
Number of standpipes in compounds and houses ...	1,140	1,241	1,208
Wells :—			
Public—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Private—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Tanks :—			
Public—			
Number underground	*Nil*	*Nil*	*Nil*
Number mosquito-protected and served by pumps ...			
Number above ground			
Number mosquito-protected			
Number of 400-gallons capacity or less			
Number above 400 gallons			
Private—			
Number underground	...	...	...
Number mosquito-protected	...	...	...
Number above ground...	155	155	155
Number mosquito-protected	155	155	155
Number of 400-gallons capacity or less	43	43	43
Number above 400 gallons	112	112	112
Nature of tanks :—			
Wood	...	...	...
Iron	155	155	155
Concrete	...	...	...
Barrels :—			
Number	150	150	150
Number mosquito-protected	140	140	140

TABLE IV.—*continued.*

13.—DRAINAGE.

	Public.	Private.
Masonry Drains—		
Linear yards of masonry drains—		
1917	35,939	No information
1918	36,497	,,
1919	37,074	,,
Linear yards reconstructed during the year—		
1917	...	,,
1918	...	,,
1919	...	,,
Linear yards repaired during the year—		
1917	...	,,
1918	...	,,
1919	64	,,
Linear yards of new drains constructed during the year—		
1917	4,034	,,
1918	558	,,
1919	577	,,
Earth Drains or Ditches cleansed—		
Number of linear yards of ditches cleansed—		
1917	78,170	,,
1918	135,227	,,
1919	200,689	,,
Number of linear yards of ditches dug and graded—		
1917	10,448	,,
1918	135,227	,,
1919	200,689	,,
Average frequency of clearing ditches of grass—		
1917	When necessary	,,
1918		,,
1919		,,

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

	1917.	1918.	1919.
Number of square yards of weeds, grass and vegetation cut and removed	19,998,720	17,613,000	3,296,040
Average frequency of clearance of rank vegetation on same area	When necessary	When necessary	When necessary

15.—EXCAVATIONS OF LOW-LYING LAND.

	1917.	1918.	1919.
Number of pools and excavations	34	36	30
Number of excavations filled up	61	27	98
Amount of low-lying and marsh land raised and drained	2 acres	1½ acres	...
Number of pools, marshes, etc., fish-stocked	...	...	...
Number of cubic yards of material used for filling up pools and excavations	...	...	...
Number of persons fined for making new excavations	No information	No information	No information
Average number of men daily employed in filling up pools, etc.	12	20	20

TABLE IV.—*continued.*

16.—OILING.

	1917.	1918.	1919.
Number of drains oiled	All mosquito breeding places are either removed or disinfected.		
Number of pools and excavations oiled	...	208	633
Number of tanks, tins and barrels oiled	...	96	1,270
Average number of men daily employed for oiling drains, pools and water-tanks or barrels	12	12	12

17.—INSPECTIONS AND PROSECUTIONS.

	1917.	1918.	1919.
Number of Inspectors employed	3	3	3
Number of houses inspected	7,502	7,918	6,700
Number of houses where larvæ were found	92	573	778
Number of notices served to remove conditions causing the breeding of larvæ	944	629	814
Number of persons fined for having mosquito larvæ on premises	2	5	1
Number of notices served to remove insanitary conditions on premises	1,256	836	552
Number of persons fined for not removing insanitary conditions after notice	38	38	...
Number of soda and aerated water factories inspected	4	5	5

TABLE IV.

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF MOMBASA.

FOR THE YEAR ENDING 31ST DECEMBER, 1919.

	Approximate Area.	Number of proclaimed Open Spaces.
1917...	Island, 8¾ square miles	1 public garden.
1918...	Town, 270 acres	
1919...		

2.—POPULATION.

	Number of Natives.		Number of Europeans.		Total Approx.
	Males.	Females.	Males.	Females	
1917	7,611	12,501	173	35	20,320
1918	14,416	15,267	162	39	29,884
1919	12,620	9,549	191	90	30,039
	Children, 7,527		Children, 55		

TABLE IV.—*continued.*

3.—HOUSING.

	Number occupied by Europ-ans.	Number occupied by Natives and Asiatics.
Number of Houses :—		
1917	110	1,013
1918	110	600–700
1919	110	1,006

Number of huts :—

1917	3,339
1918	3,541
1919	3,868

4.—MOSQUITO PROTECTION OF HOUSES.

	1917.	1918.	1919.
Number of European houses wholly mosquito-protected ...	*Nil*	*Nil*	...
Number of European houses with mosquito room			2
Number rendered during the year wholly mosquito-protected			...
Number rendered during the year partially mosquito-protected			2

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1917.	1918.	1919.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	*Nil*	*Nil*	*Nil*
Number of houses erected with sanction as to site, construction, and relation to other buildings	14	29	48
Number of huts erected with sanction as to site, construction, and relation to other buildings	242	192	110
Number of houses built without sanction	...	*Nil*	2
Number of huts built without sanction	...	...	...

ACTION TAKEN.

	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1917	...	*Nil*	214	21
1918	...	...	*Nil*	*Nil*
1919	...	2	1	2

TABLE IV.—*continued.*

6.—MARKETS.

	Total number.	Number paved and drained.	Number unpaved.
1917	3	2	1
1918	2	2	*Nil*
1919	3	2	1

7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1917	2	2	...
1918	2	2	...
1919	1	1	...

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—				
1917...	20	52	3	5
1918...	41	177	...	11
1919...	7	17	...	...
Number of new public latrines erected during the year :—				
1917...	3	12	...	...
1918...	4	14	...	...
1919...	1	2	...	...
Number of public latrines repaired during the year :—				
1917...	*Nil*	*Nil*	*Nil*	*Nil*
1918...				
1919...				
Number of public latrines demolished during the year :—				
1917...	...	...	...	...
1918...	2	...	...	...
1919...	1	...	...	...

	1917.	1918.	1919.
Number of private latrines :—			
Average number of pails of nightsoil daily removed	180	306	255
Average number of soiled pails removed and clean pails substituted	...	...	...
Number of nightsoil men employed to clean latrines and to remove excreta	24	23 by Consy. 23 by Rly.	29
Number of cesspools	5,928	Some thousands.	
Number of cesspools cleaned	68	69	70
Number of new cesspools constructed during the year ...	38	...	26
Number of old cesspools abolished	22	10	9
Number of cesspools oiled regularly by Department	...	122	1,378

TABLE IV.—*continued.*

9.—REMOVAL OF REFUSE.

	1917.	1918.	1919.
Number of dustbins	220	57	1,006
Number of carts at work daily to remove refuse from streets	14	15	16
Amount of refuse removed daily	20 tons	17 tons	17 tons
Number of carts at work daily to remove refuse from yards and premises	1 trolley	1 trolley	1 trolley
Amount of refuse removed daily from yards and premises ...	1 ton	1 ton	1 ton
Number of men employed for removing refuse	180	146 by Consy. 30 by Rly.	167

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of Pails of Excreta.			Daily average number of Cartloads of Refuse.			Daily average number of Cartloads of Slaughter-house and Market Offal.		
	1917.	1918.	1919.	1917.	1918.	1919.	1917.	1918.	1919.
Buried or trenched ...	...	...	...	42	...	...	...	...	...
Burnt	...	231	..	...	...	...	...	...	...
Thrown into sea ...	301	180	180	...	...	42	...	...	230
Otherwise dealt with ..	...	...	...	...	...	...	...	...	...

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

1917.	1918.	1919.
4	4	4

TABLE IV.—*continued.*

12.—WATER SUPPLY.

Nature of Water Supply.	1917.	1918.	1919.
Pipe-borne water—			
Source (river, lake, or spring)—	River.	River.	River.
Number of linear yards	...	25,094	10,740
Number of stand-pipes along roads	...	Kiosks 7	20
Number of stand-pipes in compounds and houses ..	...	144	100
Wells :—			
Public—			
Number	28	28	28
Number with pumps protected against surface water and mosquito-protected	...	...	...
Private—			
Number	96	86	83
Number with pumps protected against surface water and mosquito-protected	...	...	...
Tanks :—			
Public—			
Number underground	...	...	...
Number mosquito-protected and served by pumps ...	...	...	...
Number above ground	...	...	2
Number mosquito-protected	...	...	2
Number of 400 gallons capacity or less	...	...	...
Number above 400 gallons ... .. — ...	...	...	2
Private—			
Number underground	82	82	82
Number mosquito-protected	82	82	82
Number above ground	148	...	...
Number mosquito-protected	148	...	...
Number of 400 gallons capacity or less	105	...	...
Number above 400 gallons	125	...	...
Nature of Tanks :—			
Wood	...	...	...
Iron	148	Unknown.	Unknown.
Concrete	82	82	82
Barrels :—			
Number	1,600	Unknown.	Unknown.
Number mosquito-protected	60%	60%	Practically all

TABLE IV.—*continued.*

13.—DRAINAGE.

	Public.	Private.
Masonry Drains :—		
Linear yards of masonry drains :—		
1917	...	1,493
1918	...	...
1919	...	...
Linear yards reconstructed during the year :—		
1917	...	...
1918	35	...
1919	...	...
Linear yards repaired during the year :—		
1917	...	
1918	87	
1919	...	
Linear yards of new drains constructed during the year :—		
1917	...	...
1918	190	500
1919	...	...
Earth drains or ditches cleansed—Number of linear yards of ditches cleansed :—		
1917	1,310	...
1918	...	...
1919	...	...
Number of linear yards of ditches dug and graded :—		
1917	1,160	...
1918	1,400	...
1919	...	...
Average frequency of clearing ditches of grass :—		
1917	When necessary.	
1918	When necessary.	
1919	When necessary.	

Information not received from Public Works Department.

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

	1917.	1918.	1919.
Number of square yards of weeds, grass and vegetation cut and removed	782 acres	1,030 acres	785½ acres
Average frequency of clearance of rank vegetation on same area	When necessary.		

TABLE IV.—*continued.*

15.—EXCAVATIONS OF LOW-LYING LAND.

	1917.	1918.	1919.
Number of pools and excavations	4	Unknown.	Unknown
Number of excavations filled up	Nil.	11	31
Amount of low-lying and marsh land raised and drained ...	90 sq. yds.	½ acre	Nil.
Number of pools, marshes, etc., fish-stocked	Nil.	17	13
Number of cubic yards of material used for filling up pools and excavations	68	200	171
Number of persons fined for making new excavations ...	...	...	...
Average number of men daily employed in filling up pools, etc.	7	Casual.	Casual.

16.—OILING.

	1917.	1918.	1919.
Number of drains oiled	2	...	300 yards
Cesspools and Soaaways	...	...	130
Number of pools and excavations oiled	3	1	8
Number of tanks, wells and barrels oiled	315	453	274
Average number of men daily employed for oiling drains, pools, and water tanks or barrels	...	6	6

17.—INSPECTIONS AND PROSECUTIONS.

	1917.	1918.	1919.
European Sanitary—			
Number of Inspectors employed	2	2	3 average
Number of houses inspected	7,350	6,482	12,781
Number of houses where larvæ were found	2,242	...	180
Number of notices served to remove conditions causing the breeding of larvæ	402	408	531
Number of persons fined for having mosquito larvæ on premises	...	...	5
Number of notices served to remove insanitary conditions on premises	959	703	2,171
Number of persons fined for not removing insanitary conditions after notice	14	1	16
Number of soda and aerated water factories inspected	4	4	4

TABLE IV.

1.—SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN OF KISUMU.

FOR THE YEAR ENDED 31ST DECEMBER, 1919.

	Approximate Area.	Number of proclaimed Open Spaces.
1917	19·6 sq. miles	1
1918	19·6 sq. miles	1
1919	19·6 sq. miles	1

2.—POPULATION.

	Number of Natives.		Number of Europeans.		Total approx.
	Males.	Females.	Males.	Females.	
1917 ...	Natives 3,950 Asiatics 794	Natives 1,650 Asiatics 277	101	38	6,810
1918 ...	Natives 400 Asiatics 777	Natives Asiatics } 1,370	96	30	6,273
1919 ...	Natives 3,600 Asiatics 800	Natives 2,000 Asiatics 300	100	50	6,850

TABLE IV.—*continued.*

3.—HOUSING.

	Number occupied by Europeans.	Number occupied by Natives and Asiatics.
Number of Houses :—		
1917	56	145
1918	57	145
1919	57	149

Number of Huts :—

1917	890
1918	1,200
1919	1,220

4.—MOSQUITO PROTECTION OF HOUSES.

	1917.	1918.	1919.
Number of European houses wholly mosquito-protected ...	18	19	19
Number of European houses with mosquito room	51	51	51
Number rendered during the year wholly mosquito-protected...	6	1	*Nil*
Number rendered during the year partially mosquito-protected	2	*Nil*	*Nil*

5.—ERECTION OF NEW BUILDINGS DURING THE YEAR.

	1917.	1918.	1919.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	*Nil*	*Nil*	*Nil*
Number of houses erected with sanction as to site, construction, and relation to other buildings	6	1	5 (3 unfinished)
Number of huts erected with sanction as to site, construction, and relation to other buildings	?	39	20
Number of houses built without sanction	2	*Nil*	*Nil*
Number of huts built without sanction	?	*Nil*	*Nil*

ACTION TAKEN.

	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1917	...	2	147	2
1918	...	2	*Nil*	*Nil*
1919	...	1	23	*Nil*

6.—MARKETS.

	Total number.	Number drained and partly paved.	Number unpaved.
1917	1	1	*Nil*
1918	1	1	*Nil*
1919	1	1	*Nil*

TABLE IV.—*continued.*

7.—SLAUGHTER-HOUSES.

	Total number.	Number paved and drained.	Number unpaved.
1917	2	2	*Nil*
1918	2	2	*Nil*
1919	2	2	*Nil*

8.—LATRINES.

	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of public latrines :—			Public latrines are only provided for Asiatics and Africans, and are used in common by males and females.	
1917...	16	123		...
1918...	16	123		...
1919...	15	113		...
Number of new public latrines erected during the year :—				
1917...	1	6		...
1918...	*Nil*	*Nil*		...
1919...	*Nil*	*Nil*		...
Number of public latrines repaired during the year :—				
1917...	*Nil*	*Nil*		...
1918...	2	2		...
1919...	2	...		...
Number of public latrines demolished during the year :—				
1917...	*Nil*	*Nil*		...
1918...	2	2		...
1919...	1	10		...

	1917.	1918.	1919.
Number of private latrines	301	308	315
Average number of pails of nightsoil daily removed	646	674	679
Average number of soiled pails removed and clean pails substituted...	*Nil*	*Nil*	*Nil*
Number of nightsoil men employed to clean latrines and to remove excreta	42	45	45
Number of cesspools (concrete)	131	132	139
Number of cesspools cleaned	131	132	139 daily
Number of new cesspools constructed during the year ...	13	1	7
Number of old cesspools abolished	1	*Nil*	*Nil*
Number of cesspools oiled regularly by Department	*Nil*	*Nil*	*Nil*

9.—REMOVAL OF REFUSE.

	1917.	1918.	1919.
Number of dustbins	379	400	400
Number of carts at work daily to remove refuse from streets	6	4	4
Amount of refuse removed daily	36	40	40
Number of carts at work daily to remove refuse from yards and premises	10	10	10
Amount of refuse removed daily from yards and premises ...	30	36	36
Number of men employed for removing refuse	34	34	34

TABLE IV.—*continued.*

10.—MODE OF DISPOSAL OF EXCRETA, REFUSE AND OFFAL.

	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of slaughter-house and market offal.		
	1917.	1918.	1919.	1917.	1918.	1919.	1917.	1918.	1919.
Buried or trenched	646	674	679	22	22	22	1	1	1
Burnt	24	*Nil*	*Nil*	9	9	...	*Nil*	*Nil*	*Nil*
Thrown into sea	...	...	...	...	...	...	...	...	...
Otherwise dealt with	...	...	...	35	31	...	1	1	*Nil*

11.—AVERAGE DAILY NUMBER OF CARTLOADS OF CANS, BOTTLES, BROKEN CROCKERY AND OTHER INCOMBUSTIBLE MATERIAL REMOVED FROM HOUSES, HUTS AND COMPOUNDS.

1917.	1918.	1919.
3	3	3

12.—WATER SUPPLY.

Nature of Water Supply.	1917.	1918.	1919.
Pipe-borne water :—			
Source (river, lake or spring)—	Lake	Lake	Lake
Number of linear yards	12,000	12,543	12,600
Number of standpipes along roads	11	11	11
Number of standpipes in compounds and houses ...	72	81	82
Wells :—			
Public—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Private—			
Number	...	...	...
Number with pumps protected against surface water and mosquito-protected	...	...	...
Tanks :—			
Public—			
Number underground			
Number mosquito-protected and served by pumps ...			
Number above ground			
Number mosquito-protected			
Number of 400 gallons capacity or less	*Nil*	*Nil*	*Nil*
Number above 400 gallons			
Private—			
Number underground			
Number mosquito-protected			
Number above ground	194	195	195
Number mosquito-protected	Practically none satisfactory.		
Number of 400 gallons capacity or less	64	64	64
Number above 400 gallons	130	131	131
Nature of Tanks :—			
Wood	*Nil*	*Nil*	*Nil*
Iron	80	81	81
Concrete	114	114	114
Barrels :—			
Number	*Nil*	*Nil*	*Nil*
Number mosquito-protected			

TABLE IV.—*continued.*

13.—DRAINAGE.

	Public.	Private.
Masonry Drains :—		
Linear yards of masonry drains—		
1917	6,260	267
1918	6,260	267
1919	*Nil*	*Nil*
Linear yards reconstructed during the year—		
1917	*Nil*	*Nil*
1918	*Nil*	*Nil*
1919	1,916	*Nil*
Linear yards repaired during the year—		
1917	*Nil*	137
1918	*Nil*	*Nil*
1919	500	*Nil*
Linear yards of new drains constructed during the year—		
1917	3,264	207
1918	*Nil*	*Nil*
1919	4,725	*Nil*
Earth drains or ditches cleansed :—		
Number of linear yards of ditches cleansed—		
1917	19,890	*Nil*
1918	40,000	*Nil*
1919	40,000	*Nil*
Number of linear yards of ditches dug and graded—		
1917	2,170	*Nil*
1918	*Nil*	*Nil*
1919	1,986	*Nil*
Average frequency of clearing ditches of grass—		
1917	Monthly	Monthly
1918	,,	,,
1919	,,	,,

14.—CLEARANCE OF UNDERGROWTH, LONG GRASS AND JUNGLE.

	1917.	1918.	1919.
Number of square yards of weeds, grass and vegetation cut and removed	869,480	90,000	90,000
Average frequency of clearance of rank vegetation on same area	Quarterly	Quarterly	Quarterly

15.—EXCAVATIONS OF LOW-LYING LAND.

	1917.	1918.	1919.
Number of pools and excavations	*Nil*	*Nil*	*Nil*
Number of excavations filled up...	8	1	*Nil*
Amount of low-lying and marsh land raised and drained	3½ acres	*Nil*	*Nil*
Number of pools, marshes, etc., fish-stocked	*Nil*	*Nil*	*Nil*
Number of cubic yards of material used for filling up pools and excavations	1,970	300	*Nil*
Number of persons fined for making new excavations...	*Nil*	*Nil*	*Nil*
Average number of men daily employed in filling up pools, etc.	32	6	*Nil*

TABLE IV.—*continued.*

16.—OILING.

	1917.	1918.	1919.
Number of drains oiled	*Nil*	*Nil*	*Nil*
Number of pools and excavations oiled			
Number of tanks and barrels oiled			
Average number of men daily employed for oiling drains, pools and water-tanks or barrels			

17.—INSPECTIONS AND PROSECUTIONS.

	1917.	1918.	1919.
Number of Inspectors employed...	1	1	1
Number of houses inspected	13,308	14,010	9,824
Number of houses where larvæ were found	1	1	*Nil*
Number of notices served to remove conditions causing the breeding of larvæ	1	*Nil*	7
Number of persons fined for having mosquito larvæ on premises	*Nil*	*Nil*	*Nil*
Number of notices served to remove insanitary conditions on premises	277	53	183
Number of persons fined for not removing insanitary conditions after notice	45	*Nil*	15
Number of soda and aerated water factories inspected... ...	1	1	1

TABLE V.

METEOROLOGICAL RETURN FOR THE YEAR 1919.

GOVERNMENT LABORATORY, NAIROBI.

Month.	Temperature.						Rainfall.		Winds.		Remarks.
	Solar Maximum.	Maximum on Grass.	Mean Shade Maximum.	Mean Shade Minimum.	Range, Mean Monthly.	Max. and Min. Mean, combined.	Amount in inches.	Degree of Humidity.	General Direction.	Average Force.	
January ...	Not recorded.	Not recorded.	80·4	55·3	25·1	67·89	0·24	58·50	Not observed.	Not observed.	
February ...			82·1	58·1	24·0	70·07	3·22	56·66			
March ...			84·2	57·3	26·9	70·78	7·69	60·23			
April ...			77·5	58·2	19·3	67·81	6·88	67·03			
May			76·6	56·2	20·4	66·43	3·46	63·63			
June			75·8	52·4	23·4	64·10	0·22	64·15			
July			68·6	52·0	16·6	60·68	2·43	73·30			
August ...			75·9	51·8	24·1	63·91	1·12	64·70			
September ...			77·1	54·4	22·7	65·72	2·14	63·93			
October ...			74·7	56·2	18·5	65·44	3·64	66·20			
November ...			74·9	56·0	18·9	65·42	3·35	67·75			
December ...			76·6	54·0	22·6	65·32	1·85	62·25			
Year Average	—	—	77·0	55·2	21·8	66·13	Total 36·24	64·03	—	—	

TABLE V.—*continued.*

METEOROLOGICAL RETURN FOR THE YEAR 1919—*continued.*

KABETE FARM.

MONTH.	TEMPERATURE.						RAINFALL.			WINDS.		REMARKS.
	Solar Maximum.	Maximum on grass.	Mean Shade Maximum.	Mean Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity. V.P. Ins.	Degree of Humidity. Satn. = 100.	General Direction.	Average Force.	
									%			
January ...			77·0	52·0	...	64·5	0·17	·422	72			
February ...			78·0	55·0	...	66·5	4·86	·483	77			
March ...			78·0	55·0	...	66·5	4·09	·470	78			
April ...			74·0	56·0	...	65·0	7·92	·480	83			
May	Not recorded.	Not recorded.	72·0	54·0	..	63·0	6·02	·433	79	Not observed.	Not observed.	
June			70·0	50·0	...	60·0	1·67	·405	82			
July			66·0	50·0	...	58·0	3·55	·392	91			
August ...			72·0	48·0	...	60·0	1·58	·387	82			
September ...			74·0	52·0	...	63·0	2·89	·395	77			
October ...			72·0	54·0	...	63·0	4·03	·441	86			
November ...			73·0	52·0	...	62·5	3·81	·458	86			
December ...			75·0	49·0	...	62·0	1·14	·436	75			
Year Average	—	—	73·4	52·3	—	62·8	Total. 41·73	·433	80	—	—	

MOMBASA.

MONTH.	TEMPERATURE.						RAINFALL.			WINDS.		REMARKS.
	Solar Maximum.	Maximum on grass.	Mean Shade Maximum.	Mean Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity. V.P. Ins.	Degree of Humidity. Satn. = 100.	General Direction.	Average Force.	
									%			
January ...			85·0	74·0	...	79·5	0·28	·757	72			
February ...			85·0	74·0	...	79·5	0·02	·742	68			
March ...			86·0	76·0	...	81·0	6·22	·785	72			
April... ...			85·0	74·0	..	79·5	5·94	·849	80			
May	Not recorded.	Not recorded.	81·0	71·0	...	76·0	4·69	·765	79	Not observed.	Not observed.	
June			80·0	69·0	...	74·5	4·78	·697	75			
July			79·0	68·0	...	73·5	4·08	·690	79			
August ...			79·0	68·0	...	73·5	2·47	·713	79			
September ...			81·0	69·0	...	75·0	1·83	·722	75			
October ...			82·0	73·0	...	77·5	7·22	·793	80			
November ...			84·0	72·0	...	78·0	1·01	·802	76			
December ...			86·0	73·0	...	79·5	0·79	830	76			
Year Average	—	—	82·7	71·8	—	77·2	Total 39·33	·762	76	—	—	

TABLE V.—*continued.*

METEOROLOGICAL RETURN FOR THE YEAR 1919—*continued.*

KISUMU.

Month.	Temperature.						Rainfall.			Winds.		Remarks.
	Solar Maximum.	Maximum on grass.	Mean Shade Maximum.	Mean Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity. V.P. Ins.	Degree of Humidity. Satn. = 100.	General Direction.	Average Force.	
									%			
January ...	Not recorded.	Not recorded.	89·0	68·0	..	78·5	0·06	·501	53	Not observed.	Not observed.	
February ...			86·0	68·0	...	77·0	2·88	·582	66			
March ...			85·0	66·0	...	75·5	2·67	·605	67			
April... ...			83·0	66·0	...	74·5	7·58	·635	79			
May			81·0	64·0	...	72·5	6·00	·539	70			
June			81·0	58·0	...	69·5	4·67	·514	70			
July			78·0	62·0	...	70·0	2·61	·502	71			
August ...			81·0	62·0	..	71·5	2·08	·493	66			
September ...			83·0	62·0	...	72·5	3·55	·540	69			
October ...			84·0	63·0	...	73·5	4·13	·579	70			
November ...			82·0	64·0	...	73·0	4·30	·611	75			
December ...			84·0	63·0	...	73·5	6·17	·780	93			
Year Average	—	—	83·1	63·8	—	73·4	Total 46·70	·573	71	—	—	

FORT HALL.

Month.	Temperature.						Rainfall.			Winds.		Remarks
	Solar Maximum.	Maximum on grass.	Mean Shade Maximum.	Mean Shade Minimum.	Range.	Max. and Min. Mean combined.	Amount in inches.	Degree of Humidity. V.P. Ins.	Degree of Humidity. Satn. = 100.	General Direction.	Average Force.	
									%			
January ...	Not recorded.	Not recorded.	80·0	58·0	...	69·0	0·02	·516	75	Not observed.	Not observed.	
February ...			84·0	60·0	...	72·0	2·95	·543	71			
March ...			85·0	66·0	...	75·5	5·90	·518	60			
April... ...			86·0	60·0	...	73·0	6·83	·488	69			
May			81·0	50 0	...	65·5	1·74	·587	86			
June			81·0	50·0	...	65·5	1·32	·509	84			
July			84·0	48·0	...	66·0	2·48	·455	87			
August ...			79·0	46·0	...	62·5	0·95	·493	88			
September ...			84·0	51·0	...	67·5	4·29	536	90			
October ...			83·0	53·0	...	68·0	8·34	·478	78			
November ...			81·0	54·0	...	67·5	4·16	592	89			
December ...			84·0	54·0	.	69·0	0·22	·504	68			
Year Average	—	—	82·7	54·2	—	68·4	Total. 39·20	·518	79	—	—	

TABLE VI.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1919.

DISEASES.	EUROPEAN OFFICIALS.					NATIVE OFFICIALS.					GENERAL EUROPEAN POPULATION.					GENERAL NATIVE POPULATION.				
	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.
		Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.		
Infective Diseases:—																				
Beri-beri																7	93	5	100	41
Cerebro-spinal fever																3	79	48	82	1
Chicken-pox							1		1							10	186		196	6
Cholera																				
Dengue											1	1		2						
Diphtheria																				
Dysentery	1	19		20		2	138		140	2	1	12	1	13		25	1243	273	1268	13
Endocarditis—Infective																				
Enteric		8	3	8			2		2			19	3	19			24	3	24	
Erysipelas		1		1			1		1								1		1	
Gonorrhœa		8		8			13		13			1		1		7	295	5	302	15
Influenza	5	21		26	1	4	45		49	1	1	16		17		125	949	92	1074	30
Kala Azar																				
Leprosy (*a*) Nodular																7	11	2	18	6
(*b*) Anæsthetic																2	4		6	2
Malaria (*a*) Tertian	5	195		200	3	5	1739	1	1744	23	1	99		100	1	6	2347	17	2353	29
(*b*) Quartan		1		1												7	3		10	
(*c*) Æstivo-autumnal		75		75	1	7	420		427	6	1	71	3	72	2	14	1706	18	1720	18
(*d*) Chronic malaria							1		1			1		1			21	3	21	2
(*e*) Blackwater		8	6	8			8	2	8			9	2	9			2	2	2	
Measles		2		2													15		15	
Malta fever		2		2																
Plague							1		1			1	1	1			58	37	58	41
Pneumonia	1	9	2	10	1	1	11	2	12		1	12	2	13		13	846	256	859	
Rabies																				
Relapsing fever		5		5													22	3	22	1
Rheumatic fever		5		5		4	109		113	1		6		6		4	124		128	7
Septicæmia		1		1								1		1			17	4	17	
Trypanosomiasis (Sleeping sickness)																	1		1	1
Small-pox												2		2		115	278	84	393	18
Syphilis (*a*) Primary		2		2			10		10							3	132		135	17
(*b*) Secondary		1		1			6		6							7	145	1	152	7
(*c*) Inherited							1		1								17	2	17	5
Tetanus																	8	4	8	1
Tuberculosis	1			1			10	3	10		1	6	2	7		8	96	36	104	5
Whooping cough																2			2	
Yaws																3	130	7	133	12
Yellow fever																				
Mumps							2		2			1		1		2	91		93	4
Anthrax																2	27	4	29	4
Other Infective Diseases		20		20			96		96	1							430	6	430	4
Intoxications:—																				
Alcoholism		1		1			1	1	1			3	1	3			1		1	
Morphinism																				
Others																	1		1	
General Diseases:—																				
Anæmia		1		1			5		5			3		3		3	58	9	61	3
Anæmia—Pernicious																	1		1	
Diabetes																				
Exophthalmic goitre																	2		2	
Gout							1		1											
Leucocythæmia																				
Hodgkin's disease																				
Myxœdema																				
Purpura																				
Rickets																				
Scurvy							1		1								23	3	23	
Other General Diseases	2	21		23	1		21		21		3	26		29	2	9	80	6	89	3
Local Diseases:—																				
Diseases of the Nervous System:—																				
Sub-section 1.																				
Neuritis		2		2			2		2			3		3		1	9		10	
Meningitis																				
Myelitis																				
Hydrocephalus																				
Encephalitis																				
Abscess of brain																				
Congestion of brain																				
Other Diseases		2		2			2		2			4		4			8		8	
Sub-section 2.																				
Apoplexy		1		1													4	1	4	
Paralysis							5		5								11	3	11	5
Chorea																				
Epilepsy		7		7			2		2								10		10	
Neuralgia		3		3		2	85		87			6		6			62		62	
Hysteria												2		2						
Other Nervous Diseases	1	12		13		1	25		26	1		5		5			18		18	1
Sub-section 3.																				
Mental Diseases—																				
Idiocy																2	5	1	7	2
Mania		1		1							3			3	3	41	49	16	90	39
Melancholia											1			1		2	6	1	8	1
Dementia																7	20	4	27	18
Delusional insanity												1		1	1	4	21	2	25	8
Other Mental Diseases		6	1	6	1							4		4	1	5	14		19	6

TABLE VI.—RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1919—(*contd.*).

DISEASES.	EUROPEAN OFFICIALS.					NATIVE OFFICIALS.					GENERAL EUROPEAN POPULATION.					GENERAL NATIVE POPULATION.				
	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.
		Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.		
LOCAL DISEASES—*continued*:—																				
Diseases of the Eye—																				
Conjunctivitis	...	1	...	1	...	1	68	...	69	...	...	2	...	2	...	...	160	...	160	3
Keratitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...
Ulceration of cornea	...	...	...	...	...	...	7	...	7	...	...	...	...	...	...	...	14	...	14	1
Iritis	...	1	...	1	...	...	1	...	1	...	...	...	...	...	...	...	4	...	4	...
Optic neuritis	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Cataract	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	9	...	10	...
Other Eye Diseases	...	...	...	...	...	...	37	...	37	...	...	...	...	...	...	2	16	...	18	1
Diseases of the Ear:—																				
Inflammation	...	2	...	2	...	...	9	...	9	...	...	3	...	3	..	...	20	...	20	...
Other Diseases	...	2	...	2	...	...	1	...	1	...	...	1	...	1	...	...	9	1	9	..
Diseases of the Nose	...	12	...	12	...	...	131	...	131	...	...	4	...	4	...	...	34	...	34	...
Diseases of the Circulatory System:—																				
Pericarditis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Endocarditis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Valvular, Mitral	...	...	...	...	...	...	1	...	1	...	...	6	2	6	...	...	24	3	24	1
,, Aortic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	4	...
,, Tricuspid	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
,, Pulmonary	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Arterial sclerosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Aneurism	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	2	...	2	...
Other Diseases	...	4	2	4	...	...	7	...	7	...	...	3	1	3	...	...	12	2	12	...
Diseases of the Respiratory System:—																				
Laryngitis	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Bronchitis	1	23	...	24	...	9	383	...	392	1	...	4	...	4	...	8	829	5	837	24
Broncho-pneumonia	...	...	...	...	...	1	12	4	13	1	1	...	...	1	...	1	50	9	51	2
Abscess of lung	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2	...
Gangrene of lung	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Emphysema	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Pleurisy	...	4	...	4	...	...	11	...	11	1	...	3	...	3	...	...	49	2	49	2
Empyema	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	11	7	11	1
Other Diseases	...	9	...	9	...	3	74	...	77	...	...	8	1	8	...	...	54	1	54	1
Diseases of the Digestive System:—																				
Stomatitis	...	1	...	1	...	...	1	...	1	...	...	1	...	1	...	1	9	...	10	...
Caries of teeth	...	2	..	2	...	...	32	...	32	...	...	1	...	1	...	...	7	...	7	1
Glossitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sore throat	...	8	...	8	...	...	36	...	36	2	...	2	...	2	...	...	24	...	24	...
Inflammation of tonsils	...	22	...	22	1	...	18	...	18	...	...	9	...	9	...	...	26	1	26	...
Gastritis	1	13	...	14	1	...	22	...	22	1	...	15	...	15	...	...	13	...	13	...
Ulceration of stomach	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...
Hæmatemesis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Dilatation of stomach	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stricture of stomach	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dyspepsia	...	8	...	8	...	...	47	...	47	...	...	5	...	5	...	...	12	...	12	...
Enteritis	...	1	...	1	...	...	...	...	...	...	...	4	...	4	...	...	32	6	32	...
Appendicitis	...	2	...	2	...	...	1	...	1	...	...	6	...	6	1	...	...	...	...	...
Colitis	1	9	...	10	...	...	3	...	3	...	...	3	...	3	1	...	1	...	1	...
Ulceration of intestines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...
Sprue	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hernia	...	1	...	1	...	...	3	...	3	...	...	4	...	4	...	2	25	...	27	1
Diarrhœa	1	35	...	36	...	1	115	...	116	...	...	12	...	12	...	9	709	51	718	8
Constipation	...	...	...	...	...	...	13	...	13	1	...	3	...	3	...	...	85	1	85	1
Colic	...	7	...	7	...	...	120	...	120	...	...	9	...	9	...	3	151	...	154	1
Hæmorrhoids	...	3	...	3	...	...	27	...	27	...	...	2	...	2	...	...	6	...	6	...
Pancreatitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hepatitis (Acute)	2	4	...	6	1	...	3	...	3	...	1	6	...	7	...	...	15	...	15	2
Abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	3	8	...
Cirrhosis	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	8	2	8	...
Jaundice	...	1	...	1	...	...	2	...	2	...	...	1	...	1	...	...	4	...	4	...
Peritonitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	3	...
Ascites	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	14	1	16	1
Other Diseases	...	17	...	17	3	...	24	...	24	...	...	10	...	10	...	2	47	6	49	2
Diseases of the Lymphatic System:—																				
Splenitis	...	...	...	...	...	...	15	...	15	...	...	1	...	1	...	1	59	1	60	...
Inflammation of lymphatic gland	...	1	...	1	...	...	19	...	19	...	...	1	...	1	...	1	87	1	88	2
Suppuration of lymphatic gland	...	1	...	1	...	...	5	...	5	...	...	...	...	...	...	1	35	...	36	2
Lymphangitis	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	2	...	3	..
Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Other Diseases	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	4	...	4	1
Diseases of the Urinary System:—																				
Acute nephritis	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	3	2	4	...
Bright's disease	...	...	...	...	...	...	2	1	2	...	...	2	1	2	...	...	10	4	10	...
Pyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...
Calculus	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...
Renal colic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Cystitis	...	2	..	2	...	...	9	...	9	...	1	2	...	3	...	...	3	1	3	...
Vesical calculus	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Suppression	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmaturia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	...	5	...
Chyluria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases	...	2	1	2	...	...	1	...	1	...	...	...	...	...	...	1	5	...	6	...

Table VI.—Return of Diseases and Deaths (In-Patients) for the Year 1919—(*contd.*).

Diseases.	European Officials.					Native Officials.					General European Population.					General Native Population.				
	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1917.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital at end of 1919.	Remaining in Hospital at end of 1918.	Yearly Total.		Total cases treated.	Remaining in Hospital t end of 1919.
		Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.				Admissions.	Deaths.		
Local Diseases—*continued*—																				
Diseases of the Generative System :—																				
Male Organs :—																				
Urethritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Gleet	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stricture	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	5	...	5	...
Prostatitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Soft chancre	...	6	...	6	2	...	3	...	3	...	...	1	...	1	...	2	66	...	68	9
Condyloma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	6	...
Inflammation of scrotum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrocele	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	12	...	12	...
Orchitis	...	4	...	4	...	...	8	...	8	...	...	...	...	...	...	...	54	...	54	3
Epididymitis	...	1	...	1	...	...	2	...	2	...	...	...	...	...	...	...	5	...	5	1
Abscess of testicle	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases	...	...	...	...	...	...	2	...	2	...	...	1	...	1	...	4	42	...	46	1
Female Organs :—																				
Ovaritis	...	...	...	...	...	...	...	...	...	...	...	5	...	5	...	...	...	...	...	...
Ovarian cyst	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Endometritis	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...	...	...	...	...	...
Displacement of uterus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Vaginitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Amenorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysmenorrhœa	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Menorrhagia	...	3	...	3	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...
Leucorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1
Abortion	...	1	...	1	...	...	...	...	...	...	...	2	...	2	...	...	4	...	4	...
Delayed labour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	2	...
Post-partem	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Retained placenta	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	2	...	2	...
Premature birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal septicæmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...
Mastitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Abscess of breast	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...	...	1	...	1	...
Other Diseases	...	...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	4	...	4	...
Diseases of the Organs of Locomotion :—																				
Osteitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	1	10	1
Arthritis	...	2	...	2	...	...	2	...	2	1	...	...	...	...	...	2	41	1	43	7
Spondylitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bursitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Other Diseases	1	14	...	15	...	2	172	...	174	...	...	7	...	7	1	3	221	...	224	4
Diseases of the Connective Tissue :—																				
Cellulitis	1	2	...	3	...	...	37	...	37	...	...	5	...	5	1	4	236	3	240	10
Abscess	...	4	...	4	1	...	48	...	48	2	...	8	...	8	1	6	222	3	228	11
Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Other Diseases	...	4	...	4	...	...	10	...	10	...	...	1	...	1	...	2	174	1	176	9
Diseases of the Skin :—																				
Urticaria	...	...	...	...	...	...	12	...	12	...	...	...	...	...	...	...	9	...	9	...
Eczema	...	2	...	2	...	...	6	...	6	...	...	...	...	...	...	1	18	...	19	1
Boil	...	4	...	4	...	...	20	...	20	1	...	2	...	2	...	3	43	...	46	...
Carbuncle	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	...	2	...
Herpes	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	4	...	4	...
Psoriasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Oriental sore	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	9	...	11	2
Tinea	...	...	...	...	...	...	3	...	3	...	...	...	...	...	...	...	1	...	1	...
Scabies	...	...	...	...	...	...	36	...	36	...	...	4	...	4	...	1	67	...	68	1
Acne	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	5	...
Prickly heat	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Other Diseases	1	5	...	6	...	...	22	...	22	...	...	5	...	5	...	7	230	...	237	11
Injuries—General	...	3	...	3	1	...	2	...	2	...	...	1	...	1	...	7	90	14	97	9
Local	2	46	...	48	3	2	269	...	271	1	1	20	...	21	2	58	1546	38	1604	84
Gun-shot Wounds	...	2	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Surgical Operations*	...	15	...	15	...	...	1	...	1	...	1	39	...	40	8	2	118	4	120	8
Tumours	...	...	...	...	...	...	2	...	2	...	...	1	...	1	...	1	20	2	21	3
Malformations	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poisons	...	1	...	1	...	...	1	...	1	...	...	1	...	1	...	...	17	...	17	...
Parasites—Animal	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	5	...
Protozoa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trematoda (Flukes)	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	5	...	5	...
Cestoda—																				
Tænia solium	...	3	...	3	...	...	1	...	1	...	...	1	...	1	...	...	38	1	38	...
Tænia saginata	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37	5	37	...
Nematoda—																				
Ascaris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33	1	33	...
Tricocephalus dispar	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Trichina	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dracunculus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Filariasis	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	1	...
Strongylus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ankylostomiasis	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	1	181	48	182	2
Oxyuris	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Insecta—																				
Myiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	3	...
Other Diseases	...	1	...	1	...	...	11	...	11	...	...	...	...	...	...	...	57	1	57	...
Total	28	748	15	776	22	45	4703	15	4748	47	20	525	20	545	17	588	16073	1203	16661	607

* Recorded under respective diseases.

TABLE VII.

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1919.

DISEASES.	EUROPEAN OFFICIALS.		NATIVE OFFICIALS.		GENERAL EUROPEAN POPULATION.		GENERAL NATIVE POPULATION.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Infective Diseases:—								
Beri-beri	...	...	...	...	...	...	2	...
Cerebro-spinal fever	...	...	...	...	...	...	8	...
Chicken-pox	...	...	...	...	...	1	23	1
Cholera	...	...	...	...	...	...	...	...
Dengue	...	...	...	...	...	...	...	...
Diphtheria	...	...	...	...	...	...	...	...
Dysentery	3	1	14	...	20	9	1,047	120
Endocarditis—Infective	...	...	...	...	...	...	...	...
Enteric fever	...	...	...	...	...	1	...	...
Erysipelas	...	...	...	...	1	1	2	...
Gonorrhœa	17	...	21	...	10	1	902	23
Influenza	3	...	20	...	75	33	1,009	88
Kala Azar	...	...	...	...	...	...	...	...
Leprosy (*a*) Nodular	...	...	...	...	...	...	1	2
(*b*) Anæsthetic	...	...	...	...	1	...	...	...
Malaria (*a*) Tertian	116	14	492	...	307	147	6,468	595
(*b*) Quartan	...	...	...	...	...	...	1	...
(*c*) Æstivo-autumnal	11	...	133	...	8	7	4,285	940
(*d*) Chronic malaria	...	...	2	...	12	8	407	49
(*e*) Blackwater	1	...	...	...	10	1	1	...
Measles	...	...	...	...	...	1	2	1
Malta fever	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	1	...
Pneumonia	...	...	2	...	...	...	118	12
Rabies	...	...	...	...	...	...	...	...
Relapsing fever	...	...	...	...	...	...	13	39
Rheumatic fever	7	1	54	...	8	4	1,030	135
Septicæmia	...	...	...	...	1	...	...	...
Trypanosomiasis (Sleeping Sickness)	...	...	...	...	...	...	...	...
Small-pox	...	...	...	...	4	2	23	...
Syphilis (*a*) Primary	2	...	2	...	2	2	314	25
(*b*) Secondary	...	...	6	...	2	...	341	96
(*c*) Inherited	...	...	...	...	...	...	15	14
Tetanus	...	...	...	...	...	...	...	1
Tuberculosis	1	...	1	...	...	...	77	9
Whooping cough	...	...	...	...	...	...	9	4
Yaws	...	...	1	...	...	...	286	223
Yellow fever	...	...	...	...	...	...	...	...
Mumps	...	...	...	...	...	...	36	1
Anthrax	...	...	...	...	...	...	14	1
Other Infective Diseases	...	...	6	...	...	...	257	22
Intoxications:—								
Alcoholism	1	...	1	...	2	1	...	...
Morphinism	...	...	...	...	...	...	...	...
Others	...	...	...	...	...	...	...	...
General Diseases:—								
Anæmia	15	6	60	...	26	17	291	90
Anæmia—Pernicious	...	...	...	...	...	...	...	...
Diabetes	...	...	...	...	...	...	1	...
Exophthalmic Goitre	...	...	...	...	...	...	...	...
Gout	...	...	...	...	...	...	7	3
Leucocythæmia	...	...	...	...	...	...	...	...
Hodgkin's Disease	...	...	...	...	...	...	...	...
Myxœdema	...	...	...	...	...	...	...	...
Purpura	...	...	...	...	...	...	...	...
Rickets	...	...	...	...	...	...	...	...
Scurvy	...	...	1	...	...	...	6	1
Other General Diseases	25	3	13	..	36	22	146	12
Local Diseases:—								
Diseases of the Nervous System	32	6	190	...	28	32	2,915	150
Mental Diseases	1	...	...	...	1	1	5	...
Diseases of the Eye	11	2	81	...	21	8	2,100	583
,, ,, Ear	19	1	39	...	16	10	1,172	229
,, ,, Nose	14	...	81	...	10	6	345	37
,, ,, Circulatory System	5	...	2	...	7	4	45	2
,, ,, Respiratory System	82	1	379	...	51	21	12,482	1,153
,, ,, Digestive System	191	8	727	...	159	99	13,957	1,940
,, ,, Lymphatic System	8	...	31	...	5	3	899	107
,, ,, Urinary System	4	...	3	...	10	3	78	12
,, ,, Generative System	27	...	9	...	27	48	497	138
,, ,, Organs of Locomotion	26	1	118	...	13	4	2,543	219
,, ,, Connective Tissue	29	...	48	...	24	2	2,262	276
,, ,, Skin	43	2	177	...	30	11	5,003	914
Injuries:—								
General	1	...	1	...	1	...	167	68
Local	65	1	243	...	47	12	20,076	3,149
Gun-shot wounds	...	...	...	...	...	...	...	...
Surgical Operations*	...	...	...	...	...	...	...	(67)
Tumours	1	...	...	...	...	...	20	15
Malformations	...	...	...	...	...	...	1	1
Poisons	...	...	...	...	3	1	16	5
Parasites—Animal	2	...	5	...	4	...	1,451	901
TOTAL	763	47	2,963	...	982	523	83,168	12,406

* Recorded under respective Diseases.

TABLE VIII.

EUROPEANS.

RETURN OF INFECTIVE DISEASES TREATED AT THE VARIOUS HOSPITALS AND DISPENSARIES IN THE PROTECTORATE DURING 1919.

DISEASES.		Mombasa.	Malindi.	Lamu.	Voi.	Kismayu.	Gerka Hurré.	Serenli.	Moyale.	Nairobi.	Kyambu.	Machakos.	Makindu.	Fort Hall.	Nyeri.	Kitui.	Embu.	Meru.	Kisumu.	Kericho.	Mumias.	Nandi.	Kisii.	Naivasha.	Nakuru.	Eldoret.	Eldama Ravine.	Kachelliba	Kabarnet.	Moroto.	Total.
Chicken-pox	Cases	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Dysentery	Cases	6	...	...	...	...	1	12	...	15	...	...	1	...	12	...	...	...	5	3	1	...	...	3	10	14	1	...	...	...	64
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Enteric Fever	Cases	4	...	1	...	...	...	...	...	17	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	1	...	...	1	...	28
	Deaths	1	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Influenza	Cases	7	...	...	...	...	...	...	...	8	...	...	...	3	11	...	...	1	2	6	...	...	...	4	6	100	...	...	...	...	148
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Leprosy	Cases	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Malaria	Cases	158	...	3	9	10	12	8	1	223	...	3	16	1	25	5	...	...	78	20	2	1	...	8	79	394	9	4	2	1	1,072
	Deaths	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Blackwater Fever	Cases	...	...	...	...	...	...	...	...	13	...	...	3	...	...	...	...	...	5	...	2	...	...	...	3	3	...	...	...	...	29
	Deaths	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	8
Measles	Cases	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	3
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Malta Fever	Cases	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Plague	Cases	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	Deaths	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Pneumonia	Cases	1	...	...	...	...	...	...	...	14	1	...	...	...	...	...	...	...	3	...	...	...	...	2	...	...	...	...	...	...	1
	Deaths	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	4
Small-pox	Cases	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	8
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Tuberculosis	Cases	2	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	7
	Deaths	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Mumps	Cases	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—

N.B.—This Table only gives the numbers *actually* treated at Government Institutions.

TABLE VIII.

NATIVES (INCLUDING ASIATICS).

RETURN OF INFECTIVE DISEASES TREATED AT THE VARIOUS HOSPITALS AND DISPENSARIES IN THE PROTECTORATE DURING 1919.

DISEASES.		Mombasa.	Malindi.	Voi.	Lamu.	Kisumayu.	Gerba Hurre	Sereuli.	Moyale.	Nairobi.	Kyambu.	Machakos.	Makindu.	Fort Hall.	Nyeri.	Kitui.	Embu.	Meru.	Kisumu.	Kericho.	Munias.	Nandi.	Kisii.	Naivasha.	Nakuru.	Elderet.	Eldama Ravine.	Kachelibu.	Kabarnet.	Moroto.	Total.
Beri-beri	Cases	...	...	...	...	...	...	...	...	83	...	...	7	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	3	95
	Deaths	...	...	...	...	...	...	...	...	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	5
Cerebro-spinal meningitis	Cases	15	...	...	..	...	...	...	...	56	...	...	...	1	...	...	...	...	2	...	...	...	...	...	...	...	13	...	...	...	87
	Deaths	11	...	...	...	...	...	...	...	28	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	8	...	...	...	48
Chicken-pox	Cases	11	...	...	...	...	...	...	...	69	7	...	1	...	...	...	...	...	46	12	13	...	2	3	36	...	3	...	7	...	210
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Dysentery	Cases	246	6	52	18	12	34	30	1	502	18	70	203	21	27	31	16	21	324	29	93	11	...	31	418	48	44	94	11	151	2,562
	Deaths	28	1	...	...	1	...	...	...	35	...	2	43	1	4	...	1	1	70	...	3	...	...	3	24	5	3	5	1	42	273
Enteric fever	Cases	3	...	...	...	...	...	...	...	18	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	1	...	2	26
	Deaths	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3
Influenza	Cases	155	...	...	...	2	89	61	65	236	...	...	4	136	172	...	34	267	76	166	...	...	...	41	272	63	247	17	2	6	2,111
	Deaths	12	...	...	...	...	1	5	1	13	...	..	...	2	5	1	...	42	3	1	...	...	...	1	...	3	1	1	...	...	92
Leprosy	Cases	6	...	...	...	1	...	...	...	2	...	...	...	...	4	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	18
	Deaths	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2
Malaria	Cases	1,878	783	678	1,368	1,015	468	368	126	3,386	163	192	672	241	741	405	435	458	2,306	478	222	404	9	203	881	332	441	316	377	273	19,609
	Deaths	4	1	...	2	...	...	...	2	19	1	...	1	...	1	...	2	...	1	...	...	...	...	3	...	...	1	1	...	...	39
Blackwater fever	Cases	4	...	...	1	...	...	...	...	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	11
	Deaths	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	4
Measles	Cases	3	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	...	...	...	...	1	18
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Plague	Cases	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	27	...	30	...	...	...	1	...	...	...	...	...	60
	Deaths	1	...	...	...	...	...	...	...	1	...	...	...	...	...	..	...	...	17	...	18	...	...	...	...	...	...	...	...	...	37
Pneumonia	Cases	98	...	14	2	7	5	14	7	452	23	33	7	9	...	1	4	...	63	20	10	...	2	14	134	21	33	7	...	9	989
	Deaths	40	...	...	1	1	...	2	...	137	2	5	1	...	...	...	...	...	15	1	3	...	...	1	21	9	11	3	...	5	258
Small-pox	Cases	97	...	14	...	24	...	...	2	79	1	...	...	4	1	...	...	...	9	...	1	...	...	4	53	11	1	...	...	...	301
	Deaths	21	...	6	...	5	...	...	...	32	...	...	...	...	1	...	...	...	3	...	...	..	...	1	14	...	1	...	...	...	84
Tuberculosis	Cases	35	...	5	9	10	10	10	2	73	...	...	2	9	3	...	...	1	4	...	...	...	...	4	6	...	1	...	...	9	193
	Deaths	20	...	...	...	4	...	1	1	5	...	...	1	..	2	...	...	...	3	...	...	...	...	...	1	...	1	...	...	...	39
Yaws	Cases	49	32	...	2	...	...	...	9	12	4	...	...	306	94	1	6	48	41	8	1	...	10	1	15	...	1	...	...	...	640
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
Mumps	Cases	2	...	...	...	...	...	...	...	97	1	...	1	3	...	...	...	2	5	...	...	...	...	2	15	...	...	...	2	...	130
	Deaths	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	—
Anthrax	Cases	...	...	...	...	...	...	...	...	28	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	42
	Deaths	...	...	...	...	..	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4

N.B.—This Table only gives the numbers *actually* treated at Government Institutions.

APPENDIX I.

OBSERVATION ON A CASE OF ONYALAI IN THE EAST AFRICA PROTECTORATE.

By T. B. Welch, M.B. (Lond.), Medical Officer i/c. Kenya Province, E.A.P.

Since Dr. Yale Massey in 1904 and in 1907 published articles in the "Journal of Tropical Medicine and Hygiene," on "Onyalai, a Disease of Central Africa," a number of cases have been recorded having features in common, if not identical, with those that he described. Such cases have been met with in Portuguese West Africa, in the Congo Basin, and in the Tanganyika Territory. So far as I am able to ascertain the disease has not hitherto been reported as having occurred in the East Africa Protectorate. Some particulars, therefore, of a case recently under my care and bearing a close resemblance to the disease as described by Dr. Yale Massey, may be of interest.

The patient, a native, aged about 25, came to the Native Hospital, Fort Hall, complaining of bleeding from the mouth.

He gave the following history :—Five days before coming to Hospital he first noticed that his mouth was sore and was bleeding. The hæmorrhage had become neither worse not better since shortly after the outset. In all other respects he felt quite well, and had reported sick to his employers, who ordered him to hospital, solely on account of the inconvenience of the condition. On being questioned, he stated that on the day preceding, and on the day of his arrival, he had noticed that his urine was of a very dark colour, but that micturition was painless and that there was no pain in the abdomen or loins.

The man who is of good physique, reached the hospital in quite satisfactory general condition, although he must have lost a considerable volume of blood and had walked a distance of over thirty-five miles in about a day and a half. When seen, he was emitting saliva in large quantities and mixed with blood at very short intervals ; the total amount was large, since it was found that he emitted nearly half-a-pint in twelve hours, and this process, according to his statement, had now lasted five days, and was to last yet another ten before any diminution was noticed.

The following lesions were found, viz. :—Bullæ or ulcers or both in the mouth, nose and skin. There was no evidence of any lesions of the digestive apparatus, with two doubtful exceptions to be referred to later, nor of the respiratory apparatus other than these. The thoracic and abdominal viscera appeared normal except the spleen, which was slightly tender, readily palpable, and extended one and a half inches below the costal margin on expiration.

The organs of special sense appeared to be normal except that a slight yellowness of the sclera, such as is often seen among natives apparently in good health, was noted.

Slight pallor of the face and of the buccal and palpebral surfaces were observed ; this vanished during convalescence and appear to have been secondary to the loss of blood.

The condition of the mouth was as follows :—The teeth were good ; the gums rather pale, but otherwise quite natural ; there was no pyorrhea. The tongue was flabby and tremulous, its dorsum was covered with black fur ; also the following lesions were present : A small very superficial ulcer about one quarter of an inch in diameter was situated one inch from the tip of the tongue, blood was oozing freely from the surface ; between the ulcer and the tip there was a bulla not more than one-eighth of an inch in diameter and of a blue purple colour. On the right margin of the tongue and crossing the level of the attachment of the Frenum Lingua there was a narrow ulcer about one inch in height and a little deeper than that on the dorsum of the tongue, and from the surface of this also blood was oozing.

On the roof of the mouth, lying mainly to the left of the middle line and crossing the junction of the soft and hard palates there was a mass of clot of about three-eighths an inch in diameter. From the edges of this clot there was a flow of blood and of a brown fluid, presumably altered blood. The clot was readily detachable and markedly friable; when it had been separated, a superficial ulcer which bled freely and which resembled that on the dorsum of the tongue was seen. The clot re-formed in about a day.

The inner surface of the right cheek showed a mass of clot resembling in size and in other respects that upon the palate. None of these lesions showed any surrounding zone of hyperæmia.

In the anterior nazes there was a bulla, resembling that on the tongue, situated on the right side of the septum.

The skin showed during the course of the disease about eighteen bullæ; they were all circular shape and of under one-quarter of an inch in diameter. If the covering skin was removed, or if they broke down, they bled freely. Some, when opened, showed trabeculation much more markedly than did the lesions in the mouth. A few of the bullæ were umbilicated. Most of these bullæ were on the chest and abdomen; a few occurred on the thighs and arms in which situations the patient also had scabies; but the majority were well away from the scabies infected areas. There were no bullæ on the face, hands, feet or posterior aspect of the trunk. There was no pitting on recovery.

The urine was at first mixed uniformly with much blood and this condition lasted from the fifth to the ninth day of the disease; thereafter the blood diminished in amount until on the thirteenth day it could not be recognized microscopically, and after the fifteenth day I failed to find any evidence of hæmaturia by microscope. Casts were repeatedly sought for, without success, though the uniform mixture of blood urine suggests renal hæmorrhage. The daily output of urine gradually fell and did not rise when saline diuretics were given but did so very markedly when the patient was allowed to drink large quantities of fresh lime squash.

The fæces were of a black-brown colour and this was probably due to swallowed blood. On only two occasions did I find cause to suspect any lesion of the intestinal tract, and these were: the first on the ninth day of his illness, the second when convalescence was far advanced, and the patient was at this time under treatment to secure the expulsion of a tapeworm (Tænia Saginata); on each occasion he passed one stool containing very little fæcal matter but much blood-tinged mucus. Unfortunately I saw both these stools too late for microscopic examination to be of any value. During his stay in hospital he required treatment for tapeworm and for round-worms; only two of the latter were found.

Fresh lesions of the mouth and skin appeared up to about the eighteenth day of the disease, concurrently with repair of older lesions. Throughout the patient said that he felt very well and his general condition was good, His temperature was usually subnormal, its maximum, and that on admission, 99°

Little was done with regard to pathological investigation. Examination of blood films showed no parasites; the following was the result of the only differential leucocyte count done, viz.:—

Polymorphonuclear	67 per cent.
Large mononuclear	4 „ „
Small „	23 „ „
Eosinophil cella	6 „ „
Basophil cella	—

No abnormal white or red cells were found. No total leucocyte count was done.

I am entirely doubtful whether treatment in any way influenced the course of the disease. Calcium chloride was given in moderate doses for two days and thereafter an ordinary tonic mixture (Ferri et Quin cit, etc.). The motions were kept soft by means of Liq. Paraffin, and he was kept on a milk diet, both with a view to reducing the efforts of the intestinal tract to a minimum and so to minimizing the strain upon any ulcerated surface that might be formed if the same process occurred, which it probably did not, throughout the alimentary apparatus. The use of diuretics and antheluintics in this case has been indicated.

The patient left hospital in excellent health thirty-four days after the outset of his illness.

This disease appears to be unknown to the natives of Kenya Province and to those of the East Africa Protectorate in general so far as I am able to ascertain. The patient, a particularly intelligent member of the Wa-Meru tribe who inhabit the cool foothills to the North-East of Mount Kenya, was very definite in stating that he had never heard of any such condition among his people; no other result has followed on my inquiries of Kikuyus, Swahilis or Kavirondos, *i.e.*, of representatives of tribes hailing from parts of the country differing greatly from one another not only in position but in climate and in conditions of life. It seems to me suggestive that in this respect my experience differs from that of observers of apparently the same or of apparently allied conditions who have been able to ascertain the name by which the natives knew them, and in some instances to state that the diseases were greatly feared.

The patient had been exposed to the possibility of infection outside of this Protectorate, if, as Dr. Wellman has held, this disease is an acute specific infection. He had served for three years of the late war in our Intelligence Service, both in German and in Portuguese territory, and had been in the country of Wa-Nyamwezi, among whom an allied condition *Kavindo* has been described by Mense, while Feldman also in East Africa has found a similar disease known as *Ejjuo*. If, however, the disease is an infection foreign to this Protectorate, then it must be one which may long remain in abeyance, for the patient had returned to this country some nine months before he fell ill.

During the three months preceding the outset of his illness the man had worked in the hot and unhealthy country traversed by the upper waters of the Tana River. This is a sparsely inhabited country, and I have had no opportunity to find out whether symptoms such as the patient presented are known among the scanty population.

It is to be regretted that this particular case throws no light upon the etiology of this obscure disease.

I have to thank the Principal Medical Officer of this Protectorate for his courteous permission to put forward these observations on an unusual and interesting condition.

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