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GOLD COAST

GOVERNMENT



**REPORT OF THE
MINISTRY OF HEALTH
1953**



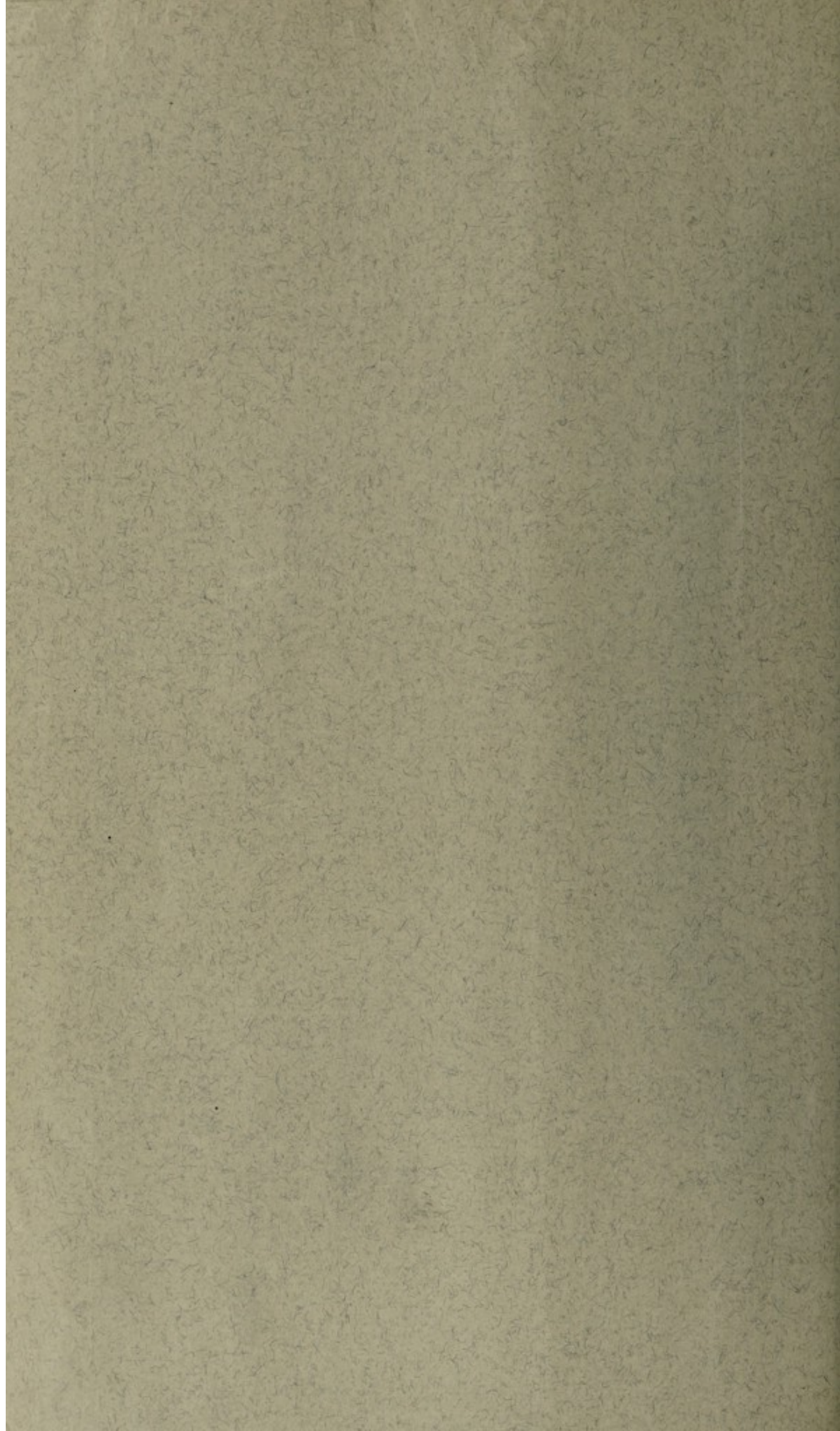
GOLD COAST

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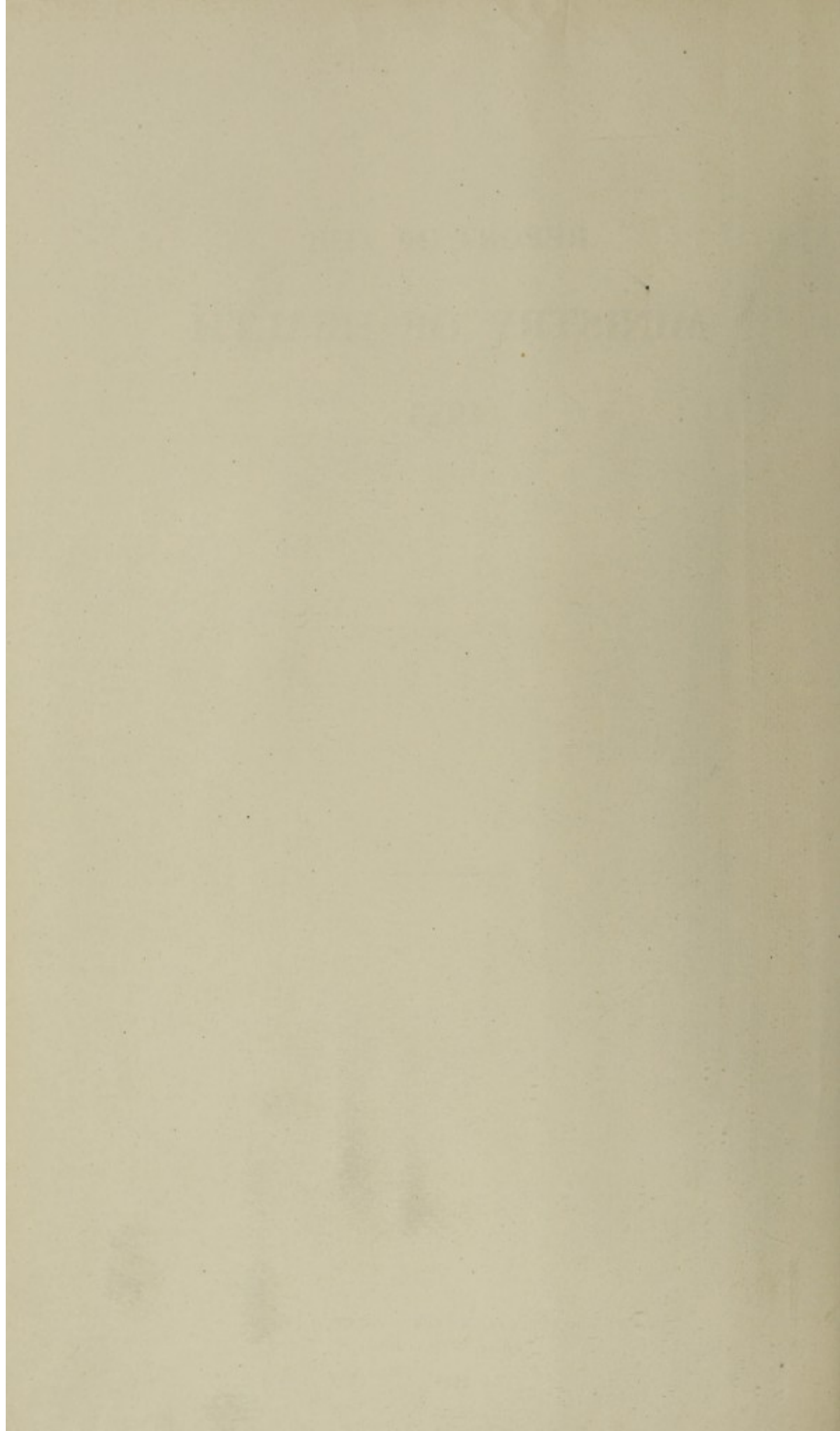
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REPORT OF THE
MINISTRY OF HEALTH
1953

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ACCRA, GOLD COAST

1955



FOREWORD

This report of the Ministry of Health for the period 1st January to 31st December, 1953 takes the place of the annual report formerly prepared by the Medical Department. It consists of two parts, Part I being a general summary of administration and development during the year, and Part II being the report of the Chief Medical Officer on the state of the public health.

It is hoped that this report will prove interesting and useful.

A. T. KERR
Permanent Secretary.

IMORU EGALA
Minister of Health.

MEMORANDUM

The object of this memorandum is to inform the Board of Directors of the results of the investigation conducted by the Committee on the part of the Board of Directors of the Company, and to recommend the course of action to be taken by the Board of Directors in the premises.

Very respectfully,
Your obedient servant,
[Signature]

ALFRED
[Signature]

REPORT OF THE MINISTRY OF HEALTH

Part I

General Summary of Administration and Development for the Year 1953

REPORT OF THE MINISTRY OF HEALTH

Part I

General Summary of

Administration and Development

for the Year 1957

PART I

Administration.—The merging of the Medical Department with the Ministry of Health, as recommended by the Health Commission of the previous year, took place on the 1st May, 1953. The process of re-organisation at the headquarters and in the regions has been consolidated and has resulted in more effective administration, particularly in personnel and accounting matters.

At the headquarters the Permanent Secretary is responsible for the execution of Government policy in the field of health, whether in the services maintained by the Central Government or in those carried out by Local Authorities or Voluntary Agencies. The Chief Medical Officer, of equal rank and status with the Permanent Secretary and also having direct access to the Minister, is the chief adviser to all Ministries and Departments on technical and professional matters concerning health; he is the head of the Government medical service and is also chairman of such statutory bodies as the Nurses Board, the Midwives Board and the Pharmacy and Poisons Board. Both the Permanent Secretary and the Chief Medical Officer have appropriate staff to carry out their functions and these staffs collaborate at all levels.

The Deputy Chief Medical Officer is stationed at headquarters and there are Principal Medical Officers also at headquarters and at Cape Coast, Kumasi and Tamale in charge of the health services in their respective regions. The health services of the Trans-Volta/Togoland Region are administered from Accra and will be administered from Ho when buildings under construction are ready and a Senior Medical Officer has been appointed.

Plans to re-organise the medical stores system were introduced, and when established should result in a radical improvement of distribution. The Central Medical Stores is now situated at Takoradi, the main port, and there is a Regional Store at Accra to serve the Eastern Region and Trans-Volta/Togoland Region as well as Accra. A start has been made on the construction of a new Regional store at Kumasi to serve Ashanti, and a Regional store will be built at Tamale to serve the Northern Territories. Three additional Medical Stores Superintendents had been appointed by the end of the year to give effect to the plans for re-organisation.

The Chief Medical Officer was awarded a Rockefeller Foundation Travel Grant and during his leave visited Canada and the United States to study questions applicable to conditions in the Gold Coast; in particular he visited the Tennessee Valley Authority's organisation in connection with the proposed project for impounding the waters of the Volta River for production of electric power and smelting of aluminium in the Gold Coast.

The Ministry of Health has been closely associated with the Preparatory Commission in examining the health aspects of the Volta River Project.

The policies adopted by the Government in the light of the recommendations of the Maude Commission of Enquiry into the Health Needs of the Gold Coast in 1952 continued as the basis of planning and execution of improved health services.

Staff and Services.—The numbers of the main categories of medical and health staff are set out in the Appendix. In senior ranks of the Government service, two Gold Coast men were appointed Principal Medical Officer; a Specialist in Anaesthesia assumed duty and there were a number of changes in the holders of senior posts arising from retirement and replacement.

Child welfare clinics and ante-natal maternity services are maintained by the Gold Coast Branch of the British Red Cross Society at Accra, Sekondi, Kumasi, Cape Coast and Koforidua (all static) and 5 mobile clinics exist in various parts of the country.

Laboratory services are provided at all Government hospitals; the central laboratory is situated at the Medical Research Institute, Accra.

Medical Field Units, with their headquarters at Kintampo in Ashanti, conduct campaigns against trypanosomiasis and yaws and epidemics as they may occur, e.g. cerebro-spinal meningitis and smallpox. Concurrently they conduct surveys of the incidence of disease in rural areas, administer treatment and promote health education. Their activities at present are largely directed towards improving conditions in the North where the need is greatest; it is intended that they should be developed to cover rural areas throughout the country.

The programme of construction of new hospitals and other projects and improvement of existing hospitals was accelerated and the results will become apparent in 1954. The first phase of construction of the new five-storey Kumasi Central Hospital was nearing completion and the second phase was well advanced. New hospitals at Bawku and Wa in the Northern Territories were nearing completion, and construction of the hospitals at Jirapa and Navrongo undertaken by the White Fathers Mission was well advanced. The Out-patients and administration block at Yendi hospital, also in the Northern Territories, was completed and occupied, and the replacement of the ward blocks by new buildings will follow. New wards at Sunyani hospital in Ashanti, Kibi hospital in the Eastern Region, Keta hospital in the Trans-Volta/Togoland Region, and Tamale hospital in the Northern Territories Region, a new Out-patients and Administration block including dental clinic and additional X-Ray facilities at Sekondi hospital in the Western Region, and a new Maternity hospital to be run by the English Church Mission at Mampong in the Ashanti Region were all nearing completion. Government decided to embark also on a major reconstruction of the main hospital at Accra and architects were engaged; the number of beds will be raised from 350 (including the present Maternity hospital) to 500 and other improvements will be effected to make it suitable for use as a teaching hospital when the proposed Medical School is established. New Health Centres were brought into use at Asokor-Effiduasi in the Ashanti Region and at Bimbilla in the Northern Territories Region (in the northern section of Togoland). Minor improvements were made to a number of district hospitals.

Spectacular progress was made in the construction of the Ankafu Leper Settlement near Cape Coast, where the headquarters of the Leprosy Service is also situated. New buildings formally opened by His Excellency the Governor in November included an administration block, two hospital wards, an operating theatre, a treatment block and an all-purpose community centre. The treatment of out-patients with sulphone drugs was further expanded and by the end of the year more than 15,000 persons suffering from leprosy were being treated at 190 clinics throughout the country.

The Tuberculosis Specialist continued his investigations and a mobile mass-radiography unit to his specifications was ordered. He took over direction of treatment of tuberculosis patients at the main centres and introduced B.C.G. vaccination of nurses and of others who would benefit.

X-Ray plants were installed and brought into use at the Dunkwa and Bolgatanga hospitals and a new plant was installed at the main hospital in Accra. Steady progress is being made in the extension of radiographic facilities.

Pathological services are being improved and extended in spite of the difficulties experienced in recruiting supervisory staff. A Blood Bank in Accra organised with the assistance of the Gold Coast Branch of the British Red Cross Society has enlisted the support of voluntary contributors, and in the light of experience this service will be extended when facilities permit.

The Government dental services are entirely manned by Gold Coast personnel; the six dental surgeons already in employment all qualified in the United Kingdom and their number will be increased by two in 1954, including one Gold Coast lady also recently qualified in the United Kingdom. Static dental clinics are in operation at Accra, Sekondi, Kumasi and Tamale and a mobile clinic has been operating in parts of the Eastern and Western Region and in the Trans-Volta/Togoland Region.

All but three of the Government hospitals are now provided with one or more ambulances, and the remaining three will be supplied as soon as garages have been built.

Local authorities, especially in Ashanti, continued to expand the provision of dressing stations and maternity homes; there is need for closer control of these and private facilities, and this is engaging the attention of the Government in the interest of improving services and reducing abuses.

The basic necessity of improved environmental hygiene in both urban and rural areas and the responsibilities of local authorities in this regard are inadequately recognised and steps will be taken to correct the neglect of this primary need.

The participation of missions in medical work is expanding and is being encouraged as a policy of Government where Government itself is unable to provide the facilities required and in so far as the funds available for financial assistance permit. Mention has been made above of the hospitals being built at Jirapa and Navrongo by the White Fathers Mission with funds provided by Government, and of the maternity hospital being built at Mampong Ashanti which is to be run by the English Church Mission. Arrangements were nearing completion at the end of the year for a hospital to be built and run by the Seventh Day Adventists Mission at Mpraeso in the Eastern Region and another by the Ewe Presbyterian Mission at Worawora in the Trans-Volta/Togoland Region, both with financial assistance provided by the Government. In addition, grants were made to the Methodist Mission for medical work at Wenchi in the Ashanti Region, the Basel Mission for training of staff at their hospital at Agogo also in the Ashanti Region, the Salvation Army at Begoro in the Eastern Region and various Roman Catholic missions operating clinics in the western and eastern regions and at Jirapa in the Northern Territories Region.

Diseases.—Diseases of social importance include tuberculosis, yaws, syphilis and gonorrhoea, and those due to nutritional deficiency include *kwaashiorkor*.

Certification of death is at present limited to registration areas, i.e. the main towns, but registration is to be extended progressively to rural areas through the agencies of local authorities.

The principal causes of death through disease are malaria, pneumonia and pulmonary tuberculosis.

The survey conducted by the team sponsored by the British Empire Society for the Blind to investigate the problem of onchocerciasis was carried out in the Northern Territories throughout the year, and the results are awaited.

Investigations into malaria problems were carried out, principally in the Accra Region, by a Medical Officer of Health and an Entomologist specifically seconded for the purpose. These investigations constitute an essential prerequisite to the application in local conditions of the lessons which may be learned from the experiments in malaria control being carried out under World Health Organisation auspices in the Ivory Coast, Nigeria and the Cameroons.

Mention has been made above of the work being undertaken under the direction of the Specialist Leprologist in combating leprosy and by the Tuberculosis Specialist in surveying the tuberculosis problems.

The Medical Field Units launched experimental treatment against yaws with penicillin in the hyperendemic area around Yendi in the Northern Territories Region.

Training of Staff.—There are as yet no local facilities for training students in medicine and in dental surgery; selected scholars are sent overseas to obtain qualifications at Government expense and their numbers are supplemented by a number of private students; there were 43 Government medical scholars studying overseas in 1953 and 54 private medical students.

The Pharmacy Department of the Kumasi College of Technology trains students for the examinations of the Pharmacy and Poisons Board; those who qualify may be employed in the Government service or in industry and commerce or may set up on their own. Advanced training for a Bachelor of Pharmacy degree will be provided in the Gold Coast at a later date, but is at present obtained overseas, and financial assistance is provided by the Government in deserving cases.

The training of an adequate number of qualified nurses is of primary importance to the expansion of medical facilities throughout the country and two categories of training by Government are provided, the one at the Nurses Training College, Accra for the more advanced qualification of State Registered Nurse and the other at six training hospitals for that of Qualified Registered Nurse. In addition, missions, mines and industry train pupil nurses for the examinations of the Gold Coast Nurses Board for the latter qualification. Steps were taken during the year to attract candidates of better quality for training in nursing, in particular from secondary schools. The response was greater than the facilities for teaching and availability of teaching staff could meet, and the campaign launched by a broadcast by the Minister of Health and by the issue of a descriptive booklet admirably prepared by the Information Services Department had to be curtailed, but will be re-opened at any time that is required. The preparation of a feature film to be called "Theresa" was undertaken by the Film Unit of the Information Services Department to illustrate the life of a Gold Coast nurse from her training days to the exercise of responsibility in the higher posts. This is expected to be ready for showing in 1954 and will undoubtedly prove a strong attraction; posters have also been prepared and are ready for exhibition when the occasion next arises.

The Students Nursing College at Accra is accommodated in excellent buildings, and a similar standard will be provided at the Training College which is being built at the new Kumasi hospital. Hostels and lecture rooms are to be built at the Sekondi, Cape Coast and Accra hospitals for female pupil nurses undergoing training to become Qualified Registered Nurses. There is accommodation for pupil nurses at Tamale hospital and a lecture room is being built at Bolgatanga hospital.

The emphasis on increased training of nurses has imposed a heavy strain on the tutoring staff, and although the staff situation had improved considerably at the beginning of the year, it has not been possible to fill the vacancies arising from the creation of new and additional posts to meet the needs of expansion. The two posts of Science Mistress at the Nurses Training College were filled.

The position in regard to midwifery tutoring staff has improved and two posts were filled during the year. Midwifery training continues to be provided at the school attached to the Maternity Hospital in Accra for those who have already obtained nursing qualifications and at the school in Kumasi for those who have had no other previous training.

The training of pupils in mental nursing has been gravely handicapped by the continued lack of Mental Tutors; seven local nurses are in consequence being trained in the United Kingdom. Assistance has been loyally given in providing teaching in general nursing, but it appears to be impossible on account of a universal shortage to obtain qualified Mental Tutors.

Training of pupil Sanitary Inspectors for the R.S.I. qualification and refresher courses for older men continued at the School of Hygiene in Accra. The training is designed for the requirements of sanitation in municipalities and for the more responsible supervisory posts. Training also continued at the schools in Kintampo and Tamale where the emphasis is primarily directed to a less advanced type of training which is adequate for the staffs of local authorities, in the smaller urban and in rural areas.

The courses for X-Ray Assistants at the main Accra hospital and for Laboratory Assistants at the Medical Research Institute were carried on on the same lines as in previous years.

Research.—The first meeting of the West African Council for Medical Research was held in Accra in June under the chairmanship of the Chief Secretary of the West African Inter-Territorial Secretariat. It was attended by representatives from the United Kingdom and from each of the British West African territories. Agreement was reached on the lines of future development and re-organisation of previously existing research facilities of common service to the West African Governments.

Medical Research is carried out in the Gold Coast at the Medical Research Institute at Accra and in the field, especially in conjunction with the Medical Field Units. At the Institute, the research has covered a wide variety of subjects, and has included investigations in the Sickle-cell Trait and Sickle-cell Anaemia, Typhus and Typhoid Fevers, etc. These investigations have been recorded in a number of scientific papers published by members of the staff. As regards Field Research work, a Nosological survey has been in progress at Mirigu in the Northern Territories for a period of almost two years and should be completed shortly. The Malacological survey which was begun the previous year has been continued. An investigation into the types and breeding habits, etc., of mosquitoes in the Accra area was commenced and is being carried out in conjunction with a Malarial survey and other Malarial investigations in the same area. The Tuberculosis Specialist has carried out investigations into the prevalence of "false-positive" or non-specific Tuberculin reactions.

APPENDIX TO PART I
MEDICAL AND HEALTH STAFF

	Govt.	Mission	Private	Notes
1. Registered medical practitioners with degrees recognised in the United Kingdom:				The services of some of the medical practitioners employed by mining companies are made available to Government. One private practitioner is employed by Government on a seasonal basis.
(a) Government Officers holding administrative or specialised posts	18	—	—	
(b) Other Government and non-Government medical practitioners	77	1	84	
Licensed medical practitioners with degrees which are not registrable in the United Kingdom	8	6	5	
Dental Surgeons	6	—	7	
2. Nurses whose training was equivalent to that provided in the United Kingdom	124	11	54	
Nurses with certificate recognised locally but not in the United Kingdom	683	31	299	
Nurses in Training	463	24	125	
3. Midwives whose training was equivalent to that provided in the United Kingdom	29	26	19	
	Of these the following are included in the number shown in paragraph 2 above of Nurses whose training was equivalent to that provided in the United Kingdom.			
	29	11	19	
Midwives with certificate recognised locally but not in the United Kingdom	243	4	140	
	Of these the following are included in paragraph 2 above.			
	195	—	—	
Midwives in Training	95	6	—	
4. Sanitary Staff	195	Not available		
5. Laboratory and X-Ray Technicians	81	Not available		
6. Pharmacists	115	1	172	

REPORT OF THE MINISTRY OF HEALTH

Part II

on the State of the Public Health

ANNUAL REPORT

of the

Chief Medical Officer

for the year 1953

REPORT OF THE MINISTRY OF HEALTH

1912

on the State of the Public Health

ANNUAL REPORT

Chief Medical Officer

for the year 1912

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The Report of the Chief Medical Officer on the State of the Public Health in the Gold Coast for the Year ended 31st December, 1953

INTRODUCTION

To THE HONOURABLE IMORU EGALA, M.L.A.,
MINISTER OF HEALTH

Sir,

I have the honour to submit a report on the state of the public health in the Gold Coast during 1953, together with an account of the work of the professional and technical services of the Ministry for the same period. This is the first report of a complete year's working of the former Medical Services on the new basis of integration with the Ministry of Health.

The Gold Coast has recently been the scene of rapid constitutional changes designed to lead to the country's early assumption of self-governing status. In the train of these changes have come rapid alterations in the general pattern of administration employed by the various departments of Government. The administration of the country's medical and health service organisation in particular has undergone complete revisal. In the revisal process the Gold Coast Government was assisted with advice by an authoritative Health Commission specially appointed from United Kingdom sources. Implementation of all those proposals made in the report of the Commission which had been accepted by the Government and adopted by the Legislative Assembly has been a major pre-occupation throughout the year's work.

Headquarters Administration.—In place of a Medical Services Department in immediate charge of a Director of Medical Services, which is the organisation usually to be found in non-self-governing British territories in Africa, medical and health activities have been vested in a single Ministry of Health organisation since 1st May, 1953. The work of the Ministry is now carried on from two main aspects. There is the administrative aspect which is the concern of the Permanent Secretary, and the technical and professional aspects which concern the Chief Medical Officer. They and their staffs work in the closest collaboration. The Permanent Secretary and the Chief Medical Officer have equal and direct access to the Minister. The Chief Medical Officer fills the extra role of medical adviser to all other Ministries as and when required and is also ex-officio Chairman of Statutory Boards governing the registration and practice of medical auxiliaries in the nursing, midwifery and pharmaceutical professions. In addition he is ex-officio, the authority responsible for registering medical and dental practitioners, and is a member of important statutory bodies such as certain regional Health Boards, also the Town and Country Planning Board. The Ministry of Health's headquarters establishment includes a Deputy and a Principal Medical Officer who assist the Chief Medical Officer.

Regional Administration.—A Principal Medical Officer is placed in charge of each of the three main regions of the territory. Though medically qualified, they are for the present, required to undertake both the medical and the administrative direction of all Ministry work in their respective regions. This has been the accepted pattern of regional organisation for some years, but since 1st May, 1953, the Principal Medical Officer has been subject to the overall direction of two officials, the Chief Medical Officer and the Permanent Secretary, where previously he was answerable only to the Director of Medical Services.

The Annual Report.—As a result of integration of the Medical Department with the Ministry of Health, the Annual Report of the Chief Medical Officer is now limited to medical and technical matters. It is therefore presented in a different form from that which has customarily been used in past years, and the opportunity has been taken to record in some detail the incidence of various diseases, as also the character of current vital statistics, and of more general factors affecting the public health.

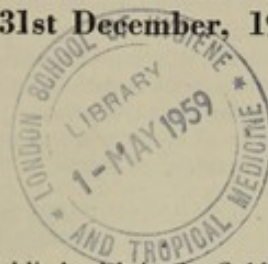
Details of the vital statistics of the Gold Coast will be found in Chapter 2. So long as local registration arrangements remain limited in scope and interpretation, the assessment of the state of the public health cannot be undertaken accurately. Whilst, in the Gold Coast, provision for the registration of births and deaths has been included in the duties of Local Authorities under the Local Government Ordinance 1951, no adequate organisation exists for the purpose of collecting and collating the results of such registration.

A census remains the basis of all vital statistics in every country. The last local census was undertaken in 1948. The changing pattern of the population arising out of the rapid development of the urban areas in the Gold Coast, as also the undoubtedly large influx of persons from outside the boundaries of the country, suggests that another census may be required in the near future.

In Chapter 3 which deals with the general incidence throughout the country of a number of important diseases, both epidemic and endemic, it has been found possible for the first time to record the local incidence of certain diseases in an Annual report. This follows adoption of the International Classification of Morbidity and Mortality which was put into general use in 1953; an arrangement which provides information not only valuable of itself but likely still further to stimulate medical research in the field.

Information concerning the scope and extent of the hospital services is contained in Chapter 4, which also details the various extensions to these services which were undertaken in 1953, and points to directions in which further extensions are necessary.

Chapter 5 deals with the state of the public health generally, with special reference to the environmental health services and preventive medicine. The situation revealed, whilst giving little grounds for satisfaction, points to the more obvious of the improvements which should be undertaken. Lack of an organised school medical service resulting from shortage of staff is an important deficiency at a time when considerable expansion of the school population has become a cardinal feature of Government's educational policy.



Chapters 6, 7, 8, and 9 deal with the work of the specialised services of the Ministry of Health. The Medical Field Units continue to expand and very valuable work is carried out by this organisation; its medical staff carries on research work of great importance to the control of epidemic and endemic diseases in the countryside. The Laboratory Services are intimately connected with the hospital services but medical staff therein undertake much detailed research into pathological conditions requiring laboratory investigation. The Mental Health service has developed considerably during the year and, although conditions for the treatment of mentally ill persons are not yet satisfactory, 1953 has seen the drawing up of plans for a general improvement in the facilities offered for their treatment. The Leprosy Service continued to expand during the year, offering improved facilities both at leprosaria and at numerous out-patient clinics which are being opened throughout the country for the treatment of lepers.

Chapter 10 contains a short report on the X-Ray Services of the Gold Coast. It enumerates the work carried out during the year and indicates the steady expansion which is occurring in the provision of this important form of diagnostic aid.

In Chapter 11 will be found an account of the Maternity and Child Welfare Services of the Gold Coast. The Maternity services continue to expand satisfactorily, but Child Welfare progress was hampered by a shortage of Health Visitors. Whilst it is accepted as desirable that the health and welfare of children should be catered for from infancy up to adult life, any intention to provide such a service is limited at present by the paucity of staff available, whether nurses or health visitors.

Chapter 12 deals with the training of auxiliary medical personnel, and indicates the progress being made in all branches with the exception of nursing, where the training of female nurses is encountering difficulties arising from the shortage of Sister Tutors, lack of suitable recruits, lack of accommodation both for trainees and trained staff, and a high incidence of maternity leave. Measures have been put in hand with a view to removing as many of these difficulties as possible, but the shortage of Sister Tutors remains a very serious handicap to the training programme.

MEDICAL AND SENIOR NURSING STAFF

During 1953 there was an improvement in recruitment of medical staff, 6 medical officers being appointed on contract, and 6 to the pensionable establishment. The latter were mainly returned Gold Coast scholarship holders. In addition, 2 medical officers were appointed on transfer from other territories, one holding a specialised qualification in orthopaedics. Two specialists were appointed on transfer from other territories, one in Anaesthetics, and one in Ophthalmology. The medical strength of the Ministry was thus increased by a total of 16 new appointments. To offset this number, 5 medical officers (including a medical and a surgical specialist) retired on pension during the year. The net gain to the medical service was therefore eleven.

The position in respect of Senior Nursing Staff was an improvement on previous years, 4 expatriate Departmental Sisters being recruited on contract and one being appointed to the local pensionable service. A Hospital Matron was appointed on transfer from another territory, and one expatriate Superintendent of Health Visitors was appointed to the local service. One Midwifery Teacher was also appointed from overseas on contract. The strength of the senior nursing staff was thus increased by 8. To offset this, one Departmental Sister retired on pension during the year. The net gain therefore to the Senior Nursing Service was a filling of seven vacant posts.

IMPROVEMENT IN FACILITIES

Additional measures taken during the year to improve the facilities offered to patients and medical staff were:—

(a) *The re-opening of the Limb Fitting Centre*

The provision of new artificial limbs and the repairing of those already in use is a major factor in the rehabilitation of persons who have had a limb amputated. This centre, which was re-opened in 1953, maintains a high standard of work and is of the greatest value to surgeons in the country who are undertaking orthopaedic work; more particularly since a great part of the surgery carried out in the Gold Coast is traumatic in origin.

(b) *Transfer of the Central Medical Stores from Accra to Takoradi*

Bulk medical stores are now being unloaded and stored at Takoradi. Goods can be promptly examined on arrival, and the issue of supplies to hospitals will, it is hoped, be much speeded up in future.

I have the honour to be,

Sir,

Your obedient Servant,

L. G. EDDEY
Chief Medical Officer,
Ministry of Health.

CHAPTER II

VITAL STATISTICS

(a) GENERAL

The population of the Gold Coast enumerated in the 1948 census is given in Table I of Appendix "A". The estimated population of the Gold Coast at the middle of 1953 was 4,478,000. There is no precise information available as to the number of males and females who make up this population, but on the basis of the numbers of males and females who made up the population enumerated in the 1948 census (see Table II of Appendix "A") the numbers of each sex may be estimated as below:—

1953—	<i>Estimated sex distribution of the Gold Coast population</i>	
	Males	2,264,529
	Females	2,213,471

There are a large number of immigrant Africans from other West African territories who form a floating population which is variable as to numbers. These include many labourers from adjacent French West African territories who enter the Gold Coast in the dry season for the purpose of securing seasonal employment; some return home just before the onset of the rains in order to carry on farming in their own tribal lands. The expatriate population of the Gold Coast consists mainly of Europeans, Syrians, Lebanese and Indians. Table III of Appendix "A" gives the estimated non-African population at the middle of 1953, exclusive of Indians and Pakistanis, of whom there are a substantial number in the Gold Coast.

From the 1948 census which enumerated a population of 4,111,680 it was ascertained that 174,067 persons, representing 4.23 per cent of the population at that time, were born outside the Gold Coast. (See Table IV of Appendix "A").

Figures for the year under review are not available, but it is thought that immigration into the Gold Coast will have been increased considerably by reason of the number of major development projects being undertaken under the auspices of the Gold Coast Government.

(b) THE EUROPEAN POPULATION

Table V of Appendix "A" records by occupation the numbers of non-official Europeans resident in the Gold Coast since 1946. It will be noted that there has been a general and continuing increase in the numbers of immigrant Europeans.

Table VI of Appendix "A" shows the general European population since 1946. The numbers increased from 4,048 in 1946 to 7,169 in 1953, there being an increase in official Europeans from 905 in 1946 to 1,691 in 1953, and in non-official Europeans from 3,143 in 1946 to 5,478 in 1953. The figures given in Table V for women and children also include the wives, children and other relations of Government officials who were resident in the Gold Coast.

REGISTRATION OF BIRTHS AND DEATHS

Registration of Births and Deaths is carried out in 36 Registration Areas in the Gold Coast. With the exception of Bekwai and Konongo in Ashanti there have been no additional Registration Areas gazetted since 1926. Table VII of Appendix "A" shows the number of areas in each Region, together with the population in relation to the 1948 census population of each region. Morbidity and Mortality rates compiled from the over-all figures derived from these registration areas are inaccurate as national figures, being heavily biased by the fact that out of the 36 registration areas, 23 are in the East and West Regions. The Northern Territories, with a population of 866,295 (exclusive of Northern Togoland) contains only 4 registration areas; these cover a population of 32,700. There is only one registration area in Togoland.

Table VII of Appendix "A" also gives a summary of the numbers of births and deaths in the population, indigenous and non-indigenous, within the 36 Registration areas. In the case of Ashanti and the Northern Territories, the sex distribution is given; this is not available for the East and West Regions. It will be noted that the male figures exceed those for females whether in respect of births or deaths. The over-all figures for births and deaths in the 36 registration areas are given in Table VIII of Appendix "A", which compares the 1952 and 1953 figures. The number of births increased from 15,878 in 1952 to 18,181 in 1953, the increase being made up of 1,136 African male births and 1,187 African female births. There was a decrease of 20 in non-African births during the year. Deaths registered during the year numbered 10,720 as compared with 10,780 in 1952, there being 89 fewer African male deaths but an increase of 16 female African deaths. Non-African deaths increased from 31 in 1952 to 44 in 1953, the increase being made up of 11 males and 2 females.

Table IX of Appendix "A" gives a summary of birth, still-birth and death rates, including Infant mortality rates from 1949. These give birth rates per 1,000 population of all registration areas as 35.3 in 1953 and 30.0 in 1952, whilst the still-birth rate was 73 per 1,000 total live and still-births compared with 78 in 1952. The death rates were 20.8 per 1,000 population of all registration areas in 1953 and 20.3 in 1952. The infantile mortality rate was 113 per 1,000 live births in 1953 as compared with 125 in 1952. A summary of birth, still-birth and death rate for 1953 in the registration areas of Ashanti and the Northern Territories respectively, will be found in Table X of Appendix "A".

Table XI of Appendix "A" gives the age and sex distribution of registered Deaths from all causes in the 36 registration areas of the Gold Coast compared with similar figures for 1952. There is no substantial change to record. The majority of deaths occur within the first year of life, or in the age category 25–44 years.

INVALIDINGS OF SPECIAL GROUPS OF POPULATION

(a) European officials.

The number of European officials, together with the numbers of invalidings and deaths in this group is summarised for the period 1946-1953 in Table XII of Appendix "A".

The invaliding rates are shewn below for the years 1946-1953:—

INVALIDINGS PER 1,000 EUROPEAN OFFICIALS

1946	1947	1948	1949	1950	1951	1952	1953
37.5	30.0	19.0	19.0	17.0	11.0	16.0	10.0

The decline in numbers since 1946 probably reflects steady recovery from the strain of conditions of service which were inevitably governed by the requirements of military and naval strategy during the preceeding war years.

The classified causes of invalidings of European officials are summarised for the period 1949-1953 in Table XIII of Appendix "A" and detailed in full for 1953 in Table XIV of Appendix "A". Over the five-year period the chief cause of invaliding has been psycho-neurotic illness (32 cases), followed by diseases of the digestive system (5 cases) with malaria (4 cases) and genito-urinary diseases (4 cases) coming next in order. Accidents and injuries accounted, together, for 7 cases. In 1953, psychoneurotic illness (5 cases) was the main cause of invalidings, followed by general debility (2 cases).

(b) Non-official Europeans.

The invalidings of non-official Europeans is summarised for the period 1946-1953 in Table XV of Appendix "A". There was a steady increase in the number of European non-officials entering the Gold Coast from 1946 to 1950, the numbers thereafter declining for two years, but rising to a new peak in 1953. Increases from the 1952 figures were mainly in respect of new missionaries, women, and children entering the country. Table V of Appendix "A" details the numbers of European non-officials in the Gold Coast from 1946-1953. The invaliding rates of non-official Europeans are summarised below:—

INVALIDING RATES PER 1,000 NON-OFFICIAL EUROPEANS

1946	1947	1948	1949	1950	1951	1952	1953
17.8	11.3	7.6	5.1	3.7	4.7	2.9	0.7

The decline in numbers since 1946 is very satisfactory and would seem to reflect the improved conditions now obtaining for the European staff of most commercial concerns. During the period 1946-1953 the majority of persons invalided belonged to the mining community (105 cases) followed by merchants (60 cases) and women non-officials, (34 cases). 26 women were invalided during 1946, but since that year the number has never exceeded 3. No children have been reported as invalided during the whole of the period under review.

Table XVI of Appendix "A" gives the classified causes of invalidings of non-official Europeans for the period 1949-1953. Over this period, the chief causes of invalidings were in order of importance, Tuberculosis of the Respiratory system (11 cases), diseases of the digestive system (11 cases), Psychotic and Psychoneurotic illness (8 cases) along with heart diseases (6 cases). Accidents and injuries accounted for 11 cases. In 1953 only 4 cases were reported as invalided, and these are detailed in Table XVII of Appendix "A".

(c) Invalidings of African Officials.

A summary showing the numbers of African officials on the pensionable establishment of the Gold Coast Government for the period 1946-1953 is shown in Table XVIII of Appendix "A". The number has increased from 6,286 in 1946 to 11,597 in 1953, an increase of 5,311. The increase in 1953 over the preceding year was 85. The greatest increase took place in 1952, when the figure was 11,512 as opposed to 8,730 in 1951, an increase of 2,782 in one year.

The invaliding rates for the period 1946-1953 are shewn below:—

INVALIDING RATES PER 1,000 AFRICAN OFFICIALS

1946	1947	1948	1949	1950	1951	1952	1953
7.2	6.15	5.2	6.0	6.35	4.35	4.7	5.7

The classified causes of invalidings of African officials between 1946 and 1953 are summarised in Table XIX of Appendix "A". The principal causes over this period were:—

Respiratory tuberculosis	..	..	..	..	..	..	..	49 cases
Hypertension	..	..	..	..	..	..	..	39 cases
Psychotic and psychoneurotic illness	..	..	..	..	..	..	..	36 cases
Diseases and conditions of the eye	..	..	..	..	..	..	..	31 cases
Arteriosclerotic and degenerative heart disease	..	..	..	..	..	..	..	17 cases
Accidents and injuries	..	..	..	..	..	..	..	7 cases

Details of the causes of invalidings of African officials in 1953 are contained in Table XX of Appendix "A".

CAUSES OF DEATH

Table XXI of Appendix "A" lists the classified principal causes of mortality in Gold Coast hospitals in 1953 in order of importance. Broncho-pneumonia was the main cause of death (143 deaths) followed by Respiratory tuberculosis (132 deaths). There were 189 deaths from this disease in 1952 and 149 in 1951.

Tetanus was the third major cause, with 97 deaths, out of a total of 281 cases treated. Whilst deaths from malaria occur sixth in order of importance with 74 cases, it will be seen later to have been a most important cause of morbidity.

Motor vehicle accidents accounted for nearly 50 per cent of all deaths from accidental causes, there being 153 deaths in a total number of 342 accident cases treated.

Table XXII gives the number of deaths per 1,000 registered deaths for Respiratory diseases, Intestinal Diseases and Malaria over the period 1949-1953. It also gives the number of deaths registered as due to starvation. Since these rates reflect the position amongst a proportion of the population only, there is very substantial fluctuation in the figures obtained.

DEATHS IN SPECIAL GROUPS OF THE POPULATION

(a) Causes of deaths in European officials.

Table XII of Appendix "A" gives the number of deaths of European officials for the period 1946 to 1953 and Table XXIII of Appendix "A" gives the classified causes of deaths for the year 1949 to 1953. There is no specially significant cause in this group. Accidents and injuries accounted for 7 deaths out of a total of 16 deaths occurring during the 5-year period and heart disease accounted for a further 3 deaths. Causes for 1953 are detailed in Table XXIV of Appendix "A".

(b) Causes of deaths of Non-official Europeans.

Table XXV of Appendix "A" gives the numbers of deaths of non-official Europeans occurring in the period 1946-1953. During this 8-year period there was a total of 99 deaths of non-officials, of whom 47 were merchants or employees of merchants, 30 were members of the Mining community, 4 were male missionaries, four were women (including one missionary) and 14 were children, giving death rates per 100 deaths of 47.47 for merchants, 30.30 for members of the mining community, and 14.14 for children. The classified causes of deaths of non-official Europeans 1949-1953 are set out in Table XXVI of Appendix "A". In order of importance, main causes were: Malaria—all forms—(11 deaths), Respiratory diseases, excluding tuberculosis (7 deaths), diseases of the Heart and Arteries (7 deaths). Accidents and injuries accounted for 17 deaths, of which one was suicide, and three were fractures of the spine or pelvis. There was one death from fracture of the skull and two from poisoning. Causes for 1953 are given in Table XXVII of Appendix "A".

(c) Causes of death of African officials.

Table XVIII of Appendix "A" gives the numbers of African official deaths for the period 1946-1953, and Table XXVIII gives the classified causes of death, for 1949-1953, whilst Table XXIX gives the diagnosis in each case in 1953.

The most important cause of death amongst African officials in the 5-year period, 1949-1953, was Tuberculosis of the Respiratory system (15 deaths), followed by Vascular lesions affecting the Central Nervous System (11 deaths), diseases of the Respiratory System (10 deaths), Typhoid and Paratyphoid Fevers (9 deaths) Tetanus accounted for six deaths, and Malaria for four deaths. Hypertension accounted for five deaths. Accidents and injuries were responsible for 17 deaths, and there were two deaths resulting from the complications of pregnancy, childbirth and the puerperium.

MATERNAL MORTALITY RATE

Table XXX of Appendix "A" gives the Maternal Mortality Rate in the 36 Registration areas for the years 1949 to 1953. There is little evidence of any progressive improvement in the over-all rate which, in Table XXXI is compared with the Regional rates for Ashanti and the Northern Territories. The over-all rate is 19.0 maternal deaths per 1,000 live births, but in the Ashanti registration areas the rate is 28.0 and in the Northern Territories 41.0. All these rates must be accepted with reserve and in the light of comments on the present system of registration of births and deaths made elsewhere in this chapter.

INFANT AND CHILD MORTALITY

The position is summarised for the period 1945 to 1953 as below:—

INFANTILE MORTALITY RATE

1945	1946	1947	1948	1949	1950	1951	1952	1953
119	110	117	121	125	122	117	125	113

These figures may be compared with those obtaining nearly 20 years earlier, which are as follows:—

INFANTILE MORTALITY RATE

1927	1928	1929	1930	1931	1932
121	137	113	116	114	102

Registration in this matter is still limited in scope and extent and, however accurate the returns from certain main centres, indifferent registration elsewhere makes it impossible to assess accurately an infantile mortality rate for the whole country.

NOTIFIABLE DISEASES

Table XXXII of Appendix "A" records the incidence of certain notifiable diseases during the years from 1949 to 1953. These diseases are discussed in greater detail in the next Chapter of this Report. There were no cases of Plague, Cholera, Louse-borne Typhus, Louse-borne Relapsing Fever or Yellow Fever reported during the year. The incidence of Cerebro-spinal Meningitis continued to decline, 281 cases (57 deaths) being notified as compared with 473 cases (127 deaths) in 1952.

Smallpox occurred both in sporadic form and localised outbreaks, 282 cases (43 deaths) being notified in 1953 compared with 695 cases (83 deaths) in 1952.

Notification of these diseases was unsatisfactory during 1953, numbers of cases returned being in most instances far less than those recorded at the end of the year as having been treated.

MORBIDITY

All references in this section are to in-patient cases only. The 12 principal causes of sickness in Gold Coast Hospitals are enumerated in Table XXXIII of Appendix "A".

The chief cause of sickness was malaria, with 5,486 cases as compared with 1952 when there were 6,267 cases treated in hospitals. This represents a decline of 781 cases treated. Chronic Ulcer is a major form of disability in the Gold Coast and in 1953 caused a total of 4,391 persons to require in-patient treatment for this condition. Another major cause of disability is hernia. Of the 2,037 cases receiving in-patient hernia treatment, the majority were persons requiring surgical repair, a considerable proportion being admitted with strangulated hernias requiring urgent surgical intervention. The more important of these conditions are discussed in the succeeding chapters of this report.

The morbidity arising from accidental and violent causes is enumerated in Section (b) of Table XXXIII of Appendix "A". Motor vehicle accidents with 1,793 cases treated, were the main cause of hospitalisation arising from accidental causes, whilst other transport accidents accounted for 922 cases, giving a total of 2,715 cases treated in hospitals as a result of transport accidents.

In the four hospitals for higher social grades, a main feature was the number of infections and infestations of the Gastro-intestinal tract which gave rise to morbidity.

Psychoneurosis was an important cause of morbidity, but since this condition was not specifically recorded in the previous Returns, no comparison with past experience can be made.

Asthma accounted for a substantial number of cases (26).

CHAPTER III

All Tables referred to in this Chapter will be found in Appendix "B"

A—TUBERCULOSIS

(a) *Respiratory Tuberculosis.*

Cases treated in all institutions and units of the Medical Services during the year numbered 2,271, including 715 in-patients. 132 deaths were reported as against 189 in the previous year. Table XXXIV gives the number of deaths and the proportional mortality rate from respiratory tuberculosis over the period 1946 to 1953 as reported from the Country's 36 registration areas. These rates show a steady decline in mortality from 101·0 per 1,000 registered deaths in 1946 to 63·0 in 1953.

Table XXXV provides similar information in respect of hospitals; this table was produced as a check on the proportional mortality rates from the registration areas. It will be observed that the general trend of the proportional mortality rate is markedly downward, although there was an increase in the number of cases admitted for treatment. These figures do not provide an accurate indication of the real incidence of Respiratory Tuberculosis, though they do suggest that the use of antibiotic substances as well as social factors are having a beneficial effect on the disease. Social factors include the general prosperity of the country, with its raising of living standards and higher wage levels. It must be remembered however that there is an insufficiency of beds and staff in the majority of hospitals to permit general admission of Tuberculosis cases, apart from which such individuals as are admitted tend to be reluctant to stay in hospital for the duration of treatment, and often take their own discharge. These factors are necessarily reflected in the mortality rates for this disease. As regards the actual incidence of respiratory tuberculosis, it must be admitted that the figures provided by certain hospitals during the year under review are made unreliable by the fact that they appear to have first entered their in-patients as out-patients in respect of the same illness.

Table XXXVI gives the Regional distribution of cases of respiratory tuberculosis by sex, from 1951 to 1953. In the Western Region which contains the Mining areas, the apparent decline in numbers was not real but was due to the omission of incomplete hospital returns. The figures for the Northern Territories were weighted by the absence of any return from Navrongo hospital for 1952.

Table XXXVII shows the country-wide distribution of hospital cases by sex.

(b) *Non-Respiratory Tuberculosis*

449 cases of non-respiratory tuberculosis were diagnosed in the various institutions of the Medical Services; of these 244 received in-patient treatment. 30 deaths were reported as compared with 68 in 1952. The incidence of non-respiratory tuberculosis is shown on a regional basis in Table XXXVIII. Male and female cases both show a steady increase. Although the Western Region shows the highest number of cases in 1951 and 1953, the lack of a number of hospital returns from that region in 1953, makes it not really possible to make proper comparisons.

Table XXXIX gives the over-all distribution of non-respiratory tuberculosis by sex incidence for the three years 1951 to 1953.

Table XL classifies those cases which have been diagnosed in a number of Gold Coast hospitals. Apart from those placed in a group "all other forms", Tuberculosis of the bones and joints provided the majority of cases (102) with Tuberculosis of the intestines, peritoneum and mesenteric glands coming second in importance (65 cases). There was an increase in the number of men suffering from Tuberculosis of the Bones and Joints, and in the number of women suffering from Tuberculosis of the Intestines, Peritoneum, and Mesenteric Glands.

VENEREAL DISEASES

(a) *Syphilis*

110 in-patients were treated for Syphilis during 1953, only three deaths being reported, compared with 15 in 1952. 1,748 out-patients received treatment as compared with 1,885 in 1952.

With the introduction of the revised Return "A" it has become possible to classify more precisely diseases which previously had been grouped together under one heading.

(i) *Congenital Syphilis.*—During the year congenital Syphilis was diagnosed at seven hospitals only, and the table below gives details of numbers of cases seen:—

Hospital	Cases
Agogo	4
Sunyani	1
Wenchi	11
Bolgatanga	2
Bawku	22
Yendi	26
Cape Coast	4

(ii) *Early Syphilis.*—A considerable number of cases of early syphilis are being reported from various centres in the Gold Coast, more particularly in the Eastern and Western Regions of the Colony. Table XLI shews that a total of 166 cases were reported, of which 34 were diagnosed at Koforidua, 42 at Kumasi, 15 at Dunkwa and 13 each at Nsawam and Winneba.

(iii) *Late Syphilis*.—Table XLI sets out the number of cases and the centres at which treatment was carried out.

(iv) *All other Syphilis*.—1,801 cases were classified in this group.

(b) *Gonorrhoea*

The incidence of Gonococcal infections continues to rise. In 1953 there were 858 in-patients (6 deaths) treated, and 16,436 out-patients, as compared with 1,418 in-patients and 11,569 out-patients in 1952. The following table indicates the relative numbers of each sex reporting for treatment over the period 1946–1953:—

Year	Males seeking treatment	Females seeking treatment	Total cases
1946	9,111	1,793	10,904
1947	12,082	2,957	15,039
1948	15,800	4,237	19,237
1949	14,390	4,180	18,570
1950	13,137	4,328	17,465
1951	11,629	4,043	15,672
1952	10,235	2,713	12,948
1953	14,639	2,637	17,276

The immediate post-war incidence disclosed a steep rise in the number of cases both male and female attending for treatment. After 1948 the incidence of males seeking treatment declined rapidly, probably as a result of illicit treatment with the Sulphonamide group of drugs or with antibiotics. It is of interest that until 1952 the incidence of women seeking advice and treatment had remained relatively static for four years, whilst the male attendances had steeply fallen away. In 1953 the incidence of females seeking treatment dropped by 2,330 and the incidence of infected males attending for treatment showed a rise of 4,404 between 1953 and 1952.

It is of interest to note from the foregoing that the recent statistics of Gonorrhoea in the Gold Coast are following the same pattern as in the United Kingdom; this is important because the factors creating this pattern may well be identical. There was a continued fall in the clinic incidence of gonorrhoea in Britain until 1952, when 15,510 men and 3,585 women were diagnosed as against 14,975 men and 3,089 women in 1951. In the Gold Coast in 1953, 14,639 men were diagnosed as compared with 10,235 in 1952. The Chief Medical Officer, Ministry of Health for Great Britain, in his annual report for 1952 sounds a note of warning against the possibility of a commencing strain-resistance to penicillin.

It is not possible to assess the significance of the sudden decline in the numbers of women seeking treatment for gonorrhoea. The decline in numbers from 4,043 in 1951 to 2,713 in 1952 and the further decline to 2,637 may play a considerable part in the sudden increase in male infections. The rate of male to female patients diagnosed continues to be as completely unsatisfactory as it has been for many years. The asymptomatic female carrier constitutes a very large reservoir of infection.

In the Gold Coast it is thought probable that the exposure rate is high and that the incidence of re-infection is also high, since rapid urbanisation of large sections of the population is proceeding without particular preparation for the change from rural to urban life. Old familiar social standards are dropped in the new urban surroundings, but tend to be replaced by nothing better until the new urban community has settled down and developed its own particular social standards. In such conditions, prostitution is greatly increased and there is danger of the wholesale spread of venereal diseases by the asymptomatic female carrier. The social implications of this disease in the Gold Coast need serious study.

(c) *Other Venereal Diseases*

In 1953 177 cases received in-patient treatment as compared with 503 cases in 1952. These were made up of 124 males and 53 females in 1953, as compared with 422 males and 81 females in 1952.

There were 5 male deaths in 1953 as compared with 4 male and 2 female deaths in 1952. Out-patients numbered 1,340 (1,148 males and 192 females) in 1953 as compared with 4,730 (3,337 males and 1,393 females) in 1952.

The cause of the steep decline in attendance between 1952 and 1953 (320 in-patients and 3,390 out-patients) is not known.

THE TYPHOID AND PARATYPHOID FEVERS

333 cases of Typhoid (26 deaths) and 69 cases of Paratyphoid (5 deaths) were treated as in-patients during 1953, compared with 335 cases of Typhoid (37 deaths) and 19 cases of Paratyphoid (no deaths) in 1952. The position in respect of the various regions during the past 3 years is set out in the following table, which also includes cases seen at out-patient clinics only:—

Region	1951	1952	1953
Ashanti	30	40	34
Western Region	132	184	141
Eastern Region	91	71	58
Trans-Volta/Togoland	46	35	41
Northern Territories	5	13	51
Accra	101	90	111
Total	405	433	436

The following hospital centres provide the highest case incidence of these infections:—

Centre								1951	1952	1953
1. Accra	..	..	..	..	..	..	..	101	90	110
2. Sekondi	..	..	..	..	..	..	..	28	66	62
3. Winneba	..	..	..	..	..	..	..	32	38	27
4. Cape Coast	..	..	..	..	..	..	..	21	26	22
5. Akuse	..	..	..	..	..	..	..	12	15	32
6. Ho	..	..	..	..	..	..	..	10	14	24

The incidence of Typhoid and Paratyphoid is high and can give no grounds for complacency.

The in-patient figures of cases and deaths for the past 8 years are as follows:—

Year	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	154	210	260	333	315	423	354	402
Number of deaths	24	43	32	49	39	56	37	31

Since 1946, the increase in numbers of cases has been nearly double whilst the mortality rate continues on a high level. Little is known of the mode of spread of the Enteric Fevers in this country, but it is probable that there are many "carriers" amongst the population. It is a disease of faulty sanitation and poor personal hygiene in the local setting rather than a water-borne infection as in Europe.

THE DYSENTERIES

(a) Bacillary Dysentery

507 cases were treated as in-patients during 1953, with 27 deaths; 966 out-patient cases were also treated at hospitals. This compares with 481 in-patients (15 deaths) and 1,059 out-patients treated in 1952. The following table gives the Regional distribution by sex for all institutions in 1953:—

REGION								1953	
								Males	Females
Accra	..	..	..	..	..	..	..	83	70
Trans-Volta/Togoland	..	..	..	..	..	..	..	38	31
Eastern Region	..	..	..	..	..	..	..	98	71
Western Region	..	..	..	..	..	..	..	285	151
Ashanti	..	..	..	..	..	..	..	222	185
Northern Territories	..	..	..	..	..	..	..	897	588

The principal centres of infection in 1953 are given in the following table, together with the numbers of cases diagnosed in 1951 and 1952:—

Centre	1951	1952	1953
Accra	93	67	153
Berekum	New Hospital		61
Bolgatanga	New Hospital		68
Kumasi (Child Welfare Clinic only)	—	23	265
Navrongo	31	—	46
Oda	30	31	55
Prestea	89	186	57

(b) Amoebic Dysentery

This group includes all forms of Amoebiasis. 531 in-patient cases (24 deaths) and 820 out-patient cases were treated at hospitals and clinics, compared with 604 in-patient cases (20 deaths) and 714 out-patient cases in 1952.

The Regional distribution of this disease on a sex basis for hospitals only for the period 1951–1953 is shown in the following tables:—

REGION	1951		1952		1953	
	Males	Females	Males	Females	Males	Females
Accra	28	10	31	14	31	39
Trans-Volta/Togoland	6	3	32	18	42	42
Eastern Region	27	11	96	77	85	82
Western Region	416	222	351	180	257	112
Northern Territories	136	100	174	131	209	146
Ashanti	80	47	98	62	148	120

The principal centres of infection in 1953 are given in the following table, together with the number of cases reported from each centre in 1951 and 1952:—

Centre	1951	1952	1953
Agogo	40	12	128
Berekum	New Hospital		61
Bolgatanga	New Hospital	18	102
Ho	3	9	45
Navrongo	54	—	93
Oda	3	42	83
Sekondi	146	108	217
Takrowase	New Hospital	11	42
Tamale	14	25	66
Tarkwa	17	17	56
Wa	21	35	62
Wenchi	New Hospital	1	39

(c) *Unclassified Dysentery.*

779 cases (61 deaths) received in-patient treatment, and 9,141 cases received out-patient treatment in 1953. This compares with 251 cases (30 deaths) receiving in-patient treatment, and 29,679 receiving out-patient treatment in 1952. The following table illustrates the Regional incidence at hospitals only, by sex distribution:—

Region	1951		1952		1953	
	Males	Females	Males	Females	Males	Females
Accra	101	66	127	99	50	73
Trans-Volta/Togoland ..	31	25	56	37	17	17
Eastern Region	113	60	419	347	609	431
Western Region	523	288	241	31	707	127
Ashanti	1,245	921	1,297	999	1,300	967
Northern Territories ..	135	88	307	235	734	759
Total	2,148	1,360	2,447	1,747	3,417	2,376

The heaviest centres of infection in 1953 are detailed below, together with the number of cases treated in them in 1951 and 1952:—

Centre	1951	1952	1953
Accra	167	226	123
Akuse	3	57	154
Bawku	52	81	366
Cape Coast	262	185	143
Jirapa	—	169	799
Kibi	17	25	94
Kumasi	1,709	1,758	2,196
Nsawam	74	527	650
Nsuta	3	1	340
Sekondi	93	25	149
Tarkwa	2	—	97

The incidence of Dysentery of all kinds remained very high in 1953. The following table sets out the number of cases with deaths from all forms of Dysentery treated as in-patients during the past 8 years:—

Year	BACILLARY DYSENTERY		AMOEBIC DYSENTERY		UNCLASSIFIED DYSENTERY	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
1946	141	7	394	31	77	14
1947	367	17	463	32	130	5
1948	376	20	462	18	217	12
1949	576	16	530	26	187	6
1950	571	31	565	47	178	9
1951	612	29	680	30	493	10
1952	481	15	604	20	251	30
1953	507	27	531	24	779	61

These again are diseases of faulty sanitation and poor standards of personal hygiene and the generally rising incidence reflects the need in the larger centres for the provision of modern systems of sewage disposal.

WHOOPIING COUGH

In Great Britain this is the most serious and fatal of the infectious diseases of infancy with the exception of infantile gastro-enteritis and pneumonia; it has sequelae which may involve the respiratory and nervous systems and result in long periods of invalidism. The main pulmonary sequelae are broncho-pneumonia and bronchiectasis.

In the Gold Coast, a great number of cases occur each year, but little study has been made of the disease and its sequelae. The following table shows the Regional incidence of cases reported from hospitals during the years 1951 to 1953:—

Region	1951	1952	1953
Accra	410	500	1,390
Trans-Volta/Togoland ..	174	260	135
Eastern Region	165	366	325
Western Region	368	286	496
Ashanti	213	314	1,047
Northern Territories ..	272	281	284
Total ..	1,602	2,007	3,677

In the following table is set out the number of cases from all institutions reported each year since 1946:—

Year	1946	1947	1948	1949	1950	1951	1952	1953
No. of cases	1,060	2,138	2,748	1,791	3,941	2,331	22,463	5,568

MENINGOCOCCAL INFECTIONS

CEREBRO-SPINAL MENINGITIS

During 1953 a total of 281 cases were treated, 117 cases (57 deaths) receiving in-patient treatment in hospitals. This compares with 317 cases treated in 1952 of which 182 cases (80 deaths) received in-patient treatment in hospitals. No information is available as to whether the diagnosis in each case of cerebro-spinal meningitis was confirmed by lumbar puncture, and the possibility of some of these cases having been pneumococcal or influenzal cannot be excluded, more particularly having regard to the high mortality. Table XLV sets out the epidemic cycle of Cerebro-spinal Meningitis since 1906. It will be observed that the disease reached epidemic proportions in 1906–1908, 1919–1920, and 1944–1945 with recrudescences in 1947–1949, and 1951. Major epidemics occurred in 1945 (10,368 cases) and 1948 (11,002 cases). Table XLVI sets out the notifications received in 1953 by Districts in the Northern Territories and Table XLVII sets out the main centres of infection together with the number of cases occurring in them. It will be observed that the majority of cases occurred in and around Navrongo District (Builsa, Kassena-Nankanni, Frafra) with a total of 60 cases, Western Dagomba (55 cases) and Western Gonja (45 cases). The small town of Savelugu, 15 miles north of Tamale, produced the greatest concentration of cases (33). Table XLVIII details the total number of cases and deaths notified, by age and sex incidence, and Table XLIX presents the same information but limited to Ashanti and the Colony. Allowing for errors in assessment of age there appears to be little difference between the age groups attacked in the two parts of the country.

Table L sets out the cases occurring each month during the year in 1953, and compares them with the notifications from Ashanti and the Colony. Table LI sets out the total monthly rainfall recorded at meteorological stations in the Northern Territories. It will be observed that there are marked variations in rainfall within what is a comparatively small area, probably due to the physical conformations of the countryside. The majority of the cases occurring in Western Dagomba were in villages along the main road from Tamale to Bolgatanga, and in Eastern Dagomba, along the roads from Tamale to Yendi and from Yendi North towards Gambaga.

TETANUS

281 cases (97 deaths) received in-patient treatment in 1953. This compares with 212 cases (78 deaths) in 1952, and 262 cases (82 deaths) in 1951.

The incidence of this disease, which carried a high mortality rate, remains at an unsatisfactory high level; until general standards of sanitation are improved, there seems little hope of reducing the incidence.

ACUTE POLIOMYELITIS

Fourteen cases (5 deaths) of Acute Poliomyelitis received in-patient treatment during 1953. This compares with 15 cases (no deaths) treated in 1952, and nine cases (no deaths) treated in 1951.

Prior to the adoption of the international classification of causes of Morbidity and Mortality, there was no method of classifying the late effects of this disease. Now these are grouped together with the late effects of Acute Infectious Encephalitis. Under the heading of Late effects, 16 cases (5 deaths) were treated as in-patients. 6 cases of Acute Poliomyelitis were reported from Kibi, 6 from Sekondi, 4 from the Ridge Hospital, Accra, 2 from the Gold Coast Hospital, Accra, 2 from Winneba and 2 from Agogo.

SMALLPOX

865 cases (14 deaths) were treated in 1953 as compared with 695 cases (85 deaths) treated in 1952 and 474 cases (50 deaths) in 1951. The position during the past 9 years is shewn below:—

	1945	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	7	337	89	349	91	164	474	695	865
Number of deaths	0	1	2	14	6	27	50	83	14

Small epidemics occurred in Southern Togoland and the Western Province in 1952, whilst in Southern Togoland sporadic cases occurred in 1951 but no actual outbreak did develop until 1952. The outbreaks in the Western Region centered about Ahanta Nzima District in 1951 and Tarkwa in 1952.

During 1953 an epidemic occurred in the Axim District, and there were a number of small outbreaks in the Western Region outside the Axim District, in Ashanti, and Trans-Volta/Togoland. Table LII gives details of the incidence by approximate age and sex. Table LIII enumerates the main concentrations of cases, and Table LIV sets out the incidence of cases notified according to Administrative Districts.

VACCINATIONS

During 1953, a total of 475,435 vaccinations were performed. Of these, 248,276 were seen again for inspection, of which 209,044 were successful. In 1952, a total of 1,160,629 vaccinations were performed, of which 263,319 were subsequently seen again for inspection; the results were not recorded.

MEASLES

This disease has not been discussed in previous Annual Reports. Table LV sets out the number of cases which have been treated at all institutions each year since 1946, and the rising incidence of in-patients treated is to be noted. The hospital figures for 1952 give no indication of any major epidemic (1,391 cases). In 1953, the number of cases seen in the specialised Child Welfare Units was:—

Accra, Princess Marie Louise Child Hospital for children	1,010
Kumasi—Child Welfare Clinic	298

In General Hospitals also treating children, the largest number of cases, adults and children, were seen in the centres listed below:—

Jirapa	1,642
Sekondi	304
Akuse	235
Nsawam	222
Bekwai	168
Oda	122
Kibi	121
Tarkwa	119
Dunkwa	102
Gold Coast Hospital, Accra	100
Sunyani	97

The incidence of complications occurring after Measles in this country is not known since the majority of cases are seen only as out-patients.

YELLOW FEVER

No case of Yellow Fever was reported in the Gold Coast in 1953.

INFECTIOUS HEPATITIS

It has not been possible to give consideration to this condition in previous years since the Return "A" formerly in use did not itemise it. In 1953, however, 230 cases (15 deaths) received in-patient treatment, and 317 cases were seen as out-patients.

The Regional distribution of cases seen at hospitals is detailed below:—

Region	Number of Cases
Accra	54
Trans-Volta/Togoland	20
Eastern Region	62
Western Region	83
Ashanti	99
Northern Territories	127
Total	445

The method of spread of infectious hepatitis is still not clear, but most epidemiological investigations in the United Kingdom have suggested that it is normally spread by personal contact. There is some evidence to suggest that the virus may be food or water-borne, and the possibility in the Gold Coast of spread by inadequately sterilised injection needles used by surreptitious practitioners must be borne in mind.

RABIES

Two cases were reported during 1953 with two deaths. It is still not perhaps realised by many Gold Coast persons that a bite from a rabid dog is a fatal injury unless prompt and efficient prophylactic treatment is sought.

MALARIA

The incidence of malaria over the past eight years is shewn in Table LVI. It will be observed that over the years there has been a three-fold increase in the number of cases treated. Malaria is a main cause of morbidity in the Gold Coast; an investigation in the whole field of malarial control is being undertaken at the present time but conclusions have not been reported as yet.

DISEASES OF THE RESPIRATORY SYSTEM

The incidence since 1946 of Pneumonia, Broncho-pneumonia, Bronchitis and, since 1953, Empyema and Lung Abscess and Pleurisy is shown in Table LVII, the number of deaths from each cause being shown separately in Table LVIII of Appendix "B". The age and sex distributions of these diseases are not available. The greatest number of cases of Lobar Pneumonia were reported from the following centres: Berekum (164 cases), Oda (154 cases), Tarkwa (140 cases), Cape Coast (129 cases), Jirapa (95 cases), Keta (74 cases), Gold Coast Hospital, Accra (71 cases), Sekondi (71 cases), Winneba (68 cases), Dunkwa (68 cases), Akuse (61 cases) and Yendi (61 cases).

The greatest number of cases of Broncho-pneumonia were reported from the following centres: Jirapa (348 cases), Berekum (165 cases), Oda (144 cases), Prestea (110 cases), Wa (100 cases), (99 cases), Dunkwa (90 cases), Agogo (84 cases), Cape Coast (68 cases), Winneba (67 cases) and Sekondi (62 cases).

Acute Bronchitis is a major cause of illness, the greatest number of cases being reported from the following centres: Obuasi (3,864 cases), Kumasi General Hospital (3,287 cases), Gold Coast Hospital, Accra (1,688 cases), Tamale (689 cases), Dunkwa (676 cases) and Keta (599 cases).

CHICKEN POX

In 1953, 169 cases (no deaths) received in-patient treatment, and 1,116 cases received out-patient treatment.

This disease has not been reported in previous annual reports. Its importance lies in the fact that it is sometimes very difficult to distinguish between chicken pox and modified smallpox where an individual has been vaccinated.

Table LIX shews the regional distribution of chicken pox cases treated at hospitals (excluding children's hospitals and clinics).

YAWS

During 1953, 128,571 cases received out-patient treatment at all centres, and 179 cases (no deaths) received in-patient treatment in hospitals. This compares with 152,342 cases receiving out-patient treatment at centres and 175 cases (3 deaths) receiving in-patient treatment in hospitals in 1952. Tables LX, LXI and LXII give details of the distribution of yaws cases for the period 1951-1953. Statistics provided by the Medical Field Units are not included in these figures.

A full account of the epidemiology and treatment of yaws in the remoter rural areas will be found in the Chapter on Medical Field Units.

TRYPANOSOMIASIS

558 cases of Trypanosomiasis were diagnosed during 1953. Of these, 68 received in-patient treatment, and there were seven deaths. These figures compare with 839 cases diagnosed in 1952, of which 286 received in-patient treatment and there were 12 deaths.

Statistics of this disease provided by the Medical Field Units are separately recorded.

Table LXIII shows the regional distribution of cases diagnosed in hospitals during 1951, 1952 and 1953.

B. OTHER IMPORTANT DISEASES

BLACKWATER FEVER

In 1953, 25 cases (5 deaths) received in-patient treatment. This compares with 29 cases (9 deaths in 1952. The incidence of cases receiving in-patient treatment during the past eight years is shewn below :—

	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	23	24	27	26	32	31	29	25
Number of deaths	5	5	8	9	7	15	9	5

It will be noted that as a cause of morbidity and mortality, Blackwater Fever has now become a relatively unimportant disease.

SCHISTOSOMIASIS

The total number of cases treated as in-patients in 1953 was 431 (4 deaths). Out-patients treated numbered 3,314. These figures compare with 241 in-patients (3 deaths), and 5,568 out-patients treated in 1952. The comparative figures for the last eight years are given below:—

(a) In-patients

	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	229	344	587	408	616	584	241	431
Number of deaths	16	16	11	2	25	2	3	4

(b) Out-patients

	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	1,864	2,744	4,687	5,004	4,968	4,231	5,568	4,526

With the introduction of the revised International List as a basis for Return "A", it is now possible to separate the figures for *S. Haematobium* and *S. mansoni* infections.

During 1953, 268 cases of *S. haematobium* infections (4 deaths) were treated as in-patients, and 3,150 out-patient cases received treatment. 83 cases of *S. mansoni* infections (no deaths) received in-patient treatment, and 164 cases were treated as out-patients. It is becoming apparent that the disease is far more widely spread throughout the population than was hitherto suspected, though *S. haematobium* infections appear to cause little disability.

Table LXIV gives the regional distribution of this disease over the 3-year period 1950–1953 for hospitals.

ONCHOCERCIASIS

This disease has not been reported on in previous years. The number of cases treated as in-patients in 1953 was 66 (no deaths) and 408 cases were seen and treated as out-patients at hospitals.

Table LXV gives the regional distribution of cases treated at all institutions. It will be observed that the Northern Territories is the main source of cases, the majority being reported from Jirapa (135 cases) and Bolgatanga (126 cases), followed by Wa (93 cases). In Ashanti, cases were reported from Obuasi (28 cases), Agogo (16 cases) and Wenchi (3 cases).

Almost certainly the cases reported from Obuasi were migrant mine labourers and dependents already infected on arrival there. Apart from the fact that Onchocerciasis is a serious crippling disease producing permanent disability due to blindness, where it affects a population the results may be disastrous to the economy of the people by leading to wholesale emigration from an area and abandonment of the land. A research team, consisting of an Ophthalmologist and an Entomologist sent out by the British Empire Society for the Blind continued their researches into the incidence and control of the disease during the year.

Further information on this disease will be found in the chapter of Medical Field Units.

HOOKWORM

In 1953, 681 cases (13 deaths) received in-patient treatment and 3,407 cases were treated as out-patients. These figures compare with 753 cases (8 deaths) treated as in-patients and 3,832 cases treated as out-patients in 1952.

There is little comment of value to make on this disease, which is widespread throughout the country. Its prevalence is due to the poor standards of sanitation. As these improve, the incidence of hookworm may be expected to decline.

TAPE WORM

This infestation has not previously been mentioned in annual reports. Table LXVI shows the Regional Distribution of cases treated at hospitals in 1953.

Of the 25 cases reported from Accra, 20 were treated at the Ridge Hospital.

The total number of in-patients treated was 197 (no deaths) 787 receiving out-patients treatment during 1953 at all institutions.

GUINEAWORM

Guineaworm infestation has not been discussed in previous annual reports. In 1953, 369 cases (no deaths) received in-patient treatment, 2,288 were treated as out-patients.

Table LXVII gives the regional distribution of cases seen at hospitals. Guineaworm is a serious infestation which in repeated, recurrent infections causes great economic hardship to the infected individual who may be temporarily crippled. Where a community is heavily infested the entire local economy may be damaged. Only more widespread provision of pure water supplies and education of the public will eliminate Guineaworm. It must be added that the cases of Guineaworm which report at a hospital, health centre, or dressing station for treatment represent only a limited proportion of the large numbers seen on survey in rural areas. Research into methods of prevention suitable for village water supplies has been undertaken by the Medical Field Units and is separately reported.

MALIGNANT NEOPLASMS

The following table gives the numbers of cases of malignant neoplasms treated as in-patients during the past 8 years:—

	1946	1947	1948	1949	1950	1951	1952	1953
Number of cases	113	92	57	100	128	144	142	707
Number of deaths	19	24	16	27	102	17	14	35

The increase of 565 over the 1952 numbers is due to the introduction of the International Classification, which has for the first time made it possible properly to classify and enumerate the sites of malignant neoplasms; these will be found in Table LXVIII.

The table reflects the fact that 1953 being the first year during which the revised Return "A" was used, some confusion existed respecting the new requirements as to diagnosis: on this account the largest group returned was a general one, the two next largest in order indicating that malignant disease of the uterus and cervix were main causes of morbidity in this group, followed by malignant disease of the stomach. The causes of mortality occur in the same order.

In the United Kingdom in 1953, malignant neoplasm of the lung, followed by malignant disease of the stomach and the breast were the main cause of mortality, in that order, malignant disease of the uterus being the 4th of the causes of mortality attributable to malignant diseases.

HYPERTENSION

Until this year it had not been possible to provide any form of statistics on this condition, since it was not separately itemised in the Return "A" submitted by hospitals. The new Return "A" indicates that 61 in-patients (24 deaths) were treated for Hypertension with heart disease, and 123 in-patients (7 deaths) for Hypertension without mention of heart disease. The proportional mortality rate was 0.98 per cent 196 out-patients seen were suffering from Hypertension with heart disease, and 199 out-patients were suffering from Hypertension without mention of heart disease.

APPENDICITIS

Three hundred and six in-patients (25 deaths) were treated for this condition in 1953 as compared with 167 (9 deaths) in 1952. Table XXIX sets out the number of cases reporting for treatment in the 8-year period 1946-1953. It will be noted that there has been a three-fold increase in the incidence of this condition.

INTESTINAL OBSTRUCTION AND HERNIA

Two thousand and thirty seven cases (94 deaths) received in-patient treatment during 1953, as compared with 1,472 cases (90 deaths) in 1952. Hernia cases were in a majority; a large number of strangulated hernia being seen amongst them. Table LXX gives the number of cases and deaths arising over an 8-year period 1946-1953. It will be observed that the case mortality rate is high; in 1953 the proportional mortality rate was 2.98 per cent.

NUTRITIONAL DEFICIENCY DISEASES

Table LXXI presents the incidence of Beriberi, Pellagra, Scurvy and unspecified deficiencies over a 3-year period on a Regional basis, and Table LXXII presents the incidence of each condition on a country-wide basis over an 8-year period.

The figures are too small to enable any reasoned comment to be made at this stage, but with reference to the large number of cases shewn under "Other deficiency states" reports received from District hospitals indicate that frank deficiency disease is rarely seen. What is seen at hospitals is malnutrition, or general under-nourishment, rather than any special syndromes. This may not be so true of certain parts of the Northern Territories, notably around Navrongo, where Kwashiorkor is reported from time to time towards the end of the dry season.

ANAEMIA

Table LXXIII shows the regional distribution in 1953 of Hyperchromic and Hypochromic Anaemias. It will be observed that the incidence of Hypochromic or Iron Deficiency Anaemia is nearly seven times as great as that of Hyperchromic Anaemia.

NON-TOXIC GOITRE

In 1953, 30 cases (1 death) received in-patient treatment and 128 cases received out-patient treatment.

Goitre, not associated with Thyrotoxicosis, has been found to be especially common in isolated parts of the country, particularly the Northern Territories, where there are several enclaves notably around Navrongo, in which it is very prevalent. It causes no particular disability to the sufferers, though a possible danger of Cretinism amongst the children of goitrous parents remains. It is probably a pure mineral deficiency.

Table LXXIV shows the regional distribution of this condition as derived from hospital returns.

DIABETES MELLITUS

In 1953, 155 persons (6 deaths) received in-patient treatment in Gold Coast hospitals as compared with 96 (7 deaths) in 1952 and 106 (10 deaths) in 1951.

Table LXXV shows the total number of patients who received treatment at hospitals, according to regional distribution, in 1951, 1952 and 1953. It will be observed that there has been, over the three years, a steady increase in the number of persons seeking treatment for this condition.

Table LXXVI shows the number of in-patient cases treated in hospitals since 1946, and indicates a four-fold increase in cases with a rather variable mortality, as would be expected.

Table LXXVII gives an indication of the sex incidence of cases returned as Diabetes mellitus over an 8-year period.

It will be observed that 69 per cent of cases treated are males and 31 per cent are females, and that the mortality follows an identical pattern.

CHRONIC ULCER

1953 is the first year in which it has been possible to report on this condition. Table LXXVIII sets out the regional distribution, which follows closely the reported distribution of yaws.

CIRRHOSIS OF THE LIVER

In 1953, 184 cases (52 deaths) were treated as in-patients compared with 167 cases (43 deaths) in 1952. Table LXXIX presents the incidence on a regional basis, whilst Table LXXX indicates the position over the 8-year period 1948-1953. As will be expected the case mortality rate is high. The causes are usually attributed to malnutrition, schistosomiasis, or alcoholism, but possibly in the Gold Coast virus infection may play some part in the aetiology of this condition.

ACCIDENTS

In 1953, 7·971 out-patients (342 deaths) were treated as a result of accidents, including self-inflicted injuries and injuries purposely inflicted by others. Motor vehicle accidents accounted for 1,793 in-patients (153 deaths) treated, giving a proportional mortality rate of 4·85 per cent and a case mortality rate of 8·5 per cent. All accidents together gave a proportional mortality rate of 10·8 per cent and a case mortality rate of 4·3 per cent.

CHAPTER IV

The Tables referred to in this Chapter will be found in Appendix "C"

GENERAL HOSPITAL SERVICES

(a) *Work done in hospitals*

Table LXXXI gives an indication of the steadily increasing demands made on the Hospital Services of the Ministry of Health. The figures quoted are only in respect of cases admitted to hospitals, and do not include out-patient cases.

The greatest number of in-patients (9,421 cases) were treated in the Kumasi General Hospital South Wing. The number of cases treated in Sekondi was static. At Akuse the number treated as in-patients in 1953 was nearly double the number so treated in 1951. The majority of hospitals show a steady increase in the number of in-patient cases treated except in the Accra Region where there has been a steady decline at both the Gold Coast Hospital and the Ridge Hospital. This decline may be due in part to the re-opening of the Nsawam Hospital. At the Gold Coast Hospital the decline is from 6,110 cases treated in 1951 to 5,074 cases in 1953—a total decline of 1,036. At the Ridge Hospital, the decline is from 1,103 cases in 1951 to 968 in 1953—a total decline of 135 cases. In the Northern Territories the figures of cases receiving in-patient treatment were variable but on the whole, the picture is one of increasing work at hospitals except Bawku and Navrongo, where there was a slight decline in numbers treated.

(b) *Utilization of hospital beds*

Table LXXXII sets out for each region the disposition of available beds in Government hospitals in 1953 as compared with 1950; the population served is enumerated, using the 1948 census figures as a basis. Table LXXXIII sets out the beds available to higher social grades in the Gold Coast. The ratio of beds in Government hospitals to population at the end of 1953 using the 1948 census population, was as follows:—

Gold Coast	..	..	..	..	..	..	..	1 bed to 1833.4 persons
Accra Region	..	..	..	..	..	..	..	1 bed to 376.8 ..
Trans-Volta/Togoland	..	..	..	..	..	..	..	1 bed to 3197.8 ..
Eastern Region	..	..	..	..	..	..	..	1 bed to 2811.2 ..
Western Region	..	..	..	..	..	..	..	1 bed to 1556.8 ..
Ashanti	..	..	..	..	..	..	..	1 bed to 2469.5 ..
Northern Territories	..	..	..	..	..	..	..	1 bed to 3082.3 ..

The allocation of beds to different categories of patients can only be arranged in the Gold Coast in large hospitals having Specialist facilities; available beds have, between 1950 and 1953, been re-distributed within hospitals to allow for the treatment of the increasing number of women attending at hospitals for obstetric and other purposes. The female beds shown in Tables LXXXII and LXXXIII include obstetric beds; in the case of Accra, the Maternity Hospital accounts for the fact that more female than male beds are available in that centre.

The situation in 1953 was obviously an improvement on that at the end of 1950, there being an additional 303 beds and 71 cots available.

As regards beds for mental cases, the Mental Hospital which was designed to hold approximately 450 inmates, held 868 at the end of 1953, and presents over-crowding problems of serious dimensions.

(c) *New hospitals planned for building in 1953*

Bolgatanga Hospital had completed its first full year of working in 1953 and catered most successfully for one of the most densely populated areas in the Gold Coast. Next to Tamale it has become the busiest hospital in the Northern Territories.

During 1953, a Working Party was set up to examine the desirability of modernising the Accra Group of Hospitals, with a view to improving the services offered to the public. Recommendations made by the Working Party were receiving the consideration of Government at the end of 1953, and were as follows:—

- (a) The construction of a Children's unit at Korle Bu.
- (b) the construction of superior type accommodation at Korle Bu in replacement of the existing Ridge Hospital.
- (c) the modernisation and partial reconstruction of the General Hospital section.
- (d) the reconstruction of the greater part of the Maternity Hospital.
- (e) the construction of additional hostel accommodation for Pupil Nurses.

Implementation of these recommendations would, it was felt, provide at Korle Bu a proper medical unit, streamlined to meet modern requirements and to provide efficient and prompt service to the public. It would also serve as a suitable training centre in the event of a Medical Faculty being attached to the University College of the Gold Coast at any time in the future.

Again during 1953, a Working Party was set up to enquire into conditions obtaining at the Mental Hospital, and to make recommendations in respect of the future of this institution and of the general care of the mentally sick. This Working Party reported late in 1953 and its recommendations were being examined in the Ministry of Health at the end of the year.

As regards assisting missionary effort, plans were being finalised for the construction of a Maternity Hospital at Mampong-Ashanti, to be run by Sisters of the Anglican Church Mission, a General hospital at Mpraeso to be run by the Seventh Day Adventist Mission, and a General hospital at Worawora in Togoland to be run by the Evangelical Presbyterian Church.

New hospitals remained under construction in the Northern Territories at Bawku, Navrongo, Jirapa, Wa, and Yendi, and a Health Centre was opened at Bimbilla. These absolutely essential new premises will ensure suitable conditions for future medical practice in the Northern Territories.

Construction of the new Kumasi Central Hospital continued whilst work in the old premises was carried on by medical and nursing staff under conditions made most trying by the fact that the new hospital is being erected on a site immediately adjacent to that of its predecessor and involving demolition of parts of it, as the work progresses.

CHAPTER V

GENERAL PUBLIC HEALTH

(a) GENERAL COMMENTS

Whilst there has again been an absence of epidemic diseases in the larger municipalities during the year, the incidence of Typhoid and Paratyphoid gives cause for concern. In reviewing the high incidence found in Accra and Sekondi it must be remembered that these hospitals serve a large rural area outside the actual municipalities, as indeed do all other district hospitals.

During 1953, financial stringency imposed a 10 per cent cut in the labour force employed by the Ministry of Health. Since the hospitals were not over-staffed for labour the cut had to be made in most centres at the expense of the public health services.

Allocation of funds to the Ministry of Health for annual recurrent expenditure in 1953 was 4.2 per cent of the total annual recurrent expenditure of the Government under the Ordinary and Extraordinary Heads of Expenditure. The Allocations made between 1946 and 1953 are set out in Table LXXXIV of Appendix "C". In the years before the last war, the allocation varied annually between 11.0 per cent and 13.37 per cent of the total annual recurrent expenditure of the country. During the war the level of the allocation was reduced, but in 1952 it was fixed at 4.2 per cent and has remained at that figure for the past two years. The actual amount has, of course, varied with the sum-total of funds available but the variation has been slight when compared with the large increase in Government expenditure in other directions. The net result has been that the Ministry found itself severely restricted in the matter of maintaining routine activities let alone with additional duties imposed by development allowed in the activity of other departments.

(b) MOSQUITO CONTROL

Some anxiety has been caused by declining standards of construction to be observed in the residentia areas springing up rapidly around the larger towns and particularly Accra.

Earth drains continue to be installed in these areas and indeed, are used in a number of cases for carrying all the waste water from blocks of flats and similar housing areas. Lack of grading in many of these drains result in pooling of water. These necessitate increasing vigilance by Health workers, and the extension of existing anti-malaria activities. In the vicinity of Accra particularly, the 155 miles of earth drains dug in the Airport region have caused much trouble. A number of them are up to 12 feet wide, and exhibit the very worst features of erosion and pooling of water.

A further danger noted in residential buildings is a tendency to ignore accepted rules concerning mosquito-proofing. Some buildings erected in Accra have mosquito-proofed bedrooms sections, but there are no mosquito traps, and a single proofed door opens directly into the bedroom. Thus mosquitoes can be carried into the room by attaching to the door itself. Further, in some cases, it is only possible to open windows in the mosquito-proofed section by opening the mosquito-proofed frames, and these have actually been constructed to allow of this. Such rooms are the more dangerous for giving to their inhabitants the illusion of being reasonably mosquito-proofed.

Oiling of all pools and drains is carried out regularly within the limits of labour and funds available for the purpose. Grass-cutting depends similarly on the availability of labour and funds.

Routine house inspections in 1953 numbered 1,835,580 and in the course of these inspections 5,711 cases of mosquito breeding were found. Such inspections covered the main towns and limited sections of the rural areas of the country. In 1952 such inspections numbered 1,995,151 and 8,328 cases of mosquito breeding were discovered.

GENERAL SANITATION

The main centres of population still lack water-carriage sewage disposal systems, and properly designed storm water and main drainage systems. In respect of Accra, the position is being investigated by consulting Engineers. At the same time the rapid increase in population of the urban areas generally is severely taxing existing sanitary resources.

Not uncommonly, inefficient cleansing results in accumulations of refuse and tins in public places, choked street drains, and inadequate emptying of latrine buckets.

(b) RURAL

The Local Government Ordinance No. 29 of 1951, empowered Local Authorities to provide public health services in rural areas; their duties may include any of those laid down in subsections 36 to 48 and 71 to 73 of section 58 of this Ordinance as required by the Minister of Local Government.

Local Authorities have not yet shown themselves ready or equipped to assume full control of public health activities in their areas, and no attempt has been made to withdraw Government staff stationed therein. It is still a matter of urgent necessity to educate both Councillors and rural peoples in the principles of hygiene; Government Health Officers are trained therefore to consider public health education as one of their most important duties. The preventive services generally are still held in less esteem than the curative services and the building up of public opinion in support of them is much needed.

PREVENTABLE ILLNESS

During 1953, 5,369 persons received in-patient hospital treatment for diseases due to the ingestion of contaminated food and drink; in other words, 5,369 hospital beds were occupied by persons who were suffering from illnesses which were the direct result of faulty hygiene and sanitation. A more positive attitude towards preventive health services would be likely to reduce this number substantially.

HOUSING

There is little change to report from the comments made in 1952. Houses are being built rapidly by Government, Commercial firms, and private citizens, and are springing up in the outer suburbs of the larger towns at a considerable pace; the increasing number of septic tanks and soak-aways together with new roads create major public health problems, the former by increasing the sub-soil pollution and the latter by adding to mosquito breeding places, where roads remain unpaved and earth drains ungraded.

In the rural areas of Ashanti, it is gratifying to observe that villages are being well laid out and substantial houses are being built. Unfortunately, this cannot be said for other parts of the country. In the Northern Territories, construction has proceeded along traditional lines. A change was noted in the type of construction seen in Builsa, where the flat-roofed round-house compound is replacing the old grass roof type. The flat-roofed house is favoured by the Northern housewife who can dry her grain free from fouling or damage by poultry and animals. It is not however so satisfactory a construction from the public health point of view since grass roofs provide degrees of ventilation which a flat mud roof does not. The point may be of considerable importance in the dissemination of Cerebro-spinal Meningitis.

FOOD IN RELATION TO HEALTH AND DISEASE

During 1953, a total of 5,725 cases of nutritional diseases were treated in the hospitals of the Gold Coast. Of these, 621 received in-patient treatment, for the following conditions:—

Beriberi	..	..	..	..	..	..	..	24 cases (3 deaths)
Pellagra	..	..	..	..	..	..	..	112 cases (15 deaths)
Scurvy	..	..	..	..	..	..	..	8 cases (no deaths)
Other deficiency states	..	..	..	..	..	..	..	477 cases (44 deaths)

With regard to Infants, they remain on the whole fairly healthy so long as they continue to be breast fed and to receive sufficient nourishment in this way. The weaning period is a dangerous one in that infants tend to be mainly fed on fufu, and become exposed to all the dangers of poor food hygiene.

The main dietary deficiency otherwise is protein, and efforts are being made to tackle this. The main difficulty is to overcome the traditional conservatism of a people who are largely vegetarian by habit.

In the Northern Territories, for instance, although there are very large herds of cattle, sheep, goats and poultry, these are not mainly reared for food but represent a man's wealth. Cows are used for the purchase of wives. In the forest country, the same objections do not hold good, but here cattle have a hard struggle to survive the various parasites which attack them and the source of first class protein is reduced accordingly.

The low standard of hygiene prevalent among food sellers is a source of continuing concern to Health officers. Major offenders are the owners of restaurants and chop bars, where food is often prepared under the worst possible conditions. Every attempt is made both to educate these persons and to control their premises, but the main remedies for these matters must rest with the responsible Local Authorities.

NUTRITION

The majority of medical officers in referring to the state of nutrition of the inhabitants of their Districts incline to the belief that whilst there is a considerable amount of under-nourishment due to faulty feeding, ignorance on the part of the population, or lack of certain ingredients, such as good quality protein, there is nevertheless not a great deal of frank malnutrition, so that specific deficiency diseases and syndromes are not commonly diagnosed.

In certain areas, notably in the Northern Territories, a poor crop season in districts such as Kassena-Nankanni and Frafra may lead to an incidence of Kwashiorkor, but, as a general rule, this condition is not common in the Gold Coast.

Investigations into the local state of nutrition are beyond the scope of the average busy district medical officer, since they require careful study not only of local foodstuffs and their food value, but also of the methods used in their preparation and cooking. The subject awaited action by a Nutrition Officer appointed to take up duty as the year ended.

SCHOOL HYGIENE

The position remains as stated in the 1952 Report. School children are examined as and when possible by Health Sisters and Medical Officers but no fully organised service for the medical inspection of school children could be commenced during 1953.

Now that a great expansion of educational facilities has become an important feature of Government's policy, the proper running of a school medical service would necessitate the employment of a substantial staff. It is recognised as necessary that such a service should begin as early as is practicable.

SPECIAL CLINICS

(a) DENTAL CLINICS

Dental Clinics are operated in Accra at the Gold Coast and Ridge Hospitals, in Kumasi at the General Hospital, and in both the Sekondi and Tamale hospitals. No statistics of work done were available in 1953 except from Kumasi where the work of the Dental Surgeon is summarised as follows:—

Class of Patients	Extractions		Fillings and other conservative treatment		Prosthetic treatment		Total
	Male	Female	Male	Female	Male	Female	
Infants	42	45	31	17	0	1	136
School Children	85	50	40	31	1	0	207
Adults	933	401	442	161	48	14	1,999
Total	1,060	496	513	209	49	15	2,342

(b) OPHTHALMIC CLINICS

Clinics are operating in Accra and Kumasi under the charge of specialised officers. Attendance at the Accra clinic numbered 32,415 and in Kumasi 4,392. The former figures are inclusive of all attendances for every form of minor eye condition. A brief report on the work of the Kumasi clinic is given in Appendix "D".

PRISONS

(a) GOVERNMENT

The daily average population for all Government prisons was 3,543·67, the daily average number on the sick list being 47·70. There were 15 deaths. The position over the past 4 years is shewn below:—

Year	Daily average prison population	Daily average number on sick list	Number of deaths	Deaths per 1,000 prisoners
1950	3,375·31	47·48	21	6·22
1951	3,363·12	65·73	22	6·54
1952	3,440·49	49·51	23	6·69
1953	3,543·67	47·70	15	4·23

A revised scale of Prison Diet was introduced in April, 1953 in all prison establishments and institutions and has proved very satisfactory, the majority of prisoners gaining weight within a short time of admission. Prisoners showing a continuing loss of weight receive a special diet at the discretion of the Medical Officer.

Returns "A" in respect of all prisons were not received for 1953, but it is of interest to observe that Malaria, Gonorrhoea and Scabies were with Yaws, major causes of morbidity in Prisons.

The causes of death in Prisons in 1953 were varied; in those prisons in respect of which returns were received, there were: 3 deaths due to diseases of the digestive system, and one each due to Asthma, Typhoid Fever, and Degenerative Heart Disease.

The grossly overcrowded conditions existing in all main prisons and institutions, as well as the antiquated design of some of them, has continued to be a matter of concern to Prison Medical Officers and to the Prisons Department. Plans are in process of formulation for the construction of a new Central Prison at Nsawam.

(b) LOCAL AUTHORITY

Local Authority Prisons are not normally subject to inspection by Medical Officers, and little is known of the health of their inmates or the conditions under which they are detained.

PORT HEALTH

(a) SEAPORTS

The main port for disembarkation of passengers arriving by sea in the Gold Coast is Takoradi; a few who travel by cargo vessels still arrive at Accra. Cargo ships continue to call at Cape Coast, Winneba and occasionally at other surf ports along the Coast but do not normally disembark passengers.

There is a very considerable traffic by deck passengers between the Gold Coast, Nigeria, Sierra Leone, and the Gambia, and careful surveillance of such passengers is necessary. The extent of the traffic to and from Takoradi is revealed below:—

Takoradi	1950	1951	1952	1953
Deck passengers embarked	8,394	6,173	6,625	4,484
Deck passengers disembarked	4,323	6,354	5,886	5,159

For the first time in 4 years the number of passengers embarking has been well below the number disembarking. The reason for this change in pattern of arrivals and disembarkations is not clear.

(b) AIRPORTS

The Gold Coast has an International Airport at Accra. There is also an internal network of airlines with airports at Takoradi, Kumasi, Wa, Navrongo and Yendi. The latter three are maintained and kept clean, but are emergency fields only.

There is also an airport at Kintampo but this was disused after the war and has now largely reverted to bush. Takoradi, Kumasi and Tamale airports are in regular use, Wa in occasional use.

Accra Airport is governed by the International Sanitary Regulations which came into force in October, 1952, as a result of their adoption by the Fourth World Health Assembly in 1951. These were given effect in the Gold Coast by means of the Quarantine (Aerial Navigation) (Amendment) Regulations, 1952, which amended the Quarantine (Aerial Navigation) Regulations, 1949.

The Airport, as an International terminus, is not entirely satisfactory since there is, in the transit area, a public hotel which does not comply with the strict terms of the Quarantine (Aerial Navigation) Regulations or the International Sanitary Regulations to which they give effect. It is the intention that when a new hotel is built the public hotel at the airport shall be converted into transit accommodation. Airport traffic at Accra is shewn below:—

	1950	1951	1952	1953
Passengers departing ..	7,914	10,844	13,541	13,305
Passengers arriving	8,683	13,990	13,577	13,001
Passengers in transit ..	1,189	1,625	1,382	753
Number of planes disinsected	1,978	1,976	1,996	1,590

CHAPTER VI

REPORT ON THE MEDICAL FIELD UNITS

DEVELOPMENT

The second half of the year saw the beginning of a fuller development of Medical Field Units in terms of a policy which was endorsed in the Report of the Maude Health Commission in 1952 and the Departmental Working Party's Report on this organisation in the early months of 1953. It was found possible to put most of the major recommendations of the Working Party into effect within a very short time.

An increase in Senior Staff has allowed of Field Unit activities being extended to Southern Togoland whilst a special campaign against yaws was planned and begun in that part of Eastern Dagomba lying in north Togoland; it was organised on lines similar to those advocated by the World Health Organisation. A new sub-region of activity is beginning to take shape in the north-west of the Gold Coast with a Field Superintendent in local charge.

A Mass Vaccination Campaign previously in operation was closed down in the middle of the year, the vaccinators being taken over by the regional Principal Medical Officer. Medical Field Unit staff seconded to the work returned to their former field duties. The Campaign started in August, 1951 following an outbreak of yellow fever a few months before at Adeiso, 40 miles north-west of Accra. At first a combined yellow fever and smallpox vaccine was used. Following the occurrence of a number of cases of post-vaccination encephalitis in Nigeria using the same vaccine, the public were vaccinated against smallpox only. As far as is known no cases of encephalitis occurred in the 336,000 subjects on whom the combined vaccine was used.

Towards the end of the year the treatment of yaws cases diagnosed on survey was modernised. Instead of patients having to wait several weeks for the arrival of a treatment team, and instead of their having to attend weekly for 2 to 3 months for treatment thereafter, one injection of procaine penicillin in oil is now given at the time the survey is made. This procedure is being carefully followed up.

GENERAL

SUMMARY OF THE WORK DONE BY REGIONS

The brief outline of the work done in each of the separate Regions which follows is preceded by a resume of the general inception and scope of Medical Field Unit work. In 1937, Dr. Saunders began a Sleeping Sickness campaign by providing for the field diagnosis and mass treatment of cases of this infection in the remote parts of the Northern Territories. For ten years the character of his organisation remained unchanged. Then an anti-yaws unit was grafted on to it, a rapid increase being effected in the number of subordinate staff employed. In 1951 investigation and treatment of diseases other than sleeping sickness and yaws was undertaken, and the name of the organisation was changed to Medical Field Units.

In the course of ordinary survey work the diagnosis of various endemic diseases is recorded, either in the whole population or in representative samples. Vaccination is carried out also and itinerant teams treat the cases of yaws and trypanosomiasis that are found. At nine Fixed Centres these, and some other infections, such as leprosy, are treated. Beyond this routine, there is being built up a growing fringe of special work such as mass treatment of onchocerciasis with antrypol in the Tumu area, a yaws eradication scheme in parts of the Northern Territories, investigation of the effects of malaria prophylaxis on the morbidity and mortality in a small community at Mirigu, and investigation into certain aspects of the epidemiology of trypanosomiasis in Ashanti.

NORTHERN TERRITORIES

During 1953 one of the units worked up northward through Eastern Dagomba in extension of the 1952 programme. A great deal of yaws was discovered particularly to the South and South-east of Yendi, areas with populations of over 10,000 showing an infection rate of 10 per cent or more (It has long been known that this area was heavily infected with yaws but a high incidence still prevailed in spite of the anti-yaws campaign of 1944-46 based on Yendi). There was very little trypanosomiasis; most of the infection being found 60 to 70 miles south of Yendi whilst to the north there were no cases.

A second unit completed its survey of Builsa and moved over into Frafra country around Bolgatanga and Zuarungu; in both areas there was remarkably little yaws and the trypanosomiasis cases were all found in the area of the Tongo Hills.

A special survey was carried out in parts of Kusasi, along the upper reaches of the White Volta.

A survey among school children into the distribution of bilharzia was continued.

At Mirigu, north of Navrongo, an investigation into various aspects of malaria infection in a community of about 1,000 people was carried out. For the first year—from April, 1952 to April, 1953, only cases severely ill with malaria were treated for their infection. In the last nine months of 1953 anti-malarial treatment was given to all persons found with malarial parasites in their blood during the two-monthly examinations.

NORTH-WEST REGION

Here, the major interest continued to lie in the treatment of a large number of persons infected with onchocerciasis around Tumu. Some 500 were given five injections of antrypol at weekly sessions in the dry seasons of 1952-53 and were subsequently re-examined over a period of six months. Mass Treatment is now being given to a second series of patients.

ASHANTI REGION

After completing the survey in the areas north of Kumasi which lie around the main north road, one unit moved to the district south and east of Kumasi, the second into Ahafo. A main interest of the Ashanti Region for the time being is an investigation into certain aspects of the epidemiology of local Sleeping Sickness. It became clear that attention will have to be given to the very considerable incidence of guinea worm across North Ashanti. In some villages more than 10 per cent of the working population are affected. How the disease can best be dealt with is a matter for early investigation.

TRYPANOSOMIASIS

A. FIELD SURVEYS

Table A, below, gives the survey findings for the year. It should be explained that both in the North and North-West Regions blood films are only taken for examination from persons who are suspected as being possible cases of trypanosomiasis e.g. those with enlarged glands in the neck and apparently sick persons whose appearance, or the nature of their symptoms, is suggestive. This method of survey has much to be said for it; there is a saving of time and, from past experience, it is known that only about one seventh of the cases are missed, unless there is an epidemic of the disease just beginning, as was found in the Lawra District in 1949; in which circumstance, blood infection without adenopathy in the absence of symptoms is more common.

TABLE A

Region	Persons seen	Examined specifically for trypanosomes	Cases	Observed Percentage of Population infected
North-West	36,525	—	17	·05
Northern Territories ..	131,540	—	149	·01
Ashanti	75,781	75,781	121	·15
Total	243,846	75,781	287	·12

In the North-West Region the only area that had not previously been examined for trypanosomiasis which was investigated during the year was the part lying to the west of Tumu. In the Damongo area which is important in view of a local Agricultural Development Project, the four cases found were related to the Black Volta. In 1954 it is expected that the Unit in the Lawra area will have reached the Kamba Valley, and it will be of interest to see what amount of resettlement has taken place in recent years as a result of Dr. Morris's selective clearings, and how these have influenced local trypanosomiasis.

In the Northern Territories, Builsa was examined for the first time. The complete absence of the disease in such a large population is surprising; generally this is attributed to the great intensity of farming in the area, making life for the riverine fly impossible. However, such farming in many parts at least, is no heavier than in other districts, not very far away, which show a considerable incidence of the disease—Kusasi, for example, so that this is one of the problems of trypanosomiasis that requires epidemiological study. In both the Kusasi and Zuarungu districts which were surveyed during the year there is a small and fairly well defined area in which the incidence of trypanosomiasis is much higher than it is in the surrounding country. These appear to be true endemic foci, for when the districts were surveyed in 1949–50 the same difference was found.

B.—FIXED CENTRES

TABLE B

TRYPANOSOMIASIS CASES TREATED AT MEDICAL FIELD UNITS FIXED CENTRES

Region	Examinations	Cases with Trypanosomes	Cases without Trypanosomes	Total
North West	238	79	40	119
Northern Territories ..	263	121	7	128
Ashanti	743	87	301	388
Total	1,244	287	348	635

Further details, in the distribution of parasites between the blood, gland juice and cerebro-spinal fluid are in the individual Region reports. In the Ashanti Region, and to a less extent in the North-West a great number of the cases treated at the Fixed Centres are diagnosed as sleeping sickness in the absence of trypanosomes; 214 out of 255 at Abrepo were thus diagnosed. Patients with any of the protean symptoms suggestive of trypanosomiasis, are examined by lumbar puncture. Those who show abnormalities of the cerebro-spinal fluid—more than 29 cells per cmm., or more than 22 mg. protein per cent are regarded as being infected and are treated. Most of the cases who come to the Centres are naturally in the later stages of the disease, for it is only then that the symptoms produce the degree of sickness considered abnormal in this part of the world.

By this time it is very difficult to demonstrate trypanosomes. To what extent the diagnosis of sleeping sickness made at the scattered treatment centres is correct is problematic. Very rarely is a case seen under treatment which the visiting Medical Officer can say quite definitely is not trypanosomiasis, and make a firm diagnosis of some other condition. None the less, the fact that more than 50 per cent of the cases are diagnosed in the absence of parasites requires careful examination.

In the course of a follow-up at Abrepo in the latter part of 1952 of all the cases that had been treated there in 1951, some interesting information was gathered about the cerebro-spinal fluid findings before and after treatment both in cases with and without trypanosomes.

TABLE C

C.S.F. FINDINGS IN CASES OF SLEEPING SICKNESS TREATED AT ABREPO

	AVERAGE		FINDINGS	
	(Before treatment)		(After treatment)	
	Cells per cmm.	Mg. protein percentage	Cells per cmm.	Mg. protein percentage
With trypanosomes (65 cases) . .	194	36	6.4	23
Without trypanosomes (45 cases)	95	45	3.4	26

This table certainly supports a diagnosis of sleeping sickness made in those cases in whom no trypanosomes were found. It is extremely unlikely that such a marked improvement in the cerebro-spinal fluid could take place as a result of trypanocide treatment if the condition were not either sleeping sickness or—a disease which appears to be rare here—cerebral syphilis.

YAWS

During the year one Unit of the Northern Territories Region was engaged in a survey northwards from Kpandae to Yendi. The findings served as a reminder that yaws is still highly endemic in that area. As a considerable quantity of procaine penicillin in aluminium monostearate was being made available to Medical Field Units it was decided to open an eradication of yaws campaign, based at Yendi, to cover Eastern Dagomba.

Ten years ago a Medical Officer with a staff of nearly 40 injectors carried out mass treatment—using bismuth and arsenic—over the same district. In 1949 mass treatment was again given, yet the incidence of the disease remains very high.

TABLE D

INCIDENCE OF YAWS IN EASTERN DAGOMBA FOUND ON SURVEY IN 1953

Examination	Cases	Percentage	Cases treated
42,029	2,925	7.0	1,337

There are many gaps in our knowledge of the epidemiology of yaws. Why, for example, is the disease 20 times more prevalent in the Nanumba area than it is in the south-east Mamprusi area less than 150 miles away? Until we know the answer to this sort of question rational control of the disease is not practicable; there is need for a medical officer to make fuller investigations. Penicillin is, however, a formidable weapon.

TABLE E

YAWS IN ZAN AREA OF DAGOMBA—ERADICATION WITH PENICILLIN

Persons Examined	Cases with yaws	Percentage Infection	Cases	TREATED WITH PENICILLIN		
				Latent cases	Contracts	Total
5,876	544	9.3	543	409	144	1,066

TABLE F
YAWS CASES FOUND ON SURVEY

Region	Examination	Cases	Percentage	Cases treated
Northern-Western Region ..	36,525	2,927	8.0	1,955
Northern Territories Region ..	67,596	449	0.66	449
Ashanti Region	68,374	3,441	5.03	1,906

TABLE G
LEPROSY

The survey findings for the year were:

Region	Examination	Cases	Percentage
North-Western Region	36,525	471	1.2
Northern Territories Region	131,540	1,906	1.4
Ashanti Region	63,274	482	0.76
Total	231,339	2,859	1.23

During 1953 the Leprosy Service opened further centres for treatment with D.D.S. in the Northern Territories and in Ashanti so that it is now becoming possible to direct cases found on survey to the nearest treatment centre.

TABLE H
CASES SEEN AT TREATMENT CENTRES

Region	Cases treated
North-West	276
Ashanti	488
Total	764

At Wuchean in the North-West region the attendance of cases had been poor when the clinic was first opened two years ago and of the 100 patients on the books, sometimes for a few weeks only half a dozen would attend. It was decided, therefore, to restart treatment selecting only a few local cases and concentrate on making them come twice a week in the hope that, after a few months, word of the improvement of these persons would pass around the district and there would be a greater demand for, and confidence in, treatment. Unfortunately this has not worked as well as it might.

The new clinic opened at Jema 11 miles from Kintampo has not yet attracted many patients.

At the Kintampo clinic the number of new cases admitted for treatment is getting less each year:—

	New Cases
July to December, 1950	103
1951	87
1952	46
1953	33

MALARIA

In November, the Medical Officer in charge of malaria research along with the Medical Entomologist joined an Ashanti region unit for two weeks, doing a survey at Bomfa—30 miles east of Kumasi.

During this time the Medical Field Units staff examined blood films for malarial parasites in the routine manner. The Medical Officer in charge of malaria research and his staff examined slides, taken from the same people at the same time, when they returned to Accra. There was a considerable degree of under-diagnosis by Medical Field Units; this is due to the more specialised training of the malaria research staff and the better conditions, particularly of light, under which the slides were examined.

TABLE I

MALARIAL INCIDENCE FOUND BY SURVEY IN ASHANTI

Total number of persons	No. with parasites	Percentage
64,314	16,870	26.23

As blood films were examined only from an unrecorded sample of persons seen on survey in the Northern Territories and North-West Regions no incidence of malaria can be given for any of the areas visited.

GUINEA WORM

FIELD FIGURES

Area	Examined	Cases	Percentage
Northern Territories Region	131,540	1,096	.83
North-Western Region ..	36,525	378	1.0
Ashanti Region	64,314	120	.02
Total	232,379	1,594	.06

This table does not reveal the high incidence of the disease which occurs in particular localities. At Basa, a village on the road between Attebubu and Ketekrachi, 23 persons out of a population of 280 were found infected in June. In North Ashanti the incidence of the disease is relatively high in the Mo area, Abease, and along the Ketekrachi Road. Respecting this last district a report was made in 1947 after the first Tryps/Yaws survey and, possibly as a result, the Department of Rural Water Supply put in a number of wells. Basa, for example, was so provided for and yet, in spite of this, in mid-1953 almost 10 per cent of the population were infected. The reasons for this are numerous. Firstly, the people have not the buckets, rope, and other necessary equipment for getting water from a well, and if a bucket is provided it is soon lost or damaged. Secondly, the well water is inclined to be salty and when streams are running they are preferred. In the rains one sees women coming out of the villages and passing the full wells on their way to get water from some more distant streams.

Finally, in January and February the wells often dry up, so that during the year some of them are rarely used; in one village both wells were completely hidden by elephant grass in August, there was no approach pathway and no one could have guessed that wells were there. There is often a family relationship among cases, suggesting that sometimes the infection may be occurring in the farm areas. The only likely method of control under these circumstances is by means of health education. Where, however, infection results from the use of one communal water point destruction of the cyclops is a measure that can be employed in addition to repeated instructions to the local people in rational control (keeping infected persons from water). In nine Mo villages in July, 1952, the incidence of guinea worm was:—

Persons	Cases	Percentage
924	208	21.7

Immediately after the survey wettable D.D.T. was added to the open water points of these villages in the proportion of 10 parts per million. In July, 1953 the incidence in the same villages was:—

Persons	Cases	Percentage
1,183	60	5

One other village—Weila—had an incidence of 28.5 per cent (89 cases in 312 persons) in July, 1952; the water points were not treated as two wells were just then being sunk. A year later the infection rate had dropped to 2.45 per cent.

D.D.T. is reputedly toxic; gammexane might be more safely used, and it would appear that some method of control could be obtained by using it in open ponds. Construction of wells is, however, equally effective and these are, of course to be preferred as they supply a cleaner water.

SCHISTOSOMIASIS

It is clearly impossible to examine everyone seen on survey for schistosome infection. From selected samples of the population specimens of urine are collected and examined for *S. haematobium*. In the Northern Territories Region there is an *ad hoc* school survey team whose findings were:—

TABLE J

Area	Examination	Cases	Percentage
Navrongo	1,311	511	38·97
Zuarungu	563	253	44·93
Bawku	572	239	41·03
Gambaga	676	59	8·72
Total	3,122	1,062	34·16

In Ashanti Region the same sampling methods are used but the examinations are made by the ordinary survey teams.

Area	Examination	Cases	Percentage
Mampong	412	9	2·18
Ejisu/West	110	2	1·82
Ejisu	304	11	3·62
Sekodumase	86	1	1·16
Ahafo (part)	151	85	56·29
Juabeng	146	25	17·12

If, on one examination, over 50 per cent of the school children examined are found infected, as in Ahafo, it seems possible that almost everyone in the area is infected with schistosomes at some time or other. Mass treatment is obviously out of the question. If it is possible and desirable to attempt some control the best way would probably be to use molluscicides at the most frequented water points. In the North-West Region no survey of bilharzia has been done yet but the examination of school children will begin shortly.

ONCHOCERCIASIS

As a routine measure a sample of the persons seen by the survey teams are examined for *Onchocerca* infection by skin snip.

SURVEYS FOR ONCHOCERCIASIS IN THE NORTHERN TERRITORIES AND ASHANTI REGION

Survey	Persons examined for Onchocerciasis	Number infected	Percentage infected	Percentage Blind
Northern Territories Region	24,319	10,017	41·12	—
Ashanti Region	6,562	760	11·0	0·5

From November, 1942 to March, 1953, the survey team working in the Tumu District—mainly on the east side of the town—examined *all* persons (except very young children) for onchocerciasis in addition to other examinations.

Treatment with five injections of Antrypol at weekly intervals according to the weight of the patient was given to cases except

- (a) those over 35
- (b) those stone blind
- (c) those with albuminuria
- (d) pregnant women

The total number treated was 499, the attendance for injections was very good. Sixteen cases were recorded as having developed oedema of feet and hands during treatment, 34 cases also had similar conditions generally occurring 15 days after discharge; pains in the joints or waist, transient pruritus and conjunctivitis have also been reported following treatment. One other case was reported dead during the first follow-up and another two on the second follow-up. The follow-up for patients was carried out three times at two monthly intervals beginning from the date treatment was completed. All cases were skin snipped on each occasion and nodules were punctured for microfilaria.

TABLE K
RESULTS OF TREATMENT
TOTAL CASES TREATED 499

	+mf	-mf	Persons Absent
1st Follow-up	119	317	63
2nd Follow-up	96	309	94
3rd Follow-up	98	331	70

Some individuals who were negative on the 1st follow-up became positive during the 2nd and/or 3rd. And some who on 1st examination were negative were found later to be positive; this is indicated in the following table.

TABLE L

Follow-up	1st only	1st and 2nd only	1st and 3rd only	1st, 2nd and 3rd
Result Positive	60	19	23	17
Negative	37	39	63	177

Antrypol treatment appeared to be clinically encouraging and was backed up by the fact that on each follow-up examination 177 individuals had remained always negative for the parasite whilst only 17 were found to harbour it continually.

In addition the consensus of public opinion was that the treatment had been of benefit and that vision in many cases had been improved.

TABLE M
VACCINATION

	Persons seen on survey	Vaccinated	Successful	Percentage
Northern Territories Region	131,540	93,516	56,798	71.09
North-West Region	36,525	29,879	18,640	81.8
Ashanti Region	63,046	34,290	16,861	54.38
Total	231,111	157,685	92,299	68.66

The Mass Vaccination Campaign was closed down in 1953. At the beginning of the year the staff, under the Regional Field Superintendent, had been working in the Trans-Volta district. Teams were stationed at Agbosome, Aflao, Adidome, Dsodje and Abor. Vaccination was completed in the area by the 15th April. Two Field Assistants Grade II and six Public Vaccinators were transferred to Tarkwa to carry on duties there. One team was detailed for duty in the market while the other was posted to Sefwi-Bekwai-Awaso where there was an outbreak of smallpox. At the request of the Medical Officer three vaccinators were sent to vaccinate the workers of African Timber and Plywood Concession for six days. Two vaccinators were transferred permanently to Prestea to work under the Medical Officer of Health, two to Bibiani, to work under the Medical Officer of Health, and the remaining two were sent to Enchi for duty. The total vaccinations made between the period 23rd January to 8th August, when the campaign closed was 159,297. Apart from the assistance given in an outbreak of smallpox in the Western Province of the Colony, and already referred to under Vaccinations, we were not called upon to deal with any epidemic. There was very little cerebro-spinal meningitis or smallpox in the Northern Territories during the year.

CHAPTER VII

REPORT OF THE LABORATORY SERVICES

(a) *Medical Research Institute.*

The Medical Research Institute is situated at Korle Bu, adjacent to the Gold Coast and Maternity Hospitals at Accra. It has, at the present time, the following duties:—

- (a) Medical Research
- (b) Routine laboratory work of the four Accra Hospitals
- (c) Such laboratory work as may be required for District Hospitals. This is mainly histological and serological, since other examinations are made impracticable by poor communications except where these Hospitals lie along regular air routes or are relatively near to Accra.
- (d) The training of Laboratory Assistants.

The annual report on the work of the Institute supplied by the Specialist Pathologist in charge gives the following details:—

Histology:—2,026 specimens were routinely dealt with during the year; this number excludes monkey tissues sectioned for investigation of the effects of radio-active strontium in connection with research work undertaken in the Physics and Zoology Department of the University College of the Gold Coast.

Investigations have continued on haemosiderosis and on the pathology of cerebral malaria and sickle-cell anaemia.

Autopsy records since 1921 have been studied and causes of death analysed by age and sex groups. The information obtained should prove valuable for future research purposes.

Post-Mortem Examinations:—425 autopsies were performed during the year 1953 and the causes of death are shown in Appendix "E".

Histopathology:—176 tumors have been sectioned; of these 97 were considered malignant and were classified as follows:—

Carcinoma	..	..	..	43
Epithelioma	..	..	..	17
Sarcoma	..	..	..	15
Melanoma	..	..	..	10
Reticuloses	..	..	..	8
Retinoblastoma	..	..	..	4

The most common sites recorded for carcinoma were: Breast (8), Stomach (6), Prostate (5), Liver (4), Salivary Glands (4).

The cervix and scrotum were the most common sites of epitheliomata.

HAEMATOLOGY

3,396 routine haematological procedures were performed.

A blood bank was instituted with the aid of the Accra Division of the British Red Cross Society, 348 volunteer donors being grouped and registered. Of this number 41 donated blood which has been stored in the Institute for periods of up to 22 days. No unfavourable reactions were noted.

BIOCHEMISTRY

The temporary engagement of a Biochemist greatly improved the facilities available for clinical purposes.

The number of routine procedures performed was almost double that of last year, the total for 1953 being 2,218; the greatest increase being noted in the numbers of male toad pregnancy tests performed (901 in 1953). The advent of a Biochemist's services has enabled all the locally necessary liver function tests to be performed.

DIVISION FOR ROUTINE EXAMINATIONS

This division, under the charge of a Laboratory Superintendent, was responsible for parasitological examinations of blood, C.S.F., urine and faeces in a total of 20,315 instances.

An investigation into the status of *Trichinella spiralis* in Accra produced negative results, 100 rats (*Cricetomys gambienus* and *Rattus*) being examined by a digestion technique and none found infected.

BACTERIOLOGICAL DIVISION

1. *Volume of Work*

2,840 specimens were investigated in culture, as against 1,326 in 1952. The amount of work done on each specimen increased greatly; e.g. many pathogens were tested for sensitivity to four antibiotics, refined methods of faecal culture multiplied the number of plates per specimen by four and a number of streptococci were tested against group-specific area. It is estimated that the amount of work actually done increased by at least six times in comparison with the previous year.

Arrangements were made so that bacteriological work could be done for Kumasi, Tamale, Koforidua, Ho, Kibi, Saltpond, Winneba, Nsawam, Oda and Akuse hospitals, though only limited use was made of these facilities except at Koforidua and Ho.

By contrast with the increase in cultural examinations, the number of smears, sputa, and other specimens submitted for microscopy only decreased from 4,067 in 1952 to 2,147 in 1953. This is partly explained by increases in numbers of cultures, by reduction in the number of sputum specimens from tuberculosis patients, and by the closure of the separate Venereal Diseases Clinic.

The number of specimens submitted for Kahn tests decreases annually. 8,040 were received in 1951, 7,440 in 1952 and 6,279 in 1953. The number reported positive has shown a parallel decline. It seems likely that these figures reflect a real decline in the incidence of yaws following many years of widespread therapy.

Numbers of specimens submitted for other serological tests rose from 736 to 873.

2. VIRUS AND RICKETTSIAL DISEASES

(a) SMALLPOX

Variola virus was isolated on the chorio-allantoic membrane of the developing chick embryo from a case of smallpox seen at autopsy in Accra, but at present there is no demand by Health Officers of others for the use of this simple diagnostic procedure. Unfortunately the procedure takes 3 days even when eggs at the proper state of incubation are immediately available, so that in the field the test would probably be of academic and retrospective use only. It remains available if needed.

(b) MURINE TYPHUS

A strain of *Rickettsia mooseri*, isolated in 1952 from a human case of murine typhus, was maintained for 14 passages in guinea pigs before it died out, or infections became inapparent. Typical scrotal reactions were only obtained at 2nd, 4th and 5th passages. Using antigens kindly provided by Dr. Gear of the South African Institute for Medical Research, the identity of the strain was confirmed by Complement Fixation tests of the serum of the patient from whom the strain was derived.

(c) TICK TYPHUS

The strain of presumed tick typhus isolated at the end of 1952 (see Ann. Rep. M.R.I. 1952) died out after two guinea pig passages. A 2nd passage guinea pig which had shown a febrile reaction to 104.2°F. on the 10th day after infection was subsequently infected with murine typhus, and developed a characteristic febrile and scrotal reaction, indicating non-immunity. The serum of the original patient proved anti-complementary, and no evidence that this was tick typhus was obtained. It can only be stated that the patient suffered from an arthropod borne rickettsiosis which gave no crossed immunity to murine typhus in the guinea pig.

Another case of tick typhus occurred in 1953, in an R.A.M.C. officer living between Achimota and Cantonments, Accra. The patient presented a primary eschar at the site of a tick bite, had a typical rash and fever, and was cured by aureomycin. Complement Fixation tests were inconclusive, but serum was sent to Dr. Gear who found a rising titre of agglutinins to South African Tick Fever. The patient had received anti-biotics before an attempt to isolate rickettsiae could be made, and the attempt was unsuccessful.

(d) GOAT TYPHUS

A rickettsiosis affecting imported goats at the Nungua Veterinary station was the subject of a published report. (HUGHES, M. H. (1953) Ann. trop. Med. Parasit. 47:299).

3. BACTERIAL INFECTIONS

(a) STREPTOCOCCAL INFECTIONS

A number of strains of *Streptococcus* were extracted and grouped against specific Lancefield group sera. Five strains were identified as belonging to Group A. There is a prevalent impression that *Strep. pyogenes* Group A rarely occurs in West Africa, and it has been conjectured that this may explain the rarity of rheumatic fever, acute haemorrhagic nephritis, scarlet fever, and erysipelas. The evidence that these (or any other) diseases are rare in West Africa is unsatisfactory, owing to the paucity of doctors and of records. That five Group A strains of B-haemolytic streptococci should be found without much difficulty as soon as they were looked for suggests that these organisms must be of quite frequent occurrence.

(b) STAPHYLOCOCCAL INFECTIONS

Antibiotics are probably misused in the Gold Coast as much as elsewhere in the world, and the appearance of resistant strains of that increasingly dangerous pathogen, *Staph. pyogenes* (aureus) must be expected therefore. The figures in Table A show the current position, and may afford interesting comparative material for subsequent years.

TABLE A
ANTIBIOTIC SENSITIVITY OF STAPH. PYOGENES IN ACCRA—1953

Antibiotic	No. of Strains tested	Completely resistant	Partially resistant	Completely sensitive
Penicillin	34	18 (53%)	10 (29%)	6 (18%)
Aureomycin	21	7 (33%)	5 (25%)	9 (42%)
Streptomycin	21	4 (20%)	4 (20%)	13 (60%)
Chloramphenicol ..	16	nil	5 (31%)	11 (69%)

(c) DIPHTHERIA

No strain of *Corynebacterium diphtheriae* was encountered during 1953 in spite of careful search.

(d) TUBERCULOSIS

A bovine lung obtained from the Accra slaughter house was found to be full of tubercles containing acid fast bacilli. From this lung an extremely dysgonic *Mycobacterium tuberculosis* was isolated, having the cultural characteristics of a bovine strain. The strain proved highly pathogenic in a rabbit. This is probably the first isolation of a bovine tubercle bacillus in the Gold Coast.

(e) CHROMOBACTERIAL INFECTION

Infection of man with members of the Chromobacterium group has only rarely been reported, but appears to be commoner in the tropics than in temperate latitudes. A case of bacterial endocarditis caused by *Chromobacterium prodigiosum* (*Serratia marcescens*) was diagnosed during the year.

(f) DYSENTERY

Little is known of the relative frequency of *Shigella* types in the Gold Coast, but the effectiveness of modern drugs in the symptomatic treatment of bacillary dysentery results in omission of bacteriological investigation in many cases.

The following types were isolated in 1953:—

TABLE B
SHIGELLA TYPES ISOLATED IN ACCRA, 1953

Organism		No. of patients
I. <i>Sh. dysenteriae</i>	Type 2. (Schmitz).	1
do.	Type 7. (Large-Sachs. Q.902)	1
II. <i>Sh. Flexneri</i>	Type 1. (V)	1
do.	Type 2. (W.WX)	12
do.	Type 3. (Z)	5
do.	Type 4a (103)	5
do.	Type 4b (103)	1
do.	Untyped	1
III. <i>Sh. boydii</i>	Type 9. (Ewing et al. 1951)	1
IV. <i>Sh. sonnei</i>		2
		30

Sh. dysenteriae 7, one of the Large-Sachs group, has been reported in North Africa. Some members of the group were identified at Freetown during the war. This is the first record from the Gold Coast.

Sh. boydii 9 was only described in 1951, and has occurred in North Africa, Europe and the Belgian Congo. The Accra case was that of a European woman who suffered a sharp attack of diarrhoea and vomiting, the symptoms resembling those of food poisoning rather than those of bacillary dysentery.

(g) ENTERIC FEVERS AND SALMONELLOSES

Considerable attention was paid to improving the diagnosis of the enteric fevers, with the following results:—

TABLE C
DIAGNOSIS OF ENTERIC FEVERS IN THE GOLD COAST, 1953

Method of Diagnosis			Number of Patients				
			Typhoid	Paratyphoid A	Paratyphoid C	Dublin	Total
Isolation of Organisms	..	..	64	22	13	2	101
Positive Widal test only	..	..	111	3	—	—	114
Total Patients	..	..	175	25	13	2	215

The Widal test was considered to be "positive" if one or more of the following criteria was satisfied:—

- Rising titre in successive sera. (20 cases only),
- Flagellar (H) agglutinins present at 1/320 or above in presumed uninoculated person.
- Somatic (O) agglutinins present at 1/160 or above in presumed uninoculated person.

Some of the cases recorded as "typhoid" under the third criterion alone (O agglutinins only) may in fact have been infected with *Salmonella dublin*, or with *chaco* variety of *Salm. enteritidis* which has been reported as common in Freetown.

Only six cases of Paratyphoid C infection were diagnosed in the decade 1943-52 as against 13 in 1953. The disease affects children more than adults and is undoubtedly far commoner than is yet realised. One case was diagnosed at Ho, all the remainder being resident in or near Accra. A paratyphoid C carrier at the Pokoase poultry farm infected a large batch of imported day-old chicks with *Salm. paratyphi* C. and enormous mortality ensued among the chicks until the carrier was identified and isolated.

One case of Paratyphoid A infection was diagnosed from outside Accra, a European child in Kumasi. Anaerogenic strains of *Salm. paratyphi* A are not uncommon.

Two cases of enteric fever with jaundice proved to be due to *Salm. dublin*. An uncompleted investigation into infections of cattle with this organism showed it to be very common in animals slaughtered for food in Accra; this work continues. The strains isolated from man and cattle in 1953 differed from *Salm. dublin* var. *accra*, isolated by Dr. Robinson in 1933, as regards fermentation of rhamnose, although they resembled var. *accra* in fermenting arabinose promptly. There are thus two biochemical variants of *Salm. dublin* in the Gold Coast, a fact which might be of importance in epidemiological investigations.

The following *Salmonella* types were also isolated from human patients in Accra in 1953:—

Salm. typhi-murium (also from chicks at Pokoase).

Salm. infantis

Salm. bredeney (normally a parasite of fowls. The patient from whom it was isolated in Accra had been given raw egg flip in hospital).

In addition to the above, four further *Salmonella* serotypes new to science were isolated from human sources. It is acknowledged with grateful thanks that Dr. Joan Taylor, of the *Salmonella* Reference Laboratory, London, has rendered invaluable assistance in the identification of new and unusual salmonellae.

(h) BRUCELLOSIS

When Dr. F. R. Brady of the United States Public Health Service visited the Gold Coast some years ago on behalf of E.C.A. he referred in his report to the lack of knowledge on the status of brucellosis in this region. Only one bacteriologically proved case had ever been recorded from the Gold Coast.

All sera sent for Widal tests in 1953 were also tested against a standard suspension of *Br. abortus*, or of *Br. melitensis*, or of both, when suspensions were available. Of 639 sera so tested those of four patients only showed titres of 1/40 or over (2 at 1/40, 1 each at 1/80 and 1/160) unaccompanied by evidence of enteric or typhus fevers. The diagnosis of brucellosis was not satisfactorily excluded by laboratory tests in any of these patients, although another clinical diagnosis may well have been reached which would account for the failure to receive specimens of blood for culture.

The sera of domestic animals were investigated for *Brucella* agglutinins, with the results shown in Table D.

TABLE D
BRUCELLA AGGLUTININS IN THE SERA OF GOLD COAST DOMESTIC ANIMALS

Animals	No of Sera	NUMBER OF SERA SHOWING AGGLUTININS AT EACH TITRE												TOTAL
		<i>Br. abortus</i> titre higher than <i>Br. melitensis</i>					<i>Br. melitensis</i> titre higher than <i>Br. abortus</i>			Titres equal				
		$\frac{1}{40}$	$\frac{1}{80}$	$\frac{1}{160}$	$\frac{1}{320}$	$\frac{1}{640}$	$\frac{1}{40}$	$\frac{1}{80}$	$\frac{1}{160}$	$\frac{1}{40}$	$\frac{1}{80}$	$\frac{1}{160}$	$\frac{1}{320}$	$\frac{1}{40}$ or over
Cows and heifers	50	1	1	2	—	1	2	1	—	1	3	3	2	17 (36%)
Bulls and bullocks	23	—	—	—	—	—	—	—	1	2	—	—	—	3 (13%)
Sheep	18	—	—	—	—	—	—	—	—	1	—	—	—	1 (5·5%)
Goats	18	—	—	—	—	—	—	—	—	—	—	—	—	nil

It is suggested that human brucellosis is uncommon in the Gold Coast, but that it should be looked for in cases of pyrexia of unknown origin more especially in patients who have had contact with cattle or their products. It might be expected that human brucellosis would be more frequent in the cattle-rearing areas of the Northern Territories and the Accra plains.

4—BLOOD CULTURES

Four hundred and twenty-eight cultures were made from blood, whole or clotted sent for Widal tests in comparison with 202 cultures in 1952 and 144 in 1951. Organisms considered to be pathogenic were isolated, from 86 cultures (20 per cent).

The organisms are listed in Table E.

TABLE E
ORGANISMS ISOLATED FROM BLOOD CULTURES IN ACCRA, 1953

Organisms	No. of isolations
<i>Salm. typhi</i>	50
<i>Salm. paratyphi A</i>	14
<i>Salm. paratyphi C</i>	6
<i>Salm. dublin</i>	1
<i>Staph. pyogenes</i> (Coagulase + ve)	9
<i>Strep. pyogenes</i> (Lancefield group A)	1
<i>Strep. viridans</i>	2
<i>Chr. prodigiosum</i>	2
<i>Bact. friedlander</i>	1
	86

Figures refer to positive cultures, and include instances where several isolations were made at different times from the same patient.

The use of the Castaneda blood culture technique was described in a short note in the West African Medical Journal. (HUGHES, M. H. (1953). *W. Afr. Med. J.* 2 ns. 94.

5—FAECAL CULTURES

Enrichment methods for Salmonella isolation were used throughout the year. Tetrathionate broth was not considered to be of great value and its use was discontinued. The current method is the use of duplicate selenite F. cultures, one incubated at 37° C. and the other at 43° C., a procedure which will be evaluated when sufficient data have been accumulated.

In 1,148 stools negative for Shigella, members of the Salmonella group were isolated 55 times (4.79 per cent). This may be compared with 3.70 per cent Salmonella isolations in 1951, the last complete year in which direct plating only was employed. The use of enrichment media has therefore increased the number of Salmonella isolations by 1 per 100 stools examined.

6.—ANIMALS

Use of the animal house was handicapped by the fact that it did not permit of proper segregation of "clean" from "dirty" animals, ingress of wild rodents being not prevented. Partly as a result of this, and partly as a result of incorrect feeding, the guinea pig and rabbit stocks suffered from sarcoptic mange and rat lice. At the end of 1953 through the special efforts of members of the staff, this state of affairs was remedied and the animals returned to good condition; reconstruction of the animal house is to begin in 1954.

(B)—THE GOVERNMENT CHEMICAL LABORATORY

The services of the Government Chemical Laboratory which is administered by the Ministry of Health, have been maintained throughout the year as opposed to nine months in 1952 but it was again necessary to confine the work to essentials through failure to recruit suitably qualified and experienced senior staff.

As in previous years the work carried out consisted largely of chemical examination of samples submitted by Government departments. A small amount of work was done also for commercial undertakings and for firms engaged on Government contracts.

A striking feature of the year's work was the large proportion originating from the Department of the Commissioner of Police. This source accounted for 56 per cent of the total number of samples examined, much more use having been made of the laboratory services by the C.I.D. in connexion with serious crime. Evidence was given at the Cape Coast and Kumasi Assizes and in the Accra Courts on a number of occasions. The percentages of samples examined for the Department of Customs and Excise, and the Ministry of Health were approximately 24 per cents and 13 per cents respectively, the remaining 7 per cents comprising samples submitted by the following:—

The Departments of Animal Health, Local Government, Posts and Telecommunications, and Social Welfare, in addition to the Produce Marketing Board, Commonwealth Trust Limited, Messrs. Astaldi, Sir William Halcrow and Partners and Messrs. Taylor Woodrow.

With the exception of some work for the Medical Officers of Health, practically all the work carried out for the Ministry of Health was of a toxicological nature.

Customs work has covered a wide chemical field as also have the miscellaneous.

CHAPTER VIII

THE MENTAL HEALTH SERVICES

The Mental Health Services are based on the country's one Mental Hospital, an institution sited in Accra and dating back to the early part of the century. Outside this hospital, prisons have often to be used as temporary reception centres for mental cases. Here suspected lunatics are kept under observation until a decision is reached as to whether or not they should be admitted to a specialised Mental Hospital. In 1926, it was first agreed that a new Mental Hospital to be sited near Kumasi should be built. The first site selected and later acquired by Government for the purpose had to be released due to local political difficulties arising from the acquisition. A site was then considered near Accra, but was abandoned as not being sufficiently central. It is clear from a study of the table of distribution of current admissions that the appropriate location remains in or near Kumasi.

Over the years since 1926, Government has had to spend substantial sums of money on various temporary additions to the Accra buildings pending the taking of a final decision on the necessity for building elsewhere. The present Specialist Psychiatrist is working under even greater difficulties than his predecessor due to pressure of numbers and the impracticability now of creating a real hospital out of what has become an agglomeration of improvised buildings over the years. Meantime lack of suitable facilities and surroundings as also the limitations placed upon proper training of staff continue to militate against achieving optimal rates of patient recovery and discharge.

These difficulties notwithstanding, it is believed the appointments of an African Psychiatrist Specialist and of a Matron Superintendent since 1951, have substantially raised the prevailing standards of care and treatment.

Resident Patients

The total number of patients resident on 1st January, 1953 was 736. The total number of new patients admitted during the year was 477. The greatest number of patients resident on any one day was 868, and the daily average number of patients resident was 794. Some 450 patients were daily employed on occupational therapy, sanitation, and other domestic services in and outside the Institution.

Of the grand total of 1,336 patients under treatment during the year, 33 patients escaped, 13 only being re-captured. 160 male and 36 female patients became of sound mind and were discharged as recovered. Deaths numbered 128.

Table LXXXVI of Appendix "F" gives details of admission, discharge, and deaths of patients since 1901. Table LXXXVII gives details of the distribution of new admissions by nationality in 1952 and 1953. Table LXXXVIII gives details of eleven important causes of morbidity and mortality amongst in-patients. It will be observed that Pulmonary Tuberculosis occupies by far the most important place, and that diseases of the respiratory system as a group are the main causes in this Institution.

HOSPITAL PREMISES

As for 1952, the general condition of the hospital premises was considered reasonably satisfactory, all buildings being kept in good repair, with all yards and compounds kept clean, though by their very nature the drainage and sanitation arrangements left much to be desired. There were two infirmaries for males and females housing a maximum of 50 acutely ill persons between them.

HOSPITAL WATER SUPPLY

The water supply to the hospital has improved to the point at which flow is fairly constant.

HOSPITAL CANTEEN AND LIBRARY

Neither a canteen nor a library has yet been provided and both these amenities are urgently needed when funds permit.

HOSPITAL DIET

The general pattern of the patient diets consisted of garri, kenkey, cassava and rice with meat and fish added: these items were supplemented by the addition of:—

Beans and pea soup—once weekly

Plantain—once weekly

Okro stew—twice weekly.

The quality of the foodstuffs and meat supplied by the hospital food and meat contractors was good the expenditure per head per diem averaging 1s. 10d.

The average distribution of patients in the different wards was as follows:—

General Yard	297
Criminal Yard	121
Refractory Yard,	78
Weak Yard	68
Overflow Yard	75
Female Yard	142
Convalescent Block	20
Observation	21
Isolation Block	26
Male Infirmary Block	20

Thirty-five voluntary patients were admitted during the year, the categories of patient population being:—

Male Civilians	585	Female Civilians	114
Male Criminals	126	Female Criminals	8
Male Voluntary Patients	15	Female Voluntary Patients	20

Of the 80 male patients and 36 female patients treated by electrical convulsive therapy during the year, 61 improved and 55 were not improved. Respiratory diseases figured prominently among the common causes of death of inmates as follows:—

Tuberculosis of respiratory system	25
Broncho pneumonia	4
Unspecified pneumonia	4
Other respiratory diseases	4
Other causes of morbidity	68

The out-patients department in this hospital was run mainly for hospital staff whilst consultation practice was conducted at the Gold Coast Hospital, the total attendance during the year being 813.

A few consultations were also held at the Ridge Hospital.

The Psychiatrist Specialist attended court at Accra, Kumasi and Tamale in the capacity of an expert witness on six occasions.

OCCUPATIONAL THERAPY DEPARTMENT

This section of the hospital continued to do good work during the year, the patients engaged on the various industries showing considerable interest in the various crafts undertaken. The total proceeds from the sale of articles produced by the patients amounted to £606.

CHAPTER IX

REPORT OF THE LEPROSY SERVICE

Expansion of the Gold Coast Leprosy Service in 1953 has been slowed by lack of supervisory staff sufficient to cover a country-wide network of out-patient treatment centres.

Establishment of out-patient clinics and consolidation of building works on existing settlements remain the most important features of the Leprosy Service, for only by carrying treatment to the remotest parts of the country will sufficient numbers of patients come forward to bring about an appreciable decline in the present rate of spread of infection.

Whilst the elaborate Government settlement aims to provide generous accommodation for those willing to live there and to form a valuable training centre for Leprosy Service staff it has to be borne in mind that only a few hundred persons with leprosy live in settlements in the Gold Coast as against almost 14,000 registered for out-patient treatment.

At the end of 1953 there were 164 centres in the Gold Coast where regular treatment was being given, either by members of the Leprosy Service Staff, officers of various grades of the Ministry of Health, Christian missionaries or a few voluntary agencies.

Statistics for each Region are summarised below:—

	Lepromatous						Non-Lepromatous					Grand Total
	No. of Clinics	Men	Women	Boys	Girls	Total	Men	Women	Boys	Girls	Total	
Colony East	39	324	180	48	17	569	1,085	1288	462	377	3,212	3,781
Colony West	40	219	108	34	12	373	807	1,154	345	297	2,603	2,976
Trans-Volta/Togoland	16	146	73	10	6	235	303	373	46	40	762	997
Ashanti	32	130	100	8	8	246	629	719	190	169	1,707	1,953
Northern Territories East	24	204	118	45	12	379	853	708	298	256	2,115	2,494
Northern Territories West	13	115	150	5	7	277	386	600	110	105	1,201	1,478
	164	1,138	729	150	62	2,079	4,063	4,842	1,451	1,244	11,600	13,679

Some of the most efficiently run leprosy treatment centres in the country were those under the care of the Medical Field Units, members of the staff of which have been attached to the settlement at Ankaful.

When the general staffing situation permits it is most desirable that doctors engaged in general medical duties, nursing sisters and a variety of junior members of the staff of the Ministry of Health engaged in curative and preventive medicine should be given similar opportunities of studying Leprosy diagnosis and treatment.

ANKAFUL LEPROSARIUM

The main achievement of the year was the erection of the following buildings

- Two general wards of 14 bed capacity each with ward store, service room, kitchenette, bath-room and lavatories.
- A medical inspection block comprising ulcer dressing room, consulting room and routine treatment room.
- Operating theatre block with Sterilising and Anaesthetic room, Sister's room and Surgeons' changing room.
- Two administrative blocks, one containing 3 offices and a store, the other, Medical Officers' office, Consulting room, Laboratory and Dispensary. All these buildings have running water and an electricity supply.
- A building for social, religious and educational activities for all patients.
- Ten patients' houses to accommodate 60 patients.
- Transformer house, concrete poles for H.T. wires, concrete poles for L.T. wires.
- The main settlement buildings were formally opened by His Excellency the Governor in November, 1953.

Later, a school premise for the daily instruction of child patients, and the disabled doing handicrafts and adult literacy classes, was completed together with junior staff quarters consisting of 12 rooms in 3 blocks.

The following buildings were begun during the year:—

- (i) Kitchen and dining-room block for all those patients fed at public expense.
- (ii) A sanatorium block for those suffering from concurrent Tuberculosis.
- (iii) Two additional general wards of 16 beds each.
- (iv) Two additional sets of junior staff quarters.

The number of patients in residence at the end of 1953 was 244, of whom 177 were lepromatous. Increasing confidence in out-patient treatment and the organisation of less widely-spaced clinics caused a limited demand for residential treatment, as was to be expected. Another anticipated result was that there is a high proportion of disabled and destitute persons among those admitted.

During the year under review the policy of encouraging patients to do some regular work has been continued, work being allocated according to the ability of the patient. Attempts have been made to find suitable occupations for badly handicapped patients; steps have been taken towards establishing a basket-making industry in this connection. Results have not been spectacular but the sale of baskets has put highly prized pocket money into the hands of the basket makers. More success is hoped for as new sources of material are tapped, more skill is acquired and markets are discovered.

Agriculture.—The more able bodied patients undertake farm work. During 1953 more land was brought under the plough, and experiments undertaken gave promise of revealing the relative merits of different methods of cultivation. Cassava has been the main root crop grown, but a fair yam crop was lifted in December. Corn and groundnuts were grown successfully during the year, but an experimental rice crop failed. A flock of seventy odd sheep, herded by one of the patients, continues to increase and advice is being sought on the possibility of rearing cattle. Around the patients' quarters and the offices, lawns and flower beds have been laid out. They are maintained daily by patients who are not fit for the heavier work on the farms.

School.—A school of forty-four pupils run under the voluntary direction of Mrs. A. McKelvie, uses the part-time services of three teachers who are themselves patients.

The hospital is now staffed by eighteen nursing orderlies, two ward orderlies, and two washermen. In the kitchen, seven cooks provide meals for one hundred and forty people each day.

Other jobs provided include those of night-watchmen, storekeeper, sanitary-labourers, carpenter and tractor driver.

Some patients cultivate small farms of their own whilst others ply a trade.

Ho, Weija and Yendi settlements continued to function satisfactorily whilst the major settlement run in Kpandai in Northern Togoland by the World Wide Evangelisation Crusade had 209 patients in residence at the end of the year.

CHAPTER X

GOLD COAST X-RAY SERVICES

The radiographic work carried out during the year again showed an increase, in spite of shortage of Junior Personnel. A summary of work done is appended.

The staff consisted of:—

- 1 Specialist Radiologist
- 1 Superintendent Radiographer
- 4 Senior Radiographers
- 1 Radiographer
- 6 X-Ray Assistants
- 17 Pupil X-Ray Assistants
- 1 X-Ray Technician Grade I
- 1 Pupil X-Ray Technician.

A Chief X-Ray Maintenance Technician was appointed during the year, and arrived in the Colony on the 9th August, 1953.

Two new X-Ray departments were opened during the year, one at Bolgatanga Hospital in May and the other at Dunkwa Hospital in December.

The training school attached to this department continues to function and a new class of 8 pupils commenced their course in July.

One X-Ray Assistant proceeded to the United Kingdom to qualify in Radiography.

New equipment was installed at the Gold Coast Hospital to replace units which had become obsolete.

Considerable difficulty was experienced in obtaining satisfactory accommodation for the X-Ray Stores, regarding which several removals were necessary so that keeping an accurate check on these stores presented a difficulty of no mean order.

Physiotherapy had still to be undertaken by the X-Ray staff in most stations, and a summary of the work done is given overleaf.

SUMMARY OF RADIOGRAPHIC WORK DONE: 1953

Examinations	Accra	Sekondi	Kumasi	Tarkwa	Cape Coast	Takoradi	Winneba	Tamale	Bolgatanga	Dunkwa
Chest	3,320	1,042	1,098	374	592	202	245	285	86	9
Barium Meals	227	25	63	19	41	33	2	11	1	—
Barium Enema	31	8	17	1	8	3	—	—	1	—
Renal Tracts	60	8	26	3	4	6	—	3	—	—
Gall Bladder	16	6	28	12	7	14	1	—	2	—
Abdomen (Pregnancy, etc.) ..	99	11	37	17	60	9	19	25	11	—
Sinuses (Location of)	89	8	32	3	8	23	3	1	1	—
Salpingograms	21	7	2	—	29	—	—	—	—	—
Bronchograms	9	—	—	1	—	—	—	—	—	—
Dental	151	144	47	6	64	35	6	18	4	—
General (Fractures, etc)	3,085	1,265	3,323	345	697	282	266	397	86	19
Total	7,108	2,524	5,573	781	1,570	607	442	640	192	28

European Male	414	56	205	5	25	396	9	28	4	1
European Female	189	23	147	1	46	101	2	17	—	—
African Male	4,216	2,005	2,364	576	954	98	317	473	134	25
African Female	2,098	440	857	209	485	10	114	122	55	2
Fees Collected	£749 4s.	£425 1s.	£816 4s.	£220 0s. 6d.	£409 2s.	£390 6s. 6d.	—	£30 3s.	—	£2 2s.

SUMMARY OF PHYSIOTHERAPEUTIC WORK DONE: 1953

	Gold Coast Hospital		Ridge Hosp. Accra		Sekondi		Kumasi		Tarkwa		Cape Coast		Takoradi		Winneba		Tamale		Bolgatanga		Dunkwa	
	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att	Cas	Att
Faradism:	47	463	25	125	—	—	—	—	—	—	—	—	1	4	—	—	—	—	—	—	—	—
Galvanism:	32	326	47	282	—	—	11	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Radiant Heat	51	359	91	1,092	9	36	144	1,244	—	—	113	677	1	16	2	2	20	130	—	—	—	—
Infra Red	136	806	160	1,642	126	520	3	17	66	472	68	335	74	454	8	8	4	10	—	—	—	—
Ultra Violet	—	—	25	78	3	12	14	80	—	—	—	—	6	36	—	—	—	—	—	—	—	—
Ultra Short Wave	34	215	180	887	22	105	—	—	—	—	—	—	4	20	—	—	—	—	—	—	—	—
Massage and Movements	203	536	185	1,435	144	262	178	1,164	24	168	17	578	27	240	2	8	—	—	—	1	6	—
Sinusoidal	3	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ionisation	7	29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	513	3,744	713	5,541	304	1,735	340	2,510	90	640	198	1,590	113	770	12	18	24	140	—	—	1	6
European Male	—	—	449	—	—	—	61	—	1	—	7	—	72	—	—	—	4	—	—	—	1	—
European Female	—	—	233	—	—	—	71	—	—	—	6	—	23	—	—	—	2	—	—	—	—	—
African Male	235	—	19	—	249	—	149	—	86	—	126	—	15	—	12	—	13	—	—	—	—	—
African Female	188	—	12	—	55	—	59	—	3	—	59	—	3	—	—	—	5	—	—	—	—	—

CHAPTER XI

MATERNITY AND CHILD WELFARE

All Tables referred to in this Chapter will be found in Appendix "G"

A. MATERNITY

(i) *Hospitals*

The country's main maternity units are the Maternity Hospital, Accra, and the Maternity Unit of the Kumasi General Hospital. The former commenced operation in 1928, and the latter in 1949. The Maternity Hospital, is a separate entity, adjacent to the Gold Coast Hospital, Accra, whereas the Maternity Unit at Kumasi has been functioning since its inception under the difficulty of being partly within the compound of the Kumasi General Hospital and partly in a building about one mile away.

Owing to the nature of the returns submitted by these two units it is not possible to compare their work during the present year, except as featured below:—

(a) *Deliveries*

	Accra	Kumasi
Women admitted for delivery . .	1,817	780
Maternal deaths	58	41

(b) *All admissions*

	Accra	Kumasi
Total admissions	3,793	2,444
Maternal deaths	129	63
Live infants	1,610	507
Dead infants and still-births . .	287	315

In Accra, cases of all types are admitted: amongst the ante-natal admissions were women suffering from: Malaria (321 cases), Enteritis (24 cases), Hookworm (7 cases), Bacillary Dysentery (43 cases) Amoebic Dysentery (21 cases), Schistosomiasis (11 cases), Epilepsy (2 cases), Laryngitis (6 cases), Pneumonia, all types (42 cases), Bronchitis, all types (17 cases) and many others. Post-partum admissions included pneumonia (4 cases) enteritis (9 cases).

Table LXXXIX gives a comparison between the cases treated at Accra and Kumasi in a small number of instances.

Table XC gives a general indication of the Maternity work done in all types of Hospitals by Regions in 1953.

The number of abortions remains unsatisfactorily high, bearing in mind that each abortion represents an infant life lost to the country as well as to the family.

Table XCI enumerates the maternal deaths, also the incidence of certain post-partum conditions occurring in 1953, and presents them on a Regional basis.

Table XCII gives the incidence of certain conditions affecting the newly-born child in 1953 and presents them on a Regional basis.

Table XCIII presents the mortality, derived from the available records, from certain conditions of the new-born child.

(ii) *Clinics*

Maternity clinics established by either local authorities or private midwives are in various centres throughout all regions and are well patronised.

Table XCIV gives the returns from Maternity Clinics on a Regional basis. Records in a suitable form have recently been devised but were not available from all stations in 1953, hence they present a bare outline only of the present position.

(iii) *Dressing Stations*

Table XCV records the number of women attending district Dressing Stations for medical aid in respect of pregnancy, childbirth, or the puerperium. The figures are set out on a Regional basis for the years 1951, 1952 and 1953.

These Dressing Stations are for the most part run by dressers who have received no specific training in the handling of conditions which arise from the pregnant state, but medical officers and midwives had visited some and held clinics therein.

In Table XCVI is detailed the incidence of conditions arising from the pregnant state, seen at Dressing Stations.

B. CHILD WELFARE

Child Welfare Clinics have been established for approximately 25 years in Accra and Kumasi. Both these establishments provide a number of cots, the Kumasi clinic being the larger of the two. The primary object of both these clinics was originally the care of children under 5 years of age, and, in particular, the care of children at the weaning stage as also the education of mothers in nutritional matters.

Since the end of the last war, both clinics have tended to become children's hospitals, owing to the overcrowded state of the general hospitals and the need to admit therein only sick as opposed to under-nourished children or children suffering from frank deficiency diseases and syndromes. The Accra Clinic formally changed its name to that of Children's Hospital in 1951; the functions of the clinic remained unchanged.

The principal causes of morbidity are shown in Table XCVII which gives a summary of all important causes of morbidity at Child Welfare Clinics in 1953 compared with 1951 and 1952. This clearly established the main causes of infant sickness as malaria, yaws, intestinal diseases and deficiency diseases in that order.

Table XCVIII shows the children under 16 years of age admitted to certain hospitals for treatment expressed as a percentage of the total admissions to each hospital.

Returns from other hospitals were not available. It is clear, however, that hospitals in the Northern Territories care for a very much larger number of children than is the case in Ashanti and the Colony with the exception of Keta, where the number of child admissions remains high.

In Table XCIX will be found the children under 16 years of age attending certain hospitals as out-patients; these again are expressed as a percentage of the total number of out-patients seen at each hospital. Figures for a slightly larger number of hospitals were available. The highest percentage of children was seen at Sunyani, Lawra, Wa, Berekum and Bawku.

REPORT OF THE SENIOR SUPERINTENDENT OF HEALTH VISITORS

ACCRA

Work was continued throughout the year and some improvement was recorded in the health, cleanliness, and nutrition of the population of Accra.

VISITING

In the areas covered for visiting—Adabraka, Asere, Christiansborg, James Town and Labadi—every effort was made to visit each newly delivered infant soon after birth and as often as possible after that. With the large population and few Health Visitors, visits were necessarily infrequent and particular attention was paid therefore to premature babies and cases of malnutrition. Evidence of malnutrition decreased except in those districts where the parents were unco-operative. The condition of motherless and orphan children showed some improvement, the foster-mothers seeking more readily the advice of the Health Visitors. On the whole, children under 1 year appeared to receive more care and attention than those in the 1-5 year age group and the Health Visitors endeavoured to make the parents understand the importance of correct feeding during this particular period of a child's life.

Tuberculous patients were visited after discharge from hospital and advised on the care of their own and their family's health. They were encouraged to attend for regular examinations at the out-patients' clinic. Contacts and home conditions of tuberculous patients were investigated. Patients with Leprosy were visited when necessary to encourage them to continue with treatment at the Leper Clinic.

NUMBER OF DOMICILIARY VISITS PAID

Children under 1 year	5,351
Children under 1-5 years	3,850
Children with malnutrition	678
Motherless and Orphan Children	1,233
Hospital Follow-ups	35
Tuberculosis Patients and Contacts	336
Leprosy Cases	225
Miscellaneous	187

CHILD WELFARE CENTRES

Sixteen Child Welfare Clinics were held regularly throughout the year. One was closed in April because the attendance was very small. Health talks and demonstrations were given in most of these centres during the year.

Attendances at Child Welfare Centres in Accra were 61,674.

SCHOOL HEALTH SERVICE

In March, 1953, School Hygiene inspections were again started and pupils at four schools were examined and sent for treatment at Minor Ailment Clinics as necessary. The health of the school children was found to be fairly good on the whole and parents responded well to requests that children should attend hospital out-patients or dental clinics for treatment. Advice on improvements considered necessary for the health of the children was well received by the heads of schools. Unfortunately, owing to leave incidence the staff situation became acute late in the year and further inspections proved impossible.

MIDWIVES

Monthly visits to private midwives were continued and their premises, equipment and registers were inspected.

There were 27 midwives practising in the Accra district at the end of 1953.

ASHANTI

KUMASI

With the progressive decrease in numbers of Health Visiting staff during the past four years, work in the Kumasi district has fallen considerably and only the bare outline of a Health Visiting Service could be maintained during the year. The two Health Visitors had eight Welfare Centres to run which left little time for domiciliary work. Talks and demonstrations were few and no schools were visited.

NUMBER OF DOMICILIARY VISITS PAID

Children under 1 year	..	..	..	..	..	4,210
Children 1—5 years	..	..	..	..	..	6,359
						10,569

Attendances at Child Welfare Centres in Kumasi were 18,287

MIDWIVES

For the greater part of the year the private midwives in Kumasi were visited weekly; a full inspection of their premises, equipment and registers being made once a month.

There were 20 private midwives practising in the Kumasi district during the year.

Deliveries	..	..	..	..	..	3,610
Premature Deliveries	..	..	..	..	..	105
Stillbirths (Notified)	..	..	..	..	..	12

RURAL ASHANTI

Child Welfare Clinics were held by the Health Sister with the assistance of the local midwife in various parts of Ashanti.

There were 17 such centres functioning at the end of the year and, on the whole, these were well attended. Medicines were not prescribed unless absolutely essential, but mothers were advised on the care and feeding of their children. A main difficulty in running these centres was the lack of an interpreter for the Health Sister since, whilst the midwives were most co-operative they were fully occupied with the weighing of children and the keeping of records.

Attendances at Child Welfare Centres in rural Ashanti were 6,841.

MIDWIVES

All midwives in Ashanti, whether employed by Local Authorities or practising privately were visited monthly.

Midwives attached to Missions	..	..	..	..	..	11
Other midwives practising	..	..	..	..	..	28
Total number of Deliveries	..	..	..	..	..	976
Premature Deliveries	..	..	..	..	..	81
Stillbirths	..	..	..	..	..	68

TRANS-VOLTA/TOGOLAND

The private midwives and Dressing Stations were inspected twice during the year. The Kpandu Health Centre continued to function under Roman Catholic Mission Sisters. The number of cases delivered in the Maternity ward was disappointing, most of them coming from outside Kpandu. Ante-natal and Child Welfare Clinics were held at Kpandu and five other villages; attendances were good although most children being sick, very little preventive work was done. The midwife frequently gave short Health talks before the clinics started, also giving talks at the Health Centre on occasional week-ends.

NORTHERN TERRITORIES

The Bimbilla Health Centre opened in May, 1953 and a midwife was posted there in July, 1953. As the Maternity Unit had not been built the midwife's office had been turned into a delivery room, and the women were afterwards followed-up at home. Ante-natal and Child Welfare Clinics were held weekly and the number of attendances was encouraging. One day a week was spent by the midwife in Home Visiting, both expectant mothers and children being visited.

CHAPTER XII

TRAINING OF AUXILIARY MEDICAL PERSONNEL

(a) State Registered Nurses.

The training of nurses to State Registered standards is at present carried out only in the Nurses Training College, Accra, student nurses receiving their practical ward training in the Gold Coast Hospital, Accra. After qualification, State Registered Nurses serve for one year as staff nurses and may then proceed to the Maternity Hospital for training as midwives. On qualification as Midwives, they are eligible for posting to District Hospitals.

Table C of Appendix "H" indicates the training position in 1953 and compares it with 1952.

The Gold Coast Hospital is also used for the training of nurses to Qualified Registered standards; as the number of student nurses from the Nurses Training College increases, and more of these enter the Gold Coast Hospital, the number of Qualified Registered Nurse Trainees will have to be limited until, in time the hospital is staffed entirely by students and nurses in the State Registered category.

(b) Qualified Registered Nurses.

These are trained on the apprenticeship system in the Gold Coast Hospital, Kumasi, Sekondi, Cape Coast, Tamale and Bolgatanga hospitals. During 1953, there were 464 pupil nurses in the service of whom 51 ceased training from various causes, leaving 413 at 31st December, 1953. During 1952, there were 354 Pupil Nurses in the service of whom 90 ceased training during the year.

(c) Training of Mental Nurses.

The training of Mental Nurses is carried out at the Mental Hospital, Accra. As yet, no accommodation is provided at the hospital for Pupil Mental Nurses, nor is any classroom available. During the dry season lectures are given in the open air, at other times the former nurses recreation room is used. Training of Mental Nurses is carried out by a Departmental or Ward Sister in the absence of a Qualified Mental Tutor for the Hospital.

Examinations are held in January, May, and September. The Examination results during 1953 were most gratifying as will be seen below:—

	Number of Candidates	Number of Passes	Number Referred	Number Failed
Preliminary Qualifying Examination	56	31	15	10
Final Qualifying Examination	19	17	2	nil

(d) Training of Midwives.

Midwives are trained at the Maternity Hospital, Accra and the Midwives Training School, Kumasi. The former trains only girls who have already qualified as nurses, S.R.N. or Q.R.N. The latter recruits girls for training solely as Midwives.

(i) The Maternity Hospital, Accra.

Training conditions at the Maternity Hospital continue to be satisfactory, despite difficulties due to shortage of trained midwives. On 31st December, 1953, there were 75 pupils in training at the Maternity Hospital, inclusive of 9 pupils sent from the Midwifery Training School in Kumasi to complete their training. 40 Midwives qualified in 1953 out of a total of 47 who presented themselves for examination, and 4 were highly commended.

This number (40) is the same as that qualified in 1951 and 1952 and represents the maximum output of the school.

(ii) The Midwifery Training School, Kumasi.

Training is carried out in this School under difficulties, due to the separation of the Hostel, Clinic, and classrooms from the hospital wards. Trainees must be of either Ashanti or Northern Territories origin. On 31st December, 1953, there were 40 pupils resident in the school. 10 Midwives qualified in 1953 out of a total of 22 who presented themselves for examination. 9 of those who failed were transferred to the Maternity Hospital, Accra, for further training.

(e) General comments on Nursing position.

During 1953, it has become increasingly difficult to maintain reasonable standards of nursing care in hospitals due to:—

- A steadily increasing demand for maternity leave.
- The increasing number of nurses who resign from the service.
- Difficulty experienced in obtaining suitable female trainees due partly to a lack of hostel facilities for them.
- The general lack of official quarters for trained nurses.

Table CI of Appendix "H" illustrates the general position in respect of the Nursing Service. It will be noted that the numbers training barely make up for losses.

Increasing demands for maternity leave, and increasing resignations of nurses mean that more frequent postings of staff are necessitated. This is a source of difficulty, particularly with male nurses who have families and children to educate.

Section D of Table CI in respect of maternity leave, illustrates the position in 1953 and compares it with 1952. It will be seen that the number away on maternity leave in 1953 was almost double those similarly placed in 1952. It became necessary at one critical state in the year to consider the closure of wards in the Maternity Hospital, Accra, owing to the excessive number of Nurse-Midwives absent on maternity leave who could not be replaced.

It follows that expansion of hospitals could not be considered since adequate staff was not available for them. Whilst in 1952, only 43 pupil nurses passed the final examination for Qualified Registered Nurse, in 1953 the number was 70. However, these results must be assessed in the light of the fact that whilst there are 6 training schools operating at Accra, Kumasi, Sekondi, Cape Coast, Tamale and Bolgatanga, only five Sister Tutors were available to undertake the training programme. Since one of these is usually absent on leave there is rarely an effective strength of more than 4. Training in those hospitals such as Cape Coast where there is no Sister Tutor must therefore be undertaken by a Departmental Nursing Sister in addition to her other duties.

(f) Training of Health Inspectors.

The three Schools of Hygiene in the Gold Coast are situated at Accra, Kintampo, and Tamale.

(i) Accra.

The Accra School provides basic training and refresher courses leading up to the Health Inspector's examination of the Royal Sanitary Institute (West Africa).

During 1953, 9 pupils took the examination of the Institute and were successful.

A course of training for Health Visitors commencing with 4 students began at the school in January 1953. Practical work carried out in Accra was added to experience of rural work gained in Ashanti. At the end of 1953, those students were all successful at a qualifying examination.

Statistics respecting this school are included in Tables CII and CIII of Appendix "H".

The training given by the Accra School is considered absolutely essential to the effecting of any improvement in present standards of the local environmental health services. It is essential for Health Inspectors to know not only how a thing is done but why it is done, and this requires a much higher basic educational standard as well as higher quality training than had hitherto been possible. Potential future Health Superintendents receive their basic training at the School.

(ii) Kintampo.

The intention of the Kintampo school is to train a slightly lower grade of Health Inspector for work in the rural areas of Ashanti and the Colony, and to provide the Local Authorities with a source of trained employee for their health work. The men so trained commence with a lower educational standard than would be acceptable for the Accra School.

The Kintampo course is essentially a practical one and students learn in part by constructing various types of sanitary unit and out-buildings, as well as by laying out new villages. By this means the school not only provides training but it is a source of help to the people living in villages around Kintampo.

In March, 30 trainees sat the final examination and 29 satisfied the examiners of their fitness to be Health Inspectors Grade III. The second group of trainees arrived in Kintampo to commence training in April. This consisted of 21 Local Authority students and 9 Government Sanitary Overseers.

(iii) Tamale.

This school is designed to provide training for local authority Sanitary Overseers in the Northern Territories. Owing to the backward educational state of the Region, a considerably lower standard for admission has to be accepted.

Trainees were drawn from the following Districts:—

Dagomba—3, Nanumba—1, Mamprussi—1, Frafra—2, Kusasi—2, Kassena-Nankanni—1, Builsa—1, Lawra—3, Wala—2.

Trainees carried out a practical programme of village improvement as part of their training, but the later part of the year was largely taken up with classroom training.

Work on the extension of the School buildings continued at the end of the year.

(g) Training of X-Ray Assistants.

During 1953, the building previously occupied by the Accra Accounts office became vacant and was allocated to the School for X-Ray Assistants. Training continued during the year, a further 8 pupils being recruited in July, making a total of 17 pupil X-Ray Assistants in training at the end of 1953.

(h) Training of Laboratory Assistants.

At the end of 1953, there were 8 pupils undergoing training as Laboratory Assistants in the Medical Research Institute. 27 Microscopists successfully passed the qualifying examination for promotion to Laboratory Assistant Grade II.

(i) *Gold Coast School of Pharmacy.*

This is now established as part of the Kumasi College of Technology and Arts; and all theoretical training of dispensers is carried out there. 24 pupil dispensers were in training at the beginning of 1953. At the examination held on 20th June, 12 were successful in obtaining the Gold Coast Pharmacy and Poisons Board's Certificate of Competency.

STATUTORY BOARDS

A. PHARMACY AND POISONS BOARD

The Board met five times during 1953, in February, April, July, August and October. Its duties included in 1953:—

- (i) The examining of candidates for the Board's Certificate of Competency, approval of equipment for training establishments for Pupil Pharmacists, and approval of post-qualification experience of registered Instructors.
- (ii) Consideration of a draft Pharmacy and Poisons Bill to replace the Pharmacy and Poisons Ordinance 1946, sections of which are no longer appropriate.
- (iii) The holding of disciplinary enquiries in the case of registered Pharmacists and holders of licences to sell poisons under Part II of the Pharmacy and Poisons Ordinance 1946 who are convicted of illegal practices. During 1953, five such enquiries were held, 2 names being removed from the Register of Pharmacists, 1 Pharmacist warned, and in 1 case judgment was suspended for six months. The remaining case was that of a holder of a Part II licence which was revoked by the Board.
- (iv) Consideration of matters relating to the control of importation and sale of certain medicinal preparations.
- (v) Consideration of the appointment of a full-time Secretary to the Pharmacy and Poisons Board.

B. NURSES BOARD

The composition and duties of this Board remained unchanged during 1953. Four meetings were held, in February, March, July, and December.

7 disciplinary cases were considered by the Board during the year, with the following results:—

The names of 3 nurses were removed from the Register.

2 nurses were suspended from practice.

2 nurses were reprimanded.

C. MIDWIVES BOARD

The composition and duties of this Board remained unchanged throughout the year. Four meetings were held in, January, May, June, and September. 5 Midwives were warned for professional misconduct during 1953.

VISITORS

The Ministry of Health had the pleasure of welcoming the following visitors to the Gold Coast during 1953:—

1. *Visitors under the Nuffield Foundation Scholarship Scheme.*

Professor R. W. B. Ellis, O.B.E., M.A., M.D., F.R.C.P. Professor of Child Health University of Edinburgh.

Professor H. W. Rogers, O.B.E., F.R.C.S., Professor of Surgery, Queen's University, Belfast.

Doctor J. H. Middlemiss, M.D., D.R.M., Director of Radiology at the United Bristol Hospitals.

2. *Other Distinguished Visitors.*

Dr. J. N. Togba M.D., Director of Public Health and Sanitation, Republic of Liberia.

Professor B. G. Maegraith, B.Sc., M.B., M.R.C.P., Professor of Tropical Medicine, Liverpool University and Dean of the School of Tropical Medicine, Liverpool.

Colonel H. W. Mulligan, C.M.G., M.D., Director of the West African Institute of Trypanosomiasis Research.

Mr. Ian Fraser, D.S.O., O.B.E., M.Ch., M.D., F.R.C.S.

Dr. S. H. O. Jones, O.B.E., Director of Medical Services, Gambia.

Dr. E. A. Renner, O.B.E., Director of Medical Services, Sierra Leone.

Dr. G. M. Menzies, Deputy Inspector General Medical Services, Nigeria.

APPENDIX "A"

TABLE I (Census Figures)

POPULATION OF THE GOLD COAST (AFRICAN)

Region	1891	1901	1911	1921	1931	1948
Eastern and Western	764,185	895,330	852,666	1,171,931	1,571,362	2,044,886
Ashanti	no record	345,891	287,814	406,193	578,078	817,782
Northern Territories	no record	307,724	361,806	530,355	717,275	866,295
Togoland	no record	no record	no record	187,939	293,671	382,717
Total	—	—	—	2,296,418	3,160,386	4,111,680

TABLE II

POPULATION OF THE GOLD COAST (INCLUDING TOGOLAND) BY SEX

	Males	Females	Total
1931	1,615,599	1,544,787	3,160,386
1948	2,078,715	2,032,965	4,111,680

TABLE III

ESTIMATED NON-AFRICAN POPULATION OF THE GOLD COAST MID-1953

Origin	MALES		Females	Total
	Under 15	Over 15		
British	940	6,420	3,640	11,000
Other European	90	790	340	1,220
Lebanese, Syrian	340	770	820	1,930
U.S.A.	30	150	120	300

TABLE IV

1948 CENSUS: RECORDS OF IMMIGRATION

Region enumerated	Total population	Population born in other British Territory	Population born in foreign Territory	Total population born outside the Gold Coast	Population born within the Gold Coast
Eastern and Western	2,044,886	36,391	37,820	74,211	1,970,675
Ashanti	817,782	9,209	17,119	26,328	791,454
Northern Territories	866,295	3,400	34,646	38,046	828,249
Togoland	382,717	3,541	31,941	35,482	347,235
Totals	4,111,680	52,541	121,526	174,067	3,937,613

TABLE V

NON-OFFICIAL EUROPEAN POPULATION 1946-1953

Occupation	1946	1947	1948	1949	1950	1951	1952	1953
Merchants	958	1,094	1,193	1,246	1,430	1,324	1,423	1,441
Missionaries, male	272	256	291	303	332	382	409	447
Missionaries, female	182	164	208	202	213	276	258	309
Mining Community	865	1,122	1,423	1,257	1,537	1,230	1,436	1,461
Women (non-official)	733	897	1,136	1,224	1,262	1,412	1,062	1,184
Children (General)	133	261	322	506	598	707	582	636
Total	3,143	3,794	4,573	4,738	5,372	5,331	5,170	5,478

TABLE VI

THE GENERAL EUROPEAN POPULATION 1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
Number resident	4,048	4,756	5,609	5,790	6,507	6,742	6,751	7,169
Number invalided	90	72	55	45	39	41	40	21
Number of deaths	12	17	13	14	10	14	17	19

TABLE VII
DISTRIBUTION OF REGISTERED BIRTHS AND DEATHS BY REGIONS: 1953

Region	Population of Region, 1948 (Census)	Number of Registration Areas	Population of Registration Areas 1953	BIRTHS		DEATHS	
				Males	Females	Total	Total
Eastern and Western	2,044,886	23	372,407	Not Available	Not Available	13,809	7,459
Togoland	382,717	1	Included Above				
Ashanti	817,782	8	109,801	1,766	1,809	3,575	862
Northern Territories	866,295	4	32,700	412	385	797	411
Total	4,111,680	36	514,908			18,181	10,720

TABLE VIII
REGISTERED BIRTHS AND DEATHS BY SEX AND RACIAL ORIGIN: 1952-53

Year	BIRTHS				DEATHS			
	AFRICAN		NON-AFRICAN		AFRICAN		NON-AFRICAN	
	Males	Females	Total	Total	Males	Females	Total	Total
1952	7,911	7,678	15,589	289	6,222	4,527	10,749	10,780
1953	9,047	8,865	17,912	269	6,133	4,543	10,676	10,720

TABLE IX

BIRTH, STILLBIRTH, DEATH, AND INFANTILE MORTALITY RATES: 1949-53

Year	Number of live births Registered	Live birth rate per 1,000 living	Stillbirth rate per 1,000 total live and stillbirths	Number of Deaths Registered	Death rate per 1,000 living	Infant Mortality rate per 1,000 related birth
1949	15,634	30.6	78.0	10,873	20.8	125
1950	14,787	29.3	88.6	10,106	20.0	122
1951	15,335	31.5	85.6	10,000	19.3	117
1952	15,878	30.0	78.0	10,780	20.3	125
1953	18,181	35.3	73.0	10,720	20.8	113

TABLE X

BIRTH, STILLBIRTH, DEATH, AND INFANTILE MORTALITY RATES IN 1953:
BY REGIONS

Region	No. of live Births registered	Live birth rate	Stillbirth rate	No. of deaths registered	Death rate	Infantile Mortality rate
Ashanti Eight Registration Areas	3,575	32.5	117	2,313	21.1	123
Northern Territories, Four Registration Areas ..	797	24.4	104	948	29.0	173

TABLE XI

REGISTERED DEATHS (ALL CAUSES) BY AGE AND SEX: 1952-53

Age Group	1952		1953	
	Males	Females	Males	Females
Under 24 hours	66	50	135	63
24 hours—I year	1,010	852	953	910
1—	928	861	968	789
5—	362	326	334	327
15—	445	401	452	429
25—	1,726	932	1,705	844
45—	773	376	794	342
65—	935	737	826	849

TABLE XII

THE OFFICIAL EUROPEAN POPULATION 1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
Number resident	905	962	1,036	1,052	1,135	1,411	1,581	1,691
Number invalided	34	29	20	21	19	16	25	17
Number of deaths	1	6	2	2	4	3	3	4

TABLE XIII

CAUSES OF INVALIDING OF EUROPEAN OFFICIALS 1949-1953

International List Number		1949	1950	1951	1952	1953	Total
A.1	Tuberculosis of respiratory system	—	—	1	1	—	2
A.4	Tuberculosis of bones and joints	—	—	—	1	—	1
A.12	Typhoid fever	—	—	2	—	—	2
A.16(B)	Amoebiasis	—	—	1	—	—	1
A.26	Tetanus	—	—	—	1	—	1
A.37(E)	Other and unspecified forms of Malaria	2	—	—	1	1	4
A.40(A)	Onchocerciasis	—	—	—	1	—	1
A.44	Malignant neoplasm, buccal cavity and pharynx	—	—	—	1	—	1
66A.48	Malignant neoplasm of rectum	—	—	—	—	1	1
A.60	Benign neoplasms and neoplasms of unspecified nature	—	—	1	—	—	1
A.62	Thyrotoxicosis with or without goitre	—	1	—	—	—	1
A.65(C)	Other specified and unspecified anaemias	—	—	1	1	—	2
A.66(A)	Asthma	1	—	—	—	—	1
A.66(B)	Other allergic disorders, endocrine, metabolic, and blood diseases	—	2	—	—	—	2
A.67	Psychoses	—	—	1	1	—	2
A.68	Psychoneurosis, and disorders of personality	9	6	6	4	7	32
A.77(C)	Other inflammatory diseases of the ear	—	—	—	—	1	1
A.78(A)	All other diseases and conditions of the eye	—	1	—	2	—	3
A.78(B)	All other diseases of the nervous system and sense organs	—	—	—	1	—	1
A.81	Arteriosclerotic and degenerative heart disease	—	1	—	—	—	1
A.83	Hypertension with heart disease	—	—	—	1	—	1
A.86	Other diseases of circulatory system	—	1	—	—	—	1
A.88	Influenza	—	—	—	—	1	1
A.93	Bronchitis, chronic and unqualified	—	—	1	—	—	1
A.95	Empyema and abscess of lung	—	—	—	1	—	1
A.96	Pleurisy	—	1	—	—	—	1
A.97	All other respiratory diseases	—	—	—	—	1	1
A.99	Ulcer of stomach	—	—	—	—	1	1
A.100	Ulcer of duodenum	1	1	—	—	—	2
A.102	Appendicitis	—	—	—	1	1	2
A.106	Cholelithiasis and cholecystitis	—	1	—	1	—	2
A.107	Other diseases of digestive system	3	—	1	1	—	5
A.114(C)	All other diseases of genito-urinary system	—	2	—	2	—	4
A.121	Infections of skin and subcutaneous tissues	—	—	—	—	1	1
A.122	Arthritis and spondylitis	—	—	—	—	2	2
A.126(B)	All other diseases of skin	1	—	—	—	—	1
A.126(C)	All other diseases of musculo-skeletal system	2	—	—	—	—	2
A.137(B)	Observation without need of further medical care	—	—	1	—	—	1
AE.147(E)	All other accidental causes	1	1	—	—	—	2
AN.138	Fracture of skull	—	—	—	1	—	1
AN.140	Fracture of limbs	—	1	—	1	—	2
AN.141	Dislocation without fracture	—	—	—	1	—	1
AN.143	Head injury (excluding skull fracture)	1	—	—	—	—	1
Total		21	19	16	25	17	98

TABLE XIV

CAUSES OF INVALIDING OF EUROPEAN OFFICIALS, 1953

Serial	Diagnosis	Number of Cases
1	Post influenzal depression	1
2	General debility	2
3	Anxiety psychoneurosis	4
4	Influenza	1
5	Multiple boils	1
6	Chronic otomycosis	1
7	Early carcinoma of rectum	1
8	Recurring attacks of Malaria and Typhoid fever	1
9	Arthritis	1
10	Cervical spondylitis	1
11	Chronic laryngo-pharyngitis	1
12	Peptic ulcer	1
13	Appendicitis	1

TABLE XV

INVALIDING OF NON-OFFICIAL EUROPEANS 1946-1953

Occupation	1946	1947	1948	1949	1950	1951	1952	1953
Merchants	23	14	6	4	1	11	—	1
Missionaries, male	2	4	2	3	—	—	—	1
Missionaries, female	5	3	1	2	—	—	—	—
Mining Community	—	20	23	13	19	14	15	1
Women (non-official)	26	2	3	2	—	—	—	1
Children (General)	—	—	—	—	—	—	—	—
Total	56	43	35	24	20	25	15	4

TABLE XVI

CAUSES OF INVALIDING OF NON-OFFICIAL EUROPEANS 1949-1953

International List Number	Diseases	1949	1950	1951	1952	1953	Total
A.1	Tuberculosis of the respiratory system	2	—	7	2	—	11
A.5	Tuberculosis, all other forms	—	1	—	—	—	1
A.12	Typhoid fever	—	—	—	1	—	1
A.13	Paratyphoid fever and other Salmonella infections.	—	2	—	—	—	2
A.16(B)	Amoebiasis	1	—	—	—	—	1
A.28	Acute poliomyelitis	—	—	—	—	1	1
A.46	Malignant neoplasm of stomach	—	—	1	—	—	1
A.49	Malignant neoplasm of larynx	1	—	—	—	—	1
A.60	Benign neoplasms and neoplasms of unspecified nature	1	—	—	—	—	1
A.63	Diabetes mellitus	—	1	1	—	—	2
A.65(A)	Pernicious and other hyper-chromic anaemias	—	1	—	—	—	1
A.66(A)	Asthma	—	—	—	—	1	1
A.66(B)	All other allergic disorders, endocrine, metabolic, and blood diseases	2	—	1	—	—	3
A.67	Psychoses	1	—	—	—	1	2
A.68	Psychoneuroses and disorders of personality,	4	1	1	—	—	6
A.73	Epilepsy	1	—	—	—	—	1
A.81	Arteriosclerotic and degenerative heart disease	2	1	1	1	—	5
A.82	Other diseases of the heart	1	—	—	—	—	1
A.83	Hypertension with heart disease	—	1	—	—	—	1
A.84	Hypertension without mention of heart	—	1	—	—	—	1
A.90	Broncho-pneumonia	—	1	—	—	—	1
A.91	Primary atypical, other and unspecified pneumonia.	—	—	—	1	—	1
A.97(A)	Pneumoconiosis	1	1	—	—	—	2
A.97(B)	All other respiratory diseases	2	—	1	1	—	4
A.99	Ulcer of stomach	—	—	1	1	—	2
100	Ulcer of duodenum	1	—	1	—	—	2
101	Gastritis and duodenitis	—	—	1	—	—	1
A.103	Intestinal obstruction and hernia	—	—	1	—	—	1
A.107	Other diseases of digestive system	1	1	3	—	—	5
A.144(C)	All other diseases of the genito-urinary system	—	—	—	1	—	1
116	Toxaemias of pregnancy and the puerperium	1	—	—	—	—	1
A.121	Infections of skin and subcutaneous tissues	—	—	1	—	—	1
A.122	Arthritis and spondylitis	—	1	—	3	—	4
A.126(B)	All other diseases of skin	—	—	—	1	—	1
A.137(C)	All other ill-defined causes of morbidity	—	1	—	—	1	2
A.E.147(E)	All other accidental causes	—	1	—	1	—	2
AE.148	Suicide and self-inflicted injury	—	—	1	—	—	1
AN.138	Fracture of skull	—	1	—	—	—	1
AN.139	Fracture of spine and trunk	—	1	1	—	—	2
AN.140	Fracture of limbs	2	1	—	1	—	4
AN.141	Dislocation without fracture	—	—	1	—	—	1
AN.142	Sprains and strains of joints and adjacent muscle	—	1	—	—	—	1
AN.145	Laceration and open wounds	—	—	1	1	—	2
AN.150	All other and unspecified effects of external causes	—	1	—	—	—	1
Total		24	20	25	15	4	88

TABLE XVII

CAUSES OF INVALIDING OF NON-OFFICIAL EUROPEANS: 1953

Serial	Diagnosis	Number of cases
1	Mental disorder	1
2	Poliomyelitis	1
33	Asthmatic attacks	1
4	Paraplegia	1

TABLE XVIII

INVALIDING AND DEATH IN THE PENSIONABLE OFFICIAL AFRICAN POPULATION
1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
Number resident	6,286	6,983	8,070	7,949	8,809	8,730	11,512	11,597
Number invalided	45	43	42	48	56	38	54	66
Number of deaths	18	25	28	37	24	16	23	34

TABLE XIX

CAUSES OF INVALIDING AFRICAN OFFICIALS 1949-53

International List numbers	Diseases	1949	1950	1951	1952	1953	Total
A.1	Tuberculosis of respiratory system	8	10	6	14	11	49
A.10	All other syphilis	3	—	3	1	—	7
A.11	Gonococcal infections	—	—	—	1	—	1
A.16	Amoebiasis	—	—	—	—	1	1
A.23	Meningococcal infections	—	—	1	—	—	1
A.25	Leprosy	1	—	—	—	—	1
A.37(E)	Other and unspecified malaria	—	—	1	—	—	1
A.43(G)	Yaws	—	—	—	—	1	1
A.43(M)	Trypanosomiasis	—	—	—	—	1	1
A.44	Malignant neoplasm of buccal cavity and pharynx	—	1	—	—	—	1
A.57	Malignant neoplasms of all other and unspecified sites	—	1	1	—	1	3
A.60	Benign neoplasms and neoplasms of unspecified nature.	—	—	1	—	—	1
A.63	Diabetes mellitus	—	—	1	—	1	2
A.65(B)	Iron deficiency anaemias (hypochromic)	—	—	1	—	—	1

TABLE XIX—*contd.*CAUSES OF INVALIDING AFRICAN OFFICIALS 1949-53—*contd.*

International List Numbers	Diseases	1949	1950	1951	1952	1953	Total
A.65(C)	Other specified and unspecified anaemias	—	1	—	—	—	1
A.66	Asthma	—	—	1	2	1	4
A.67	Psychoses	4	1	2	—	7	14
A.68	Psychoneuroses and disorders of personality	3	5	3	4	7	22
A.70	Vascular lesions affecting central nervous system	1	—	—	—	3	4
A.73	Epilepsy	—	1	—	—	1	2
A.75	Cataract	—	—	—	1	1	2
A.76	Glaucoma	—	—	—	2	—	2
A.77(B)	Otitis Media and Mastoiditis	—	1	—	—	—	1
A.78(A)	All other diseases and conditions of the eye	10	6	2	3	6	27
A.78(B)	All other diseases of the nervous system and sense organs	1	4	1	—	1	7
A.81	Arteriosclerotic and degenerative heart disease	—	5	2	2	8	17
A.83	Hypertension with heart disease	—	1	1	3	4	9
A.84	Hypertension without mention of heart	9	10	2	8	1	30
A.85	Diseases of arteries	—	2	—	—	—	2
A.86	Other diseases of circulatory system	1	—	—	—	—	1
A.97(B)	All other respiratory diseases	—	—	2	1	—	3
A.99	Ulcer of stomach	—	—	—	1	—	1
A.103	Intestinal obstruction and hernia	—	—	1	—	—	1
A.105	Cirrhosis of liver	1	2	—	2	—	5
A.106	Cholelithiasis and cholecystitis	—	—	—	1	—	1
A.107	Other diseases of digestive system	—	1	—	1	—	2
A.109	Chronic, other and unspecified nephritis	1	—	—	—	—	1
A.110	Infections of kidney	—	—	—	—	1	1
A.112	Hyperplasia of prostate	1	—	—	—	—	1
A.122	Arthritis and spondylitis	1	—	2	2	5	10
A.126(B)	All other diseases of skin	—	—	—	—	1	1
A.126 (C)	All other diseases of musculo-skeletal system	1	—	1	3	—	5
A.136	Senility without mention of psychosis	1	—	1	1	—	3
A.137(C)	All other ill-defined causes of morbidity	1	2	—	1	—	4
AN.138	Fracture of skull	—	—	—	—	1	1
AN.139	Fracture of spine and trunk	—	—	—	—	1	1
AN.140	Fracture of limbs	—	2	1	—	1	4
AN.148	Burns	—	—	1	—	—	1
Total		48	56	38	54	66	262

TABLE XX

CAUSES OF INVALIDING OF AFRICAN OFFICIALS: 1953

Serial	Diagnosis	Number of cases
1	Debility following malaria and amoebic dysentery	1
2	Diabetes and hypertension	1
3	Hypertension with frequent attacks of palpitation	1
4	Congestive heart failure and hypertension	1
5	Arteriosclerosis and hypertension	1
6	Cerebral thrombosis and hypertension	1
7	Alcoholic psychosis and neurasthenia	1
8	Neurasthenic condition with psychical disturbances fixed in the cardio-vascular and nervous systems	1
9	Psychological disorder	1
10	Confusional insanity	1
11	Conversion hysteria	1
12	Anxiety psycho-neurosis	2
13	Manic depressive psychosis	3
14	Schizophrenia	2
15	Dipsomania	1
16	Bronchial asthma	1
17	Dermatitis	1
18	Hypertensive cardiac failure	3
19	Reactive depression	1
20	Pulmonary tuberculosis	11
21	Senile macular degeneration in both eyes	1
22	Retrobulbar neuritis	1
23	Complicated cataract	1
24	Right optic atrophy	1
25	Total blindness	1
26	Tertiary yaws	1
27	Carcinoma of liver	1
28	Trypanosomiasis	1
29	Epilepsy	1
30	Arterio-sclerotic heart disease	2
31	Arterio-sclerotic heart disease and bilateral cataract	1
32	Paralysis agitans, secondary to cerebral arterio-sclerosis	1
33	Arthritis of left ankle and chronic oedema	1
34	Pericardial effusion and congestive heart failure	1
35	Congestive heart failure	1
36	Fractured spine	1
37	Cerebral thrombosis with hemiplegia	1
38	Post-traumatic arthritis	2
39	Chronic poly-arthritis and cardiac insufficiency	1
40	Fractured skull	1
41	Chronic hypertrophic conjunctivitis	1
42	Myocarditis	2
43	Pyelo-nephritis of left kidney	1
44	Bilateral choroiditis	1
45	Sequelae old fracture	1
46	Severe migraine	1
47	Osteo-arthritic changes	1

TABLE XXI

SECTION (A). PRINCIPAL CAUSES OF MORTALITY IN GOLD COAST HOSPITALS: 1953

International List Number			Disease or condition	Number of cases
1	A.	90	Broncho-pneumonia	143
2	A.	1	Tuberculosis of respiratory system	132
3	A.	26	Tetanus	97
4	A.	103	Intestinal obstruction and hernia	94
5	A.	82	Diseases of the heart excluding rheumatic, arteriosclerotic, and degenerative heart diseases	75
6	A.	337	Malaria (all forms)	74
7	AN.	138	Fracture of skull	71
8	AN.	140	Fracture of limb	65
9	A.	131	Postnatal asphyxia and atelectasis	62
10	A.	16 (c)	Dysentery excluding bacillary and amoebic dysentery	61
11	A.	89	Lobar pneumonia	61
12	A.	23	Meningococcal infection	57

SECTION (B). MORTALITY FROM VARIOUS ACCIDENTAL CAUSES IN GOLD COAST: 1953

International List Number			Disease or condition	Number of cases
1	AE.	138	Motor vehicle accidents	153
2	AE.	139	Other transport accidents	49
3	AE.	147 (c)	Accidents caused by bites and stings of venomous animals and insects	30
4	AE.	141	Accidental falls	27
5	AE.	143	Accidents caused by fire and explosion of combustible material	20
6	AE.	145	Accidents caused by firearms	18

TABLE XXII

GROUPED CAUSES OF DEATH: 1949-1953

Year								Deaths from respiratory diseases per 1,000 deaths registered	Deaths from intestinal diseases per 1,000 deaths registered	Deaths from Malaria per 1,000 deaths registered	Number of deaths due to starvation
1949	..	..	..	..	..	..	..	107	72	115	27
1950	..	..	..	..	..	..	..	101	67	123	36
1951	..	..	..	..	..	..	..	97	83	130	13
1952	..	..	..	..	..	..	..	104	75	141	6
1953	..	..	..	..	..	..	..	110	88	121	9

TABLE XXIII

CAUSES OF DEATHS FOR EUROPEAN OFFICIALS 1949-53

International List Number	Diseases	1949	1950	1951	1952	1953	Total
A.28	Acute poliomyelitis	—	—	—	1	—	1
A.71	Non-meningococcal meningitis	—	—	—	—	1	1
A.81	Arterio-sclerotic and degenerative heart disease	—	1	—	—	1	2
A.82	Other diseases of the heart	—	—	1	—	—	1
A.95	Empyema and abscess of lung	—	—	—	1	—	1
A.103	Intestinal obstruction and hernia	—	1	—	—	—	1
A.105	Cirrhosis of liver	—	—	—	—	1	1
A.107	Other diseases of the digestive system	1	—	—	—	—	1
AE.145	Accident caused by firearm	—	1	—	—	—	1
AE.146	Accidental drowning and submersion	—	—	—	1	1	2
AE.149	Homicide and injury purposely inflicted by other persons (not in war)	1	—	—	—	—	1
AN.138	Fracture of skull	—	—	1	—	—	1
AN.148	Burns	—	1	—	—	—	1
AN.149	Effect of poisons	—	—	1	—	—	1
	Total	2	4	3	3	4	16

TABLE XXIV

CAUSES OF DEATHS FOR EUROPEAN OFFICIALS 1953

Diagnosis	Number of cases
Cirrhosis of liver	1
Lymphocytic meningitis	1
Coronary thrombosis	1
Drowning	1

TABLE XXV

DEATHS OF NON-OFFICIALS EUROPEANS 1946-1953

Occupation	1946	1947	1948	1949	1950	1951	1952	1953
Merchants	3	3	4	7	2	6	10	12
Missionaries, male	1	—	1	2	—	—	—	—
Missionaries, female	1	—	—	—	—	—	—	—
Mining Community	1	5	4	4	8	3	4	1
Women (non-official)	2	1	—	—	—	—	—	—
Children (general)	3	2	2	1	—	2	—	4
Total	11	11	11	14	10	11	14	17

TABLE XXVI
CAUSES OF DEATHS FOR NON-OFFICIALS EUROPEANS 1949-1953

International List Number	Diseases	1949	1950	1951	1952	1953	Total
A.16(B)	Amoebiasis	1	—	—	—	—	1
A.28	Acute poliomyelitis	—	—	—	2	—	2
A.37(C)	Falciparum malaria (malignant tertian)	—	1	—	1	—	2
66A.37(D)	Blackwater fever	—	—	1	—	—	1
A.37(E)	Other and unspecified forms of malaria	2	—	3	1	3	9
A.50	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	—	—	—	1	—	1
A.57	Malignant neoplasm of all other and unspecified sites	—	—	—	—	1	1
A.65(A)	Pernicious and other hyperchromic anaemias	—	—	1	—	—	1
A.65(C)	Other specified and unspecified anaemias	—	—	—	—	1	1
A.66(A)	Asthma	1	—	—	—	—	1
A.71	Non-meningococcal meningitis	—	—	—	1	—	1
A.81	Arteriosclerotic and degenerative heart disease	—	1	—	2	—	3
A.85	Diseases of arteries	1	2	1	—	—	4
A.90	Broncho-pneumonia	—	1	—	1	3	5
A.91	Primary atypical, other, and unspecified pneumonia	—	—	1	—	—	1
A.93	Bronchitis, chronic and unqualified	—	—	—	—	1	1
A.99	Ulcer of stomach	—	—	—	1	—	1
A.100	Ulcer of duodenum	1	—	—	—	—	1
A.102	Appendicitis	—	—	—	—	1	1
A.104(B)	Gastro-enteritis and colitis ages 2 years and over	—	—	—	1	—	1
A.105	Cirrhosis of liver	—	—	—	—	1	1
A.107	Other diseases of the digestive system	—	—	—	—	1	1
A.112	Hyperplasia of prostate	—	—	—	—	1	1
A.114(C)	All other diseases of genito-urinary system	—	—	—	—	1	1
A.136	Senility without mention of psychosis	1	—	—	—	—	1
A.137(C)	All other ill-defined causes of morbidity	2	1	—	2	—	5
AE.138	Motor vehicle accidents	—	2	—	—	—	2
66AE.145	Accidents caused by firearm	—	—	—	—	1	1
AE.147(E)	All other accidental causes	1	1	—	—	—	3
AE.148	Suicide and self-inflicted injury	1	—	—	—	—	1
AN.138	Fracture of skull	1	—	—	—	—	1
AN.139	Fracture of spine and trunk	—	—	2	—	1	3
AN.144	Internal injury of chest, abdomen, and pelvis	1	—	—	—	—	1
AN.148	Burns	1	—	—	—	—	1
AN.149	Effects of poisons	—	—	1	—	1	2
AN.150	All other and unspecified effects of external causes	—	1	1	—	—	2
Total		14	10	11	14	17	66

TABLE XXVII
DETAILED CAUSES OF DEATHS OF NON-OFFICIAL EUROPEANS: 1953

Diagnosis											Number of Cases
Prostatic obstruction	..	..	..	..	..	..	..	..	..	..	1
Broncho-pneumonia	..	..	..	..	..	..	..	..	..	..	3
Acute pancreatitis	..	..	..	..	..	..	..	..	..	..	1
Uraemia and renal colic	..	..	..	..	..	..	..	..	..	..	1
Malignant neoplasm of kidney	..	..	..	..	..	..	..	..	..	..	1
Sickle-cell anaemia	..	..	..	..	..	..	..	..	..	..	1
Cirrhosis of liver	..	..	..	..	..	..	..	..	..	..	1
Cerebral malaria	..	..	..	..	..	..	..	..	..	..	1
Chronic bronchitis	..	..	..	..	..	..	..	..	..	..	1
Acute appendicitis	..	..	..	..	..	..	..	..	..	..	1
Carbon monoxide poisoning	..	..	..	..	..	..	..	..	..	..	1
Fractured pelvis	..	..	..	..	..	..	..	..	..	..	1
Malaria unclassified	..	..	..	..	..	..	..	..	..	..	2
Gunshot wounds	..	..	..	..	..	..	..	..	..	..	1

TABLE XXVIII

CAUSES OF DEATHS FOR AFRICAN OFFICIALS: 1949-1953

International List Number	Diseases	1949	1950	1951	1952	1953	Total
A. 1	Tuberculosis of respiratory system	7	2	—	3	3	15
A. 3	Tuberculosis of intestines, peritoneum, and mesenteric glands ..	1	—	—	—	—	1
A. 12	Typhoid fever	4	2	—	2	—	8
A. 13	Paratyphoid fever and other salmonella infections	—	—	—	—	1	1
A. 16 (b)	Amoebiasis	—	—	1	—	—	1
A. 20	Septicaemia and pyaemia	1	—	—	—	3	4
A. 23	Meningococcal infections	2	—	—	—	—	2
A. 26	Tetanus	1	—	2	1	2	6
A. 29	Acute infectious encephalitis ..	—	—	—	—	2	2
A. 33	Yellow fever	—	—	1	1	—	2
A. 37 (c)	Falciparum malaria (malignant tertian).	1	—	—	—	1	2
A. 37 (e)	Other and unspecified malaria ..	1	—	—	—	1	2
A. 43 (m)	Trypanosomiasis gambiense ..	—	—	—	—	2	2
A. 45	Malignant neoplasm of oesophagus	—	—	—	—	1	1
A. 57	Malignant neoplasm of all other and unspecified sites	1	1	—	—	1	3
A. 63	Diabetes mellitus	1	2	1	—	1	5
A. 64 (d)	Other deficiency states	—	1	—	—	—	1
A. 65 (b)	Iron deficiency anaemias (hypochromic)	—	—	—	1	—	1
A. 65 (c)	Other specified and unspecified anaemias	—	—	—	1	—	1
A. 66	Asthma	—	—	—	1	—	1
A. 70	Vascular lesions affecting central nervous system	—	2	1	4	4	11
A. 71	Non-meningococcal meningitis ..	—	—	—	—	1	1
A. 81	Arteriosclerotic and degenerative heart disease	4	—	3	2	1	10
A. 83	Hypertension with heart disease	—	—	—	—	1	1
A. 84	Hypertension without mention of heart	1	1	2	—	—	4
A. 89	Lobar pneumonia	1	2	—	1	—	4
A. 90	Broncho-pneumonia	1	—	—	—	—	1
A. 91	Primary atypical, and other and unspecified pneumonia.	—	1	—	—	1	2
A. 96	Pleurisy	1	—	—	—	1	2
A. 97 (b)	All other respiratory diseases ..	—	—	—	—	1	1
A. 99	Ulcer of stomach	1	—	—	—	—	1
A. 102	Appendicitis	—	—	—	—	1	1
A. 103	Intestinal obstruction and hernia	—	—	1	—	—	1
A. 105	Cirrhosis of liver	1	—	—	—	1	2
A. 107	Other diseases of digestive system	—	4	1	—	—	5
A. 109	Chronic, other and unspecified nephritis	—	2	—	2	1	5
A. 112	Hyperplasia of prostate	—	1	—	—	—	1
A. 114 (c)	All other diseases of the genitourinary system	—	—	—	—	1	1
A. 120 (a)	Other complications of pregnancy, child-birth and the puerperium	1	—	—	1	—	2
AE.138	Motor vehicle accidents	—	—	3	—	—	3
AN.138	Fracture of skull	—	—	—	—	1	1
AN.143	Head injury (excluding skull fracture)	2	—	—	—	—	2
AN.144	Internal injury of chest abdomen and pelvis	2	1	—	2	1	6
AN.148	Burns	1	—	—	—	—	1
AN.149	Effects of poisons	1	—	—	1	—	2
AN.150	All other and unspecified effects of external causes	—	2	—	—	—	2
Total		37	24	16	23	34	134

TABLE XXIX

CAUSES OF DEATH FOR AFRICAN OFFICIALS: 1953

Diagnosis	Number of Cases
Complications following operation for depressed fracture of skull	1
Tuberculous broncho-pneumonia	1
Encephalitis	2
Portal pyaemia	1
Carcinoma of oesophageal and gastric junctions	1
Meningitis, and orchitis	1
Unclassified pneumonia	1
Perforation of intestines	1
Chronic nephritis	1
Carcinoma of liver	1
Trypanosomiasis	2
Bartholin's cyst	1
Paratyphoid fever "C"	1
Septicaemia	2
Tetanus	2
Right pleural effusion	1
Cerebral malaria	1
Cerebral haemorrhage	2
Cirrhosis of liver	1
Malaria, malignant tertian	1
Pulmonary tuberculosis	2
Vincent's angina	1
Perforated appendicitis	1
Myocarditis	1
Diabetes mellitus	1
Chocolate cyst in left central haemorrhage	1
Hypertension (auricular fibrillation)	1
Hemiplegia	1

TABLE XXX

MATERNAL MORTALITY RATES—GOLD COAST

Year	Maternal deaths registered	Maternal Mortality
1949	310	18.3
1950	356	22.1
1951	397	23.1
1952	315	18.0
1953	372	19.0

TABLE XXXI

REGISTERED MATERNAL MORTALITY RATES 1953 COMPARED WITH
GOLD COAST RATES

Gold Coast	19.0
Ashanti	28.0
Northern Territories	41.0
Eastern and Western Regions	Not recorded.
Togoland	Not recorded.

Disease	1949		1950		1951		1952		1953	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Yellow Fever	22	10	13	4	25	15	6	6	—	—
Cerebro-spinal Meningitis	9,315	747	2,254	285	520	90	473	127	281	57
Trypanosomiasis	520	24	498	12	436	15	109	4	10	—
Smallpox	55	9	353	42	388	46	695	83	282	43
Enteric Group Fevers	274	47	199	25	265	55	202	15	104	8
Relapsing Fever (Louse-borne) ..	1	—	9	—	6	—	—	—	—	—
Acute Poliomyelitis	—	—	2	—	—	—	19	2	6	—
Typhus Fever (Louse-borne) ..	8	1	13	3	8	—	6	—	—	—

SECTION A: PRINCIPAL CAUSES OF MORBIDITY IN GOLD COAST HOSPITALS
1953

International List Number	Disease or Condition	Number of Cases
1 A. 37	Malaria (all forms)	5,486
2 A.126(A)	Chronic ulcer (including Tropical ulcer)	4,391
3 AN. 145	Laceration and open wounds	2,656
4 A. 103	Intestinal Obstruction and hernia	2,037
5 A. 118	Abortion without mention of sepsis or toxæmia	1,425
6 A. 121	Infections of skin and subcutaneous tissues	1,317
7 AN.140	Fracture of limbs	1,232
8 A. 137 (A)	Pyrexia of unknown origin	1,077
9 A. 89	Lobar pneumonia	994
10 A. 11	Gonococcal infection	858
11 A. 16 (C)	Dysentery, excluding bacillary and amoebic dysentery	779
12 A. 91	Primary, atypical, other, and unspecified pneumonia	760
13 AN. 146	Superficial injury, contusion and crushing, with intact skin surface	740
14 A. 1	Tuberculosis of respiratory system	715
15 A. 44-57	Malignant neoplasms	707

International List Number	Accidents or Violent Causes	Number of Cases
AE. 138	Motor vehicle accidents	1,793
AE. 141	Accidental falls	1,203
AE. 139	Other transport accidents	922
AE. 147 (C)	Accidents caused by bites and stings of venomous animals and insects ..	544
AE. 142	Accidents caused by machinery	456
AE. 143	Accidents caused by fire and explosion of combustible material	353
AE. 144	Accidents caused by hot substance, corrosive liquid, steam and radiation	277
AE. 145	Accidents caused by firearms	239

APPENDIX B

TABLE XXXIV

REGISTERED DEATHS DUE TO RESPIRATORY TUBERCULOSIS 1946-1953

Year	Number of deaths	Death-rate per 1,000 deaths registered
1946	940	101·0
1947	927	91·0
1948	893	84·0
1949	789	73·0
1950	747	73·0
1951	759	72·0
1952	694	64·0
1953	674	63·0

TABLE XXXV

HOSPITAL DEATHS DUE TO PULMONARY TUBERCULOSIS PER 1,000 TOTAL DEATHS OCCURRING IN 1946-1953

Year	Total number of deaths occurring	Number of deaths from Pulmonary Tuberculosis	Deaths from Pulmonary Tuberculosis per 1,000 Hospital deaths
1946	2,509	248	98·8
1947	2,848	307	107·8
1948	3,156	242	76·7
1949	3,368	231	68·8
1950	3,150	203	64·4
1951	3,068	149	48·6
1952	2,947	189	64·1
1953	3,153	132	41·9

TABLE XXXVI

NUMBER OF INPATIENT CASES OF RESPIRATORY TUBERCULOSIS TREATED AT GOLD COAST HOSPITALS BY REGIONS (EXCLUDING CHILDREN'S HOSPITALS): 1951-1953

Region	1951		1952		1953	
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES
	Cases	Cases	Cases	Cases	Cases	Cases
Ashanti	241	139	237	143	456	215
Trans-Volta/Togoland	60	16	75	21	52	17
Accra	170	64	251	98	213	94
Eastern Region	123	66	179	89	219	110
Western Region	651	172	559	199	375	141
Northern Territories	227	67	185	64	212	56
Total	1,472	524	1,486	614	1,527	633

TABLE XXXVII

SEX DISTRIBUTION OF CASES OF RESPIRATORY TUBERCULOSIS DIAGNOSED IN GOLD COAST HOSPITALS (EXCLUDING CHILDREN'S HOSPITALS): 1951-1953

Year	MALES	FEMALES	TOTAL
	Cases	Cases	Cases
1951	1,472	524	1,996
1952	1,486	614	2,100
1953	1,527	633	2,160

TABLE XXXVIII

NON-RESPIRATORY TUBERCULOSIS DIAGNOSED IN GOLD COAST HOSPITALS BY REGIONS (EXCLUDING CHILDREN'S HOSPITALS): 1951-1953

	1951		1952		1953	
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES
	Cases	Cases	Cases	Cases	Cases	Cases
Ashanti	36	23	16	13	78	56
Trans-Volta/Togoland	1	1	4	5	3	4
Accra	45	12	60	36	58	21
Eastern Region	5	2	72	51	40	24
Western Region	82	28	66	47	93	40
Northern Territories	58	26	29	16	21	11
Total	227	92	247	168	293	156

TABLE XXXIX

SEX DISTRIBUTION NON-RESPIRATORY TUBERCULOSIS DIAGNOSED IN GOLD COAST HOSPITALS EXCLUDING CHILDREN'S HOSPITALS: 1951-1953

Year	MALES	FEMALES	TOTAL
	Cases	Cases	Cases
1951	227	92	319
1952	247	168	415
1953	293	156	449
Total	767	316	1,144

TABLE XL

TYPES OF NON-RESPIRATORY TUBERCULOSIS DIAGNOSED IN CERTAIN GOLD
COAST HOSPITALS: 1953

Types of Tuberculosis						Number of males	Number of females	Total	Number from Eastern Region Hospitals	Grand Total
Meninges and central nervous system	..	..	..	..	..	7	2	9	4	13
Intestines, peritoneum, and mesenteric gland	..	..	..	..	..	25	34	59	6	65
Bones and joints	..	..	..	..	..	62	27	89	13	102
All other forms	..	..	..	..	..	152	65	217	41	258
Total	..	..	..	..	..	246	128	374	64	438

TABLE XLI

INCIDENCE OF EARLY SYPHILIS AND OF LATE SYPHILIS (INCLUDING TABES DORSALIS
AND GENERAL PARALYSIS OF INSANE): 1953

Hospital										Number of cases of early syphilis	Number of cases of late syphilis
Gold Coast Hospital	..	..	..	..	..	..	..	..	..	3	—
Ho	..	..	..	..	..	..	..	..	..	2	—
Keta	..	..	..	..	..	..	..	..	..	3	—
Koforidua	..	..	..	..	..	..	..	..	..	34	—
Nsawam	..	..	..	..	..	..	..	..	..	13	—
Oda	..	..	..	..	..	..	..	..	..	2	82
Takrowase	..	..	..	..	..	..	..	..	..	2	—
Axim	..	..	..	..	..	..	..	..	..	—	1
Cape Coast	..	..	..	..	..	..	..	..	..	13	—
Dunkwa	..	..	..	..	..	..	..	..	..	15	1
Prestea	..	..	..	..	..	..	..	..	..	3	—
Saltpond	..	..	..	..	..	..	..	..	..	1	—
Takoradi	..	..	..	..	..	..	..	..	..	7	2
Winneba	..	..	..	..	..	..	..	..	..	13	—
Navrongo	..	..	..	..	..	..	..	..	..	—	4
Salaga	..	..	..	..	..	..	..	..	..	1	—
Agogo	..	..	..	..	..	..	..	..	..	4	—
Kumasi General (South Wing)	..	..	..	..	..	..	..	..	..	42	—
Wenchi	..	..	..	..	..	..	..	..	..	8	—
Total	..	..	..	..	..	..	..	..	..	166	90

TABLE XLII

RETURN FOR THE SPECIAL DISEASES CLINIC, TAKORADI: 1953

Disease						ADULTS		CHILDREN		Total
						Males	Females	Males	Females	
Gonorrhoea	..	..	..	..	..	4,263	67	5	9	4,344
Syphilis	..	..	..	..	..	67	19	—	—	86
Soft Sore	..	..	..	..	..	39	—	—	—	39
Lymphogranuloma	..	..	..	..	..	63	—	—	—	63
Urinary Complaints	..	..	..	..	..	380	3	—	—	383
Yaws	..	..	..	..	..	70	14	19	21	124
Skin Diseases	..	..	..	..	..	2	32	—	—	34
Bilharzia	..	..	..	..	..	53	3	—	—	56
Total	..	..	..	..	..	4,937	138	24	30	5,129

TABLE XLIII

COMPARATIVE RETURN FOR SPECIAL DISEASES CLINIC, TAKORADI: 1950-1953

Diseases	1950	1951	1952	1953
Gonorrhoea	2247	2665	386	4344
Syphilis	127	125	11	86
Soft Sore	117	106	—	39
Lymphogranuloma	156	155	5	63
Urinary Complaints	490	320	12	383
Yaws	223	152	4	124
Skin Diseases	68	56	8	34
Bilharzia	26	74	1	56
Total	3,454	3,653	427	5,129

TABLE XLIV

COMPARATIVE RETURN OF ATTENDANCES AT SPECIAL DISEASES
CLINIC, TAKORADI: 1950-1953

	1950	1951	1952	1953
New Cases seen	3,454	3,653	427	5,089
Daily Attendances	4,982	4,494	no record	7,537
Total Attendances	8,436	8,147	1,078	12,626

TABLE XLV

INCIDENCE OF CEREBRO-SPINAL MENINGITIS OVER 46 YEARS

Year	No. of Cases	No. of Deaths
1906	—	estimated 20,000
1907	—	estimated 8,000
1908	—	estimated 6,000
1919	—	estimated 986
1920	—	3,000
1921	—	89
1922/23	2	2
1923/24	4	2
1924/25	2	2
1925/26	14	14
1926/27	3	2
1928/29	4	3
1929/30	1	1
1930/31	3	3
1931/32	3	3
1932/33	0	0
1933/34	2	1
1934	0	0
1935	1	1
1936	0	0
1937	0	0
1938	4	4
1939	839	151
1940	149	46
1941	26	11
1942	255	140
1943	644	187
1944	1,061	900
1945	10,368	1,199
1946	719	156
1947	1,297	219
1948	11,002	868
1949	1,862	193
1950	918	166
1951	1,077	205
1952	317	80
1953	281	57

TABLE XLVI

DISTRIBUTION OF C.S.M. IN NORTHERN TERRITORIES: 1953

District										No. of Cases
Builsa	..	..	..	..	..	..	..	..	..	12
Dagomba East	..	..	..	..	..	..	..	..	..	25
Dagomba West	..	..	..	..	..	..	..	..	..	55
Frafra	..	..	..	..	..	..	..	..	..	3
Gonja West	..	..	..	..	..	..	..	..	..	42
Kasena-Nankanni	..	..	..	..	..	..	..	..	..	45
Kusasi	..	..	..	..	..	..	..	..	..	4
Lawra	..	..	..	..	..	..	..	..	..	9
Wa	..	..	..	..	..	..	..	..	..	4
Total	..	..	..	..	..	..	..	..	..	199

TABLE XLVII

C.S.M.: MAIN CENTRES OF INFECTION IN THE NORTHERN TERRITORIES: 1953

Centre										No. of Cases
Savelugu	..	..	..	..	..	..	..	..	..	33
Chana	..	..	..	..	..	..	..	..	..	20
Kologo	..	..	..	..	..	..	..	..	..	15
Diari	..	..	..	..	..	..	..	..	..	9
Gushiegu	..	..	..	..	..	..	..	..	..	7
Zang	..	..	..	..	..	..	..	..	..	7
Chuchillaga	..	..	..	..	..	..	..	..	..	5
Karaga	..	..	..	..	..	..	..	..	..	4
Sandema	..	..	..	..	..	..	..	..	..	4
Sambu	..	..	..	..	..	..	..	..	..	3

TABLE XLVIII

INCIDENCE OF CEREBRO-SPINAL MENINGITIS BY AGE AND SEX DERIVED FROM NOTIFICATIONS: 1953

Age Group	No. of Cases		Total Cases	No. of Deaths	
	Males	Females		Males	Females
0—	5	1	6	—	—
5—	17	7	24	3	1
10—	18	14	32	1	5
15—	16	9	25	2	3
20—	15	6	21	4	—
25—	16	8	24	3	2
30—	6	10	16	1	4
35—	7	4	11	—	1
40—	4	1	5	—	—
45—	3	—	3	—	—
50—	2	—	2	2	—
55—	0	—	0	—	—
Total	109	60	169	16	16

TABLE XLIX

INDIDENCE OF CEREBRO-SPINAL MENINGITIS IN ASHANTI AND THE COLONY BY AGE AND SEX FROM NOTIFICATION: 1953

Age group	CASES		Total Cases	DEATHS	
	Males	Females		Males	Females
0—	—	—	—	—	—
5—	3	2	5	1	—
10—	4	5	9	1	2
15—	2	4	6	—	3
20—	4	1	5	—	—
25—	3	3	6	2	2
30—	3	2	5	1	—
35—	1	1	2	—	1
40—	—	—	—	—	—
45—	1	—	1	—	—
50—	—	—	—	—	—
55—	—	—	—	—	—
Total ..	21	18	39	5	8

TABLE L

NUMBER OF CASES OF C.S.M. NOTIFIED EACH MONTH: 1953

Month					No. of Cases	Notifications from Colony and Ashanti
January	..	..	..	..	67	8
February	..	..	..	..	97	10
March ..	..	..	..	..	27	5
April ..	..	..	..	..	7	5
May ..	..	..	..	..	3	3
June ..	..	..	..	..	—	—
July ..	..	..	..	..	—	—
August	..	..	..	..	6	5
September	..	..	..	..	3	2
October	..	..	..	..	—	—
November	..	..	..	..	5	3
December	..	..	..	..	20	5
Total ..	..	..	..	..	235	46

TABLE LI

TOTAL MONTHLY RAINFALL AT CERTAIN METEOROLOGICAL STATIONS IN THE
NORTHERN TERRITORIES: 1953

Meteo. Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Navrongo	0.00	0.35	0.76	2.17	2.02	6.85	10.54	9.16	7.36	0.79	0.00	0.00	40.00
Tamale	trace	2.32	0.65	0.59	8.18	8.79	13.51	6.67	8.61	1.60	0.11	0.01	51.04
Yendi	0.00	1.36	2.57	2.67	6.72	6.39	8.30	6.77	14.27	2.16	1.17	trace	52.38
Wa	0.00	1.72	0.01	3.83	3.12	5.76	6.45	5.47	7.46	1.23	trace	0.29	35.34
Bawku	0.00	1.35	0.00	2.37	6.67	6.27	7.30	5.02	8.10	2.34	0.15	0.00	39.57

TABLE LII

INCIDENCE OF SMALLPOX BY AGE AND SEX: 1953 FROM NOTIFICATIONS RECEIVED

Age Group	CASES			Total	DEATHS			Total
	Males	Females	Sex Unknown		Males	Females	Sex Unknown	
0—	7	1	0	8	2	0	0	2
5—	14	0	0	14	4	0	0	4
10—	6	0	1	7	4	0	0	4
15—	10	2	1	13	0	0	0	0
20—	8	4	2	14	1	0	0	1
25—	14	0	2	16	6	0	0	6
30—	7	5	2	14	0	1	0	1
35—	12	8	3	23	0	1	0	1
40—	5	3	1	9	0	1	0	1
45—	5	5	0	10	0	0	0	0
50—	2	1	0	3	0	0	0	0
55—	2	0	1	3	0	0	0	0
Unknown	22	18	108	148	4	0	19	23
Total	114	47	121	282	21	3	19	43

TABLE LIII

CENTRES SHOWING LARGEST NUMBER OF CASES OF
SMALLPOX: 1953

District	Centre	Number of cases
Axim	Princes	55
Axim	Agyembra	37
Hohoe	Hohoe	15
Krachi	Salifu Basare	13
Axim	Nyami	11
Bekwai	Atobrakrom	6
Wiawso	Sefwi Wiawso	6
Kadi	Hohoe	5
Dunkwa	Dunkwa	5
Tarkwa	Aboso	5
Mampong	Ayimaya (Volta River)	4
Bekwai	Abodom	4
Kumasi	Samproso	4
Sekondi	Abra-Takoradi	4
Axim	Elluabo	4

TABLE LIV
INCIDENCE OF SMALLPOX BY ADMINISTRATIVE DISTRICTS AS NOTIFIED UNDER THE INFECTIOUS DISEASES ORDINANCE: 1953

Month	Tarkwa District	Dunkwa District	Cape Coast District	Achim District	Wiawso District	Sekondi District	Accra District	Oda District	Ashanti Mampong District	Ashanti Bekwai District	Ashanti Kumasi District	Ashanti Juaso District	Ashanti Obuasi District	Ashanti Wenchai District	N.Ts. Navrongo District	N.Ts. Builsa District	T.V.T. Hohoe District	T.V.T. Keta District	T.V.T. Krachi District
January ..	1	5	2	—	3	—	1	—	4	4	—	—	—	—	—	—	—	—	—
February ..	—	3	—	48	3	—	—	—	—	10	4	—	—	—	2	1	—	—	—
March ..	9	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	16	—	—
April ..	3	—	—	9	4	—	—	—	—	—	1	—	—	—	—	—	—	2	—
May ..	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
June ..	—	—	—	44	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—
July ..	1	1	1	23	1	3	—	—	—	—	—	—	—	—	—	—	—	—	—
August ..	—	4	—	8	1	—	—	—	—	—	3	—	—	—	—	—	—	—	—
September ..	1	3	1	—	—	4	—	—	—	—	—	2	—	—	—	—	—	—	16
October ..	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
November ..	3	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—
December ..	1	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	5	—	—
TOTAL ..	19	19	4	136	12	8	1	1	4	14	8	5	1	1	2	1	21	2	17

TABLE LV

COMPARATIVE TABLE SHOWING INCIDENCE OF MEASLES: 1946-1953

Year					In-Patient Cases	In-Patient Deaths	Out-Patients
1946	..	..	..	..	58	1	690
1947	..	..	..	..	119	2	954
1948	..	..	..	..	146	3	1,445
1949	..	..	..	..	116	2	1,366
1950	..	..	..	..	113	2	1,717
1951	..	..	..	..	168	2	2,340
1952	..	..	..	..	159	8	24,949
1953	..	..	..	..	476	25	8,095

TABLE LVI

INCIDENCE OF MALARIA IN THE GOLD COAST: 1946-53

Type of Malaria					1946	1947	1948	1949	1950	1951	1952	1953
Benign Tertian	..	..	..	..	730	570	1,626	2,542	3,388	1,475	4,069	1,524
Malignant Tertian	..	..	..	..	12,407	8,386	6,652	20,245	15,188	19,258	17,769	17,405
Quartan	..	..	..	..	504	265	188	11	304	1,514	338	5,727
Unclassified	..	..	..	..	34,220	51,037	70,404	81,737	68,770	78,213	115,018	104,531
Total	..	..	..	..	47,861	60,258	78,870	104,535	87,650	100,460	137,194	139,187

TABLE LVII

INCIDENCE OF PNEUMONIA, BRONCHITIS AND CERTAIN OTHER RESPIRATORY INFECTIONS: 1946-53

Disease					Cases 1946	Cases 1947	Cases 1948	Cases 1949	Cases 1950	Cases 1951	Cases 1952	Cases 1953
Lobar Pneumonia	..	..	..	..	1,492	1,627	2,466	2,135	1,882	2,190	3,696	1,936
Broncho-Pneumonia	..	..	..	..	888	1,051	1,774	1,996	1,453	1,729	2,446	1,952
Primary Atypical, other and Unspecified Pneumonia	..	..	..	..	743	1,069	2,953	3,862	3,328	3,360	3,015	3,512
Acute Bronchitis Bronchitis, Chronic and Unqualified	..	..	..	..	18,537	25,143	31,687	41,803	31,359	36,267	62,998	{ 13,632 28,937
Empyema and Lung Abscess	..	..	..	..	—	—	—	—	—	—	—	108
Pleurisy	..	..	..	..	—	—	—	—	—	—	—	358

TABLE LVIII

DEATHS DUE TO PNEUMONIA, BRONCHITIS AND OTHER RESPIRATORY INFECTIONS, 1946-53

Disease	DEATHS							
	1946	1947	1948	1949	1950	1951	1952	1953
Lobar Pneumonia	61	90	73	100	479	105	96	61
Broncho-Pneumonia	96	100	128	146	123	112	136	143
Primary atypical, other and unspecified pneumonia ..	31	39	53	58	54	44	52	48
Acute Bronchitis	16	20	8	9	21	14	30	6 9
Bronchitis, chronic, and								
Unqualified								
Empyema and Lung Abscess	—	—	—	—	—	—	—	4
Pleurisy	—	—	—	—	—	—	—	55

TABLE LIX

REGIONAL DISTRIBUTION OF CHICKEN POX DERIVED FROM HOSPITAL RETURNS EXCLUDING CHILDREN'S HOSPITALS AND CLINICS: 1953

Region	Number of cases
Accra	10
Trans-Volta/Togoland	38
Eastern Region	133
Western Region	251
Ashanti	99
Northern Territories	98
Total	629

TABLE LX

REGIONAL DISTRIBUTION OF YAWS SEEN AT HOSPITALS (EXCLUDING CHILDREN'S HOSPITAL AND CLINICS) 1951-1953

Region	1951	1952	1953
Accra	No record	1,288	1,087
Trans-Volta/Togoland	4,301	3,841	2,104
Eastern Region	13,267	20,753	16,119
Western Region	14,263	12,960	14,387
Ashanti	3,776	7,987	11,262
Northern Territories	12,334	11,854	11,808
Total		58,683	56,767

TABLE LXI

HOSPITALS RETURNING THE LARGEST NUMBERS OF YAWS CASES TREATED (EXCLUDING CHILDREN'S HOSPITALS AND CLINICS) 1951-1953

Hospital	1951	1952	1953
Koforidua	4,172	12,194	8,347
Kumasi	958	3,386	8,168
Yendi	4,625	4,536	5,278
Oda	3,646	3,581	3,816
Sekondi	1,816	2,297	3,430
Cape Coast	2,863	2,713	2,833
Tamale	3,530	1,530	2,475
Nsawam	1,896	1,566	2,263
Saltpond	616	no record	2,139
Winneba	2,210	2,003	2,075
Dunkwa	258	2,502	1,684
Kibi	1,942	1,033	1,353
Hohoe	1,756	1,357	1,130
Accra	no record	1,283	1,087
Sunyani	1,081	1,583	800
Total			46,878

TABLE LXII

YAWS TREATED IN CHILD WELFARE CLINICS AND HOSPITALS 1951-1953

Hospital or Clinic	1951	1952	1953
Princess Marie Louise, Accra	63	69	2
Kumasi Child Welfare Clinic	2,196	1,540	1,730
Koforidua Red + Clinic	79	65	40
Cape Coast Red + Clinic	2,068	no record	3,534
Kpandu Child Welfare Clinic	2,166	1,404	no record
Dzodze Child Welfare Clinic	—	—	1,447
Sekondi Child Welfare Clinic	623	763	no record
Takoradi Child Welfare Clinic	—	—	no record
Shama Child Welfare Clinic	57	109	no record

TABLE LXIII

TRYPANOSOMIASIS RETURNS FROM HOSPITALS: REGIONAL DISTRIBUTION OF CASES: 1951-1953

Region	1951	1952	1953
Accra	11	11	1
Trans-Volta/Togoland	4	5	—
Eastern Region	13	16	6
Western Region	71	33	18
Ashanti	60	73	54
Northern Territories	350	305	457
Total	509	443	536

TABLE LXIV

REGIONAL INCIDENCE OF SCHISTOSOMIASIS 1951-1953 TREATED IN HOSPITALS

Region	1951	1952	S. Haema- tobium: 1953	S. Mansoni: 1953	Total: 1953
Accra	390	899	0	0	0
Trans-Volta/Togoland	186	157	71	7	78
Eastern Region	1,043	2,239	1,488	66	1,554
Western Region	1,108	793	656	9	665
Ashanti	494	305	456	27	483
Northern Territories	499	325	653	133	786

TABLE LXV

REGIONAL DISTRIBUTION OF ONCHOCERCIASIS: 1953

Region	No. of cases
Accra	11
Trans-Volta/Togoland	3
Eastern Region	6
Western Region	1
Ashanti	47
Northern Territories	415
Total	483

TABLE LXVI

REGIONAL DISTRIBUTION OF TAPEWORM INFESTATIONS: 1953

Region	No. of cases
Accra	25
Trans-Volta/Togoland	12
Eastern Region	8
Western Region	56
Ashanti	274
Northern Territories	402
Total	777

TABLE LXVII

REGIONAL DISTRIBUTION OF GUINEAWORM INFESTATIONS: 1953

Region	1953
Accra	11
Trans-Volta/Togoland	50
Eastern Region	734
Western Region	610
Ashanti	242
Northern Territories	676
Total	2,323

TABLE LXVIII

SITES OF MALIGNANT NEOPLASMS: 1953

Nature and site of Malignant Neoplasms	No. of cases	No. of deaths
All other and unspecified sites	212	15
Other and unspecified parts of the uterus ..	115	5
Cervix Uteri	94	2
Stomach	53	7
Bone and connective tissue	51	0
Prostate	49	0
Skin	47	2
Rectum	28	1
Breast	19	0
Intestines, except Rectum	14	0
Buccal Cavity and Pharynx	10	0
Trachea, Bronchus, and lung not specified as secondary	8	1
Oesophagus	6	2
Larynx	1	0
Total	707	35

TABLE LXIX

CASES OF APPENDICITIS TREATED IN GOLD COAST HOSPITALS: 1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
No. of cases	91	98	104	130	182	217	167	306
No. of deaths	7	8	3	2	4	4	9	25
Case Mortality	5.5%	8.2%	2.9%	1.5%	2.1%	1.8%	5.4%	8.2%

TABLE LXX

CASES OF INTESTINAL OBSTRUCTION AND HERNIA TREATED IN GOLD COAST HOSPITALS: 1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
No. of cases	1,087	1,158	1,223	1,642	1,418	1,720	1,472	2,037
No. of deaths	77	70	86	156	116	102	90	94
Case Mortality	6.53%	6.04%	7.03%	9.50%	8.2%	5.9%	6.1%	4.6%

TABLE LXXI

REGIONAL DISTRIBUTION OF DEFICIENCY DISEASES REPORTED FROM HOSPITALS: 1951-1953

Region	Beriberi			Pellagra			Scurvy			Other deficiency states		
	1951	1952	1953	1951	1952	1953	1951	1952	1953	1951	1952	1953
Accra	0	129	100	0	0	0	0	5	4	49	29	15
Trans-Volta/Togo-land	0	0	0	0	0	0	0	0	2	70	74	49
Eastern Region	0	0	41	0	1	46	2	1	8	369	1,615	255
Western Region	33	20	15	170	9	8	128	0	27	588	744	710
Ashanti	3	2	21	5	1	66	1	10	10	1,033	505	261
Northern Territories	0	12	13	11	75	203	1	10	0	290	584	781
Total	36	163	190	186	86	323	132	26	51	2,399	3,551	2,071

TABLE LXXII

NUTRITIONAL DEFICIENCY DISEASES: 1946-1953

SECTION A: CASES OF BERIBERI RECEIVING INPATIENT HOSPITAL TREATMENT

			1946	1947	1948	1949	1950	1951	1952	1953
No. of cases treated	..	..	10	5	10	3	19	6	12	24
No. of deaths	..	..	2	1	0	0	1	0	0	3

SECTION B: CASES OF PELLAGRA RECEIVING INPATIENT HOSPITAL TREATMENT

			1946	1947	1948	1949	1950	1951	1952	1953
No. of cases treated	..	..	6	15	7	38	31	18	45	112
No. of deaths	..	..	2	3	1	2	5	3	1	15

SECTION C: CASES OF SCURVY RECEIVING INPATIENT HOSPITAL TREATMENT

			1946	1947	1948	1949	1950	1951	1952	1953
No. of cases treated	..	..	16	87	18	22	21	25	7	8
No. of deaths	..	..	6	8	5	1	0	1	1	0

SECTION D: OTHER AND UNSPECIFIED DEFICIENCY STATES RECEIVING INPATIENT HOSPITAL TREATMENT

			1946	1947	1948	1949	1950	1951	1952	1953
No. of cases treated	..	..	275	219	376	333	594	670	799	477
No. of deaths	..	..	69	43	78	53	97	85	97	44

TABLE LXXIII

REGIONAL INCIDENCE OF ANAEMIAS TREATED IN HOSPITALS: 1953

Region	HYPERCHROMIC ANAEMIA	
	No. of cases	No. of cases
Accra	0	38
Trans-Volta/Togoland	0	0
Eastern Region	66	154
Western Region	82	280
Ashanti	81	182
Northern Territories	1	908
Total	230	1,562

TABLE LXXIV

REGIONAL DISTRIBUTION OF NON-TOXIC GOITRE: 1953

Region	No. of cases
Accra	1
Trans-Volta/Togoland	—
Eastern Region	7
Western Region	8
Ashanti	124
Northern Territories	18
Total	158

TABLE LXXV

REGIONAL DISTRIBUTION OF DIABETES MELLITUS: 1951-1953

Region	1951	1952	1953
Accra	49	49	56
Trans-Volta/Togoland	1	4	9
Eastern Region	21	38	72
Western Region	122	103	156
Ashanti	22	29	50
Northern Territories	1	3	2
Total	216	226	345

TABLE LXXVI

CASES OF DIABETES MELLITUS RECEIVING INPATIENT HOSPITAL TREATMENT:
1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
No. of cases treated	39	47	91	94	131	106	96	155
No. of deaths	7	2	18	9	13	10	7	6

TABLE LXXVII

SEX INCIDENCE OF HOSPITAL INPATIENTS TREATED FOR DIABETES MELLITUS
1946-1953

Year	CASES		CASES	
	Males	Females	Males	Females
1946	22	17	4	3
1947	30	14	2	—
1948	60	28	12	6
1949	66	20	5	4
1950	89	36	8	5
1951	77	24	9	1
1952	62	27	6	1
1953	99	51	4	2
Total	505	217	50	22

TABLE LXXVIII

REGIONAL DISTRIBUTION OF CHRONIC ULCERS TREATED IN HOSPITALS: 1953

Region	No. of cases
Accra	1,005
Trans-Volta/Togoland	2,667
Eastern Region	6,822
Western Region	7,057
Ashanti	14,416
Northern Territories	13,550
Total	45,517

TABLE LXXIX

REGIONAL INCIDENCE OF CIRRHOSIS OF THE LIVER SEEN AT GOLD COAST HOSPITALS 1951-1953

Region	1951	1952	1953
Accra	10	136	100
Trans-Volta/Togoland	10	8	18
Eastern Region	11	57	127
Western Region	110	100	82
Ashanti	23	22	47
Northern Territories	26	109	106
Total	190	432	480

TABLE LXXX

IN-PATIENT CASES OF CIRRHOSIS OF THE LIVER TREATED IN HOSPITALS DURING THE PERIOD 1946-1953

	1946	1947	1948	1949	1950	1951	1952	1953
No. of cases	83	90	91	107	119	162	167	184
No. of deaths	25	26	27	33	48	29	43	52
Case mortality	30.12%	28.9%	29.7%	30.84%	40.33%	17.90%	25.7%	28.26%

APPENDIX C

TABLE LXXXI

ANALYSIS OF HOSPITAL IN-PATIENT RETURNS BY REGIONS: 1951-1953

Region	1951			1952			1953		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Western Province	8,669	5,542	14,211	8,962	6,084	15,046	9,302	6,516	15,818
Eastern Province	2,812	2,541	5,353	3,405	3,180	6,585	2,687	2,677	5,364
Trans-Volta/Togoland	1,480	1,433	2,913	1,737	1,738	3,475	2,186	2,007	4,193
Ashanti	5,302	4,397	9,699	5,322	4,584	9,906	5,960	5,713	11,673
Northern Territories	4,556	2,360	6,916	4,603	2,718	7,321	5,681	3,258	8,939
Total	22,819	16,273	39,092	24,029	18,304	42,333	25,816	20,171	45,987

TABLE LXXXII

HOSPITAL BEDS AVAILABLE IN GOVERNMENT HOSPITALS 1950 AND 1953

Region	Male Beds		Female Beds		Cots		Isolation Beds		Population 1948 Census
	1950	1953	1950	1953	1950	1953	1950	1953	
Accra	226	196	168	297	106	130	8	8	224,771
Trans-Volta/Togoland	47	65	47	62	15	32	—	—	508,446
Eastern Region	88	114	62	78	29	39	—	—	649,393
Western Region	289	310	156	186	58	64	—	—	871,803
Ashanti	159	153	99	111	74	66	—	—	818,944
Northern Territories	147	171	74	126	20	42	12	12	1,045,093
TOTAL	956	1,009	606	860	302	373	20	20	4,118,450

TABLE LXXXIII

HOSPITAL BEDS AVAILABLE FOR HIGHER SOCIAL GRADES: 1950 AND 1953

Hospital	Males		Females		Cots		Isolation	
	1950	1953	1950	1953	1950	1953	1950	1953
Ridge Hospital, Accra ..	18	20	15	17	1	6	0	0
Takoradi Hospital, Takoradi	29	33	9	12	2	7	0	0
Kumasi General, North Wing	8	7	8	7	4	4	0	0
Tamale, West Hospital ..	4	4	4	4	0	1	0	0
TOTAL	59	64	36	40	7	18	0	0

TABLE LXXXIV

TOTAL ANNUAL RECURRENT EXPENDITURE OF MEDICAL DEPARTMENT
COMPARED WITH TOTAL ANNUAL RECURRENT GOVERNMENT EXPENDITURE
1946-1953

Year	Government Expenditure		Medical Department Expenditure		Medical Department as % age of total Govt. Expenditure
	Ordinary £	Extra-ordinary £	Ordinary £	Extra-ordinary £	
1946	4,781,070	716,098	501,347	18,347	10.5
1947	7,956,115	1,036,729	572,328	24,023	6.6
1948	8,431,630	1,208,058	750,337	5,093	7.8
1949	9,861,715	1,376,215	867,886	22,492	7.9
1950	10,902,214	3,110,391	936,927	28,093	6.9
1951	30,383,419	2,520,604	1,027,166	10,628	3.15
1952	36,121,713	1,008,756	1,585,219	22,325	4.2
1953	40,816,020	2,620,472	1,801,596	17,001	4.2

APPENDIX D

TABLE LXXXV

REPORT ON THE OPHTHALMIC CLINIC AT KUMASI 1953: WORK OF THE
OPHTHALMOLOGIST

	Males	Females	Children	Total
A. Out-patients new cases	3,182	1,210	Included	4,392
B. Admissions to Hospital				
(i) Non-surgical	24	4	9	37
(ii) Excisions of eye	41	10	18	69
(iii) Cataract operation	25	4	5	34
(iv) Correction socket/lid	3	6	5	14
(v) Others	15	1	2	18
TOTAL	108	25	39	172
C. Operations				
(i) Minor	260	70	Included	330
(ii) Major	86	39	Included	125
TOTAL	346	109	Included	455
D. Eye Injuries Treated				
(i) Penetrating wounds	45	12	6	63
(ii) Assaults	54	20	7	81
(iii) Foreign bodies, corneal	92	10	10	112
(iv) Foreign bodies, conjunctival	64	9	10	83
(v) Accidents not included above	195	35	37	267
TOTAL	450	86	70	606

A. Blindness

Main Causes:

(a) Iridocyclitis	23 cases
(b) Corneal breakdown and bilateral leukoma	24 cases
(c) Lesions of retina and choroid	27 cases
(d) Optic nerve atrophy	38 cases
(e) Cataract	69 cases
(f) Glaucoma, primary	52 cases
(g) Excessive Myopia	8 cases
Total (Including Children)	241 cases

Of the cases of primary blindness, 77 males, 18 females and 22 children totalling 117 cases were blind beyond hope of recovery, partial or complete. Of the remaining 124 cases 69 were Cataracts, of which only 30 could be extracted. The remaining Cataract cases had to be refused operation by the ophthalmologist on grounds of poor general health or lack of hygiene; some went to obtain native medicine, and others would not wait their turn for operation.

B. Cataract:

145 males, and 57 females including children, totalling 202 cases were seen. Of these 43 males and 26 females including children totalling 69 cases were blind in both eyes. Unfortunately less than half were extracted, and about 120 persons who were found to have one mature and one immature cataract were not operated on.

C. Glaucoma:

Of the 92 cases seen 52 were blind.

D. Diseases of the inner Eye:

Excluding the above three headings, 263 persons were seen and treated.

APPENDIX E

CAUSES OF DEATHS IN 425 AUTOPSIES—ACCRA

(1) *The New born*

Birth injury	11
Haemorrhagic disease of the new born	7
Pulmonary Atelectasis and Emphysema	9
Congenital Malformations	4
Prematurity	3
Icterus Neonatorum	2
Others	10
Total	46

(2) *Diseases of the Cardio-Vascular System*

.. .. . 36

(3) *Diseases of the Respiratory System*

Pneumonia	20
Tuberculosis	24
Total	44

(4) *Diseases of the Central Nervous System*

Meningitis—pneumococcal	4
Salmonella	1
Unclassified	2
Encephalitis	3
Malaria, Cerebral	2
Trypanosomiasis	1
Heat Stroke	1
Meningioma	1
Total	15

(5) *Diseases of the Genito-Urinary System*

Pyelonephritis	7
Chronic Nephritis	3
Carcinoma of Prostate	1
Total	11

(6) *Diseases of the Liver*

Cirrhosis	7
Carcinoma	6
Hepatitis	6
Total	19

APPENDIX E—*contd.*CAUSES OF DEATHS IN 425 AUTOPSIES : ACCRA—*contd.*(7) *Diseases of the Gastro-Intestinal Tract*

Dysentery	6
Perforation	3
Obstruction	4
Pancreatitis	2
Total	15

(8) *Infectious and Parasitic Diseases*

Septicaemia	15
Pyæmia	7
Typhoid	8
Anthrax	1
Tetanus	3
Amoebiasis	2
Schistosomiasis	3
Total	39

(9) *Traumatic and Unnatural Causes* 138(10) *Miscellaneous Causes*

Sickle-cell crisis	16
Kwashiorkor	5
Malnutrition and Starvation	7
Others	34
Total	62

APPENDIX F

TABLE LXXXVI

ADMISSION, DISCHARGES, AND DEATH OF PATIENTS, ACCRA MENTAL HOSPITAL

Year	End of: previous year	Admissions	Discharges	Deaths	Escapes	Criminals
1910		83	50	15	29	—
1911		89	37	10	23	—
1912		92	120	26	32	—
1913		98	41	16	30	—
1914		93	53	14	17	—
1915		113	33	24	26	—
1926-27		244	109	24	67	1
1927-28		257	88	28	62	1
1928-29		241	84	32	45	1
1929-30		246	109	28	44	2
1930-31		275	131	32	47	1
1931-32		326	127	35	58	4
1932-33		355	132	22	86	4
1933-34		375	123	35	80	1
1934		382	145	37	89	—
1935		393	146	17	74	1
1936		445	151	38	94	3
1937		461	122	26	72	7
1938		536	153	30	61	4
1939-51		No records available,				
1952		692	354	126	168	20
1953		736	486	196	128	33

TABLE LXXXVII

ORIGIN OF PATIENTS ADMITTED TO ACCRA MENTAL HOSPITAL

Year	Eastern and Western Regions	Ashanti	Northern Territo- ries	Nigeria	French Togoland	Liberia	Sierra Leone
1952		100	118	130	4	2	—
1953		202	68	144	46	9	7

TABLE LXXXVIII

11 IMPORTANT CAUSES OF MORTALITY AT ACCRA MENTAL HOSPITAL: 1953

Condition	Number of cases	Number of deaths
A.1 Tuberculosis of respiratory system	28	25
A.78 (b) All other diseases of the nervous system and sense organs	18	4
A.87 Acute upper respiratory infections	11	4
A.90 Broncho-pneumonia	11	4
A.91 Primary atypical, other, and unspecified pneumonia ..	7	4
A.81 Arterio-sclerotic and degenerative heart diseases	3	3
A.107 Other diseases of digestive system	5	3
A.25 Leprosy	5	2
A.42 (d) Other diseases due to helminths	15	2
A.109 Chronic, other and unspecified nephritis	4	2
AE.148 Suicide and self-inflicted injury	2	2

APPENDIX G

TABLE LXXXIX

1953: CERTAIN MATERNAL CONDITIONS TREATED AT THE MATERNITY HOSPITAL,
ACCRA AND MATERNITY UNIT, KUMASI—1953

CONDITION	ACCRA			KUMASI		
	No. of cases	No. of deaths	No. of living	No. of cases	No. of deaths	No. living
Retained Placenta	53	3	50	82	5	77
Post-partum Haemorrhage	56	23	33	33	2	31
Puerperal Pyrexia	59	6	53	57	—	57
Eclampsia	27	5	22	24	4	20
Rupture of uterus*	4	4	—	20	12	8
TOTAL	199	41	158	216	23	193

TABLE XC

CONDITIONS ARISING FROM PREGNANCY, CHILDBIRTH AND THE PUERPERIUM
TREATED IN GOLD COAST HOSPITALS—1953

Region	Other complications of pregnancy	Uncomplicated deliveries	Sepsis of pregnancy	Toxaemia of pregnancy	Haemorrhage of pregnancy	Abortion not septic	Abortion septic
Accra	740	1,802	11	50	57	570	3
Trans-Volta/Togoland	157	312	74	10	17	88	27
Eastern Region	194	398	30	78	91	120	38
Western Region	687	1,469	99	42	31	289	101
Ashanti	340	1,145	287	711	248	228	48
Northern Territories	101	498	37	4	2	122	7
TOTAL	2,219	5,624	538	895	446	1,417	224

TABLE XCI

MATERNAL DEATHS AND CERTAIN COMPLICATIONS OF CHILDBIRTH AND THE
PUERPERIUM: 1953

Region	Maternal deaths	Retained Placenta	Post-partum Haemorrhage	Puerperal Pyrexia
Accra	129	24	56	59
Trans-Volta/Togoland	7	8	2	29
Eastern Region	8	40	15	11
Western Region	2	2	1	1
Ashanti	29	91	44	60
Northern Territories	6	4	3	3
TOTAL	181	169	121	163

TABLE XCII

CONDITIONS AFFECTING THE NEW-BORN CHILD: 1953

REGION	Congenital Malformations	Meningocele and Spina Bifida	Birth Injuries	Post-natal Asphyxia and Atelectasis	Diarrhoea of new-born	Ophthalmia Neonatorum	Haemorrhagic Disease of new-born
Accra	1	0	8	76	4	0	1
Trans-Volta/Togoland	3	1	1	11	12	22	1
Eastern Region	4	—	—	—	5	—	—
Western Region	47	1	33	11	14	4	28
Ashanti	33	3	1	43	1	8	—
Northern Territories	2	—	2	—	—	1	—
TOTAL	90	5	45	141	36	35	30

TABLE XCIII

MORTALITY FROM CERTAIN CONDITIONS OF THE NEW-BORN CHILD: 1953

CONDITION	No. of cases	No. of deaths
Congenital Malformations	90	3
Meningocele and Spina bifida	5	1
Birth Injuries	45	6
Post-natal asphyxia and atelectasis ..	141	62
Diarrhoea of the new-born	36	3
Ophthalmia Neonatorum	35	1
Haemorrhagic disease of the new-born ..	30	11
Total	382	87

TABLE XCIV

RETURNS FOR MATERNITY CLINICS EXCLUDING ACCRA AND KUMASI: 1953

REGION	ANTE-NATALS		DELIVERIES	NO. OF BABIES BORN		POST-NATAL CLINICS	
	New	Total		Alive	Dead	New	Total
Trans-Volta/Togoland	3,080	11,152	151	no	record	no	record
Eastern Region	3,231	14,927	—	no	record	993	4,517
Western Region	843	1,448	231	32	2	no	record
Ashanti	4,409	27,858	—	808	57	no record	1,536
Northern Territories	1,777	7,217	125	209	27	961	1,201

TABLE XCV

WOMEN ATTENDING FOR TREATMENT AT OUTSTATION DRESSING STATIONS AND DISPENSARIES FOR CONDITIONS ARISING FROM PREGNANCY

Region	1951	1952	1953
Accra Region	4	—	—
Trans-Volta/Togoland	477	591	673
Eastern Region	272	162	5,719
Western Region	339	599	13,127
Ashanti	231	1,110	3,238
Northern Territories	514	615	no record
Total	1,837	3,077	—

TABLE XCVI

ALL OTHER CONDITIONS ARISING OUT OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM TREATED IN OUTSTATION DRESSING STATIONS AND DISPENSARIES

Region	1951	1952	1953
Accra Region	—	—	—
Trans-Volta/Togoland	17	1	—
Eastern Region	—	6	—
Western Region	26	8	—
Ashanti	1	27	10
Northern Territories	—	16	5
Total	44	58	15

TABLE XCVII

SUMMARY OF ALL IMPORTANT CAUSES OF MORBIDITY AT CHILD WELFARE CLINICS 1951-1953

Conditions	1951	1952	1953
Malaria	16,412	13,197	8,085
Yaws	7,252	3,950	6,753
Intestinal Diseases	9,098	8,213	6,535
Deficiency	4,445	5,045	4,938
Infectious Diseases	1,225	1,163	3,119
Skin Diseases	—	—	1,910
Skin Diseases	—	—	1,910
Respiratory Diseases	5,009	2,583	1,028
Eye Diseases	672	428	463
Venereal Diseases*	98	74	141
Urinary Diseases	—	—	38

TABLE XCVIII

CHILDREN UNDER 16: ADMISSIONS TO HOSPITALS EXPRESSED AS A PERCENTAGE OF TOTAL ADMISSIONS

Hospitals	1949	1950	1951	1952	1953
Axim	—	—	—	13.5	no record
Bawku	20.9	21.4	26.4	13.5	no record
Keta	28.7	25.1	15.1	31.9	no record
Kibi	11.6	11.1	11.0	10.3	no record
Lawra	34.6	38.0	51.6	50.6	31.9
Nsawam	—	—	—	14.5	no record
Obuasi	8.7	10.2	16.0	14.3	no record
Saltpond	—	—	—	17.3	no record
Sunyani	19.1	15.9	17.0	19.3	20.6
Takoradi	2.1	2.0	2.5	3.0	5.15
Wa	28.8	25.8	22.2	23.0	30.5

TABLE XCIX

CHILDREN UNDER 16: OUT-PATIENT ATTENDANCES AT HOSPITAL EXPRESSED AS
A PERCENTAGE OF TOTAL OUT-PATIENTS

<i>Hospital</i>	1949	1950	1951	1952	1953
Axim	—	—	—	8·0	no record
Bawku	18·3	23·3	27·4	29·9	no record
Bekwai	25·7	23·7	24·8	22·5	26·1
Berekum	29·6	34·3	27·0	36·3	no record
Keta	39·5	31·0	27·5	33·0	no records
Kibi	24·9	11·1	25·0	13·8	no record
Lawra	23·7	28·9	28·5	47·2	34·6
Nsawam	—	—	—	18·0	no record
Obuasi	3·8	3·4	3·3	3·7	no record
Saltpond	—	—	—	3·4	no record
Sunyani	45·4	46·1	43·3	57·0	53·8
Takoradi	4·8	12·3	5·7	6·4	0·45
Wa	41·3	44·9	41·7	12·8	33·3

NURSES IN TRAINING FOR STATE REGISTERED QUALIFICATIONS: 1952-1953

TABLE CI

STATISTICS OF TRAINED NURSES 1951-1953

SECTION B

STATISTICS OF NURSES IN TRAINING 1952-1953

SECTION C

EXAMINATION RESULTS 1952-1953

[illegible]

APPENDIX H—contd.

TABLE CI—contd.

SECTION D

MATERNITY LEAVE 1952-1953

Number of trained female Nurses	280	356
Number of applications for maternity leave	42	71
Number on maternity leave during the year	49	81

SECTION E

ANALYSIS OF TRAINED STAFF AT 31st DECEMBER, 1952 AND 1953

To number on the establishment	702	882
Number of Mental Nurses	113	108
Number of Health Visitors	9	11
Number of Midwives	47	54
Total Number who are not general nurses	169	173
Total Number of General Nurses	533	1,909

SECTION F

TRAINED NURSES LEAVING THE SERVICE 1952-1953

Died	3	2
Invalided	3	9
Retired	11	7
Dismissed	3	18
Resigned	30	40

SECTION G

NURSES IN TRAINING LEAVING THE SERVICE 1952-1953

Died	1	2
Invalided	1	1
Dismissed	21	16
Resigned	63	31

TABLE CII

SCHOOL OF HYGIENE, ACCRA, PUPIL SANITARY INSPECTORS: 1953

Pupils	No. at beginning of year	Dismissed or resigned	Sent away due to lack of interest	Total completing course
Government Trainees	24	7	—	17
Accra Municipal Council	1	—	—	1
Kumasi Municipal Council	2	—	2	0
Liberian Government	1	—	1	0
Total	28	7	3	18

TABLE CIII

SCHOOL OF HYGIENE, ACCRA: REFRESHER COURSES FOR ROYAL SANITARY
INSTITUTE EXAMINATION: 1953

Pupils	No. at beginning of year	Sent away for sub- standard work	Number completing course
Government S.I.'s	8	1	7
Accra Municipal Council Inspectors	2	2	0
Kumasi Municipal Council Inspectors	3	1	2
Cape Coast Municipal Council Inspectors	2	2	0
Total	15	6	9

APPENDIX " I "

PUBLICATIONS

Medical staff of the Ministry of Health were concerned during 1953 with the following publications:—

- Edington, G. M. (1953) .. Significance of the target cell in peripheral blood smears of the Gold Coast African.
Trans. R.Soc. Trop. Med. Hyg. **47**, 401.
- Edington, G. M. (1953) .. Sickle-cell anaemia in the Accra District of the Gold Coast.
British Medical Journal **2**, 957.
- Edington, G. M. Judd, J. M. and Ward, A. H. (1953). Toxicity of radio-strontium in monkeys.
Nature, **172**, 122.
- Galt-Gamble, M. E. and Harris, F. C. (1953). *Pseudomonas pyocyanea* simulating enteric fever and developing during antibiotic treatment.
West African Medical Journal (New Series) **2**, 79.
- Harries, F. C. (1953) .. Vitamin K in the prevention of neo-natal haemorrhage in the Gold Coast African.
West African Medical Journal (New Series) **2**, 129.
- Hughes, M. H. (1953) .. A useful blood-culture technique.
West African Medical Journal (New Series) **2**, 94.
- Hughes, M. H. (1953) .. A rickettsial disease of goats in the Gold Coast.
Animals of Tropical Medicine and Parasitology. **47**, 299.
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RETURN "A"

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND DISEASES
(OUT-PATIENTS) FOR THE YEAR 1953

Inter- mediate List Number	Diseases	IN-PATIENTS							OUT-PATIENTS	
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
A. 1	T.B. of respiratory system ..	61	484	170	116	16	715	117	1,063	493
A. 2	T.B. of meninges and central nervous system ..	—	7	3	3	2	10	1	2	6
A. 3	T.B. of intestines peritoneum and mesenteric glands ..	—	29	28	6	2	57	4	4	6
A. 4	T.B. of bones and joints ..	—	44	15	1	1	59	20	26	12
A. 5	T.B. all other forms, ..	20	70	28	9	6	118	4	80	51
A. 6	Congenital Syphilis ..	—	2	2	—	—	4	1	263	22
A. 7	Early Syphilis ..	—	14	5	1	—	19	—	205	41
A. 8	Tabes dorsalis ..	—	2	—	—	—	2	—	20	8
A. 9	General paralysis of insane ..	—	—	—	—	—	—	—	38	21
A.10	All other Syphilis ..	4	43	38	1	1	85	6	1,206	542
A.11	Gonococcal infections ..	17	583	358	6	—	858	18	14,056	2,379
A.12	Typhoid fever ..	19	191	123	15	11	333	11	36	22
A.13	Paratyphoid fever and other salmonella infections ..	1	45	23	1	4	69	2	2	5
A.14	Cholera ..	—	—	—	—	—	—	—	—	—
A.15	Brucellosis (undulant fever) ..	—	1	—	—	—	1	—	—	—
A.16 (a)	Bacillary dysentery ..	6	315	186	15	12	507	15	595	371
(b)	Amoebiasis ..	14	313	204	17	7	531	13	466	354
(c)	Other unspecified forms of dysentery ..	9	495	275	41	20	779	8	5,150	3,991
A.17	Scarlet fever ..	—	—	—	—	—	—	—	—	—
A.18	Streptococcal sore throat ..	—	23	25	—	—	48	1	177	38
A.19	Erysipelas ..	—	3	1	—	—	4	1	44	32
A.20	Septicaemia and pyaemia ..	—	28	21	6	6	49	—	241	190
A.21	Diphtheria ..	—	3	—	1	—	3	—	216	220
A.22	Whooping Cough ..	1	40	56	1	6	97	4	2,829	2,642
A.23	Meningococcal infections ..	3	63	51	26	31	117	4	113	51
A.24	Plague ..	—	—	—	—	—	—	—	—	—
A.25	Leprosy ..	582	16	3	4	—	601	303	1,518	1,110
A.26	Tetanus ..	9	156	116	50	47	281	9	82	52
A.27	Anthrax ..	—	2	2	1	—	4	—	1	—
A.28	Acute poliomyelitis ..	—	9	5	4	1	14	—	6	6
A.29	Acute infectious encephalitis ..	1	9	1	3	—	11	—	2	1
A.30	Late effect of acute poliomye- litis and acute infectious encephalitis ..	—	10	6	2	3	16	2	15	18
A.31	Smallpox ..	24	1	1	—	—	26	—	435	404
A.32	Measles ..	9	278	189	15	10	476	3	4,135	3,960
A.33	Yellow Fever ..	—	—	—	—	—	—	—	—	—
A.34	Infectious hepatitis ..	21	161	48	10	5	230	9	220	97
A.35	Rabies ..	—	2	—	2	—	2	—	—	—
A.36 (a)	Louse-borne epidemic typhus ..	—	—	—	—	—	—	—	—	—
(b)	Flea-borne endemic typhus (murine) ..	—	—	—	—	—	—	—	—	—
(c)	Tick-borne epidemic typhus ..	—	—	—	—	—	—	—	—	—
(d)	Mite-borne typhus ..	—	—	—	—	—	—	—	—	—
(e)	Other and unspecified typhus ..	—	4	3	—	—	7	—	144	7
A.37 (a)	Vivax malaria (benign tertian) ..	1	360	191	10	5	552	13	584	388
(b)	Malariae malaria (quartan) ..	4	181	51	4	5	236	—	3,393	2,098
(c)	Falciparum malaria (malignant tertian) ..	57	933	647	30	31	1,637	41	9,797	5,971
(d)	Blackwater fever ..	1	15	9	3	2	25	1	2	—
(e)	Other and unspecified forms of malaria ..	78	1,688	1,270	55	36	3,036	69	60,479	41,061
A.38 (a)	Schistosomiasis vesical (s. haematobium) ..	—	176	92	3	1	268	12	2,107	1,043
(b)	Schistosomiasis intestinal (s. mansoni) ..	—	54	29	—	—	83	2	106	58
(c)	Schistosomiasis pulmonary (s. japonicum) ..	—	1	—	—	—	1	—	—	—
(d)	Other and unspecified Schisto- somiasis ..	10	45	24	3	—	79	—	952	260
A.39	Hydatid disease ..	—	6	3	—	—	9	—	2	2
A.40 (a)	Onchocerciasis ..	—	57	9	—	—	66	2	301	107
(b)	Loiasis ..	—	—	—	—	—	—	—	9	3
(c)	Filaria (bancrofti) ..	—	22	5	—	—	27	—	139	20
(d)	Other filariasis ..	—	14	—	1	—	14	—	53	14
A.41	Ankylostomiasis ..	21	431	229	8	5	681	20	1,933	1,474
A.42 (a)	Tapeworm (infestation) and other cestode infestations ..	—	117	80	—	—	197	3	549	238
(b)	Ascariasis ..	—	360	239	6	10	599	9	3,489	3,099
(c)	Guinea worm (dracunculosis) ..	—	309	60	—	—	369	4	1,545	743
(d)	Other diseases due to helminths ..	14	185	76	6	4	275	4	5,553	4,774
A.43 (a)	Lymphogranuloma venereum ..	—	14	1	—	—	15	1	36	9
(b)	Granuloma inguinale, venereal ..	—	16	5	—	—	21	—	146	—
(c)	Other and unspecified venereal diseases ..	12	124	53	5	—	189	6	1,148	192
(d)	Food poisoning infection and intoxication ..	6	31	16	3	1	53	—	288	280

RETURN "A"—*contd.*RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND DISEASES
(OUT-PATIENTS) FOR THE YEAR 1953

Inter- mediate List Number	Diseases	IN-PATIENTS						OUT-PATIENTS		
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
(e)	Relapsing fever	—	5	11	1	—	16	—	153	116
(f)	Leptospirosis icterohaemorrhagica (Weil's disease) ..	—	1	—	—	—	1	—	34	36
(g)	Yaws	29	109	41	—	—	179	6	77,022	51,549
(h)	Chickenpox	—	151	18	—	—	169	1	707	409
(i)	Dengue	—	14	8	—	—	22	—	16	5
(j)	Trachoma	—	26	18	—	—	44	—	205	4
(k)	Sandfly fever	—	1	—	—	—	1	—	10	—
(l)	Leishmaniasis	—	1	—	—	—	1	—	—	—
A.43 (m)	Trypanosomiasis gambiensiis ..	—	48	19	6	1	67	13	68	19
	Trypanosomiasis rhodesiensiis ..	—	1	—	—	—	1	1	1	—
	Other and unspecified Trypanosomiasis	4	20	10	7	1	34	2	281	87
(n)	Dermatophytosis	—	28	11	—	—	39	3	390	297
(o)	Scabies	—	228	76	1	—	304	6	8505	4508
(p)	All other diseases classified as infective and parasitic ..	27	52	19	—	2	98	1	1,485	994
A.44	Malignant neoplasm of buccal cavity and pharynx	—	7	3	—	—	10	1	9	4
A.45	Malignant neoplasm of oesophagus ..	—	6	—	2	—	6	—	2	—
A.46	Malignant neoplasm of stomach ..	—	31	22	2	5	53	1	7	4
A.47	Malignant neoplasm of intestines except rectum ..	—	8	6	—	—	14	1	—	—
A.48	Malignant neoplasm of rectum ..	—	17	11	—	1	28	2	34	15
A.49	Malignant neoplasm of larynx ..	—	—	1	—	—	1	—	3	2
A.50	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary ..	—	8	—	1	—	8	—	7	3
A.51	Malignant neoplasm of breast ..	—	—	19	—	—	19	—	5	24
A.52	Malignant neoplasm of cervix uteri	—	—	94	—	2	94	2	—	80
A.53	Malignant neoplasm of other and unspecified parts of uterus ..	—	—	115	—	5	115	6	—	82
A.54	Malignant neoplasm of prostate ..	—	49	—	4	—	49	4	5	—
A.55	Malignant neoplasm of skin ..	—	27	20	1	1	47	1	85	46
A.56	Malignant neoplasm of bone and connective tissue	—	35	16	—	—	51	3	34	14
A.57	Malignant neoplasm of all other and unspecified sites ..	3	138	71	10	5	212	11	98	54
A.58	Leukaemia and aleukaemia ..	—	2	1	1	—	3	—	6	3
A.59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system ..	—	6	4	1	—	10	—	1	5
A.60	Benign neoplasms and neoplasms of unspecified nature ..	7	35	90	1	4	132	8	116	232
A.61	Nontoxic goitre	—	11	19	1	—	30	—	50	78
A.62	Thyroiditis with or without goitre	—	2	5	—	—	7	1	7	5
A.63	Diabetes mellitus	5	99	51	4	2	155	7	126	55
A.64 (a)	Beriberi	1	16	7	—	3	24	—	182	47
(b)	Pellagra	—	46	66	8	7	112	—	163	163
(c)	Scurvy	—	6	2	—	—	8	—	252	225
(d)	Other deficiency states ..	35	257	185	31	13	477	13	2,205	1,867
A.65 (a)	Pernicious and other hyperchromic anaemias	—	24	31	2	1	55	1	1,020	1,041
(b)	Iron deficiency anaemias (hypochromic)	—	68	104	18	18	172	5	1,630	1,422
(c)	Other specified and unspecified anaemias	28	184	288	20	26	500	18	4,498	1,848
A.66 (a)	Asthma	—	126	53	11	—	179	8	829	476
A.66 (b)	All other allergic disorders, endocrine, metabolic and blood diseases	6	129	124	18	3	259	10	1,454	507
A.67	Psychoses	—	19	25	—	—	44	—	41	31
A.68	Psychoneuroses and disorders of personality	—	32	18	—	—	50	3	63	60
A.69	Mental deficiency	—	25	6	—	—	31	—	147	34
A.70	Vascular lesions affecting central nervous system	3	63	33	7	5	99	3	1,153	443
A.71	Nonmeningococcal meningitis ..	—	41	30	22	20	71	—	11	5
A.72	Multiple sclerosis	—	40	17	2	—	57	4	150	71
A.73	Epilepsy	—	332	222	—	—	554	2	2,905	1,796
A.74	Inflammatory diseases of eye ..	—	29	22	—	—	51	3	158	76
A.75	Cataract	—	11	5	—	—	16	—	15	6
A.76	Glaucoma	—	41	39	—	—	80	—	814	458
A.77 (a)	Otitis externa	—	89	45	1	—	139	3	1,618	1,004
(b)	Otitis media and mastoiditis ..	5	—	—	—	—	—	—	—	—
(c)	Other inflammatory diseases of the ear	—	84	32	1	—	116	2	5,202	3,339
A.78 (a)	All other diseases and conditions of eye	19	342	222	—	3	583	19	9,504	5,964
(b)	All other diseases of the nervous system and sense organs ..	20	265	132	15	3	417	9	610	280
A.79	Rheumatic fever	3	48	6	1	—	57	—	1,729	960
A.80	Chronic rheumatic heart disease	10	37	23	—	2	70	4	325	128
A.81	Arteriosclerotic and degenerative heart disease	—	49	30	4	4	79	4	87	68

RETURN "A"—*contd.*RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND DISEASES (OUT-PATIENTS)
FOR THE YEAR 1953—*contd.*

Inter- mediate List Number	Diseases	IN-PATIENTS							OUT-PATIENTS	
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
A.82	Other diseases of heart ..	21	269	106	50	25	396	21	851	700
A.83	Hypertension with heart disease	—	44	17	17	7	61	8	117	79
A.84	Hypertension without mention of heart	—	67	56	5	2	123	10	148	51
A.85	Diseases of arteries	—	43	12	4	1	55	5	5	—
A.86	Other diseases of circulatory system	6	95	36	5	3	137	—	330	192
A.87	Acute upper respiratory infec- tions	—	92	71	7	1	163	17	1,402	733
A.88	Influenza	—	19	14	7	—	33	—	262	170
A.89	Lobar pneumonia	36	646	312	40	21	994	37	566	376
A.90	Broncho-pneumonia	21	503	312	76	67	836	31	626	490
A.91	Primary atypical, other and unspecified pneumonia ..	17	527	216	29	19	760	40	879	1,873
A.92	Acute Bronchitis	—	279	103	4	2	382	2	9,834	3,416
A.93	Bronchitis, chronic and un- qualified	38	367	210	5	4	615	17	19,635	8,687
A.94	Hypertrophy of tonsils and adenoids	—	54	31	1	—	85	3	126	104
A.95	Empyema and abscess of lung ..	—	16	3	4	—	19	3	88	1
A.96	Pleurisy	—	121	46	3	2	167	7	132	59
A.97 (a)	Pneumoconiosis	—	6	—	2	—	6	1	1	3
A.97 (b)	All other respiratory diseases ..	18	573	205	5	3	796	5	12,150	4,792
A.98 (a)	Dental caries	—	37	10	—	—	47	1	2,401	1,362
A.98 (b)	All other diseases of teeth and supporting structures ..	—	30	15	2	1	45	2	2,051	930
A.99	Ulcer of stomach	—	23	6	2	—	29	3	40	6
A.100	Ulcer of duodenum	—	48	10	2	—	58	4	30	7
A.101	Gastritis and duodenitis	—	68	43	1	—	111	2	321	198
A.102	Appendicitis	11	203	92	21	4	306	7	66	40
A.103	Intestinal obstruction and hernia	54	1,836	147	78	16	2,037	68	1,838	170
A.104(a)	Gastro-enteritis and colitis between 4 weeks and 2 years ..	10	161	102	26	24	273	14	7,247	6,841
(b)	Gastro-enteritis and colitis, ages 2 years and over	9	420	276	19	12	705	3	9,635	6,790
(c)	Chronic enteritis and ulcerative colitis	—	44	24	2	—	68	1	367	103
A.105	Cirrhosis of liver	6	140	38	46	6	184	13	192	91
A.106	Cholelithiasis and cholecystitis ..	—	35	19	1	2	54	1	93	39
A.107	Other diseases of digestive system	21	648	480	46	10	1,149	32	18,697	11,999
A.108	Acute nephritis	4	101	52	7	5	157	4	131	101
A.109	Chronic, other and unspecified nephritis	5	134	84	26	11	223	11	201	186
A.110	Infections of kidney	—	117	74	7	1	191	9	289	206
A.111	Calculi of urinary system	—	10	3	—	—	13	—	873	407
A.112	Hyperplasia of prostate	—	77	—	2	—	77	3	95	—
A.113	Diseases of breast	—	1	92	—	2	93	3	7	277
A.114(a)	Hydrocele	—	228	—	1	—	228	14	549	—
(b)	Disorders of menstruation ..	—	—	397	—	1	397	8	—	4,030
(c)	All other diseases of the genito- urinary system	68	712	791	23	11	1,571	43	2,149	3,534
A.115	Sepsis of pregnancy, childbirth and the puerperium	—	—	460	—	19	460	20	—	3,896
A.116	Toxaemias of pregnancy and the puerperium	4	—	891	—	46	895	11	—	46
A.117	Haemorrhage of pregnancy and childbirth	—	—	467	—	45	467	8	—	393
A.118	Abortion without mention of sepsis or toxæmia	22	—	1,403	—	33	1,425	35	—	948
A.119	Abortion with sepsis	—	—	222	—	11	222	4	—	314
A.120(a)	Other complications of preg- nancy, childbirth and the puerperium	18	—	2,237	—	122	2,255	67	—	2,435
(b)	Delivery without complications ..	170	—	5,454	—	1	5,624	105	—	7,125
A.121	Infections of skin and sub- cutaneous tissue:	345	697	275	4	2	1,317	17	10,951	7,232
A.122	Arthritis and spondylitis : ..	—	176	87	1	—	263	13	1,354	640
A.123	Muscular rheumatism and rheumatism, unspecified ..	—	115	91	3	—	206	8	10,642	6,081
A.124	Osteomyelitis and periostitis ..	—	188	101	2	2	289	20	649	223
A.125	Ankylosis and acquired musculo- skeletal deformities	—	10	5	—	—	15	—	62	41
A.126(a)	Chronic ulcer of skin (including tropical ulcer)	—	2,542	1,849	20	9	4,391	122	32,150	14,664
A.126(b)	All other diseases of skin	—	646	178	12	5	824	29	27,894	14,191
(c)	All other diseases of musculo- skeletal system,	2	259	123	5	6	384	12	947	238
A.127	Spina bifida and meningocele ..	—	2	4	—	—	6	2	6	4
A.128	Congenital malformations of cir- culatory system	—	3	5	—	1	8	—	15	13
A.129	All other congenital malforma- tions	13	29	26	1	—	68	5	242	212
A.130	Birth injuries	—	4	45	—	6	49	1	18	78
A.131	Post-natal asphyxia and atelec- tasis	—	17	124	8	54	141	—	70	18

RETURN "A"—*contd.*RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND DISEASES
(OUT-PATIENTS) FOR THE YEAR 1955

Inter- mediate List Number	Diseases	IN-PATIENTS							OUT-PATIENTS	
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
A.132(a)	Diarrhoea of newborn (under 4 weeks)	—	17	21	7	4	38	—	701	765
(b)	Ophthalmia neonatorum : ..	—	13	5	1	—	18	—	157	127
(c)	Other infections of newborn ..	—	20	29	7	13	49	1	233	141
A.133	Haemolytic disease of newborn ..	—	21	14	5	7	35	—	—	—
A.134	All other defined diseases of early infancy	—	91	76	11	22	167	2	396	242
A.135	Ill-defined diseases peculiar to early infancy, and immaturity unqualified	6	201	308	27	117	515	18	896	803
A.136	Senility without mention of psychosis	—	17	12	2	1	29	1	154	171
A.137(a)	Pyrexia of unknown origin ..	—	637	440	20	19	1,077	16	1,579	1,134
(b)	Observation without need for further medical care	—	227	147	1	2	374	5	643	2,441
(c)	All other ill-defined causes of morbidity	50	1,287	676	81	86	2,013	71	5,542	7,162
	Total	2,185	28167	27,801	1,492	1,324	58,153	1,981	441,963	290,902

Inter- mediate List Number	Accidents, Poisonings and Violence (External cause)	IN-PATIENTS							OUT-PATIENTS	
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
AE.138	Motor vehicle accidents ..	53	1,362	418	117	36	1,793	91	4,282	1,683
AE.139	Other transport accidents ..	5	675	242	35	14	922	55	3,592	1,852
AE.140	Accidental poisoning	—	73	28	6	1	101	3	97	45
AE.141	Accidental falls	10	1,042	151	20	7	1,203	29	3,186	1,467
AE.142	Accidents caused by machinery	13	396	47	—	—	456	13	2,584	232
AE.143	Accidents caused by fire and explosion of combustible material	4	243	106	12	8	353	6	360	152
AE.144	Accidents caused by hot sub- stance, corrosive liquid, steam and radiation ..	2	178	97	2	4	277	11	512	869
AE.145	Accident caused by firearm ..	1	216	22	15	3	239	12	345	66
AE.146	Accidental drowning and sub- mersion	—	20	4	2	2	24	—	665	144
AE.147										
(a)	Foreign body entering eye and adnexa	—	65	24	—	—	89	3	529	313
(b)	Foreign body entering other orifice	—	54	20	—	—	74	—	397	202
(c)	Accidents caused by bites and stings of venomous animals and insects	4	431	109	20	10	544	9	1,403	710
(d)	Other accidents caused by animals	1	64	13	2	—	78	—	283	159
(e)	All other accidental causes ..	180	585	233	7	4	998	41	6,186	1,344
AE.148	Suicide and self-inflicted injury	1	48	6	5	1	55	3	117	38
AE.149	Homicide and injury purposely inflicted by other persons (not in war)	5	585	175	2	7	765	10	1,971	684
AE.150	Injury resulting from operations of war	—	—	—	—	—	—	—	—	—
	Total ..	239	6,037	1,695	245	97	7,971	286	26,509	9,960

RETURN "A"—*contd.*RETURN OF DISEASES AND DEATHS (IN-PATIENTS) AND DISEASES
(OUT-PATIENTS) FOR THE YEAR 1953—*contd.*

Inter- mediate List Number	Accidents, Poisonings and Violence (Nature of injury)	IN-PATIENTS							OUT-PATIENTS	
		Remaining in hospital on 31st Dec., 1952	Yearly Total				Total cases treated	Remaining in hospital on 31st Dec., 1953	Males	Females
			Admissions		Deaths					
			Males	Females	Males	Females				
AN.138	Fracture of skull	3	133	37	47	24	173	6	267	58
AN.139	Fracture of spine and trunk ..	3	193	29	27	10	225	13	142	83
AN.140	Fracture of limbs	29	936	267	55	10	1,232	102	733	352
AN.141	Dislocation without fracture ..	—	256	53	4	—	309	19	647	330
AN.142	Sprains and strains of joints and adjacent muscle ..	2	339	83	2	—	424	8	1,283	532
AN.143	Head injury (excluding skull fracture)	—	209	105	14	6	314	14	561	227
AN.144	Internal injury of chest, abdo- men, and pelvis	1	120	27	11	3	148	10	190	180
AN.145	Laceration and open wounds ..	25	2,057	574	23	18	2,656	57	10,501	3,127
AN.146	Superficial injury, contusion and crushing with intact skin surface	—	597	143	6	—	740	24	6,918	1,854
AN.147	Effects of foreign body entering through orifice	—	180	46	5	1	226	1	696	313
AN.148	Burns	6	431	152	24	16	589	17	781	322
AN.149	Effects of poisons	3	173	64	12	7	240	—	303	190
AN.150	All other and unspecified effects of external causes	167	413	115	15	2	695	15	3,487	2,392
	Total ..	239	6,037	1,695	245	97	7,971	286	26,509	9,960
	Grand Total ..	2,424	34,204	29,496	1,737	1,421	66,124	2,267	468,472	300,862

749,337



