

Annual medical report / Colony and Protectorate of Kenya.

Contributors

Kenya. Medical Department.

Publication/Creation

Nairobi : [Govt. Printer], [1950]

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COLONY AND PROTECTORATE OF KENYA

**MEDICAL DEPARTMENT
ANNUAL REPORT**

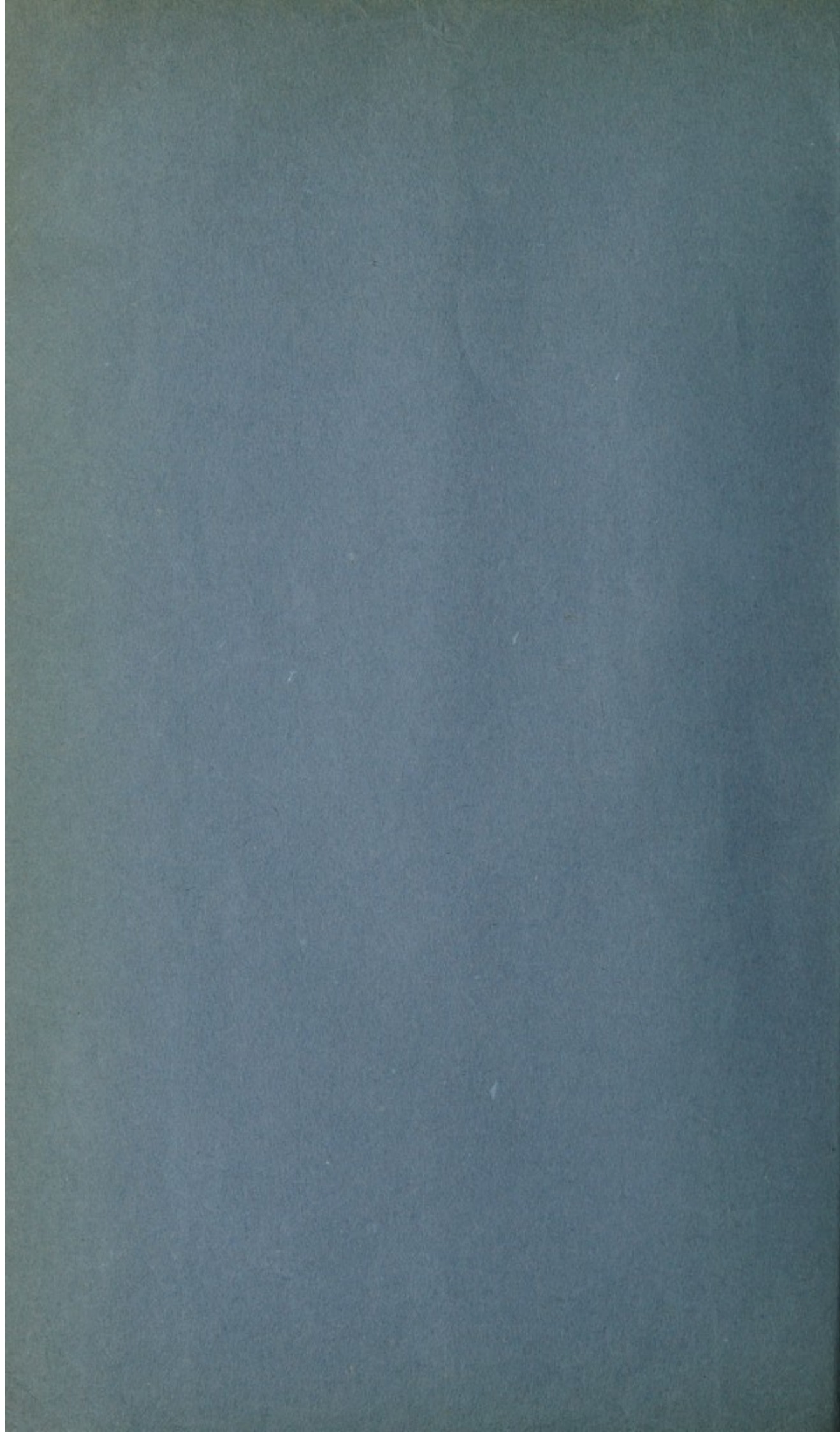
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PRINTED BY THE GOVERNMENT PRINTER, NAIROBI

Price: Sh. 5



**MEDICAL DEPARTMENT
ANNUAL REPORT
1950**

MEDICAL DEPARTMENT HEAD OFFICE,
NAIROBI.

27th August, 1951.

16/743/90.

SIR,

I have the honour to submit for the information of His Excellency the Governor, and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary Conditions of the Colony and Protectorate of Kenya for the year 1950, together with the Returns, etc., appended thereto.

I have the honour to be,

Sir,

Your obedient servant,

E. A. TRIM,
for Director of Medical Services.

*The Honourable the Member for Education, Health
and Local Government, Nairobi.*



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MEDICAL DEPARTMENT ANNUAL REPORT, 1950

ADMINISTRATION

The Administration of the Department continued under the general control of the Member for Health and Local Government, who assumed the additional portfolio of Education during the year.

EUROPEAN SERVICES

The new hospital at Mombasa was opened during the year and was administered by a local committee under the European Hospital Authority. The Medical Department is now responsible for only two European hospitals, at Nairobi and Kisumu. The European Hospital at Nairobi will in course of time cease to be a responsibility of the Department as plans are fairly well advanced for the building of a new European general hospital with the assistance of a capital grant from Government, supplemented by funds raised by voluntary subscription.

The hospital will be administered by a Management Committee which will be financially and administratively independent of the Medical Department. A new European hospital for maternity and gynaecological patients named the Princess Elizabeth Hospital for Women, which is managed by the same Committee, was opened in December.

The European community is thus rapidly assuming the responsibility for its own hospital services, and having demonstrated its ability to maintain them, will become virtually independent of Government control.

General practitioner and, in the larger towns, specialist services are now largely in the hands of private practitioners.

ASIAN SERVICES

The medical needs of the Asian community are adequately served in the larger towns by private practitioners of their own race. Small Asian wards are provided at a number of district hospitals which have in most cases been built with funds raised by the community. The plans for the new Asian hospital in Nairobi were completed during the year and building is to commence early in 1951. The hospital is being built by Government and the capital cost will be met partly by Government and partly from a bequest. It will be managed by the Medical Department until such time as the Asian community is able to take over the management.

AFRICAN SERVICES

Unlike the other two races, the African community has no general practitioner service operated by members of their own race. Medical services must therefore be supplied by other agencies. These are—

- (a) Government, which supplies the major part of the service;
- (b) missions, subsidized by Government; and
- (c) local Government authorities, in particular African district councils.

A good deal of attention has recently been paid to the relative responsibilities of central and local Government authorities in regard to medical services, as a result of which these responsibilities have been more closely defined. Briefly stated, these are that the central Government is responsible for African provincial and district hospitals, in which a free service for Africans is provided. Government also subsidizes certain mission hospitals in which there is a doctor in charge. The local Government authority on the other hand, is responsible for maternity, dispensary and ambulance services.

These three agencies together provide rather more than one hospital bed per 1,000 of the population, a proportion which is totally inadequate in comparison with the needs of the population, more particularly when it is remembered that there is no general practitioner service remotely resembling that which is available amongst the more developed communities. It must be accepted that an increase in hospital beds to anything approaching European standards will be altogether beyond the financial resources of the country within the foreseeable future. It is therefore essential that expansion of medical services must take some form other than the multiplication of hospital beds, which is the most costly method of supplying medical relief. It is becoming clear that future expansion should be along the lines of extending the scope of the rural dispensary service and initiating some form of domiciliary attendance on the lines of a general practitioner service. At the same time a larger proportion of our resources should be devoted to preventive as opposed to curative services.

The weakness of the existing dispensary service is the poor quality of the staff. The average dispensary is under the care of a dresser who has had little training and is unable in consequence to employ the modern methods of treatment which should be available

to the rural community. The policy which is now being developed is to bring about the evolution of the dispensary into a rural health centre in which patients can receive up-to-date treatment as out-patients, or, if necessary, in their own homes. At the same time, maternity and child welfare services must be developed on a domiciliary basis, operated by a midwife and health visitor attached to the centre. If this policy could be put into practice on a country-wide scale modern medical methods could be brought into the homes of the people at infinitely less cost than the expensive method of institutional treatment which at present is almost the only means we have of alleviating suffering.

At the same time the health centre is being developed as the focus from which improved rural sanitation, health education and measures directed to the prevention of disease may be disseminated.

An extended service such as is envisaged requires personnel rather than buildings, and necessitates a very greatly increased training programme. Such a training programme has been worked out in detail during the year and is being put into operation as quickly as circumstances permit.

Staff

The staff position in regard to medical officers, which at the beginning of the year caused great anxiety, was considerably improved during the latter half of the year as new recruits began to arrive from the United Kingdom or in some cases were engaged locally.

An important factor in bringing about an improvement in recruitment of medical officers has been the lengthening of the salary scale consequent upon the negotiations which were carried out between the Colonial Office and the British Medical Association. By the end of the year we were in the relatively happy position that all vacancies in the permanent establishment were filled by locally engaged medical officers on a temporary agreement so that we had our full complement of doctors. If the steady flow of recruits to the permanent service continues as at present, there is every reason to hope that the establishment will be filled by officers of the Colonial Medical Services by the end of 1951.

The cadre of nursing sisters of the Queen Elizabeth Colonial Nursing Service was considerably depleted owing to resignations due to marriage. There were 16 such resignations during the year. This has caused a good deal of dislocation in the service. Fortunately the Matron-in-Chief has been able to fill vacancies with locally engaged nursing sisters on temporary agreement.

Recruitment for other branches of the European staff has in general enabled the establishment to be kept up to strength, but there have been shortages in health inspectors and laboratory technicians.

A disappointing feature of the staff position has been the relatively small number of African assistant medical officers holding the Makerere diploma whom we have been able to obtain. The output of diplomates from Kenya has averaged only one per year since the medical school has been in existence. The difficulty appears to be that the number of Kenya Africans possessing the educational qualifications to enable them to undertake a medical course of training is strictly limited.

It is pleasing to be able to record that the morale of the service generally has been high. European and Asian members of the Department have given willing and efficient service in spite of many difficulties, not the least of which has been a continued shortage of certain medical supplies.

The morale of the African members of the service has been raised considerably by the opportunities which are now available for training which will enable an increasing number of higher posts to be filled by Africans.

Extra Departmental Activities

REGISTRATION OF MEDICAL PRACTITIONERS AND DENTISTS

The original Ordinance governing registration came into force on 24th September, 1910, and since that date to the end of the year under review, 704 registrations have been effected. The Medical Practitioners and Dentists Ordinance does not make provision for the removal of names from the Register and steps were taken to amend it to allow for such removal in the event of death or departure from the Colony.

Fifty-five new medical practitioners were registered in the Colony during the year and one dentist. Fourteen of the medical practitioners registered were employed by the Kenya Government, the remainder were entering private practice, High Commission or military appointments. Of the new private practitioners nine had gained their qualifications in India.

Six persons were licensed to practise in limited areas during the year.

The Medical Practitioners and Dentists Board was reconstituted during the year on the expiry of the term of office of the Board constituted under the Medical Practitioners and Dentists (Amendment) Ordinance, 1946.

Two meetings of the Board were held during the year.

PHARMACY AND POISONS BOARD

Three meetings of the Board were held during the year and measures to control advertising the possession of poisons were initiated. Steps were also taken to bring new drugs under the provisions of the Poisons Law, particular attention being paid to antibiotics and hormones.

The membership of the Board was enhanced during the year by the inclusion of Mr. J. Padfield, M.P.S., Ph.C., a nominee of the Pharmaceutical Society of East Africa.

NURSES AND MIDWIVES COUNCIL

This Council was appointed under the Nurses and Midwives Ordinance, 1949.

Five meetings of the Council were held during the year and initial investigations were undertaken with a view to enforcing the provisions of the Nurses and Midwives Ordinance with regard to registration. In view of the complexity of the problem it was not possible to commence registration but it is hoped that this will be achieved in 1951 and that the first examinations under the auspices of the Council will be held early in 1952.

Medical Visitors

Kenya in general and Nairobi in particular is becoming to an increasing extent a centre to which medical visitors are attracted. During the year we have had four visits from consultants who visited the country under the auspices of the Nuffield Foundation. These included Dr. N. Lloyd Rusby (tuberculosis), Professor H. J. Seddon (orthopaedics), Dr. Cicely Williams (child health) and Mr. J. H. Peel (gynaecology and obstetrics). Each of these consultants, with the exception of Dr. Cicely Williams who was only able to spend a few days in the country, was able to carry out a fairly wide tour of the country. The visits of these consultants are very much appreciated by all with whom they come in contact, but perhaps especially by district medical officers, who are working on their own and who have few opportunities of professional contact with leading members of the profession. All the consultants who visited us showed that they had a wide range of interests apart from their specialities and they were able at the conclusion of their tour to give much helpful advice.

Other distinguished visitors included Doctors Struthers, Morrison and Mackintosh of the Rockefeller Foundation, Professor Cruickshank, Dr. Bertram and Dr. Galloway of the London School of Hygiene and Tropical Medicine and Dr. Lewthwaite, Director of Colonial Medical Research. Dr. P. C. C. Garnham, Mr. C. B. Symes, Professor Swellengrebel and Professor Cambournac of the University of Lisbon, visited Nairobi on their return from the Malaria Conference at Entebbe in December.

In July, Dr. Woolf led a party of 14 delegates from the Union of South Africa to study medical services for Africans. They spent a few days in Kenya and visited the capital and a number of district hospitals.

Sir Reginald Watson-Jones visited Kenya in the course of a Commonwealth tour as Sims Professor of the Royal College of Surgeons. While he was in Nairobi he inaugurated a conference of a recently formed Association of Surgeons of East Africa.

Finally, visits were paid to this country in the course of tours sponsored by World Health Organization by Dr. Dyson Blair of Southern Rhodesia to study schistosomiasis in Central and Eastern Africa and by Professor Brock of Cape Town University to investigate kwashiorkor.

Finance

The total of the sanctioned estimates for the Medical Department for the year 1950, was £794,244, an increase of £73,585 on the previous year.

Vital Statistics

No comprehensive system of births and deaths registration is kept in Kenya which is unfortunate as lack of dependable figures has allowed the circulation of figures representing population trends which can be no more than guesses. Even in Nairobi and Mombasa where systems of births and deaths registration for all races are in being, figures are obtained from data whose accuracy the respective medical officers of health would be the last to defend.

Figures collected in Nairobi, Mombasa and by the Registrar General for the whole Colony are given below:—

BIRTH AND DEATH RATES PER 1,000 OF POPULATION

					European	Asian	African
Nairobi	..	..	..	Birth Rate	19.7	55.6	25.6
				Death Rate	8.6	7.0	14.0
Mombasa	..	..	..	Birth Rate	39.0	60.0	20.0
				Death Rate	12.3	11.7	10.7
Registrar General (whole Colony)..				Birth Rate	25.5	42.0	—
				Death Rate	7.2	6.8	—

Little accurate information is contained in the table above and the most noticeable omission is the infant mortality rate which gives the best indication of the state of public health in a community. In so far as the African general population is concerned, this figure will not be obtainable until legislation, finance, and an organization are in being for the collection of vital statistics in all areas. It is to be hoped that this may soon come as problems of population trends are exercising all minds. Whilst accurate figures are being collected, the important figures for infant deaths will also be obtainable, in addition to the figures necessary for assessing birth and death rates. By themselves, the birth and death rates will serve only to indicate population trends since public health has little effect on the birth rate which is the main factor governing the degree of population growth or decay. Birth rates, dependent on social habits and the stability of the environment, reflect the state of law and order and prosperity in food supplies of a community rather than public health. Thus, should a community enjoy abundant food and settled conditions, its birth rate will be high and independent of the state of hygiene or health in the locality.

Population trends are therefore of interest to the Medical Department not to indicate their achievements in public health—they are useless for that purpose—but to indicate the future medical problems to be tackled in rendering the population fit, healthy, happy and efficient and to maintain a standard of nutrition necessary to attain these conditions.

The Director of the East African Statistical Bureau has been asked to summarize the position on population in Kenya as reflected by the census of 1948. His opinion is as follows:—

“There have been so many changes in the accuracy of enumerations of the African population that it is impossible to calculate the natural increase of the population from such sources. As proof of this, the estimated population at the end of 1947 numbered 4.05 million, while the census total for August, 1948, was 5.37 million, there being a difference of over 1.3 million persons in a period of six months.

There are no comprehensive birth and death registrations in Kenya, and it is therefore necessary to rely on other statistics for estimation of population growth. Before embarking on a discussion it is important to point out that rates of 2½ per cent to 3 per cent per annum are not common in any part of the world. The rate in India is not much more than 1 per cent, while in the Far East only in certain areas with increasing standards has it reached over 2 per cent. Natural increases of 2 per cent or more mean high birth rates and fairly low death rates, and it is customary for low death rates to be associated with fairly high standards of living.

AFRICAN

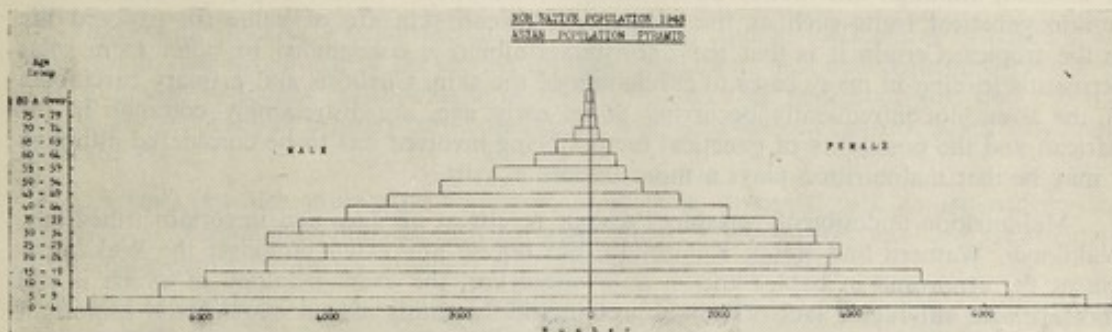
In the 1948 African population census questions on family were asked from a sample of adult women. For the women between 13-45 in Kenya, an estimate of three live births per woman was obtained, while for women over 45 the average was over 4.5. Unfortunately, individual ages were not shown for a representative sample in Kenya, but in the other two territories of Tanganyika and Uganda good age grouping was obtained. This permitted an age group fertility picture to be prepared and birth rates were calculated. On the basis of the relationship of average live births, it would seem that the birth rate was in the order of 45 per 1,000 of the population. The highest birth rate would appear to be in the Nyanza and Central Provinces, but infantile deaths recorded were high, especially in Nyanza. An estimated death rate has been calculated, but this is more liable to error than the birth rate. A death rate of about 25 per 1,000 of the population has been taken, based on the infant death rates and the proportion of children born alive at the time of the census. In certain areas the population may be increasing at only about 1 per cent, while in other the rates may be over 2 per cent.

For the territory as a whole, however, a figure of 1½-2 per cent seems to be of the right order of magnitude, although if the death rate should be lower the natural increase would be automatically greater.

ASIAN

The Asian population is the only non-African community with a population of sufficient size to justify the drawing of conclusions from statistical information obtained in the census. The age grouping of the population is that of a stable local population not having large numbers in the younger adult ages. The child population was about 44 per cent of the total population and the estimated birth rate was 40 per 1,000 of the population. By various methods estimates of total births numbering about 3,600 were obtained. A gross fertility rate of about 6,000 per 1,000 women has been calculated, which gives a gross reproductive rate of about 3.0. Infantile mortality would seem to be fairly low, and a death rate of 17 per 1,000 has been calculated, giving a natural increase in the order of 2.3 per cent per annum. These calculations take no account of immigration.

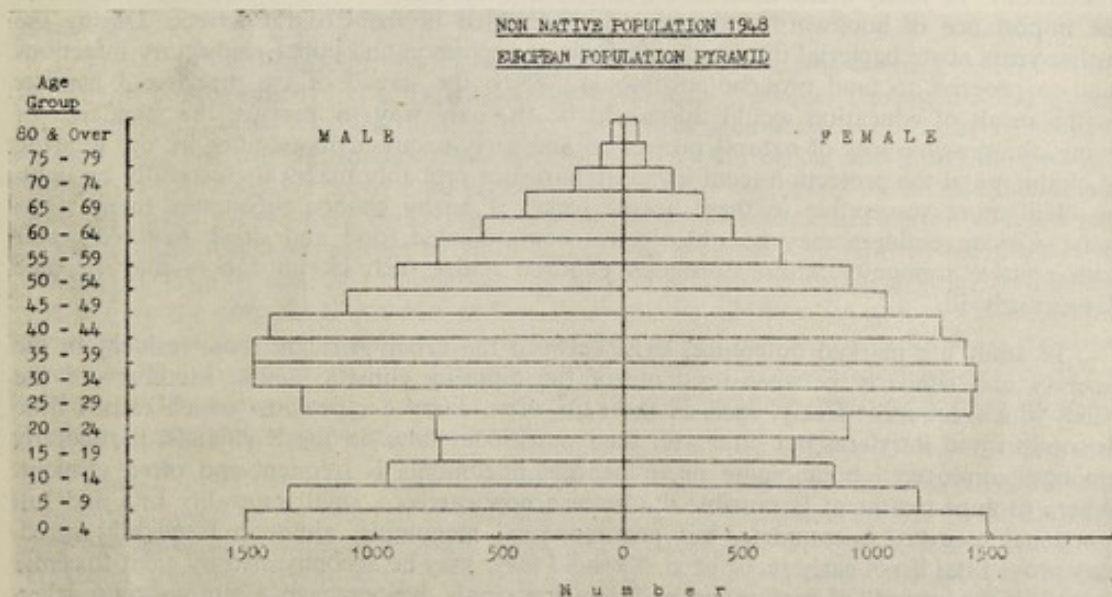
A chart showing the age grouping of the Asian population at the time of the 1948 census is given below:—



EUROPEAN

The European age grouping is that of an immigration community. Only a very small percentage of the total population are children, and the numbers are too small to allow detailed conclusions to be made. It can be said however, that without immigration the European population must decline in the future unless there is a terrific increase in fertility. This is because the majority of the population are adults and are married people having families. With the same fertility rates in the future, the number of families coming forward would not be sufficient to keep the population at even its present level.

A chart showing the age grouping of the European population is shown below."



From the above it appears that medical problems in the future will grow in step with the increase in population which has to be kept healthy and fit to face the task of earning prosperity.

GENERAL DISEASES

Although it is convenient to record returns of diseases (*see pp. 28-50*) a consideration of these figures alone gives a very incomplete picture of the problems of disease and health in the Colony. This is particularly true of the diseases not included in the section on Communicable Diseases. Each individual begins life with certain genetical endowments and then matures and dwells in an environment containing a varying mixture of elements helpful or hostile to the development and maintenance of health. Certain minor errors of development, such as extra digits and accessory nipples, are probably commoner amongst Africans than other races whilst examples of nearly all the rare congenital abnormalities and hereditary disorders, e.g. Von Recklinghausen's disease and the myopathies are seen from time to time. Recently the widespread incidence of the sickle-cell trait in Nyanza and the Coast has been demonstrated and, particularly where both parents are affected, the young progeny are liable to suffer and die from sickle-cell anaemia. At a later age the trait more often exists either without anaemia, or anaemia, if present, is attributable to other causes. Congenital cardiac abnormalities and other diseases which may be due to pre-natal adverse conditions also occur with much the same frequency in Africans as in other races. It may be that Africans born in holo-endemic malarious areas are endowed with some congenital premunity to malaria, although this matter awaits further elucidation. It can scarcely be doubted that certain genetical traits such as the pigmented African skin are of value for exposed life in the tropics. Certain it is that the unfortunate albino is condemned to suffer from solar dermatitis leading in many cases to carcinoma of the skin. Cirrhosis and primary carcinoma of the liver, not infrequently occurring at an early age, are distressingly common in the African and the possibility of genetical factors being involved has to be considered although it may be that malnutrition plays a more important part.

Malnutrition undoubtedly produces serious results at all ages and in certain tribes (e.g. Wakikuyu, Wameru and Bantu Kavirondo, but not to any extent amongst the Wakamba) causes the syndrome in babies known as kwashiorkor, the exact aetiology of which is still undetermined although a lack of animal protein and the eating of maize are clearly important and probably constant factors. It may be that the same factors are responsible for the production of a proportion of cases of cirrhosis and primary carcinoma of the liver although the occurrence of these conditions is not limited to the areas in which kwashiorkor is found. Pellagra occurs amongst prisoners on first admission if they belong to meat-eating tribes and are put on to full work. The change in diet and increased labour appear both to contribute. Other cases were observed, chiefly in urban areas.

Ulcers continue to be an important cause of morbidity. Whilst improvements in treatment are continually being introduced, research into the cause and prevention is awaited.

With such varying genetical and nutritional endowment, lack of hygiene adds to the picture the external influences of dirt bringing scabies and chigoes and the internal helminth infestations. In many areas ascariasis adds to the burdens to be borne by children whilst the importance of hookworm infestation is undoubted in the Coast Province. During the earlier years acute bacterial intestinal infections are common and upper respiratory infections tend to progress to fatal broncho-pneumonia. Whilst the spread of the practice of hygiene as the result of education would appear to be the only way to improve the standards of living, the possible loss of natural protection and early acquired immunities by the wearing of clothing and the protection from invading parasites probably makes the carefully brought-up child more susceptible to these hostile forces if he by chance encounters them. Thus some African children may be able to eat contaminated food and drink polluted water with relative immunity whilst European children under such circumstances may become dangerously ill.

In adult life marked differences exist between the urban African, those resident in the reserves and similarly between residents of the differing climatic zones. Members of the tribes which eat meat freely, such as the Luo, often carry a tapeworm which causes little discomfort and interferes but little with their nutritional state. In the Highlands, particularly amongst employed labour, acute pneumococcal pneumonia is frequent and often virulent. Where prompt treatment is possible the disease now carries a small mortality rate and full functional recovery is complete, but pneumococcal meningitis, although frequently cured, may prove fatal if not early recognized. Typhoid fever may be accompanied by great toxæmia as well as the hazards of perforation and, less commonly, hæmorrhage. Chloromycetin, when available, has greatly improved the prognosis.

Disease manifestations may be considerably modified by other pathological lesions, thus jaundice is fairly common in lobar pneumonia and may occur in typhoid fever and

is often unduly prolonged in infective hepatitis owing to an underlying cirrhosis of the liver. On the other hand allowance has to be made during, for example, a febrile illness, for the presence of malarial parasites in the blood and intestinal helminths which may influence the course of the disease scarcely at all, and should not mislead the clinician into making the incorrect diagnosis. Finally the introduction of powerful modern drugs profoundly influences the course of the disease.

The accurate researches of Dr. Foy and Dr. Kondi of the Wellcome Trust Research Laboratories which are being carried out in the Medical Research Laboratory, Nairobi, have thrown much light on the complicated problem of anæmia in the Kenya African. Contrary to other recent work elsewhere, it has been found that, whilst much anæmia may be attributable to peripheral bleeding, in particular due to hookworm infestation, a group of cases closely resembling pernicious anæmia (but without so far as have been observed, the complication of subacute combined degeneration of the cord) exists and these patients require hæmopoietic factors for the maturation of the red cells. Formerly liver extracts or similar preparations were used but the remarkable observation has recently been made that penicillin appears to be equally effective. Other groups are due to a chronic hæmolytic process and are uninfluenced by any treatment except perhaps by the removal of the enlarged spleen which accompanies the condition.

Neoplastic disease is being increasingly recognized and in the Central Province it has been found that carcinoma of the uterine cervix is the commonest malignant new growth for which advice is sought. Melanomata of varying degrees of malignancy are also common whilst the frequency of primary carcinoma of the liver is in marked contrast to its infrequency in white races.

Diseases in which stress plays an important part, e.g. thyrotoxicosis, anxiety-neurosis and duodenal ulceration are relatively infrequent although the latter two conditions are occurring with considerable frequency amongst educated urbanized Africans.

The problem of ageing in the African is a field of research relatively unexplored. Arteriosclerosis is rare and coronary thrombosis almost unknown yet many African women show signs of exhaustion by the age of 40 years and congestive heart failure without valvular lesions is not uncommon at this age. It appears probable that a combination of malnutrition, child-bearing and strenuous activity during time of moderate ill health contribute to this premature decline. In the Highlands acute rheumatic arthritis and carditis are not uncommon and chorea occasionally occurs.

Nephritis is fairly common but examples of early acute glomerulo-tubular nephritis are seldom seen. Primary hypertension occurs occasionally, especially amongst the educated, but hypertension is usually secondary to chronic renal disease.

COMMUNICABLE DISEASES

MALARIA

There can be little doubt that malaria, of all the communicable diseases in this country, is the most widespread and affects the largest number of people. During the last quarter of a century a mass of facts and statistics has been accumulated in regard to malaria mainly by officers of the Medical Department, but also during the war years by the Army medical authorities. We now have accurate information in regard to its distribution and incidence. The areas where malaria is endemic and hyperendemic are known and the parts of the country which are subject to seasonal manifestations only can also be fairly accurately delineated. A great deal of information has also been acquired regarding the bionomics of the two vector species *A. gambiae* and *A. funestus*. In addition, as a result of large-scale experiments which have been carried out in Kenya, we now know with some degree of accuracy, the effectiveness and the limitations of the newer insecticides; it is now possible as a result of this accumulated knowledge to intensify and improve measures for the control of malaria in areas of high population density.

During 1950 the rains broke early with the result that the mosquito breeding cycle commenced early in the year. In consequence epidemic conditions prevailed in the highlands with the maximum incidence in May, two months earlier than normal. It was expected that epidemic conditions might occur in Nairobi City, but owing to the energetic action which was taken early by the Medical Officer of Health, these did not eventuate. In Mombasa, on the other hand, there was a sharp epidemic in May which quickly subsided. The intensification of anti-malarial measures to include major drainage works on the mainland adjacent to Mombasa is now under active consideration.

In rural areas the control of malaria is a much more complex problem. If we could consider this question in terms of eradication involving capital expenditure the economics of the problem would be greatly simplified. Unfortunately, however, as our malarious areas have no natural boundaries, which can act as barriers to reinfection, as in the case of an island, prevention would involve annual recurrent expenditure of considerable proportions.

In the African land units arrangements have now been made for the rapid distribution of mepacrine and other anti-malarial drugs, through the dispensary system, to combat an epidemic.

Paludrine and mepacrine are employed as suppressives and are a free issue to Government officials living and working in malarious areas.

A number of malaria surveys were carried out during the year by the Insect-Borne Diseases Division in connexion with townships and land settlement. The routine identification of mosquitoes was continued.

The large-scale field experiment which had been carried out during the past five years near Kericho and which included the spraying of all African huts in an area of 70 square miles was brought to an end. The experiment was financed by the Colonial Development and Welfare Fund. It has demonstrated that a substantial measure of control can be carried out in an African rural area subject to seasonal malaria by an annual spraying of huts with D.D.T.

VENEREAL DISEASES

An attempt has been made during the year to treat venereal diseases on a country-wide scale employing penicillin as the drug of choice. With this object in view an increased allocation of funds was made in the 1950 Budget for the purchase of penicillin. The sum of £18,000 was expended on this antibiotic of which the greater part was obtained in the form of procaine penicillin for the treatment of venereal diseases. The dosage recommended was 1.2 mega units for syphilis and 0.3 mega units for gonorrhœa, a single injection being given in each case. The results of this treatment have been most encouraging in gonorrhœa and as far as can be judged at this early stage the dosage adopted was effective in abolishing the florid signs of syphilis. It is as yet too early to say whether this treatment insures the patient against a relapse into the infective stage, but in one series of cases the positive Kahn test was reversed in more than fifty per cent of cases after three months. It is now generally accepted that syphilis in the African causes pathological changes in the tertiary stage to a much smaller extent than in Europeans so that looked at from a public health point of view, the problem resolves itself into the administrative one of giving the greatest number of people the minimum dose which will render them non-infective. The minimum effective dose is important to determine because, with the limited finance available, it is only possible to treat a proportion of patients suffering from these two diseases. Towards the end of the year the African district councils began to purchase penicillin for the treatment of venereal diseases in their own dispensaries. Thus by a sharing of the financial responsibility for this treatment between the central and local Government authorities, it may be possible for a sufficient number of people to be treated to effect a reduction in the incidence of these infections.

There can be no doubt that the one injection treatment of venereal diseases is a real advance. It has also had an important secondary effect in that it has resulted in the majority of venereal diseases patients being treated as out-patients instead of being admitted to hospital, thus releasing much needed hospital beds for the treatment of other complaints.

The educational side of the venereal diseases problem has not been neglected. Barazas have been held and posters have been distributed drawing attention to the means of avoiding infection and considerable success has attended the efforts of medical officers at their venereal diseases clinics to induce both marital partners to attend for treatment.

TUBERCULOSIS

As a result of the tuberculosis survey of the native areas the main conclusions of which were included in the Annual Medical Report for 1949, we now have for the first time a fairly accurate picture of the tuberculosis problem which confronts us in Kenya. This may be briefly summarized by stating firstly that it is estimated that there are probably some 35,000 cases of active pulmonary tuberculosis in the Colony and secondly that the liability to infection as shown by the tuberculin sensitivity rate is greater in the towns than in the rural areas. In addition we have an unknown number of non-pulmonary tuberculous infections, investigation of which was not included in the survey.

During the year other interesting facts have come to light as a result of investigations which have been carried out by the medical officer at Fort Hall amongst the Kikuyu tribe during the last six years.

The first of the conclusions which have been reached is that pulmonary tuberculosis is not increasing in this district. This finding is at variance with the often expressed opinion that tuberculosis is increasing in the country generally. On the other hand as this is the first investigation which has been carried out specifically in order to determine this point, this conclusion must be given due weight.

Secondly, the disease runs a more acute and fatal course in the Kikuyu than in the European. Seventy per cent of cases followed up, from one to two years after leaving hospital, are known to have died.

Thirdly, life outside their own country, particularly in the towns, renders them more liable to contract the infection. This confirms the findings of the country-wide survey previously referred to.

Another investigation was carried out by the medical officer at Nakuru into an outbreak of pulmonary tuberculosis in the Nakuru gaol which reached epidemic proportions.

Semi-pastoral half-Hamite tribes such as the Nandi and Suk were found to be more susceptible to infection than the agricultural Bantu tribes. This is attributed to the greater change involved in the case of the former from their normal habits of life to the hard manual work in the prison, and to their lesser contact with the tubercle bacillus in their home environment than the Bantu. The disease ran an acute course and fatal cases were found to have died from dissemination from a primary tuberculous infection. Results of tuberculin tests showed that there was a high sensitivity rate on admission which increased in proportion to the length of stay. The Mantoux conversion rate was 50 per cent per year. Fatalities occurred mainly amongst the Mantoux negative reactors.

Towards the end of the year it became possible to second, for full-time duties in connexion with tuberculosis, the medical officer who had previously carried out the tuberculosis survey. With the assistance of the medical officer in charge of the native hospital at Nakuru, an extensive trial was made to evaluate the efficacy of B.C.G. vaccine in reversing the negative Mantoux test reactor. This trial was made possible by the introduction of the freeze-dried vaccine manufactured in Paris which keeps for four months instead of the ten days of the fluid vaccine from Scandinavia. It is as yet too early fully to evaluate the results of this experiment.

In an endeavour to find a method of chemotherapy which is both cheap and safe, a controlled experiment was made to evaluate the results of treatment with sulphone D.A.D.P.S. (diapson). Final results have not been analysed but preliminary reports suggest that the treatment is of little value in the doses given.

The number of beds available for the treatment of pulmonary tuberculosis during the year was grossly inadequate and amounted only to a few wards at the Infectious Diseases Hospital at Nairobi and Mombasa, with a small number of beds in the isolation wards of district hospitals. At the end of the year, however, a military hospital unexpectedly became vacant, and this was taken over on the last days of the year and is to be developed as a chest hospital of 150 beds. It is hoped that two further special hospitals will eventually be provided but even if these materialize it is abundantly clear that the bulk of the cases will have to be dealt with by isolation, supervision and treatment in or near their own homes.

LEPROSY

The results of treatment of leprosy with sulphetrone and D.A.D.P.S. at the leper institution in North Nyanza have now been assessed. 157 cases were included in the series and treatment was carried out for a period which varied from 17 months (70 cases) to 8 months (78 cases). The conclusions which were reached are that tuberculoid and indeterminate types of leprosy can be cured in from six to eight months. Lepromatous types which are less common are not cured in 18 months, but there is a very great improvement in general health and well-being. It seems probable that a longer period of treatment is required in this type of case. The treatment is immensely popular with the African who is always very quick to recognize the value and effectiveness of a specific remedy for a particular disease. Diapson which is more toxic but much less costly than sulphetrone appears to be equally effective.

It is now apparent that we have a potent remedy which will cure the majority of cases of leprosy and it now becomes an administrative problem as to how to give the necessary and rather prolonged treatment to the sufferers from this disease throughout the country. There seems to be little doubt that leprosy can be controlled and possibly even eradicated provided that the necessary finance can be made available. It is anticipated that this could be achieved if three leprosaria could be provided each with a full-time medical officer and necessary staff. Plans are well advanced for the building of the first and largest of the three in the Nyanza Province, but unfortunately owing to the delays which seem to be inseparable from the initiation of such projects, building could not be started by the end of the year.

RELAPSING FEVER

During the year we were fortunate in having made available to us the services of a medical officer working under the ægis of the East African Bureau of Research in Medicine and Hygiene, who carried out a survey of the vector tick in the Central and Coast Provinces. As a result of this work we now have a great deal of invaluable information regarding the prevalence, distribution and bionomics of the tick which is the chief carrier of relapsing fever in Kenya. Experiments which have been carried out by the staff of the Insect-Borne Diseases Division at the Coast have shown that ticks can be eliminated in native huts by the application of B.H.C. It was therefore decided to follow up the survey by applying this method on a wider scale on the Njombeni Mountains in the Meru district where the heaviest infestation in the country is known to occur. The treatment was carried out by the Insect-Borne Diseases Division which treated 21,692 huts in a period of two months. It is as yet too early to evaluate the results of this treatment but if it proves to be effective a method will be available which is so cheap and easily applied that the control of relapsing fever on a comprehensive scale will become a practical possibility.

KALA-AZAR

As far as is known kala-azar is confined to the Northern Frontier district and to the two Wakamba districts of Machakos and Kitui. Investigations were carried out by medical officers in both of the latter districts as a result of which the foci in these two districts in which infection takes place are becoming known with greater precision than formerly.

The identification of sandflies from various parts of the country, including the areas known to be infected with kala-azar, has been continued. Two species new to Kenya have been identified.

BRUCELLOSIS

Brucellosis is widespread throughout the Colony but is especially common in the Meru district where an investigation was carried out by the medical officer. In this district practically all the infections seen during the year, 76 in all, were shown to be due to the *melitensis* strain. The source of this infection requires further investigation but it is thought that it may be conveyed by cows' milk as the Meru do not as a rule drink goats' milk.

The question of fouling of the huts by goats' urine has still to be investigated.

The identification of the strain in infected cattle has not yet been determined.

A controlled trial was made in Nairobi by the medical specialist into the treatment of brucellosis by chloromycetin, the results of which were partially successful. He also found that treatment with aureomycin produced satisfactory immediate results but it does not appear to be an infallible cure.

SCHISTOSOMIASIS

Schistosomiasis constitutes one of the most important causes of morbidity in certain parts of the country, notably in the Coast and the Nyanza Basin, although it is endemic in parts of the Central Province. In the dry hinterland at the Coast an extensive dam-making campaign is being prosecuted by the Administration and this has obvious dangers in facilitating the spread of the disease. Research has been carried out both in the Coast and Nyanza Provinces into the bionomics of vector snails and identification of snails from different parts of the country is being continued. Investigations have been begun into various methods of snail destruction including snail-eating fish and native vegetable fish poisons.

The visit of Dr. Blair in November from Southern Rhodesia travelling under the auspices of the World Health Organization provided a useful opportunity of discussing methods of control which are applicable to this country.

Until further investigational work has been done on bilharzia it will be difficult to decide whether control measures on a wide scale will be practicable. In the meanwhile, however, it

is felt that there are great possibilities in educative propaganda by all possible means, but especially through schools to prevent the contamination of water supply by excreta and bathing in infected water.

PLAGUE

No case of plague was reported in Kenya during the year. This is a satisfactory state of affairs in a country where for many years past the disease has been endemic and has taken a yearly toll of many lives. This freedom from plague may be connected with the very intensive anti-plague work which has been undertaken by the Medical Department over the last quarter of a century, with the consequent improvement in the standard of African housing. On the other hand it may be due to other ecological factors affecting the flea or the rat with consequent cyclical variations in the disease. All we can say at this juncture is that it is too early to be sure that the disease may not recur in epizootic or epidemic form.

The rodent survey commenced in 1949 by the Insect-Borne Diseases Division was continued throughout the year. Thirty-seven different species of rodents were identified.

SMALLPOX

Only eight cases of smallpox were reported during the year of which seven were in the Central Nyanza district. In most districts regular vaccination of the population is carried out by the staff of the health office. An attempt was made in one African district to assess the number of people who were protected against smallpox by vaccination. It was estimated that 40 per cent of the population were protected by vaccination within four years, the proportion which probably retained a partial immunity by vaccination prior to the four years period must be considerably greater.

ONCHOCERCIASIS

The Entomologist, Nyanza Province, made a discovery of great importance in March. He found that the larval and pupal stages of the vector fly *Simulium neavei* was to be found on the backs of the fresh-water crab *P. niloticus*. This stage in the development of the fly had been searched for without success at various times over many years by a number of workers.

The treatment of streams with D.D.T. emulsions in an attempt to eradicate the fly had been carried out in North Nyanza district and for a time was thought to have been completely successful. This measure was undertaken before the discovery of the full life history of the fly had been made and was therefore to some extent empirical. During the year it became evident that although eradication was apparently complete in certain areas there had been recurrences in others. The additional knowledge which we now possess in regard to the life history of the simulum has enabled field workers to achieve a much greater accuracy in survey than was previously possible. As a result of the additional knowledge which has been gained we intend to make a further attempt to eradicate this fly in 1951.

YELLOW FEVER

Although Kenya is included in the endemic area as delineated by the World Health Organization, no proved human case of yellow fever has occurred in the country for several years.

Work was continued during the year on the investigation of jungle yellow fever, and immunity to yellow fever virus was found in two bush babies caught at the coast. This together with similar observations made formerly shows that the yellow fever virus is present in small foci.

An interesting experiment in *aedes* control was carried out by the entomologist stationed at the coast, details of which are given at p. 22.

TRACHOMA

Following the visit of Sir Stewart Duke Elder in 1949, attention has been focused on the importance of trachoma. The ophthalmic specialist surveyed a cross-section of the population in various parts of the country and has examined the children in a few schools in the places he has visited. As a result of this survey, it appears that trachoma is widespread throughout the Colony but is particularly common amongst pastoral tribes such as the Masai and the Suk, where the incidence is often found to be over 90 per cent. The disease was found to be most active in children, but in adults it tends to be a self-limiting disease and is, more often than not, found to be in a quiescent stage. It is evident that trachoma is an important problem of public health and a comprehensive scheme for its treatment and control, through dispensaries and schools, is now under active consideration.

HYGIENE AND SANITATION

(1)—General Measures of Sanitation

With no serious deterioration in the number of European health inspectors, a generally satisfactory standard of sanitary control was maintained, and an extension of activity in rural areas was made possible by the addition to the establishment of the first batch of African health inspectors trained at the Medical Training School. The help of the long-established and experienced African health assistants was invaluable in introducing the new African officers to duties in the field.

Overcrowding continued as a problem in all urban areas and although the availability of accommodation for Europeans improved to a degree, the many buildings erected for Asians and Africans were insufficient to meet the demand caused by industrial expansion.

No major changes in conservancy services can be recorded, but more modern vehicles of greater capacity were brought into use in the larger municipalities, and adequate supplies of better type refuse receptacles were available.

The composting of refuse and night soil has proved to be successful in several of the smaller townships, but disposal of the finished product is not as easy as might have been expected for an article with such valuable fertilizing properties.

No spectacular advance was made in the control of food supplies for sale to the public, but steady progress can be claimed. Year by year improvements take place as licences are issued under the rules governing the manufacture, preparation, packing and storage of foodstuffs. Particularly noteworthy are the efforts of the well-financed bread, biscuit, confectionery and mineral water manufacturers in introducing modern plant into their factories. As output increases and variety is introduced a discerning public is created, and competitive conditions arise that make it more difficult for the unscrupulous dealer to survive.

Routine sampling of food and drink was carried out throughout the year, samples being submitted to the Government Chemist or Bacteriologist for analysis. Cases of suspected food poisoning were investigated, but no major outbreaks occurred.

Close liaison was maintained with officers of the Administration in the settled areas and building development in townships and trading centres in particular was reasonably well controlled.

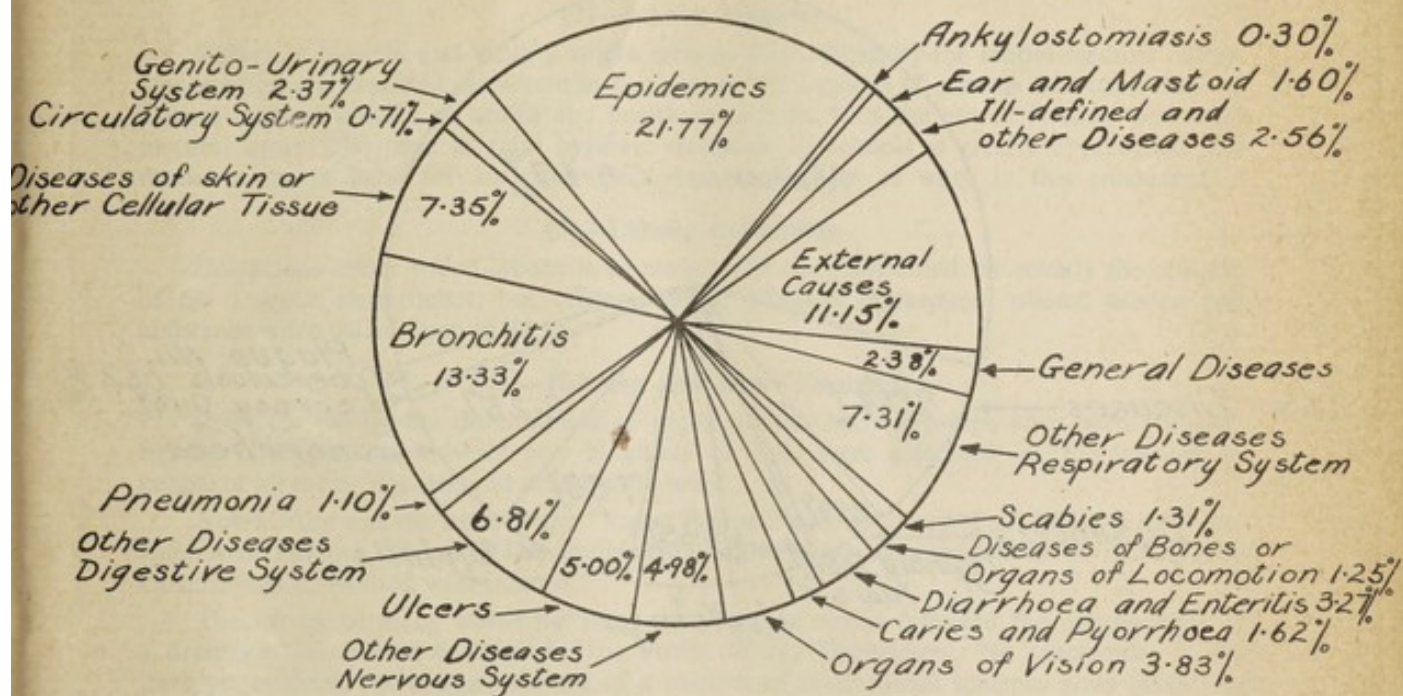
In African areas progress in sanitation works can be recorded as one of the most successful of post-war years. In almost every sphere improvements have been made, in some cases to a remarkable extent. In North Nyanza alone over one hundred water supplies were protected and the African District Council is so impressed that handsome sums have been allocated for a continuance of the works during 1951. Activity is not confined to locational springs, supplies of a major nature being put in hand at Asian and African trading centres that have had no alternative to transporting water by hand or cart since they were originally established. Marked changes are also taking place in the nature of the buildings owned and occupied by Asians settled in the African areas. Many sound structures of pleasing appearance have been erected and now replace the previous slums.

Another satisfactory feature is the gradual change in structure of the traditional type African village dwelling. Over a period of years anti-plague measures, aided by propaganda and local government legislation, have been effective. So effective in fact that the original low brushwood vermin-infested hut, concealed in the midst of dense vegetation and accumulated animal manure, is being forgotten. Many thousands of well ventilated wattle and daub huts can now be seen with higher walls smoothly plastered, and resembling in shape only the traditional dwelling of the African. Well maintained villages are predominant in many areas and although the better type round hut is all that may be desired, the advances made have almost certainly contributed to the striking reduction in the incidence of plague.

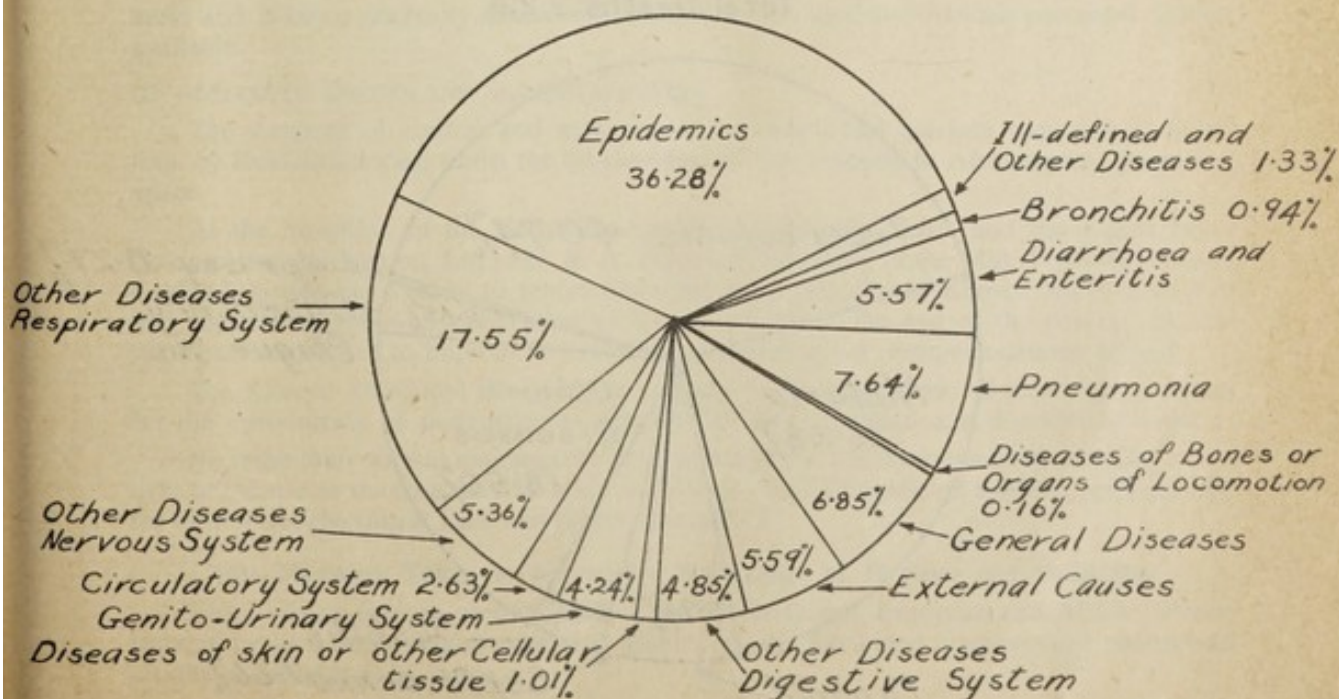
Departmental activities included the preparation of type plans for shops, bakeries, butcheries and eating-houses and although it has been the accepted policy to aim only at the minimum standards consistent with good building and suitable design, approximately 200 permanent buildings were erected by traders in North Nyanza markets, with no official pressure to do so. A durable and cheap roofing material for trade and other premises has yet to be achieved, but one officer has gone a long way towards solving the problem. After much research a good clay was discovered and first-class flat roofing tiles are being produced in large numbers, at a cost lower than that for corrugated iron.

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

Total Incidence: 1,129,057

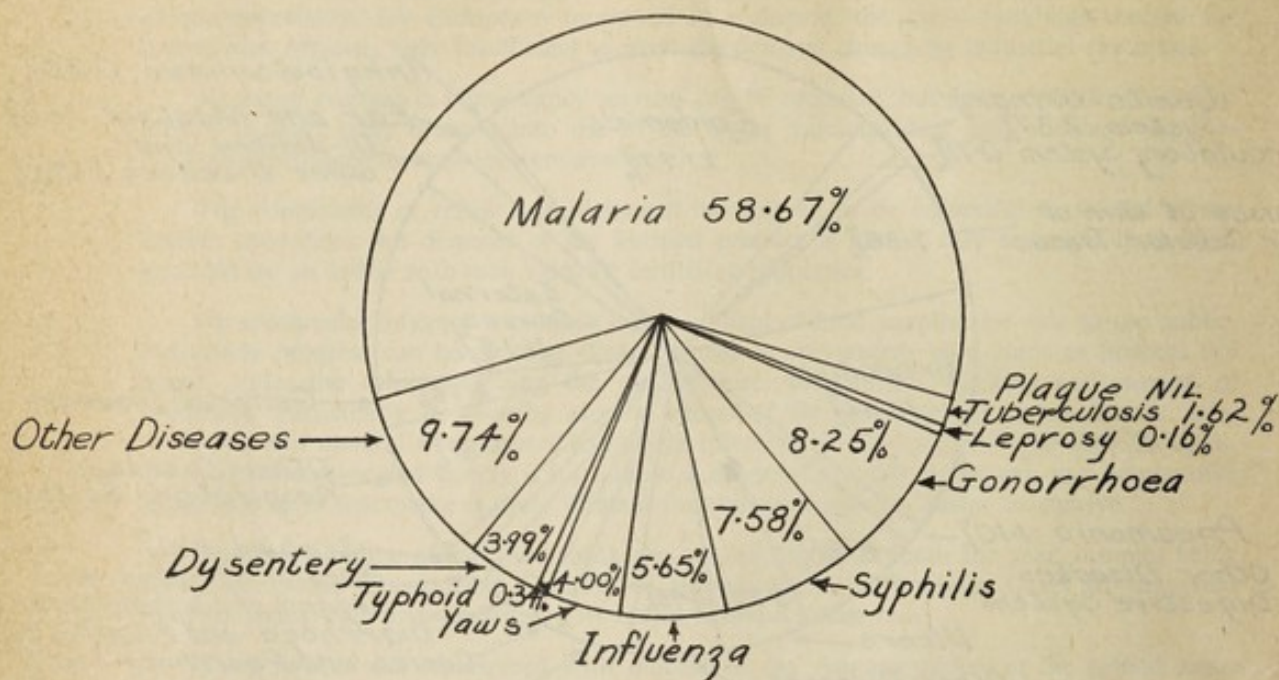


Total Deaths: 6,387

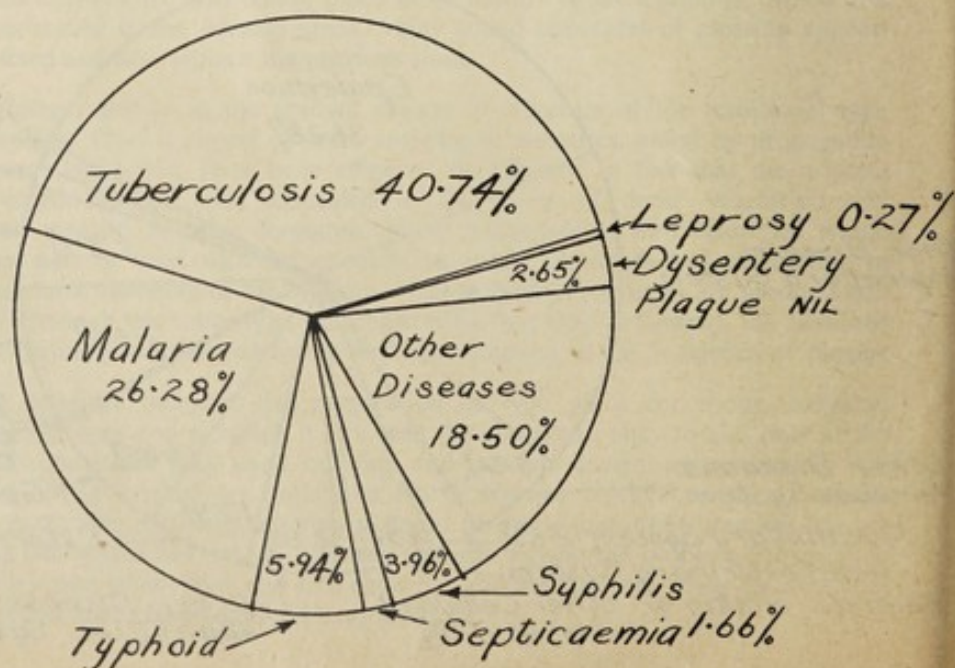


PROPORTION IN PERCENTAGES OF EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES, IN-PATIENTS AND OUT-PATIENTS TREATED AT HOSPITALS AND DISPENSARIES

Total Incidence: 245,873



Total Deaths: 2,221



The control of buildings in markets should become easier when by-laws are made under the African District Councils Ordinance which became law during 1950. Previous development cannot be regarded as unsatisfactory, but improvement is more likely to be maintained if required by law than by the persuasive efforts of individual officers.

The consumption by Africans of meat from diseased carcasses in rural areas continued to cause concern; in addition to administrative action against offenders mass inoculation of cattle against anthrax was introduced by the Director of Veterinary Services in urban districts.

Public health propaganda was carried out in many districts by demonstration, lecture, films and the distribution of literature, co-ordinated by a propaganda committee and aided by the African Information Services.

(2)—Schools Hygiene

Except in Nairobi and vicinity where schools were visited by the school medical officer, whose activity is reported elsewhere in this report, the hygiene of schools was controlled by district medical officers of health and health inspectors, with the aid of African personnel in rural areas. The need to raise hygienic standards in schools is greatly appreciated and measures are in hand for an extension and intensification of work in this connexion.

(3)—Labour Conditions

Conditions under which labour is employed and accommodated are mainly the concern of the Labour Department, but officers of the Medical Department offered advice and assistance when called upon to do so.

(4)—Housing and Town Planning

Plans for the further development of municipalities and townships have been prepared by the town planning adviser and hundreds of plots were allocated for the housing of people of all races. The demand remains unabated.

Noteworthy was the issue of the "Vasey Report" on the "Housing of Africans in Townships and Trading Centres". The implementation of the recommendations as accepted by Government is awaited with interest.

The survey of many towns for proposed drainage works followed the appointment of a drainage and sewage engineer by the Public Works Department. No spectacular works have yet evolved, but commencement of a number of institutional schemes gives promising indication of progress along more extensive lines in the future.

(5)—Food in Relation to Health and Disease

(A)—FOOD SUPPLIES

Conditions of drought in certain districts were responsible for poor crops, but better results in other areas balanced deficiencies and no serious food shortages were reported.

Routine inspection of meat and other foods was maintained satisfactorily in the urban areas and is being gradually extended in rural areas as qualified African personnel become available.

(B)—MARKETS, DAIRIES AND SLAUGHTERHOUSES

The standard of control and maintenance of established markets was kept at a fair level by local authorities, whilst the development of new markets in African areas proceeded apace.

At the invitation of the Kenya Co-operative Creameries, Ltd., and the Kenya Dairy Co-operative Association, Ltd., Mr. R. A. Pepperall, Secretary of the Milk Marketing Board, England, visited the Colony to report upon the dairy industry of Kenya. Much discussion and controversy followed publication of his report, but at the end of the year no definite steps had been taken to implement any of the comprehensive recommendations offered.

The Kisumu Municipal Board made progress in the preparation of plans and estimates for the introduction of pasteurization plant at its milk reception and distributing depot.

No more than normal maintenance was carried out at the main abattoirs pending taking over or closure as the case may be when the Kenya Meat Commission assumes responsibility for central slaughtering at their new factory abattoir.

(6)—Measures Taken to Spread the Knowledge of Hygiene and Sanitation

There was no limit to propaganda activity in this sphere. European and African officers lectured in the schools, staged exhibits at district shows, distributed literature and contributed articles to district news-sheets.

TRAINING

As already noted, the expansion of medical services to meet the needs of the rural population involves a greatly increased training programme. Hitherto training has been virtually confined to the higher grades of the African services such as hospital assistants, laboratory assistants and health inspectors.

During the year an innovation was introduced whereby a systematic training covering a two-year period could be extended to dressers, nurses and health assistants, special emphasis being laid on practice rather than theory. At the same time it was decided, owing to the greatly increased number of midwives which would be required to staff the domiciliary service, that Government would enter into the field of midwifery training. Such training had hitherto been confined to the municipal maternity hospitals in Nairobi and Mombasa and to the mission hospitals.

It has now been decided that training of the higher cadres should remain centralized in Nairobi or some other central school, while training of the lower grades should be decentralized on a provincial basis with the object of providing each of the four main provinces with training schools for dressers, nurses, midwives and health assistants.

I. SENIOR CADRES

(a) *Hospital Assistants*.—As the number of African assistant medical officers holding the Makerere diploma is not likely to be greatly increased during the next few years, it is essential that the number of hospital assistants should be increased as quickly as possible. With this end in view, the system of training was reorganized at the end of 1949 by the introduction of the block system, and this was continued during 1950. The effect of this has been that a greatly increased number of candidates has been accepted for training. The shortage of trained hospital assistants is the greatest single obstacle to expansion of the medical service in African areas at the present time and the situation will not be materially improved until the end of 1952 when the first batch of trainees from the reorganized training school is due to be qualified.

The training of hospital assistants is basically that of a nurse but the time spent on theoretical work is rather greater than that given to state registered nurses, and this enables them to undertake the wider responsibility leading eventually to independent charge of small hospitals which is later required of them.

The number of hospital assistants under training during the year was 97.

(b) *Nurses*.—The training of African nurses has for various reasons not been carried out in the past on a systematic basis. To remedy this omission a temporary compound with living quarters for nurses and a house for a European lady supervisor were prepared and the first nurses were admitted for training at the Group Hospital* in Nairobi; all nurses accepted for training are educated girls who are literate in English. The building programme envisages a much larger nurses' training school to be erected in the future.

(c) *African Health Inspectors*.—The training of health inspectors was carried out during the year at the Jeanes School near Nairobi. Eleven candidates sat the external examination for the Royal Sanitary Institute and eight were successful in passing the examination.

The training of African health inspectors is of recent introduction and this was the second examination. The experiment has definitely been a success and African health inspectors working in the African land units have proved their value and are doing most useful work. It has been found in practice that they require fairly close supervision by a European health inspector during the first year or so after qualification, until they have become habituated to work in the field.

(d) *Laboratory Assistants*.—The training of laboratory assistants was continued at the Medical Research Laboratory, Nairobi, and has been greatly improved as the training has now been made the responsibility of a full-time European instructor. No laboratory assistants were qualified during the year. Refresher courses have been held for laboratory assistants who have spent some years in the field.

(e) *Compounders*.—The training of compounders has been greatly facilitated by the opening during the year of the new pharmacy at the Group Hospital, Nairobi. This large and up-to-date building has been designed with a view to training purposes and there is a special section for the preparation of sterile intravenous preparations.

Seven compounders passed their qualifying examination during the year.

(f) *Orthopaedic Assistants*.—Training of orthopaedic assistants at the Orthopaedic Centre, Nairobi, was continued under the physiotherapists. In 1951, it is hoped that there will be a sufficient number who have been qualified to enable one to be posted to each of the provincial hospitals as an assistant to the surgeon.

* Renamed the King George VI Hospital in February, 1951.

(g) *Assistant Radiographers*.—Arrangements were made during the year for the training of assistant radiographers at Kisumu under a radiographer who until his recent retirement was responsible for the training of radiographers in the Sudan. The course of training which covers three years is expected to commence early in 1951.

II. JUNIOR CADRES

As already stated the systematic training of junior cadres is an innovation the fulfilment of which lies in the future rather than in the year under review. As, however, the plans for this were formed during 1950, this section is included for the sake of completeness.

(a) *Dressers and Nurses*.—During 1950, it was arranged that nursing sisters working in district hospitals would provide lectures and nursing demonstrations to locally engaged dressers and nurses in their hospitals.

The first of the provincial training schools for dressers was started in Kakamega in the Nyanza Province during the year, and similar schools are to be started in the Coast and Central Provinces in 1951.

A syllabus has been prepared which will fulfil the requirements of the newly formed Nurses and Midwives Council of Kenya which will conduct an examination for assistant nurse, grade II, at the end of a two-year training period.

Locally engaged nurses will also be eligible for training for this qualification.

(b) *Health Assistants*.—The first school for the systematic training of health assistants was ready for opening at the end of the year. It is housed in the Government school at Siriba in the Nyanza Province where new entrants for other departments are also trained. The technical part of their training is carried out by a European health inspector in a two-year course. These men, when trained, will be attached to health centres and will be under the control of the Health Inspectorate. Their duties will be the improvement of rural sanitation, African housing and environment, and hygiene generally.

It is expected that a similar school will be started in the Central Province in 1951.

(c) *Health Visitors*.—An experiment in the training of African female health visitors in the field of child welfare and domestic hygiene was started in 1949 at Vihiga in the Nyanza Province and was continued during 1950. This grade is still regarded as experimental and it has not yet been decided whether it should maintain a separate existence or whether it should be considered as a post-graduate training for midwives.

(d) *Midwives*.—As has been stated, the training of midwives by Government is a new departure. The first of these schools will be opened in Kisumu early in 1951 and a second is projected for the Central Province later in the year.

BUILDING PROGRAMME

Roughly £155,000 were spent on the Department's main development plan in 1950. This indicates an acceleration on previous years. The quickening pace in development reflects the completion and crystallization of the preliminary plans, lack of which in previous years had set a limit to progress owing to their not being complete.

The year saw the completion of the new Voi hospital of 45 beds which was opened for use in June. Progress on the African hospital in Nairobi (now King George VI Hospital) allowed of the complete hospital being opened for medical and surgical use on the last day of the year.

Besides these two major schemes, many improvements were completed at the provincial and district hospitals to the value of £26,000. The most important improvement was the building of a new out-patient and X-ray department at Kisumu which has altered the whole hospital to its great advantage. In all other places money has been spent to the end that the hospital should become a more efficient place by the provision of laboratory units, out-patients blocks, operating theatres and the like rather than the provision of extra beds. These are still very badly needed but unfortunately require additional funds to maintain them.

Some extra beds, however, could not be denied at Mathari Mental Hospital where extensions were made to Asian and African accommodation at a cost of some £40,000. If this hospital is eventually to be moved, the extensions will serve, by reason of care in preliminary design, for a police depot and store.

There is little progress to report in the expansion of Asian hospitals but plans for the Asian Hospital, Nairobi, were nearing completion by the end of the year.

CURATIVE SERVICES

HOSPITALS

The European and Asian hospital services have been dealt with in the section under the heading of "Administration". The organization of the African hospital service will now be considered.

The central African hospital for the country is the Group Hospital, Nairobi.* This is a modern hospital of three storeys and 660 beds equally divided into medical and surgical wings. The medical wing, completed in 1940 and used during the war as a military European hospital, was opened as an African general hospital in February, 1949. The surgical wing was completed in 1949 but could not be opened as the operating theatre and X-ray block was not completed until the end of the current year. The new operating theatre block contains six theatres on three floors and will bear comparison with a modern theatre block in a hospital in Europe.

The hospital is partly staffed by specialists some of whom divide their time between this hospital and the European hospital.

The hospital serves as the training centre for hospital assistants and nurses and its proximity to the Medical Research Laboratory facilitates research. It can also be regarded as the hospital to which special cases can be referred from the district and provincial hospitals.

The policy has been continued of developing and upgrading certain hospitals at the seat of the provincial headquarters as "provincial hospitals". These hospitals which did not differ from district hospitals, except perhaps in point of size, are situated at Mombasa, Kisumu and Nakuru. Recently it has been decided to develop Nyeri as a provincial hospital for the Central Province. Provincial hospitals are to be provided with a whole-time surgeon, an X-ray department, a laboratory and certain improved facilities for anaesthetics and physiotherapy. The first three hospitals mentioned are already provided with a full-time surgeon. Mombasa has a laboratory and X-ray department, and similar facilities were provided in Kisumu during the year. The laboratory at Nakuru has also been opened but the X-ray department is not yet completed.

District hospitals vary very greatly from a hospital of over two hundred beds with two European medical officers and two nursing sisters to small hospitals in charge of a hospital assistant in some of the lesser populated and more backward districts. Some of the larger districts have branch hospitals subsidiary to the district hospitals and these are as a general rule in the charge of assistant surgeons or hospital assistants. The extent to which selected hospital assistants can and do administer these hospitals is a most encouraging pointer to the future development of subsidiary hospitals and health centres under African control.

MISSION HOSPITALS

The missions fulfil a most useful role in the medical services which are provided for Africans, by providing general and maternity beds. The Protestant Mission have been prominent in this field and those which have a doctor in charge and are recognized and subsidized by Government are the following:—

Mission	Place or District	No. of Beds	Annual Govt. Grant
Church of Scotland Mission	Kikuyu	90	£2,000
Church of Scotland Mission	Chogoria	—	£2,390
Church of Scotland Mission	Tumutumu	115	£2,265
Church Missionary Society	Kaloleni	86	£310
Church Missionary Society	Maseno	89	£1,161
<i>Seventh Day Adventists, Nakuru</i>	Kaimosi	—	—
Seventh Day Adventists	Kendu	89	£2,090
Methodist Missionary Society	Meru	72	£650
Africa Inland Mission	Eldoret	36	£273

Government also has made a capital grant for the last two years to this group of missions up to a maximum of £5,000 on a pound for pound basis.

The Roman Catholic missions have more recently entered the medical field and one has applied for a grant in respect of training.

* Renamed the King George VI Hospital in February, 1951.

SPECIALIST SERVICES

ESTABLISHED POSTS

Senior Specialist (Surgical).

Specialist (Ophthalmic).

Specialist (Medical).

Specialist (Surgical).

Specialist (Psychiatrist).

Specialist (Anaesthetist).

Specialist (Parasitologist).

Routine duties associated with the European, Asian and African population in Nairobi and the teaching of African learners and ward staff render it difficult for specialist officers to leave Nairobi. Nevertheless, all specialist officers have made it possible to visit provincial and district hospitals. These visits have been much appreciated as advice can be afforded on local conditions, demonstration given and problems discussed.

The ophthalmic specialist has made a survey of eye diseases at schools and on samples of population who attend at dispensaries. He visited the Suk country and carried out numerous operations for cataract, and scarring following trachoma. In an area where disturbances due to the activities of religious fanatics had caused much unrest, this work, in addition to giving relief to sufferers, enhanced the reputation of European medicine and provided evidence of Government's good intentions to the local population.

With the steady advances in the various branches of medicine and surgery and the increasing amount of apparatus necessary for diagnosis and treatment, there is an increasing and justifiable demand for treatment by specialists. It is impossible for the general duty officer to acquire sufficient knowledge and experience to enable him to deal adequately with the many complicated and difficult cases presenting themselves for treatment. For this reason it has been necessary to post medical officers of experience, though not of specialist rank, for specific duties at provincial centres. So far it has only been possible to provide a surgeon and a physician but in time additional staff, with interest and experience in the various specialist branches, may have to be provided.

During the year, on the advice of the Secretary of State for the Colonies, a new cadre of special grade medical officers was created, and recruitment to this grade has commenced. A higher qualification is required before special grade status can be attained. As established posts become vacant, or new specialist posts are created, there should henceforth be no difficulty in filling these vacancies from officers already possessing the necessary qualifications and experience within the service.

With the completion of the King George VI Hospital in Nairobi, specialist services with modern diagnostic and therapeutic ancillaries are available for those cases which are referred from provincial hospitals as being beyond the scope of their treatment. The number of such cases is necessarily limited by the accommodation available.

MEDICAL STORES

The Stores Section is under the general control of the Chief Pharmacist and Stores Supervisor who is stationed at Medical Headquarters and who is responsible for ordering all stores and equipment, the bulk of which are obtained through the Crown Agents for the Colonies. The Central Medical Stores in Nairobi is under the control of a medical storekeeper who is responsible for all issues. Medical stores are issued to some 65 Government hospitals and medical dispensaries and, in addition, it supplies mission hospitals and African district council health centres and dispensaries against repayment.

Expenditure during 1950 in votes controlled by the Medical Stores Division was as follows:—

	£
Medical and surgical stores and equipment	159,202
Uniforms	9,390
Repairs to equipment	1,720
Upkeep	3,697
Purchase of mepacrine	505
Purchase of X-ray apparatus	3,078

PRISONS

There are prisons of varying size in all the larger towns and in most districts, but only in Nairobi is it possible to post an officer for whole-time medical duties associated with the prison and ancillary prison camps.

In all other stations supervision and inspection of prisons and the treatment of sick prisoners is carried out by officers of the Medical Department in addition to their other duties.

Generally speaking gross overcrowding continues in most prisons and the attendant dangers cause constant anxiety to both the Medical and Prison Authorities. Nevertheless on the whole the health of prisoners has been good, with the exception of Nakuru prison where there was an appreciable increase in pulmonary tuberculosis.

In an attempt to alleviate overcrowding, prison camps have been opened in certain areas. This has added considerably to the duties of the medical staff: in Kisumu a daily visit to the prison farm necessitates a ten-mile journey and in Nairobi six camps at varying distances up to 15 miles in different directions must be visited as frequently as possible.

A considerable amount of research into tuberculosis has been carried out in the Nakuru prison. On admission all prisoners have been Mantoux tested; 1,066 were found positive out of 1,338 tested.

The results obtained are classified below on an ethnological basis.

	<i>Total</i>		<i>Positive</i>	
	<i>Tested</i>	<i>No.</i>	<i>Per cent</i>	
Half-Hamites	310	259	63.1	
Bantus	771	663	76.9	
Nilotics	164	121	66.9	
Various	93	73	72.0	

B.C.G. vaccine was given to all Mantoux negative prisoners with a sentence of nine months or over. All prisoners who look "weedy" are given light work for one to three months after admission and are weighed regularly. X-rays of chests are taken in all suspicious cases.

Twenty-six out of fifty-four deaths at Nakuru prison were found to be due to tuberculosis.

MATHARI MENTAL HOSPITAL

The number of patients treated continued to rise, 866 receiving treatment compared to 746 in 1949. Of these 70 were European, 62 Asian and 734 African. Males treated were 548, females, 318.

There were 401 admissions, 317 discharges and 78 deaths.

ACCOMMODATION

(a) *European*.—Thirteen females and eight males. The standard of accommodation was considerably improved by the installation of new baths, fixed wash bowls and water-borne sanitation.

(b) *Asian*.—Overcrowding, particularly on the male side, continued, but the provision of additional accommodation for 20 females early in 1951 will assist in improving the conditions for both sexes. Water-borne sanitation was installed throughout the Asian section.

(c) *African*.—Overcrowding, lack of isolation facilities and difficulty in segregating disturbed cases, caused no little anxiety, but the construction of a 60-bedded male ward and a 65-bedded female ward, which will be ready for occupation in February, 1951, will ameliorate conditions considerably.

PHYSICAL HEALTH

There were 78 deaths, an average of 8.5 per cent of total patients treated. Tuberculosis was responsible for 34 deaths, and insanity, debility and senility for 11. It is interesting to note that only two deaths were recorded from bacillary dysentery.

Of 30 cases of pulmonary tuberculosis notified two were known to have the disease on admission, eight were notified before the third month, six before the sixth month and five before the ninth month. The remaining nine had been in hospital for a year or more before notification.

There were 18 cases of pellagra, 10 less than in 1949. Every case arose in patients who had been difficult with food. All cases responded to nicotinic acid.

GENERAL CONDUCT OF PATIENTS

The general conduct of patients was maintained at a safe level by the high standard of supervision and vigilance shown by staff. The following table shows the number of casualties sustained and also occurrences of special importance:—

	Male	Female	Total
(a) <i>Injuries</i> —			
Self-inflicted	6	5	11
By others	85	57	142
Accidental	44	16	60
By staff	—	—	—
To staff	8	2	10
(b) <i>Restraint</i> —			
Times resorted to	2	2	4
Patients subjected to	2	1	3
Longest time (hours)	4	8	—
(c) <i>Seclusion</i> —			
Times resorted to	—	5	5
Patients subjected to	—	4	4
Longest time (hours)	—	3	—
(d) <i>Absconded</i> —			
Attempts	11	4	15
Successful	2	—	2
There were no suicidal attempts.			

PATIENTS AND OCCUPATION, RECREATION AND WELFARE

African male patients were usefully employed on maintenance work within the hospital grounds, kitchens, laundry and wards. As long as supervisory staff was available no employable patient remained idle. Female patients maintained ornamental gardens and undertook light work, such as cleaning and bedmaking in the wards.

Books, periodicals, newspapers and other comforts were donated by the British Red Cross, the East Africa Women's League, the Rotary Anns and private individuals, and the British Red Cross arranged a monthly cinema show in one of the dormitories.

Football was arranged on three afternoons each week.

The visiting committee met regularly and their efforts to assist in promoting the welfare of the patients were much appreciated.

MENTAL TREATMENT ORDINANCE

There were 34 voluntary admissions against 16 in 1949.

THERAPEUTICS

Carefully selected patients received the benefit of modern therapeutic treatment.

Two machines for electro-convulsive treatment were maintained and were worked at full pressure, both in-patient and out-patient treatment being given.

Depressive cases derived most benefit from this type of treatment but excited cases and a few types of schizophrenia, particularly those of restless behaviour, obtained relief.

The following table shows patients treated and results:—

	European		Asian		African		Out-patients	Total
	M.	F.	M.	F.	M.	F.		
Patients treated	8	21	7	3	66	65	25	195
Shocks given	59	157	52	46	462	455	130	1,361
Discharged	6	17	2	2	17	14	—	58

Difficulty was experienced with insulin therapy as it was necessary for a doctor to be continually on call and for a nursing sister to be in constant attendance. Nevertheless eight cases underwent intensive insulin therapy.

Although African cases with neurosyphilis generally present themselves too late to derive benefit from penicillin, 13 cases of neurosyphilis were treated with a combination of penicillin and arsenic.

Twenty-six patients underwent the operation of prefrontal leucotomy, four cases died and two, who had been in hospital for over six years, were sufficiently improved to be discharged. Of the remaining 20 patients, 11 were relieved of acute symptoms and were able to participate in recreational and occupational activities, one patient became worse and eight were unchanged.

Three patients operated on prior to 1950 were discharged during the year.

MEDICAL RESEARCH LABORATORY

As in other divisions in the Department there has been a steady increase in the routine work in all sections. With the opening of a private clinical laboratory in Nairobi there has been a decrease in the number of specimens from private practitioners.

New stores are nearly completed and work on the new animal house and insectary has begun.

The training of African laboratory assistants continues and 22 attended for qualifying and revision courses. The standard of education of Africans presenting themselves for training is steadily rising.

Two Asian assistants have been trained in the bacteriological section and one European is at present being taught. A revised scheme for the training of European technician learners was proposed and accepted by Government.

The new provincial laboratory was opened at Kisumu and a European technician posted for duty.

African laboratory assistants are posted as follows:—

Nyanza Province	...	...	...	...	...	...	9
Rift Valley Province	...	...	...	...	...	...	6
Central Province	...	...	...	...	...	...	13
Coast Province	...	...	...	...	...	...	12
Masai Province	...	...	...	...	...	...	2
Nairobi	...	...	...	...	...	...	30

BACTERIOLOGICAL SECTION

An attempt was made to produce ovanized vaccine lymph but was unsuccessful owing to the death of the sheep due to excessively cold weather.

Revenue earned by sale of vaccines to other governments and military organizations was £4,154.

The following table gives details of vaccines produced and of their disposal:—

ANTI-RABIC VACCINE

Year	Prepared	Total Issues	Issued to Other Territories
1949.. .. .	53,200 c.c.	52,480 c.c.	23,280 c.c.
1950.. .. .	87,900 c.c.	75,840 c.c.	18,120 c.c.

T.A.B. (ALCOHOLIZED)

1949.. .. .	152,710 c.c.	132,270 c.c.	38,705 c.c.
1950.. .. .	121,700 c.c.	106,955 c.c.	39,785 c.c.

VACCINE LYMPH

1949.. .. .	6,602,000 doses	4,587,567 doses	1,710,033 doses
1950.. .. .	4,411,500 doses	5,148,255 doses	4,228,930 doses

PROPHYLACTIC PLAGUE VACCINE

1949.. .. .	120,000 c.c.	39,750 c.c.	300 c.c.
1950.. .. .	70,000 c.c.	6,195 c.c.	None

SUSPENSIONS.—42,000 mls.

ROUTINE BACTERIOLOGY

Fourteen thousand and one specimens were examined and 5,958 cultures made.

Salmonella Typhi was isolated from 125 cases by stool culture.

Public health examinations of water and mineral waters were made but the amount of work which could be undertaken was limited by the accommodation available.

RESEARCH

Work on the exact determination of the type of organism responsible for *undulant* fever in Kenya is still proceeding. Over 70 organisms have so far been typed and it is obvious that the African cases of undulant fever are caused by *Brucella melitensis* whereas the European cases are caused by *Brucella abortus* suggesting that the African is infected from the goat and the European from the cow.

SECTION OF BIOCHEMISTRY

General examinations were performed on 3,504 and qualitative or quantitative tests on 491 specimens of urine.

Four hundred and seventy-nine biochemical examinations were made on specimens of blood, 65 on faeces, 481 on cerebro-spinal fluids and 35 on miscellaneous specimens. Physiological tests for renal, pancreatic and liver efficiency numbered 144, and under the heading of gastric contents, 212 fractional test meals, 1 single specimen and three Histamine "meals" are recorded. 67 basal metabolic rates were estimated.

RESEARCH WORK

Samples of sorghum were analysed and samples of meals which were on sale at the Municipal canteen and at some African eating-houses were examined.

In association with the anaesthetist specialist investigations were made to discover changes in levels of blood protein, and the response to certain liver efficiency tests, following anaesthesia. Blood samples for investigation were taken just prior to and after operation.

MEDICAL BIOLOGY

The large increase in work of all types during the year is reflected in the figures submitted—the increase for the year being 8,287 specimens.

	Total No.
Specimens for 1949	29,197
Specimens for 1950	37,484

Two thousand three hundred and sixty-eight total blood counts, 1,251 white cell and differential counts and 794 erythrocyte sedimentation rates were done.

Assistance has been given in an experimental trial of D.A.D.P.S. and thiosemicarbazone on Africans suffering from tuberculosis.

Four cases of infection with *Dipylidium caninum* and two of *Balantidium coli* were found in Europeans. *D. mansonii* in the plerocercoid stage was found in a Masai.

PATHOLOGICAL SECTION

One thousand six hundred and sixty-two specimens were received compared to 1,420 in 1949.

These included a specimen of Xanthoma of the ankle joint, three specimens of schistosomiasis of the cervix, two Brenner tumours, a liver infected with kala-azar and an amœbic abscess of the liver in a child of nine months.

Kahn tests on serum and cerebro-spinal fluid numbered 33,935.

Three hundred and fifty post-mortems were conducted of which 313 were medico-legal cases performed at the request of the police. Some post-mortems were of particular medico-legal interest. In one case a body was found in a sack in the sea at Mombasa. The skin and nails had peeled off the hands and feet and fingerprints, obtained by pulling the casts of skin over rubber gloves, enabled the body to be identified with the result that three Indians were charged with murder.

In another case an African was found lying in a pool of blood during a civil disturbance. Assault was suspected but death was found to be due to hæmoptysis from an early acute hæmolytic streptococcal broncho-pneumonia.

Blood grouping was done in 765 cases; 421 being Africans, 204 Asians, 227 Europeans and 13 Somalis. Rhesus grouping was carried out in all cases using an anti-D serum for recipients and an anti-C + D serum for donors.

INSECT-BORNE DISEASES DIVISION

Three of the four posts of Junior Entomological Field Officers remained vacant and difficulty was experienced in carrying out the proposed programme of work.

Routine identifications of mosquitoes continued and the following new species of mosquitoes were identified by E. C. C. van Someren: *Aedimorphus nutilus* Edwards; *Aedes* (*Aedimorphus*) *tricholabis* Edwards and two new *Aedes* (*Aedimorphus*) Theobald from Uganda.

A new *ædes* from East Africa was described (with notes on two known *ædes* with which it might be confused), and a new species of *Stegomyia* Theobald from the Ruwenzori Range, Uganda. (Haddow, A. J. and van Someren, E. C.)

Two species of sandfly, new to Kenya, were recorded: *Sintonius meilloni* and *Phlebotomus katangensis*. The commonest species of sandfly is *P. congolensis* and is found near Nairobi and in larger numbers along the coast.

MOSQUITO CONTROL

Aedes control measures have continued in Mombasa Municipality, and aircraft were sprayed with insecticides at the following aerodromes: Eastleigh; Nairobi West; Kisumu (till April); Naivasha (till September); and Port Reitz.

An experiment by spraying with D.D.T. dispersable powder was carried out at Mambrui, about ten miles north of Malindi, where there had been no *ædes* control. The normal larvæ index before spraying varied between 30 and 40 per cent. 342 houses were sprayed and immediately after spraying all *Aedes ægypti*, larvæ and adults, disappeared from the houses. *Culex fatigans* which were numerous also disappeared. The mosquito population of this village and of the control village of Ganda have since been kept under close observation by monthly surveys and by adult catches by knockdown spraying in 30 houses, and all-night catches, using human bait, both within houses and in nearby bush. Biting-cycles have been investigated by this means. At the end of 1950, just over 13 months since the spraying, there were still no *Aedes ægypti* to be found at the houses in Mambrui, though in April it was found biting in the nearby bush. *Aedes* were constantly present in the control village of Ganda.

Culex fatigans disappeared for six months and reinfestation was not heavy until July, 1950.

No adult *A. gambiae* were found in the pre-treatment mosquito survey in October, 1949, but two were found by knockdown spraying in April, 1950. One *A. gambiae* larva was found in November, 1950. One *A. gambiae* was found biting in a house in April, 1950, and one in May, 1950. In the bush, close to Mambrui, 59 *A. gambiae* were captured biting in April and two in May (12 catches). *A. gambiae* has been constantly found in Ganda village. The experiment will be continued into 1951.

The D.D.T. spraying experiment in the Kericho Highlands had, at the end of 1950, completed its fifth year. All African huts in an area of 70 square miles have been sprayed annually. This is the last year in which spraying was to be undertaken but observations will be continued in 1951 to determine the period over which the previous sprayings will remain effective. There was again no malaria epidemic in the Kericho reserve but the parasite rates for sprayed and control areas, though both low, still showed a difference at the end of the transmission season; that for the sprayed area being one-third of the rate for the control area. Adult catches showed a few *A. gambiae* and *A. funestus* in the control huts and none in the treated huts. However, larvæ of both vectors were obtained from both D.D.T. and control areas.

Field investigations and surveys were carried out as follows:—

- (a) Malarial surveys at Thika Township, Duke of York School, Kamiti Downs Estate Prison Farm, Nyanza Province at Ahero, Kisii and Kakamega.
- (b) Snail surveys at Kisumu, and at Lake Jilori in the Coast Province.
- (c) A rodent survey.

RODENT SURVEY

Animals other than *dipodillus*, from which blood and brains were inoculated into laboratory animals in an endeavour to find spirochætal infections were as follows:—

<i>Tatera vachia</i>	...	...	...	...	...	51
<i>Acomys</i> sp.	...	...	...	...	...	22
<i>Mastomys coucha</i>	...	...	...	...	...	20
<i>Arvicanthus abyssinicus</i>	...	...	...	...	...	12
<i>Cricetomys gambianus</i>	...	...	...	...	...	5
<i>Pelomys</i> sp.	...	...	...	...	...	5
<i>Lemniscomys striatus</i>	...	...	...	...	...	3
<i>Leggada musculoides</i>	...	...	...	...	...	2
<i>Epimys kaiser</i>	...	...	...	...	...	2
<i>R. rattus kijabius</i>	...	...	...	...	...	1
<i>Rhinonax chrysopygus</i>	...	...	...	...	...	1
<i>Otomys angoniensis</i>	...	...	...	...	...	2
<i>Lophuromys aquilus</i>	...	...	...	...	...	2

None of the above proved to be infective. They were collected from the Nairobi, Naivasha, Diani, Kiambu, Langata and Kwale areas.

Ecto-parasites from the above animals were collected for identification.

Blood films were examined and in some cases brain emulsions were injected into experimental animals.

The following sera were sent to the Virus Institute, Entebbe, for rickettsial agglutination tests:—

9 *Rattus rattus kijabius*.

24 *Arvicanthus abyssinicus*.

1 *Mastomys coucha*.

All proved negative for rickettsia.

Two other batches sent included sera from:—

16 *Rattus rattus kijabius*.

23 *Arvicanthus abyssinicus*.

3 *Mastomys coucha*.

9 *Lemniscomys striatus*.

7 *Lophuromys aquilus*.

10 *Acomys ignitus*.

9 *Tatera vieina*.

1 *Cricetomys gambiensis*.

3 *Pedetes surdaster*.

1 Genet cat.

Owing to lack of antigen the Virus Research Institute has not been able to supply results for these two batches.

RESEARCH (RELAPSING FEVER)

Research was carried out on a new spirochæte isolated from the brain of pigmy gerbilles and described in the Annual Report of 1949. The natural vector appeared to be *Ornithodoros erraticus* which were found in large numbers in pigmy gerbil burrows and which were proved vectors by laboratory experiments. The spirochæte has proved to be very neurotropic. It could with difficulty be transmitted by *O. moubata*, *O. savignyi* and an Iranian strain of *O. erraticus*, occult infections being produced in experimental animals. *Pediculus corporis* and *Pediculus longiceps* were also infected and metacyclic spirochætes were observed in a human louse. The organism is pathogenic to rats, mice, monkeys and young rabbits but not to guinea pigs. Man is only mildly susceptible. There is no cross-immunity against strains of *S. duttoni*, *S. harveyi*, *S. crocidura*, *S. merionesi* and *S. microti*.

The occurrence of *Ornithodoros moubata* in large burrows occupied by porcupines raised the interesting question of whether they could, in nature, become infected with *S. dipodilli* by feeding on pigmy gerbilles in neighbouring burrows. If this occurred the strain might become more virulent and identical with *S. duttoni*, the cause of tick-borne relapsing fever in man. However, so far, passage of *S. dipodilli* through *O. moubata* has resulted only in occult infections, using the rat as an experimental animal.

An experiment was carried out to test the curative properties of chloromycetin in relapsing fever. Humans, monkeys, baboons and rats were used. The results have yet to be assessed. The work which the Division has carried out in connexion with the control of the *Ornithodoros* tick has already been described.

ONCHOCERCIASIS

The Entomologist, Nyanza Province, has carried out an extensive survey and has continued his research into the bionomic of *S. Nævei*. This has been described under "Communicable Diseases".

**ARTICLES SUBMITTED FOR PUBLICATION BY MEMBERS OF THE
MEDICAL DEPARTMENT**

- Dr. A. H. Barwell and Dr. A. D. Patel.—“A Study of Brucellosis in the Meru District.”
- Mr. W. Carter.—“The Training of African Sanitary Inspectors in Kenya.”
- Dr. Malcolm Clark.—“A Preliminary Report on an Investigation of Pulmonary Tuberculosis in an African Reserve.”
- Dr. G. C. Dockeray.—“Mepacrine Poisoning—Two Fatal Cases.”
- “Xanthomatous Tumour of Ankle Joint.”
- Dr. N. R. E. Fendall.—“Kala-azar.”
- “Two Cases of Hydrophobia.”
- “The Treatment of Gonorrhœa.”
- “Penetrating Arrow Wound of the Heart.”
- Dr. B. P. Harris and Mr. J. O. W. Angawa.—“Rupture of the Uterus—An East African Series.”
- Dr. W. S. Haynes and Dr. H. Stott.—“A Preliminary Investigation into the Use of B.C.G. in Kenya.”
- Dr. R. B. Heisch.—“Spirochæta Dipodilli.”
- Dr. R. B. Heisch and Mr. W. E. Grainger.—“The Occurrence of *Ornithodoros Moubata*.” Murray & Burrows.
- Mr. J. Fulford Jarvis, F.R.C.S.—“A Contribution to the Problem of Concomitant Recto-Vaginal and Vesico-Vaginal Fistula.”
- “Hydrocephalus.”
- Dr. D. H. Mackay.—“Venereal Disease in Masai. A Field Survey—June and July, 1950.”
- Mr. J. P. McMahon.—“The Discovery of the Early Stages of *S. neavei* in Phoretic Association with Crabs and a Description of the Pupa and the Male.”
- Dr. E. P. Rigby.—“A Case of Spontaneous Rupture of an Angular Pregnancy.”
- Dr. A. C. B. Singleton.—“The Immunity Status of Nairobi Schoolchildren as shown by 1,798 Schick Tests.”
- Dr. H. Stott.—“Primary Tuberculosis in Native Prisoners.”

RETURN OF DISEASES

U.S. DEPT. OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D.C.

RETURN OF DISEASES—(IN-PATIENTS)
for the year 1950

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including Officials)					NATIVE GENERAL POPULATION (including Officials)				
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Cases remaining in Hospital at end of year 1950	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES																				
1. Enteric Group—																				
(a) Typhoid Fever	1	2	—	1	—	—	4	—	5	—	—	9	—	9	32	747	130	779	50	
(b) Paratyphoid A.	—	1	—	1	—	—	1	—	1	—	—	—	—	—	2	5	—	7	1	
(c) Paratyphoid B.	—	1	—	1	—	—	—	—	—	—	—	—	—	—	4	4	—	4	—	
(d) Type not defined	—	6	—	6	—	—	7	—	7	—	—	1	—	1	1	14	2	18	5	
2. Typhus	—	—	—	—	—	—	—	—	—	—	—	2	—	2	9	342	22	351	6	
3. Relapsing Fever	—	—	—	—	—	—	2	—	2	1	—	2	—	2	5	122	4	127	17	
4. Undulant Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5. Malaria—																				
(a) Tertian (Benign)	—	—	—	—	—	—	1	—	1	—	2	19	—	21	3	547	37	550	18	
(b) Quartan	—	—	—	—	—	—	—	—	—	—	—	2	—	2	5	268	9	273	8	
(c) Aestivo-autumnal (S.T.)	—	67	—	67	—	—	61	—	61	—	2	253	1	255	82	9,250	278	9,332	205	
(d) Undifferentiated (Clinical)	—	68	—	68	—	1	61	—	62	—	6	792	—	798	175	13,344	207	13,519	361	
(e) Cachexia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	38	3	39	6	
(f) Blackwater	—	1	1	1	—	—	1	—	1	—	—	1	1	1	1	14	2	15	1	
(g) Cerebral	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	162	45	162	44	
6. Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	1	5	—	
Alastrim	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2	—	
7. Measles	—	19	—	19	—	—	18	—	18	1	1	35	—	36	28	2,482	48	2,510	62	
8. Scarlet Fever	—	—	—	—	—	—	2	—	2	—	—	—	—	—	9	—	—	9	—	
9. Whooping Cough	—	3	—	3	—	—	—	—	—	—	—	11	—	11	17	1,304	71	1,321	57	
10. Diphtheria	—	1	—	1	—	—	7	—	7	—	—	4	—	4	1	33	6	34	—	
11. Influenza	—	40	—	40	—	—	31	—	31	—	13	1,901	—	1,914	6	1,085	1	1,091	35	
12. Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	—	36	—	
13. Mumps	—	—	—	—	—	—	2	—	2	—	—	9	—	9	2	206	1	208	11	
14. Cholera	—	—	—	—	—	—	—	—	—	—	1	—	—	1	5	188	2	193	12	
15. Epidemic diarrhoea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
16. Dysentery—																				
(a) Amœbic	—	32	—	32	—	—	34	—	38	1	—	33	—	33	36	1,456	18	1,492	45	
(b) Bacillary	—	9	—	9	—	4	23	—	23	—	—	25	—	25	48	1,043	28	1,091	25	
(c) Undefined or due to other causes	—	6	—	6	—	—	21	—	21	—	—	25	1	25	15	406	12	421	29	

RETURN OF DISEASES—IN-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including Officials)					NATIVE GENERAL POPULATION (including Officials)					
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—(Contd.)																					
39. Soft Chancre	—	—	—	—	—	—	—	—	—	—	—	12	254	7	266	1	12	254	7	266	1
40. A.—Gonorrhoea and its complications	—	—	—	—	—	—	—	—	—	—	1	4	—	—	5	—	137	7,238	1	7,375	125
B.—Gonorrhoeal Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58	—	58	2
C.—Gonorrhoeal Arthritis	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	6	110	—	116	7
D.—Granuloma Venereum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	14	—
41. Septicemia	—	—	—	—	—	—	—	—	—	—	1	6	1	7	—	—	—	92	35	92	3
42. Other Infectious Diseases	—	1	—	1	—	—	2	—	2	—	—	—	—	—	—	—	—	7	5	7	—
II.—GENERAL DISEASES NOT MENTIONED ABOVE																					
43. Cancer or other Malignant Tumours of the Buccal Cavity	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—	—	—	26	7	26	1
44. Cancer or other Malignant Tumours of the Stomach or Liver	—	2	—	2	—	—	4	—	4	—	—	2	—	—	2	—	2	108	41	110	1
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum	1	1	1	2	—	—	4	2	4	—	—	2	—	—	2	—	—	59	15	59	4
46. Cancer or other malignant Tumours of the Female Genital Organs	1	1	—	2	—	—	6	—	6	—	—	1	—	—	1	—	1	33	8	34	1
47. Cancer or other malignant Tumours of the Breast	—	3	—	3	—	—	1	—	1	—	—	—	—	—	—	—	3	35	5	38	11
48. Cancer or other malignant Tumours of the Skin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	26	6	31	2
49. Cancer or other malignant Tumours of Organs not specified	—	4	1	4	—	—	10	3	10	1	—	10	2	10	—	—	3	97	20	100	9
50. Tumours, Non-malignant	—	7	—	7	—	1	19	—	20	—	—	33	—	34	—	—	12	337	7	349	12
51. Acute Rheumatism	1	5	—	6	—	1	5	—	6	—	4	148	—	152	3	—	12	490	9	502	12
52. Chronic Rheumatism	—	7	—	7	—	—	13	—	13	2	—	96	—	96	—	—	14	400	2	414	18
53. Scurvy (including Barlow's Disease)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	9	2	11	33
Kwashiorkor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	146	410	—
Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	241	10	254	11
Malnutrition (unclassified)	—	—	—	—	—	—	—	—	—	—	3	1	—	1	—	—	10	162	60	172	23

RETURN OF DISEASES—IN-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including Officials)					NATIVE GENERAL POPULATION (including Officials)				
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950
III.—AFFECTION OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—(Contd.)																				
79. Epilepsia Convulsions (non-peuperal) 5 years or over ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
80. Infantile Convulsions ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
81. Chorea ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
82. A.—Hysteria ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.—Neuritis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
C.—Neurasthenia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
D.—Neuralgia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
83. Cerebral Softening ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
84. Other Affections of the Nervous System, such as Paralysis Agitans ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
85. Affections of the Organs of Vision—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(a) Conjunctivitis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Trachoma ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Tumours of the Eye ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Other affections of the Eye ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
86. Affections of the Ear or Mastoid Sinus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Otitis Media ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
87. Pericarditis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
88. Acute Endocarditis or Myocarditis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
89. Angina Pectoris ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
90. Other Diseases of the Heart—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(a) Valvular—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mitral ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aortic ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tricuspid ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Myocarditis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Unclassified ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Diseases of the Arteries—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(a) Aneurism ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

RETURN OF DISEASES—IN-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including Officials)					NATIVE GENERAL POPULATION (including Officials)				
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital from end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950
VI.—DISEASES OF THE DIGESTIVE SYSTEM—(Contd.)																				
109. Affections of the Pharynx or Tonsils—																				
Tonsillitis	—	12	—	12	1	—	85	—	85	1	4	584	—	588	6	5	993	6	998	16
Pharyngitis	—	31	—	31	1	—	14	—	14	—	4	145	—	149	—	4	250	2	254	—
Unclassified	—	—	—	—	—	—	1	—	2	—	—	3	—	3	—	—	44	—	44	—
110. Affections of the Oesophagus	—	6	—	6	2	—	2	—	2	1	—	3	—	3	—	—	77	2	77	2
111. A.—Ulcer of the Stomach ..	—	13	—	13	4	1	30	2	31	1	—	4	—	4	—	1	17	1	18	—
112. Other affections of the Stomach—																				
Gastritis	—	16	—	16	1	—	8	—	8	1	1	113	—	114	5	4	538	56	542	4
Dyspepsia	—	9	—	9	—	—	4	—	4	—	—	165	—	165	—	2	481	5	483	4
Unclassified	1	—	—	1	—	—	—	—	—	—	—	4	—	4	—	—	21	—	21	—
113. Diarrhoea and Enteritis—																				
Under two years	—	8	—	8	—	—	19	—	19	2	—	70	1	70	4	35	2,403	251	2,438	55
114. Diarrhoea and Enteritis—																				
Two years and over	1	5	—	6	—	—	13	—	13	—	6	348	2	354	2	22	1,711	102	1,733	58
Colitis	—	4	1	4	—	—	12	—	12	—	—	14	—	14	—	—	175	—	175	7
Ulceration	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	23	34	—	57	21
114A. Sprue	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
B. Diverticulitis	—	—	—	—	—	—	2	—	2	—	—	14	—	14	—	63	1,411	8	1,474	34
115. Ankylostomiasis	—	10	—	10	—	—	3	—	3	—	—	—	—	—	—	—	1,000	2	1,001	25
116. Diseases due to Intestinal Parasites—																				
(a) Cestoda (Tenia)	—	8	—	8	—	—	—	—	—	—	—	2	—	2	—	1	24	—	24	—
(b) Trematoda (Flukes)	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—
(c) Nematoda (other than Ankylostoma)—																				
Ascaris	—	—	—	—	—	—	1	—	1	—	—	2	—	2	—	1	74	—	75	1
Trichocephalus dispar. ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	754	—	757	12
Trichina	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dracunculus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strongylus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oxyuris	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
(d) Coccidia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
(e) Other parasites	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—	3	15	—	18	1
(f) Unclassified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	126	2	126	1
117. Appendicitis	45	—	—	45	2	1	108	1	109	2	1	153	1	154	1	2	61	5	63	2
118. Hernia	5	—	—	5	—	2	28	—	30	—	1	65	—	66	1	13	532	8	545	24

RETURNS OF DISEASES—IN-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS						EUROPEAN GENERAL POPULATION						ASIATIC GENERAL POPULATION (including Officials)						NATIVE GENERAL POPULATION (including Officials)					
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950				
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENERAL)																								
—(Contd.)																								
138. Salpingitis—	—	—	—	—	—	—	9	1	9	—	—	24	—	24	1	7	650	—	657	23				
Abscess of the Pelvis ..	—	—	—	—	—	—	6	—	7	—	—	3	—	3	—	3	52	—	55	3				
139. Uterine Tumours (non-malignant)	—	4	—	4	—	—	14	—	14	—	—	11	—	11	—	—	88	3	88	2				
140. Uterine Haemorrhage (non- puerperal) ..	—	—	—	—	—	—	12	—	12	—	—	3	—	3	—	1	47	1	48	2				
141. A.—Metritis ..	—	3	—	3	—	—	11	—	11	—	—	—	—	—	—	—	50	—	50	2				
B.—Other affections of the Female Genital Organs—	—	7	—	7	—	—	71	—	71	—	—	11	—	11	—	—	348	3	348	13				
Displacement of Uterus ..	—	1	—	1	—	—	13	—	13	—	—	3	—	3	—	2	36	1	38	1				
Amenorrhœa ..	—	—	—	—	—	—	1	—	1	—	—	6	—	6	—	—	84	—	84	7				
Dysmenorrhœa ..	—	1	—	1	—	—	11	—	11	—	—	20	—	20	—	2	362	—	364	—				
Leucorrhœa ..	—	1	—	1	—	—	6	—	6	—	—	—	—	—	—	—	39	—	39	1				
142. Diseases of the Breast (non- puerperal)—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Mastitis ..	—	—	—	—	—	—	2	—	2	—	—	4	—	4	—	1	122	—	123	3				
Abscess of Breast ..	—	1	—	1	—	—	—	—	—	—	—	6	—	6	—	3	115	—	118	9				
Unclassified ..	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	16	—	16	—				
VIII.—PUERPERAL STATE																								
Ante-Natal ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
143. A.—Normal Labour ..	—	3	—	3	—	—	48	—	49	1	—	3	—	3	—	74	4,188	—	4,262	54				
Abnormal Labour ..	—	—	—	—	—	—	—	—	—	—	—	70	1	70	—	87	9,274	4	9,361	204				
B.—Accidents of Pregnancy—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	579	—	579	—				
(a) Abortion ..	—	4	—	4	—	—	35	—	35	—	—	32	—	32	—	24	1,398	5	1,422	14				
(b) Ectopic Gestation ..	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	2	33	1	35	—				
(c) Other accidents of Pregnancy	—	2	—	2	—	—	15	—	15	—	—	47	—	47	1	10	721	87	731	35				
144. Puerperal Haemorrhage ..	—	—	—	—	—	—	—	—	—	—	—	9	—	9	—	—	292	24	294	6				
145. Other accidents of Parturition ..	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	93	20	93	2				
146. Puerperal Septicæmia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	7	1				
147. Phlegmasia Dolens ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	16	3	19	1				
148. Puerperal Eclampsia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	65	5	65	14				
149. Sequelæ of Labour ..	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	72	—	72	—				
150. Puerperal affections of the Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				

RETURN OF DISEASES—IN-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including Officials)					NATIVE GENERAL POPULATION (including Officials)					
	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	Cases remaining in Hospital from previous year 1949	Total Admissions	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1950	
XIII.—AFFECTIONS OF OLD AGE																					
164. Senility—																					
Senile Dementia	—	—	—	—	—	1	3	1	4	1	—	—	—	—	—	—	31	14	31	—	
Unclassified	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	21	19	22	1	
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES																					
165. Suicide by Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
166. Corrosive Poisoning (intentional)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
167. Suicide by Gas Poisoning ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
168. Suicide by Hanging or Strangulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
170. Suicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
171. Suicide by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
172. Suicide by jumping from a height	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
173. Suicide by Crushing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
174. Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
175. Food Poisoning	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—	—	88	3	88	—	
Botulism	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
176. Poisonous Attacks—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Snake Bite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Insect Bite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
177. Other accidental poisonings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
178. Burns (by Fire)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
179. Burns (other than by Fire)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
180. Suffocation (accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
181. Poisoning by Gas (accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
182. Drowning (accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
183. Wounds (by Firearms, war accepted)	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
184. Wounds (by cutting or stabbing instruments)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
185. Wounds (by Fall)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
186. Wounds (in Mines or Quarries) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
187. Wounds (by Machinery)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

RETURN OF DISEASES—(OUT-PATIENTS)

Numbers Treated during the year 1950

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION		NATIVE GENERAL POPULATION (including OFFICIALS)	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Male	Female
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES													
1. Enteric Group—													
(a) Typhoid Fever ..	1	—	1	—	—	—	—	—	—	—	—	54	48
(b) Paratyphoid A. ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Paratyphoid B. ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Type not defined ..	—	7	13	—	1	1	—	—	5	—	—	—	—
2. Typhus ..	6	—	—	—	—	—	—	—	—	—	—	—	—
3. Relapsing Fever ..	—	—	—	—	—	—	—	—	—	—	—	57	34
4. Undulant Fever ..	—	—	—	—	—	—	—	—	—	31	26	—	57
5. Malaria—													
(a) Tertian (Benign) ..	2	—	2	2	—	2	—	—	5	22	—	433	392
(b) Quartan ..	—	—	—	—	—	—	—	—	—	—	—	490	270
(c) Aestivo-autumnal (S.T.) ..	28	8	36	10	9	19	134	—	153	229	—	8,170	9,254
(d) Undifferentiated (Clinical) ..	74	11	85	30	39	69	524	1	156	226	—	57,979	38,400
(e) Cachexia ..	—	—	—	—	—	—	—	—	—	—	—	283	165
(f) Blackwater ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(g) Cerebral ..	—	—	—	—	—	—	—	—	—	—	—	—	—
6. Smallpox ..	—	—	—	—	—	—	—	—	—	—	—	—	—
7. Measles ..	2	48	50	9	7	16	1	—	11	—	—	2	2
8. Scarlet Fever ..	—	—	—	—	—	—	—	—	—	—	—	1,474	1,246
9. Whooping Cough ..	—	6	8	1	5	6	—	—	—	4	—	—	5
10. Diphtheria ..	—	—	—	—	—	—	—	—	13	—	—	2,218	2,691
11. Influenza ..	104	50	154	27	30	57	554	1	397	134	—	10,025	2,534
12. Miliary Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
13. Mumps ..	—	—	—	—	—	—	—	—	—	8	—	401	281
14. Cholera ..	—	—	—	—	—	—	—	—	—	—	—	175	73
15. Epidemic diarrhoea ..	—	—	—	—	—	—	—	—	—	—	—	—	248
16. Dysentery—													
(a) Amoebic ..	17	5	22	12	11	23	3	—	3	5	—	1,195	877
(b) Bacillary ..	28	19	47	9	22	31	6	—	2	3	—	824	451
(c) Undefined or due to other causes ..	11	2	13	3	6	9	36	—	14	6	—	2,265	989
17. Plague ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(a) Bubonic ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Pneumonic ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Septicemic ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Undefined ..	—	—	—	—	—	—	—	—	—	—	—	—	—
18. Yellow Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Spirochaetosis ictero-haemorrhagica ..	—	—	—	—	—	—	—	—	—	—	—	—	—

RETURN OF DISEASES—OUT-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION			NATIVE GENERAL POPULATION (including OFFICIALS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
II.—GENERAL DISEASES NOT MENTIONED ABOVE															
43. Cancer or other malignant Tumours of the Buccal Cavity ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
44. Cancer or other malignant Tumours of the Stomach or Liver ..	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
46. Cancer or other malignant Tumours of the Female Genital Organs ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
47. Cancer or other malignant Tumours of the Breast ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
48. Cancer or other malignant Tumours of the Skin ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
49. Cancer or other malignant Tumours of Organs not specified ..	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
50. Tumours, non-malignant ..	4	10	14	1	2	3	—	—	—	—	—	—	—	—	—
51. Acute Rheumatism ..	10	11	21	3	1	4	3	—	—	10	3	3	2,942	2,525	5,467
52. Fibrositis ..	—	—	—	7	16	23	—	—	—	—	—	—	—	—	—
53. Chronic Rheumatism ..	13	10	23	3	8	11	199	—	—	42	102	144	8,964	3,863	12,827
54. Scurvy (including Barlow's Disease) ..	—	—	—	—	—	—	—	—	—	—	—	—	60	47	107
55. Malnutrition (Unclassified) ..	—	—	—	—	—	—	—	—	—	—	—	—	75	51	126
56. Pellagra ..	—	—	—	—	—	—	—	—	—	—	—	—	296	173	469
57. Beri-beri ..	—	—	—	—	—	—	—	—	—	—	—	—	264	225	489
58. Kwashiorkor ..	—	—	—	—	—	—	—	—	—	—	—	—	3	43	46
59. Rickets ..	—	—	—	—	—	—	—	—	—	—	—	—	12	8	20
60. Diabetes (not including Insipidus) ..	—	1	1	1	—	1	—	—	—	8	11	19	—	—	—
61. Anæmia— (a) Pernicious ..	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—
(b) Other Anæmias and Chlorosis ..	2	7	9	3	12	15	3	—	—	17	29	46	719	515	1,234
62. Diseases of the Pituitary Body ..	—	—	—	1	6	7	—	—	—	—	—	—	—	—	—
63. Diseases of the Thyroid Gland— (a) Exophthalmic Goitre ..	—	—	—	—	—	—	—	—	—	—	—	—	2	5	7
(b) Other diseases of the Thyroid Gland, Myxœdema ..	—	3	3	1	—	—	—	—	—	—	—	—	1	8	9
64. Diseases of the Para-Thyroid Glands ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
65. Diseases of the Thymus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
66. Diseases of the Supra-Renal Glands ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
67. Diseases of the Spleen ..	—	—	—	—	—	—	4	—	—	2	2	4	744	306	1,050
68. Leukaemia— (a) Leukemia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Hodgkin's Disease ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
69. Alcoholism ..	2	3	5	—	—	—	1	—	—	—	—	—	31	1	32

RETURN OF DISEASES—OUT-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION			NATIVE GENERAL POPULATION (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
IV.—AFFECTIONS OF CIRCULATORY SYSTEM—(Contd.)															
90. Other Diseases of the Heart—															
(a) Valvular—															
Mitral ..	1	1	2	2	1	3	—	—	—	—	—	—	10	3	13
Aortic ..	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3
Tricuspid ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Myocarditis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Unclassified ..	24	3	27	4	3	7	—	—	—	—	—	—	21	6	27
91. Diseases of the Arteries ..	—	—	—	—	—	—	—	—	—	—	—	—	135	35	170
(a) Aneurism ..	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
(b) Arterio-Sclerosis ..	3	1	4	—	—	—	—	—	—	—	—	—	—	—	—
(c) Other Diseases ..	—	—	—	—	—	—	—	—	—	—	—	—	6	8	14
92. Embolism or Thrombosis (non-cerebral) ..	2	—	2	—	—	—	—	—	—	—	—	—	2	—	2
93. Diseases of the Veins—															
Haemorrhoids ..	21	6	27	2	3	5	19	—	19	2	3	5	77	23	100
Varicose Veins ..	9	11	20	2	4	6	6	—	6	—	—	—	18	4	22
Phlebitis ..	4	2	6	—	1	1	—	—	—	—	—	—	1	2	3
Unclassified ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
94. Diseases of the Lymphatic System—															
Lymphangitis ..	4	1	5	—	—	—	—	—	—	—	1	1	244	54	298
Lymphadenitis, Bubo (non-specific) ..	3	7	10	2	—	2	8	—	8	5	11	16	1,150	576	1,726
95. Haemorrhage of undetermined cause ..	6	4	10	2	—	2	—	—	—	—	—	—	5	—	5
96. Other affections of the Circulatory System ..	11	9	20	6	13	19	22	—	22	—	1	1	9	3	12
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM															
97. Diseases of the Nasal Passages—															
Adenoids ..	8	1	9	9	5	14	—	—	—	—	—	—	—	—	—
Polypus ..	—	1	1	—	—	—	4	—	4	—	1	1	221	18	239
Rhinitis ..	9	4	13	4	2	6	15	—	15	—	11	15	723	390	1,113
Coryza ..	177	222	399	39	42	81	1,120	—	1,120	250	462	712	40,227	19,118	59,345
Unclassified ..	30	13	43	6	21	27	—	—	—	—	—	—	—	—	—
98. Affections of the Larynx—															
Laryngitis ..	18	27	45	14	13	27	12	—	12	—	—	—	976	531	1,507
Unclassified ..	13	3	16	3	5	8	—	—	—	—	—	—	—	—	—
99. Bronchitis—															
(a) Acute ..	96	108	204	38	50	88	193	—	193	172	208	380	66,433	48,081	114,514
(b) Chronic ..	4	6	10	4	2	6	483	—	483	50	665	715	15,621	9,742	25,363
(c) Unclassified ..	15	8	23	14	6	20	—	—	—	—	—	—	22	—	22
100. Broncho-Pneumonia ..	2	3	5	1	—	1	5	—	5	20	21	41	593	572	1,165

RETURN OF DISEASES—OUT-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION			NATIVE GENERAL POPULATION (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
VI.—DISEASES OF THE DIGESTIVE SYSTEM—(Contd.)															
117. Appendicitis	14	5	19	5	6	11	1	—	1	4	4	8	19	7	26
118. Hernia	6	1	7	1	1	2	3	—	3	—	—	—	394	13	407
119. A.—Affections of the Anus, Fistula, etc.	11	2	13	2	4	6	—	—	—	1	1	2	12	5	17
B.—Other affections of the Intestines	4	—	4	1	8	9	73	—	73	11	12	23	21	18	39
Enteroptosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Constipation	3	4	7	3	4	7	141	—	141	65	143	208	25,541	18,498	44,039
120. Acute Yellow Atrophy of the Liver ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
121. Hydatid of the Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
122. Cirrhosis of the Liver— (a) Alcoholic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(b) Other Forms	—	2	2	—	—	—	—	—	—	—	—	—	2	—	2
123. Biliary Calculus	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2
124. Other affections of the Liver— Abscess	—	—	—	—	—	—	—	—	—	—	—	—	1	2	3
Hepatitis	7	4	11	3	1	4	13	—	13	10	22	32	511	320	831
Cholecystitis	1	5	6	2	—	2	—	—	—	—	—	—	—	16	16
Jaundice	2	4	6	3	1	4	2	—	2	1	4	5	157	83	240
Unclassified	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—
125. Diseases of the Pancreas	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
126. Peritonitis (of unknown cause) ..	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
127. Other affections of the Digestive System	—	1	1	3	5	8	14	—	14	6	8	14	390	68	458
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)															
128. Acute Nephritis	—	—	—	2	—	2	—	—	—	—	1	1	12	9	21
129. Chronic Nephritis	1	—	1	—	—	—	—	—	—	1	1	2	81	24	105
130. A.—Chyluria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.—Schistosomiasis	2	2	4	—	—	—	2	—	2	5	4	9	2,503	975	3,478
131. Other affections of the Kidneys— Pyelitis	5	25	30	5	18	23	1	—	1	1	1	2	162	170	332
Unclassified	—	—	—	2	4	6	—	—	—	—	—	—	29	12	41
132. Urinary Calculus	9	—	9	2	1	3	2	—	2	—	—	—	8	6	14
133. Diseases of the Bladder— Cystitis	11	12	23	9	29	38	1	—	1	4	7	11	649	394	1,043
Unclassified	3	2	5	6	4	10	—	—	—	—	—	—	24	—	24
134. Diseases of the Urethra— (a) Stricture	1	—	1	4	—	4	—	—	—	—	—	—	68	—	68
(b) Other	5	—	5	1	—	1	17	—	17	2	—	2	829	146	975

RETURN OF DISEASES—OUT-PATIENTS—(Contd.)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIAN OFFICIALS			ASIAN GENERAL POPULATION			NATIVE GENERAL POPULATION (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—(Contd.)															
195. Lightning Stroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
196. Electric Shock	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
197. Murder by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
198. Murder by cutting or stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
199. Murder by other means	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
200. Infanticide (murder of an infant under one year)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
201. A.—Dislocation	9	1	10	2	1	3	—	—	—	—	—	—	—	—	—
B.—Sprain	64	26	90	28	31	59	—	—	—	—	—	—	—	—	—
C.—Fracture	55	15	70	53	27	80	57	—	—	14	23	37	6,182	1,643	7,825
202. Other external injuries	108	19	127	57	37	94	810	—	—	269	308	577	39,008	11,837	50,845
203. Deaths by Violence of unknown cause	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
XV.—ILL-DEFINED DISEASES															
204. Sudden Death (cause unknown)	—	—	—	—	—	—	—	—	—	—	—	—	207	104	311
205. A.—Diseases not already specified or ill-defined—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ascites	—	—	—	—	—	—	—	—	—	—	—	—	98	71	169
Oedema	—	—	—	—	—	—	—	—	—	—	—	—	621	439	1,060
Asthenia	1	—	1	9	6	15	—	—	—	—	—	—	60	36	96
Shock	—	—	—	—	1	1	—	—	—	—	—	—	3	—	3
Hyperpyrexia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pyrexia of unknown origin	42	55	97	6	6	12	358	—	—	5	118	123	4,420	589	5,009
Lumbago	—	—	—	—	—	—	—	—	—	—	—	—	1,843	745	2,588
Myalgia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sciatica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Others	3	4	7	—	—	—	17	—	—	31	17	48	6,666	3,539	10,205
B.—Malingering	263	106	369	185	186	371	343	1	344	36	61	97	3,903	507	4,410
GRAND TOTAL	2,843	1,897	4,740	1,351	1,835	3,186	7,808	3	7,811	3,207	5,330	8,537	581,763	348,799	930,562
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS															
GRAND TOTAL	2,843	1,897	4,740	1,351	1,835	3,186	7,808	3	7,811	3,207	5,330	8,537	581,763	348,799	930,562



