

## **Report on the medical and health services / The Gambia.**

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Gambia. Medical Department.

### **Publication/Creation**

Bathurst : Government Printer, [1953]

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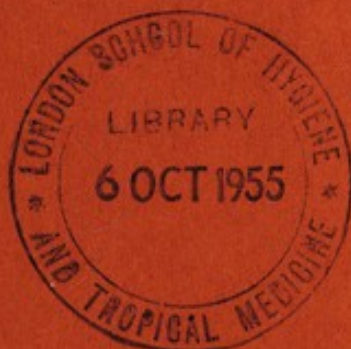


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THE GAMBIA.

**REPORT ON THE MEDICAL AND HEALTH  
SERVICES FOR THE YEAR 1953.**



**BATHURST:  
PRINTED BY THE GOVERNMENT PRINTER,  
1955.**

**Price 2/6d.**





22501293338

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1953

# REPORT ON THE MEDICAL AND HEALTH SERVICES FOR THE YEAR 1953.

## NOTES OF INTEREST.

### (a) *Medical and Health Units.*

(1) New Victoria Hospital. The main block of the New Victoria Hospital was completed during the year and was opened by His Excellency The Governor on Coronation Day. The Female Wards and the Private Block were not yet completed by the end of the year. When fully completed, it is anticipated that there will be accommodation for 186 patients as compared with 130 beds in the old Hospital. This new two-storey building, of solid construction and imposing appearance faces on to one of the main thoroughfares of Bathurst, and is regarded by the community and staff alike as an important step in the establishment of a solid foundation to an already growing medical service. In addition plans have been formulated for a children's annex of 20 beds.

(2) Infectious Diseases Hospital. The old, and little used Infectious Diseases Hospital after renovation and repair was opened in June as a Sanatorium for the segregation and treatment of cases of Tuberculosis. As was anticipated, difficulty was experienced in recruiting staff, and so far only male patients are being admitted, since suitable female attendants are not available. The building consists of two separate blocks capable of containing 14 and 12 beds respectively. The response although at first slow, admissions being few and far between, is now becoming more encouraging.

(3) Maternity Health Centre, Basse. The new Maternity Health Centre at Basse was opened by His Excellency, The Governor in December, 1952. The centre at present has 9 beds, but more can be accommodated if necessary. There are two labour wards, one being for septic cases. Admissions were slow at first, but are now increasing gradually.

(4) Health Centre, Mansakonko. The Health Centre at Mansakonko, although structurally complete has not yet been opened owing to lack of water supply and light installations. Living quarters are however completed and a Medical Officer has been posted there. His duties include general public health work and visiting of Dispensaries in Central and Western Divisions.

Some difficulties have arisen concerning funds for the Proposed Leper Settlement which was to have been built in the neighbourhood of the health centre and supervised by the Medical Officer from Mansakonko. The estimated costs of this settlement are rather higher than anticipated and the entire scheme for Leprosy control will have to be reconsidered.

### (b) *Medical Research Unit, Fajara.*

The following are notes on the activities of the Medical Research Council Laboratories in the Gambia which have been submitted by the Director of the unit,



The Staff of the Laboratories are working on the problems which have arisen from the study of tropical diseases in the Gambia, principally malaria and bilharzia.

The visiting workers, work on their own particular problems and receive all the facilities afforded by the Laboratories.

### SUMMARY OF RESEARCH.

(1) The effect and efficiency of long term prophylactic administration of the anti-malarial drugs, chloroquin and daraprim.

(2) The effect of malaria control on the health state of a rural village community.

(3) Investigation of the bionomics of anopheline and culicine mosquitoes in the Gambia, and determination of the insecticidal efficiency of B.H.C., D.D.T., and Dieldrin.

(4) Investigation into the aetiology of the enlarged livers found in the Gambia.

(5) The effects of para-aminobenzoic acid and breast milk diets on the frequency and virulence of primary malaria infections in infants.

(6) Trials of a new lucanthone (miracil) derivative on bilharzia patients, and investigation of the prevalence of bilharzia in the coastal areas.

(7) Investigation of oxygen carriage in falciparum malaria.

(8) Investigations on the nature of malaria pigment in cases of *P. falciparum*, and *P. malariae* malaria. Spectrophotometric observations on the haemoglobin-methaemoglobin equilibrium ("inert pigment") in malarial blood.

(9) Investigations into the incidence, pathology and treatment of filariasis in the Gambia.

(10) Investigations into the transmission of bilharzia in the Gambia.

(c) *Gambia Branch, British Red Cross Society.*

The usual practices and courses in First Aid and Home Nursing were continued.

In January, the River Ambulance, which was donated by the Scottish Branch of the British Red Cross Society, was completed and handed over. It was named River Ambulance "Nema Cuta"—The Mandinka for "New Blessing".

The River Ambulance now operates on a regular schedule up and down river and transports ill patients to Bansang and Bathurst Hospitals. In November, a launch caught fire near the port of Balingho in Central Division. The "Nema Cuta" was passing and so was able to rescue six out of seven of the persons on board.

In May, a member of the Junior Link was sent to England to the Coronation, to represent the Gambia Branch.

Members of the Gambia Branch have made draught boards for use in the Colony's medical institutions, and gifts of books and magazines were given to the Hospitals. On Christmas Day, gifts of foodstuffs were made to patients in hospitals, clinics, Leper Colony and Sanatorium.

(d) *Visitors.*

The undermentioned visited the Gambia during the year:—

Professor H. W. Rodgers	...	...	...	Queen's University, Belfast.
Professor R. W. Ellis	...	...	...	Professor of Child Health, University of Edinburgh.
Mr. F. S. McCullough	...	...	...	Biologist from the Gold Coast.
Dr. Logan	...	...	...	Rockefeller Institute.
Dr. MacIntosh	...	...	...	Rockefeller Institute.
Dr. Robert Neubauer	...	...	...	World Health Organisation Tuberculosis Specialist.
Dr. S. R. Smithers	...	...	...	Colonial Medical Research Studentship.

## II. ADMINISTRATION.

### A. STAFF.

#### ESTABLISHMENT, 1953.

1. Director of Medical Services.
1. Medical Officer of Health.
7. Medical Officers.
1. Dental Surgeon.
1. Senior Nursing Sister.
5. Nursing Sisters. (Medical)
2. Nursing Sisters. (Health)
1. Senior Sanitary Superintendent.
3. Sanitary Superintendents.

#### *Medical Officers.*

Dr. S. H. O. Jones, Director of Medical Services, went on leave in August, and returned in December.

Dr. J. F. McCourt, Medical Officer of Health, returned from leave in March.

Dr. G. E. Porter, Medical Officer in charge Victoria Hospital, was on leave from June to October.



Dr. T. S. Derola came down from Bansang Hospital in March and assumed duties in the Victoria Hospital. He was on duty throughout the year and was replaced at Bansang by Dr. S. J. Palmer, who was on duty throughout the year.

Dr. (Mrs.) A. Derola returned from Bansang in March, and carried out part time duties at Victoria Hospital, in addition to duties at the Ante Natal and Infant Welfare Clinics in Bathurst and the Kombo.

Dr. J. A. Mahoney was on duty throughout the year at Victoria Hospital.

Dr. M. R. Witney was on duty all year, at Mansakonko, except during the rainy season, when he returned to Bathurst.

Dr. A. E. Carrol went on leave in November prior to retirement.

Dr. P. J. N'Dow arrived on first appointment in September and took over duties in Victoria Hospital. His arrival will fill the vacancy in establishment consequent on Dr. Carrol's retirement.

#### *Nursing Sisters.*

Miss J. A. M. Henderson, Senior Nursing Sister, returned from leave and study leave in August.

Miss M. M. Shepherd was on leave from July to December.

Miss M. W. Crawford returned from leave in February and was on duty throughout the remainder of the year.

Miss C. N. Michie was on duty throughout the year.

Miss P. M. Cook, Health Sister, was on duty all year.

Miss K. J. D. Shouksmith, Health Sister, went on leave in September and was away for the remainder of the year.

Miss J. S. T. Williams was on duty throughout the year and was posted to Bansang Hospital in March.

Miss H. M. Forster was on duty at Victoria Hospital all year.

#### *Sanitary Superintendents.*

Mr. R. A. J. Walton, after 12 years service in the Gambia, went on leave in October prior to retirement.

Mr. J. L. Roscoe was on leave from April to September.

Mr. J. G. Rees returned from leave in February.

Mr. J. A. Watt went on leave in November.

*Dental Surgeon.*

Mrs. P. M. S. Mitchell, who arrived on first appointment in June of the previous year, went on leave in December and has resigned.

*Junior Staff.*

27 Probationer Dressers and Nurses were appointed during the year.

Promotions	...	...	...	1
Resignations	...	...	...	3
Dismissals	...	...	...	Nil
Terminations	...	...	...	3
Deaths	...	...	...	Nil.

Mr. J. V. Coker, First Grade Laboratory Technician, returned in October from 6 months refresher course at the Freetown Laboratory.

Mr. W. Roberts, X-ray Technician, spent a 6 weeks refresher course at the School of Radiography in Lagos.

## B. LEGISLATION.

### ORDINANCES.

*NIL.*

### REGULATIONS.

<i>Serial No.</i>	<i>Date.</i>	<i>Short Title.</i>	<i>Provisions.</i>
5.	1st October, 1953 ...	The Hospital and Dispensaries Fees (Amendment Regulations, 1953.	Specifying charges to be made in respect of accommodation, laboratory examination, X-ray fees, fees for drugs and medical examinations at Government Hospitals.
6.	1st October, 1953.	The Public Health (Fees and Charges) Regulations, 1953.	Specifying charges to be made for various services performed for the Public by Health Officers.



*Proclamations.*

7. 1st October, 1953. Under Section 18 of the Dogs Ordinance, 1916. Application of certain Sections of the Ordinance to Kombo North, South and Central.

*Bye-Laws.**Nil.**Orders.**Nil.***C. FINANCE.**

	1952 <i>Estimated.</i>	1952 <i>Actual.</i>	1953 <i>Estimated.</i>
	£	£	£
Revenue ... ..	3,000	2,425	2,500
Expenditure ... ..	94,666	89,860	103,935

## EXPENDITURE ON MISCELLANEOUS SERVICES.

	£	£	£
Contribution to Medical Organisations ... ..	346	386	404

## THE COLONY OF THE GAMBIA.

	£	£	£
Total Revenue ... ..	1,289,610	1,431,495	1,327,190*
Total Expenditure ... ..	1,433,367	1,424,213	1,448,308

\*Includes C. D. & W. and grants Ordinary revenue £1,005,930.

Estimated Expenditure on Medical and Health Services as a percentage of ordinary revenue = 10.3%.

**III. PUBLIC HEALTH.****A.—HOSPITAL, DISPENSARY AND CLINIC STATISTICS.**

The attendances at Hospitals, and Minor Medical Units, are given below:—

**(a) HOSPITALS.**

<i>Year.</i>	<i>Total Admissions.</i>	<i>Outpatient New Cases.</i>	<i>Total outpatient Attendances.</i>
1949	3,890	31,728	49,619
1950	4,369	34,363	52,052
1951	4,906	41,437	62,106
1952	4,505	47,142	63,802
1953	4,710	52,482	66,162

## (b) HEALTH CENTRES AND DISPENSARIES.

<i>Year.</i>	<i>Number of units.</i>	<i>New cases.</i>	<i>Total attendances.</i>
1949	33	51,331	124,389
1950	34	51,101	126,481
1951	43	87,687	215,857
1952	43	101,414	255,636
1953	44	96,991	234,593

## (c) ANGLICAN MISSION DISPENSARIES.

<i>Year.</i>	<i>Number of units.</i>	<i>New cases.</i>	<i>Total attendances.</i>
1950	2	4,567	10,642
1951	3 and 1 Mobile Dispensary Van	5,222	12,797
1952	3 and 1 Mobile Dispensary Van	4,701	12,408
1953	3 and 1 Mobile Dispensary Van.	3,742	8,801

## (d) MATERNITY AND CHILD WELFARE CLINICS.

<i>Year.</i>	<i>Number of Centres.</i>	<i>Ante-Natal attendances.</i>	<i>Child Welfare attendances.</i>	<i>Total attendances.</i>
1949	8	5,683	22,018	27,701
1950	9	7,131	26,166	33,297
1951	13	10,832	45,425	56,284
1952	12	11,811	48,479	60,290
1953	12	14,658	61,747	76,405

The attendances in 1953 represent an increase of 26% over those of 1952.

In October, the Hospital and Dispensaries Fees, (Amendment) Regulations, 1953, came into force. These provided for an increased charge for Hospital maintenance in the First and Second Class Wards of Victoria Hospital, and a scale of Laboratory and X-ray fees was laid down. A fee of sixpence is also charged for prescriptions dispensed to Outpatients other than certified paupers, at Victoria Hospital.

It was found necessary during the year to allocate an additional sum of £10,000 for Drugs and Dressings, as the amount allotted at the beginning of the year proved inadequate.

## B. MEDICAL UNITS.

(a) *Victoria Hospital, Bathurst.*—During the year there were 3,576 admissions, which is 241 more than in 1952. In 1950 and 1951, the admissions to hospital were low owing to lack of ward accommodation caused by demolitions made necessary by the rebuilding programme. The increase in admissions in 1953 is in keeping with the opening of the main block of the New Victoria Hospital and further increase in admissions is anticipated in 1954 and 1955 when the new building is fully completed.



(b) *Bansang Hospital*.—During the year there were 1,134 admissions to hospital. A total of 243 major operations and 51 minor operations was performed.

(c) *Minor Medical Units*.—Apart from Maternity Health Centre at Basse and the Health Centre at Mansakonko already referred to in the first part of this report, there is nothing unusual to report about the Minor Medical Units.

The organisation of Minor Medical Units at the end of 1953 was as follows:—

- 6 Government Health Centres (including the Centre at Mansakonko).
- 15 Dispensaries, District Authority Buildings except at Yundum Airport with a resident Government Dresser/Dispenser in charge.
- 23 Sub-dispensaries, District Authority Buildings visited once or twice weekly by the Government Dresser/Dispenser from the nearest Dispensary.

The Anglican Mission maintained a dispensary with a resident European Pharmacist at Kumbul who visited sub-dispensaries at Kristikunda and Passemassi and also toured with a mobile dispensary during the dry season.

### C. LABORATORY SERVICES.

Staff and accommodation must still be considered inadequate in the clinical laboratory in Victoria Hospital. The laboratory is housed in the same block as the Outpatient department, and consideration is being given to extending this block to cope with increased attendances. Such extension would enable an improvement to be made in the laboratory accommodation.

The following is a summary of the work done in the Victoria Hospital Laboratory during 1953:—

Blood films	...	...	...	...	1,889
Faeces examinations	...	...	...	...	2,304
Urines examinations	...	...	...	...	2,277
Sputum examinations	...	...	...	...	636
Urethral and Vaginal Smears	...	...	...	...	1,048
Blood Examinations	...	...	...	...	393
Khan Tests	...	...	...	...	2,536
Skin Scrapings and Nasal Smears	...	...	...	...	65
Throat Swabs	...	...	...	...	16
Cerebro-Spinal Fluid Examinations	...	...	...	...	12
Van Den Berg tests	...	...	...	...	15

## D. DENTAL SERVICES.

The following is a summary of the work carried out by the Dental Surgeon at Bathurst during the year:—

Total patients treated	...	...	...	...	2,645
Extractions	...	...	...	...	1,027
Fillings	...	...	...	...	382
Gum treatments	...	...	...	...	239
Socket treatments	...	...	...	...	68
Dentures	...	...	...	...	38
Operations	...	...	...	...	17
Haemorrhage Arrest	...	...	...	...	23
X-rays	...	...	...	...	30
General Anaesthetics	...	...	...	...	10
Examinations and Prescriptions	...	...	...	...	391
Other Treatments	...	...	...	...	23

The Dental Surgeon also visited Bansang and examined school children in the Schools in the area. The following is a summary of same:—

Total Inspections	...	...	...	...	286
Extractions	...	...	...	...	34
Fillings	...	...	...	...	11
Scalings	...	...	...	...	9

In addition, Government officials were examined and treated where necessary.

## E. GENERAL REMARKS.

*Health of Expatriates.*—(Europeans, Lebanese and Syrians). There were 79 inpatients and 228 outpatients at Victoria Hospital. There were no deaths in hospital. Infections of skin and subcutaneous tissues, acute upper respiratory infections, digestive disorders and Malaria were the commonest causes for seeking medical advice.

*Health of Africans.*—Disorders of the digestive tract were collectively the commonest reason for seeking medical attention and 28,104 (28,300)\* cases were recorded. This figure includes 13,254 cases of simple constipation which accounts for a large proportion of attendances at Outpatient Dispensaries. Diseases of the respiratory tract numbered 16,353 (15,165). The total number of cases of Malaria was 10,387 (9,243) of which 4,860 were Hospital Returns, the remainder being Outstation Returns where diagnosis is made clinically. Cases of "rheumatism" treated, numbered 9,539 (12,237).

\*1952 figures are given in brackets.

## F. EPIDEMIC AND ENDEMIC DISEASES.

(1) *Smallpox.*—During the year 226 cases of Smallpox occurred. The majority of these occurred in Central Division. There were 6 deaths, a fatality rate of 2.6%. This was a continuation of the outbreak which occurred in 1952 when most of the cases occurred in the Upper River Division. Vaccinations are continuing.



(2) *Cerebro-Spinal Meningitis*.—Eleven cases were recorded during the year. There were 8 deaths. These were sporadic cases.

(3) *Influenza*.—There were 404 cases recorded during the year. This seems to be in keeping with the epidemic which occurred over a considerable area of Western Europe. The outbreak was of a mild nature and no deaths were recorded from this cause in the Gambia.

(4) *Trypanosomiasis*.—A total of 1,401 cases was recorded during the year. The great majority of these cases were diagnosed clinically at the Outstation Dispensaries.

(5) *Schistosomiasis*.—Between August 1952 and April 1953, F. S. McCullough, Medical Biologist from the Gold Coast and B. O. L. Duke, Colonial Medical Research Student, London School of Hygiene and Tropical Medicine, carried out a Snail Survey and made observations on the epidemiology and distribution of schistosomiasis in the Gambia. This period included climatic conditions of both wet and dry seasons. A summary of their joint report is given in Appendix 1.

(6) *Tuberculosis*.—Tuberculosis in the Gambia, particularly the pulmonary variety, in common with other Colonial territories is one of the major health problems. Taken in conjunction with socio-economic conditions, comparatively low standard of housing, low resistance to infection and the opportunity for its dissemination in the community, tuberculosis must be regarded in a very serious light.

Returns of tuberculosis from the Protectorate outstations are not reliable as proper facilities for diagnosis do not exist. In Bathurst, with better opportunities for observation, facilities for diagnosis and a more efficient notification system, more reliable information is available.

The following are some death rates from Pulmonary Tuberculosis in Bathurst in so far as they are available:—

Year					Death Rate per 1,000 population.
1921	...	...	...	...	1.9
1931	...	...	...	...	2.2
1944	...	...	...	...	1.4
1946	...	...	...	...	1.1
1947	...	...	...	...	1.5
1948	...	...	...	...	1.7
1949	...	...	...	...	1.6
1950	...	...	...	...	1.3
1951	...	...	...	...	1.1
1952	...	...	...	...	1.7
1953	...	...	...	...	1.1

These Death Rates correspond very closely to those recorded in England and Wales during the latter part of the 19th and first decade of the present Century.

The following are the number of notifications of Pulmonary Tuberculosis in Bathurst for the years indicated:—

<i>Year.</i>	<i>No. of Cases notified.</i>	<i>Rate per 1,000</i>
1948	27	1.4
1949	28	1.5
1950	42	2.2
1951	32	1.7
1952	47	2.5
1953	40	2.1

Pulmonary Tuberculosis in the majority of cases as seen in Bathurst is of the acute exudative, caseating type without any marked tendency to fibrosis. It does seem, however, that some of the cases have resistance to the disease and develop a chronic form of tuberculosis. These, however, are in the minority. A follow-up of notifications in 1949 showed that clinically recognised tuberculosis usually leads to death within 6 months of recognition.

It was recognised that segregation accommodation would be a valuable asset and if successful would be of considerable educational value, since a very real fear of the disease prevails; hence, the opening of the old Infectious Diseases Hospital as a Sanatorium. Rest, and chemotherapy (with Streptomycin, Para-amino-salicylic acid and Iso-nicotinic acid hydrazide) are the main items of treatment with occasional pneumoperitoneum and phrenic crush in selected cases. Response to rest and chemotherapy is found to be effective and is often rewarded by a marked improvement in the patient's condition after a comparatively short course of treatment. A few patients, so treated have been able to return to their former occupation and have remained well on follow up.

The opening of a Sanatorium for segregation and treatment, although a step in the right direction cannot be regarded, even with expansion, as the answer to the problem. Further improvement in housing and social conditions must be the basis of any anti-tuberculosis campaign.

(7) *Venereal Diseases.*—(a) Syphilis: A total of 1,117 cases was recorded during the year as compared with 993 in 1952. Of the total, 637 cases were treated at Outstations and the remaining 480 at Hospitals.

(b) *Genorrhoea:* During the year 3,338 cases were treated compared with 3,155 in 1952. Of these 2,466 were outstation returns.

(8) *General.*—Important health problems are improved housing and domestic sanitation, ample food supply, and control of insect-borne disease. It is becoming clear that the problems are not entirely of a health nature alone, and indeed possibly not primarily health problems at all, so much depending on sound agriculture and an improved economy. Schemes undertaken for eradication of mosquitoes or tsetse flies often have a direct effect on agricultural policy and must be firmly co-ordinated with it. On the other hand, schemes of development undertaken without regard to the state of health of the population will be gravely handicapped, or if the uneasy balance between host and parasite is upset, may prove to be disastrous.



## IV. VITAL STATISTICS.

Returns of vital statistics outside Bathurst are still incomplete and unreliable and the following statistics apply to Bathurst only:—

## (i) Births and Deaths—Actual Numbers:—

Estimated Population (Bathurst, 1953)	...	...	...	19,823
Live Births	...	...	...	735
Still Births	...	...	...	46
Deaths	...	...	...	384
Deaths under 1 year	...	...	...	78

## (ii) Number of Births and Deaths in Bathurst 1949 to 1953 showing natural increase:—

Year.	No. of Births.	No. of Deaths.	Natural Increase.
1949	666	343	323
1950	803	356	447
1951	780	353	427
1952	710	298	412
1953	735	384	351

## (iii) Birth and Death Rates in Bathurst (corrected) 1949 to 1953.

	1949	1950	1951	1952	1953
Death Rates: deaths per 1,000 of the population ...	18	18	18	15	19
Birth Rates: live births per 1,000 population ...	35	42	40	36	37
Infant Mortality Rates: deaths under 1 year per 1,000 live births ...	107	101	117	86	106
Still Birth Rates: Still births per 1,000 total births ...	77	66	67	92	59

## (iv) Number of Births and Deaths by month, in Bathurst.

Month.	No. of Deaths.	No. of Births.
January ...	32	26
February ...	23	44
March ...	25	59
April ...	28	51
May ...	22	81
June ...	22	50
July ...	27	69
August ...	35	52
September ...	37	76
October ...	40	82
November ...	37	77
December ...	34	63
Total;	384	735

(v) Number of Deaths by age and sex (exclusive of stillbirths) in Bathurst in 1953.

<i>Age Group.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
Under 1	47	31	78
1—5	23	21	44
5—10	9	3	12
10—15	3	2	5
15—20	2	4	6
20—25	3	3	6
25—35	17	8	25
35—45	21	10	31
45—55	26	16	42
55—65	22	8	30
65—75	26	16	42
75—85	20	14	34
85 and over	8	14	22
Not stated	3	4	7
All ages	230	154	384

(vi) Deaths under 1 year of age (exclusive of stillbirths) by detailed age and sex in Bathurst, 1953.

<i>Age Group.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
Under 1 month	28	14	42
Under 1 day ... ..	7	6	13
1 Day—under 1 week ...10	5	5	15
1 Week—under 1 month ... 9	5	5	14
1 Month—under 6 months ... 8	8	8	16
6 Months—under 1 year ...12	8	8	20
Total Deaths under 1 year ...46	32	78	

It will be seen from table (v) that over one-half of the deaths in the 0—5 age group occurred during the first year of life. From table (vi) it will be seen that over one-half of the deaths under 1 year occurred during the first month of life and of these neo-natal deaths, two-thirds occurred during the first week after birth.

(vii) Diseases causing high Morbidity.

The following figures are those given in Hospital and Dispensary returns for the whole country in 1953:—

(a) Insect-borne Diseases:—	Malaria	...	...	...	...	10,387
	Trypanosomiasis	...	...	...	...	1,401
	Filaria	...	...	...	...	184



(b) Internal Infections:—	Dysentery ... ..	418
	Ascariasis ... ..	5,467
	Ankylostomiasis ... ..	499
(c) Lung Infections:—	Bronchitis ... ..	2,514
	Pneumonia ... ..	464
	Respiratory Tuberculosis ... ..	189
(d) Venereal Disease:—	Gonococcal Infections ... ..	3,338
	Syphilis ... ..	1,117
	Yaws ... ..	5,776
(e) Miscellaneous:—	Otitis Media and Mastoiditis ... ..	1,541
	Eye Infections ... ..	4,985
	Skin Infections ... ..	3,696
	Diseases of Teeth and Gums ... ..	1,889
	Non-Toxic Goitre ... ..	628
	Schistosomiasis ... ..	838

(viii) Diseases causing High Mortality showing the number of deaths recorded in Bathurst in 1953.

Respiratory Diseases ... ..	70 deaths
Diseases of Heart, Circulatory System and Old age ... ..	62 deaths
Premature birth, congenital malformations, birth injuries and diseases of early infancy ... ..	37 deaths
Sepsis and other Surgical causes ... ..	29 deaths
Pulmonary Tuberculosis ... ..	22 deaths
Malaria ... ..	19 deaths
Cancer and other Malignant Diseases ... ..	10 deaths
Tetanus ... ..	6 deaths
Trypanosomiasis ... ..	2 deaths

## V. HYGIENE AND SANITATION.

(i) *Mosquito Control*.—Routine anti-mosquito measures continued throughout the year under the control of the Medical Officer of Health. The measures carried out at present are mainly larvicidal and it is desirable that this method of control should be combined with residual spraying. The anticipated residual spraying in Bathurst in 1953 did not materialise owing to shortage of funds, but 1954 should see the initiation of this measure.

The Anopheline room densities recorded in Bathurst for the year were as follows:—

January ... ..	0.046
February ... ..	0.048
March ... ..	0.005
April ... ..	NIL
May ... ..	NIL
June ... ..	0.029
July ... ..	0.236
August ... ..	0.258

September	...	...	...	0.75
October	...	...	...	0.26
November	...	...	...	0.04
December	...	...	...	0.017

(ii) *Yellow Fever Control*.—No cases of Yellow Fever were reported during the year. Continued vigilance is exercised and immunisation against Yellow Fever is carried out as often the stock of Yellow Fever vaccine permits.

(iii) *Pest Control*.—During the year, two confirmed cases of Rabies occurred in dogs. A campaign for the rounding up of stray dogs took place and a number of stray dogs were destroyed in a lethal chamber at the Health Department. No cases of human rabies were notified.

Rodent control continued during the year using traps and the block system of pre-baiting using Zinc Phosphide as a poison. In Bathurst, the following figures give an indication of the work done:—

Number of traps laid	...	...	...	12,585
Number of rats trapped	...	...	...	2,491
Number of poison baits laid	...	...	...	14,446
Number of poison baits taken	...	...	...	3,475
Number of poisoned rats found	...	...	...	3,309
Total number of rats trapped or poisoned	...	...	...	5,800
Total number of mice destroyed	...	...	...	3,043

(iv) *Fly Control*.—D.D.T. 5% in Kerosene and Gammexane water-Dispersible powder were used for spraying public dustbins, the refuse disposal ground, public latrines in Bathurst and Cape St. Mary and the composting site as a help in fly control.

#### GENERAL MEASURES OF SANITATION.

(i) *Cleansing Services*.—The cleansing services in Bathurst continue to be operated by the Bathurst Town Council with the aid of a Sanitary Superintendent and a Sanitary Inspector seconded from Government.

The experiment into the manufacture of compost from town refuse and night soil which was carried out in 1952 has proved successful and compost manufacture on a larger scale has commenced at a site near Denton Bridge, about 3 miles from Bathurst.

(ii) *Inspection of Nuisances*.—This is carried out by Sanitary Inspectors. The number of notices served and prosecutions during the year were as follows:—

<i>Bathurst.</i>	Abatement Notices served	...	...	...	714
	Number of Prosecutions	...	...	...	73
<i>Rombo St. Mary Division.</i>	Abatement Notices served	...	...	...	63
	Number of Prosecutions	...	...	...	4
<i>Protectorate.</i>	Abatement Notices served	...	...	...	617
	Number of Prosecutions	...	...	...	90



(iii) *Health Propaganda*.—Sanitary Inspectors continue to give lectures on Hygiene and Sanitation to school children and the adult population in their districts.

A Sanitary Superintendent gave a series of lectures on Hygiene and Sanitation to teachers in the Training College at Yundum.

### FOOD HYGIENE.

(i) Bakeries, Restaurants, Bars, Hotels and premises for the sale of fresh food were regularly inspected.

(ii) A check was kept on conditions in the Albert Market in Bathurst, but conditions will continue to be unsatisfactory until additional accommodation for vendors is provided.

(iii) In Bathurst, all meat was examined directly after slaughter as a routine and fish landed was examined before sale. Similar inspections were carried out by Sanitary Inspectors in the Protectorate, although supervision is more difficult owing to the bigger area which has to be covered. The following are the meat inspection returns for 1953:—

		<i>Cattle</i> <i>Slaughtered.</i>	<i>Sheep and Goats</i> <i>slaughtered.</i>	<i>Pigs</i> <i>slaughtered.</i>	<i>Approx. amount</i> <i>condemned.</i>
Bathurst	...	2,444	898	1,107	14,285 lbs.
Kombo St. Mary	...	263	237	48	1,289 „
Protectorate	...	1,692	1,063	14	2,709 „

### VI. SCHOOL HYGIENE.

School boys at the Armitage School in Georgetown, MacCarthy Island Division, were examined by the Medical Officer at Bansang. The general impression received was that the boys were fit and well and heights and weights approximated to the normal average. In view of the better supervision, regular meals, regular hours of sleep and work, this satisfactory condition is to be expected, but it is doubtful if other Protectorate pupils lacking these advantages, would reach as satisfactory a standard. The following common defects were found:—

Defective Vision	...	...	...	21.5%
Dental Caries	...	...	...	24.5%
Schistosomiasis	...	...	...	
Worm infestation	...	...	...	21.5%

In Bathurst and Kombo St. Mary Schools, Medical Inspection of children was carried out by the Medical Officer of Health. In Bathurst, 727 children were examined and 148 in the Kombo St. Mary.

The following table gives the most important findings, and depending on the general condition of the children, they are classified into Category A, B, or C which indicates that the child's general condition was Good, Fair or Unsatisfactory:

Age Group	Number in age group	Tonsillar hypertrophy	Umbilical hernia	Vitamin "B" Deficiency	Dental Caries	Enlarged spleen	Defects of Posture	Vitamin Deficiency other than Vitamin "B"	Ringworm.
0-5	1	1	1	1	1	1	—	—	—
5-10	508	250	248	202	123	126	90	74	38
10-15	165	62	56	60	28	29	8	13	2
15-20	53	22	18	17	7	7	1	—	—
ALL AGES	727 (100%)	335 (46.0%)	323 (44.4%)	280 (38.5%)	159 (21.8%)	163 (22.4%)	99 (13.6%)	87 (11.9%)	40 (5.5%)

Age Group	Number in Age Group	Inflammation of Eyes	Furunculosis	Otorrhoea	Defective Vision	Scabies	Corneal Opacity
0-5	1	—	—	—	—	—	—
5-10	508	15	16	8	—	5	2
10-15	165	3	—	—	7	2	2
15-20	53	—	—	—	—	—	—
ALL AGES	727 (100%)	18 (2.4%)	16 (2.2%)	8 (1.1%)	7 (0.96%)	7 (0.96%)	4 (0.55%)



## GENERAL CONDITION.

Age Group	Number in Age Group	Category "A" (Good)	Category "B" (Fair)	Category "C" (Unsatisfactory)
0-5	1	—	1	—
5-10	508	91	346	71
10-15	165	63	91	11
15-20	53	28	24	1
All Ages	727 (100%)	182 (25.0%)	462 (63.5%)	83 (11.4%)

Tonsillar hypertrophy as the commonest condition found is not viewed with any anxiety, as the condition is a simple enlargement of the tonsillar tissue without anything pathological in the vast majority of cases, occurring in an area where streptococcal infections are apparently infrequent.

Of 508 children in the 5-10 age group, 126 were found to have palpable spleens, a spleen rate of 24.8 %. This may be taken as a fairly reliable indication of the incidence of Malaria. Considering that the children were examined during the Rainy Season when Malaria is at its' highest, this rate cannot be regarded as excessively high.

21.8 % of children examined had dental caries, and a number of children were referred to the Dental Surgeon for treatment.

The defects of posture noted were nearly all of a minor nature and did not call for any special treatment.

Children with Ringworm, Scabies and Inflammatory eye conditions were referred to hospital for treatment.

Signs of Vitamin B deficiency were found in 38.5 % of those examined, the majority of cases being in the 5-10 age group.

A comparison was made between three schools in Bathurst, one of which gets a school meal of 1 oz. skim milk powder and  $\frac{1}{2}$  oz. yeast, three days a week, the other two do not receive any meal. Signs of Vitamin B deficiency in the school receiving the meal were 11.4 % as against 54.2 % and 51.4 % in the other two schools. Comparison of heights and weights at ages showed that heights approximated to the normal average. Weights, however, were well below the normal average and there was no evidence to show that any gains had occurred as a result of the skim milk, but this is not surprising in view of the small amount of milk given.

When summarised, the most important findings among the total children examined in the Kombo St. Mary Schools were as follows:—

*General Conditions:*

Category A	...	...	...	...	45	(30.4 %)
Category B	...	...	...	...	87	(58.8 %)
Category C	...	...	...	...	16	(10.8 %)
Total	...	...	...	...	148	
Umbilical Hernia	...	...	...	...	72	(48.7 %)
Enlarged Spleen	...	...	...	...	64	(43.2 %)
Dental Caries	...	...	...	...	37	(25 %)
Signs of Vitamin B deficiency	...	...	...	...	32	(21.0 %)
Tonsillar Hypertrophy	...	...	...	...	19	(12.8 %)
Inflammation of Eyes	...	...	...	...	11	(7.4 %)
Scabies	...	...	...	...	4	(2.7 %)



Otorrhoea	...	...	...	...	2	(1.3%)
Corneal Opacity	...	...	...	...	1	(0.67%)
Stabismus	...	...	...	...	1	(0.67%)
Signs of Vitamin deficiency other than Vitamin B	...	...	...	...	1	(0.67%)

## VII. PORT HEALTH ADMINISTRATION.

No infected or suspected cases of dangerous infectious diseases arrived by Sea or Air during the year. The number of ships which arrived at Bathurst sea port was 179, as compared with 193 in 1952 and 169 in 1951.

All aircraft arriving at Yundum Airport were sprayed with aerosols containing pyrethrum on arrival and prior to departure.

## VIII. MATERNITY AND CHILD WELFARE.

The Ante-Natal and Infant Welfare Clinics continue to do excellent work and attendances continue to increase.

### (i) CASES AND ATTENDANCES.

Centre					Ante-natal Clinics		Child Welfare Clinics.	
					New Cases	Attendances	New Cases	Attendances.
Bathurst	...	...	...	...	897	4,184	920	13,890
Bakau	...	...	...	...	158	895	180	2,886
Serekunda	...	...	...	...	—	—	64	1,960
Brikama	...	...	...	...	320	1,200	816	7,175
Essau	...	...	...	...	168	648	577	4,279
Gunjur	...	...	...	...	210	885	416	8,116
Lamin	...	...	...	...	78	445	138	2,891
Sukuta	...	...	...	...	400	1,549	480	6,992
Bansang	...	...	...	...	270	796	966	3,690
Georgetown	...	...	...	...	216	791	393	1,764
Kuntaur	...	...	...	...	219	1,737	886	3,983
Basse	...	...	...	...	467	1,528	1,374	4,121
Totals:	...	...	1953	...	3,403	14,658	7,210	61,747
			1952	...	3,339	11,811	6,749	48,479
			1951	...	3,071	10,832	6,179	45,452
			1950	...	1,734	7,131	2,735	26,166
			1949	...	1,390	5,683	2,768	22,018

(ii) Results of domiciliary confinements attended by Government midwives were as tabulated below:—

				<i>Live Births</i>	<i>Still Births</i>	<i>Total.</i>
Bathurst	...	...	...	433	12	445
Bakau	...	...	...	78	4	82
Brikama	...	...	...	80	2	82
Sukuta	...	...	...	191	2	193
Gunjur	...	...	...	57	5	62
Bansang	...	...	...	32	12	44
Georgetown	...	...	...	1	—	1
Kuntaur	...	...	...	58	2	60
Basse	...	...	...	99	8	107
<hr/>						
Totals	1953		1,029	47		1,076
	1952		827	43		870
	1951		649	24		673
	1950		654	28		682
	1949		525	38		563

(iii) The following table gives particulars of all births attended by private midwives and by the Government Service in Bathurst:—

				<i>Live Births</i>	<i>Still Births</i>	<i>Total</i>	<i>Still Births.</i>
							<i>Percentage</i>
Private Midwives	...	...	...	165	8	173	4.6%
Government District Midwives	...	...	...	458	9	467	1.9%
Maternity Ward, Victoria Hospital—							
Bathurst cases	...	...	...	270	24	294	8.1%
Kombo cases	...	...	...	25	9	34	26.4%

All difficult and complicated cases in Bathurst are admitted to Victoria Hospital, where the still birth rate is high in consequence.

## APPENDIX I.

### SCHISTOSOMIASIS IN THE GAMBIA.

The following is a summary of two papers by B. O. L. Duke and F. S. McCullough on Schistosomiasis in The Gambia:—

#### 1. *Observations on the Snail Intermediate Hosts of Schistosoma Haematobium and S. Mansoni*

The method of collection and preservation of the Snails is described.

The presumptive snail intermediate hosts are classified as follows:—

- |                              |     |     |   |
|------------------------------|-----|-----|---|
| (1) <i>Bulinus Africanus</i> | ... | ... | } Presumptive vectors of <i>Schistosoma haematobium</i> . |
| (2) <i>Bulinus truncatus</i> | ... | ... |   |
| (3) <i>Bulinus forskalii</i> | ... | ... |   |

- |                                     |  |
|-------------------------------------|--|
| (1) <i>Biomphalaria alexandrina</i> | } Vector of <i>Schistosoma mansoni</i> , |
| <i>pfeifferi</i>                    |  |



*Observations.*(a) *BULINUS AFRICANUS*.

The authors record that their observations on *B. africanus* in the Gambia are the first specific record of its occurrence in the area and also the most northern report of this species in West Africa. It is locally fairly common in the eastern regions of the country, but was never found in large numbers in any of the habitats. However in the Allahein Bolon, the only locality where they were found in the West, the Snails were abundant.

The usual habitats of *B. Africanus* were either stationary or gently flowing water e.g. ponds, swamp pools, borrow pits, sheltered situations in streams. It is considered that fast flowing water is inimical to their survival and this factor may account for wide seasonal fluctuations in the density of the snail population. The principal food of the snails consisted of microscopic plant species, decaying vegetation and particles of soil, and although clear and polluted waters were inhabited, there was no strict association with any particular aquatic plant.

It was not proved experimentally that *B. Africanus* was capable of transmitting *S. haematobium* in the Gambia, but in view of it being the most important snail host of *haematobium* in Gold Coast and Sierra Leone, it seems most probable that *B. africanus* in the Gambia would likewise be susceptible to *S. haematobium*.

(b) *BULINUS TRUNCATUS*.

Distribution in the Gambia is similar to that of *B. africanus* except that *B. truncatus* are not found in Western Division. In general, both species were often found in the same habitat, *B. truncatus* snails being more abundant. Conditions favouring survival are largely the same for both species.

*B. truncatus* snails from the Gambia were susceptible to infection of *S. haematobium* of Gold Coast origin, and it is assumed that this snail is a natural intermediate host of urinary schistosomiasis in the Gambia.

(c) *BULINUS FORSKALII*.

This is considered to be synonymous with *B. Senegalensis*, and is the most widespread of the *Bulininae* in the Gambia. They are ubiquitous in MacCarthy Island and Upper River Divisions, but more restricted in Western and Central Divisions where much of the water is too saline for their survival. They are found in perennial and seasonal waters and appear to be resistant to long periods of drought. They were found in small bodies of standing water in greatest number. Egg laying is optimum following the rains (January—June) and they are usually deposited on fresh submerged leaves of the aquatic vegetation. In the Gambia, the preference of *B. forskalii* for clear water rather than stagnant is not distinct and it appears to be able to survive readily in either polluted or clear water.



The authors make a strong case, based on the distribution of *B. africanus*, *truncatus* and *forskali* and a successful attempt at infecting *B. forskali* with miracidia of *S. haematobium*, for claiming that much of the *S. haematobium* infection in the Gambia is spread by *B. forskali*.

(c) *BIOMPHALARIA ALEXANDRINA PFEIFFERI*.

This species is restricted to only six localities in Western and Upper River Divisions, and was not found elsewhere. Snails were found in clear and gently flowing water, except in the Allahein Bolon where the snails were found in impounded muddy water. *B. a. pfeifferi* prefers large bodies of water, and was found only rarely in small ponds, shallow ditches, etc. Food eaten by this species is similar to that described for *B. africanus* indicating that food is not a decisive factor in determining the habitat preferred. It seems that egg laying is not restricted to any particular season, but there is a higher mortality among snails during the wet season and reproduction is therefore more successful during the dry season.

Infection with *S. Mansoni*, if it exists in the Gambia is probably rare, but the existence of the presumptive snail hosts in a few localities suggest that local transmission may occasionally occur.

*Discussion.*

The River Gambia in general because of salinity in its lower part and the effect of tides, steep banks, great depth and rate of flow in its upper part, does not provide a suitable habitat permanently supporting snail hosts.

The authors believe that extension of rice growing in the Gambia with deliberate impounding of water, will result in a wider distribution and increase in the number of Snail hosts, and that increased movements among the human population in connection with organised rice growing will result in an increased incidence of urinary schistosomiasis. The danger will be greater in Upper River and MacCarthy Island Divisions where the disease is already endemic.

Widespread control of the disease is not possible in view of the limited economic resources of the Colony, but local control by weed clearing, drainage and molluscocides appears practical. Combined with treatment of infected children, who are the main human reservoir of infection, these measures would tend to prevent spread of the disease into the areas of organised rice cultivation.

## II. EPIDEMIOLOGY AND DISTRIBUTION OF URINARY SCHISTOSOMIASIS.

This paper commences with a brief introduction as to population, economy and situation of the Gambia.

During the survey, special attention was paid to children between 3 and 15 years old, as they were least likely to have moved far from the villages, and at the same time, as many adults as possible were examined. The method of collecting and examining urines is described, and a search was also made for snails in all types of water nearby.



It became evident that the incidence of *S. haematobium* varied markedly from village to village and a careful study of closely adjacent villages in two endemic areas was made, in order to get a clearer picture of the epidemiology.

# I. OBSERVATION ON THE INCIDENCE AND DISTRIBUTION OF THE DISEASE.

The disease first appears on the north bank at the eastern end of Central Division and extends through nearly all MacCarthy Island in a zone set back from the river, into Upper River Division where infected villages are distributed throughout the Division. It is emphasised, however, that the incidence in any given area depends on conditions prevailing in its immediate environs. Individual villages in generally infected areas, may remain free from infection because of absence of suitable water for transmission in the vicinity. On the other hand, some villages in largely non-infected areas show a high incidence of the disease, because of suitable infected water nearby which is used by the populace.

The paper then deals in some detail with conditions found in various areas of the Gambia and puts forward details in support of the contention that it is the proximity or otherwise to individual villages of suitable collections of water used by the populace that governs the infection rate found in it. In the swamp villages, the intensity of infection is light. Standing water is widespread round these swamp villages during the rains and large numbers of *B. forskalii* are found there. It is this great abundance of water, however, which prevents effective transmission from taking place, since the people do not tend to concentrate on any particular piece of open water for washing and the women working in the rice swamps are so widely scattered and their visits to any given piece of swamp so widely spaced in time, that there is little opportunity for any close contact between them and the infective stages of the parasite. That transmission does not occur here is evidenced by the fact that the incidence of *S. haematobium* is no higher among women, who alone work in the rice swamps, than among men who do not. In these swamp villages the infection rate is only slightly higher for adults (14.3%) than for children (12.4%).

In contrast to the swamp villages, the villages on the laterite plateau show an average child infection rate of 72.7% as against 38.8% for adults. Transmission would therefore seem to occur close to the village. The disposition of standing water on the plateau is quite different from that on the low ground near the river and this accounts for the high incidence of the disease.

In general, it appears that a high incidence in a village especially among children, depends largely upon local transmission occurring in the immediate environs, whereas a generally lower incidence, as found in swamp villages with a higher incidence among adults is probably due to extraneous infections contracted during their travels.



## EFFECTS OF THE DISEASE ON THE POPULATION.

The main effects of the disease are seen among children, the commonest symptoms being haematuria, frequency, bed wetting and dysuria. Pyuria is frequently encountered as a concomitant infection and calculi is a common sequela. Output of ova falls off during adult life. This may be due to a seasonal transmission giving rise to a high incidence of infection of not very great intensity which is capable of being overcome by a process of premunity during adult life.

In the authors opinion, schistosomiasis in the Gambia may be regarded as a serious nuisance in childhood and may leave an unpleasant heritage in adult life. It is not the menace that it appears to be in Egypt.

*Discussion.*

The transmission season in Gambia varies from place to place, but whether it occurs in the dry or wet season, it probably lasts only 4—5 months at the most and nowhere does it continue throughout the whole year.

The dangerous waters in the Gambia can be divided into two groups, according to the season during which transmission takes place in them:

- (a) Transmission occurring during and soon after the rains:—Laterite ponds, and the pools at the head of the rice bolons.
- (b) Transmission occurring about the middle of the dry season:—Residual swamp ponds and the washing places in the faster Upper River Bolons.

Certain other waters do not appear to be dangerous, although some of them harbour vector snails. Among these are, the River Gambia, large rice swamps, ordinary fresh water swamps (residual ponds excluded) and certain bolons especially those in Western and Central Divisions.

High infection rates in any village depend upon local transmission, but infections carried into susceptible villages by infected strangers or the villagers themselves returning from infected areas, represent the source of spread of the disease into new territory. Since travelling is a dry season event, villages with a dry season transmission are more dangerous to the uninfected traveller.

In villages with a high incidence of *S. haematobium*, almost every child becomes infected by the age of 15 years. Frequency of micturition aids in the dissemination of the parasites. The parasite life cycle continues most effectively among children, but adults pass fewer eggs with increasing age, and cease to be effective propagative hosts.

Under conditions existing in the endemic areas in Gambia, the balance between host and parasite is probably as perfect as ever it is in this species and *S. haematobium* may be regarded as the best adapted of all the schistosome parasites of man. It is apparently the least pathogenic and has the more effective method of escape from the human host by way of the urine.



## REPORT ON THE MEDICAL AND HEALTH SERVICES, 1953.

## APPENDIX II.

## 1953 Diseases Classified according to Intermediate List of Causes of Morbidity and Mortality.

	Cause Group.	Detailed List Numbers.	In- patients.	Inpatients Deaths.	Out patients.	Dispen- saries.	Total.
A1	Tuberculosis of Respiratory System ...	001—008	42	6	63	84	189
A2	Tuberculosis of Meninges and Central Nervous System ...	010	10	2	9	—	19
A3	Tuberculosis of Intestines, Peritoneum and mesenteric glands ...	011	1	—	—	—	1
A4	Tuberculosis of bones and joints ...	012, 013	1	—	18	—	19
A5	Tuberculosis, all other forms ...	014—019	1	—	24	—	25
A6	Congenital Syphilis ...	020	2	—	—	—	2
A7	Early Syphilis ...	021	35	1	440	637	1,112
A8	Tabes Dorsalis ...	024	3	1	—	—	3
A11	Gonococcal infection ...	030—035	221	2	651	2,466	3,338
A16	Dysentery, all forms ...	045—048	18	3	122	273	413
A18	Streptococcal sore throat ...	051	33	—	52	—	85
A19	Erysipelas ...	052	2	—	—	—	2
A20	Septicaemia and Pyaemia ...	053	7	5	—	—	7
A22	Whooping Cough ...	056	11	1	68	—	79
A23	Meningococcal infections ...	057	7	6	—	4	11
A25	Leprosy ...	060	2	—	23	225	250
A26	Tetanus ...	061	21	8	7	6	34
A27(a)	Yaws ...	073	248	1	511	5,017	5,776
A29	Acute infectious encephalitis ...	082	1	—	—	—	1

# APPENDIX II—(contd).

Cause Group.		Detailed List Numbers.	In-Patients patients.	In-Patients Deaths.	Out-patients.	Dispen-saries.	Total.
A30	Late effects of acute poliomyelitis and acute infections encephalitis ...	081, 083	1	—	—	—	1
A31	Smallpox ...	084	17	1	1	46	64
A32	Measles ...	085	6	—	8	—	14
A34	Infectious Hepatitis ...	092	2	—	—	44	46
A37.	Malaria ...	110—117	379	5	2,784	7,224	10,387
A37(a)	Trypanosomiasis ...	121	53	—	435	913	1,401
A38	Schistosomiasis ...	123	93	—	517	228	838
A40	Filariasis ...	127	35	—	149	—	184
A41.	Ankylostomiasis ...	129	28	—	369	102	499
A41(a)	Ascariasis ...	130.0	46	—	1,257	4,164	5,467
A42	Other diseases due to helminths ...	124, 126, 128, 130.1, 130.3	22	—	41	196	259
A43	All other diseases classified as infective and parasitic ...	(036-039, 049, 054, 063-072), (074, 086-090, 093, 095, 096), (120-122, 131-138).	28	—	82	2,505	2,615
A44—							
A57	All malignant neoplasms ...	140—199	50	2	22	—	72
A60	Benign Neoplasms and neoplasms of unspecified nature ...	210—239	14	—	10	50	74
A61	Non-toxic goitre ...	250—251	37	—	235	356	628
A64	Avitaminosis and other deficiency states ...	280—286	38	—	124	4	166
A65	Anaemias ...	290—293	41	—	376	—	417
A66	Allergic disorders; all other endocrine, metabolic and blood diseases ...	(240-245, 253, 254, 270-277), (287-289, 294-299)	60	—	120	—	180



## APPENDIX II—(contd.)

	Cause Group.	Detailed List Numbers.	In- patients.	In-Patients Deaths.	Out- patients.	Dispen- saries.	Total.
A67	Psychoses ... ..	300—309	—	—	—	3	3
A68	Psychoneuroses and disorders of per- sonality ... ..	310—324, 326 325	11	—	28	—	39
A69	Mental deficiency ... ..		2	—	2	—	4
A70	Vascular lesions affecting central nervous system ... ..	330—334	4	2	—	—	4
A71	Non-meningococcal meningitis ... ..	340	5	2	1	—	6
A72	Multiple Sclerosis ... ..	345	1	—	—	—	1
A73	Epilepsy ... ..	353	10	—	8	28	46
A74	Inflammatory diseases of eye ... ..	370—379	87	1	786	4,112	4,985
A75	Cataract ... ..	385	7	—	23	—	30
A76	Glaucoma ... ..	387	1	—	—	—	1
A77	Otitis media and Mastoiditis ... ..	391—393	23	—	302	1,216	1,541
A78	All other diseases of the nervous system and sense organs ... ..	(341—344, 350—352, 354—369) (380—384, 386, 388—390, 394—398)	51	4	182	506	739
A79	Rheumatic Fever ... ..	400—402	1	—	—	—	1
A82	Other diseases of heart ... ..	430—434	102	16	85	—	187
A84	Hypertension without mention of heart ... ..	444—447	4	—	2	—	6
A85	Diseases of arteries ... ..	450—456	16	—	7	—	23
A86	Other Diseases of circulatory system ... ..	460—468	25	—	53	362	440
A87	Acute upper respiratory infections ... ..	470—475	19	—	367	523	909
A88	Influenza ... ..	480—483	15	—	372	17	404
A89	Lobar Pneumonia ... ..	490	90	12	13	—	103
A90	Bronchopneumonia ... ..	491	46	16	24	—	70

# APPENDIX II—(contd.)

	Cause Group.	Detailed List Numbers.	In- patients.	In-Patients Deaths.	Out- patients.	Dispen- saries.	Total.
A91	Primary, atypical, other and unspecified pneumonia	492, 493	69	2	65	157	291
A92	Acute Bronchitis	500	74	3	780	—	854
A93	Bronchitis, chronic and unqualified	501, 502	70	—	1,590	—	1,660
A95	Empyema and abscess of lung	518, 521	3	—	25	—	28
A96	Pleurisy	519	9	—	27	—	36
A97	All other respiratory diseases	511-517, 520, 522-527	11	—	402	—	413
A98	Diseases of teeth and supporting structures	530-535	16	—	692	1,181	1,889
A99	Ulcer of stomach	540	7	—	25	—	32
A100	Ulcer of duodenum	541	—	—	1	—	1
A101	Gastritis and Duodenitis	543	18	—	108	—	126
A102	Appendicitis	550-553	10	1	7	—	17
A103	Intestinal obstruction and hernia	560, 561, 570	201	3	612	217	1,030
A104	Gastro-enteritis and colitis, except diarrhoea of the new-born	571, 572	107	7	1,754	2,677	4,538
A105	Cirrhosis of Liver	581	19	8	17	—	36
A106	Cholelithiasis and cholecystitis	584, 585	2	—	—	—	2
A107	Other diseases of digestive system	(536-539, 542, 544, 545, 573-580), (582, 583, 586, 587)	73	1	2,158	17,650	19,881
A108	Acute Nephritis	590	4	—	—	—	4
A109	Chronic, other and unspecified nephritis	591-594	37	6	93	—	130
A110	Infections of Kidney	600	20	—	160	—	180
A111	Calculi of urinary system	602, 604	1	—	—	—	1



# APPENDIX II—(contd)

	Cause Group.	Detailed List Numbers.	In- patients.	In-Patients Deaths.	Out- patients.	Dispen- saries.	Total.
A113	Diseases of breast	620, 621	15	—	21	—	36
A114	Other diseases of genito-urinary system	601, 603, 605-609, 611-617, 622-637	269	3	832	275	1,376
A115	Sepsis of pregnancy, child-birth and the puerperium	640, 641, 681, 682, 684	2	—	—	—	2
A116	Toxaemias of pregnancy and the puerperium	642, 652, 685, 686	45	—	—	—	45
A117	Haemorrhage of pregnancy and child-birth	643, 644, 670-672	10	3	—	—	10
A118	Abortion without mention of sepsis or toxæmia	650	64	—	277	284	625
A120	Other complications of pregnancy, child-birth and the puerperium	(645-649, 673-680), (683, 687-689)	62	2	1	—	63
A121	Infections of skin and subcutaneous tissue	690-698	188	—	634	953	1,775
A122	Arthritis and spondylitis	720-725	14	—	179	1,593	1,786
A123	Muscular rheumatism and rheumatism unspecified	726, 727	39	—	2,032	10,027	12,098
A124	Osteomyelitis and periostitis	730	19	—	181	—	200
A125	Ankylosis and acquired musculoskeletal deformities	737, 745-749	2	—	2	—	4
A126	All other diseases of skin and musculoskeletal system	(700-716, 731-736), (738-744)	216	1	1,578	4,084	5,878
A127	Spina bifida and meningocele	751	1	—	—	—	1
A129	All other congenital malformations	750-752, 753, 755-759	3	—	1	—	4
A130	Birth injuries	760, 761	1	1	—	—	1

# APPENDIX II.—(contd.)

Cause Group.	Detailed List Numbers.	In-Patients. Deaths.	Out-Dispen- patients, saries.	Total.
A131 Postnatal asphyxia and staelectosis ...	762	11	—	11
A132 Infections of new-born ...	763—768	15	192	207
A134 All other defined diseases of early infancy	769, 771, 772	5	37	42
A135 Ill-defined diseases peculiar to early in- fancy and immaturity unqualified ...	773—776	18	—	18
A136 Senility without mention of psychosis ...	794	2	—	2
A137 Ill-defined and unknown causes of mor- bidity and mortality ...	780—793, 795	77	8	15,381 15,681
"E" CODE. ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (EXTERNAL CAUSES).				
AE138 Motor Vehicle Accidents ...	E810—E835	21	—	21
AE139 Other transport accidents ...	E800—E802, E840—E866	—	23	23
AE140 Accidental poisoning ...	E870—E895	4	1	5
AE141 Accidental falls ...	E900—E904	18	899	917
AE142 Accident caused by machinery ...	E912	—	79	79
AE143 Accident caused by fire and explosion of combustible material ...	E916	34	5	147
AE144 Accident caused by hot substance, corro- sive liquid, steam and radiation ...	E917, E918	6	2	8
AE145 Accident caused by firearm ...	E919	7	29	36
AE147 All other accidental causes ...	(E910, E911, E913—E915), (E920—E928, E930—E965) E970—E979	13	592	1,166
AE148 Suicide and self-inflicted injury ...		1	—	1
AE149 Homicide and injury purposely inflicted by other persons (not in war) ...	E980—E985	19	2	10
				29

NOTE:—Where a complete "A" or "AE" cause group has been omitted, no case has been diagnosed during the year under that heading.









