Annual medical and health report / Nigeria.

COLONY AND PROTECTORATE OF NIGERIA

REPORT

ON THE

Medical and Health Services

FOR THE YEAR

1933

Price : Eight Shillings and Sixpence net.

LAGOS :
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WEST AFRICA
FRENCH
LAKE CHAD
SOKOTO
KANO
BORNU
NORTHERN PROVINCES
NIGERIA
PLATEAU
BAUCHI
DAHOMEY
BENIN
IJEBU
COLONY
OGOJA
CAMEROONS UNDER BRITISH MANDATE
BIGHT OF BENIN
BIGHT OF BIAFRA
OUTLINE MAP
OF
NIGERIA
SHEWING
MEDICAL FACILITIES
1933
REFERENCE

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Report on the Medical and Health Services for the Year 1933.

I.—ADMINISTRATION.

A.—ESTABLISHMENT.

(*a*) European Staff.

Medical :

Director of Medical and Sanitary Service.
1 Assistant Director of Medical and Health Service (Establishment—2).
1 Assistant Director of Medical Service (Establishment—4).
2 Specialist Medical Officers.
11 Senior Medical Officers.
1 Alienist Medical Officer (no provision).
1 Superintendent Medical Schools.
81 Medical Officers (Establishment—88).
4 Lady Medical Officers.
2 Dentists.
2 Pharmacists.

Clerical :

1 Assistant Accountant.
1 Office Assistant.
2 Assistant Radiographers and Storekeepers.
2 Chief Dispenser Storekeepers.

Nursing :

1 Matron (Establishment—2).
9 Senior Nursing Sisters.
51 Nursing Sisters.

Tsetse Investigation (*Temporary*) :

1 Deputy Director.
1 Senior Sleeping Sickness Medical Officer.
1 Entomologist.
1 Veterinary Pathologist.
1 Technical Assistant.

Laboratory :

1 Deputy Director of Laboratory Service (no provision).
1 Senior Pathologist (no provision).
8 Pathologists.
2 Biochemists (no provision).
1 Immunologist (no provision).
1 Entomologist (no provision).
1 Senior Technical Assistant.
4 Technical Assistants.

Sanitation :

1 Deputy Director of Health Service.
1 Assistant Director of Health Service.
5 Senior Health Officers.
10 Medical Officers of Health (Establishment—11).
1 Chief Sanitary Superintendent.
2 Sanitary Superintendents, Grade I.
30 Sanitary Superintendents, Grade II (Establishment—31)

(*b*) AFRICAN STAFF.

7 Medical Officers.
3 Junior Medical Officers.
1 Assistant Accountant.
1 Chief Clerk (no provision).
4 Assistant Chief Clerks (Establishment—5).
13 First-class Clerks (1 seconded to Tsetse) Establishment—17.
39 Second-class Clerks (1 seconded to Tsetse) Establishment—54.
1 Chief Dispenser (Establishment—2).
7 Senior Dispensers.
20 First-class Dispensers.
89 Second-class Dispensers (Establishment—90) 1 seconded to Tsetse.
20 Dispensers-in-training (Establishment—30).
27 Medical Students.
1 Chief Storekeeper.
2 Assistant Chief Storekeepers.
3 First-class Storekeepers.
5 Second-class Storekeepers.
9 Senior Nurses (Establishment—11).
32 Charge Nurses.
74 First-class Nurses.
239 Second-class Nurses (5 seconded to Tsetse).
140 Nurses-in-training.
1 First-class Midwife.
6 Second-class Midwives (Establishment—11).
7 Pupil Midwives (Establishment—15).
1 Charge Attendant, Lunatic Asylum.
25 Attendants, Lunatic Asylum.
3 Senior Wardens.
10 Wardens.
2 Assistant Wardens.
10 Attendants, Leper Asylum.

LABORATORY :

1 Senior Laboratory Attendant (no provision).
3 First-class Laboratory Attendants (Establishment—4) 1 seconded to Tsetse.
6 Second-class Laboratory Attendants (Establishment—7) 1 seconded to Tsetse.
5 Third-class Laboratory Attendants (Establishment—9).
6 Laboratory Attendants-in-training.

TSETSE INVESTIGATION :

1 First-class Clerk.
1 Second-class Clerk.
1 First-class Laboratory Attendant.
1 Second-class Laboratory Attendant.
1 Second-class Dispenser.
2 First-class Nurses.
5 Second-class Nurses.

SANITATION :

Chief Sanitary Inspector (approved establishment 2—no provision).
Senior Sanitary Inspector (approved establishment 5—no provision).
8 First-class Sanitary Inspectors (Establishment—10).
38 Second-class Sanitary Inspectors (Establishment—46).
33 Third-class Sanitary Inspectors.
18 Sanitary Inspectors-in-training.
40 Sub-Inspectors of Sanitation.
64 Vaccinators.
1 Registrar of Vital Statistics.
2 Deputy Registrar of Vital Statistics.

B.—Legislation.

LIST OF ORDINANCES, REGULATIONS, ETC., AFFECTING PUBLIC HEALTH ENACTED DURING THE YEAR 1933.

Ordinances.

Serial No.	Date.	Short Title and application.	Provisions.
15	23.3.1933	An Ordinance to regulate Schools of Anatomy.	Authorising the Director of Medical and Sanitary Service to grant a licence to practise Anatomy in any School of Anatomy.
16	23.3.1933	An Ordinance to amend the Medical Practitioners and Dentists Ordinance.	Amending section 14 of the Medical Practitioners and Dentists Ordinance by authorising the Medical Registrar to issue to any persons possessing Medical qualifications temporary licence to practise Medical and Surgery without fee or reward in the Cameroons under British Mandate.
52	30.11.1933	An Ordinance to amend the Medical Practitioners and Dentists Ordinance.	Amending section 13 of the Medical Practitioners and Dentists Ordinance by conferring upon the Supreme Court the power formerly vested upon the full Court.
54	30.11.1933	Lunacy Amendment Ordinance.	Amending section 17 and sub-section (1) of section 20 of the Lunacy Ordinance.

Orders-in-Council.

21	15.5.1933	The Public Health Ordinance.	Applying to Kafanchan Rules No. 2 of 1917 and 12 of 1918 made under the Provisions of the Public Health Ordinance.
26	8.6.1933	The Births, Deaths and Burials Ordinance.	Amending Order-in-Council No. 23 of 1929 by the deletion under the Head "C.—Northern Provinces," subhead "1.—Kabba Province," of the words "Agbaja District" and by substituting therefor the words "Igbirra Division."
35	11.9.1933	The Public Health Ordinance.	Applying to Afikpo in the Ogoja Province the provisions of sections 7–13 and 19–21 of the Public Health Ordinance.
36	11.9.1933	The Births, Deaths and Burials Ordinance.	Amending Order-in-Council No. 23 of 1929 by appointing an area for European Cemetery, Ijebu Ode.
39	2.10.1933	The Births, Deaths and Burials Ordinance.	Amending Order-in-Council No. 12 of 1923 (*a*) in paragraph (*a*) by the substitution for the name "Munshi" of the name "Benue" and (*b*) by the deletion of paragraph (*b*).

REGULATIONS.

Serial No.	Date.	Ordinance made under.	Provisions.
22	3.6.1933	The Quarantine Ordinance, 1926.	Amending regulation 2 of the Quarantine (Fees) Regulations, 1931, by the addition of the following paragraph :— "3. For the disinfection of harbour craft in the port of Lagos a fee calculated at the rate of 2s. per thousand cubic feet with a minimum fee of £1."
23	3.6.1933	The Quarantine Ordinance, 1926.	Amending regulation 15 of the Quarantine Regulations, 1930, by the addition to sub-regulation (5) of the words "Harbour Craft in the port of Lagos may be disinfected by fumigation when the Port Sanitary Authority considers it necessary."
32	31.7.1933	The Hospital Fees Ordinance.	Amending regulation 2 of the Hospital Fees Regulations 1925 *re* Hospital charges for accommodation, maintenance, etc., in all Government and African Hospitals.
48	28.12.1933	The Quarantine Ordinance, 1926.	Amending the Quarantine Regulations, 1930 :— (1) to provide for the introduction of the revised international code of signals, including the use of standard wireless messages relating to the health and sanitary condition of ships. (2) to enable travellers entering Nigeria across the land frontier from an infected local area to be subjected to surveillance.

RULES.

9	22.4.1933	Public Health Ordinance.	Amending rule 35 of Rules No. 2 of 1917 made under the Public Health Ordinance by laying down fees for cattle, sheep, goat and swine in the Township of Kano.

C.—FINANCIAL.

Revenue	£8,190 7 8
Approved Expenditure, 1933-34	432,756 0 0
Actual Expenditure, 1933	385,732 16 1

TABLE I.

FINANCIAL—CALENDAR YEAR, 1933.

I.—Expenditure.

	£ s. d.	£ s. d.
(*a*) Personal Emoluments		259,528 10 2
(*b*) Other Charges :—		
(1) Medical.		
Medical, Surgical, Dental and X-Ray Equipment and Supplies	17,374 8 5	
Diets, Provisions and Necessaries	10,455 2 2	
		27,829 10 7
(2) Health.		
General Sanitary		22,072 2 2
(3) General.		
Railway Transport	9,982 15 1	
Other items under Other Charges	46,243 17 7	
		56,226 12 8
		£365,656 15 7
(*c*) Special Expenditure :—		
Tsetse Fly Investigation	12,687 1 6	
Plague Expenses	5,048 13 3	
Other items under Special Expenditure ...	2,340 5 9	
		£20,076 0 6

Summary.

Personal Emoluments	£259,528 10 2
Other Charges	106,128 5 5
Special Expenditure	20,076 0 6
Total	£385,732 16 1

Revenue.

Hospital and Medical receipts	£8,119 17 4
Births and Deaths Fees	11 2 0
Fumigation and Deratisation Fees	59 8 4
Total Revenue	£8,190 7 8

TABLE II.

FINANCIAL STATEMENT INCLUDING CHARGE FOR INTER-DEPARTMENTAL SERVICES FOR THE YEAR 1933.

REVENUE.	£	s.	d.
Hospital and special receipts	8,119	17	4
Births and Deaths Fees ...	11	2	0
Fumigation and Deratisation Fees	59	8	4
Medical charges against the Nigerian Railway ...	15,862	9	0
Excess of Expenditure over Revenue	400,068	11	11
	£424,121	8	7

EXPENDITURE.	£	s.	d.
Marine services	2,010	16	11
P.W.D. services:—			
(*a*) Electric light ...	6,631	19	9
(*b*) Water	2,415	1	11
Railway services	10,750	13	11
Personal Emoluments ...	269,480	15	2
Other Charges	112,756	0	5
Special Expenditure ...	20,076	0	6
	£424,121	8	7

II.—PUBLIC HEALTH.

A.—GENERAL REMARKS.

The year under review has been one of depressed medical enterprise owing to the reduction of expenditure which has been necessary during the financial depression in Nigeria. The following figures show the reduction which has been required in medical expenditure :—

Approved Estimates.	1930-31.	1931-32.	1932-33.	1933-34.
Personal Emoluments ...	300,962	301,888	273,736	275,762
Other Charges	189,246	190,261	135,326	129,578
Total	490,208	492,149	409,062	405,340

Special expenditure has also been reduced from £37,647 in 1930-31 to £27,416 in 1933-34.

Reduction of medical personnel has been felt severely and has made heavy calls upon the staff remaining, which has responded gallantly. Fortunately the care devoted in the past years to the training of African dispensers, nurses and sanitary inspectors has borne fruit and much greater responsibility can now be given to these men. Further relief will be given when the students who are in training at the Medical School become qualified as medical assistants, but in the meantime it is a heavy drain upon the medical staff to supply teachers at the school.

Reduced expenditure by the Public Works Department has also caused embarrassment in medical work. Minor additions and improvements to hospitals, which are so necessary with expanding work, have had to be ruthlessly excluded.

The following table summarises the general hospital work which has been carried out during the year :—

Total cases treated.	1930.	1931.	1932.	1933.
EUROPEANS :—				
In-patients	1,412	1,245	1,010	1,030
Out-patients	7,917	7,630	5,912	6,058
Total Europeans	9,329	8,875	6,922	7,088
AFRICANS AND OTHER NON-EUROPEANS :—				
In-patients	37,517	35,738	41,577	45,233
Out-patients	399,260	481,759	541,517	570,607
Total Africans	436,777	517,497	583,094	615,840

The above table indicates that European medical science is steadily attracting the African to visit hospitals and dispensaries and there is undoubtedly a demand upon the part of the African tax-payer for increased medical facilities. Eleven years ago, in 1922, only 16,478 in-patients and 144,319 out-patients received hospital treatment. The dispensaries established by the Native Administrations are also attracting more patients; in 1933 619,188 patients received treatment at 226 dispensaries as against 367,882 patients at 197 dispensaries in 1932.

The increasing medical work falling upon a reduced staff emphasises the urgent need for a subordinate medical staff to act as house surgeons at hospitals and so mobilise the European medical staff which is becoming more and more confined to hospital practice at the expense of district work in the provinces. The African staff which is being trained at the medical school at Lagos will supply this need. A report upon the progress of this school appears in Appendix C.

I.—GENERAL DISEASES.

A return of diseases and deaths for 1933 is given in Tables IV and V on pages 43 to 62 of this report. The incidence of disease groups is shown in diagramatic form overleaf.

Attention is drawn to the relatively high incidence of neurasthenia amongst European residents in Nigeria. During the years 1929-1933 this complaint was diagnosed in 143, 103, 114, 92 and 100 cases respectively. The percentage of invalidings of European officials owing to neurasthenia was 15%, 14%, 15%, 15%, 23% of total invalidings for the years 1929-33 respectively.

A feature of interest is the increasing numbers of cases of gastric and duodenal ulcers which are being diagnosed in African patients in recent years Cases of sufficient gravity to require in-patient treatment were diagnosed as follows during the years 1929-33 respectively- -10, 10, 16, 48, 106. This increase may be apparent only and due to improved facilities for diagnosis due to improved X-ray technique. It is noteworthy that of the 106 cases treated as in-patients in 1933, eighty were diagnosed at the African hospital at Lagos.

II.—COMMUNICABLE DISEASES.

1.—Mosquito or Insect Borne.

Malaria.—Preventive measures are described under Section III. The following table shows hospitalisation figures for malaria and blackwater fever during the past three years :—

	1931.		1932.		1933.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Europeans :—						
Malaria	1,170	...	876	...	928	...
Blackwater	18	4	15	1	12	1
Africans and Non-Europeans :—						
Malaria	35,800	40	32,895	35	34,594	36
Blackwater	12	1	10	2	17	4

Trypanosomiasis.—A report upon the work of the sleeping sickness survey teams in the Northern Provinces and in the Ahoada district of the Southern Provinces appears in Appendix B. It will be seen that the survey teams examined 228,925 persons in the Northern Provinces during the year and diagnosed 22,583 cases of trypanosomiasis and that 16,101 persons were examined in the Ahoada district, the disease being diagnosed in 4,713 cases. In addition, 4,210 cases of the disease were treated at the tsetse investigation laboratory at Gadau and at hospitals and dispensaries elsewhere in the country. The position is serious and efforts are being made to break contact between man and tsetse fly by local protective clearings about towns and villages.

2.—Infectious Diseases.

Notes upon various infectious diseases appear in Section III.

Venereal Diseases and Yaws.—The following table gives the number of African patients who have come under treatment at Government hospitals during the past five years :—

	1929.	1930.	1931.	1932.	1933.
Yaws	42,126	39,943	56,346	80,675	86,748
Syphilis	15,828	13,698	17,396	19,481	16,286
Gonorrhœa	12,018	12,940	13,716	12,975	15,180

In addition to the above 107,720 cases of yaws, 19,349 cases of syphilis and 14,160 cases of gonorrhœa were treated at Native Administration dispensaries during the year.

Good progress has been made with the intensive campaign against yaws in the Bamenda division of the Cameroons Province and the scheme was extended to the Banso division of the same province in March, 1933. Each village head sends a personal attendant to the base hospital to be trained in the technique of giving injections of sobita and, after training, these men carry out injection work in their villages. At the end of 1933, forty-one of these trained men were at work in Bamenda division and five in Banso division. Preliminary surveys made by the medical officers have shown infection rates with all stages of yaws varying between two per cent and twenty-eight per cent of the population.

Leprosy.—The average leper population under treatment at leper settlements, mostly farm colonies, in 1933 was 4,860 as compared with 3,561 in 1932. Distribution amongst the various colonies was as follows :—

Province.	Average Population.
GOVERNMENT AND NATIVE ADMINISTRATION.	
Southern Provinces and Colony.—	
Lagos (Yaba)	43
Ossiomo	96
Uzuakoli	430
Onitsha	104
Victoria (Bulu Camp)	5
Kumba	10
Bamenda	120
Abakaliki	150
Banso	11
Northern Provinces.—	
Zaria	136
Gusau	88
Katsina	270
Azare	43
Maiduguri	244
Bauchi	60
Medical Missions:	
Southern Provinces.—	
Etinan	270
Itu	1,583
Ogbomosho	24
Ubura	430
Northern Provinces.—	
Galengu	20
Garkida	430
Mkar	255
Vom	20
Diko	18
Total	4,860

In addition 1,827 cases of leprosy received treatment at native administration dispensaries.

B.—VITAL STATISTICS.

(1)—GENERAL POPULATION—AFRICAN.

The census made in 1931 showed an estimated non-European population of Nigeria, including the Cameroons under British Mandate, of 19,928,171.

Registration of births and deaths is compulsory only in the Lagos area, the statistics for which area are summarised in the following table :—

	1933.		
	Lagos.	Ebute Metta.	Total.
Estimated population (Lagos and Ebute Metta)	—	—	155,664
Total births	3,030	852	3,882
Birth rate per 1,000 population	—	—	24·93
Total deaths	1,779	377	2,156
Death rate per 1,000 population	—	—	13·85
Deaths—causation of—certified by Medical Practitioners—number	1,779	377	2,156
Deaths—causation of—certified by Medical Practitioners—per cent	100%	100%	100%
Deaths—Infants under one year	435	98	533
Infantile mortality per 1,000 births	143·5	115·02	137·3
Deaths under one year—certified by Medical Practitioners—number	435	98	533
Deaths under one year—certified by Medical Practitioners—per cent	100%	100%	100%
Deaths—Children under five years	729	151	880
Percentage of deaths of children under five years to total deaths	40·9	40·05	40·8
Total stillbirths	99	19	118
Stillbirths—proportion per cent of the total births (normal and stillbirths)	3·1	2·1	2·95
Deaths uncertified by Medical Practitioners—number	Nil	Nil	Nil
Deaths uncertified by Medical Practitioners—per cent	Nil	Nil	Nil

The following summary enables comparison to be made with previous years of births, deaths and infant mortality rates :—

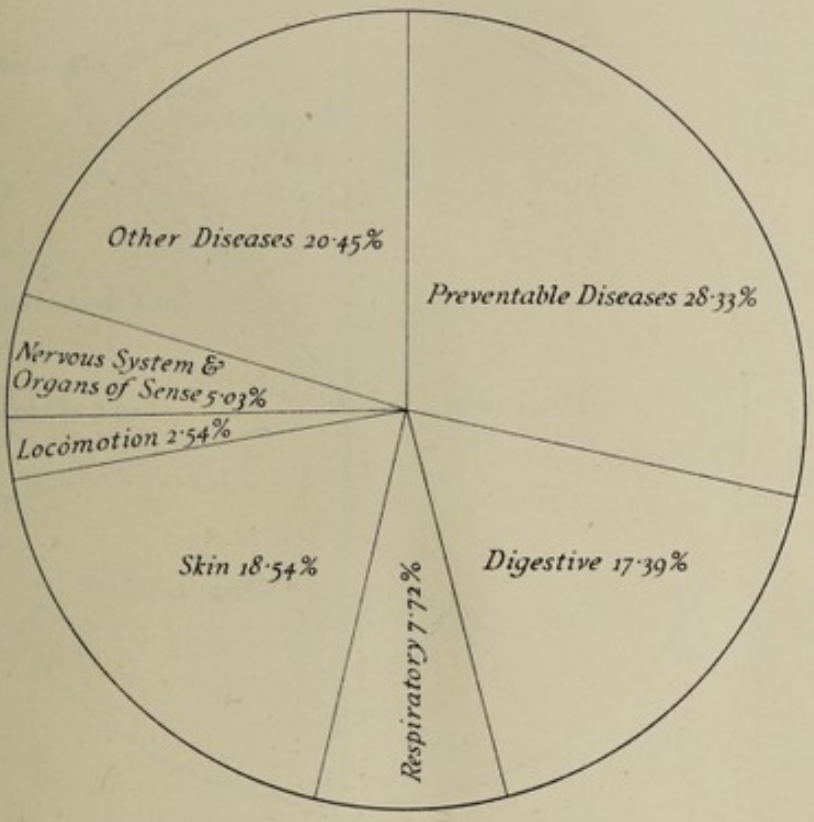
Year.	Total Births.	Birth Rate.	Total Deaths.	Death Rate.	Infant Mortality.
1909	2,576	42·4	2,259	32·7	315
1919	2,517	30·2	2,256	27·0	296
1927	3,305	28·9	2,312	20·2	174·9
1928	3,330	28·1	2,439	20·5	138·1
1929	3,451	28·2	2,141	17·5	134·1
1930	3,494	28·6	2,016	16·5	129·07
1931	3,451	24·6	1,776	12·6	111·8
1932	3,863	27·5	1,819	12·9	101·7
1933	3,882	24·93	2,156	13·85	137·3

(2)—General Population—European.

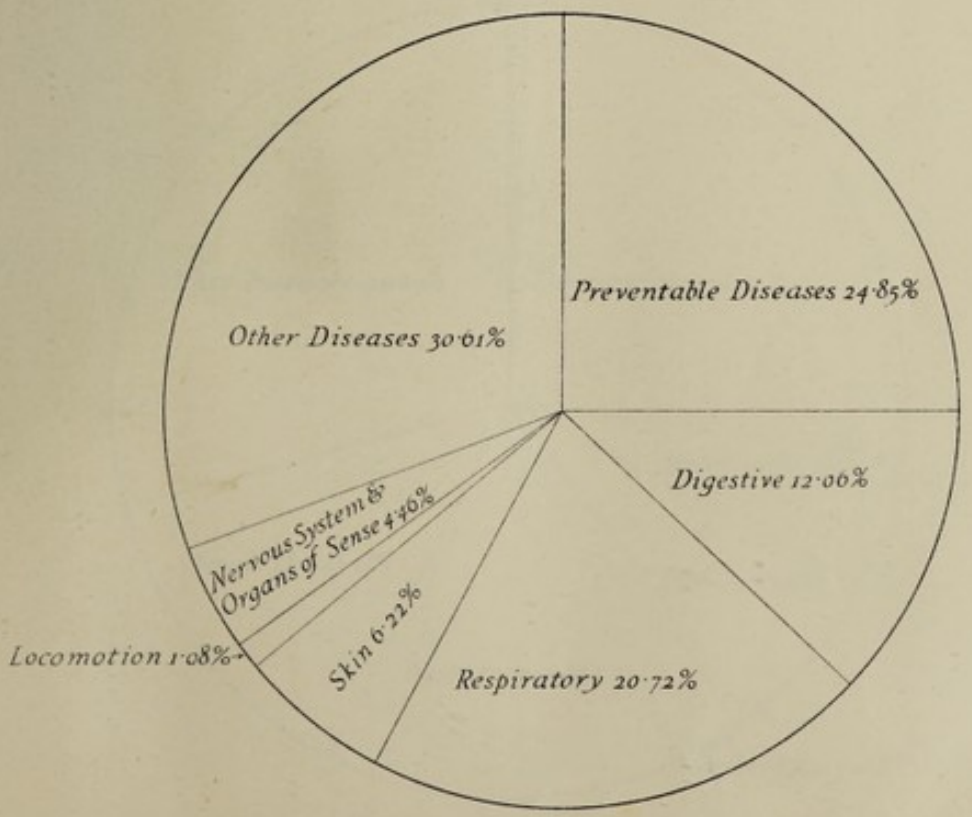
Table showing estimated European population during the years 1931, 1932 and 1933 :—

1931.	
Remaining on 31/12/31	4,882
Deaths during 1931	38
1932.	
Remaining on 31/12/32	4,375
Deaths during 1932	21
1933	
Remaining on 31/12/33	4,729
Deaths during 1933	30

GENERAL SYSTEMIC & PREVENTABLE DISEASES
TREATED IN GOVERNMENT INSTITUTIONS
TOTAL CASES 622,928
1933



TOTAL DEATHS 2958



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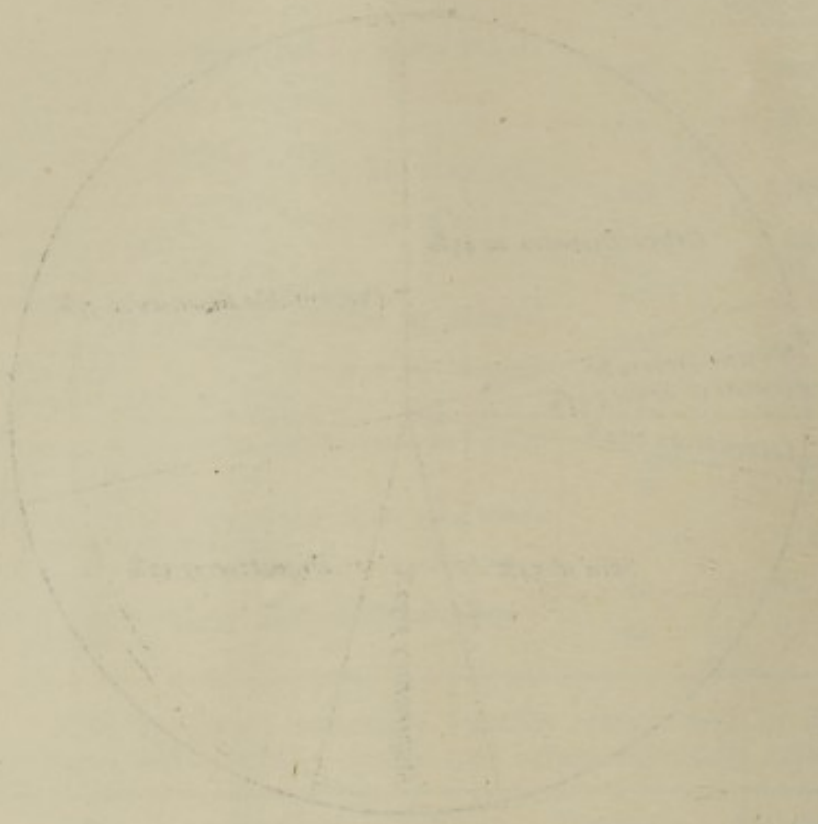
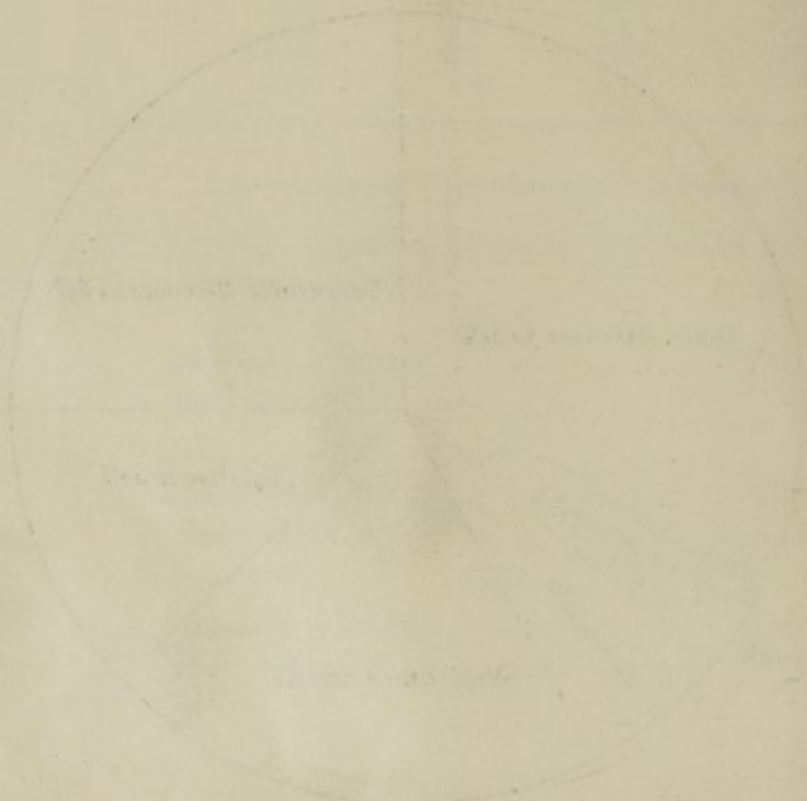
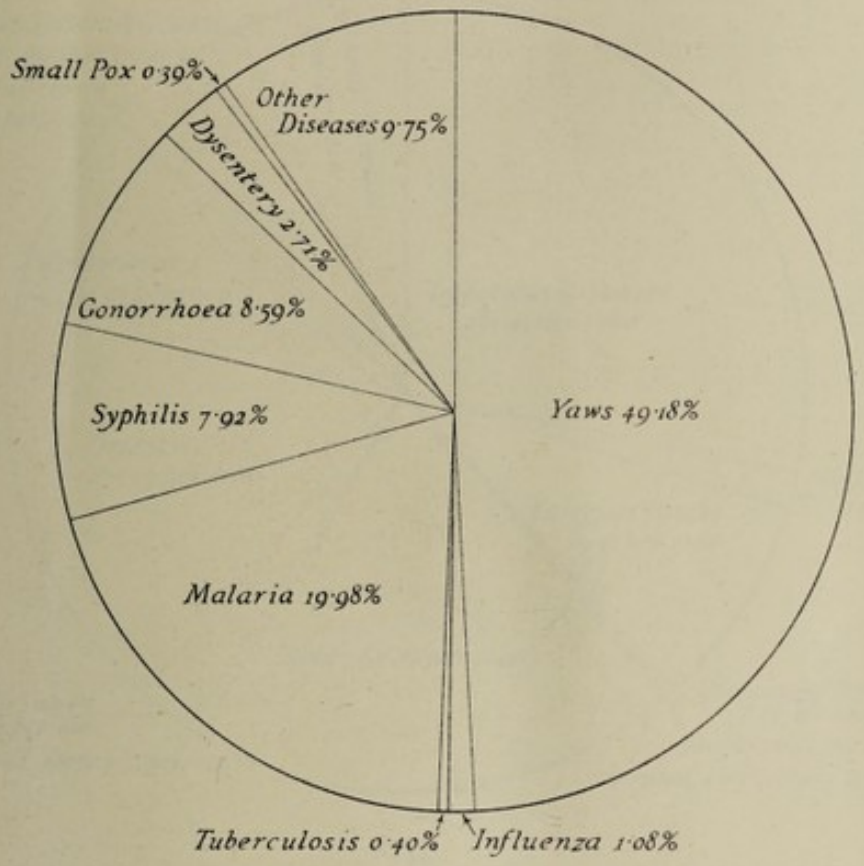
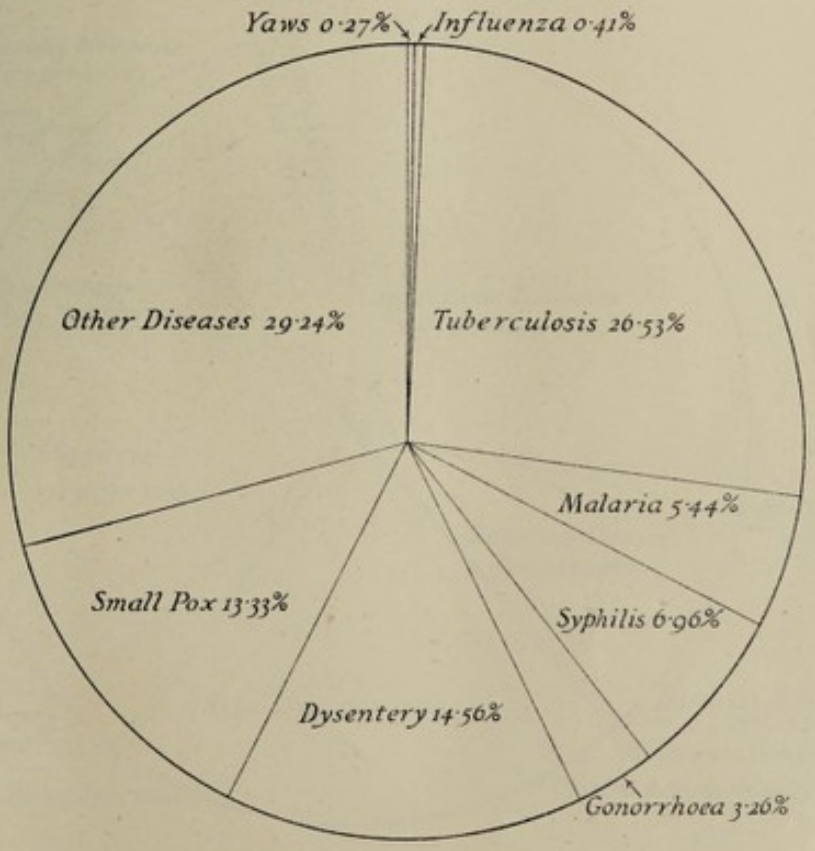




EPIDEMIC, ENDEMIC & INFECTIVE DISEASES
TREATED IN GOVERNMENT INSTITUTIONS
TOTAL CASES 176,588
1933



TOTAL DEATHS 735



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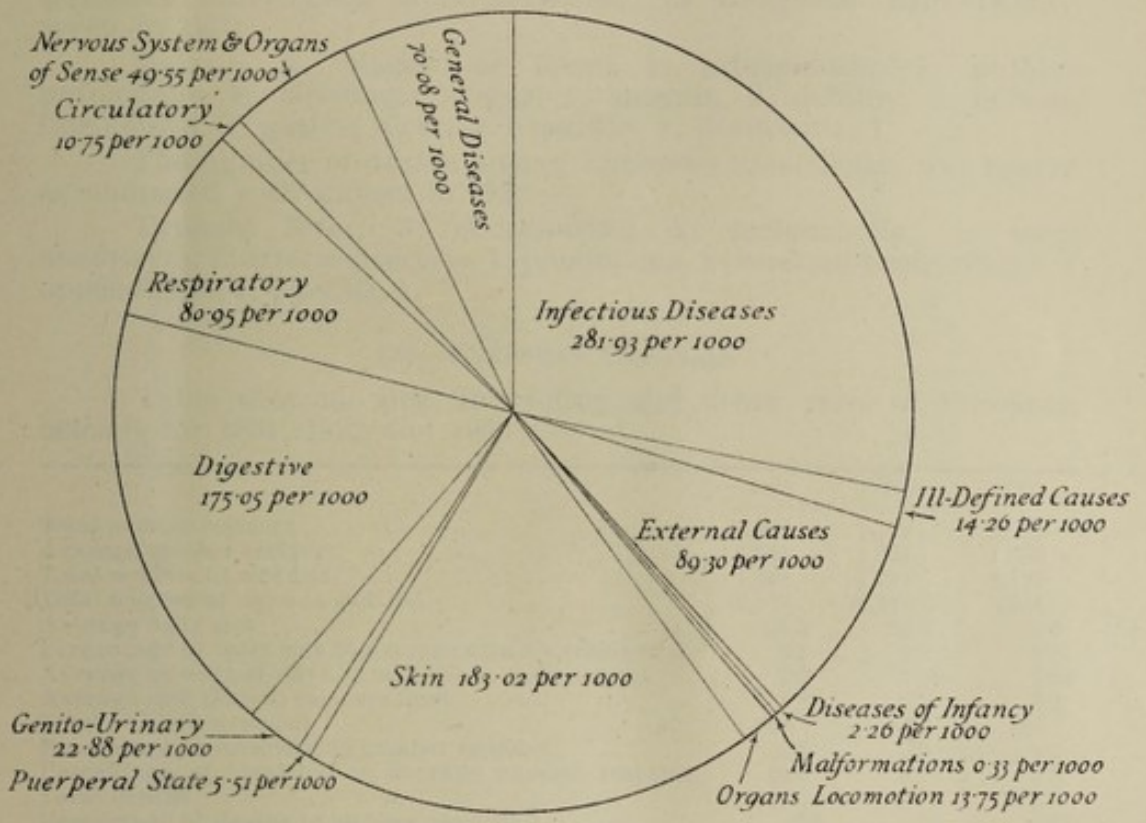
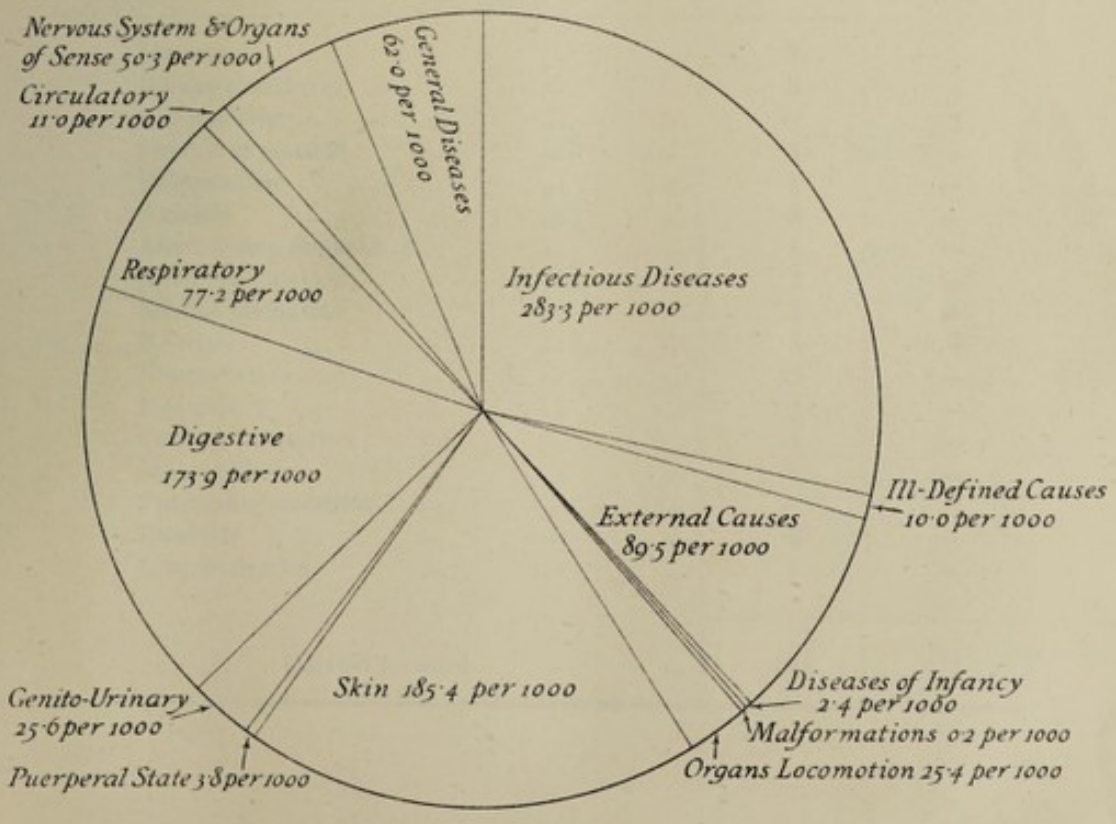
COMPARATIVE DIAGRAMS OF DISEASE GROUPS
TREATED IN GOVERNMENT INSTITUTIONS
1932 & 1933



1932



1933

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EUROPEAN NON-OFFICIALS.

Causes of Invalidings and Deaths.

According to Government returns for the year 1933, seventeen European non-officials were invalided, as compared with twenty-seven in 1932:—

Malaria, 2; blackwater fever, 1; tuberculosis, 1; phthisis pulmonalis, 1; carcinoma tongue, 1; anæmia, 2; debility, 3; nervous breakdown, 1; gastric ulcer, 3; hepatitis, 1; dermatitis, 1.

The number of deaths among European non-officials was twelve, as compared with sixteen in 1932:—

Typhoid fever, 3; endocarditis, 1; melancholia, 1; aortic aneurisym, 1; arterio sclerosis, 1; pneumonia, 2; cerebral hæmorrhage, 1; appendicitis, 1; pyelitis, 1.

(3)—European Officials.

Table showing sick, invaliding and death rates of European officials for 1931, 1932 and 1933:—

	1931.	1932.	1933.
Total number resident	2,144	1,709	2,095
Average number resident	1,581	1,641	1,586
Total number on sick list	1,664	1,294	1,117
Total number of days on sick list	12,579	10,440	8,984
Average daily sick	34·4	28·6	24·6
Percentage of daily sick to average number resident ...	2·1	1·7	1·5
Average number of days on sick list to each patient ...	7·5	8·06	8·04
Average sick time to each resident	5·8	6·1	4·2
Total number invalided	168	114	100
Percentage of invalided to number resident	7·8	6·6	4·7
Percentage of invalided to average number resident	10·6	6·9	6·3
Total deaths	17	5	5
Percentage of deaths to number resident...	·79	·29	0·23
Percentage of deaths to average number resident ...	1·07	·30	0·31

Invalidings and Deaths—European Officials.

Disease.	Invalidings.	Deaths.
Malaria	7	—
Blackwater fever	4	1
Septicaemia	—	1
Cancer of testicle	1	—
Rheumatism	1	—
Anæmia	8	—
Alcoholism—Sequelæ of	1	—
Auto-intoxication	1	—
Mental alienation	1	—
Neuritis	1	—
Neurasthenia	23	—
Eye Injury	1	—
Cardiac Dilatation	1	—
Myocarditis	1	—
Pulmonary embolism	—	1
Phlebitis	2	—
Lymphadenitis	1	—
Carried forward	54	3

Invalidings and Deaths—European Officials—*continued.*

Disease.	Invalidings.	Deaths.
Brought forward	54	3
Laryngitis	1	—
Acute bronchitis	2	—
Duodenal ulcer	3	—
Dyspepsia	7	—
Diarrhœa	1	—
Enteritis	1	—
Colitis	1	—
Appendicitis	4	—
Fistula in ano	1	—
Hepatitis	1	—
Cholecystitis	1	—
Pyelitis	1	—
Renal calculus	3	—
Cystitis	1	1
Prostatic hypertrophy	1	—
Boils	3	—
Ulcer of foot	1	—
Osteo arthritis	1	—
Suicide by firearms	—	1
Wounds	1	—
Fracture base skull	1	—
Asthenia	7	—
Hyperpiesis	1	—
Tropical debility	2	—
Total	100	5

Recapitulation by Completed Months of Service.

Leave conditions.	Under 6 months.	Under 9 months.	Under 12 months.	Under 15 months.	Under 18 months.	Over 18 months.	Total.
New	5	6	8	31	40	4	94
Old	—	3	3	—	—	—	6
Total	5	9	11	31	40	4	100

Strength of officers under new leave conditions 1,881

" " " " old " " 108

(4) Summary of the Causes of Invalidings and Deaths of African Officials, 1933.

	Invalidings.	Deaths.
Leprosy	2	—
Tetanus	—	1
Pulmonary tuberculosis	—	2
Tuberculosis	2	—
Tabes mesenterica	—	1
Cerebral syphilis	—	1
Syphilitic Ulceration of left tibia	1	—
Recurrent venereal disease	1	—
Gonorrhœal Opthalmia	2	—
Acute Gonorrhœal Conjunctivitis	1	—
Septicæmia	—	5
Diabetes	1	—
Splenitis	—	1
Apoplexy	—	2
Cerebral hæmorrhage	2	—
Hemplegia	2	—
Senile cerebral degeneration	1	—
Dull mentality	1	—
Mental alienation	2	—
Mental aberration	1	—
Insanity	1	—
Epilepsy	2	—
Neuritis	1	—
Neurasthenia	3	—
Defective vision	7	—
Myopia	1	—
Optic atrophy	1	—
Optic neuritis	1	—
Hyperpiesis	1	1
Myocarditis	4	1
Dilated Heart	1	—
Valvular disease of the heart	3	1
Aneurism	1	—
Chronic bronchitis	1	—
Broncho pneumonia	—	4
Acute lobar pneumonia	—	7
Pleurisy with effusions	—	1
Asthma	2	—
Acute tonsillitis	—	1
Colitis	1	—
Chronic gastritis	1	—
Abscess	1	3
Hepatitis	1	—
Peritonitis	—	1
Chronic nephritis	1	1
Chronic urethritis	—	1
Arthritis	3	—
Senility	1	—
Fracture	2	—
Debility	1	—
Shock	—	1
Total	61	36

Soldiers—Nigeria Regiment—R.W.A.F.F.

Average daily strength	3079.7
Total number on sick list	6,076
Total number of days on sick list	38,029
Average daily sick	104.1
Total number of deaths	20
Death rate per thousand	6.4
Number invalided during the year	66

During 1932 the number invalided during the year was ninety-five, the number of deaths was sixteen, and the death rate per thousand was 5.2.

Police Force—Nigeria.

Average daily strength	3,564
Total number on sick list	2,569
Total number of days on sick list ...	15,439
Average daily sick	42.29
Total number of deaths	33
Death rate per thousand	9.2
Total number invalided	35

During 1932 the number invalided during the year was thirty, the number of deaths was thirty-five, and the death rate per thousand was 9.6.

(7)—Statistical Tables.

The following statistical tables, numbered according to the type scheme submitted by the Department of Bio-Statistics of the London School of Hygiene, are rendered as far as information is available :—

TABLES IV and *V.*

Births and Birth Rates and Stillbirths.

Estimated Population.	Province or District.	
	Whole of Nigeria.	Lagos Area including Ebute Metta.
Europeans and whites	*4,130	†1,069
Other non-natives and Africans ...	*19,928,171	†155,664
Live Births.		
Europeans and Whites:—		
Male	19	3
Female	23	8
Total	42	11
Rate per 1,000 population	10·16	10·28
Other Non-Natives and Africans:—		
Male	—	2,003
Female	—	1,879
Total	—	3,882
Rate per 1,000 population	—	24·93
Stillbirths.		
Other Non-Natives and Africans:—		
Male	—	73
Female	—	45
Total	—	118
Rate per 1,000 population	—	·842

TABLE VII.

Deaths and Death Rates.

Deaths.	Province or District.			
	Whole of Nigeria including Lagos Area.	Southern Provinces.	Northern Provinces.	Lagos Area including Ebute Metta.
(Population)	†4,130	†1,662	†1,399	†1,069
Europeans and Whites:—				
Male	36	15	9	12
Female	8	2	3	3
Total	44	17	12	15
Crude rate per 1,000 living ...	10·65	10·22	8·57	14·03
Other Non-Natives and Africans:—				
Male	—	—	—	1,179
Female	—	—	—	977
Total	—	—	—	2,156
Crude rate per 1,000 living ...	—	—	—	13·85

* 1931 Census figures.
† Estimated population at mid-year, 1933.

TABLE IX.

CAUSES OF DEATH BY SEX AND AGE-PERIODS.

Other non-Natives and Africans, Lagos Area including Ebute Metta—Year 1933.

Ages at Death.	All Causes.		Specific Causes of Death.													
			Enteric Group.		Malaria.		Dysentery.		Tuberculosis of Respiratory System.		Other Tuberculous diseases.		Cancer, Malignant disease.		Pneumonia, all forms.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female
All ages* ...	1,179	977	3	6	53	37	20	16	70	54	15	10	11	11	205	160
0–1 ...	287	246	...	...	25	17	...	...	1	...	...	...	...	...	56	55
1–5 ...	178	171	...	4	25	16	2	5	1	1	2	1	...	...	41	47
5–10 ...	32	43	...	1	2	3	1	1	1	4	3	4	...	...	7	15
10–15 ...	28	21	...	1	...	...	2	...	3	4	3	...	...	...	6	6
15–25 ...	63	58	2	...	1	...	1	4	6	15	...	1	1	...	15	4
25–35 ...	125	92	...	...	...	...	4	1	23	12	4	1	1	2	28	15
35–45 ...	161	63	1	...	...	...	8	1	23	10	1	1	...	3	27	7
45–55 ...	83	33	...	...	...	...	...	...	6	6	1	1	1	...	13	3
55–65 ..	64	42	...	...	...	...	2	2	3	...	1	1	6	3	8	5
65–75 ...	55	63	...	...	...	1	...	2	3	2	...	...	2	2	4	
75 and over	103	145	...	...	...	...	...	...	...	...	...	...	...	1	...	1

*=Total.

TABLE X.

SEASONAL INCIDENCE OF MORTALITY—YEAR 1933

	DEATHS.					
	EUROPEANS AND WHITES (Whole of Nigeria).			OTHER NON-NATIVES AND AFRICANS (Lagos Area).		
	Male.	Female.	Total.	Male.	Female.	Total.
January...	6	...	6	102	67	169
February	...	1	1	76	69	145
March	5	...	5	81	85	166
April	...	1	1	100	74	174
May	4	...	4	109	94	203
June	6	1	7	95	73	168
July	1	1	2	111	97	208
August	3	...	3	115	110	225
September	3	1	4	92	96	188
October	3	2	5	92	77	169
November	3	1	4	91	66	157
December	2	...	2	115	69	184
Total	36	8	44	1,179	977	2,156

III.—HYGIENE AND SANITATION.

A.—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE.

I.—PREVENTIVE MEASURES.

(i) Mosquito and Insect-Borne Diseases.

Malaria.—The usual temporary measures have been carried out as far as reduced funds would permit, and drainage operations begun in recent years in some of the larger centres such as Abeokuta, Ibadan, Enugu, and Onitsha have been maintained and extended.

Trypanosomiasis.—During the past year an extensive epidemic has been discovered amongst the Abua clan in the Ahoada division of the Owerri Province, and a sleeping sickness team was sent from the headquarters of the tsetse investigation at Gadau to work in this area. Full details of this and the much more extensive campaigns in the Northern Provinces will be found elsewhere in this report.

Yellow Fever.—With the exception of one European imported case from the French Niger Colony taken over at the frontier by the Senior Medical Officer, Kano, which subsequently died in Kano Hospital, there were no definite notifications of yellow fever in Nigeria throughout the year. One clinically diagnosed case in Lagos was found after exhaustive post-mortem investigation to be sub-acute yellow atrophy. Measures to prevent ædes breeding have been continued without relaxation, a very necessary precaution in view of the still unsatisfactory lay-out in many stations, and every effort has been made to preserve residential areas where they exist. It is unfortunate, however, that in spite of repeated warnings householders in too many instances allow the families and friends of servants to reside in their compounds.

Regulations were passed and will come into force at the beginning of 1934 to enable travellers entering Nigeria by land from an infected local area to be placed under surveillance for the appropriate period. This is in accordance with Article 61 of the International Sanitary Convention.

Chigoes.—The outbreak of chigoe infestation reported last year has subsided somewhat, but is still widespread on the Bauchi Plateau and the escarpment towards Kafanchan. The improvement is due to the increasing knowledge of the people as to how recent infection should be dealt with and to the employment of Native Administration dressers in the villages. Derris root was found to be ineffective, but the local shrub "Maijimpa" (*Trephosia vogleii*) gave more satisfactory results and further investigation is proceeding. One hundred cases a day are still being treated at one of the dressing stations.

Relapsing Fever.—No outbreak was reported in any part of Nigeria. Provision for disinfestation has been maintained and extended wherever necessary, and equipment is now available in most hospitals and prisons either in the form of sack disinfectors or, more commonly, Serbian barrels.

(*ii*) *Epidemic Diseases.*

Plague.—It is satisfactory again to be able to report that no case of plague, either human or rodent, was notified in Nigeria throughout the year. Anti-plague measures as established during the last few years were continued in Lagos and in the Ijebu and Abeokuta Provinces.

Smallpox and Vaccination.—Smallpox continues to prove the most serious of the epidemic diseases affecting Nigeria as a whole.

(*a*) *Southern Provinces.*—1,494 cases with 234 deaths were reported, and of these more than one-third occurred in the Ijebu Province, which was throughout the year the seat of a widespread epidemic. The popularity of *Shopona* worship in this area, the persistent concealment of cases, and the apathy of some of the local chiefs have all played their part in promoting the spread of the infection despite active measures in the form of vaccination, isolation, and disinfection. Outbreaks of varying severity also occurred in the provinces of Abeokuta, Oyo, Ondo and Benin, but in all cases they were quickly controlled by the usual measures. In Lagos fifty-nine cases with ten deaths were reported. Other ports of Nigeria were comparatively free, only thirteen cases being notified of which five were imported. It was again shown that seasonal changes have little influence on the incidence of the disease in the Southern Provinces.

Vaccination:

Number of vaccinations performed	489,845
Number inspected for results ...	384,234
Number successful	310,934
Percentage successful	80.9

(*b*) *Northern Provinces.*—The disease occurred in epidemic form in the Bauchi, Zaria, and Kano Provinces. A regular system of infant vaccination has been adopted in all the larger Native Administration centres and will be commenced in 1934 in Maiduguri. The employment of women vaccinators is proving successful. Kano now employs fourteen of these women, who also have a smattering of sanitary knowledge and act as auxiliary sanitary inspectors. The Native Administration dispensaries have been of great use as vaccination centres. Some dispensaries now keep a register of infants vaccinated, which can be compared with the birth returns. A rule has been made under the Native Authorities Ordinance to enforce vaccination of infants under six months in areas where the necessary organisation exists. 195,951 vaccinations were performed of which 113,193 were known to be successful.

Cerebro-Spinal Fever.—A large outbreak was reported in a remote pagan area of the Adamawa Province, in which 418 deaths are stated to have occurred. Such measures as were possible were taken locally and the district was closed for six weeks.

Tuberculosis.—Except in one or two of the larger centres accurate information as to the prevalence of tuberculosis is not available. In Port Harcourt it was responsible for five per cent of the total deaths and in thirty-three per cent of cases the pulmonary form of the disease was the cause of death. Statistics show a reduction as compared with previous years, but it is doubtful if they are a reliable index. In Lagos there was an appreciable drop in the number of deaths from all types of tuberculosis as is shown in the subjoined table.

Deaths certified as due to tuberculosis, 1924-33 :—

	Pulmonary tuberculosis.	Disseminated tuberculosis.	Tuberculosis of other organs.	Total.	Percentage to total deaths.
1924	71	2	14	87	2·6
1925	77	7	3	87	3·1
1926	82	4	15	101	3·3
1927	99	27	13	139	5·9
1928	128	16	20	164	7·1
1929	136	7	16	159	7·4
1930	133	6	11	150	7·4
1931	131	28	18	177	9·8
1932	131	19	29	179	9·7
1933	124	14	11	149	6·8

Rabies.—Two fatal cases of human rabies, both African, were reported during the year. One was a woman who was bitten in the face by a dog at Porto Novo, Dahomey, on the 7th or 8th October. Typical rabies developed on the 5th November and rapidly proved fatal. Treatment with anti-rabic vaccine was given from the date of admission to Lagos Hospital on 21st October until the onset of the disease. A boy stated to have been bitten by the same dog was treated at the same time and did not develop the disease. The second case was a man living in the Bamenda division who was bitten on the wrist by a dog on 5th September. He was admitted to Victoria Hospital on 12th October and on the same day began the Ministry of Health's medium course of anti-rabic vaccine. On the 30th October, after sixteen injections (53 c.c. in all), he developed classical signs of rabies and died two days later. Two other persons bitten by the same dog were treated and remained well.

Outbreaks of canine rabies were reported from many parts of Nigeria, including Lagos, and ten Europeans and thirty-nine non-Europeans received prophylactic courses of vaccine, the biting animals being twenty-one dogs and three cats.

Diphtheria.—The Senior Pathologist carried out Schick tests on a number of school children in Lagos and a few infants and adults. This preliminary series seems to show that most persons develop an immunity about the tenth year. The reaction shows quite well on a dark skin. It is hoped to apply the test to a large number of young children next year.

(iii) Helminthic Diseases.

In the Southern Provinces ascaris and hookworm seem to be universally prevalent. Loa loa infections are chiefly met with in the Warri and Benin Provinces and in the Southern Cameroons, especially around Kumba.

Guinea-worm is rare east of the Niger except in the Abakaliki area, but elsewhere is comparatively common.

Tæniasis is chiefly met with in Hausa communities, while schistosomiasis appears to be relatively uncommon.

In the Northern Provinces the work of the Pathologist engaged in schistosomiasis research has shown that that disease is extremely common in all districts where it has been investigated. Vesical

schistosomiasis is apparently the most prevalent form, but the intestinal variety is also quite common. In view of Archibald's recent observations that the fruit, bark, and roots of the desert date (*Balanites ægyptiaca*) possess lethal properties for all bilharzia-carrying molluscs, some of these trees have been planted round a small lake at Kwarre near Sokoto and round a village pond near Katsina. The Medical Officer of Health, Kano, will conduct an investigation on the efficacy of an emulsion of the fruit both as regards cercariæ and mosquito larvæ in borrow pits at Kano in 1934.

Hookworm is prevalent all over the Northern Provinces. The Medical Officer of Health, Jos, reported the finding of large numbers of hookworm embryos in the damp earth in the openings of salgas (pit latrines), no doubt a very common means of spread of this parasite.

Ascaris is uncommon in the Northern Provinces, especially in the extreme north.

Infestation with *Tænia saginata* is very general owing to the custom of grilling beef so that only the surface is properly cooked.

II.—General Measures of Sanitation.

(*a*) *Sewage Disposal.*—The salga (covered pit) remains the commonest type of latrine throughout the smaller stations, but in the larger stations and many of the towns bucket latrines with a system of disposal in deep fly-trapped pits are employed wherever possible. The water-carriage system introduced at one of the colliery camps at Enugu proved so successful and economical that it is to be extended. A similar installation is being provided at the camp of the 6th Battalion R.W.A.F.F., which is at present under construction within the township. New water-carriage systems have also been provided at the African hospital at Onitsha and the new maternity centre at Aba.

In Lagos the introduction of a water-carriage system initiated by the Director of Public Works in 1932, proved so successful and made such rapid progress that it was found possible to dispense with the use of the old sanitary tramway and tipping jetty at the end of June. A tipping dump and disintegrator were erected under the new Carter Bridge. The pails from the whole of Lagos are now disposed of at this dump, special motor lorries being employed, and the sewage is discharged at a point 250 feet from the shore in about thirty feet of water. A further extension of the scheme provides for a total of seventeen tank latrines, discharging independently to the lagoon, twelve non-tank water-carriage latrines, five tipping dumps, and three small pumping stations. The sewage will drain to two outfalls, one at Carter Bridge, the second off the Marina in the vicinity of the African Hospital. At a capital cost of less than £50,000 the scheme provides a system of sewage disposal which should serve the needs of Lagos for some years. It is to be noted that when a complete sewerage scheme is proceeded with the greater part of the work now proposed can be incorporated in it.

(*b*) *Scavenging and Refuse Disposal.*—There is little to add to the remarks on this subject in the last report. Reclamation by controlled tipping was carried out in certain low-lying areas of Lagos, fly-breeding being kept down by spraying with arsenic-sugar mixture and by trapping. Ashes from the destructor were used as a covering. At Kano refuse is tipped in certain of the large borrow-pits which are a feature of the towns of the North.

(*c*) *Water supplies.*—The Geological Survey continues to do valuable work for the Native Administrations, principally in the Northern Provinces, by the provision of wells. It is difficult to over-estimate the importance of proper water supplies in areas where guinea-worm and schistosomiasis are rife. The Director of Public Works has kindly supplied the following information about waterworks.

Abeokuta.—Work is nearing completion on the improvements to the existing distribution system. Approval for the erection of an electric power station having now been given, new electrically-driven waterworks pumping plant will be installed to replace the old steam-driven pumps and boilers.

Benin City.—This scheme is almost completed. The new works are designed to supply 100,000 gallons of water per day to an estimated population of 8,600.

Calabar.—Approval has been obtained to proceed with the proposed improvements. These consist of increasing the storage at the intake works, aerating the water, new pumping plant, new distribution mains and a new service tank in the African town. About thirty additional street fountains are to be installed. The supply is to be drawn from Essien Springs, and is designed to provide 200,000 gallons a day to a population of 16,000.

Ife.—This Native Administration scheme has been approved and work has commenced. Supply is derived from the Mokuro stream and will gravitate to the town, no pumping being required. This is an entirely new supply designed to provide up to 250,000 gallons per day to a population estimated at 30,000.

Investigations.—Investigations were continued for supplies or improved supplies to several towns, including Ibadan, Port Harcourt, Okene, Ilorin, Zaria, Bida, Jos, Ijebu Ode, Iperu, Iseyin, Ede, Ogbomosho, and Song. The Ibadan major scheme still remains in abeyance, awaiting a decision in regard to the provision of funds. The scheme as now submitted provides for a supply of one million gallons per day to an effective water population of about 100,000.

Maintenance.—The water supplies at Onitsha, Aba, Akure, Ijebu Ode, Port Harcourt, and Calabar were satisfactorily maintained. The supplies of Lagos, Kaduna, Enugu, and Ibadan (Ogunpa—Moor Plantation) were of consistently good quality throughout the year. Chemical treatment at the Iju (Lagos) waterworks has made it possible to increase the rate of filtration through the existing filters and a water has been delivered with a pH value of eight, greatly reducing corrosive action in the mains. The quality of water supplied by the Native Administration at Kano has been improved by chlorination. Mr. Beeby Thompson, of Messrs. Beeby Thompson and Partners, investigated local conditions and submitted a report on the possibilities of sub-surface supplies.

(*d*) *Sanitary Inspections.*—Periodical visits to out-stations were made by the Senior Health Officers stationed at Kaduna and Enugu. The Deputy Director of Health Service made an extensive tour of the Cameroons Province in January and February visiting almost the whole of the plantations and the various medical stations. Medical Officers of Health have toured the smaller towns and villages in the provinces to which they are posted. The policy of sending Sanitary Superintendents from their centres to supervise the execution of sanitation improvements has been followed with marked benefit. Inspection of compounds has now become a routine in most of the large towns of the North. The use of women for such inspections in the Mohammedan areas is proving very successful.

III.—School Hygiene.

School medical inspection is carried out in the Government middle schools and there are well-equipped school clinics in Lagos, Abeokuta, Ibadan, and Port Harcourt. In Lagos the school clinic is open daily and 3,450 cases were treated during the year. A special clinic for eye cases was held twice weekly. Out of 117 cases attending, thirty-six were found to be suffering from retrobulbar neuritis, which

appears to be related to a form of avitaminosis. There were five cases of active trachoma and four of trachoma sequelæ. Routine medical inspection of school children, especially new admissions, was continued throughout the year.

A course of eighteen lectures in anatomy, physiology, elementary hygiene and first aid was held for teachers. A special course in first aid was also held, primarily for the police, but about twenty male teachers attended. The school medical officer visited nearly every school to inspect the premises and to instruct the teachers in the methods of, and reasons for, the inspection of children. The importance of diet in relation to certain eye conditions was stressed.

IV.—Labour Conditions.

In the Cameroons the various plantations are regularly visited by medical officers and a special inspection of practically all the establishments was made by the Deputy Director of Health Service early in the year. Practically all the plantations are scheduled as labour health areas under the Labour Ordinance. With the exception of four in British hands and two small timber concessions belonging to French or Swiss firms all the plantations are in German ownership. The principal crops are palm oil and kernels, bananas, and cocoa.

There is a large and important oil palm plantation at Ndian, which has been developed since 1928 by the United Africa Company. This plantation will produce palm oil on a large scale, which will be transported in tank lighters down the Ndian river. The hygienic conditions here are of a high standard. Housing and sanitation are very good and there is an excellent hospital.

Since 1930 there has been a great development of banana cultivation in the Tiko area, and the extensive clearing of bush for this purpose should have a beneficial effect in driving tsetse fly away from the camps in this district, a matter of some importance in view of the prevalence of sleeping sickness. In connexion with the banana cultivation a small banana drying industry has sprung up. Bananas unsuitable for export are peeled, transferred to trays and baked in ovens for about two days at a temperature of 60°C. They are subsequently sorted and packed for export to Central Europe.

Hospital or dispensary accommodation is provided by all the plantations. In the case of companies owning several plantations there is usually one main hospital to which all but the light cases are admitted, and there are subsidiary hospitals or dispensaries at the other plantations in the group. African dressers usually visit the various camps daily for dressings and minor treatment. The Planters' Union employs a private practitioner who is in medical charge of most of the plantations in the Victoria division.

In nearly all cases the companies supply their labourers with staple foodstuffs. An average weekly ration is as follows:—

Rice, 2 kilogrammes (4.4 lb.).
Stockfish or salt fish, ½-1 lb.
Palm oil, *ad lib.*
Salt, ¼-½ lb.
Plantation, 30-40 lb. or
Coco yams, 30 lb.

In nearly all cases labourers are allowed to make their own small farms and in this way they supplement the obvious deficiencies in the standard diet provided. Housing is not of a high standard, but building materials present difficulties in this area, mud suitable for building purposes being practically non-existent. Roofs are usually of palm mats and walls of local timber or in some cases of palm mats or bark. General sanitation was on the whole poor, and a European

Sanitary Superintendent has been posted to this area to advise on and improve hygienic conditions generally, especially as regards conservancy and refuse disposal.

A good deal of attention was paid during the year to the sanitation of the tin-mining camps on the Bauchi Plateau. A Sanitary Superintendent visited all the main camps and made recommendations which are now being carried out with the co-operation of the managers.

A Sanitary Superintendent was also posted to Minna for similar work in the gold areas. Here the camps are mostly of a quite temporary character and only the simplest forms of sanitation are appropriate. This new industry has been of great value in absorbing a large amount of labour which would otherwise have been without employment.

V.—Housing and Town Planning.

In the Northern Provinces the new headquarters of the Jemaa Emirate is now occupied.

A new lay-out is in progress at Bida, and a large area around the hospital at Sokoto, which contained a good many insanitary dwellings, was cleared.

At Port Harcourt considerable improvement in housing conditions has followed the demolition, long overdue, of the unsightly and insanitary quarters occupied by casual labourers. At Abakaliki the re-housing of the European officials has been completed and plans have been formulated for the re-housing of the African population with the establishment of a building-free zone.

VI.—Food in Relation to Health and Disease.

Food has on the whole been plentiful and cheap, counteracting the effect of the general lack of money in this time of widespread depression. In 1932 a Dietetics Committee was formed in the Northern Provinces in order to secure co-operative action by the Agricultural, Forestry, Veterinary, Geological, and Medical Departments with a view to improving the quality and variety of the diet in general use. A similar Committee has now been formed for the Southern Provinces and will hold its first meeting at Enugu early in 1934.

The adoption of diet scales on the recommendation of the Dietetics Pathologist for schools and prisons in the north has already had a markedly beneficial effect. Recommendations have also been made as regards diet scales for the schools of the Southern Provinces where the problem is undoubtedly of great importance. The work of Fitzgerald Moore has shown that there exists in many of the boarders and also amongst children attending schools who diet themselves a widespread syndrome characterised by retrobulbar neuritis together with sore tongue and mouth and pruritus of the scrotum. It occurs in children living mainly on cassava whose diet is seriously deficient in protein and the B vitamins. There is no doubt that the diet generally of the native of the Southern Provinces is seriously lacking in protein owing to the scarcity and dearness of meat. The absence of milk in the dietary of growing children is an important matter and experiments are being made with a vegetable milk derived from groundnuts.

In the Northern Provinces more attention is being paid to the markets and by means of a grant from the Colonial Development Fund model market stalls have been erected by a number of Native Administrations.

In all the townships careful and regular supervision of bakehouses is carried out and as the re-issue of yearly licences is dependent upon proper management control is not generally difficult.

A scheme for a new and up-to-date abattoir in Lagos has been prepared and approved and it is hoped that work will begin in April, 1934. The site is at Apapa. Besides the abattoir itself there is to be a central cattle pound large enough to take the whole trainload which forms the weekly supply of cattle from the north. The pound will have its own railway siding.

B.—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

A book of drawings of simple sanitary structures was compiled by the Senior Health Officer, Kaduna, with the aid of the Superintendent of Native Administration Works, and copies were sent to Native Administrations, Administrative Officers, Medical Officers and others.

In all Government and assisted schools periods are devoted to the study of elementary sanitation and the importance of making this as practical as possible is fully realised.

A very successful " Health and Baby Week " was held in Lagos in February. A handbook of fifty pages was prepared containing a programme of events and many articles of practical interest by local contributors. Lectures and practical demonstrations were given daily and there was a display of health films kindly lent by the League of Red Cross Societies. Lagos subsequently entered for the Imperial Challenge Shield competition organised by the National Baby Week Council and was successful in securing second place, with the award of a special silver plaque and a certificate.

C.—TRAINING OF SANITARY PERSONNEL.

Much progress was made in the work of the training schools for sanitary inspectors at Kano and Ibadan. At Kano the school building was completed in June but was not fully equipped until the end of the year. The building consists of a lecture-room, museum, workroom, store and office. The school is intended for both Government and Native Administration pupils and the latter live in a hostel within the city-walls about a quarter of a mile away.

The school at Ibadan, which is for Native Administration students only, was opened in April with a class of thirteen students, which later was increased to twenty, recruited from the principal towns of the Oyo Province. By the end of the year there were twenty-five students in training. In addition to systematic teaching much use is made of practical work by means of models constructed by the students themselves. An excellent museum is in course of preparation, which includes over a hundred clay models representing incinerators of various kinds, geological formations, domestic drainage and so on. In addition, numerous charts and diagrams have been prepared and large scale paintings in enamel have been produced on the walls of the museum. These graphic methods are most effective in teaching and their value is shown in the good practical knowledge possessed by the students.

In Lagos the usual courses of training for sanitary inspectors have been continued on the same lines as before. An examination for the certificate of the Royal Sanitary Institute (West Africa) was held in Lagos in December. Forty-one candidates presented themselves and twelve satisfied the examiners.

D.—RECOMMENDATIONS FOR FUTURE WORK.

It has not been considered advisable to include in this report any new recommendations for future work as it is felt that all that can be hoped for at present is to maintain as far as possible existing schemes and work that is already going on. With regard to the recommendations made in the annual report for 1932, the systematic vaccination of infants has already been introduced in the larger Native Administration centres partly by the employment of women vaccinators. A cheap local supply of lymph, as to which experiments are in progress at Vom, would be of the greatest assistance. Details as to the progress of various water supply schemes have been given in the appropriate section.

IV.—PORT HEALTH WORK AND ADMINISTRATION.

Continued trade depression has maintained the reduction in the amount of shipping and the deck passenger traffic has remained at the same level as in 1932.

An amendment in the Quarantine Regulations towards the end of the year legalised the adoption of the new international code of wireless messages.

There has been a considerable increase in the number of seamen making use of the clinic for venereal diseases at Apapa. With the exception of one case of typhoid fever and one of chicken-pox no infectious disease was discovered on ships entering the port of Lagos.

Strict measures were taken to prevent mosquito breeding on the foreshore and in harbour craft with the co-operation of both shipping companies and Government Departments; 7,648 craft inspections were made, the larval index being 0.23.

At Port Harcourt 288 incoming ships were boarded and 286 outgoing ships were cleared by the Medical Officer of Health. One patient suffering from typhoid fever was removed from a vessel and died in hospital. In connection with this case the master of the vessel was prosecuted and fined for failure to report a case of infectious disease.

W. H. PEACOCK,
Deputy Director of Health Service.

V.—MATERNITY AND CHILD WELFARE.

During the year certificates of proficiency were granted by the Midwives Board as follows:—

Grade I	7
Grade II	6

The midwives who qualify for the Grade I certificate receive 2½ years' training at the Government maternity hospital at Lagos, and are registered for practice anywhere in Nigeria. Those who qualify for the Grade II certificate are trained at mission maternity centres, approved by the Midwives Board, and receive at least six months' training. They are registered for practice in the local area where they were trained or born.

Maternity work has increased to such an extent at the Massey Street Maternity Hospital at Lagos that it is proposed to increase accommodation for expectant mothers by utilising a ward previously occupied by children, who will be transferred to the African hospital.

In 1933, 463 cases of normal labour, seventy-seven cases of abnormal labour and 141 ante-natal cases were admitted to the wards.

The child welfare centres instituted by the Lagos Town Council continue in popularity; 2,955 children were on the register during 1933 with 7,395 attendances; 797 infants were referred for medical treatment. Of the mothers who attended 1,819 were occupied in trading or crafts and 1,136 had no definite occupation.

A staff of ten African health visitors is employed by the Lagos Town Council under the supervision of the Medical Officer of Health and a nursing sister. The following table summarises the work done :—

New cases born in township	3,893
New cases born outside township	106
New cases visited	3,999
Babies alive at first visit	3,855
Babies dead at first visit	129
Mothers alive at first visit...	3,973
Mothers dead at first visit	11
Cases not found at first visit	15
Revisits for the year	26,268
Cases attended by medical practitioners	935
Cases attended by native medicine men ...	3,049
Cases induced to visit dispensaries ...	187

5,172 following-up visits were paid to 591 sick children attending the clinics.

Progress is being made with the new maternity hospitals at Aba and Calabar which will be ready for occupation in 1934.

At Ijebu-Ode 102 women were admitted to the maternity ward of the hospital as against forty-seven in 1932, and 1,236 attendances at the child welfare clinic are recorded as against 539 in 1932.

At Aba 1,215 babies, with 6,713 attendances, were seen at the child welfare clinic which will be moved to the maternity hospital when completed.

The child welfare centre established by the Native Administration at Abeokuta has shown its astonishing popularity, under the charge of Miss McCotter, with a record of 126,525 attendances during the year, and an average daily attendance of 410. In the same town at a sub-centre 1,895 attendances were recorded.

At Kano the women's wards at the Native Administration hospital in the city are becoming increasingly popular, although maternity work develops slowly in this Mohammedan centre; 491 in-patients and 2,071 out-patients received treatment, and many calls were made upon the nursing sister to pay compound visits. The women's ward and out-patients department at Katsina have become steadily more popular, although here again actual maternity work makes little progress; 432 in-patients were admitted during the year.

VI.—HOSPITALS AND DISPENSARIES.

A.—HOSPITALS AND HOSPITAL STATISTICS.

Beyond the construction of an excellent new ward for women at the Native Administration hospital in Kano City, and the commencement of a new hospital which is being built by the Native Administration at Hadeija in the north-east of Kano Province, little progress has been made owing to the financial situation.

The following tables show the types of the hospitals which have been maintained and the facilities which exist :—

NIGERIA.

European Hospital Statistics, 1933.

No.	Name of Hospital.	C. G. or N. A.	No. of Beds.	Remaining end 1932.	In-Patients Admissions.			Remaining end 1933.	Out-Patients treated.			Total Patients treated.	Number of Operations.			Nursing Staff.			
					Male.	Female.	Total.		Male.	Female.	Total.		Major.	Minor.	Total.	European Sisters.	African.		
																	Male.	Female.	Total.
1	Calabar	C.G.	8	1	33	11	44	—	173	24	197	241	1	6	7	1	—	—	—
2	Enugu	C.G.	12	—	72	13	85	—	261	66	327	412	1	—	1	1½	4½	1	5½
3	Ibadan	C.G.	14	7	51	—	51	2	218	21	239	290	—	—	—	½	5	1	6
4	Jos	C.G.	18	1	67	21	88	6	356	59	415	503	6	37	43	1	5	1	6
5	Kaduna	C.G.	14	7	97	21	118	8	234	98	332	450	3	1	4	2	7	1	8
6	Kano	C.G.	16	1	91	14	105	5	320	42	362	467	—	38	38	1	6	1	7
7	Lagos	C.G.	30	10	237	71	308	7	794	150	944	1,252	16	19	35	3	7	4	11
7a	Lagos E. B. E/Dispensary ...	—	—	—	—	—	—	—	367	22	389	389	—	—	—	—	—	—	—
8	Lokoja	C.G.	4	—	7	3	10	—	51	10	61	71	—	—	—	½	1	—	1
9	Onitsha	C.G.	4	—	13	4	17	—	67	21	88	105	—	—	—	½	—	—	—
10	Port Harcourt	C.G.	13	—	82	23	105	4	343	54	397	502	8	9	17	1½	4	1	5
11	Victoria	C.G.	4	—	18	3	21	2	73	12	85	106	—	—	—	—	1	1	2
12	Warri	C.G.	8	—	48	7	55	1	128	18	146	201	—	—	—	½	3	—	3

AFRICAN HOSPITAL STATISTICS, 1933.

Northern Provinces.

No.	Type of Hospital.	Name of Hospital.	C.G. or N.A.	No. of Beds.	Remaining end 1932.	In-Patients admissions.			Remaining end 1933.	Out-Patients treated.			Total Patients treated.	Operations.			Nursing Sisters Average No.	African Nursing Staff.		
						Male.	Female.	Total.		Male.	Female.	Total.		Major.	Minor.	Total.		Male.	Female.	Total.
1	D.	Ankpa	C.G.	6	—	72	20	92	1	1,898	1,087	1,985	2,077	9	49	58	—	1	—	1
2	C.	Azare	N.A.	28	150	783	214	997	159	3,053	916	3,969	4,966	83	117	200	—	2	—	2
3	C.	Bauchi	C.G.	43	70	506	119	625	80	4,157	746	4,903	5,528	48	83	131	—	3	—	3
4	C.	Bida	N.A.	32	20	283	57	340	21	1,604	329	1,933	2,273	18	163	181	—	2	—	2
—	D.	Birnin Kebbi ...	N.A.	—	—	139	5	144	—	1,772	597	2,369	2,513	11	34	45	—	—	—	—
—	C.	Gadau (Dispensary)	C.G.	6	3	65	10	75	11	1,850	688	2,538	2,613	18	24	42	—	1	—	1
5	D.	Gusau	N.A.	16	23	275	42	317	22	2,307	472	2,779	3,096	35	88	123	—	2	—	2
6	B.	Ilorin	N.A.	21	37	367	52	419	29	4,545	2,204	6,749	7,168	87	115	202	—	2	—	2
7	B.	Jos, African ...	C.G.	95	106	902	267	1,169	—	7,045	1,988	9,033	10,202	260	298	558	1	16	3	19
8	B.	Kaduna	C.G.	83	86	1,475	190	1,665	63	3,954	1,481	10,435	12,100	239	821	1,060	1	19	5	24
9	D.	Kafanchan ...	C.G.	42	43	501	224	725	51	2,831	1,609	4,440	5,165	11	175	186	—	3	—	3
10	B.	Kano Fagge ...	C.G.	99	84	1,516	385	1 901	98	5,345	1,553	6,898	8,799	228	716	944	1	23	5	28
11	B.	Kano City ...	N.A.	138	90	925	—	925	124	4,619	163	4,782	5,707	93	158	251	1	—	2	2
	B.	Kano City, Women's and Children	N.A.	34	40	34	457	491	62	201	1,870	2,071	2,562	19	58	77	—	—	2	2
12	B.	Katsina, Men's ...	N.A.	124	65	1,050	—	1,050	87	7,442	439	7,881	8,931	69	262	331	1	2	—	2
	B.	Katsina, Women's ...	N.A.	52	33	—	465	465	41	67	741	808	1,273	85	40	125	—	—	1	1
13	D.	Lafia	C.G.	20	12	177	33	210	—	2,322	1,141	3,463	3,673	15	42	57	—	2	—	2
14	B.	Lokoja	C.G.	43	33	343	92	435	—	3,131	1,322	4,453	4,888	131	284	415	½	8	2	10
15	C.	Maiduguri ...	N.A.	80	86	1,316	137	1,453	145	6,464	1,445	7,909	9,362	577	514	1,091	—	4	—	4
16	C.	Makurdi ...	C.G. N.A.	83	—	666	197	863	—	10,815	4,234	15,049	15,912	234	130	364	—	6	—	6
17	C.	Minna	C.G.	25	—	375	28	403	—	2,840	566	3,406	3,809	16	109	125	—	3	—	3
18	C.	Pankshin ...	N.A.	48	41	491	121	612	57	3,029	1,349	4,378	4,990	101	230	331	—	—	—	—
19	C.	Sokoto	N.A.	57	37	1,456	434	1,890	931	4,029	553	4,582	6,472	88	108	196	—	3	—	3
20	D.	Wukari	N.A.	36	—	220	78	298	—	2,847	1,316	4,163	4,461	126	241	367	—	2	—	2
21	D.	Yola	C.G.	32	19	553	108	661	—	4,238	860	5,098	5,759	36	145	161	—	2	—	2
22	B.	Zaria	C.G.	110	73	1,055	193	1,248	58	6,036	1,048	7,084	8,332	104	325	429	1	13	3	16
23	D.	Zuru	C.G.	20	8	116	2	118	3	325	78	403	521	16	29	45	—	2	—	2

In column four "C.G." and "N.A." mean hospitals built and equipped by the Central Government or Native Administration respectively.

Types of Hospital :—B. Modern Hospitals to which European Nursing Sisters are posted for duty and where the training of junior African Nurses is carried out.
C. Modern Hospitals to which no European Nursing Sister is posted.
D. "Bush" Hospitals.

AFRICAN HOSPITAL STATISTICS, 1933.

SOUTHERN PROVINCES.

No.	Type of Hospital.	Name of Hospital.	C.G. or N.A.	No. of Beds.	Remaining end 1932.	In-Patients Admissions.			Remaining end 1933.	Out-Patients Treated.			Total Patients treated.	Operations.			Nursing Sisters Average No. in 1933.	African Nursing Staff.		
						Male.	Female.	Total.		Male.	Female.	Total.		Maj.	Min.	Total.		Male.	Female.	Total.
1	B	Aba	C.G.	60	25	414	258	672	32	11,468	9,521	20,989	21,661	24	14	38	1	6	5	11
2	C	Abakaliki	N.A.	16	6	316	22	338	24	3,567	2,068	5,635	5,973	3	9	12	—	2	—	2
3	B	Abeokuta	C.G.	100	54	524	263	787	28	4,658	1,499	6,157	6,944	106	434	540	1	10	4	14
4	D	Afikpo	C.G.	4	—	1	—	1	—	3,220	1,414	4,634	4,635	—	—	—	—	—	—	—
5	C	Agbor	C.G.	22	—	271	117	388	—	6,006	4,081	10,087	10,475	83	154	237	—	5	—	5
6	C	Akure	C.G.	42	—	235	114	349	—	2,364	1,024	3,388	3,737	27	60	87	—	3	1	4
7	C	Bamenda	N.A.	54	—	684	315	999	51	8,538	4,510	13,048	14,041	73	124	197	—	3	—	3
8	D	Banso	N.A.	26	19	251	135	386	5	4,363	2,338	6,701	7,087	12	14	26	—	2	—	2
9	C	Benin-City	C.G.	25	15	271	18	289	9	10,074	3,608	13,682	13,971	9	54	63	—	3	—	3
10	C	Buea	C.G.	24	18	226	25	251	—	4,101	1,613	5,714	5,965	6	54	60	—	2	—	2
11	B	Calabar	C.G.	116	99	839	319	1,158	69	14,812	6,444	21,256	22,414	41	66	107	2	20	9	29
12	C	Degema	C.G.	19	15	124	43	167	14	3,672	2,106	5,778	5,945	36	72	108	—	2	—	2
13	B	Enugu	C.G.	54	54	1,030	185	1,215	62	15,176	4,452	19,628	3,177	422	525	947	1	13	3	16
14	C	Forcados	C.G.	12	7	219	37	256	11	7,157	1,905	9,062	9,318	40	536	576	—	2	—	2
15	B	Ibadan, Adeoyo ...	N.A.	85	64	642	298	940	60	8,215	6,165	14,380	15,320	252	575	827	1	4	1	5
16	C	Ibadan, African ...	C.G.	34	9	348	34	382	41	5,856	655	6,511	6,893	52	42	94	½	7	—	7
17	C	Ijebu-Ode	C.G.	68	—	676	389	1,065	—	3,933	1,193	5,126	6,191	131	261	392	1	8	4	12
—	D	Ikom	—	—	—	—	—	—	—	3,051	1,222	4,273	4,273	—	1	1	—	—	—	—
18	C	Ikot-Ekpene	N.A.	70	20	554	131	685	58	6,646	3,700	10,346	11,031	91	82	173	—	4	—	4
19	C	Kumba	C.G.& N.A.	41	40	451	70	521	26	5,252	2,570	7,822	8,343	106	124	230	—	3	—	3
20	B	Lagos, African ...	C.G.	202	147	2,623	555	3,178	165	29,624	12,792	42,416	45,594	683	826	1,509	3	47	13	60
21	B	Lagos, Massey Street ...	C.G.	39	18	127	924	1,051	5	2,935	9,158	12,093	13,144	23	350	373	1	—	22	22
	C	Lagos, I.D.H. (Yaba) ...	C.G.	89	4	113	30	143	4	—	—	—	—	—	—	—	—	1	1	2
21a	C	Lagos, Prisons ...	C.G.	17	4	211	2	213	7	2,324	92	2,416	2,629	—	—	—	—	1	—	1
	C	Lagos, Yaba Asylum ...	C.G.	—	162	135	60	195	112	438	158	596	791	—	7	7	—	—	—	—
	C	Lagos, E.B.A. Dispensary	—	—	—	—	—	—	—	12,525	2,130	14,655	14,655	—	267	267	—	—	—	—
22	C	Mamfe	C.G.	43	10	355	116	471	30	3,954	2,320	6,274	6,745	55	129	184	—	3	—	3
23	C	Obubra	C.G.	10	11	259	51	310	1	2,848	1,516	4,364	4,674	69	115	184	—	1	—	1
24	C	Ogoja	N.A.	18	7	142	44	186	6	3,610	1,963	5,573	5,759	26	200	226	—	2	—	2
25	C	Okigwi	N.A.	65	84	783	290	1,073	71	9,919	3,460	13,379	14,452	7	44	51	—	4	—	4
26	B	Onitsha	C.G.	65	177	611	163	774	131	16,174	9,528	25,702	26,476	19	3	22	½	10	5	15
27	D	Opobo	C.G.	30	8	217	31	248	17	33,038	26,113	59,151	59,399	26	54	80	—	2	—	2
28	C	Oshogbo	C.G.	35	22	234	114	348	18	2,084	791	2,875	3,223	30	114	144	—	3	2	5
29	C	Owerri	C.G.& N.A.	44	—	920	337	1,257	—	7,540	4,549	12,089	13,346	19	24	43	—	4	—	4
30	B	Port Harcourt	C.G.	174	111	436	84	520	109	15,193	4,369	19,562	20,082	334	742	1,076	1½	27	8	35
31	C	Sapele	C.G.	24	4	243	44	287	11	3,747	1,327	5,074	5,361	32	27	59	—	4	—	4
—	C	Umuahia	C.G.	14	—	83	22	105	—	6,993	4,797	11,790	11,895	63	80	143	—	29	—	29
32	B	Victoria	C.G.	80	40	601	181	782	58	4,219	1,633	5,852	6,634	59	101	160	½	7	3	10
33	B	Warri	C.G.	32	2	482	138	620	11	4,098	1,014	5,112	5,732	19	10	29	½	8	3	11

In column four "C.G." and "N.A." mean hospitals built and equipped by the Central Government or Native Administration respectively.

Types of Hospital :—B. Modern Hospitals to which European Nursing Sisters are posted for duty and where the training of junior African Nurses is carried out.
C. Modern Hospitals to which no European Nursing Sister is posted.
D. "Bush" Hospitals.

B.—NATIVE ADMINISTRATION DISPENSARY SYSTEM.

There are now 222 dispensaries open, ninety-six in the Northern Provinces, 122 in the Southern Provinces, and four in the Colony. There is no question as to the popularity of the system and medical officers remark upon the increasing number of cases of serious illness which are sent to base hospitals by the attendants. The ambulances which were purchased under a grant from the Colonial Development Fund have proved of great service. In Katsina division of Zaria Province female attendants have been posted at the dispensaries in addition to the male attendants in order to encourage the attendance of women and children and to visit the ' purdah ' women in the towns. The value of the dispensaries as local health centres and vaccination posts is obvious but the shortage of medical staff has seriously interfered with the medical inspection and supervision of the work which is essential for efficiency.

The following table gives the situation of the dispensaries in the verious provinces :—

NORTHERN PROVINCES.

Province.	Name of Dispensary.	Inspecting Officer.
Adamawa (8)	Jada	M.O. Yola.
	Jalingo	do.
	Lau	do.
	Mayo Belwa	do.
	Numan	do.
	Shellen	do.
	Song	do.
	Yola	do.
Bauchi (6)	Duku	M.O., Bauchi.
	Gombe	do.
	Misau	M.O., Azare.
	Shira	do.
	Toro	S.M.O., Jos.
	Tula Wange	M.O., Bauchi.
Benue (11)	Abinsi	M.O., Makurdi.
	Donga	M.O., Wukari.
	Ibi	do.
	Igbor	M.O., Makurdi.
	Katsina Ala	M.O., Wukari.
	Keffi	M.O., Lafia.
	Loko	do.
	Nasarawa	do.
	Okwoga	M.O., Makurdi.
	Oturkpo	M.O., Wukari.
	Tarkum	do.
Bornu (9)	Bama	I.M.O., Bornu.
	Biu	do.
	Damaturu	do.
	Dikwa	do.
	Geidam	do.
	Hambagda	do.
	N'guru	M.O.H., Kano.
	Potiskum	I.M.O., Bornu.
	Gorgoram	do.
Ilorin (7)	Ajasse	M.O., Ilorin.
	Ilorin (2)	do.
	Kaiama	do.
	Lafiagi	do.
	Offa	do.
	Omu-Aran	do.

NORTHERN PROVINCES—*continued.*

Province.	Name of Dispensary.	Inspecting Officer.
Kabba (8)	Adoru	M.O., Ankpa.
	Dekina	do.
	Idah	do.
	Kabba	M.O., Lokoja.
	Koton Karifi	do.
	Lokoja	do.
	Oguma	M.O., Ankpa.
	Okene	M.O., Lokoja.
Kano (10)	Bichi	M.O., Kano City.
	Damberta	do.
	Daura	M.O.H., Kano.
	Dawaki	M.O., Kano City.
	Gumel	M.O.H., Kano.
	Gwarzo	M.O., Kano City.
	Hadejia	M.O.H. Kano.
	Kazaure	do.
	Ringim	M.O., Kano City.
	Wudil	do.
Niger (10)	Abuja	M.O., Minna.
	Agaie	M.O., Bida.
	Gerki	M.O., Minna.
	Kacha	M.O., Bida.
	Kontagora	do.
	Kuta	M.O., Minna.
	Kutigi	M.O., Bida.
	Lapai	M.O., Minna.
	Lemu	M.O., Bida.
	Zungeru	do.
Plateau (10)	Barakin Ladi	I.M.O., Pankshin.
	Bokkos	do.
	Dengi	do.
	Fadan Karshi	M.O., Kafanchan.
	Gerkawa	I.M.O., Pankshin.
	Gindiri	do.
	Kwoi	M.O., Kafanchan.
	Makafo	S.M.O., Jos.
	Shendam	I.M.O., Pankshin.
	Wamba	M.O., Lafia.
Sokoto (11)	Argungu	I.M.O., Birnin Kebbi.
	Birnin Kebbi	do.
	Gwadabawa	do.
	Jega	do.
	Kaura-Namoda	M.O., Gusau.
	Koko	I.M.O., Birnin Kebbi.
	Mahuta	do.
	Talata Mafara	M.O., Gusau.
	Tambawel	I.M.O., Birnin Kebbi.
	Yelwa	do.
	Zuru	do.
Zaria (6)	Funtua	M.O., Katsina.
	Kankiya	do.
	Malumfashi	do.
	Mani	do.
	Musawa	do.
	Zaria	M.O., Zaria.

SOUTHERN PROVINCES.

Province.	Name of Dispensary.	Inspecting Officer.
Abeokuta (8)	Ado	M.O.H., Abeokuta.
	Aiyetoro	do.
	Ilaro	do.
	Imala	do.
	Lafenwa	do.
	Meko	do.
	Otta	do.
	Owode	do.
Benin (20)	Abavo	M.O., Agbor.
	Agbede	do.
	Auchi	do.
	Ehor	M.O., Benin City.
	Ekenwan	do.
	Ekiadolor	do.
	Ewohimi	M.O., Agbor.
	Ibillo	do.
	Ibusa	do.
	Igbodo	do.
	Iguobazua	M.O., Benin City.
	Irrua	M.O., Agbor.
	Oghada	M.O., Benin City.
	Ogwashi-Uku	M.O., Agbor.
	Onicha Olona	do.
	Sabongida	do.
	Ubiaja	do.
	Uburuku	do.
	Ugbegun	do.
	Ugo	M.O., Benin City.
Calabar (15)	Agafor	M.O., Opobo.
	Afaha	M.O., Ikot-Ekpene.
	Creek Town	M.O., Calabar.
	Eket	M.O., Opobo.
	Ibiaku	M.O., Ikot-Ekpene
	Ikono Nung-Ukum ...	do.
	Ikwek	do.
	Nto Edino	do.
	Nung Udoe	do.
	Ududu Ekpe	do.
	Ukam	M.O., Opobo.
	Ukanafun	M.O., Ikot-Ekpene.
	Ututu Aro	do.
	Uyo	do.
	Uyo Offat	do.
Cameroons (6)	Bamunka	M.O., Bamenda.
	Batibo	do.
	Kembong...	M.O., Mamfe.
	Moyunka	M.O., Victoria.
	Nyasoso	M.O., Bamenda.
	Tiko	M.O., Victoria.
Ijebu Ode (7)	Idowa	M.O., Ijebu Ode.
	Ijebu Ife	do.
	Ijebu Igbo	do.
	Iwopin	do.
	Ode Remo	do.
	Owu	do.
	Shagamu	do.
Ogoja (10)	Aba-Omege	M.O., Abakaliki.
	Aboabam	do.
	Assega	do.
	Bansara	M.O., Ogoja.
	Edda	M.O., Abakaliki.
	Ediba	do.
	Ezza	do.
	Ikwo	do.
	Ndubia	do.
	Obudu	do.

SOUTHERN PROVINCES—*continued.*

Province.	Name of Dispensary.	Inspecting Officer.
Ondo (9)	Ado Ekiti	M.O., Akure.
	Effon	do.
	Egosi	do.
	Igbara-Odo	do.
	Ijero Ekiti	do.
	Oka	do.
	Okitipupa	do.
	Ondo	do.
	Owo	do.
Onitsha (7)	Aguleri	S.M.O., Onitsha.
	Awgu	M.O., Okigwi.
	Eke	M.O., Enugu.
	Ihiala	S.M.O., Onitsha.
	Isuofiia	do.
	Nnewi	do.
	Obolo	M.O., Enugu.
Owerri (18)	Abua	M.O., Owerri.
	Agwa	do.
	Ahoada	do.
	Asa	M.O., Aba.
	Azumini	do.
	Bende	M.O., Umuahia.
	Brass	M.O., Degema.
	Ife	M.O., Owerri.
	Ngor	do.
	Okigwi	do.
	Obohia	do.
	Oguta	do.
	Ogwa	do.
	Oloko	M.O., Umuahia.
	Orlu	M.O , Okigwi.
	Owerrinta	M.O., Aba.
	Umuaro	M.O., Aba.
	Umuduru	M.O., Okigwi.
Oyo (17)	Agodi	I.M.O., Ibadan.
	Ede	M.O., Oshogbo.
	Fiditi	I.M.O., Ibadan.
	Gbongan	M.O., Adeoyo.
	Ife	M.O., Oshogbo.
	Igbajo	do.
	Ikire	M.O., Adeoyo.
	Ikirun	M.O., Oshogbo.
	Ilesha	do.
	Illa	do.
	Ipetu-Ijesha	do.
	Ipetu Modu	do.
	Iseyin	M.O.H., Ibadan.
	Okeho	do.
	Oranyan	do.
	Oyo	S.M.O., Ibadan.
	Shaki	do.
Warri (5)	Abbe	M.O., Sapele.
	Okpara	do.
	Ukpe Sobo	do.
	Utagba Uno	do.
	Warifi	do.
Colony (4)	Badagry	Headquarters.
	Epe	M.O., Ijebu Ode.
	Ikeja	Headquarters.
	Ikorodu	M.O., Ijebu Ode.

The following table indicates the main diseases treated at the dispensaries during 1933 :—

	Disease.	Northern Provinces.	Southern Provinces.	Total.
1.	Relapsing fever	122	48	170
2.	Malaria	6,302	28,620	34,922
3.	Smallpox	339	88	427
4.	Chickenpox	143	622	765
5.	Influenza	1,041	1,214	2,255
6.	Trypanosomiasis	411	263	674
7.	Cerebro-spinal meningitis	41	103	144
8.	Dysentery	1,227	3,890	5,117
9.	Leprosy	586	1,241	1,827
10.	Yaws	89,974	17,746	107,720
11.	Syphilis	12,696	6,653	19,349
12.	Conjunctivitis	3,789	6,558	10,347
13.	Other eye diseases	2,869	4,816	7,685
14.	Otitis media	1,698	4,475	6,173
15.	Other diseases of ear	807	3,016	3,823
16.	Cough	10,227	22,438	32,665
17.	Pneumonia	793	3,556	4,349
18.	Tuberculosis of lungs	298	472	770
19.	Diseases of teeth and gums	2,073	6,210	8,283
20.	Dyspepsia	4,621	8,937	13,558
21.	Diarrhœa (infants)	716	2,608	3,324
	Diarrhœa (adults)	1,185	3,538	4,723
22.	Constipation	19,054	28,713	47,765
23.	Hæmorrhoids	116	520	636
24.	Jaundice	493	2,205	2,698
25.	Dropsy, ascites	117	337	454
26.	Hernia, inguinal	282	455	737
	Hernia, umbilical	52	46	98
27.	Tænia	17,476	3,969	21,445
28.	Ascaris	263	18,088	18,351
29.	Guinea-worm	3,614	2,173	5,787
30.	Arthritis	724	2,949	3,673
31.	Chronic rheumatism	1,242	44,476	45,718
32.	Gonorrhœa	5,284	8,876	14,160
33.	Orchitis and epididymitis	179	294	473
34.	Hydrocele	479	43	522
35.	Leucorrhœa	47	303	350
36.	Abortion	27	124	151
37.	Boil	3,090	2,821	5,911
38.	Abscess	4,418	6,462	10,880
39.	Ulcer	14,661	48,735	63,396
40.	Scabies, craw-craw	7,592	26,581	34,173
41.	Other skin diseases	3,868	9,412	13,280
42.	Lymphadenitis, bubo	506	1,282	1,788
43.	Elephantiasis	50	298	348
44.	Chigoes	1,194	216	1,410
45.	Snake-bite	116	288	404
46.	Scorpion sting	173	113	286
47.	Burns	1,047	1,973	3,020
48.	Wounds and injuries	10,785	22,070	32,855
49.	Fractures	203	541	744
50.	Tumours	135	503	638
51.	Paralysis	24	205	229
52.	Mania	16	160	176
53.	Poisoning, native medicines	2	144	146
	,, juju obsessions	6	36	42
54.	Fits, epilepsy	68	242	310
55.	**Tetanus ... ...**	**46**	**697**	743

Disease.	Northern Provinces.	Southern Provinces.	Total.
56. Schistosomiasis	224	—	224
57. Sore throat	774	20	794
58. Ankylostomiasis	1,379	—	1,379
59. Pleurodynia	642	11	653
60. Lumbago	4,098	7	4,105
61. Headache	3,102	39	3,141
62. Debility	22	585	607
63. Mumps	8	15	23
64. Vaccinations	2,433	125	2,558
65. Other diseases	170	2,667	2,837
Total	252,257	366,931	619,188

The total number of patients treated at these dispensaries in 1932 was 367,882.

C.—MEDICAL WORK OF RELIGIOUS MISSIONS.

The following table has been compiled from information kindly supplied by mission superintendents :—

Mission.	No. of Stations performing Medical work.	No. of Doctors.	No. holding Dispensers Permits.	Nature of Work.				Cases Treated.	Total Attendances.
				Hospitals.	Dispensaries.	Leprosy.	Maternity and Infant Welfare.		
Northern Provinces.									
Sudan Interior Mission ...	29	1	52	1	29	2	8	15,090	180,223
Sudan United Mission ...	25	3	57	1	21	2	5	22,533	218,200
United Missionary Society ...	6	...	3	...	2	...	...	...	21,019
Dutch Reformed Church ...	6	2	8	2	3	1	1	10,579	209,735
Christian Mission in many Lands	3	...	3	...	3	1	2	...	18,841
Church of the Brethren Mission	3	2	4	2	1	1	1	5,080	81,782
Church Missionary Society ...	2	2	2	1	3	1	1	3,414	51,325
Southern Provinces.									
Catholic Sacred Heart Hospital	1	1	1	1	1	1	1	2,027	13,216
Baptist Mission, Ogbomosho ...	3	2	1	1	2	2	2	8,513	29,113
Methodist Missionary Society	11	3	...	4	8	1	5	20,118*	58,556*
Church of Scotland	4	3	6	2	4	2	4	17,254	42,170*
Qua Iboe Mission	10	1	14	6	9	1	4	5,583	29,281*
Basel Mission	10	...	15	...	3	...	4	1,000	6,000
Church Missionary Society ...	2	3	6	1	2	...	2	3,073†	51,621

* Records incomplete. † In-patients only.

D.—DENTAL REPORT.

The Dental Surgeon stationed at Kaduna was absent on leave from August to December. The following figures indicate the work carried out for European and African officials during the year at Lagos and Kaduna and during visits paid to Enugu, Port Harcourt, Calabar, Jos and Kano:—

	Kaduna.	Lagos.	Total.
Fillings	389	1,129	1,518
Dressings	99	315	414
Root Treatments	17	71	88
Scalings	155	400	555
Extractions	138	276	414
Stomatitis and Suppurative Cervical periodonitis	...	37	37
Dentures	23	17	40
Repairs to dentures	21	60	81

E.—SURGICAL OPERATIONS, 1933.

Nature of Operation.	Total.	Cured.	Relieved.	Unrelieved.	Died.
A. General.					
Amputations	363	343	12	...	8
Appendectomy	40	38	...	...	2
Bubonocele (radical cure) ...	101	94	7	...	...
Fractures, plating, etc. ...	73	68	2	...	3
Herniotomy	1,065	1,000	15	2	48
Hepatic abscess (drainage, etc.)	102	96	2	...	4
Laparotomy	69	30	13	5	21
Hæmorrhoids (radical cure) ...	115	112	1	...	2
Colotomy	1	1	...	...	...
Excision, benign tumours and cysts	412	404	8	... ...	...
Excision (malignant tumours)	36	27	7		2
Excision glands	130	126	4	...	...
Excision breast	30	30	...	...	...
Enterectomy	3	3	...	...	...
Sequestrotomy	168	153	10	...	5
Osteotomy	49	46	3	...	...
Trephining	...	...	...	...	...
Splenectomy	4	2	...	...	2
Cholecystomy	3	2	...	...	1
Curettage general ...	216	179	37	...	...
Skin Grafting	411	379	18	13	1
Thoractomy	2	2	...	...	...
Tonsillectomy	5	5	...	...	...
Thyroidectomy	10	10		...	...
Omentopexy	...	...	...	...	...
Ischio rectal abscess ...	52	47	3	1	1
Other operations	760	593	132	10	25
B. Eyes.					
Cataract	31	26	5	...	...
Enucleation	25	22	3	...	...
Iridectomy	9	9	...	...	...
Other operations	104	92	8	2	2
C. Ear.					
Mastoid Schwartze operation	10	10	...	...	...
Other operations	57	45	12	...	...
Carried forward ...	4,456	3,994	302	33	127

SURGICAL OPERATIONS, 1932—*continued.*

Nature of Operation.	Total.	Cured.	Relieved.	Unrelieved.	Died.
Brought forward ...	4,456	3,994	302	33	127
D. Genito Urinary, Male.					
External urethrotomy ...	92	87	4	...	1
Internal urethrotomy ...	3	2	1	...	...
Dilation of stricture ...	481	263	213	2	3
Elephantiasis of scrotum ...	118	113	...	...	5
Hydrocele (radical cure) ...	512	499	8	...	5
Varicocele „ „ ...	5	5	...	...	...
Circumcision	1,607	1,607	...	...	...
Cystotomy	61	54	1	...	6
Orchidectomy	17	17	...	...	...
Tumour of bladder ...	18	17	...	...	1
Other operations	104	59	40	3	2
E. Genito Urinary, Female.					
Abdominal hysterectomy ...	39	35	...	...	4
Elephantiasis	26	25	...	...	1
Ovariotomy	24	21	...	...	3
Salpingectomy	26	19	...	...	7
Hysteropexy	7	7	...	...	...
Perineorraphy	7	7	...	...	...
Endometritis (curettage) ...	156	139	17	...	...
Colporrhaphy	22	18	3	...	1
Other operations	48	33	10	1	4
F. Obstetrical.					
Abortion—curettage ..	20	19	...	...	1
Forceps extraction ...	35	28	...	...	7
Podalic version	1	...	1	...	...
Craniotomy	7	5	...	...	2
Ectopic gestation ...	1	1	...	...	...
Cæsarian section	7	5	...	...	2
Retained placenta (currettage)	25	23	...	...	2
Other operations	32	23	3	5	1
G. Minor Surgical Operations.					
Abscesses, general Injuries ...	6,618	6,234	277	54	53
Totals	14,575	13,359	880	98	238

F.—X-RAY DEPARTMENTS.

At Lagos 745 patients were X-rayed, including seventy-eight who were X-rayed after bismuth meals, which require from four to ten separate examinations in each case.

The X-ray plant at Kaduna has proved extremely useful; 129 films were taken during the year, fractures, as usual, comprising the majority of cases which required examination.

VII.—PRISONS AND ASYLUMS.

The following figures show the general health and the death rate

of prisoners in Government gaols during the year, contrasted with figures for the previous two years :—

	Northern Provinces.			Southern Provinces.		
	1931.	1932.	1933.	1931.	1932.	1933.
Average daily number in Prison	481	449	452	6,979	7,074	6,686
Total number on sick list	377	291	142	27,541	25,292	25,346
Total number of days on sick list	3,252	2,753	2,076	77,007	162,943	72,982
Average daily sick ..	8·90	7·36	5·69	59·17	69·11	70·61
Total number of deaths	6	4	10	119	97	101
Death rate per thousand	12·4	8·9	22·1	17·5	13·7	15·1

At Native Administration prisons in the Northern Provinces the death rate per 1,000 prisoners was 15.62.

The following table shows the causes of deaths among prisoners :—

Northern Provinces.			
Pulmonary tuberculosis	...	...	1
General paralysis	...	...	1
Heart failure	...	...	4
Aneurism of Aorta	...	...	1
Lobar pneumonia	...	...	2
Asthenia ...	...	...	1
Total	...	...	10
Southern Provinces.			
Malaria ...	...	...	2
Small-pox	...	...	6
Diarrhoea	...	...	6
Dysentery	..	...	8
Leprosy ...	...	...	2
Trypanosomiasis	...	...	1
Tetanus ...	...	...	1
Septicæmia	...	...	1
Carried forward		...	27
Brought forward		...	27
Anæmia	...	...	3
Toxæmia	...	...	5
Hæmorrhage	...	...	3
Pericarditis	...	...	3
Cardiac diseases	...	...	19
Myocarditis	...	...	1
Bronchitis	...	...	1
Pneumonia	...	...	22
Ulcer of stomach ...		...	1
Colitis ...	...	...	1
Enteritis	...	...	1
Hernia	...	...	1
Cirrhosis of the Liver		...	2
Abscess	...	...	1
Arthritis	...	...	1
Senility	...	...	1
Ascites	...	...	1
Injury ...	...	...	6
Natural Causes	...	...	1
Total ...		...	101

The position with respect to mental asylums still remains unsatisfactory. No progress has been made with the scheme for a large asylum for the Southern Provinces which was to have been built at Abeokuta and no true mental hospital of any kind exists in Nigeria, nor is any officer specially trained in mental diseases now employed by the Nigerian Government. The existing asylums at Yaba and Calabar are filled to their capacity; parts of the prisons at Lagos and Lokoja are reserved for lunatics; and most of the Native Administration prisons have a section, usually outside the main prison compound, which is reserved for accommodation of lunatics.

VIII.—METEOROLOGY.

Tables showing comparative monthly rainfall for Lagos and meteorological returns for various stations for 1933 are appended.

COMPARATIVE MONTHLY RAINFALL—LAGOS, 1923–1933.

Month.	YEAR.										
	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.
January	0·89	1·94	1·50	...	2·49	1·77	·02	1·38	0·94	0·02	4·93
February	1·22	1·12	0·40	3·00	2·35	2·22	1·46	2·21	1·47	0·44	2·05
March	2·60	5·28	6·61	2·74	2·78	8·20	1·73	3·27	5·89	2·61	4·67
April	6·43	7·55	7·00	12·76	3·37	6·96	7·04	5·01	7·16	3·80	3·95
May	13.55	3·45	12·16	13·69	8·19	15·33	11·34	8·61	8·87	11·34	6·61
June...	25·08	5·53	20·40	13·06	7·08	21·05	24·79	13·28	17·73	14·10	14·86
July	10·44	2·48	15·22	10·07	8·57	2·53	19·93	18·40	17·81	0·86	19·49
August	0·12	0·10	1·28	0·26	0·25	2·05	·81	·66	2·10	3·02	1·51
September	3·15	4·10	5·98	11·05	3·04	5·60	3·11	2·67	12·54	4·11	5·49
October	5·36	15·62	2·98	3·79	13·33	12·67	6·03	12·46	5·87	5·16	6·01
November	2·72	0·83	2·87	5·47	2·38	·54	4·10	1·88	2·24	2·63	5·31
December	...	1·92	...	0·07	1·17	·13	6·02	1·69	0·93	...	0·97
Total	**71·56**	**49·92**	**76·40**	**75·97**	**55·00**	**79·05**	**86·38**	**71·52**	**83·55**	**48·09**	**75·85**

TABLE III.

METEOROLOGICAL RETURNS FOR 1933.

STATION.	Absolute Shade Max.	Absolute Shade Min.	Average Max.	Average Min.	Relative Humidity.	Rainfall inches.
Ilorin	101	48	66	59·5	84·1	66·10
Kaduna	100	53	95	61·2	60·9	43·94
Maiduguri	112	50	103·2	62·2	49·1	34·66
Kano	107	50	90·8	62	48·5	33·39
Lokoja	101	54	97·08	66·9	80·3	46·90
Yola	105	90	98·08	66·6	68·1	35·42
Lagos	93	66	89·2	70·6	85·6	75·85
Ibadan	99	59	91·5	64·6	86	62·41
Calabar	93	61	90	68·4	92·5	128·12
Enugu	103	63	93·3	65·7	82·2	80·48

IX.—SCIENTIFIC.

The following reports appear as appendices:—

A.—Report upon Laboratory Service.

B.—Report upon Tsetse Investigation and Sleeping Sickness work.

C.—Report upon Medical School.

W. B. JOHNSON,
Director of Medical and Sanitary Service.

RETURNS.

TABLE IV.

RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933.

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	Total. Admissions. Male.	Total. Admissions. Female.	Total. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
I.—*Epidemic, Endemic, and Infectious Diseases.*									
1. Enteric Group—									
(*a*) Typhoid Fever ...	...	6	2	4	8	...	3	...	...
(*b*) Paratyphoid A. ...	...	...	1	...	1	...	...	...	...
(*c*) Paratyphoid B. ...	...	1	...	...	1	...	...	...	...
(*d*) Type not defined ...	...	2	...	...	2	1	...	...	...
2. Typhus	...	...	...	...	...	...	...	...	...
3. Relapsing Fever	...	...	...	..	...	...	...	...	...
4. Undulant Fever	...	...	...	...	...	...	...	...	...
5. Malaria—									
Type undefined ...	...	...	...	...	...	...	1	...	...
(*a*) Tertian	...	...	...	...	...	...	10	2	...
(*b*) Quartan	...	...	...	...	...	...	...	...	...
(*c*) Aestivo-autumnal ...	4	219	44	...	267	3	564	97	...
(*d*) Cachexia	...	...	...	...	...	...	2	...	...
(*e*) Blackwater ...	...	9	1	...	10	1	2	...	...
6. Smallpox	...	...	...	...	...	...	...	...	...
Alastrim	...	...	...	...	...	...	...	...	...
7. Measles	...	...	2	...	2	...	4	4	...
8. Scarlet Fever	...	...	...	...	...	...	...	...	...
9. Whooping Cough	...	...	...	...	...	...	...	...	...
10. Diphtheria	...	...	...	...	...	...	...	...	...
11. Influenza	...	29	4	...	33	1	142	17	...
12. Miliary Fever	...	...	...	...	...	...	...	...	...
13. Mumps	...	...	...	...	...	...	1	3	...
14. Cholera	...	...	...	...	...	...	...	...	...
15. Epidemic diarrhoea ...	...	...	...	...	...	...	...	...	...
16. Dysentery—									
(*a*) Amœbic	...	23	6	...	29	1	48	5	...
(*b*) Bacillary	1	12	5	...	18	1	9	6	...
(*c*) Undefined or due to other causes ...	...	1	...	1	1	...	4	1	...
17. Plague—									
(*a*) Bubonic	...	...	...	...	...	...	...	...	...
(*b*) Pneumonic ...	...	...	...	...	...	...	...	...	...
(*c*) Septicaemic ...	...	...	...	...	...	...	...	...	...
(*d*) Undefined	...	...	...	...	...	...	...	...	...
18. Yellow Fever	*	1	...	1	1	...	...	...	...
19. Spirochætosis ictero-hæmorrhagica ...	...	...	...	...	...	...	...	...	...
20. Leprosy	...	...	...	...	...	...	...	...	...
21. Erysipelas	...	...	...	...	..	...	1	...	...
22. Acute Poliomyelitis ...	...	...	1	...	1	...	...	1	...
23. Encephalitis Lethargica ...	...	...	...	...	..	...	...	...	...
24. Epidemic Cerebro-spinal Fever	...	...	...	...	...	...	...	...	...
25. Other Epidemic Diseases—									
(*a*) Rubeola (German Measles)	...	2	...	...	2	...	13	2	...
(*b*) Varicella (Chicken-pox)	...	1	...	...	1	...	...	1	...
(*c*) Kala-azar	...	...	...	...	...	...	...	...	...
(*d*) Phlebotomus Fever ...	...	...	...	...	...	...	...	...	...
Carried forward ...	5	306	66	6	377	8	804	139	...

* Imported case.

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.					OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	TOTAL. Admissions. Female.	TOTAL. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward ...	5	306	66	6	377	8	804	139	...
I.—*Epidemic, Endemic, and Infectious Diseases*—contd.									
Other Epidemic Diseases—									
(*e*) Dengue	...	1	...	...	1	...	6	2	...
(*f*) Epidemic Dropsy ...	...	...	...	...	...	...	...	...	...
(*g*) Yaws	...	...	...	...	...	...	...	...	...
(*h*) Trypanosomiasis ...	...	1	1	...	2	...	1	1	...
26. Glanders	...	...	...	...	...	...	...	...	...
27. Anthrax	...	...	...	...	...	...	...	...	...
28. Rabies	...	...	...	...	...	...	...	...	...
28*a*. Anti rabid prophylaxis ...	...	...	1	...	1	...	13	3	...
29. Tetanus	...	...	...	...	...	...	...	...	...
30. Mycosis	...	...	...	...	...	...	...	...	...
31. Tuberculosis, Pulmonary and Laryngeal	...	3	...	...	3	...	1	...	...
32. Tuberculosis of the Meninges or Central Nervous System	...	...	...	...	...	...	...	...	...
33. Tuberculosis of the Intestines or Peritoneum	1	...	...	1	1	...	...	...	...
34. Tuberculosis of the Vertebral Column	...	...	...	...	...	...	...	...	...
35. Tuberculosis of Bones and Joints	...	...	.	...	...	...	...	...	...
36. Tuberculosis of other organs—									
(*a*) Skin or Subcutaneous Tissue (Lupus) ...	...	...	...	...	...	...	...	...	...
(*b*) Bones	...	...	...	...	...	...	...	...	...
(*c*) Lymphatic System ...	...	...	...	...	...	...	...	1	...
(*d*) Genito-urinary ...	...	...	...	...	...	...	...	...	...
(*e*) Other Organs ...	...	...	...	...	...	...	...	...	...
37. Tuberculosis disseminated—									
(*a*) Acute	...	...	...	...	...	...	...	...	...
(*b*) Chronic	...	...	...	...	...	...	...	...	...
38. Syphilis—									
(*a*) Primary	...	...	...	...	...	...	30	...	...
(*b*) Secondary	...	2	...	...	2	...	5	...	...
(*c*) Tertiary	...	1	...	...	1	...	8	1	...
(*d*) Hereditary... ...	...	...	...	...	...	...	...	...	...
(*e*) Period not indicated ...	...	...	...	...	...	...	...	...	...
39. Soft Chancre	...	3	...	...	3	1	8	...	...
40. A.—Gonorrhœa and its complications	...	5	...	...	5	1	85	...	...
B.—Gonorrhœal Ophthalmia ...	...	...	...	...	...	...	...	...	...
C.—Gonorrhœal Arthritis ...	...	1	...	...	1	...	...	...	...
D.—Granuloma Venereum ...	...	...	...	...	...	...	...	...	...
41. Septicaemia	...	3	1	2	4	1	2	...	...
Filariasis	...	1	...	...	1	...	15	3	...
42. Other Infectious Diseases ...	...	...	...	...	...	...	...	...	...
II.—*General Diseases not mentioned above.*									
43. Cancer or other malignant Tumours of the Buccal Cavity	...	...	...	...	...	...	1	...	...
Carried forward ...	6	327	69	9	402	11	979	150	...

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL.			Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
		Admissions.		Deaths.					
		Male.	Female.						
Brought forward	6	327	69	9	402	11	979	150	...
II.—*General Diseases not mentioned above*—contd.									
44. Cancer or other malignant Tumours of the Stomach or Liver	...	...	...	...	...	...	...	...	...
45. Cancer or other malignant Tumours of the Peritoneum intestines, Rectum	...	...	...	...	...	...	...	...	...
46. Cancer or other malignant Tumours of the Female Genital Organs	...	...	...	...	...	...	...	...	...
47. Cancer or other malignant Tumours of the Breast ...	...	...	...	...	...	...	...	1	...
48. Cancer or other malignant Tumours of the Skin ...	...	...	...	...	...	...	...	...	...
49. Cancer or other malignant Tumours of Organs not specified	...	1	...	...	1	...	...	...	...
50. Tumours non-Malignant ...	...	1	1	...	2	...	26	4	...
51. Acute Rheumatism	1	4	...	...	5	...	72	13	...
52. Chronic Rheumatism	...	5	1	...	6	1	69	5	...
53. Scurvy (including Barlow's Disease)	...	...	...	...	...	...	...	...	...
54. Pellagra	...	...	...	...	...	...	...	...	...
55. Beri-Beri	...	...	...	...	...	...	...	...	...
56. Rickets	...	...	...	...	...	...	...	...	...
57. Diabetes (not including Insipidus)	...	1	...	...	1	...	1	...	...
58. Anæmia—									
(*a*) Pernicious	...	...	...	...	...	...	...	...	...
(*b*) Other Anæmias and Chlorosis	1	4	5	...	10	...	116	27	...
59. Diseases of the Pituitary Body	...	...	...	...	...	...	...	...	...
60. Diseases of the Thyroid Gland—									
(*a*) Exophthalmic Goitre ...	...	...	...	...	...	...	1	1	...
(*b*) Other diseases of the Thyroid Gland, Myxœdema	...	...	...	...	...	...	1	1	...
61. Diseases of the Para-Thyroid Glands...	...	...	...	...	...	...	...	...	...
62. Diseases of the Thymus ...	...	...	...	...	...	...	...	...	...
63. Diseases of the Supra-Renal Glands	...	...	...	...	...	...	...	...	...
64. Diseases of the Spleen ...	...	...	...	...	...	...	3	...	...
65. Leukæmia—									
(*a*) Leukæmia	...	...	...	...	...	...	...	...	...
(*b*) Hodgkin's Disease ...	...	...	...	...	...	...	...	...	...
66. Alcoholism	...	2	...	...	2	...	1	...	...
67. Chronic poisoning by mineral substances (lead, mercury, &c.)	...	...	...	...	...	...	...	...	...
68. Chronic poisoning by organic substances (Morphia, Cocaine, &c.)	...	...	...	...	...	...	...	...	...
Carried forward	8	345	76	9	429	12	1,269	202	...

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	TOTAL. Admissions. Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	8	345	76	9	429	12	1,269	202	...
II.—*General Diseases not mentioned above*—contd.									
69. Other General Diseases—									
Auto-intoxication	...	2	...	...	2	...	1	...	...
Purpura Hæmorrhagica ...	...	...	...	...	...	...	...	...	...
Hæmophilia	...	...	...	...	...	...	...	...	...
Diabetes Insipidus	...	...	...	...	...	...	...	...	...
III.—*Affections of the Nervous System and Organs of the Senses.*									
70. Encephalitis (not including Encephalitis Lethargica) ...	...	...	...	...	...	...	...	...	...
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	...	...	...	...	...	...	...	...	...
72. Locomotor Ataxia	...	...	...	...	...	...	...	...	...
73. Other affections of the Spinal Cord	...	...	...	...	...	...	...	...	...
74. Apoplexy—									
(*a*) Hæmorrhage	...	2	...	2	2	...	...	...	...
(*b*) Embolism	...	...	...	...	...	...	...	...	...
(*c*) Thrombosis	...	...	...	...	...	...	...	...	...
75. Paralysis—									
(*a*) Hemiplegia	...	...	...	...	...	...	...	...	...
(*b*) Other Paralyses ...	...	..	...	...	...	...	...	...	...
76. General Paralysis of the Insane	...	...	...	...	...	...	...	...	...
77. Other forms of mental Alienation	...	1	...	1	1	...	1	...	...
78. Epilepsy	...	1	...	...	1	...	...	...	...
79. Eclampsia, Convulsions (non-puerperal) 5 years or over ...	...	...	...	...	...	...	...	...	...
80. Infantile Convulsions	...	...	...	...	...	...	...	...	...
81. Chorea	...	...	...	...	...	...	...	...	...
82. A.—Hysteria	...	1	...	...	1	...	11	3	...
B.—Neuritis	...	6	2	...	8	...	48	5	...
C.—Neurasthenia	1	21	2	...	24	...	67	10	1
83. Cerebral Softening	...	...	...	...	...	...	...	...	...
84. Other affections of the Nervous System, such as Paralysis Agitans	...	...	...	...	...	...	5	1	...
85. Affections of the Organs of Vision—									
(*a*) Diseases of the eye ...	...	...	...	...	...	...	4	...	...
(*b*) Conjunctivitis	...	2	1	...	3	...	64	8	...
(*c*) Trachoma	1	...	...	...	1	...	4	...	...
(*d*) Tumours of the Eye ...	...	1	...	...	1	...	4	...	...
(*e*) Other affections of the Eye	...	4	...	...	4	...	61	10	...
86. Affections of the Ear or Mastoid Sinus	...	10	...	...	10	...	349	61	...
Carried forward	10	396	81	12	487	12	1,888	300	1

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	TOTAL. Admissions. Female.	TOTAL. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward ...	10	396	81	12	487	12	1,888	300	1
IV.—*Affections of the Circulatory System*									
87. Pericarditis	...	...	...	...	...	...	...	...	...
88. Acute Endocarditis or Myocarditis	...	2	1	1	3	...	...	1	...
89. Angina Pectoris	...	...	...	...	...	...	...	...	...
90. Other Diseases of the Heart—									
(*a*) Valvular	...	...	...	...	...	...	...	...	...
Mitral	...	...	...	...	...	...	10	...	...
Aortic	...	1	...	1	1	...	...	...	...
Tricuspid	...	...	...	...	...	...	...	...	...
Pulmonary	...	...	...	...	...	...	...	...	...
(*b*) Myocarditis	...	1	...	...	1	...	5	...	...
91. Diseases of the Arteries—									
(*a*) Aneurism	...	...	...	...	...	...	...	...	...
(*b*) Arterio-Sclerosis ...	...	1	...	1	1	...	2	1	...
(*c*) Other diseases ...	...	3	...	1	3	...	...	...	...
92. Embolism or Thrombosis (non-cerebral)	...	1	...	...	1	...	2	...	...
93. Diseases of the Veins—									
Hæmorrhoids... ...	1	8	...	...	9	...	55	1	...
Varicose Veins... ..	...	...	...	...	...	...	6	2	...
Phlebitis	...	3	...	1	3	...	4	...	...
94. Diseases of the Lymphatic System—									
Lymphangitis... ...	...	2	...	...	2	1	4	1	...
Lymphadenitis, Bubo (non-specific)	...	7	1	...	8	1	22	2	...
95. Hæmorrhage of undetermined cause	...	...	...	...	...	...	1	1	...
96. Other affections of the Circulatory System	...	1	...	...	1	...	5	3	...
V.—*Affections of the Respiratory System.*									
97. Diseases of the Nasal Passages—									
Adenoids	...	...	...	...	...	...	...	...	...
Polypus	...	1	...	..	1	...	28	4	...
Rhinitis	...	...	...	...	...	...	43	8	...
Coryza	...	8	...	...	8	...	118	11	...
98. Affections of the Larynx—									
Laryngitis	...	4	...	...	4	...	40	2	...
99. Bronchitis—									
(*a*) Acute	...	13	...	...	13	...	94	12	...
(*b*) Chronic	...	1	...	...	1	...	17	4	...
100. Broncho-Pneumonia ...	...	3	1	...	4	1	...	...	...
101. Pneumonia—									
(*a*) Lobar	..	2	1	...	3	...	...	...	...
(*b*) Unclassified ...	...	5	...	1	5	1	...	...	...
102. Pleurisy, Empyema ..	...	3	...	...	3	1	4	1	...
103. Congestion of the Lungs ...	...	...	...	...	..	...	1	...	...
104. Gangrene of the Lungs ...	...	...	...	...	...	...	...	...	...
105. Asthma	...	5	...	...	5	...	23	1	...
106. Pulmonary Emphysema ...	...	...	...	...	...	...	...	...	...
107. Other affections of the Lungs...	...	1	...	...	1	...	...	...	...
Pulmonary Spirochætosis ...	...	...	...	...	...	...	...	...	...
Carried forward ...	11	472	85	18	568	17	2,372	355	1

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	Total. Admissions. Male.	Total. Admissions. Female.	Total. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	11	472	85	18	568	17	2,372	355	1
VI.—*Diseases of the Digestive System.*									
108. A.—Diseases of Teeth or Gums—									
Caries, Pyorrhœa, &c. ...	...	5	4	...	9	...	162	33	...
B.—Other affections of the Mouth—									
Stomatitis	...	...	1	...	1	...	17	3	...
Glossitis, &c.	...	...	...	...		...	15	2	...
109. Affections of the Pharynx or Tonsils—									
Tonsillitis	...	21	8	...	29	2	89	20	...
Pharyngitis	...	1	1	...	2	1	77	14	...
110. Affections of the Œsophagus ...	...	...	...	...	...	...	1	...	...
111. A.—Ulcer of the Stomach ...	...	1	1	...	2	...	6	...	...
B.—Ulcer of the Duodenum ...	...	8	1	...	9	...	13	...	...
112. Other affections of the Stomach—									
Gastritis	1	10	...	...	11	...	130	13	...
Dyspepsia, &c.	...	7	1	...	8	...	203	36	...
113. Diarrhœa and Enteritis—									
Under two years	...	...	...	...	...	...	1	...	...
114. Diarrhœa and Enteritis—									
Two years and over ...	...	27	8	...	35	...	207	47	...
Colitis	1	10	5	...	16	...	24	6	...
Ulceration	...	...	...	...	...	...	1	...	...
114a. Sprue	...	...	...	...	...	...	...	...	...
115. Ankylostomiasis	...	2	...	...	2	...	...	...	...
116. Diseases due to Intestinal Parasites—									
(*a*) Cestoda (Tænia) ...	...	...	...	...	...	...	5	...	...
(*b*) Trematoda (Flukes) ...	...	...	...	...	...	...	...	...	...
(*c*) Nematoda (other than Ankylostoma)	...	...	...	...	...	...	1	1	...
Ascaris	...	...	...	...	...	...	11	...	...
Trichocephalus dispar	...	...	1	...	1	...	1	1	...
Trichina	...	...	...	...	...	...	...	...	...
Dracunculus ...	...	...	...	...	...	...	...	...	...
Strongylus	...	...	...	...	...	...	...	...	...
Oxyuris	...	...	...	...	...	...	...	...	...
(*d*) Coccidia	...	...	...	...	...	...	...	...	...
(*e*) Other parasites ...	...	1	...	...	1	...	4	...	...
(*f*) Unclassified	...	...	...	...	...	...	1	...	...
117. Appendicitis	1	24	15	3	40	2	18	7	...
118. Hernia	...	6	...	...	6	...	9	...	...
119. A.—Affections of the Anus, Fistula, &c.	...	3	2	...	5	...	8	2	...
B.—Other affections of the Intestines	...	...	...	...	...	...	1	...	...
Enteroptosis	...	...	...	...	...	...	...	1	...
Constipation	...	2	2	...	4	...	68	24	...
120. Acute Yellow Atrophy of the Liver	...	...	...	...	...	...	...	...	...
121. Hydatid of the Liver	...	...	...	...	...	...	...	...	...
Carried forward	14	600	135	21	749	22	3,445	565	1

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL Admissions. Male.	TOTAL Admissions. Female.	TOTAL Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	14	600	135	21	749	22	3,445	565	1
VI.—*Diseases of the Digestive System*—continued.									
122. Cirrhosis of the Liver—									
(*a*) Alcoholic	...	...	...	...	...	...	1	...	...
(*b*) Other forms	...	...	...	...	...	...	...	...	...
123. Biliary Calculus	...	...	...	...	...	...	1	...	...
124. Other affections of the Liver—									
Abscess	...	2	...	...	2	...	1	...	...
Hepatitis	1	6	2	...	9	...	8	...	...
Cholecystitis...	...	3	2	...	5	...	3	...	...
Jaundice	...	7	...	...	7	1	8	...	...
125. Diseases of the Pancreas ...	...	...	...	...	...	...	...	...	...
126. Peritonitis (of unknown cause)	...	...	...	...	...	...	...	1	...
127. Other affections of the Digestive System	...	1	...	...	1	...	1	...	...
VII.—*Diseases of the Genito-urinary System (non-Venereal).*									
128. Acute Nephritis	...	2	...	...	2	...	4	1	...
129. Chronic	...	...	...	...	...	...	3	...	...
130. A.—Chyluria	...	...	...	...	...	...	...	...	...
B.—Schistosomiasis	...	...	...	...	...	...	...	...	...
131. Other affections of the Kidneys—									
Pyelitis, &c.	...	5	1	1	6	...	5	...	...
132. Urinary Calculus	...	4	1	...	5	...	4	...	...
133. Diseases of the Bladder—									
Cystitis	1	8	4	1	13	1	59	17	...
134. Diseases of the Urethra—									
(*a*) Stricture	...	2	...	...	2	...	5	...	...
(*b*) Other	...	4	...	...	4	1	23	...	...
135. Diseases of the Prostate—									
Hypertrophy	...	1	..	...	1	...	1	...	...
Prostatitis	...	6	...	...	6	...	8	...	...
136. Diseases (non-Venereal) of the Genital Organs of Man ...	...	...	...	...	...	...	1	...	...
Epididymitis	...	5	...	...	5	1	3	...	...
Orchitis	...	3	...	...	3	...	6	...	...
Hydrocele	...	...	...	...	...	...	1	...	...
Ulcer of Penis	...	...	...	...	...	...	4	...	...
Phimosis	...	...	...	...	...	...	1	...	...
137. Cysts or other non-malignant Tumours of the Ovaries ...	...	...	...	...	...	...	...	...	...
138. Salpingitis—									
Abscess of the Pelvis ...	...	...	..	...	...	...	...	1	...
139. Uterine Tumours (non-malignant)	...	...	...	...	...	...	...	2	...
140. Uterine Hæmorrhage (non-puerperal)	...	...	...	...	...	...	...	2	1
141. A.—Metritis	...	...	2	...	2	...	...	1	...
B.—Other affections of the Female Genital Organs—									
Displacements of Uterus ...	...	...	3	...	3	...	...	12	...
Amenorrhoea	...	...	1	...	1	...	...	9	...
Dysmenorrhœa	...	...	2	...	2	...	...	11	...
Leucorrhœa	...	...	1	...	1	...	...	1	...
Carried forward	16	659	154	23	829	26	3,596	623	2

TABLE IV.—RETURN OF DISEASES AND DEATHS (EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	TOTAL. Admissions. Female.	TOTAL. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	16	659	154	23	829	26	3,596	623	2
VII.—*Diseases of the Genito-urinary System (non-Venereal)*—contd.									
142. Diseases of the Breast (non-puerperal)—									
Mastitis	...	...	...	...	...	...	1	1	...
Abscess of Breast	...	...	...	...	...	...	2	3	...
VIII.—*Puerperal State.*									
143. A.—Normal Labour	...	...	3	...	3	...	...	2	...
B.—Accidents of Pregnancy—									
(*a*) Abortion	...	...	5	...	5	...	...	2	...
(*b*) Ectopic Gestation ...	...	...	...	...	...	...	...	...	...
(*c*) Other accidents of Pregnancy	...	...	5	...	5	...	...	10	...
144. Puerperal Hæmorrhage ...	...	...	...	...	...	...	...	...	...
145. Other accidents of Parturition	...	...	1	...	1	...	...	1	...
146. Puerperal Septicæmia	...	...	...	...	...	...	...	...	...
147. Phlegmasia Dolens	...	...	...	...	...	...	...	...	...
148. Puerperal Eclampsia	...	...	...	...	...	...	...	...	...
149. Sequelæ of Labour	...	...	1	...	1	...	...	1	...
150. Puerperal affections of the Breast	...	...	...	...	...	...	...	...	...
IX.—*Affections of the Skin and Cellular Tissues.*									
151. Gangrene	1	...	...	...	1	...	...	...	...
152. Boil	...	10	1	...	11	1	153	14	...
Carbuncle	...	3	1	...	4	...	38	8	...
153. Abscess	...	19	3	...	22	...	54	3	...
Whitlow	...	1	...	...	1	...	36	5	...
Cellulitis	1	15	2	...	18	1	103	16	...
154. A.—Tinea	...	3	...	...	3	...	158	12	...
B.—Scabies	...	1	...	...	1	...	13	2	...
155. Other Diseases of the Skin ...	...	1	1	...	2	...	24	7	...
Brythema	...	1	...	...	1	...	20	4	...
Urticaria	...	2	...	...	2	...	33	8	...
Eczema	...	4	...	...	4	1	134	20	...
Herpes	...	1	...	...	1	...	14	...	...
Psoriasis	...	...	...	...	...	...	3	2	...
Elephantiasis	...	...	...	...	...	...	2	...	...
Ulcers	...	2	...	...	2	...	56	6	...
Myiasis	...	...	...	...	...	...	4	5	...
Chigoes	...	...	...	...	...	...	17	1	...
Cutaneous Leishmaniasis ...	...	...	...	...	...	...	...	...	...
X.—*Diseases of Bones and Organs of Locomotion (other than Tuberculous).*									
156. Diseases of Bones—									
Osteitis	...	3	...	...	3	...	2	1	...
157. Diseases of Joints—									
Arthritis	1	6	...	...	7	...	23	5	...
Synovitis	...	3	...	...	3	...	33	2	...
158. Other Diseases of Bones or Organs of Locomotion ...	...	5	...	...	5	...	38	2	...
Carried forward	19	739	177	23	935	29	4,557	766	2

Table IV.—Return of Diseases and Deaths (European) for the year 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	Total.			Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
		Admissions.		Deaths.					
		Male.	Female.						
Brought forward	19	739	177	23	935	29	4,557	766	2
XI.—*Malformations.*									
159. Malformations—									
Hydrocephalus	...	...	...	...	...	...	...	...	...
Hypospadias...	...	...	...	...	...	...	...	...	...
Spina Bifida, etc.	...	...	...	...	...	...	...	...	...
XII—*Diseases of Infancy.*									
160. Congenital Debility	...	...	...	...	...	...	...	...	...
161. Premature Birth	...	...	...	...	...	...	...	...	...
162. Other affections of infancy ...	...	...	...	...	...	...	...	...	...
163. Infant neglect (infants of three months or over) ...	...	...	...	...	...	...	...	...	...
XIII.—*Affections of Old Age.*									
164. Senility—									
Senile Dementia	...	...	...	...	...	...	...	...	...
XIV.—*Affections produced by External Causes.*									
165. Suicide by Poisoning	...	...	...	...	...	...	...	...	...
166. Corrosive Poisoning (Intentional)...	...	...	...	...	...	...	...	...	...
167. Suicide by Gas Poisoning ...	...	...	...	...	...	...	...	...	...
168. Suicide by Hanging or Strangulation	...	...	...	...	...	...	...	...	...
169. Suicide by Drowning	...	...	...	...	...	...	..	...	...
170. Suicide by Firearms	...	...	...	...	...	...	1	...	1
171. Suicide by cutting or stabbing instruments	...	1	...	...	1	...	...	...	...
172. Suicide by jumping from a height...	...	...	...	...	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...	...	...	...	...
174. Other Suicides	...	...	...	...	...	...	...	...	...
175. Food Poisoning	...	...	...	...	..	...	4	...	...
Botulism	...	...	...	...	...	...	...	...	...
176. Attacks of poisonous animals									
Snake Bite	...	...	...	...	...	...	4	3	...
Insect Bite	...	1	1	...	2	...	37	10	...
177. Other accidental Poisonings	...	...	...	...	...	...	...	...	...
178. Burns (by Fire)	...	1	...	...	1	...	18	1	...
179. Burns (other than by Fire) ...	...	1	...	...	1	...	11	...	...
180. Suffocation (accidental) ...	...	...	...	...	...	...	...	...	...
181. Poisoning by Gas (accidental)	...	...	...	...	...	...	...	...	...
182. Drowning (accidental)... ...	...	...	...	...	...	...	...	...	...
183. Wounds (by Firearms, war excepted)	...	...	...	...	...	...	3	...	...
184. Wounds (by cutting or stabbing instruments)...	...	..	...	...	...	...	35	7	...
185. Wounds (by Fall)	...	9	1	...	10	...	75	9	...
186. Wounds (in Mines or Quarries)	...	...	...	...	...	...	...	...	...
187. Wounds (by Machinery) ...	...	...	...	...	...	...	2	...	...
188. Wounds (crushing, *e.g.* railway accidents, &c.)	...	...	...	...	...	...	2	...	...
Carried forward	19	752	179	23	950	29	4,749	796	3

Table IV.—Return of Diseases and Deaths (European) for the year 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	Total. Admissions. Male.	Total. Admissions. Female.	Total. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	19	752	179	23	950	29	4,749	796	3
XIV.—*Affections produced by External Causes*—contd.									
189. Injuries inflicted by Animals, Bites, Kicks, &c.	...	...	...	...	...	...	29	5	...
190. Wounds inflicted on Active Service	...	...	...	...	...	...	...	...	...
191. Executions of civilians by belligerents	...	...	...	...	...	...	...	...	...
192. A.—Over fatigue	...	1	...	...	1	...	8	1	...
B.—Hunger or Thirst ...	...	...	...	...	...	...	...	...	...
193. Exposure to Cold, Frost bite, &c.	...	...	...	...	...	...	...	...	...
194. Exposure to Heat—									
Heatstroke	...	2	...	...	2	...	6	1	..
Sunstroke	...	...	...	...	...	...	1	...	...
195. Lightning Stroke	...	...	...	...	...	...	...	...	...
196. Electric Shock	...	...	...	...	...	...	...	...	...
197. Murder by Firearms	...	...	...	...	...	...	...	...	...
198. Murder by cutting or stabbing instruments	...	...	...	...	...	...	...	...	...
199. Murder by other means ...	...	...	...	...	...	...	...	...	...
200. Infanticide (Murder of an infant under one year) ...	...	...	...	...	...	...	...	...	...
201. A.—Dislocation	...	1	1	...	2	...	2	2	...
B.—Sprain	...	3	...	...	3	...	93	6	...
C.—Fracture	2	20	5	...	27	1	32	1	...
202. Other External Injuries ...	...	17	...	...	17	1	184	23	...
203. Deaths by Violence of unknown cause	...	...	...	...	...	...	...	...	...
XV.—*Ill-Defined Diseases.*									
204. Sudden Death (cause unknown)	...	...	...	...	...	...	...	...	...
205. A.—Diseases not already specified or ill-defined—									
Ascites	...	...	...	...	...	...	...	...	...
Œdema	...	1	1	...	2	...	5	3	...
Asthenia	...	11	9	...	20	...	90	15	...
Shock	...	...	1	...	1	...	1	2	...
Hyperpyrexia	...	4	1	...	5	...	...	1	...
B.—Malingering	...	...	...	...	...	...	2	...	...
XVI.—*Diseases, the total of which have not caused 10 Deaths*—									
Total	21	812	197	23	1,030	31	5,202	856	3

TABLE V.

RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933.

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	Total Admissions. Male.	Total Admissions. Female.	Total Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
I.—*Epidemic, Endemic, and Infectious Diseases.*									
1. Enteric Group—									
(*a*) Typhoid Fever	1	9	3	4	13	...	...	...	...
(*b*) Paratyphoid A.	...	3	2	...	5	...	...	...	...
(*c*) Paratyphoid B.	...	...	...	...	...	...	...	...	...
(*d*) Type not defined	...	7	...	2	7	...	...	...	...
2. Typhus	...	...	...	...	...	...	...	...	...
3. Relapsing Fever	...	5	...	2	5	...	...	...	...
4. Undulant Fever	...	...	...	...	...	...	...	...	...
5. Malaria—									
(*a*) Tertian	...	1	...	...	1	...	...	...	...
(*b*) Quartan	...	1	...	...	1	...	...	...	...
(*c*) Aestivo-autumnal	15	1,571	293	33	1,879	24	22,863	9,849	3
(*d*) Cachexia	...	1	...	...	1	...	...	3	...
(*e*) Blackwater	...	10	2	3	12	...	4	1	1
6. Smallpox	2	249	80	83	331	...	275	64	8
Alastrim	1	19	9	7	29	1	4	3	...
7. Measles	...	57	12	1	69	1	235	102	...
8. Scarlet Fever	...	...	...	...	...	...	...	...	...
9. Whooping Cough	...	14	5	...	19	...	192	217	4
10. Diphtheria	...	...	...	...	...	...	...	...	...
11. Influenza	...	165	11	3	176	...	1,206	344	...
12. Miliary Fever	...	...	...	...	...	...	...	...	...
13. Mumps	...	25	4	...	29	3	409	144	...
14. Cholera	...	...	...	...	...	...	...	...	...
15. Epidemic diarrhoea	...	...	...	...	...	...	...	2	...
16. Dysentery—									
(*a*) Amœbic	23	638	159	73	820	10	1,919	853	1
(*b*) Bacillary	1	45	7	12	53	...	55	8	...
(*c*) Undefined or due to other causes	3	165	48	19	216	6	505	251	1
17. Plague—									
(*a*) Bubonic	...	...	...	...	...	...	...	...	...
(*b*) Pneumonic	...	...	...	...	...	...	...	...	...
(*c*) Septicæmic	...	...	...	...	...	...	...	...	...
(*d*) Undefined	...	...	...	...	...	...	...	...	...
18. Yellow Fever	...	...	...	...	...	...	...	...	...
19. Spirochætosis ictero-hæmorrhagica	...	...	...	...	...	...	...	...	...
20. Leprosy	79	262	34	8	375	66	1,794	799	2
21. Erysipelas	...	3	...	...	3	...	1	1	...
22. Acute Poliomyelitis	...	5	1	...	6	...	4	1	...
23. Encephalitis Lethargica	1	2	...	...	3	...	...	1	...
24. Epidemic Cerebro-spinal Fever	...	6	1	6	7	...	2	2	...
25. Other Epidemic Diseases—									
(*a*) Rubeola (German Measles)	...	12	4	...	16	1	29	19	...
(*b*) Varicella (Chicken-pox)	67	913	105	1	1,085	9	938	126	...
(*c*) Kala-azar	...	...	...	...	...	...	...	...	...
(*d*) Phlebotomus Fever	...	...	...	...	...	...	...	...	...
(*e*) Dengue	...	...	...	...	...	...	...	1	...
(*f*) Epidemic Dropsy	...	...	...	...	...	...	...	...	...
(*g*) Yaws	15	290	187	2	492	11	48,769	37,487	...
(*h*) Trypanosomiasis*	144	1,211	485	84	1,840	268	1,699	815	1
Carried forward	352	5,689	1,452	343	7,493	400	80,903	51,093	21

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	352	5,689	1,452	343	7,493	400	80,903	51,093	21
I.—*Epidemic, Endemic, and Infectious Diseases*—contd.									
26. Glanders	...	...	...	...	...	...	...	...	...
27. Anthrax	...	...	...	...	...	...	...	...	...
28. Rabies	...	1	1	2	2	...	...	...	...
28*a*. Anti rabid prophylaxis	...	3	...	...	3	3	12	3	2
29. Tetanus	3	80	16	52	99	3	18	9	1
30. Mycosis	2	14	6	1	22	4	16	7	...
31. Tuberculosis, Pulmonary and Laryngeal	12	298	71	154	381	22	347	116	4
32. Tuberculosis of the Meninges or Central Nervous System	...	2	...	2	2	...	2	...	...
33. Tuberculosis of the Intestines or Peritoneum	...	15	7	8	22	3	8	4	1
34. Tuberculosis of the Vertebral Column	4	37	7	1	48	6	20	9	...
35. Tuberculosis of Bones and Joints	3	26	12	5	41	2	31	12	...
36. Tuberculosis of other organs—									
(*a*) Skin or Subcutaneous Tissue (Lupus)	1	3	1	...	5	...	3	3	...
(*b*) Bones	1	3	...	...	4	...	6	7	...
(*c*) Lymphatic System ...	1	28	5	2	34	3	14	10	...
(*d*) Genito-urinary	...	...	...	...	...	...	...	...	...
(*e*) Other Organs	1	16	4	5	21	2	17	4	...
37. Tuberculosis disseminated—									
(*a*) Acute	...	6	1	5	7	...	6	2	...
(*b*) Chronic	...	4	2	5	6	...	...	...	...
38. Syphilis—									
(*a*) Primary	23	667	210	7	900	54	3,025	1,001	...
(*b*) Secondary	29	527	332	14	888	71	2,170	1,177	...
(*c*) Tertiary	14	186	70	14	270	22	3,411	2,023	...
(*d*) Hereditary	1	11	20	2	32	6	53	45	...
(*e*) Period not indicated ...	19	118	27	14	164	14	548	245	...
39. Soft Chancre	12	244	31	...	287	18	1,072	41	...
40. A.—Gonorrhœa and its complications	46	977	192	16	1,215	35	11,004	1,620	...
B.—Gonorrhoeal Ophthalmia ...	5	81	15	2	101	2	133	64	...
C.—Gonorrhoeal Arthritis ...	17	237	23	3	277	18	534	85	1
D.—Granuloma Venereum ...	2	29	8	2	39	6	16	1	...
41. Septicæmia	4	42	17	37	63	...	25	11	...
Filariosis	...	5	2	...	7	1	82	17	...
42. Other Infectious Diseases ...	...	1	...	...	1	...	992	547	...
II.—*General Diseases not mentioned above.*									
43. Cancer or other malignant Tumours of the Buccal Cavity ...	...	7	4	1	11	...	1	...	...
44. Cancer or other malignant Tumours of the Stomach or Liver	1	17	4	11	22	1	10	10	...
45. Cancer or other malignant Tumours of the Peritoneum intestines, Rectum	...	3	2	5	5	...	3	...	...
46. Cancer or other malignant Tumours of the Female Genital Organs	1	...	25	3	26	...	...	11	...
47. Cancer or other malignant Tumours of the Breast	1	...	3	...	4	...	2	9	...
48. Cancer or other malignant Tumours of the Skin	1	16	4	...	21	1	17	9	...
Carried forward	556	9,393	2,574	716	12,523	697	104,501	58,195	30

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	556	9,393	2,574	716	12,523	697	104,501	58,195	30
II.—*General Diseases not mentioned above*—contd.									
49. Cancer or other malignant Tumours of Organs not specified	3	35	14	14	52	1	28	12	1
50. Tumours non-Malignant	9	312	166	18	487	14	1,305	582	...
51. Acute Rheumatism	8	157	49	2	214	4	5,517	2,283	...
52. Chronic Rheumatism	12	392	63	9	467	17	18,108	8,853	1
53. Scurvy (including Barlow's Disease)	...	...	...	...	...	...	...	...	...
54. Pellagra	...	1	...	...	1	1	...	...	...
55. Beri-Beri	...	4	...	1	4	...	12	...	...
56. Rickets	...	1	1	1	2	...	18	13	...
57. Diabetes (not including Insipidus)	2	23	7	2	32	1	20	7	...
58. Anæmia:—									
(*a*) Pernicious	...	...	...	...	...	...	...	1	...
(*b*) Other Anæmias and Chlorosis	4	118	47	21	169	6	1,185	984	2
59. Diseases of the Pituitary Body ...	...	...	...	...	...	...	1	...	...
60. Diseases of the Thyroid Gland ...	...	...	...	...	...	...	...	...	...
(*a*) Exophthalmic Goitre ...	...	6	14	...	20	...	75	40	...
(*b*) Other diseases of the Thyroid Gland, Myxœdema ...	...	14	26	1	40	3	71	221	...
61. Diseases of the Para-Thyroid Glands	...	1	1	...	2	...	...	...	...
62. Diseases of the Thymus	...	...	...	...	..	...	...	...	...
63. Diseases of the Supra-Renal Glands	...	1	...	...	1	...	...	..	...
64. Diseases of the Spleen	4	58	24	11	86	4	1,524	938	...
65. Leukæmia:—									
(*a*) Leukæmia	1	3	2	4	6	...	9	4	...
(*b*) Hodgkin's Disease	...	7	1	1	8	...	6	2	...
66. Alcoholism	...	1	...	...	1	...	2	...	...
67. Chronic poisoning by mineral substances (lead, mercury, &c.) ...	...	1	...	...	1	...	...	...	...
68. Chronic poisoning by organic substances (Morphia, Cocaine, &c.)	...	1	...	...	1	...	...	...	...
69. Other General Diseases:—									
Auto-intoxication	...	...	...	...	...	...	2	2	...
Purpura Hæmorrhagica ...	...	2	...	1	2	...	1	...	...
Hæmophilia	...	...	...	...	...	...	..	...	...
Diabetes Insipidus	...	3	...	2	3	...	2	2	...
III.—*Affections of the Nervous System and Organs of the Senses.*									
70. Encephalitis (not including Encephalitis Lethargica)	...	9	2	4	11	...	4	1	...
71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis)	3	22	3	16	28	1	3	1	...
72. Locomotor Ataxia	...	5	1	1	6	2	6	...	...
73. Other affections of the Spinal Cord	1	35	9	5	45	3	10	2	1
Carried forward	603	10,605	3,004	830	14,212	754	132,410	72,143	35

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL.			Total Cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
		Admissions.		Deaths.					
		Male.	Female.						
Brought forward	603	10,605	3,004	830	14,212	754	132,410	72,143	35
III.—*Affections of the Nervous System and Organs of the Senses*—contd.									
74. Apoplexy:—									
(*a*) Hæmorrhage	...	20	4	19	24	1	3	2	...
(*b*) Embolism	...	2	...	1	2	...	1	...	...
(*c*) Thrombosis	...	9	1	6	10	...	3	1	...
75. Paralysis:—									
(*a*) Hemiplegia	3	55	8	10	66	6	48	15	1
(*b*) Other Paralyses	12	96	22	14	130	22	122	47	...
76. General Paralysis of the Insane	...	1	...	...	1	...	4	1	...
77. Other forms of mental Alienation	127	153	79	20	359	150	72	26	...
78. Epilepsy	7	91	32	9	130	6	316	113	...
79. Eclampsia, Convulsions (nonpuerperal) 5 years or over	1	4	6	3	11	...	1	1	...
80. Infantile Convulsions	...	15	9	9	24	...	41	29	1
81. Chorea	...	...	2	...	2	...	2	6	...
82. A.—Hysteria	...	13	6	...	19	...	55	25	...
B.—Neuritis	4	48	14	...	66	...	1,481	403	...
C.—Neurasthenia	1	27	9	...	37	2	275	131	...
83. Cerebral Softening	...	4	2	3	6	...	...	...	...
84. Other affections of the Nervous System, such as Paralysis Agitans	...	15	3	...	18	...	189	54	...
85. Affections of the Organs of Vision:—									
(*a*) Diseases of the eye	4	88	29	...	121	5	1,329	482	1
(*b*) Conjunctivitis	9	306	89	1	404	9	6,611	3,210	...
(*c*) Trachoma	...	25	10	...	35	2	64	78	...
(*d*) Tumours of the Eye ...	1	32	4	1	37	4	41	131	...
(*e*) Other affections of the Eye	10	137	46	...	193	5	2,132	1,016	...
86. Affections of the Ear or Mastoid Sinus	2	63	21	2	86	1	6,946	3,152	...
IV.—*Affections of the Circulatory System.*									
87. Pericarditis	...	12	6	7	18	...	6	6	...
88. Acute Endocarditis or Myocarditis	1	46	16	19	63	3	55	21	1
89. Angina Pectoris	...	1	1	...	2	...	2	1	...
90. Other Diseases of the Heart ...	2	22	4	8	28	...	25	39	...
(*a*) Valvular	...	...	...	...	...	...	...	...	...
Mitral	4	95	35	24	134	10	270	133	...
Aortic	1	22	4	7	27	...	56	21	...
Tricuspid	...	...	...	...	...	...	...	...	...
Pulmonary	...	...	...	...	...	...	...	...	...
(*b*) Myocarditis	3	83	15	34	101	3	206	128	1
91. Diseases of the Arteries:—									
(*a*) Aneurism	2	22	1	13	25	2	16	7	...
(*b*) Arterio-Sclerosis	...	2	3	3	5	1	26	7	...
(*c*) Other diseases	...	1	...	...	1	...	3	1	...
92. Embolism or Thrombosis (noncerebral)	...	3	1	1	4	...	1	...	...
Carried forward	797	12,118	3,486	1,044	16,401	986	152,812	81,430	40

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Admissions. Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	797	12,118	3,486	1,044	16,401	986	152,812	81,430	40
IV.—*Affections of the Circulatory System*—contd.									
93. Diseases of the Veins:—									
Hæmorrhoids	8	137	42	3	187	6	690	209	...
Varicose Veins	1	11	1	...	13	1	30	5	...
Phlebitis	...	2	1	...	3	...	7	1	...
94. Diseases of the Lymphatic System	...	..	...	...	...	...	7	2	...
Lymphangitis	...	24	4	...	28	...	115	28	...
Lymphadenitis, Bubo (non-specific)	22	546	80	8	648	31	2,550	686	...
95. Hæmorrhage of undetermined cause	...	9	1	3	10	...	12	8	...
96. Other affections of the Circulatory System	1	6	1	1	8	...	8	2	...
V.—*Affections of the Respiratory System.*									
97. Diseases of the Nasal Passages—									
Adenoids	...	4	1	...	5	...	16	6	...
Polypus	...	7	4	1	11	1	31	20	...
Rhinitis	...	13	3	...	16	...	278	219	...
Coryza	1	103	24	...	128	...	3,341	1,421	...
98. Affections of the Larynx—									
Laryngitis	...	13	7	2	20	...	426	198	...
99. Bronchitis—									
(*a*) Acute	17	743	193	52	953	41	17,379	8,700	16
(*b*) Chronic	3	271	41	19	315	3	7,966	3,602	3
100. Broncho-Pneumonia	5	276	110	129	391	7	177	100	12
101. Pneumonia—									
(*a*) Lobar	21	842	127	261	990	44	288	71	1
(*b*) Unclassified	7	230	32	69	269	4	126	33	5
102. Pleurisy, Empyema	4	170	33	27	207	3	422	107	...
103. Congestion of the Lungs	...	9	1	...	10	...	9	5	...
104. Gangrene of the Lungs	...	2	2	3	4	...	...	1	...
105. Asthma	2	86	14	6	102	2	176	66	...
106. Pulmonary Emphysema	...	12	...	3	12	...	13	5	...
107. Other affections of the Lungs— Pulmonary Spirochætosis ...	...	3	...	2	3	...	15	3	1
VI.—*Diseases of the Digestive System.*									
108. A.—Diseases of Teeth or Gums—									
Caries, Pyorrhœa, &c.	...	45	22	2	67	3	4,800	2,289	...
B.—Other affections of the Mouth—									
Stomatitis	3	45	51	14	99	2	1,654	1,100	1
Glossitis, &c.	...	9	8	1	17	1	1,041	372	...
109. Affections of the Pharynx or Tonsils—									
Tonsillitis	2	74	30	2	106	2	1,040	564	...
Pharyngitis	...	15	6	...	21	...	842	325	...
Carried forward	894	15,825	4,325	1,652	21,044	1,137	196,271	101,578	79

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

	Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
		Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	TOTAL. Admissions. Female.	TOTAL. Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
	Brought forward ...	894	15,825	4,325	1,652	21,044	1,137	196,271	101,578	79
	VI.—*Diseases of the Digestive System*—contd.									
110.	Affections of the Œsophagus ...	..	1	...	1	1	...	...	2	...
111.	A.—Ulcer of the Stomach ...	1	15	3	4	19	...	27	16	1
	B.—Ulcer of the Duodenum ...	1	82	6	2	89	2	41	10	...
112.	Other affections of the Stomach—									
	Gastritis	3	89	22	6	114	3	1,875	1,256	...
	Dyspepsia, &c.	7	130	46	1	183	5	4,803	3,131	1
113.	Diarrhœa and Enteritis Under two years	5	120	54	34	179	1	1,146	743	1
114.	Diarrhœa and Enteritis—									
	Two years and over	4	485	92	50	581	8	4,171	1,842	10
	Colitis	...	63	14	4	77	2	605	257	...
	Ulceration	...	1	2	...	3	...	7	11	...
114a.	Sprue	...	..	...	...	...	...	...	...	...
115.	Ankylostomiasis	6	270	49	13	325	10	1,411	820	...
116.	Diseases due to Intestinal Parasites—									
	(*a*) Cestoda (Tænia)	...	176	40	...	216	1	7,128	1,378	...
	(*b*) Trematoda (Flukes) ...	...	2	...	...	2	...	16	3	...
	(*c*) Nematoda (other than Ankylostoma)	...	...	...	...	...	...	15	1	...
	Ascaris	1	88	35	2	124	1	11,272	9,547	...
	Trichocephalus dispar ...	...	...	...	...	...	...	21	24	...
	Trichina	...	...	...	...	...	...	...	...	...
	Dracunculus	13	534	50	3	597	13	1,598	263	...
	Strongylus	...	...	...	...	...	...	1	...	...
	Oxyuris	...	2	...	...	2	...	97	94	...
	(*d*) Coccidia	...	...	...	...	...	...	...	...	...
	(*e*) Other parasites	1	6	1	1	8	...	72	126	...
	(*f*) Unclassified	...	1	...	...	1	...	14	17	...
117.	Appendicitis	2	62	9	11	73	4	32	6	...
118.	Hernia	86	1,990	98	82	2,174	128	1,936	134	...
119.	A.—Affections of the Anus, Fistula, &c.	3	91	67	6	161	10	146	83	...
	B.—Other affections of the Intestines	2	19	10	7	31	1	124	36	...
	Enteroptosis	...	2	1	...	3	...	...	1	...
	Constipation	2	142	41	2	185	2	22,710	7,048	...
120.	Acute Yellow Atrophy of the Liver	...	1	...	1	1	...	...	...	...
121.	Hydatid of the Liver	...	...	...	...	...	...	...	...	...
122.	Cirrhosis of the Liver—									
	(*a*) Alcoholic	...	...	...	...	...	...	...	...	...
	(*b*) Other forms	2	51	13	22	66	1	30	8	...
123.	Biliary Calculus	...	1	...	...	1	...	1	...	...
124.	Other affections of the Liver—	...	1	1	...	2	...	...	...	
	Abscess	5	48	7	18	60	...	27	6	...
	Hepatitis	4	100	15	10	119	3	187	88	1
	Cholecystitis	...	9	2	1	11	...	18	5	...
	Jaundice	1	114	14	13	129	1	312	66	...
	Carried forward	1,043	20,521	5,017	1,946	26,581	1,333	256,114	128,600	93

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	1,043	20,521	5,017	1,946	26,581	1,333	256,114	128,600	93
VI.—*Diseases of the Digestive System*—contd.									
125. Diseases of the Pancreas... ...	...	4	6	4	10	1	...	...	...
126. Peritonitis (of unknown cause) ...	...	25	12	22	37	2	16	5	...
127. Other affections of the Digestive System	...	7	3	3	10	2	64	8	...
VII.—*Diseases of the Genito-urinary System (non-Venereal)*									
128. Acute Nephritis	8	102	60	42	170	11	102	51	...
129. Chronic	8	87	47	37	142	7	75	45	1
130. A.—Chyluria	...	...	...	...	...	...	5	...	...
B.—Schistosomiasis	1	200	16	13	217	8	577	37	...
131. Other affections of the Kidneys...	...	10	...	1	10	1	11	1	...
Pyelitis, &c.	...	11	7	4	18	...	19	7	...
132. Urinary Calculus	...	3	...	2	3	...	2	...	...
133. Diseases of the Bladder	...	...	...	...	...	...	3	4	...
Cystitis	3	77	41	14	121	4	506	221	1
134. Diseases of the Urethra—									
(*a*) Stricture	23	366	4	22	393	24	483	5	1
(*b*) Other...	4	138	9	4	151	7	639	15	...
135. Diseases of the Prostate	...	...	...	...	...	...	2	...	...
Hypertrophy	1	2	...	...	3	...	...	...	...
Prostatitis	...	24	...	1	24	...	29	...	...
136. Diseases (non-Venereal) of the Genital Organs of Man	...	257	...	...	257	41	492	...	...
Epididymitis	1	49	...	...	50	2	290	...	...
Orchitis	6	293	...	...	299	8	717	...	1
Hydrocele	26	598	...	9	624	31	769	...	...
Ulcer of Penis	5	154	...	...	159	4	981	...	...
Phimosis	2	244	...	...	246	1	1,112	...	...
137. Cysts or other non-malignant Tumours of the Ovaries	...	...	48	10	48	3	...	44	1
138. Salpingitis—	...	...	92	4	92	3	...	181	...
Abscess of the Pelvis	3	...	28	3	31	2	...	48	...
139. Uterine Tumours (non-malignant)	1	...	66	8	67	2	...	78	...
140. Uterine Hæmorrhage (non-puerperal)	...	...	16	...	16	...	...	81	...
141. A.—Metritis	3	...	150	...	153	3	...	288	...
B.—Other affections of the Female Genital Organs—									
Displacements of Uterus ...	5	...	174	6	179	2	...	612	...
Amenorrhoea	...	...	18	...	18	1	...	596	...
Dysmenorrhœa	...	...	93	...	93	2	...	2,003	...
Leucorrhœa	...	...	47	...	47	1	...	363	...
142. Diseases of the Breast (non-puerperal)—	...	4	...	...	4	...	...	1	...
Mastitis	1	3	65	...	69	2	21	397	...
Abscess of Breast	3	...	20	...	23	3	5	57	...
Carried forward	1,147	23,179	6,039	2,155	30,365	1,511	263,034	133,748	98

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

	Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
		Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
	Brought forward	1,147	23,179	6,039	2,155	30,365	1,511	263,034	133,748	98
	VIII.—*Puerperal State.*									
143.	A.—Normal Labour	10	...	765	...	775	5	...	171	2
	B.—Accidents of Pregnancy—									
	(*a*) Abortion	4	...	162	6	166	1	...	377	...
	(*b*) Ectopic Gestation	...	...	17	3	17	2	...	2	...
	(*c*) Other accidents of Pregnancy...	3	...	100	13	103	2	...	410	...
144.	Puerperal Hæmorrhage	...	...	3	2	3	1	...	9	...
145.	Other accidents of Parturition ...	3	...	69	24	72	...	...	23	...
146.	Puerperal Septicæmia	...	...	22	15	22	...	...	4	...
147.	Phlegmasia Dolens...	...	...	...	...	...	...	...	...	...
148.	Puerperal Eclampsia	...	...	2	...	2	...	...	...	...
149.	Sequelæ of Labour	...	...	55	3	55	3	...	92	...
150.	Puerperal affections of the Breast	...	...	6	...	6	...	...	25	...
	IX.—*Affections of the Skin and Cellular Tissues.*									
151.	Gangrene	5	83	20	23	108	5	253	43	...
152.	Boil	1	77	7	...	85	3	2,425	583	...
	Carbuncle	1	32	7	...	40	2	434	112	...
153.	Abscess	26	1,035	169	40	1,230	47	3,148	845	...
	Whitlow	3	110	33	...	146	5	1,690	703	...
	Cellulitis	26	778	148	28	952	40	4,583	1,392	...
154.	A.—Tinea	1	110	9	...	120	1	10,016	2,253	...
	B.—Scabies	4	95	19	...	118	5	16,354	4,825	...
155.	Other Diseases of the Skin ...	39	140	47	1	226	16	3,998	2,359	...
	Brythema...	...	10	2	1	12	1	248	123	...
	Urticaria	...	14	2	...	16	1	826	465	...
	Eczema	2	68	12	1	82	3	2,443	1,093	...
	Herpes	...	21	1	...	22	...	269	59	...
	Psoriasis	1	2	1	...	4	...	366	208	...
	Elephantiasis	20	338	38	10	396	29	396	67	...
	Ulcers	326	2,424	1,086	77	3,836	336	31,478	12,199	2
	Myiasis	...	2	...	...	2	...	3	2	...
	Chigoes	5	69	40	1	114	19	509	302	...
	Cutaneous Leishmaniasis ..	...	...	...	...	...	...	...	...	...
	X.—*Diseases of bones and Organs of Locomotion (other than Tuberculous).*									
156.	Diseases of Bones—									
	Osteitis	26	207	71	14	304	30	746	370	...
157.	Diseases of Joints—									
	Arthritis	9	284	86	6	379	19	2,886	1,024	...
	Synovitis	11	150	18	1	179	2	1,017	289	...
158.	Other Diseases of Bones or Organs of Locomotion	3	82	22	11	107	14	1,052	332	...
	Carried forward	1,676	29,310	9,078	2,435	40,064	2,103	348,174	164,509	102

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	1,676	29,310	9,078	2,435	40,064	2,103	348,174	164,509	102
XI.—*Malformations.*									
159. Malformations	9	...	...	...	9	...	...	...	...
Hydrocephalus	...	23	3	2	26	2	26	9	...
Hypospadias	...	1	...	..	1	...	2	...	...
Spina Bifida, etc.	...	6	2	...	8	...	21	3	...
XII.—*Diseases of Infancy.*									
160. Congenital Debility	4	43	34	37	81	4	145	111	...
161. Premature Birth	...	7	13	10	20	...	11	9	..
162. Other affections of infancy ...	1	45	33	20	79	2	441	533	7
163. Infant neglect (infants of three months or over)	...	18	17	11	35	5	44	36	...
XIII.—*Affections of Old Age.*									
164. Senility	1	23	6	7	30	1	82	44	...
Senile Dementia	...	4	1	5	5	...	23	15	...
XIV.—*Affections produced by External Causes.*									
165. Suicide by Poisoning	...	...	...	...	...	...	...	...	...
166. Corrosive Poisoning (Intentional)	...	2	1	1	3	...	...	...	...
167. Suicide by Gas Poisoning	...	...	...	...	...	...	...	...	...
168. Suicide by Hanging or Strangulation	...	...	...	...	...	...	...	...	...
169. Suicide by Drowning	...	...	...	...	...	..	...	...	...
170. Suicide by Firearms	...	...	...	...	...	...	...	...	...
171. Suicide by cutting or stabbing Instruments	...	3	...	2	3	...	...	...	...
172. Suicide by jumping from a height	...	...	...	...	...	...	...	...	...
173. Suicide by crushing	...	...	...	...	...	...	...	...	...
174. Other Suicides	...	...	...	...	...	...	...	...	...
175. Food Poisoning	...	2	8	2	10	...	2	...	...
Botulism	...	...	...	...	...	...	1	...	...
176. Attacks of poisonous animals ...	...	...	...	...	...	...	...	...	...
Snake Bite	1	78	7	8	86	1	141	32	...
Insect Bite	...	12	...	...	12	...	291	84	...
177. Other accidental Poisonings ...	...	25	13	8	38	1	15	2	1
178. Burns (by Fire)	16	130	73	24	219	8	1,262	558	2
179. Burns (other than by Fire) . .	4	53	25	4	82	6	411	245	...
180. Suffocation (accidental)	...	3	2	...	5	...	...	...	...
181. Poisoning by Gas (accidental) ...	...	2	...	...	2	...	...	...	...
182. Drowning (accidental)	...	...	...	...	...	...	...	...	..
183. Wounds (by Firearms, war excepted)	3	97	13	18	113	3	65	8	...
184. Wounds (by cutting or stabbing instruments)	15	778	124	36	917	67	8,222	1,753	...
185. Wounds (by Fall)	5	249	52	12	306	6	3,831	855	1
186. Wounds (in Mines or Quarries) ...	...	10	...	...	10	1	1,373	8	...
187. Wounds (by Machinery)	...	32	7	1	39	2	111	32	...
Carried forward	1,735	30,956	9,512	2,643	42,203	2,212	364,694	168,846	113

TABLE V.—RETURN OF DISEASES AND DEATHS (NON-EUROPEAN) FOR THE YEAR 1933—*continued.*

Diseases.	IN-PATIENTS.						OUT-PATIENTS.		
	Remaining in Hospital at end of 1932.	TOTAL. Admissions. Male.	Female.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1933.	Male.	Female.	Deaths.
Brought forward	1,735	30,956	9,512	2,643	42,203	2,212	364,694	168,846	113
XIV.—*Affections produced by External Causes*—contd.									
188. Wounds (crushing, *e.g.* railway accidents, etc.)	14	24	2	6	40	2	175	28	...
189. Injuries inflicted by Animals, Bites, Kicks, etc.	...	106	28	2	134	1	1,014	314	...
190. Wounds inflicted on Active Service	...	...	...	...	...	...	8	2	...
191. Executions of civilians by belligerents	...	...	...	...	...	...	...	...	...
192. A.—Over fatigue	...	...	1	...	1	...	5	...	...
B.—Hunger or Thirst	1	13	3	4	17	...	6	3	...
193. Exposure to Cold, Frost bite, etc.	...	1	...	...	1	...	3	1	...
194. Exposure to Heat—									
Heatstroke	...	...	...	...	...	...	1	1	...
Sunstroke	1	...	...	...	1	...	...	...	...
195. Lightning Stroke	...	1	...	...	1	...	2	...	...
196. Electric Shock	...	1	...	...	1	...	2	...	...
197. Murder by Firearms	...	...	...	...	...	...	...	...	...
198. Murder by cutting or stabbing instruments	...	2	...	1	2	...	...	...	...
199. Murder by other means	...	1	1	2	2	...	...	...	...
200. Infanticide (Murder of an infant under one year)	...	...	...	...	...	...	...	...	...
201. A.—Dislocation	1	49	15	2	65	2	93	25	...
B.—Sprain	3	102	11	...	116	3	2,560	325	...
C.—Fracture	49	543	118	51	710	60	384	132	...
202. Other External Injuries	33	936	200	15	1,169	35	23,257	3,401	...
203. Deaths by Violence of unknown cause	...	...	...	...	...	...	...	...	...
XV.—*Ill-Defined Diseases.*									
204. Sudden Death (cause unknown)	...	...	1	1	1	...	...	...	...
205. A.—Diseases not already specified or ill-defined—									
Ascites	8	115	48	47	171	14	155	61	...
Œdema	5	44	9	8	58	1	209	91	...
Asthenia	5	119	36	27	160	15	923	542	3
Shock	...	12	4	5	16	...	3	1	...
Hyperpyrexia	...	5	...	1	5	...	3	1	1
B.—Malingering	6	84	87	...	177	9	243	45	...
XVI.—*Diseases, the total of which have not caused 10 Deaths.*									
Pyrexia of uncertain origin ...	...	4	...	...	4	...	3	...	...
Ante Natal Cases	...	8	156	...	164	2	1,875	897	...
Ainhum	...	10	4	...	14	...	65	23	...
Deformities	...	...	...	...	...	...	...	3	...
Avitaminosis	...	...	...	...	...	...	151	31	...
Total	1,861	33,136	10,236	2,815	45,233	2,356	395,834	174,773	117

APPENDICES

APPENDIX A.

Report of the Laboratory Service.

The post of the Deputy Director of Laboratory Service has remained unfilled. One pathologist was engaged upon dietetic research until he resigned and went on leave on 8th July, and two pathologists were engaged in research upon schistosomiasis and guinea-worm infection. Teaching work at the Medical School has absorbed much time of the pathologists stationed at Lagos and Yaba.

The work of the Medical Research Institute was divided into two units during the year—the pathological unit, which includes the clinical laboratory at Lagos, and the bacteriological unit.

The clinical laboratories at Port Harcourt and Kaduna have been maintained.

A.—PATHOLOGICAL UNIT.

The pathological unit was formed in June and consists of the former vaccine laboratory at the Medical Research Institute, Yaba, with attached animal houses and the laboratory at the African Hospital, Lagos. The latter is responsible for all the routine work of the European and African Hospitals with the exception of Kahn tests, plating of stools and blood cultures which are carried out by the Pathologist in charge of the bacteriological unit. The laboratory at Yaba is used for research work; this has been necessarily limited during the year owing to the demands made upon the staff by routine work and by the requirements of the Medical Training College. The work on vaccine production was continued during the earlier part of the year by Dr. Elmes. An attempt to obtain a seed virus from a case of human variola by monkey and rabbit passage was unsuccessful. Calves were obtained from the Veterinary Department, Vom, in December, 1932, and were tested as vaccinifers. The results were not satisfactory and it was considered that better conditions for experiment would obtain at Vom. Accordingly Mr. Bowrey proceeded there in March.

No further experimental work was carried out at the Medical Research Institute, Yaba, with the exception of bacteriological and animal potency tests on the preliminary batches of calf vaccine prepared by Mr. Bowrey at Vom. Five batches were tested and found grossly contaminated, gas producing anerobes being present in three. The potency of the virus as estimated by skin inoculation in rabbits was found to be very low, probably owing to the overwhelming number of contaminating bacteria. It was considered that alterations to buildings and other facilities were essential in order to afford a reasonable chance of success. These matters were discussed with the Acting Chief Veterinary Officer during the visit of Dr. Elmes to Vom in April.

The following were investigated in the Laboratory at Yaba :—

1. Examination of rats' kidneys for inclusion bodies. Hindle has reported the presence of eosinophilic bodies in the renal cells of London sewer rats, and information was required as to whether a similar condition existed in Lagos. Through the courtesy of the Medical Officer of Health, 100 rats were examined, using a similar technique to that used by Hindle. No inclusion bodies were found.

2. Analysis of the malignant tumours received during the past eight years (approximately 500 specimens) was commenced.

3. A preliminary Schick test investigation of Lagos Africans. Severe sore throat is a common complaint among out-patients and swabs taken on potassium tellurite plates revealed the presence in a few instances of *B. diphtheriæ mitis*. It was considered of sufficient interest to investigate the relative number of those Schick positive and those negative. A report will be made later.

4. Filtration experiments with *Sp. schaudinnii*. It was found that these spirochætes readily passed Berkfeld V. Candles but not Berkfeld N. *B. pyocyaneus* also came through. Inoculation experiments made with the filtrates were negative.

5. Hodgkin's Disease.—Five specimens (histologically positive) were received for examination. Gordon's biological test was positive in two instances.

The following is a summary of the work performed in the Laboratory at Lagos :—

Rabies.—During the year thirty-eight brains were received; thirty-five from dogs, one from a cat, and two from African natives. Of these nineteen were positive (sixteen dogs, one cat and two human).

The positive brains came from the districts indicated below :—

Human—Victoria 1, Kotonu 1; others—Lagos 3, Ebute Metta 3, Ibadan 2 (1 cat), Ilorin 2, Maiduguri, Yaba, Bamenda, Enugu, Zaria, Ijebu-Ode, each 1.

Mice have been substituted for rabbits in rabies work, the former being much more economical and giving more definite histological results than rabbits or guineapigs. The animals show well marked paralysis and when dead present a typical arched appearance of the dorsal vertebræ due to muscular spasm.

Climatic Bubo.—Glands from eight cases of suspected climatic bubo were examined. In these cases the histological changes were highly suggestive of the condition but Frei's test was negative in all.

Sickle Cell Anæmia.—Two cases of this condition were admitted to the wards and an autopsy was obtained in one. A third case was accidentally discovered in the course of a routine post-mortem examination.

Tumours.—Seventy-one tumours were received during the year. Ten of these were simple in character and sixty-one were malignant. Of the malignant tumours twenty-eight were carcinoma, the remainder belonging to the sarcomata. The malignant tumours can be regionally sub-divided as follows :—

	Carcinoma.	Sarcoma.
Primary hepatic	7	—
Skin	4	7
Female genitals	8	—
Breast	5	—
Pancreas	1	—
Bladder	1	—
Bone (joints and long bones) ...	1	10
Lymph gland	—	7
Eye	—	5
Testis	—	2
Unknown	—	2
Palate	1	—

Post-mortem work.—During the year 187 autopsies were made. Of these forty-eight were Coroner's, fifty-nine were Health and the remainder hospital post-mortems. As regards Coroner's post-mortems the number given above does not represent all those performed

in Lagos as the Medical Officer of Health kindly assists with this work so as to allow the Pathologists more time for teaching and routine duties.

A summary of the post-mortems is herewith included :—

Cause of death.	Number.	Cause of death.	Number.
Accidents	2	Portal cirrhosis	4
Atheroma, specific (syphilis or yaws)	4	Pneumonia, lobar	5
Atheroma, simple	3	Perforated duodenal ulcer ...	1
Aneurysm	1	Perforated gastric ulcer	1
Amœbic dysentery	1	Pyæmia	2
Broncho-pneumonia	62	Post partum hæmorrhage ...	1
Burns	1	Pericarditis	2
Bacillary dysentery	9	Puerperal sepsis	1
Cerebral hæmorrhage	2	Ruptured tubal pregnancy ...	1
Cerebral necrosis	2	Rabies	1
Drowning	3	Peritonitis	1
Dislocation of axis vertebra ...	1	Sickle-cell anæmia	1
Electrocution	1	Strangulated intestine (ileum) ...	2
Exposure and starvation	3	Sub-acute yellow atrophy ...	2
Intussusception	1	Tuberculosis, pulmonary ...	15
Laryngeal obstruction	1	,, of spine	3
Liver abscess (amœbic)	4	,, of peritoneum ...	1
Malignant disease (mediastinal lympho-sarcoma 1 carcinoma head of pancreas 1)	2	,, generalised chronic	3
		Typhoid (two doubtful) ...	5
Malaria	2	Uræmia	1
Meningitis septic	1	V.D.H.	6
Miliary T.B.	1	Unknown	9
Nephritis	7		187
Nephritis (suppurative)	5		

It will be seen that the number of deaths from broncho-pneumonia is very high and it is interesting to note in connection with this that many of these cases show changes in other organs which simulate those found in typhoid fever. The Pathologist in charge of the bacteriological unit has referred to the bacteriological findings in his report and a summary of the morbid changes is appended. Attention was first focussed upon the condition by the Medical Officer of Health, Lagos.

As stated, in sixty-two cases the cause of death was broncho-pneumonia. The pulmonary lesions, in sixteen of these, were accompanied by abdominal changes involving the spleen, mesenteric lymph glands and the lymph tissue generally of the small and large intestines.

Spleen.—This organ was invariably congested, enlarged, and when cut presented a dark pulp with prominent œdematous looking Malpighian bodies lying therein. Chronic adhesions and patches of peri-splenitis were also present.

Mesenteric Lymph Glands.—These were enlarged, soft, œdematous and occasionally showed minute hæmorrhagic flecks. Those in the region of the cæcum and adjacent portion of the ileum were most affected and in two instances formed a mass of firm, discrete, markedly congested glands, some of the individual members of the group reaching the size of a pigeon's egg.

Intestinal Lesions.—The changes observed in the intestines were the most marked and constant feature of the abdominal syndrome. They were confined to the cæcum, ascending colon and the proximal few feet of the ileum.

In the involved portion of the small intestine, the Peyer's patches were seen to be raised well above the mucous surface, their extent was increased, particularly in the longitudinal axis and their surface was irregular and pitted, resembling that of a mildly inflamed tonsil. No ulceration was noticed. A slight degree of bile staining (indicating commencing necrosis) occurred in some and in many of

the patches, the minute pits were plugged with black necrotic material. The scattered lymph follicles of the whole region, ileum, cæcum and ascending colon, were congested and swollen. In the centre of most of the follicles was seen a black dot (necrotic material) surrounded by a varying degree of inflammatory congestion. The changes which have been described were highly suggestive of typhoid, this diagnosis being provisionally made in the earlier cases met with. Subsequently, however, the bacteriological findings were found not to support this view.

As regards the type of broncho-pneumonia present, it was, with some slight variation, found to be of a hæmorrhagic nature, the lungs appearing congested with diffusely scattered dense areas of a darker red colour. Patches of fibrinous pleurisy and sub-pleural petechial hæmorrhages were common. The films usually showed (provided post-mortem contamination had not occurred to any great extent) scanty Gram-negative, slender, somewhat pleomorphic bacilli. Guinea-pig inoculations were negative for plague.

An examination of paraffin sections prepared from the lungs, lymph glands, spleen and Peyer's patches revealed nothing characteristic beyond the usual inflammatory reactions. Whether or not the broncho-pneumonia was a primary or terminal condition is a matter for speculation—in one of the later cases the patient's clinical symptoms and history were all connected with the abdominal lesions—the broncho-pneumonia being of later occurrence.

A summary of routine examinations made during the year is included under section C.

PUBLICATIONS MADE DURING THE YEAR BY THE STAFF OF THE PATHOLOGICAL UNIT.

1. Inoculation experiments with Bacillus fusiformis isolated from tropical ulcer with observations on the bacillus.—*Journal of Hygiene*, Vol. XXXIII, No. 1, 1933.
2. Sickle-cell Anæmia.—A report on three cases diagnosed from microscopic sections of the spleen.—*Trans. Roy. Soc. Trop. Med. and Hyg.*, Vol. XXVII, July, 1933.
3. Rosenthal test in Syphilis and Yaws.—*American Journal of Trop. Med.*, Vol. XIII, November, 1933.
4. A case of Sub-acute Yellow Atrophy clinically suggestive of Yellow Fever.—*W.A.M.J.*, Vol. VII, October, 1933.

B.—BACTERIOLOGICAL UNIT.

In June the Medical Research Institute was divided into pathological and bacteriological units. Although the bulk of the duties previously undertaken by the Pathologist, Lagos, have been taken over by the pathological unit, the bacteriological unit is responsible for any cultural or serological examinations required.

Kahn Tests.—2,318 tests were performed during the year the results being shown below :—

Negative	+ −,	+,	+ +,	+ + +,	+ + + +,
1,169	21	183	365	432	148

The number of sera sent in from out-stations is disappointing. Also a high proportion of the small number sent arrived in a condition unfavourable for an accurate test; some being badly hæmolysed, others being contaminated while not a few are sent in microscopic quantities.

The use of venules is not the solution as after a few days in the post, the blood changes to a thick syrupy fluid.

Widals.—Only thirty sera were received of which three were positive for *Bact. typhosum* and one for *Bact. paratyphosum* B.

Blood Cultures are seldom requested. Of those performed all were negative. On the other hand *Bact. typhosum* was recovered from one blood sent for a Widal test.

Dysentery.—The study of the various strains of dysentery found in Lagos was continued, Flexner being isolated thirty-four times, Shiga twice and Schmitz once.

The Flexners were subdivided as follows:—

V	7
W	14
X	1
Z	7
Lagos type	1
Unclassified	4

Among the unclassified strains were some agglutinating feebly with the various type sera used and others agglutinating to a remarkable titre with most or all of the type sera. The latter strains are apparently similar to those strains isolated in 1929 and not isolated again until this year.

In the report of the pathological unit reference is made to a number of cases of broncho-pneumonia with complications suggestive of enteric. During the year 1932, Dr. Cauchi, Senior Health Officer, drew attention to the frequency with which there appeared to be an inflammation of the Peyer's patches in cases of broncho-pneumonia, especially in children. In a few cases, bacteriological examination was made and the presence of members of the enteric group negatived.

A striking series of cases of abscesses in the kidneys complicating broncho-pneumonia suggested further examination of the flora from Peyer's patches as members of the encapsulated group of coliform organism had been isolated in pure culture from these abscesses.

By the end of the year, a small number of cases had been studied. It was evident early in the investigation that the strains forming mucoid colonies on McConkey's medium do not fall into one homogeneous group. The degree of mucosity varies considerably and variants are thrown off rapidly. Some of the strains appear to be allied to *Bact. lactis ærogenes*, while others resemble Friedlander's bacillus.

It is, however, evident that the group deserves detailed study. In one case, a non-mucoid organisms was recovered which agglutinated to the full " O " titre of a typhoid patient's serum for *Bact typhosum*. The non-mucoid variant of Friedlander is known to agglutinate with a typhoid serum and it is possible that the relative infrequency of typhoid among natives in Nigeria may be the result of a partial immunisation through the agency of Friedlander's bacillus since broncho-pneumonia is relatively frequent.

During the latter half of the year, eight strains of Mycobacterium tuberculosis were studied in detail both culturally and by animal inoculation.

Of the eight strains five were classed definitely as belonging to the human type, growth being improved by glycerine and a test dose equivalent to 1 milligram of moist culture failing to kill a rabbit inside 4½ to 5 months.

The remaining three were obviously different from the other five. From the fact that the test dose failed to kill inside four months and that growth on serum was improved by the addition of glycerine they may tentatively be classed as of the human type. On the other hand, the growth on egg was moister and more readily emulsifiable

than was the case with the other five. Glycerine hardly improved the growth on egg, while in glycerine broth there was no attempt to form a film, growth remaining as an agglomeration of small granules.

The pathogenicity was studied by three varying doses in guinea-pigs. As the findings may be published elsewhere in detail, all that is necessary to state here is that there is no obvious difference from the point of view of expectation of life in the guinea-pigs inoculated with the two types of strains isolated but that there appears to be a distinct difference in the lesions formed.

The worker has pleasure in expressing gratitude to Professor G. S. Wilson, London School of Tropical Medicine and Hygiene, for his help in sending strains to serve as controls, for his advice with regard to the standardising of the test doses, and for his encouragement generally in the work.

C.—CLINICAL LABORATORIES—LAGOS, PORT HARCOURT AND KADUNA.

TABLE I.

BLOOD EXAMINATION—EUROPEANS.

	Lagos.	Port Harcourt	Kaduna.
Total examinations	452	89	136
Subtertian parasites	56	20	29
Crescents	1	...	...
Quartan parasites	2	...	1
Benign tertian parasites	...	...	...
Trypanosomes	...	...	2
Microfilariæ	1	1	...
Spironemata	...	...	...
Total R.B.C....	6	5	...
Total W.B.C.	7	4	5
Differential W.B.C....	8	8	43

TABLE II.

BLOOD EXAMINATION—AFRICANS.

	Lagos.	Port Harcourt.	Kaduna.
Total examinations	4,075	1,442	1,732
Subtertian parasites	535	448	261
Crescents	2	1	7
Quartan parasites	19	...	3
Benign tertian parasites	...	...	1
Trypanosomes	1	...	6
Microfilariæ	72	27	56
Spironemata	...	...	...
Total R.B.C....	53	3	9
Total W.B.C.	53	3	11
Differential W.B.C....	28	12	11

TABLE III.

Examination of Fæces—Europeans.

	Lagos.	Port Harcourt.	Kaduna.
Total examinations	367	28	166
T. Saginata	1	...	...
Ascaris	23	...	4
Ankylostome	3	...	1
T. trichiura	19	4	2
Strongyloides	1	...	...
Flagellates	10	...	2
E. histolytica (free)	2	...	4
E. histolytica (cysts)...	5	...	5
E. coli (free)	2	1	4
E. coli (cysts)	7	1	8
S. mansoni	...	...	...
Blood	32	1	22
Mucus...	88	1	6
Cellular exudate	55	1	26
Other protozoa	...	...	1

TABLE IV.

Examination of Fæces—Africans.

	Lagos.	Port Harcourt.	Kaduna.
Total examinations	4,191	1,387	1,623
T. Saginata	8	2	128
Ascaris	2,798	556	102
Ankylostome...	1,552	1,034	557
T. trichiura	2,401	853	125
Strongyloides	201	105	34
Flagellates	268	59	58
E. histolytica (free)	12	15	41
E. histolytica (cysts)...	9	7	90
E. coli (free)	81	138	64
E. coli (cysts)	372	98	154
S. mansoni	11	1	41
Blood	188	85	173
Mucous	172	108	73
Cellular exudate	150	72	254
Other protozoa	...	3	4

TABLE V.

Sputum Examination—Africans.

	Lagos.	Port Harcourt.	Kaduna.
Total examinations	367	120	351
Tubercle bacilli	77	15	32

TABLE VI.

Urine Examination—Africans.

	Lagos.	Port Harcourt.	Kaduna.
Total examinations	3,142	1,043	1,739
Albumen	1,656	528	27
Sugar	67	44	5
Phosphates	550	169	371
Casts	75	105	82
Pus	1,528	490	984
Blood	272	44	157
S. haematobium	82	2	78
Bile salts	2	3	3
Bile pigments	...	4	4
Acetone	...	...	8
Di-acetic acid...	...	...	4

TABLE VII.

Kahn and Sachs-Georgi Tests.

	Lagos.	Port Harcourt.	Kaduna.
European.			
Number of tests	*See* report of	20	86
Positive	bacteriological unit.	4	27
African.			
Number of tests	...	227	1,529
Positive	...	137	882

TABLE VIII.

Agglutination Tests (Widal).

	Lagos.	Port Harcourt.	Kaduna.
European.			
Number of tests	*See* report of	3	17
Positive	bacteriological unit.	...	8
African.			
Number of tests	...	8	35
Positive	...	2	8

At Kaduna fifty-eight van den Bergh tests were carried out upon Europeans with one positive result; 938 tests in Africans gave forty-five positive results.

At Port Harcourt thirty-two stools cultured for *B. dysenteriæ* yielded Flexner type bacilli in fourteen cases and Shiga type in two cases.

At Kaduna a bacillus isolated from the nose in a young African boy was found to be morphogically identical with the Klebs Lœffler bacillus. The culture was inoculated into four guinea-pigs, one of whom had previously received a small dose of diphtheria antitoxin. The protected guinea-pig survived despite a double dose of culture, the other three died with typical lesions from the effects of a single dose of the culture.

Section of tissues at Port Harcourt and Kaduna led to the following diagnosis of malignant growths.

Melanotic sarcoma	1
Melanotic carcinoma	1
Sarcoma	3
Myeloid sarcoma	1
Myosarcoma	1
Endothelioma	3
Epithelioma	3
Carcinoma	7

The following causes of death, classified into disease groups, were found by pathologists at Port Harcourt and Kaduna at post-mortem examinations :—

Respiratory diseases (excluding tuberculosis)	5
Tuberculosis (various forms)	1
Diseases of circulatory system	9
Abdominal diseases (excluding dysentery) ...	8
Dysentery and diarrhœa	1
Nephritis	2
Malignant disease	5
Injuries	7
Drowning	5
Poisoning	1
Syphilitic necrosis of skull	1
Lymphatic leukæmia	1
Acute œdema of glottis	1
Post-operative hæmorrhage	2
Respiratory failure	1
Natural causes	1
Unknown	1

APPENDIX B.

Report of the Tsetse Investigation

By H. M. O. LESTER, M.R.C.S., L.R.C.P.,
Deputy Director, Tsetse Investigation.

During the year there have been further big increases in the amount of sleeping sickness work done in the field, and as far as possible the research work carried on in the Gadau laboratories has been continued. It should be understood that only a skeleton research staff is being kept at Gadau. At present there are two officers engaged purely in research work, the Assistant Veterinary Pathologist and the Technical Assistant. Various lines of investigation are being pursued by other workers, but such work has to be done in addition to other duties, as opportunity permits.

Dr. T. A. M Nash, Entomologist, joined the investigation in May. The Entomologist is an essential link in the chain of anti-sleeping sickness work. Every effort is being made to get local communities to undertake clearing operations to protect themselves and such work can hardly be done without the services of an Entomologist who acts in an advisory capacity. In addition, Dr. Nash is finding time to carry out several interesting lines of research. Dr. W. E. S. Merrett left the investigation in November, and for the time being his place is not to be filled.

Professor Buxton and Mr. Lewis, members of the staff of the London School of Hygiene, spent several months at Gadau working in the investigation laboratories. They studied the effect of climate upon *Glossina* and did much interesting laboratory work to analyse the effect of temperature and humidity on the physiology of the fly.

LABORATORY WORK.

The Treatment of Bovine Trypanosomiasis with Tartar Emetic.

In earlier reports mention was made of the disappointing results achieved in the treatment by tartar emetic of cattle infected with a double infection of *T. congolense* and *T. vivax*. It was pointed out that these observations did not of necessity show that tartar emetic might not be of considerable benefit to animals suffering from naturally acquired single infections. Experiments carried out in an attempt to investigate this point are summarised below.

(*a*) *T. Vivax—Natural Direct Infection by Stomoxys.*—For this experiment a group of 170 animals was available; these had become infected with a strain of *T. vivax* by direct transmission by stomoxys. The disease was allowed to run a natural course for at least two months before treatment was started. Eighty animals were given a course of tartar emetic, the total amount of the drug being 5 grms., in doses of 0.05-0.06 c.c. of a four per cent solution per kilogramme of body weight every five or six days. A control group of twenty animals was left untreated. As a supplement to this, twenty animals were given similar treatment as soon as possible after the infection showed up. After a year thirty-five animals survived in the first group, a mortality of fifty-nine per cent, while ten of the controls survived the same period of time, a mortality of fifty per cent. Results

with the twenty animals treated early were slightly better. Only two out of the twenty in this group had died within three months after treatment while seven out of the untreated animals had died in the same period. Later there were sporadic deaths until at the end of the year there were thirteen survivors in the treated group as compared with ten survivors in the untreated group.

(*b*) *T. vivax—Cyclical Infection.*—Twenty clean animals were infected with another strain of *T. vivax* transmitted cyclically by *G. tachinoides*. Ten of these were given a course of treatment with tartar emetic and ten were left untreated. Out of the treated group there were five deaths in ten months while four of the untreated animals died in the same time.

(*c*) *T. congolense—Cyclical Infection.*—A strain of *T. congolense* was isolated from wild *G. morsitans*, and this was used to infect laboratory bred *G. tachinoides*. These flies were repeatedly fed on twenty clean cattle. The appearance of trypanosomes in the blood of the beasts was very irregular and the infection was usually very scanty. Out of seventeen animals in which trypanosomes could be demonstrated six were treated with tartar emetic and eleven were left untreated. Within six months after treatment there were two deaths out of the six treated animals, while all the control animals had died.

(*d*) *T. vivax and T. congolense—Cyclical Infection.*—In early experiments animals were given a double infection by the injection of blood from other animals. In this instance twenty animals were infected cyclically by *G. tachinoides*. A double infection of *T. vivax* and *T. congolense* was derived from wild *G morsitans* and this was used to infect laboratory bred *G. tachinoides*. This double infection proved to be very virulent, a number of animals dying before treatment could be started. Out of thirteen survivors six were treated with tartar emetic while seven were left untreated. Three out of the six treated animals died within eight months while all seven controls died within the same period.

The results of the various experiments carried out at Gadau to ascertain the value of treatment with tartar emetic on cattle infected with Nigerian trypanosome strains are shown in the accompanying table. It is difficult to see that treatment with tartar emetic has done a great deal of good in the majority of cases. It is obvious that tartar emetic does not sterilise animals infected with local trypanosome strains and so does not produce a permanent cure. The state of "premunition", when it is produced by the drug, is of a transient nature and unless treatment is repeated from time to time this may be little more serviceable than that produced by the natural defensive mechanism of the body alone. It is probable that with mild infections tartar emetic may help to tide the animal over the worst period, but that is all that can be said for it.

A full account of this work is being prepared for publication.

Direct Transmission by a Hypodermic Needle.

At the request of the Chief Veterinary Officer a small experiment was carried out to test the possibility of transmitting bovine trypanosomiasis directly from one animal to another by means of an unwashed hypodermic needle.

(*a*) A "record" needle size 1.00×50 was inserted intramuscularly into an ox in which *T. vivax* were numerous in the blood and allowed to remain for a few seconds. It was removed and inserted immediately subcutaneously into a clean animal and left there seven to eight seconds; after removal it was immediately inserted into another clean animal. The first clean animal was positive in twenty-one days and the second in twenty-nine days.

TABLE SHOWING THE RESULTS OF TREATMENT OF BOVINE TRYPANOSOMIASIS WITH TARTAR EMETIC.

Type of Inspection.	Year.	No. of Animals.	Treatment.	No. of months between end of treatment and close of experiment.	Deaths.	Percentage mortality due to the disease.
						%
(*a*) Double infection of *T. congolense* and *T. vivax* given by syringe	1931	30	2 doses of 1 grm each	5	19	63
			3 " " ½ " "			
		10	N	5	6	60
(*b*) As above; animals were in poor condition after recovery from rinderpest	1932	46	Full treatment dose according to weight ·08 c.c. of a 4% solution per kilo. Total of 6 grms given in two courses	6	34	76
(*c*) Double infection of *T. congolense* and *T. vivax* given by syringe	1932	20	10 given full doses– total 4 grms ...	6	14	70
			10 given graduated doses—total 4 grms			
			Nil	2½	10	100
(*d*) *T. vivax* naturally acquired by direct infection (stomoxys)	1933	80	Treated with full doses after disease had run its course for two months	10	45	59
		20	treated early	10	7	35
		20	Nil	10	10	50
(*e*) *T. vivax* cyclical infection (*G. tachinoides*)	1933	10	·05–·06 c.c. 4% solution per kilo. Total—5 grms	10	5	50
		10	Nil	10	4	40
(*f*) *T. congolense* cyclical infection (*G. tachinoides*)	1933	6	·05–·06 c.c. 4% solution per kilo. Total—5 grms	6	2	33
		11	Nil	6	11	100
(*g*) Double infection *T. congolense* and *T. vivax* cyclical (*G. tachinoides*)	1933	6	·05–·06 c.c. 4% solution per kilo. Total—5 grms	8	3	50
		7	Nil	8	7	100

(*b*) A needle was inserted into the infected ox as before and immediately afterwards 2 c.c. of sterile glucose ringer solution were injected subcutaneously *via* the needle into a clean beast. The needle was removed and again inserted immediately into another clean beast and 2 c.c. of sterile glucose ringer injected as before. The first of these animals showed up positive forty-five days later while the second remained uninfected. Every care was taken to make sure that the clean animals were free from infection before the start of the experiment and afterwards that they should not be exposed to infection by tsetse or other biting flies.

The Histopathology of Bovine Trypanosomiasis.

Dr. Merrett continued the work on histopathology mentioned in the last report. As before the material was derived from cattle used in other experiments and infected variously with *T. vivax*, *T. congolense* and a mixture of the two. The post-mortem findings were extremely variable but sufficient constant features were present to warrant a division into (*a*) completely negative autopsy, (*b*) slight involvement of the heart, and (*c*) marked cardiac lesions associated with variable changes in other organs.

Tissues from all the organs were sectioned and examined microscopically. Abnormalities of the brain were conspicuously absent. In a few cases there was a slight concentration of neuroglial elements round the capillary walls but never sufficient to merit the title of a "Perivascular cuff". The heart was the organ chiefly affected showing all stages of myocarditis up to a condition of fibrosis and muscular fragmentation. In many cases the whole of the epicardium was disrupted and disorganised, with considerable thickening chiefly by the interpolation of large areas of fatty infiltration and the invasion of the whole structure by the extravasation of blood and infiltrating cells. Capillary hæmorrhages and larger ecchymoses in all organs were a constant feature. Massive cellular infiltrations chiefly of lymphatic origin and probably due to hyperplasia in the hæmatopoietic organs rather than to local proliferation were present almost everywhere. Trypanosomes as a rule were absent but collections of bodies which possibly might have been leishmanoid forms of the trypanosome were common.

The Characteristics of some Nigerian Strains of the Polymorphic Trypanosomes.

The work described in the previous reports has been continued. In all some seventeen trypanosome strains have been investigated, characteristics studied being (1) virulence to small laboratory animals, (2) occurrence of posterior nuclear forms, (3) reaction to tryparsamide, and (4) reaction to human serum. It has been shown that not only do strains having all the characteristics ascribed to *T. rhodesiense* occur but that there are also other strains with characteristics intermediate between *T. rhodesiense* and *T. gambiense*. As a result of this work it is believed that *T. rhodesiense* is only a virulent type of *T. gambiense* and that this more virulent type usually arises from the normal human trypanosome through idiosyncracies in the resistance of the human host. A full report has been published in the *Annals of Tropical Medicine and Hygiene*.

The Effect of Cyclical Transmission on the Characteristics of Trypanosome Strains.

An attempt is being made to keep various strains going by constant cyclical transmission through *Glossina tachinoides* and *Glossina morsitans*. The characteristics which are being investigated

are virulence to small laboratory animals and reaction to tryparsamide. It will be interesting to see whether the species of tsetse fly plays any part in determining the characteristics of a strain. This work is as yet too incomplete for any conclusions to be drawn.

Entomological Work.

The Entomologist has carried out tsetse surveys in Enugu, Zaria and Kaduna. As the result of a prolonged tour through the south-eastern and southern districts of Kano Emirate recommendations were made for a number of local clearings intended to reduce the fly-man contact to a minimum. It was seen that judicious clearing of narrow belts of riverine vegetation would reduce the incidence of sleeping sickness in these areas to very small proportions. Frequently the existence of *G. tachinoides* depended upon a belt of quite light vegetation which in many cases was only ten yards in width. Extensive protective clearing operations are now being carried out by Kano Native Administration.

It is known that climate is by far the most important factor in controlling the population of *Glossina*. As man cannot control the climate he can only attempt to alter the vegetation which enables tsetse to withstand adverse seasonal conditions. The object of the research which is being done is to study the relationship between tsetse and different type of vegetation and to ascertain the reasons for the tsetse preferences by measuring the climatic conditions in favourable and less favourable vegetation types. An attempt is being made to analyse the climate into its component meteorological factors and to obtain data upon the relationship between tsetse, vegetation and local meteorological conditions. Such analysis will show what climatic factor is of major importance to the tsetse, and will then indicate what elements of the vegetation are most important to the fly, *e.g.*, overhead crown shade, low thicket forming wind breaks, etc. Such knowledge will be of great scientific value as well as of practical value in reducing the extent of anti-tsetse clearings. The Entomologist is handicapped in this work by his frequent absences from Gadau, but already interesting results are being obtained.

In addition laboratory experiments are being made upon the longevity and reproductivity of both *Glossina tachinoides* and *morsitans* throughout all the seasons of the year. The result of this work should do much to elucidate such mysteries as the apparent cessation of breeding for four months in the year during the rains, without the occurrence of any real reduction in the density of the fly population. Either tsetse longevity must greatly increase in the rains or breeding must continue in unsuspected places such as rot holes high up in trees.

Observations are being made on a fungus which primarily attacks the females of both species of tsetse. During September, at the end of the rains, thirty-three per cent of *G. morsitans* and eleven per cent of *G. tachinoides* old females were infected. The fungus has been sent to England for identification and for attempted culture.

The Testing of New Chemical Compounds.

A system of co-operation with certain large chemical firms in Europe has been inaugurated. New chemical compounds are constantly being tried out in the home laboratories. From the nature of things the experiments in Europe are chiefly concerned with the action of drugs on small animals with old laboratory trypanosome strains. These strains may differ very much in their properties from strains freshly isolated in the field. Arrangements have been made for promising new drugs to be sent to Gadau to be tested against freshly isolated strains. If the results seem encouraging the drugs will then be tested against human and animal trypanosomiasis in the field.

Observations have been made on two new chemical compounds kindly supplied to us by Messrs. Bayer-Meister Lucius. With the first of these, Surfen C, a quinoline derivative, an extensive series of animal experiments has been carried out. It has been found that trypanosome strains isolated from sleeping sickness cases are very sensitive to the drug. In man, however, the strains do not seem to be anything like so sensitive, and the use of this drug in human trypanosomiasis is contra-indicated owing to the fact that its intramuscular injection into sleeping sickness patients is liable to produce an acute nephritis. The drug is being tested against *T. vivax* and *T. congolense* strains in domestic animals, and it seems possible that it may prove to be a valuable remedy against animal trypanosomiasis.

Experiments have been started with the second drug Std. 386B, an organic compound of arsenic and antimony. The results are incomplete, but it has been found already that this substance has a marked trypanocidal action on trypanosome strains from man maintained in guinea-pigs.

Sleeping Sickness.

During the year 27,919 cases have been treated by the tsetse investigation staff. This figure includes some 9,000 cases whose treatment is not yet complete but does not allow for a further 3,000 cases which have been diagnosed but not treated nor for the 2,000 cases which were under treatment at the beginning of the year.

To start with there were three sleeping sickness teams in the field. Later more dispensary attendants-in-training were engaged which brought the strength up to the full complement of 144. The majority of them have been given an adequate course of training at Gadau and are now working in the field. By the end of 1933 five complete teams, each consisting of one medical officer, two nurses and twenty-four dispensary attendants were at work, while a sixth team was due to start in January, 1934.

A part of this service has been paid for by the Native Administrations. In particular, Kano Native Administration paid the full cost of the team that worked in Kano Emirate, while Hadeija Native Administration gave £1,000 as a grant-in-aid.

The infection rates which have been found give some indication of the magnitude of the problem with which we have to deal. The infection rate in Bedde Emirate of Bornu Province was twenty per cent, and it was the same in two of the districts in Hadeija Emirate of Kano Province. In Zaria Emirate two districts had infection rates of twenty per cent and sixteen per cent respectively. Gwagwa district of Abuja Division had an infection rate of twenty-four per cent. While in the Southern Provinces in the Abua district of the Ahoada Division of Owerri Province twenty-nine per cent of the population were found to be infected. There is a good deal of indirect evidence to show that the disease has spread rapidly during the last few years. Areas previously known to be endemic are now epidemic. For instance, in 1931 the east and north-easterly areas of S. Auyo and Wambai districts of Hadeija Emirate were surveyed. The combined survey and treatment was not a success owing to the hostility of the people, and not more than fifty per cent of the population could be examined. In 1933 two years later these areas were re-examined and the survey was almost a hundred per cent successful. Whereas in 1931 the infection rate in that portion of the population examined was four per cent, two years later it had increased to nineteen per cent.

In many areas the death rate has been high and there has been a definite decrease in population. This has been particularly notice-

able in Zaria Emirate where the shrinkage in population has been alarming. In Soba district according to the Native Administration census the population has decreased from about 32,000 to 22,000 in the last ten years. The recent survey showed sixteen per cent of the remaining population to be infected with sleeping sickness. The causes of this decrease in population are (*a*) deaths and (*b*) the reduction in fertility. Deaths due to sleeping sickness seem to occur (1) among the toxic cases which never reach the stage of showing severe nervous manifestations, (2) as the terminal phase of the "sleeping" cases, and (3) among the numerous very chronic cases in which the disease may lie latent for many years. In this class patients die of intercurrent diseases owing to the diminished resistance caused by their trypanosomal infection.

At present we are trying to cope with the disease by mass treatment and by localised protective measures against the tsetse fly. It has been shown that mass treatment itself is quite effective in reducing the incidence of the disease. In 1932 the survey of Sarikin Dawaki district of Hadeija Emirate showed an infection rate of 18.5 per cent. Practically all these cases were given adequate treatment with tryparsamide. A year later a re-survey showed that the infection rate had fallen to 8.8 per cent. It is obvious that further re-surveys and treatment done in accordance with the prophylactic system would reduce the incidence of the disease to reasonable proportions. Unfortunately, the infected areas are so vast that it will be impossible to re-survey them all year by year. It will be necessary eventually to split up the teams so as to form a series of sleeping sickness dispensaries carrying on voluntary treatment in the worst areas. The dispensary attendants will staff these dispensaries which will be inspected by touring sleeping sickness medical officers.

Some interesting figures have been obtained which indicate the value to the individual of mass treatment with tryparsamide. Dr. Ellis, working in Hadeija, found that out of 829 positive cases which had been given a course of 23 grms. of tryparsamide only 15, *i.e.*, 1.8 per cent, had living trypanosomes in their gland juice or blood at the end of treatment. In other parts of the country many more cases have been found to be resistant to treatment with tryparsamide. For this reason arrangements have been made to use a combined treatment of antrypol and tryparsamide on a large scale. In one area in Hadeija Emirate out of 1,179 cases treated in 1932 eighty-one per cent were found to be alive and well one year later, while 13.1 per cent were infected, the remainder being either dead or untraced. In another district out of a total 1,010 cases treated in 1931, 66.5 per cent were found to be alive and well two years later, while 26.9 per cent were found to be infected. Of the remainder 6.1 per cent were known to be dead.

If real progress is to be made it is essential that local communities should be made to protect themselves by carrying out protective clearings round their towns and villages. The Administration has agreed to this principle and measures are being taken to ensure that this work should be done under the Native Authorities and Forced Labour Ordinances. As a large amount of work will devolve on touring Administrative Officers, arrangements have been made for a number of them to receive a training in the methods of carrying out fly surveys and the principles involved in protective clearing. A short paper dealing with these subjects is being published and will be issued to touring Administrative Officers.. As well it is being arranged that numbers of Native Administration mallamai should be trained at Gadau as fly boys so as to assist in carrying out the necessary fly surveys.

Dr. J. C. Paisley's report follows.

SENIOR SLEEPING SICKNESS OFFICER'S REPORT.

(*a*) *Kano Province—Hadeija Emirate.*—The more heavily infected village areas lying to the east and north-east of the districts of S. Auyo and Wambai, last surveyed in 1931, were re-surveyed. Out of a population of 10,515 examined, 2,083 cases were found, giving an average infection rate of 19.8 per cent. Infection rates varied in the different centres from 0-50 per cent.

Treatment was satisfactory, 2,066 completed the full course of fifteen injections of tryparsamide; four received smaller amounts, three ran away, and ten died before treatment.

An attempt was made to trace all cases from this area who had been treated in 1931, with the following result :—

Alive and well	670	66.33%
Infected ...	272	26.93%
Dead ...	62	6.14%
Untraced ...	6	60%
Total cases	1,010	

On completion of the work in these districts, the team moved into the district of Sarikin Dawaki, last surveyed in 1932. It was not found possible to do a complete re-survey of this district, owing to opposition from the inhabitants. The results for the areas surveyed are shown below. For comparison, the infection rate found in 1932 is also shown.

Centre.	No. examined.	S.S. Cases.	Infection rate, 1933.	Infection rate, 1932.
			%	%
Illela	1,657	212	12·7	22·4
Djem	2,051	180	8·7	10·2
Baturiya	1,090	179	16·4	26·8
Sawo	522	71	13·6	29·0
Tarrabu	1,855	90	4·8	14·8
Tshegwa	1,524	41	2·6	2·2
Total	8,699	773	8·8	18·5

A further 105 cases came in voluntarily.

Treatment.—Two died before treatment, four during treatment, the remainder completed a full course of treatment; 1,179 cases were found in this area in the 1932 survey, and these were traced as far as possible. The result is shown below.

Alive and well	955	81%
Infected	155	13%
Died during or after treatment ...	48	4.07%
Died before treatment	15	1.28%
Untraced	16	

(*b*) *Kano Emirate.*—The large district of Jafun in the north-east of the Emirate was successfully surveyed. In the northern part of the district, lying along the course of the Hadeija river, 34,363 persons were examined, and 3,044 cases found, an average infection rate of 8.5

per cent. In the southern part 35,007 persons were examined and 846 cases found, an average infection rate of 2.4 per cent. Infection rates varied in the different centres from .3 per cent to 13 per cent.

Of these cases, six died before treatment, the remainder completed a full course of tryparsamide.

The team then moved to Dutsi, which lies south-west of Jafun. Out of 72,582 persons examined, 2,336 cases were found, an average infection rate of 3.2 per cent.

Treatment of these cases has been completed satisfactorily.

Bornu Province—Bedde Emirate.—Examinations were confined to the northern part of the Emirate, along the Hadeija and Katagum rivers. 14,525 persons were examined, and 2,958 cases were found, an average infection rate of 20.3 per cent. In addition, thirty-six cases came in voluntarily from other districts.

Unfortunately, difficulties arose in treatment. The Beddawa are a primitive and suspicious people, and it was only by great exertions on the part of the medical officer and the Native Administrative Authorities that treatment could be carried on at all. Eventually, however, 1,832 cases received over 25 grammes of tryparsamide, 285 received from 20 to 25 grammes, 742 received varying amounts up to 20 grammes, 104 refused treatment, and thirty-one died before treatment. Among the treated cases fifteen deaths occurred. No deaths occurred among those receiving more than 20 grammes.

Zaria Province—Zaria Emirate.—The districts of Chawai and Soba have been surveyed during the year. In Chawai district, 16,477 persons were examined, and 3,415 cases found, an average infection rate of 20.8 per cent. Treatment was satisfactory, 3,318 completed the full course, sixty-one for various reasons received smaller amounts, and thirty-six died, sixteen from advanced sleeping sickness and twenty from inter-current disease.

In Soba district, 24,632 persons were examined, and 4,014 cases found, an average infection rate of 16.3 per cent. Of these approximately 98 per cent have completed the full course.

Plateau Province—Jos Division.—Treatment of 773 cases found in the Kwall district in 1932 was completed early this year; 731 received the full course, forty-six received smaller amounts and fifteen died.

Shendam Division.—Treatment of 597 cases found in the Jorto tribal area in 1932 was completed satisfactorily; 575 received the full course of treatment, eight received smaller amounts, and fourteen died. Treatment was extremely popular in this area.

Niger Province.—Abuja Division.—In Gwagwa district 12,125 persons were examined and 2,975 cases found, an infection rate of 24.6 per cent. Treatment is not yet completed.

Owerri Province—Ahoada Division.—Sleeping sickness in epidemic form was reported by the Medical Officer, Degema, at Abua, in the Niger Delta. A small team commenced work in the area in September; 16,101 persons have been examined, and 4,713 cases found, an average infection rate of 29.2 per cent. Infection rates varied in the different groups of villages from 19.5 per cent to 45.7 per cent. Treatment is now in progress, and is very popular. About 700 cases have been fully treated up to date.

At the Gadau sleeping sickness dispensary 623 cases have been diagnosed during the year, chiefly from the Katagum and Hadeija divisions. The majority of these have received over 20 grammes of tryparsamide, but as their homes are in many cases at long distances, it is difficult to persuade them to complete the full course. Forty deaths have occurred.

The following table summarises the work for the year:—

District.	No. examined.	No. of cases.	Infection rate per cent.	Percentage completing adequate treatment.
HADEIJA EMIRATE—				
S. Auyo and Wambai	10,515	2,083	19·8	99·1
Sarikin Dawaki	8,699	876	8·8	100·0
KANO EMIRATE—				
Jafun	69,370	3,890	5·6	99·8
Dutsi	72,582	2,336	3·2	...
BEDDE EMIRATE	14,525	2,994	20·3	61·1
ZARIA EMIRATE—				
Chawai	16,477	3,415	20·8	97·1
Soba	24,632	4,014	16·3	98·0
NIGER PROVINCE—				
ABUJA DIVISION	12,125	2,975	24·6	...
OWERRI PROVINCE—				
AHOADA DIVISION	16,101	4,713	29·2	...
Total cases in field		27,296		
Cases treated at Gadau		623		
Total cases treated by Tsetse Investigation		27,919		

APPENDIX C.

Report of the Medical School and Schools of Pharmacy

By GORDON TAYLOR, M.R.C.S., L.R.C.P.,
Superintendent, Medical Schools.

The following report is submitted in two parts:—

(*a*) That dealing with the Medical Training College, Yaba, and

(*b*) That dealing with the School of Pharmacy, Zaria.

A.—Medical Training College, Yaba.

1. *Premises.*—The premises in use were the same as those detailed in the report for 1932. The anatomical block at Yaba was completed in February and consists of the following:—

(*a*) A lecture room fitted with students' desks, blackboards, etc.

(*b*) A dissecting room fitted with five concrete dissecting tables, blackboards, stools, cupboards, and ceiling fans and four sinks. The floor is of concrete, the entire room is mosquito-proof, and the windows on the east side are of frosted glass. Two adjustable electric lights are placed over each dissecting table.

(*c*) A museum fitted with a mahogany wall bench on three sides and a central table on trestles on which is displayed the collection of anatomical models. The room also contains blackboards, stools, cupboards and fans. It is amply supplied with windows.

(*d*) A preparation room, fitted with a concrete table, two concrete troughs, a cupboard and two sinks.

(*e*) A storage room for dissected parts and containing three troughs and a sink.

(*f*) A lecturer's office, containing an office table, chair and cupboards.

Slight alterations were made in the premises on the upper floor of the pathological block of the African Hospital, Lagos.

The small laboratory was converted into a room for the projection of microscope slides and the large laboratory was partly converted into a pathological museum.

In the Yaba Medical Training College premises one lecture room was converted into a laboratory for physics, botany and pharmacognosy. All these alterations have proved most useful.

The bush hut, used as a store room at Yaba, was destroyed by fire on the 1st of November.

2. *Equipment.*—The following additional equipment was received from England:—

(*a*) *Anatomy*—One set of disarticulated bones of the skull, one set of anatomical syringes and canulæ, and a few dissecting instruments.

(*b*) *Histology*—Mounted needles, forceps, and scalpels.

(*c*) *Physics and Chemistry*—A few chemicals.

(*d*) *Clinical Medicine and Surgery*—Stethoscopes, clinical thermometers, and text books.

(*e*) *Pathology*—A micro-projection apparatus (Leitz), pointer eye-pieces, and museum jars.

(*f*) *Physiology*—Metronome, electrically-maintained tuning fork, muscle grip apparatus, and kerosene burner for smoking drums.

3. *Staff.*—The staff consisted of the Superintendent, Medical Schools, the Medical Tutor, the Surgical Tutor, and one Pharmacist, Medical Service.

The Superintendent, Medical Schools, the Medical Tutor and the Pharmacist proceeded on leave on 22nd July. The Superintendent resumed duty on 2nd November, the Medical Tutor and Pharmacist on 19th October.

In addition to their normal duties, the following persons have given their services to the College:—

Dr. G. M. Gray, Civil Medical Practitioner.
Dr. A. Blair Aitken, Civil Medical Practitioner.
Dr. G. E. Craig, Senior Medical Officer.
Dr. E. C. Smith, Senior Pathologist.
Dr. J. A. Young, M.C., Pathologist.
Dr. B. G. T. Elmes, Pathologist.
Dr. W. E. S. Merrett, Pathologist.
Dr. B. E. Ebden, Lady Medical Officer.
Dr. J. Horne, Lady Medical Officer.
Mr. F. W. Randoll, Technical Assistant, Laboratory Service.

Two second-class dispensers of the African staff, both chemist and druggists, were permanently attached to the School of Pharmacy as teachers.

A third second-class dispenser was temporarily attached as a teacher until June, when having passed his chemist and druggist examination in June was relieved by another second-class dispenser.

The two laboratory attendants who were posted for duty from the laboratory service were reverted to the laboratory service. They were replaced by two former students of the College who were appointed as lecture-room attendants.

The permanent gang of five labourers were supplemented by a temporary gang of twenty labourers for six weeks.

4. *Students:*

(*i*) *Second Year Medical.*—Throughout the year sixteen students attended this class.

(*ii*) *Third Year Medical.*—Throughout the year twelve students attended this class.

(*iii*) *Pharmaceutical Students.*—The number of registered pharmaceutical students who were in attendance during the year was forty-seven, a decrease of six from the previous year. Of this number fourteen were subsisted by the Government, a decrease of seven from the previous year. The remainder were private students.

As before the pre-medical subjects were taught at the Higher College.

5. *Duties of Staff:*

(*i*) *Superintendent.*—Before proceeding on leave the Superintendent performed the administrative duties of the College. He also lectured to the second-year medical students in anatomy and chemical physiology, and to the third-year medical students in pharmacology, therapeutics and embryology.

On his return from leave he again performed the administrative duties of the College and lectured as before.

He was appointed by the Board of Medical Examiners to be a member of each of the sub-committees appointed to conduct the following examinations :—

March, 1933—Dispensers examination.
June, 1933—Chemist and druggist examination.
November, 1933—Dispensers examination at Yaba.

He also prepared the papers for the examination of entrance for pharmaceutical students in October.

During the absence of the Superintendent on leave the administrative duties of the Medical Training College were performed by the Senior Medical Officer, Lagos area.

(*ii*) *Medical Tutor.*—Before proceeding on leave the Medical Tutor lectured to the second-year medical students in physiology and to the third-year medical students in systematic and clinical medicine. He also performed the duties of officer in charge of the female section of the out-patients' department of the African Hospital, Lagos.

On his return from leave he took charge of four wards in the African Hospital and handed over the physiology class to Dr. W. E. Stanley Merrett.

(*iii*) *Surgical Tutor.*—Throughout the year the Surgical Tutor conducted classes for third-year medical students in systematic and clinical surgery. During the early part of the year he was in charge of the surgical section of the out-patients' department of the African Hospital, but in July he was relieved of these duties and took complete charge of four wards at the African Hospital.

(*iv*) *Pharmacist.*—The Pharmacist (or the Assistant Superintendent of the Dispensers' Training School) was responsible to the Superintendent for the administration of the School of Pharmacy.

Before proceeding on leave and after returning from leave he lectured to second-year medical students in organic chemistry; to third-year medical students in pharmaceutics; and to all pharmaceutical students in pharmacy, forensic pharmacy and pharmacognosy.

He was appointed by the Board of Medical Examiners to be a member of the sub-committees appointed to conduct, each of the following examinations :—

March, 1933—Dispensers examination.
June, 1933—Chemist and Druggist examination.
November, 1933—Dispensers examination at Yaba and Zaria.

He also certified on behalf of the Director of Medical and Sanitary Service invoices to a total of 760 showing spirituous medicinal preparations exempt from Customs import duty.

(*v*) *African staff.*—In addition to their teaching duties the senior of the permanent African staff acted as secretary to the Board of Medical Examiners and the junior member acted as assistant in the College office until the appointment of a first-class clerk. The three members of the African staff were responsible to the Assistant Superintendent for the teaching of the following subjects :—

Senior member.—Botany, pharmaceutical chemistry (third-year);
Junior member.—Physics, prescription reading;
Temporary member.—Chemistry.

(*vi*) *Honorary Staff.*—The honorary staff during the year have conducted classes or performed other duties as follows :—

Dr. G. M. Gray—Consultant.
Dr. A. Blair Aitken—Consultant.
Dr. E. C. Smith—Pathology (third-year medical students).

Dr. J. A. Young, M.C.—Bacteriology (third-year medical students).

Dr. B. G. T. Elmes—Histology (second-year medical students).

Mr. F. W. Randoll—Prepared histological diagrams, and collected and prepared material for the histology class.

Dr. W. E. Stanley Merrett—Physiology (including histology and chemical physiology).

Dr. B. E. Ebden—Midwifery and gynæcology (lectures).

Dr. J. Horne—Antenatal and obstetric demonstrations.

6. *Duties of Students.*—As in former years the pharmaceutical students assisted in the clearing and tidying of their premises. Under the supervision of the staff the senior Government students prepared and bottled ethyl esters of hydnocarpus oil, clarified hydnocarpus oil and dispensed mixtures of oil and esters for the British Empire Leprosy Relief Association. They also prepared arsenical antidote for the Agricultural Department and prepared ointments and dusting powder for the Health Department.

Under the Assistant Superintendent of the School of Pharmacy they organised a pharmaceutical exhibit at the Health Week Exhibition held in Lagos in February.

7. *Classes:*

(*i*) *Medical Students.*—(*a*) *Second Year.*—During the year the second-year medical students attended classes as shown in the time-tables set out in Appendices I and II.

(*b*) *Third Year.*—During the year the third-year medical students attended classes as shown in the time-table set out in Appendix III.

(*ii*) *Pharmaceutical Students.*—During the year pharmaceutical students attended classes as shown in the time table set out in Appendix IV.

8. *Curriculum:*

(*i*) *Medical.*—(*a*) *First Year.*—For the last two months of the year the first-year medical students received permission from the Higher College, Yaba, to attend for a few hours per week for instruction in osteology.

(*b*) *Second Year.*—During the year the second-year medical students attended at the Medical Training College, Yaba, for classes in the following subjects: anatomy, including osteology and embryology, physiology, including histology and chemical physiology, and organic chemistry.

(*c*) *Third Year.*—During the year the third-year medical students attended at the African Hospital, Lagos, for instruction in medicine (clinical and systematic), surgery (clinical and systematic), pathology, parasitology, and bacteriology, and at Yaba for pharmaceutics, including meteria medica, pharmacy, pharmacology and therapeutics and for surgical anatomy.

(*ii*) *Pharmaceutical.*—The curriculum for pharmaceutical students was the same as last year, special attention having been paid to the more modern aspects of pharmacy such as sterilisation, evaporation under reduced pressure, biological and chemical assays, etc. Every attempt has been made to keep the pharmacy course in line with recent developments in medicine, so that students who complete the course will be prepared for any duty in a modern dispensary. During the latter part of the year the syllabuses were extensively revised. The details will be published in the annual report for 1934 as they were not gazetted during 1933.

9. *Examinations:*

(*i*) *Medical.*—The following professional examinations were held in June:—

(*a*) *Pathology and Bacteriology.*—Twelve candidates were admitted and ten satisfied the examiners.

(*b*) *Histology.*—Sixteen candidates were admitted and all passed.

(*ii*) *Pharmaceutical.*—

(*a*) The dispensers examination was conducted in March and November. In the former examination eleven candidates sat and six were successful. In November twelve candidates were admitted and five passed.

(*b*) *The Chemist and Druggist Examination* was held in June. One candidate sat and was successful.

10. *Vacations.*—In addition to the public holidays the whole College was closed for vacation during the month of August. During September and October, while the members of the permanent European staff were still on leave, revision classes were conducted under the supervision of the Senior Medical Officer, Lagos area, and the African staff of the College.

11. *Health of the Students.*—The health of the students was, on the whole, good, several cases of minor ailments being treated at the African Hospital, Lagos, and the dispensary at Ebute Metta.

12. *Discipline.*—The discipline throughout the year was very satisfactory.

13. *General:*

(*i*) *Tours.*—As indicated in last year's report the permanent members of the European staff received permission to proceed on leave after a tour of about nine months. This arrangement was found to be most satisfactory from every point of view and is being continued.

(*ii*) *Sport.*—Football and tennis, especially the latter, were the most favoured pastimes. Cricket continued to be unpopular, chiefly because of the inadequacy of the ground and the lack of the necessary time.

Special Reports:

(*a*) *Medicine.*—The course in systematic medicine comprised eighty-four meetings of the class from January to July, 1933; and twenty-four lectures from 8th November, 1933 up to 25th January, 1934. The method of instruction was purposely chosen to be different in arrangement from that in the text-books which the students mainly study; it was thus hoped that (*i*) the subject could be more concisely taught and at the same time (*ii*) the students would be given a "broader view of the field" than could be obtained by simply teaching along the lines of their own text-books; and also (*iii*) the study of diseases from the ætiological and preventive medicine point of view would be stressed. The lectures dealt with—Protozoal infections; metazoan diseases; bacterial diseases; non-bacterial diseases (*e.g.*, fungus infections); spirochætal diseases; diseases of doubtful or unknown ætiology; diseases due to physical agents; special lectures on intoxications (poisoning by drugs), coma (differential diagnosis, etc.); diabetes mellitus; tuberculosis (acute and generalised; meningitis; pulmonary; tabes mesenterica).

Clinical Medicine was taught by clinics on medical cases in the wards of the African Hospital, Lagos. A preliminary lecture and demonstration course of about twenty-five meetings was given for instruction in clinical methods of examinations, chiefly based on the booklet "Clinical Case-taking", by R. D. Keith, M.D., of Singapore.

The students also had access to the medical wards for clinical clerking; and clinics were conducted on an average of four days a week during the first half of 1933, and twice a week since November, 1933, either on cases which had been allocated to the students or on cases typically illustrating the clinical conditions commonly encountered. During the time that the Medical Tutor was in the out-patients' department, two students (in rotation) were in attendance for practical experience, and were frequently exceedingly useful as " clinical interpreters ".

Progress of Students.—Most of the students show an extraordinary capacity for learning and retaining even detailed information gleaned from text-books and lecture-notes, and by means of this aptitude they are often able to pass quite difficult examinations but leave their examiners with considerable doubts as to the depth of their understanding of the subject. They are also disappointingly slow in the practical application of their knowledge, and in clinical examinations they are too readily disconcerted by the presentation of any unusual conditions or phenomena. Two or three of the senior students, however, give quite good promise of being useful clinical assistants, especially if they show more definite signs of being able to develop a greater sense of personal responsibility.

(*b*) *Surgery.*—The teaching of surgery was continued during 1933 along the lines already indicated in last year's report. The aim was to cover the whole field of surgery during the junior course and to devote the senior course to amplifying and emphasising those points of special local importance.

The junior course was completed before the school broke up for vacation at the end of July. Clinical work during this period was based chiefly on out-patient material. The work was done slowly and with ample repetition. With two possible exceptions the students grasped the essential details and were quite prepared to start on the advanced course at the beginning of November.

During the revision months namely September and October the students' time was divided between Yaba and the African Hospital. Their time at the African Hospital was devoted to surgery. No systematic teaching was done, but the students were each allocated a certain number of beds and were expected to examine and write up the cases. They also attended operations—major and minor—and gave a few anæsthetics each.

During the advanced course—*i.e.*, from November onwards—the clinical material has been drawn from the wards. Two clinical lectures are given weekly. In addition, each student is allocated one case weekly and has some three hours or more during the week in which he examines and writes up his case. These cases are then corrected one by one in presence of the whole class and the errors and omissions pointed out. I have found this arrangement of great value. As other teachers have indicated, it is difficult to make the boys apply their theoretical knowledge satisfactorily, but this method of individual cases corrected individually in the presence of the student is doing much to correct this. Certain of the students—indeed, most of them—are starting to show a very definite aptitude for exhausting the possibilities of each particular case.

In addition to the above, four systematic lectures have been given weekly. The work here has been of a fairly advanced nature. In certain subjects almost as much detail has been given as is required in an English course.

As will be seen from the above report, no time is being devoted to actual practical work (minor operations, etc.) on the part of the students. I do not regard this as a grave omission because the two years during which the students are to be attached to large hospitals after leaving College will give them ample experience of this nature.

For the same reason, I am including no specific instruction in operative surgery, because I believe that the only place to learn operative surgery is in the operating theatre.

(*c*) *Pathology*.—The course in this subject is intended to fulfil a dual purpose. First: To give the students a knowledge of the fundamentals of pathology and their application to clinical medicine and surgery. Secondly: To teach them how the laboratory can be made use of in the diagnosis and prevention of disease. The lectures are kept as practical as possible, special attention being given to local diseases. Sets of sections have not been given to students but demonstrations of sections accompany each lecture and in future it will be possible also to show these by projection. Practical instruction in blood counts, etc., is given by the technician and each student is required to make a complete blood examination (red, white, and differential counts, parasites, etc.) under supervision.

Post-mortem work forms an essential part of the training and each member of the class personally conducts at least two post-mortems and has attended at least thirty to forty post-mortems. It is essential that the number of students be limited if such practical training is to continue and ten should be regarded as the maximum.

A collection of some 200 gross pathological specimens has been made and it is hoped to add to them continually. Illustrations and photographs of histological changes and naked eye appearances are included as far as possible.

The use of text-books has not been encouraged—the students are apt to acquire a mass of details and lose sight of important essentials, but the text-books of McCallum, Ewing and Kettle are available for reference. The students, with few exceptions, are lamentably weak in the practical application of the theoretical knowledge acquired.

The following is a brief summary of the course given :—

(*a*) *Definitions* (brief description of pathological terms with examples)—(1) Atrophy and hypertrophy, (2) autolysis, (3) amyloid infiltration, (4) oedema (passive and active), (5) pigmentation (exogenous and endogenous), (6) jaundice (obstructive and non-obstructive), (7) toxæmia, septicæmia and pyæmia.

(*b*) *Inflammation, Repair, Organisation*.—

Examples of Inflammation :—

(1) *Serous Membranes*.—(*a*) Endocarditis, (*b*) pericarditis, (*c*) pleurisy, (*d*) peritonitis, (*e*) meningitis, (*f*) synovitis.

(2) *Mucous Membranes*.—(*a*) Dysentery, (*b*) typhoid and paratyphoid, (*c*) tuberculosis, (*d*) schistosomiasis, (*e*) appendicitis, (*f*) gastritis.

(3) *Inflammation of Organs*.—Lungs—Lobar-pneumonia, broncho-pneumonia; Liver—(*a*) Amœbic abscess, (*b*) cirrhosis (portal biliary and syphilitic). Kidneys—(*a*) Types of nephritis, (*b*) Suppurative conditions; with relation to urinary bladder; (*c*) tuberculosis. Bones—(Periostitis, osteomyelitis). Pancreas—Fat necrosis (pancreatitis).

(*c*) *Degenerative Changes*.—(1) Cloudy swelling, (2) fat degeneration, (3) calcification, (4) necrosis and caseation, (5) hyaline degeneration.

(*d*) *Thrombosis, Embolism, Infraction, Gangrene*.

(*e*) *Arteriosclerosis, Aneurysm*.

(*f*) *Blood*—Anæmia, sickle-cell anæmia, leukæmia (differential diagnosis from Hodgkins, etc.), parasitic conditions.

(*g*) *Tumours.*—(1) Definition, (2) meaning of innocent and malignant; (3) types of innocent tumours; (4) the two main types of malignant tumours and mode of propagation; (5) diagnosis of malignant tumours; (6) tumours of thyroid gland.

(*h*) *Tropical Skin Conditions* (*Pathology of*)—

(1) Yaws, (2) leprosy, (3) mycetoma, (4) tropical ulcer, (5) leishmania.

(*i*) *Fevers confined to the Tropics.*—(1) Malarial and blackwater fever, (2) yellow fever (virus diseases), (3) relapsing fever, (4) septicæmic plague.

(*j*) *Practical Demonstrations.*—

1. Rabies.—Demonstration of method of removal of dog's brain —mode of cutting, preserving and forwarding for examination.

2. Biopsy.—Demonstration of how to remove a portion of a superficial lesion—method of fixing and forwarding for diagnosis.

3. Skin Scrapings.—Technique for demonstrating fungi in scales and hairs.

4. Blood counts and examinations.—Practical demonstrations by the technician.

5. Blood tests.—Method of taking and transmission of blood to laboratory.

6. Vaccination.—Demonstration of technique.

7. Demonstration of frozen sections and general technique of paraffin sections. How tissues should be sent to the laboratory for examination.

(*d*) *Bacteriology and Parasitology.*—Tuition was given in the above subjects from December until April, classes being held twice weekly. Demonstrations for revision purposes were given on Saturday mornings during May and June.

Owing to the shortness of the course it was felt advisable to reduce the systematic teaching to a minimum and to concentrate on such points as have a bearing on public health or which aid diagnosis.

Thus in parasitology the life cycle of a parasite and the methods of diagnosis were treated as of more importance to the young student than an accurate and detailed description of the parasite itself.

In bacteriology more difficulty was found in eliminating unessential matter. Invasion and resistance were discussed at some length; then several demonstrations of the methods of isolation and culture being given, the students were taken rapidly through the various groups; the students being requested to know the main characters of the groups rather than of individual members of the groups. Finally, the subject was considered again from the applied point of view, the technique of diagnosis and possible treatment being described in all important diseases.

The students showed themselves adept at microscopic work probably owing to native quickness of absorption of details. In some ways, however, this passion for detail is disadvantageous as it hinders the chance of grasping broad principles.

(*e*) *Physiology.*—The systematic course in physiology consisted mainly of lectures, with occasional lecture-demonstrations with the aid of physiological experimental apparatus. The whole course of instruction was given in about ninety lectures; and the subject material was very carefully chosen so as to be as thorough and as practical as possible. The method of teaching adopted was mainly by dictation of abbreviated notes, along with full running commentaries and explanations.

The subject-matter included—The animal cell; tissues,—especially muscle tissue: nerve tissue (the peripheral nerve organisations, and its relationship with muscle-function); blood: lymph and lymphatic system: cerebro-spinal fluid; the cardiovascular system: respiration; the alimentary tract; (the digestive processes were taught by Dr. G. Taylor); the excretory system (especially renal function, and full urine analysis); the spleen; and endocrinology. (From December onwards the central nervous system, etc., was taught by Dr. W. E. S. Merrett).

(*f*) *Anatomy.*—The year under review was characterised by the dissection of the human body. Sixteen second-year medical students attended five days a week for practical anatomy and twelve third-year medical students attended one morning in each week for surgical anatomy. Demonstrations on dissected parts and special notes on osteology were given daily.

A set of special anatomical instruments, as made for Guy's Hospital, London, was obtained from England. The set consists of stainless steel canulæ of different sizes and syringes of different capacity. Each canula is in one piece and provided with a stop cock at one end and a mushroom top at the other end. The mushroom top prevents the instrument from slipping after it has been tied in a vessel.

Ample space was allowed in the dissecting room for the installation of an electric refrigerating plant. The latter was not obtained, however, because subjects can be preserved for an indefinite period by the injection into the vascular system of preserving fluid.

An Anatomy Ordinance to regulate Schools of Anatomy came into operation on the 30th of March, 1933.

B.—School of Pharmacy, Zaria.

Premises.—No structural alteration took place. Several pieces of apparatus for the demonstration of chemistry and physics were obtained from the Crown Agents. A petrol gas plant dismantled from the Calabar laboratory was erected at the school and is working excellently.

Staff.—As in previous year the staff consisted of an Assistant Superintendent and one second-class dispenser of the African staff. The school grounds were kept tidy by a gang of six labourers.

The Assistant Superintendent conducted classes in pharmacy, pharmaceutical chemistry, urine analysis and prescription reading, chemistry, botany and physics. He was appointed to the sub-committee to conduct the dispensers examinations at Lagos in March, and also to deliberate upon the revision of the pharmaceutical curriculum, and to the sub-committee to conduct the dispensers examination for Zaria students in November.

The African member of the staff taught pharmacognosy, forensic pharmacy. He demonstrated in practical periods and conducted a revision course during the absence of the Assistant Superintendent on leave.

Students.—At the commencement of the year there were nineteen students, eighteen subsisted by Government and one by the Kano Native Administration. In May one student was transferred to Higher College, Yaba, to study pre-medical subjects with a view to him taking the medical course at Yaba.

The premises were cleaned regularly by the students and two students assisted the staff as demonstrators.

Examinations.—In November ten students sat their final examinations and three passed.

Vacations.—Apart from public holidays, the school closed for vacation durin the month of August.

Discipline.—The discipline was good on the whole. One student was reported for slackness. Arrangements have been made for him to be transferred to Kano School of Sanitation in April, 1934.

General.—Certificates of examination were presented by the Resident, Zaria Province, to successful students at the November examination on 19th December. The Emir of Zaria and a number of European and African visitors were present. A brief review of work was given in English and Hausa, and, after the Resident distributed the certificates, the school was inspected by the visitors.

Photography has been taken up by a number of students. They are obtaining good results and it is hoped that their enthusiasm will lead them to more advanced work in the subjects.

It is felt that the school is understaffed, it being impossible for each member of the staff to give his whole time to teaching, since preparation of classes and clerical duties are essential. The African staff is also coached for the " chemist and druggist diploma ". Under present conditions little attention can be given to this examination. It is hoped that the matter will be remedied by an addition of a dispenser qualified from the Zaria school.

APPENDIX I.

Second Year Medical Curriculum. Time Table for 1933—January—July.

Day.	Periods.				
	7.30—9.30	10.30—12	12—1.30	1.30—2.30	6.30—8.30
Monday...	Chemical Physiology Lect. and Pract.	Physiology	Dissections	Anatomy Lect.	Prep.
Tueday	Organic Chemistry Lect. and Pract.	Dissections	Osteology Lect. and Dem.	Anatomy Lect.	Prep.
Wednesday	Chemical Physiology Lect. and Pract.	Physiology	Dissections 2.30—4.30	Osteology Lect. and Dem.	Prep.
Thursday	Organic Chemistry Lect. and Pract.	Dissections	Histology Lect. and Pract.	—	Prep.
Friday	Chemical Physiology Lect. and Pract. 8.30—12.30	Physiology	Dissections	Osteology Lect. and Pract.	Prep.
Saturday	Histology Dem. and Pract.	—	-	—	—

APPENDIX II.

MEDICAL TRAINING COLLEGE, YABA.

Second Year Medical Curriculum—Time Table For 1933.

Day.	Periods.						
	8—8.45	8.45—9.30	9.30—11	11—11.30	11.30—1.30	3—4	7.30—8.30
Monday	Chemical Physiology Lect.	Chemical Physiology Pract.	Osteology Lect. and Dem.	Interval	Anatomy Lect. and Dem.	Dissections	Prep.
Tuesday	Organic Chem. Lect.	Organic Chem. Pract.	Phys. Phys. Lect. and Dem.	Interval	Anatomy Lect. and Dem.	Dissections	Prep.
Wednesday	Chemical Physiology Lect.	Chemical Physiology Pract.	Osteology Lect. and Dem.	Interval	Anatomy Lect. and Dem.	Dissections	Prep.
Thursday	Organic Chem. Lect.	Organic Chem. Pract.	Physiology Pract.	Interval	Anatomy Lect. and Dem.	Dissections	Prep.
Friday	Physiology Lect.	Physiology Dem.	Osteology Lect. and Dem.	Interval	Anatomy Lect. and Dem.	Dissections	Prep.
	8—9	9—9.30	9.30—12.30				
Saturday (the first Saturday of each month excepted)	Histology Lect.	Interval	Histology Pract.	—	—	—	—

APPENDIX III.

MEDICAL TRAINING COLLEGE, YABA AND LAGOS.

REVISED TIME TABLES.

Third Year Medical. — Easter to Christmas, 1933. — *Second Year Medical.*

Day.	Period.	Subject.	Period.	Subject.
Monday	7–8	Med. and Surg. O.P.D.	7.30–9.15 ...	Chemical Phys.
	9–10	Clinical Surg. Dem.	10.15–11.15 ...	Syst. Phys.
	10–11.30	Read. Room, Wds. or P.M.	11.15–12.30 ...	Anatomy Lect.
	11.30–12½ ...	Syst. Surg. Lect.	2.30–4.40 ...	Histology.
	2–3	Syst. Med. Lect.	—	—
	3–4	Ward Round	—	—
Tuesday	7–8.30	Med. and Surg. O.P.D.	7.30–9	Org. Chem.
	8.30–10	Read. Room, Wds. or P.M.	10–11	Anat. Lect.
	10–11.30	Cl. Med. Dem.	—	—
	11.30–12½ ...	Syst. Med. Lect.	11–2.30	Anat. Dem. and Dissections.
	3.30–4½	Syst. Med. Lect.	—	—
Wednesday ...	7–8	Med. and Surg. O.P.D.	7.30–9.15 ...	Chemical Phys.
	9–10	Cl. Surg. Dem.	10.15–11.15 ...	Syst. Phys.
	10–11.30	Read. Room, Wds. or P.M.	11.15–12.15 ...	Anatomy Lect.
	11½–12½	Syst. Surg. Lect.	12.15–2.30 ...	Anat. Dem. and Dissections.
	2–3	Surg. Case-taking	—	—
	3–4	Ward Round	—	—
Thursday	7–8.30	Med. and Surg. O.P.D.	7.30–9	Org. Chem.
	8.30–10	Read. Room, Wds. or P.M.	10–11	Anat. Lect.
	10–11.30	Cl. Med. Dem.	11–12.30 ...	Anat. Dem.
	11½–12½	Syst. Med. Lect.	2½–4½	Histology.
	2½–4	Read. Room or Bact. Dem.	—	—
Friday	7–8	Med. and Surg. O.P.D.	7.30–9.15 ...	Chem. Phys.
	9–10	Cl. Surg. Dem.	10.15–11.15 ...	Syst. Phys.
	10–11.30	Read. Room, Wds. or P.M.	11.15–12.30 ...	Anat. Lect.
	11½–12½	Syst. Med. Lect.	12.30–2.30 ...	Anat. Dem. and Dissections.
	2–3	Syst. Med. Lect.	—	—
	3–4	Wd. Round or Theatre	—	—
Saturday	8–9	Pharmaceutics	8–10	Histology.
	9–10	Pharmacol. and Therap.	10–11	Anat. Dem.
	10–11	Anat. Dem.	11–12	Phys. Lect.
	11–12	Bacteriology Dem.	—	—

NOTE:—The dissecting room and anatomical museum will be open daily (Sundays excepted) from 5 to 10 p.m. Students are requested to sign their names in the attendance register.

APPENDIX IV.

SCHOOL OF PHARMACY.

Time Table 1933–34.

Day.	Time.	First Year Students.	Second Year Students.	Third Year Students.
Monday	7.30–8.30 ...	Physics	—	—
	8.30–9.30 ...	Lect. and Lab.	Pharmacy Lects.	Dispensing.
	10.30–11.30 ...	Botany	Inorganic Chem.	—
	11.30–12.30 ...	Lects. and Lab.	Lects. and Lab.	Dispensing.
	12.30–1.30 ...	Inorganic Chem.	Botany and Pharmacognosy	Pharmacy Lects.
	1.30–2.30 ...	Lects. and Lab.	—	—
Tuesday	7.30–8.30 ...	Physics	—	—
	8.30–9.30 ...	Lects. and Lab.	Organic Chem.	Recognition.
	10.30–11.30 ...	Botany	—	—
	11.30–12.30 ...	Lects. and Lab.	Pharmacy Lects.	Pharmaceutical Chemistry.
	12.30–1.30 ...	Inorganic Chem.	—	—
	1.30–2.30 ...	Lects. and Lab.	Dispensing	Pharmacognosy.
Wednesday ...	7.30–8.30 ...	Physics	—	—
	8.30–9.30 ...	Lects. and Lab.	Pharmacy Lects.	Dispensing.
	10.30–11.30 ...	Botany	Inorganic Chem.	—
	11.30–12.30 ...	Lects. and Lab.	Lects. and Lab.	Dispensing.
	12.30–1.30 ...	Inorganic Chem.	Botany and Pharmacognosy	Pharmacy Lects.
	1.30–2.30 ...	Lects. and Lab.	—	—
Thursday	7.30–8.30 ...	Physics	—	—
	8.30–9.30 ...	Lects. and Lab.	Organic Chems.	Recognition.
	10.30–11.30 ...	Inorganic Chem.	—	—
	11.30–12.30 ...	Lects. and Lab.	Dispensing	Pharmacognosy.
	12 30–1.30 ...	—	—	—
	1.30–2.30 ...	Forensic Pharmacy	Forensic Pharmacy	Forensic Pharmacy.
Friday	7.30–8.30 ...	—	—	—
	8.30–9.30 ...	Pharmacognosy	Dispensing	Botany.
	10.30–11.30 ...	Inorganic Chem.	Physics	Physics.
	11.30–12.30 ...	Lects. and Lab.	Lects. and Lab.	Lects. and Lab.
	12.30–1.30 ...	—	—	—
	1.30–2.30 ...	Dispensing	Recognition	Chemistry.
Saturday	7.30–8.30 ...	Prescription Reading	Prescription Reading	Prescription Reading.
	8.30–12.30 ...	Cleaning	Preparation of Reagents, etc., etc. ...	—