Annual medical report / Colony and Protectorate of Kenya.

COLONY AND PROTECTORATE OF KENYA

MEDICAL DEPARTMENT

ANNUAL REPORT

1952

1953
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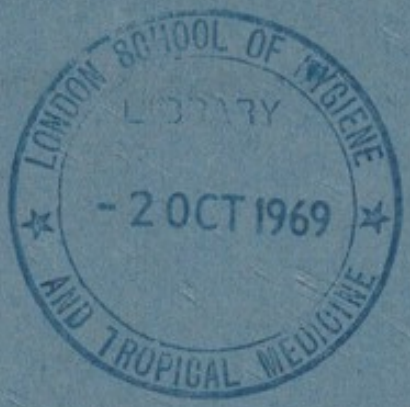

MEDICAL DEPARTMENT

ANNUAL REPORT

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Medical Department Headquarters,
Nairobi, Kenya.

THE HON. MEMBER FOR HEALTH,
LANDS AND LOCAL GOVERNMENT,
NAIROBI.

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 1952, together with the Returns, etc., appended thereto.

I have the honour to be,

Sir,

Your obedient servant,

T. FARNWORTH ANDERSON,
Director of Medical Services.

MEDICAL DEPARTMENT ANNUAL REPORT FOR 1952

Looking back over the events of the year 1952 we can claim that the first nine months of the year were marked by steady though perhaps unspectacular progress in the medical and public health fields. This progress and expansion received a profound shock with the declaration of the State of Emergency in October. One result of this was the reorientation of our energies in the parts of the country affected from the normal development of a service, devoted to the treatment of the sick and the promotion of health, to more urgent priority of dealing with the more pressing and urgent needs of a country grappling with a disturbance resembling civil war. This reorientation of our activities did not take place overnight, as happens on the outbreak of war between major powers, as the scope and depth of the defiance of the Government by the rebellious elements of the Kikuyu people took some time to develop.

2. One of the earliest and most serious results of the Emergency was the adverse effect upon the recruitment of doctors. During the first nine months of the year, the serious shortages of Medical Officers were gradually being made good and there was a steady flow of new recruits to the Service. As soon as the Emergency was declared, this flow stopped abruptly, and as there is always a loss of manpower from the Medical Department due to resignations, retirements and transfers, we were faced at the end of the year with a serious decline in the number of Medical Officers in the Service. This happened at a time when the commitments which we were being asked to undertake were greatly increased as a result of the Emergency.

3. The increased demands on the resources of the Medical Department as a result of the Emergency manifested themselves in many ways. The enormous increase in the establishment of the Police and the drafting into the Security Forces of civilians from every walk of life necessitated the medical examination of recruits. Medical facilities had to be provided for the greatly increased numbers of police posts both for the treatment of casualties and the day-to-day medical needs of a greatly expanded force. Also members of the Security Forces who had previously been attended by private doctors became servants of the Government and, as such, were entitled to medical attention by Government officers.

4. As time went on, the establishment of hastily constructed prison camps made it necessary for us to provide medical attention, and the sanitary problems which arose in connexion with them became a first call on the services of the health inspectorate. Towards the end of the year, there began a large-scale migration of the Kikuyu people, living on European farms, back to their reserves. This migration was dictated sometimes by operational necessity, sometimes because farmers no longer wanted to retain unruly and often dangerous labour on their farms, and sometimes as a result of the blind longings of a bewildered people to return to their ancestral homes. To deal with this migration, transit camps were built to which whole families with much of their belongings, were sent. These rapidly became overcrowded and placed a great strain on our resources. Gastro-enteritis, especially amongst small children, appeared in epidemic form and hospitals to which these casualties were evacuated quickly became overcrowded.

5. From the beginning of the Emergency, it has been our aim to maintain existing services as far as possible. At the Coast and in the Nyanza Province to the west, which were largely untouched by the Emergency, medical activities were little affected. The results of the State of Emergency were most acutely felt in the five disaffected districts in the Central Province and in the Rift Valley Province where much of the farm labour is composed of Kikuyu tribesmen. At first there was a considerable drop in attendances at hospitals and dispensaries in the Kikuyu country, but towards the end of the year, these were increasing as confidence returned. The most noticeable falling off of attendances has been amongst maternity cases, but this has been due rather to difficulties of transport as women in labour have found it almost impossible to get to hospital. The population of our hospitals in the affected areas has changed to some extent and we are now dealing with cases of gunshot wounds from both sides and of slashing with swords and *pangas* inflicted by the terrorists, often on women and children. A maternity ward in one hospital has been taken over as a ward for *Mau Mau* prisoners which is largely occupied by battle casualties.

6. I must here pay a tribute to the Medical Staff of the Government African District Councils and Missions who have carried on as usual in the troubled areas. Doctors, Nursing Sisters and Health Inspectors and their Staffs have continued to visit dispensaries and outlying parts of their Districts and to hold clinics as usual. Dressers at dispensaries and African Health Staff have carried on with the greatest loyalty and devotion to duty, often at the risk of their lives. One has been murdered by the terrorists. The lot of the loyal Kikuyu Dispensary Dresser is an unenviable one and requires great courage. As night falls he has to shut himself in his hut with his family, never knowing when it will be surrounded and set alight and the only alternative is to be burned alive with his family or to come out and be hacked to death.

7. Another result of the Emergency is the enormous increase in medico-legal work which has to be done by Medical Officers and which, of course, entails subsequent appearances in Court. The post-mortem examinations of battle casualties, murders, exhumed bodies and occasionally piles of bodies resulting from massacres can only be done by the doctor and takes up a great deal of his time.

8. An event of great medical importance has been an epidemic of Kala Azar, the first epidemic of this disease, as far as is known ever to have occurred in East Africa. This in itself was an acute emergency, which, but for the political Emergency and for the fact that is occurred in a remote part of the country would have attracted more attention. It is a serious menace to the public health and is described in more detail later in this Report.

STAFF

Recruitment of Medical Officers was brisk from April to September, 1952, ten being appointed including two with an M.R.C.P. and two with an F.R.C.S. This, however, was offset by promotions, retirements, resignations and transfers and the year ended with eight vacancies, compared with seven in 1951. With the start of the *Mau Mau* Emergency, recruitment came to a sudden stop.

Recruitment of young Assistant Surgeons has almost ceased owing to the institution of the two-year M.B.B.S. course in India. Several Assistant Surgeons have resigned in order to take this registrable qualification but vacancies do not always exist to permit them to rejoin the Service as Asian Medical Officers after qualification.

Only one new African Assistant Medical Officer qualified this year but this was offset by a resignation, leaving a total of 11.

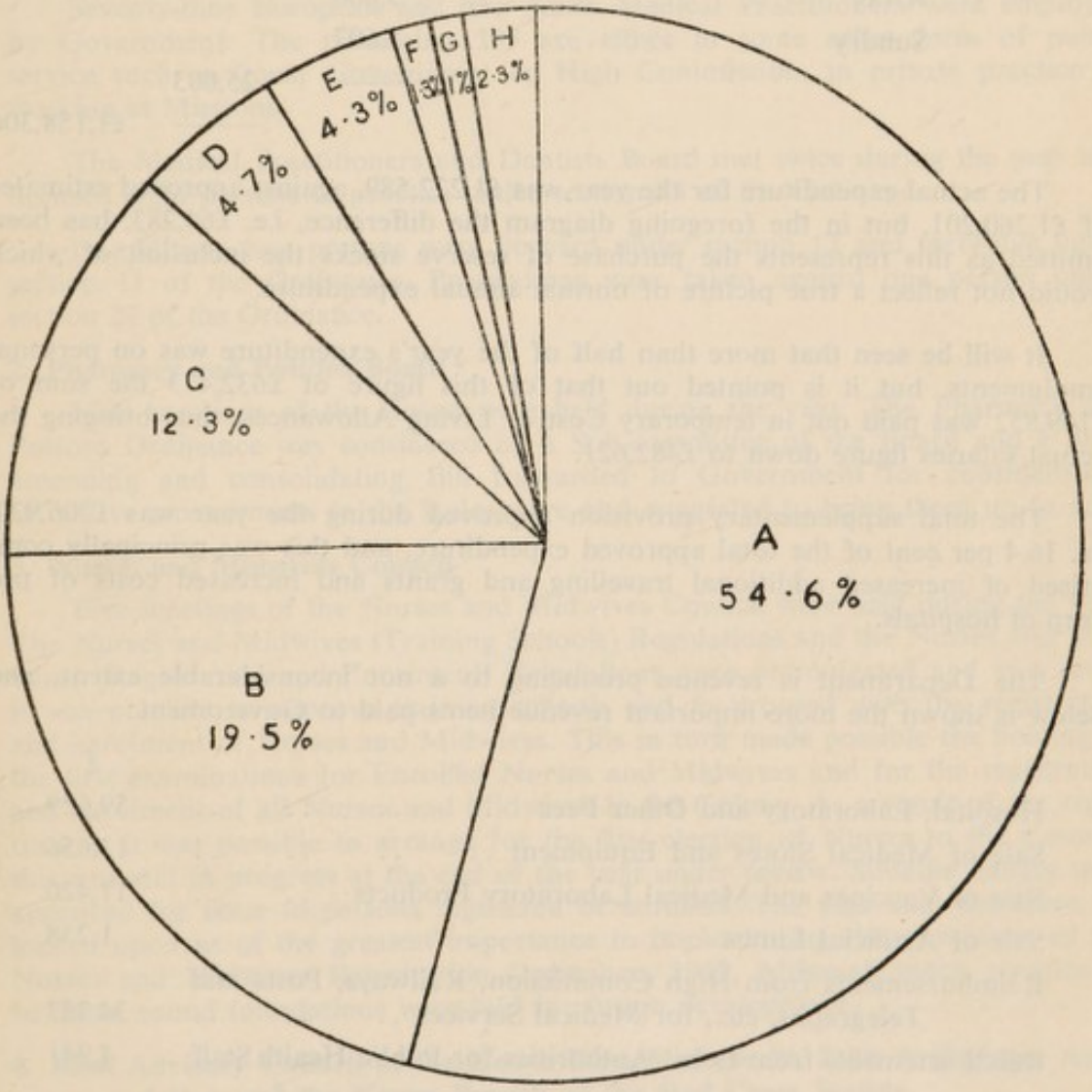
Recruiting of new Nursing Sisters has barely kept pace with the inevitable loss through marriage. A large proportion of temporary appointments has been made in anticipation of the closing down in 1954 of the Nairobi Government European Hospital.

The staff of Health Inspectors has been kept up to strength, but vacancies for Pharmacists, Radiographers and Laboratory Technicians have remained unfilled as the salaries, particularly at the lower end of the scale, do not attract candidates.

Shortage of European housing has again had an adverse effect on the recruitment of European staff except for Nursing Sisters for whom housing is usually available.

Due to the gradual increase in the standards of hospital work and the opening of Health Centres in the African Reserves, it is difficult to keep pace with the ever-increasing demand for senior African staff particularly Hospital Assistants.

FINANCE



(Annual Expenditure—£1,158,306)

The above diagram represents departmental expenditure in 1952 divided into segments showing the percentage expended under the main sub-heads as follows:—

	£	£	£
Total Expenditure			1,158,306
A—Personal Emoluments		632,473	
B—Medical and Surgical Stores and Equipment		226,201	
C—Upkeep of Hospitals, etc.		142,995	
D—Grants		54,868	
E—Transport and Travelling		51,984	
F—Uniforms		14,122	
G—Malaria, Plague and Other I.B.D. Measures		10,660	
H—Miscellaneous—			
Extra Dept.	9,685		
Postal	6,105		
X-ray	3,606		
Sundry	5,607		
	——	25,003	
		——	£1,158,306

The actual expenditure for the year was £1,222,589, against approved estimates of £1,260,201, but in the foregoing diagram the difference, i.e. £64,283, has been omitted as this represents the purchase of reserve stocks the inclusion of which would not reflect a true picture of normal annual expenditure.

It will be seen that more than half of the year's expenditure was on personal emoluments, but it is pointed out that of this figure of £632,473 the sum of £149,852 was paid out in temporary Cost of Living Allowances, thus bringing the actual salaries figure down to £482,621.

The total supplementary provision approved during the year was £206,922, i.e. 16.4 per cent of the total approved expenditure, and this was principally comprised of increased additional travelling and grants and increased costs of upkeep of hospitals.

The Department is revenue producing to a not inconsiderable extent, and below is shown the more important revenue items paid to Government:—

	£
Hospital, Laboratory and Other Fees	59,629
Sale of Medical Stores and Equipment	13,656
Sale of Vaccines and Medical Laboratory Products	11,420
Sale of Artificial Limbs	1,238
Reimbursements from High Commission, Railways, Posts and Telegraphs, etc., for Medical Services	34,853
Reimbursements from Local Authorities for Public Health Staff	4,941

Comparison with Annual Reports for previous years show that the financial side of the Department's activities has increased out of all recognition as is natural in a Department which has expanded so rapidly in recent years, and in the very near future it is anticipated the Department will become self-accounting.

EXTRA DEPARTMENTAL ACTIVITIES

1. Registration of Medical Practitioners and Dentists

Since the coming into force of the original Ordinance on 24th September, 1910, 827 registrations have been effected. During the year the names on the register have been checked and in consequence 317 have been removed by reason of death or departure from the Colony. Of the remaining 510 there are 91 who do not live in the Colony, but who wish their names to be left in the register, leaving a total of 419 Registered Medical Practitioners and Dentists in the Colony on 31st December, 1952, made up as follows:—

Registered as Medical Practitioners	European	271
	Asian	121
Dentists	European	19
	Asian	5
Both Medical Practitioners and Dentists	European	2
	Asian	1
		419

Seventy-nine European and five Asian Medical Practitioners were employed by Government. The remaining 333 are either in some other form of public service such as Local Government or High Commission, in private practice or working at Missions.

The Medical Practitioners and Dentists Board met twice during the year and licensed eight persons to practise under section 13 of the Ordinance.

In addition, two persons were licensed under section 12 and forty-five under section 11 of the Ordinance. Proceedings were taken against one person under section 22 of the Ordinance.

2. Pharmacy and Poisons Board

Nine meetings of the Board were held during the year. The Pharmacy and Poisons Ordinance was considered by a Sub-committee of the Board and a draft amending and consolidating Bill forwarded to Government for consideration. Extensive amendments to the Rules were also suggested to bring them up to date.

3. Nurses and Midwives Council

Five meetings of the Nurses and Midwives Council were held during the year. The Nurses and Midwives (Training Schools) Regulations and the Nurses and Midwives (Registration and Enrolment) Regulations were promulgated and as a result it was possible to approve training schools and to proceed with the registration and enrolment of Nurses and Midwives. This in turn made possible the holding of the first examinations for Enrolled Nurses and Midwives and for the registration and enrolment of all Nurses and Midwives in the Colony. As a result of the registration, it was possible to arrange for the first election of Nurses to the Council, this was still in progress at the end of the year under review. Suitable badges were approved for issue to persons registered or enrolled. The year can, therefore, be looked upon as of the greatest importance in implementing the provisions of the Nurses and Midwives Registration Ordinance, 1949. Although much remains to be done, sound foundations were laid for future development.

4. Joint Advisory Council of the Kenya Branch of the St. John Ambulance Association and the Kenya Branch of the Red Cross Society

There were two meetings of this Council during the year, and the useful contact between the Medical Department and the two voluntary bodies concerned with health matters in the Colony was thus maintained.

VISITORS

As a result of improved communications by air Kenya is fortunate in being able to welcome a number of distinguished visitors.

During 1952, only one Nuffield Consultant visited the Colony, namely Mr. E. F. King, Ophthalmic Surgeon to the Westminster and Royal London Ophthalmic Hospitals. In November, Doctor, now Sir Eric Pridie, Chief Medical Officer of the Colonial Office, paid a short visit to the Colony.

Other medical visitors were:—

Professor P. A. Buxton, C.M.G., of the Colonial Medical Research Council.

Major-General A. J. Beveridge, O.B.E., M.C., Director of Medical Services, Middle East Land Forces.

Group-Captain L. M. Corbet, Principal Medical Officer, Headquarters, Aden.

Dr. R. G. Cochrane, Medical Secretary, British Empire Leprosy Relief Association.

Dr. C. C. Chesterman, O.B.E., Member of the Colonial Advisory Medical Committee.

Sir Gordon Covell.

Dr. R. F. Dean, of the Medical Research Council.

Dr. Grant Davie.

Sir Neil Hamilton Fairley, Member of the Colonial Medical Research Committee and Malaria Sub-committee.

Professor A. C. Frazer, Colonial Medical Research Committee.

Dr. D. Guthrie, Professor of History of Medicine at Edinburgh University.

Dr. Giglioli, Malariologist, British Guiana.

Dr. J. A. R. Lavoipierre, Director of Medical Services, Mauritius.

Dame Hilda Lloyd, F.R.C.O.G.

Sir Archibald McIndoe, F.R.C.S.

Dr. Alan Mozley, Department of Biology, Union College, New York.

Sir Heneage Ogilvie, F.R.C.S.

Dr. T. Ockerse, Dental Health Officer, Pretoria.

Professor Portmann, Bordeaux University.

Dr. L. Verhoestraete of the World Health Organization.

Numerous visitors other than doctors have shown interest in the activities of the Medical Department, including Mr. Oliver Lyttleton, the Secretary of State for the Colonies; Mr. Lennox Boyd (at the time of the visit Secretary of State for the Colonies); Lady Brecknock, of the St. John Ambulance Brigade; Mr. P. J. Bovill, of the Sheffield Regional Hospital Board; Mr. Robert Newton Clark, Chief Adviser in Public Health Engineering, World Health Organization, and Mr. Christopher Mayhew, M.P.

COMMUNICABLE DISEASES

Of the five major convention diseases, only one, namely plague, caused any concern. As in previous years, there were no cases of cholera, yellow fever or louse-borne typhus. There were no cases of smallpox.

Plague

A small outbreak of plague occurred at Rongai in the Rift Valley Province, the first since 1949. There were 51 cases and 12 deaths. Streptomycin proved to be effective in treatment, especially in early cases. B.H.C. and later D.D.T. were used liberally in powder form to destroy fleas in infected huts, and this measure was found to be effective in limiting the spread of the human epidemic. The outbreak was intensively investigated by the Insect-borne Diseases Division and the results of this investigation are described in detail in the appropriate section. Briefly these researches demonstrated for the first time in this country that infection is spread not only by the domestic rat, but also by field rodents. Indeed, it is almost certain that field rodents normally act as the reservoirs of plague.

Malaria

1952 was an unusually dry year, both the April and October rains in the area east of the Rift Valley, in which Nairobi is situated, being well below normal. In consequence, the parts of the country subject to epidemic malaria, namely the Central Highlands, had a much lower incidence of malaria than usual. Nairobi, in fact, was fortunate in having virtually no malaria transmission during the year.

At Mombasa, where complete control within the municipal areas has not yet been achieved, it has been found that anopheles mosquitoes are able to cross the creek surrounding the island from the mainland. In order to eliminate this source of infection, and also to protect the growing population on the mainland, the controlled area was extended during the year to include a strip a mile wide outside the municipal boundary. It is as yet too early to assess the results of this measure which will not become fully effective until the rainy season in 1953.

The following extract from his annual report of the Entomologist of the Insect-borne Division in Kisumu demonstrates the success of control measures in his area:—

> "That these measures were largely successful can be judged by comparison between adults caught within the Municipality and in selected catching stations in the nearby reserve. The average number of *A. gambiæ* caught in 1,636 huts in the Municipality was 0.031 per hut as compared with 0.75 per hut in 721 huts searched in the reserve. The disparity in the *A. funestus* figures was even greater; the hut index for the Municipality was 0.003 as compared with 0.144 for the reserve. The above figures, however, do not represent the true position as the reserve catching stations, although not treated with residual insecticides, are situated in the treated zone and are, therefore, bound to show a reduced hut index. This is shown by figures from the Prison Farm, some four miles beyond the Municipal boundary where the house index was established at 306.0 (three hundred and six) per hut (*A. gambiæ* and *A. funestus* combined)."

A fairly recent innovation which has been introduced particularly in the districts inhabited by stock-owning tribes, has been the construction of dams. This measure, however necessary it may be to conserve water for use by men and animals, is recognized as being a potential menace to health by providing a suitable habitat for the breeding of anopheles. This increases the danger of malaria, and, incidentally, of bilharzia. It is not always easy to persuade enthusiastic District Commissioners and African District Councils that the building of a dam involves an important maintenance problem but some progress in this direction is being made.

Tuberculosis

Tuberculosis is now and is likely to remain the most difficult communicable disease for which to evolve a policy of prevention and treatment on anything like

a comprehensive scale. The difficulty in regard to the treatment of the disease is that there is as yet no obvious alternative to the prolonged treatment of the case in a hospital bed. As the number of beds which can be made available for this purpose is strictly limited, only a fraction of the cases which are diagnosed can be effectively treated.

Some progress was made during the year in the development of tuberculosis clinics at dispensaries in the districts. Such an organization has two main objects. Firstly, it enables the Medical Officer to keep in touch with the patient who has been treated in hospital and to carry out such follow-up treatment as may be necessary. Secondly, it enables him, through the medium of the African Health Staff, to attempt a measure of isolation in the patient's own home by inducing him to sleep in a separate hut and to dispose of his sputum properly. If we could find a cheap, safe and efficient remedy which could be given to out-patients, this embryo organization would become an effective method of controlling the disease by treatment. With the discovery of Isonicitinic Acid Hydrazide, we thought we had at last found such a drug. We had almost decided to use it in this way when the report of the Medical Research Council was received which showed that drug resistance developed after three months' treatment.

The Medical Adviser to the Labour Department has carried out investigations into certain aspects of tuberculosis and the following is an extract from his report:—

> "As a result of investigations there is substantial evidence to suggest that the African who enters employment in the urban areas, and who has not previously been infected with the tubercle bacillus, is particularly liable to develop progressive disease. It is estimated that about 30 per cent of Africans entering employment are in this state. The evidence further suggests that the half-Hamite African in this state is more susceptible to contract progressive disease than the Bantu.
>
> If these findings can be confirmed it will influence our approach to the control of the disease amongst immigrant labour by indicating not only the type of labourer most likely to contract overt tuberculosis, but also the particular individuals who should be most carefully watched."

The results of a fairly intensive trial which has been carried out with B.C.G. have been disappointing. It has been demonstrated that the French freeze dried vaccine remains effective for a sufficient length of time to make its administration to large numbers of patients a practical proposition. Unfortunately, it was shown to be ineffective in controlling an outbreak of primary tuberculosis which occurred in one of our prisons in a non-immune population on almost an epidemic scale. It is now being used to a limited extent in schools and for the protection of hospital attendants.

The results of treatment of pulmonary tuberculosis at the newly-opened chest hospital at Port Reitz have exceeded expectations and are described under the heading "Special Hospitals".

Leprosy

The building of the new leprosarium at Itesio in North Nyanza was continued during the year. Houses were built for the European staff, and the administration and treatment centre was started. Meanwhile the demand for treatment by patients suffering from leprosy in the neighbourhood has been so great that 2,000 were by the end of the year being treated as out-patients with D.A.D.P.S.

In the absence of a leprosaria serving the country as a whole, treatment has been organized in most districts on an out-patient basis through special leprosy

clinics where patients are seen and treated by Medical Officers on certain days. It is extremely difficult to assess the value of this but the general impression is that this method results in clinical improvement in the majority of cases who attend regularly. The regularity of attendance varies greatly from district to district but in some the treatment is popular and re-attendances are good. Reports of severe toxic reactions have been negligible.

Kala Azar

The history of Kala Azar in Kenya is a recent one as the disease first came into prominence during the 1939–45 war when cases were reported from the Northern Frontier District. Since then, two foci were discovered in the low-lying parts of two neighbouring districts inhabited by the Kamba tribe. In these foci only occasional cases were discovered in spite of a fairly thorough search. In September, 1952, an increased number of cases started to come into hospital at Kitui, which is in the more northern of the two Kamba districts. In the latter part of October, the Medical Officer investigating the northern part of the district discovered 75 cases and it was obvious that for the first time, as far as is known, we were concerned with an outbreak of Kala Azar in epidemic proportions. Patients suffering from Kala Azar continued to apply for treatment in increasing numbers and by the end of the year 203 were under treatment and there was every prospect of this number increasing in the new year.

A number of difficulties were encountered in dealing with this outbreak. First of all, the place in which it occurred was very remote as it is 100 miles over bad roads beyond Kitui, the nearest hospital. This was overcome by sending medical and administrative staff to the scene of the outbreak. Here a bush hospital and treatment centre was set up most of the buildings being constructed by free labour provided by the people themselves. Secondly, the length of treatment which at the outset was 81 days, involved the difficult problem of providing enough accommodation. Initially treatment consisted of injections of urea stibamine on alternate days followed by a course of pentamadine. Treatment with the first of these preparations proved to be not very satisfactory and it was later replaced by "Pentostam". The treatment which is now being given consists of ten daily injections of pentamidine and ten injections of pentostam. The length of treatment has accordingly been reduced to 20 days which has greatly eased the administrative difficulties.

Thirdly, at the onset of the epidemic, little was known of species of sandfly which was responsible. Indeed, by the time that the epidemic was at its height, the number of sandflies which were in evidence had greatly diminished. One of the difficulties in dealing with a disease which has an incubation period of several months is that, by the time the epidemic is at its height, the entomological conditions which gave rise to it have passed. In consequence, it has not been possible to attack the sandfly with any prospect of limiting the outbreak. The entomological aspects of the epidemic are being intensively studied by a team provided by the Insect-borne Diseases Division whose activities are described under that heading.

Onchocerciasis

Following the discovery which was made some two years ago, that the larval and pupal stages of the simulium fly occurred in association with fresh water crabs, an extensive survey of the habitat of the fly in the southern part of the Nyanza Province was made. This survey involved the examination of 6,000 square miles of country and many thousands of miles of rivers and streams. Following this survey, an extensive campaign was started for dosing with D.D.T. all the rivers and streams in two infested areas, one in Kericho District and one in South Nyanza District. It is hoped that a complete eradication of the fly and consequently of

onchocerciasis will have been achieved in these two areas. This leaves only a large area in the northern part of Nyanza Province still infested. As this infested area extends over the border, it will be impossible to achieve eradication unless a combined operation with Uganda can be carried out. So far, it has not been possible to arrange this.

Trypanosomiasis

One hundred and thirty-eight cases of sleeping sickness reported for treatment during the year as compared with 111 cases in 1951 and 157 in 1950. There has, therefore, been no marked change in the incidence of the disease over the last three years. Human trypanosomiasis has a very local distribution in Kenya, being virtually confined to two districts in Nyanza Province near Lake Victoria. Control measures are a divided responsibility. The Medical Department is responsible for human survey and treatment, and the Veterinary Department undertakes the control or eradication of tsetse fly as part of a much wider campaign against the species of tsetse which carry trypanosomiasis in cattle. An interesting attempt at control was carried out during the year in treating the riverine bush on one infected river with D.D.T. This has reduced the fly density to insignificant proportions. The next step is to treat the whole of the river system in that particular infected area to try to achieve complete eradication of the fly. It will then be possible to assess the value of this measure as also the cost as compared with the more orthodox method of bush clearing.

Other Communicable Diseases

There is nothing special to report about either the incidence or methods of control of other communicable diseases. Investigation into the snail hosts of schistosomiasis continues, also experiments in the more rapid elimination of Ornithodorus ticks for the control of relapsing fever by different fomulations of B.H.C. (Gammexane). Some interesting experiments have also been carried out in the prevention of yellow fever by residual spraying of houses in the control of ædes mosquitoes. This work is described in more detail below in the report of the Insect-borne Diseases Division.

HYGIENE AND SANITATION

General Measures of Sanitation

Although the number of European Health Inspectors was up to the complete establishment, certain important stations in the Colony were still without an European Health Inspector; namely Embu, Meru, Elgeyo, Teita and Kitui. These are major administrative districts no less deserving of an European Health Inspector than any other.

African Health Inspectors have been employed generally under the direct supervision of the European Health Inspectors and in future they will be given more direct responsibility.

African Land Units

Progress in African land units in the sphere of environmental sanitation and hygiene has been maintained but the African peasant is a very forgetful person. Precept and lessons once taught must be constantly re-taught in many different ways to avoid the tedium of repetition. An experiment in shock tactics was made in one district wherein the whole health staff was concentrated in one location for a few weeks for the purposes of a campaign of health improvements in all directions. There was nothing basically new in the teaching but its manner of presentation was sufficiently startling to achieve a great local success.

Success was gauged by the noticeable improvement in housing, water supplies, latrines and the like. The marked change for the better served as a living demonstration to the neighbouring locations who could the more easily be persuaded by our health staff to emulate the results to be seen in the model location.

The lesson we think has been well driven home, as is indicated by the report from the European Health Inspector in Kisii:—

> "The attitude of these people was changed in a few days from one of complete indifference to one of marked enthusiasm and whereas obstructionist tactics were encountered at the beginning, before we left, voluntary work was being done and it is worthy of note that the porters engaged in the area volunteered to move with the team to the next location at the end of the month. I sincerely believe that this attitude was due to the fact that the people were brought to understand our motive and the reasons for the work by *barazas* and propaganda."

Despite the fact that there were no special departmental funds available, local districts have managed to prepare health exhibits for Agricultural shows. The scope of these exhibits has been strictly limited and there is a need for an organization for the maintenance, storage, distribution and repair of exhibits. It has now been possible to convert an existing propaganda store in Nairobi into a graphic museum and workshop for the exhibition and preparation of models.

It is expected that with a little money and more staff much can be made of these facilities. Much specialized material in the nature of models, posters, filmstrips, films, pamphlets and booklets will be available for distribution to the African District Health Staff, to help them in their "word of mouth" health education to the people, which is becoming an ever greater part of departmental propaganda methods.

AFRICAN HEALTH INSPECTOR AT GITHUNGURI GIVING AN INFORMAL LECTURE TO SOME OF THE VILLAGERS AT GITHUNGURI HEALTH CENTRE

As an example pointing to the success of health education we note that the figures of anthrax in certain hospitals in the Central Province are very much lower. As a result of the personal persuasion of our African Health Inspectors, the public seems to be becoming at last aware of the dangers of eating infected meat or of utilizing infected hides. The older generation of Africans in the Central Province was undoubtedly almost immune to anthrax infection and could see little sense in destroying potentially useful animal food, even if diseased. The price of immunity, of course, was the death of many non-immune children. Recognition of this fact now no longer makes it nonsensical in African minds to burn an infected carcase, rather than to eat it.

Local Authority Services

Local authority services in African areas seem to be settling down and Councils are making full use of their powers under African District Council Ordinances. In many respects the African District Councils are much advanced owing to their being able to inherit the old system of Local Native Councils rating arrangements whereby they would employ sufficient staff to run their dispensaries and to undertake health inspection and teaching. Although their organization works very well it is somewhat inflexible and the time has come for a different understanding between African District Councils and Government, whereby block grants-in-aid may be made to Local Authorities for Public Health Services. African District Councils have shown much interest in passing their own by-laws on health matters which have led to a considerable improvement in standards.

In settled areas preparations have been made for the old District Councils to become County Councils. All County Councils will become Local Health Authorities and will support their own services from rates and Central Government block grants-in-aid on the same principle as that obtaining in established municipalities. An extension of such services in the County Council areas as the result of the new enabling legislation is expected.

Municipalities have continued with their efforts for the promotion of health. Notable achievements were:—

(*a*) The establishment of the clean milk scheme at Kisumu.

(*b*) The removal of insanitary cow-keepers' premises from Mombasa Island to the Mainland.

(*c*) Extensions to the sewerage and drainage scheme in Nairobi and the initiation of schemes for sewerage at Nakuru, Thika and Fort Hall. The Drainage Engineer, P.W.D., has been most helpful in drawing up preliminary schemes for places outside Nairobi.

Housing and Town Planning

African overcrowding is still as big a problem as ever. The Vasey housing scheme in Thika for owner-built houses took shape and the inevitable mistakes of a first scheme have been noted for future avoidance.

Although about 110 good houses were built and occupied much of the unsatisfactory housing in Thika is still in occupation. Similar stories could be told over the rest of the Colony and it is quite obvious that the provision of sufficient houses still lags behind demand as is shown in the growth of illegal and unplanned shanty housing around the large towns.

Just outside Nairobi there was a large collection of shacks and houses at Kariobangi which all departments of Government were determined to replace by a model satellite village to serve Nairobi, planned to consist of well-designed houses on a good layout and to be built on the lines of the Vasey scheme. Everything was ready for building at the end of the year.

A problem of a different sort is now looming up owing to the shortage of European housing especially in Nairobi. There has been a boom in building in the area immediately surrounding the City which is subject to the Public Health (Division of Lands) Ordinance. This Ordinance attempts to ensure a reasonably low density of housing to avoid rural slums, but so much housing is required that it is impossible to limit plot areas to five acres as required by the Ordinance. In certain areas higher densities could be allowed if services were available and to this end a Preparatory Authority was set up to advise on what further development could take place, bearing in mind that the essential water supplies and road and drainage services could be provided by private enterprise and subsequently maintained by the County Council.

Food Supplies

Any potential improvement in food supplies is always welcome to the Medical Department and the use of processing abattoirs in the distant pastoral areas such as Archer's Post for the slaughter of excess cattle and the preparation of dried beef is noteworthy. Dried beef is an excellent article of diet, both nutritionally and because of its freedom from risk of transmitting tapeworm, but until more of these abattoirs are in operation the demand will outstrip the supply.

With regard to the general food supplies in the Colony, there is little to report, and no severe shortages have occurred.

There is considerable inducement for local manufacturers to export their higher-class products to Great Britain, but their standards must be of the very highest and conform to the ruling legislation of the importing country. Quite clearly similar legislation is required here to ensure the maintenance of quality and soundness of the pack. The trade and Government are co-operating in the design of this legislation which is subsidiary to the main Food and Drugs Ordinance.

No large outbreaks of food poisoning have occurred during the year, and no large condemnations of food were made for unfitness, but there was some public and departmental dissatisfaction with some imported consignments of sugar. No further imports of this sort are now being made.

Labour Conditions

Two matters of purely medical interest in this field deserve report. These concern tuberculosis and the use of toxic chemicals in agriculture. In Kenya tuberculosis can almost be classed as an industrial disease, but we know very little of its natural course in the African. By great good fortune the Medical Adviser to the Labour Department was able to follow up records from the Army of African *askaris* boarded out for tuberculosis. Out of 800 records which were followed up for six years, it was possible to construct the beginnings of a life table showing the statistical chances of survival over this period of young male adult Africans suffering from tuberculosis. This is a most important piece of research and full details of the research will be published in the medical Press.

With regard to toxic chemicals it is quite obvious that the nitro-phenols and the organic phosphates will come to be widely used in agriculture and locust control as pesticides and selective weed killers. One or two cases of poisoning in operatives have already occurred, but with no fatal results and the whole matter was thoroughly investigated. If these incidents are not to be repeated and multiplied, a very careful control of the use of these toxic agents must be insisted upon.

Port Health and Airports

No grave infectious disease was imported into the Colony either by sea or air.

Smallpox is the most important disease to be guarded against on the arrival of ships from Indian ports which may bring in up to a thousand passengers at a time. Yellow fever precautions continue, although no case of human yellow fever has occurred in Kenya for very many years. The virus exists in animals and for this reason it is essential to maintain anti-yellow fever measures particularly in the coastal strip. Our staff has made a significant observation that one residual spraying of D.D.T. will rid a house of *Aedes ægypti* for more than 18 months. This may mean that quite a different approach to yellow fever control may be adopted in the future.

Kenya adopted the new International Sanitary Regulations in October. They appear to work well and relieve the travelling public by simplifying the previous ponderous procedure in obtaining vaccination certificates.

Schools

One Schools Medical Officer found it impossible to cover every school in the Colony, but she was able to perform sample surveys of the pupils' fitness in African Primary, Intermediate and Secondary Schools. European and Asian schools were also inspected.

The Schools Medical Officer was able to give these latter schools more attention than the African schools by reason of their better accessibility and the more

manageable numbers involved. It was possible to make a very useful comparison of the average state of health in European boarding schools and make recommendations to improving schools showing the worst record. Asian day schools also benefited from her expert advice.

In carrying out surveys it was possible to observe the degree of dental fluorosis occurring in various parts of the country and to correlate fluorosis with the quality of the drinking water supply and the local geological formations. Dental fluorosis is endemic throughout the whole of Kenya, excepting the coastal strip and a small area to the north of the Kavirondo Gulf. Even here a small pocket of fluorosis is found not due to drinking water, but to a local custom of eating dry, salted fish treated with salt containing much fluorine.

Dr. T. Ockerse visited Kenya on the invitation of the Government to assess the fluorine hazard here and was able to examine more than 2,000 children in company with the Schools Medical Officer. The low incidence of caries of the second dentition associated with moderate dental fluorosis was strikingly apparent. Be that as it may, in future, sites for boarding schools in Kenya must be considered in close relation to the fluorine content of the local water supply.

Instruction in hygiene and the maintenance of school standards are the joint responsibilities of the Schools Medical Officer and the staff of local Medical Officers of Health. In out-schools, African Health Assistants attend to the maintenance of general hygiene, whilst the more highly-qualified African Health Inspectors give simple and topical lectures on hygiene at the schools to reinforce the normal syllabus. Whenever possible the Medical Officer at Provincial or District Headquarters instructs the teachers themselves on matters of health, especially during holiday time when teachers are brought together in conference or for a refresher course. In this way it is hoped that the teaching of hygiene and health in African schools will be kept up to date and applicable to the particular health problems of the individual district.

The Schools Health Service is yet in its embryonic stages and it would be tragic if staff and financial stringencies necessitated any recession of the present meagre activities.

BUILDINGS

A sum of £195,200 was in hand for continuing the Departmental development programme in 1953. The year's programme was substantially completed and in the event, more could have been done if more money had been available. The following works were virtually completed in the year:—

> Kipini Hospital, Malindi Hospital, purchase of Port Reitz Hospital for chest diseases, Animal House and Insectory at the Medical Research Laboratory, the first ward block of the Asian Wing of King George VI Hospital, Nairobi; Isiolo Hospital and Thomson's Falls Hospital enlargements.

The programme of general improvements at existing hospitals continued together with extensions to African staff quarters attached to these institutions. Plans for the new general hospital at Mombasa and an infectious diseases hospital in Nairobi were completed in all but for a few details.

A start has at last been made to fulfil the long-felt need for a first-class leprosarium in Kenya. Some 800 acres of land were entrusted to the Crown out of the North Nyanza African Land Unit at Itesio. Little actual use was being made of the area and compensation for loss of agricultural rights only amounted to £200. When the works are complete at Itesio there will be a leprosarium hospital with all the necessary staff quarters and a settlement for 500 stabilized but yet uncured

patients whose rehabilitation will be assisted by graduated work on the institutional farm. Maize, cotton, rice and groundnuts may be grown on an area which has never yet been developed. Not only will the farm help in the patients' upkeep, but will demonstrate how land, where in the past the African peasant was unable to provide himself with an unaided subsistence, can be utilized when properly managed.

The programme for the development of Health Centres and other out-patient treatment continued as fast as funds allowed. The Chief Health Centre buildings at Nyeri were completed and put to use. Many locational health centres in the North Nyanza district were commenced and another one at Jibana in the Coast Province was opened.

TRAINING

The training of Dressers, Nurses and other Medical Auxiliaries is one of the most important functions of the Medical Department, as it is recognized that the expansion of services can only continue if the staff is recruited from the indigenous population and trained to a high standard.

Nursing Staff

Perhaps the most important grade of Medical auxiliaries under training at the present time is that known as Hospital Assistants. Trained initially as Male Nurses they undergo one up-grading course five or more years after qualification, followed by another some years later. As they pass through these courses, they acquire to an increasing extent medical as opposed to nursing experience, and finally are capable of taking independent charge of small hospitals and of health centres. The capacity of the Medical Training School has been increased and 44 Hospital Assistant Learners started the course in 1952.

During 1952 the following number of students qualified from the Medical Training School, Nairobi:—

Hospital Assistants	8 (two women)
Laboratory Assistants	1
Compounders	4

As the result of the policy for expansion of training the estimated number expected to qualify during 1953 are as follows:—

Hospital Assistants	26
Laboratory Assistants	5
Compounders	10
Orthopædic Assistants	12

Details of the number under training for higher grade posts is shown in Appendix "A".

The training of English-speaking African girls as Assistant Nurses, which was started two years ago, has proved to be a great success, and girls are now being trained in increasing numbers at the King George VI Hospital, Nairobi. The nursing profession provides one of the few careers which are open to educated African girls. Preliminary reports indicate that, speaking generally, these girls are proving capable nurses and some seem to have a real sense of vocation.

Training of Male Nurses or Dressers, who are at a rather lower educational level than the Hospital Assistant, is being expanded and a fourth Provincial Training School was opened in connexion with Nakuru Hospital during the year.

Midwives and Health Visitors

The training of Midwives has formerly been carried out only by Missions and by the Municipalities of Mombasa and Nairobi. Owing to the increased demand for Midwives, Government has now entered this field. A training school for Midwives was opened in Kisumu in 1951 and a second was started during 1952 at Fort Hall.

The training of African girls as Health Visitors was continued at Kisumu. A second school is contemplated in the Central Province and will be opened as soon as the buildings can be provided.

In February, the first examination for Assistant Nurses and Midwives under the auspices of the Nursing and Midwives Council of Kenya was held. This is a statutory body which has now assumed the responsibility for the conduct of training schools and for the examination and registration or enrolment of Nurses and Midwives.

Other Medical and Health Auxiliaries

Courses of instruction of three years duration for the training of African Health Inspectors, Laboratory Assistants, Compounders, Orthopædic Assistants, and Assistant Radiographers were continued during the year. Training of Health Assistants who undergo a two years' course was also pursued in Nyanza, Coast and Central Provinces.

HOSPITALS AND CURATIVE SERVICES

Kenya has developed its curative services generally and its hospital services in particular on a communal basis. Whether this is the best way in which to develop these services or not, it is an accomplished fact and is the way in which they will undoubtedly develop in the future.

European Hospitals

The European community, in an effort to improve the basic standard of hospital treatment available in native hospitals which is theoretically free to all irrespective of race, has taken the initiative in providing a standard of accommodation at a much higher level. This community is now largely served by private medical practitioners and consultants of its own race. It has built and is maintaining its own hospitals at a high standard, and it has evolved a compulsory and statutory medical insurance scheme known as the "Hospital Relief Fund" which by alleviating the daily charge to contributors when in hospital, assists in providing maintenance funds for hospital services. In the provision of European Hospitals which are independent of Government, Nairobi has lagged behind the smaller towns, but this year the foundation stone was laid in Nairobi for a new European hospital of over 100 beds, capable of expansion to two or three times this size which will replace the existing Government European Hospital. The European community has with commendable initiative provided for their own needs and Government, recognizing the European community's ability to maintain their services, has assisted with £ for £ grants towards approved capital projects. It is hoped that this principle of achievement through efforts will encourage other communities to do likewise.

Asian Hospitals

The provision of medical relief and hospital services for and by the Asian community has lagged sadly behind. It is true that large numbers of private Asian doctors are established in the larger towns but there is a marked reluctance to practice in the smaller places where there are Asian communities. The number of hospital beds is deficient: there are 377 European general and maternity beds for

a population of 30,524 and only 273 Asian beds for a population of 90,989. One reason for this discrepancy is that the Asian community as a whole is not yet conditioned to seek hospital treatment, but this outlook is changing rapidly and the demand for Asian hospital beds is increasing and must be met. Some progress has been made during the year. On the 17th December, 1952, The Lady Mary Baring opened the first modern and fully-equipped hospital in Nairobi for Asians, which has been built jointly by Government and the Rahimtulla Suleman Virjee Trust and which is being managed by Government. Forty-two beds were opened and the number will be increased to 82 when the new kitchens are built. The Rahimtulla Asian Maternity Home at Mombasa was also opened. Other Asian hospitals are projected, namely an Asian Wing at the Government Hospital at Mombasa (55 beds) and a private hospital of 100 beds in Nairobi to be built by the Ismailia community, plans for which are being prepared.

There seems to be little doubt that a great stimulus towards improving hospital facilities for Asians would be given if the Asian communities could agree to the establishment of a Hospital Relief Fund on similar lines to that which the European community has adopted. This, by relieving the heavy cost of treatment to the individual, would go far to meet the recurrent cost of maintenance.

African Hospitals

Most of the African hospitals in the country are maintained, and as a rule built, by Government and provide a free service. A few are maintained by Missions on a fee paying basis, generally assisted by a Government subsidy.

In the King George VI Hospital at Nairobi, both accommodation and treatment are excellent and compare favourably with hospitals in Europe.

An aerial photograph of this institution is shown in the illustrations.

The Medical Block was officially opened by His Excellency the Governor, Sir Philip Mitchell, K.C.M.G., in March, 1949.

In January, 1951, the Surgical Block was opened by Countess Mountbatten of Burma, who announced at the ceremony that His Majesty King George VI had graciously consented that the hospital should be named after him.

An Asian Wing of the hospital was partially occupied during the year. Much still remains to be done in the construction in permanent materials of ancillary buildings such as kitchens, a laundry, more staff quarters, an African Nurses hostel and consultative clinics, but the essentials of a well-equipped hospital with beds for 658 Africans and 123 Asians now provide facilities for modern treatment with a high standard of nursing. Material for research is abundant and is a point which has impressed the medical visitors from all parts of the world.

Staff

The medical and surgical staff of the hospital consist of African, Asian and European Medical Officers, and House Officers recruited in the United Kingdom, working under the supervision of Government Specialists.

Honorary staff are to be appointed from amongst the not inconsiderable number of consultants and specialists engaged in private work in Nairobi.

The nursing in the hospital is carried out by African staff working under the constant supervision of qualified European Nursing Sisters. The Medical Training School attached to the hospital and under the control of a full-time Medical Officer, with two Sister Tutors, provides learners who act as probationers in the hospital. In addition opportunity is taken of the facilities offered to train other medical auxiliaries such as Compounders and Orthopædic Assistants.

It is not surprising that the African staff and patients alike have found it difficult to reconcile their past practices and ideas with the necessary routine and discipline of a compact three-storied hospital. The restriction of visitors to certain hours, a veto on the wholesale importation by visitors of a wide variety of African foods for patients, and the increased facilities for observation of the punctuality and efficiency of the African staff have been some of the matters requiring tactful and patient explanations or careful handling.

The standard of diagnosis and treatment in the King George VI Hospital continues to rise. An increased number of electrocardiograms were done in 1952 and gastroscopy was added to the list of investigations undertaken. Seldom before the last few years has such a high degree of surgical skill been available for African cripples, for orthopædic disabilities and for bone and joint tuberculosis. Major chest surgery has been successfully performed and almost as spectacular work has been done in the Ophthalmic Department where children have been submitted to multiple operations and are slowly regaining their sight. There must be few hospitals where 32 cases of vesicovaginal fistula are operated on in one year.

Patients are drawn from the length and breadth of the Colony and much assistance is given to hospitals within 50 miles radius of Nairobi. In 1952 1,048 X-ray examinations were carried out on patients referred from such hospitals.

The following are hospital statistics:—

	African	*Asian*
Number of in-patients treated	16,215 ..	710
Number of deaths	1,144 ..	30
Total in-patients days	230,648 ..	12,471
Daily average in hospital	631 ..	34
Operations performed—		
Minor	3,426 ..	244
Major	1,158 ..	241

Out of the total of 1,144 deaths, 641 were in the age group of 0–2 years and included 165 deaths from bronchopneumonia and 160 from enteritis.

Many of these children were admitted *in extremis.*

With a large number of the African staff and their families living in the vicinity of the hospital, as much as possible is done for their welfare. A Hospital Whitley Council has been formed: a House and Welfare Society, which has been functioning for years, has accepted, to a limited degree, the elementary responsibilities of local Government within the area of the staff housing, and an African Primary School of 60 pupils has been opened. A Sports Club for all Nairobi institutions is now working with great success: its main activities are concerned with the organization of a football league within the Department, the participation in the various football leagues open to Nairobi teams, and the staging of annual departmental athletic sports. It is pleasing to record the great interest which certain members of the European and senior African staff have taken in the organization of welfare activities.

Accommodation given to in-patients at district hospitals is fair, and treatment good. The standard of nursing at these hospitals is improving and the time may not be far distant when these will approach European standards, as a result of the comprehensive training programme which is being followed.

The total number of beds in native hospitals is shown in Appendix "B". Including Mission hospitals, the proportion is one general bed to 980 of the population, and one general and maternity bed to 870 of the population, and if we include special beds, it becomes one to 700 of the population. This proportion is, of course, very much less than in Europe, but the proportion of beds to population compares favourably with other countries in Africa.

The number of hospital beds has not been substantially increased during 1952, as we have pursued a policy of replacing old and outworn hospitals and wards by more modern buildings. A great improvement has been effected during the year in the internal decoration of hospitals by the Public Works Department, and the painting of the lower part of the walls with a light green paint, which is now the standard decoration, is a great improvement on the former whitewash.

With the provision of an X-ray Department under a European Radiographer at Nyeri at the end of the year, all Provincial Hospitals now have adequate facilities for radiography.

Out-patient Services

As we have seen the standard of accommodation and treatment for Africans who have been admitted to hospital is good, the standard of attention which can be made available for out-patients attending hospitals is often at a lower standard. One reason for this is that the African community, unlike the European and Asian, have no general practitioners of their own race to attend to them, and as the African population vastly outnumbers the population of the other two races, the numbers attending the out-patient departments of our hospitals are very great. It is often thought, especially by employers who bring in their labour for treatment to the out-patient department of a hospital, that every patient should be seen by a European doctor. This is quite out of the question, and would only be possible if the establishment of European Medical Officers was greatly increased. Moreover, the number of African doctors which is being turned out by Makerere College is much too small to make any material difference. At the present time, most out-patient departments are in charge of Hospital Assistants, who although not qualified as doctors, are carefully selected, reliable and efficient. The solution of the problem is to provide more Hospital Assistants, better trained in diagnosis, and this is now being provided for.

The discrepancy between the standard of in-patient and out-patient treatment is specially noticeable in Nairobi. Here the medical needs of the vastly increased African population, now numbering about 95,000, and in addition Africans from surrounding native areas, are catered for by a single dispensary in the town which is far too small to meet adequately the needs of the 1,000 or so Africans who attend daily. The only solution which will meet the needs of the large and growing African population in the large towns is for a number of properly-equipped dispensaries to be built in strategic places. The setting up of such a service is or should be the responsibility of the Local Authority.

Negotiations to set up a service on these lines have been going on for some time between the Central Government and the City Council of Nairobi, but these have been abortive so far, and the lack of proper dispensary facilities for Africans remains a very serious omission in the amenities which the City of Nairobi provides for its African population.

Health Centres

As outlined in the Annual Report for 1951, we are now trying to develop a network of rural health centres to bring together the curative and preventive aspects of medical work. During the year two new rural health centres were

opened and a few more are being built but were not completed as the year ended. These centres are staffed entirely with Africans with an African Hospital Assistant in charge; the other members of the team are a Dresser, Health Assistant, Midwife and female Health Visitor. A health centre is not necessarily provided with beds. On the curative side, if the patient is not well enough to attend the centre, he is visited in his home. The emphasis is thus on a domiciliary service. Similarly, the Midwife attends confinements in the patient's home.

This experiment is in its infancy as the first health centre in an African land unit was opened in 1951. However, the response has been encouraging and it is already apparent that this new service is appreciated by the people. The limiting factors in the further development of this service are shortage of staff and limitations of finance. The first of these will be met in the future by the enhanced training programme which is now in operation. The financial difficulty is that these health centres, like the dispensaries, are financed by the African District Councils and not by the Central Government. As the recurrent commitments are fairly heavy, it will not be possible to develop this service much further unless the Government can give more financial assistance.

SPECIAL HOSPITALS

Mathari Mental Hospital

A second Medical Officer with psychiatric experience was posted for full-time duties in June.

The total of 1,086 patients received in-patient treatment. Admissions were 550 compared to 502 in the previous year. There was a daily average number of 578 in-patients which rose from 552 in the first month of the year to 607 in December. 297 patients were discharged cured, 108 were relieved and 19 had not improved on discharge.

Six additional rooms were made available for European males. Asian male accommodation was inadequate and plans were made for additional accommodation during 1953.

On the African side, despite the addition of 132 additional beds in 1951, difficulties were experienced owing to congestion, especially on the male side. There was an unprecedented influx of African male cases during the last three months of the year, no doubt due to the State of Emergency throughout the country. A secondary cause of congestion was the difficulty in discharging cases relieved and fit to return to family care in troubled areas.

The general health of the patients was good. There was a reduction in the number of deaths from tuberculosis. Towards the end of the year, seven cases of typhoid were notified with one death. In one case, the patient was almost certainly infected before admission. There was 49 deaths amongst 1,086 patients treated.

Restraint was resorted to on two occasions only. The form used was a strong canvas jacket fastening down the back and restricting the movement of the arms.

A total of 12 patients (six male and six female) were secluded; the longest time a single patient was subjected to seclusion was four hours and altogether it was used on 17 occasions only.

Two sewing rooms were equipped and suitable patients were taught to sew. The Asian ward was, through the generosity of an Asian welfare organization, equipped with a wireless set. Gifts and comforts for patients of all races were received from private individuals, commercial firms and philanthropic societies. Football was organized on three afternoons a week and a weekly cinema performance was given until the end of September.

Therapeutics

There was an increase in the number of cases of neurosyphilis with a corresponding increase in the number of cures. The following is a summary of the forms of treatment and results obtained:—

(*a*) ELECRO-CONVULSANT TREATMENT

	EUROPEAN		ASIAN		AFRICAN		OUT-PATIENTS	TOTAL
	M.	F.	M.	F.	M.	F.		
Patients Treated	5	9	10	6	114	88	40	272
Shocks Given ..	21	52	85	59	798	792	220	2,027
Discharged ..	5	7	8	4	61	32	—	117
Died	—	—	—	—	5	2	—	7

Thirty-seven per cent more patients had E.C.T. than in 1951. The results approximate very closely.

(*b*) INSULIN

Seven patients had insulin therapy during the year, that is the same number as in 1951. Out of these two derived no benefit but were discharged; five were improved and discharged.

(*c*) NEUROSYPHILIS

There were 20 cases in the year, i.e. nine more than in 1951. All received penicillin, and selected cases had arsenic and induced malaria. The results were five discharged, four died and eleven remain in hospital unchanged. These results were the best yet obtained and were probably due through the earlier admission of cases.

(*d*) PREFRONTAL LEUCOTOMY

Fourteen cases had leucotomy, in this series there were three Asians and eleven Africans. Two cases died from other than post-operative reasons and therefore could not be assessed. One was discharged recovered, five show definite improvement but remain in hospital, five were not improved and one became worse.

PORT REITZ CHEST HOSPITAL

The official number of beds in this hospital is 102 and the total number of in-patient days for 1952 was 41,223. The Port Reitz Chest Hospital, by the end of the year, had completed the first year of its existence. Since it was opened in 1951, 223 patients have been discharged who were cases of proven tuberculosis who had been in the hospital for more than one month. It is now possible to assess the results of treatment in these cases.

A hospital treating cases of pulmonary tuberculosis is unlike most other establishments in that the patients discharged from it are kept under surveillance for years, if not for life. For this reason a report that is confined one year's work is not best calculated to give the clearest information about the patients treated in such a hospital. What is wanted is information about every patient who has received treatment, for the only real measure of success is the number remaining in good health and capable of earning their livelihood after discharge from hospitals,

Further details of the 223 patients referred to above are—

Group "A"—135 are now not infectious, quiescent, at work and may be considered as successes	61 per cent
Group "B"—The outcome with regard to these 12 patients is not known	5 per cent
Group "C"—These 76 cases must be considered as failures ..	34 per cent

This total includes a number of cases which were transferred from the Infectious Diseases Hospital when Port Reitz Chest Hospital was opened. Fifty-four patients, all in an advanced stage of the disease, were included in the series. These patients would not normally be accepted in the hospital as there was little hope of successful hospital treatment. If these 54 cases are deducted, the proportion of patients who may be considered as successes becomes 69 per cent.

In all 223 cases, the sputum state on discharge is known. All these cases were positive on admission. The sputum is classified as negative if at least 12 negative direct examinations had been obtained over a period of two months. Of the 223 cases, 156 (70 per cent) were discharged sputum negative and 67 (30 per cent) remained positive.

Considering the pessimism usually expressed about the prognosis in African pulmonary tuberculosis, the number of cases discharged quiescent seems not unsatisfactory. However, the period of follow-up is short (only 12 cases for a year or more) and the number of relapses will undoubtedly increase with time. It will be years before any valuable conclusion can be made about the chance of curing these patients.

With regard to treatment, it is obviously important to establish the minimum length of time in hospitals which gives the patient the maximum chance of recovery without relapse. An analysis of the length of stay in hospital shows that the best results were obtained with a group of patients who remained in hospital with an average time of 10 months.

When the hospital first opened, the main form of chemotherapy was Thiacetazone; later Sodium P.A.S. and Streptomycin became available. They were first used very sparingly but later more extensively as larger supplies became available. Isoniazid was used to a limited extent during the second half of 1952. In all, 194 patients were given some form of chemotherapy, the best results being obtained by a combination of P.A.S. and Streptomycin followed by Isoniazid. Collapse therapy was employed in selected cases as an adjuvant to chemotherapy. These measures included artificial pneumothorax, pneumoperitoneum, phrenic crush, with a smaller proportion of adhesion sections. Collapse therapy was resorted to in 168 cases. Pneumoperitoneum usually associated with phrenic paralysis has been the treatment of choice because it entails no risk of pleural complications and is more easily maintained without strict X-ray control than artificial pneumothorax. It is possible that it carries a greater risk of relapse in cavitated apical or sub-apical disease than artificial pneumothorax but this premise cannot be established for some years.

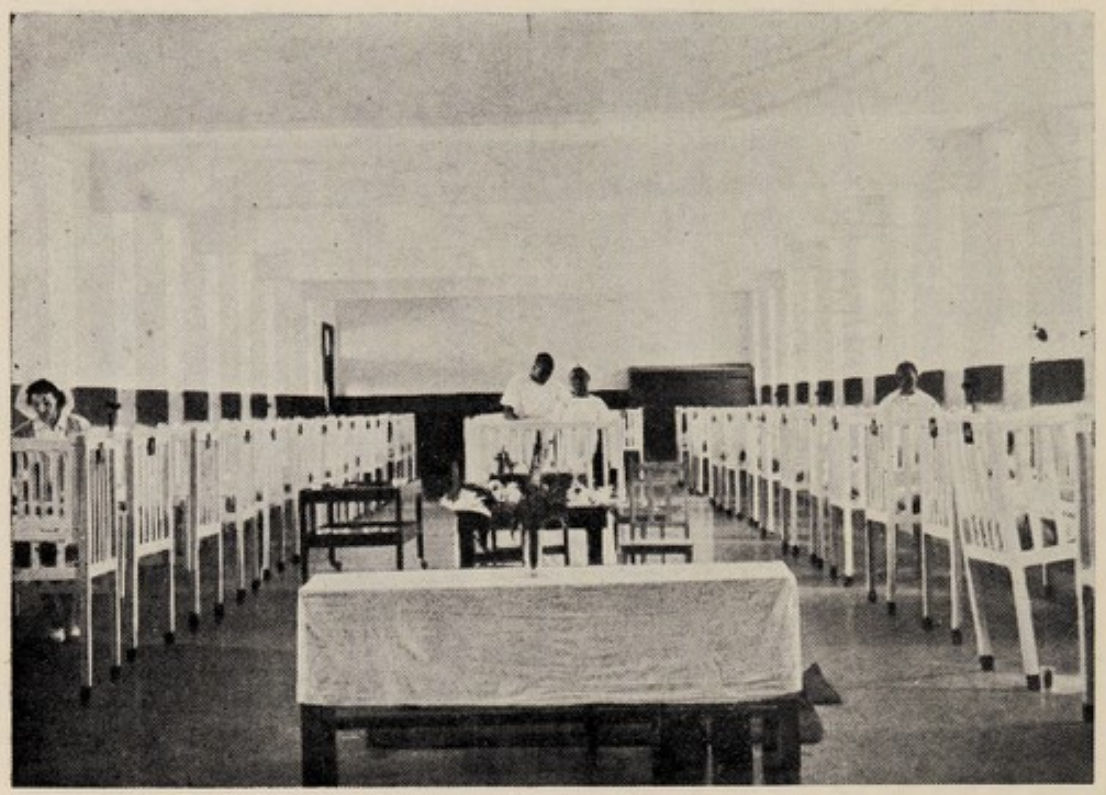
SPECIALIST SERVICES

No additional Specialist posts were created in 1952.

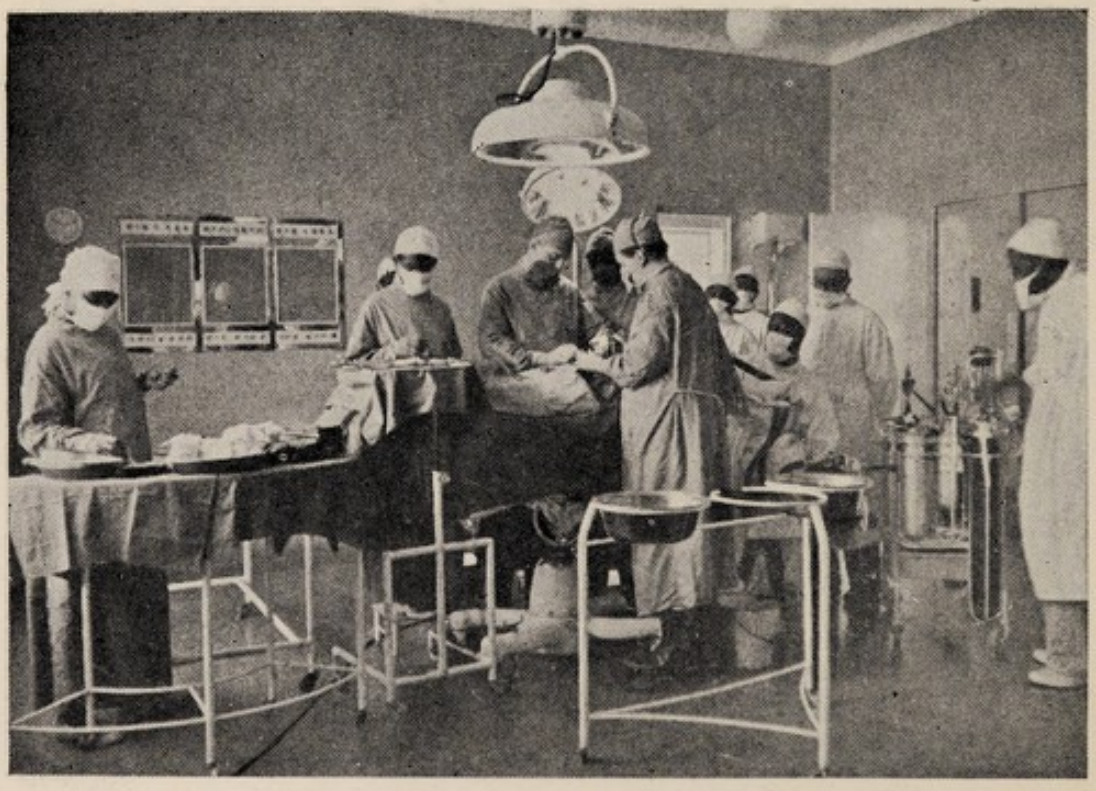
All Specialists are stationed in Nairobi, but, whenever possible they visit the Provinces and Districts, enabling problems to be discussed and advice given. In Nairobi, Specialist Officers play a large part in teaching junior Medical Officers of all races and assist in the training of African Medical Auxiliaries.

A Kamba infant receives an intradermal injection of Old Tuberculin, while the mother hides its eyes

Labeliing of vaccines prepared at the Medical Research Laboratory, Nairobi



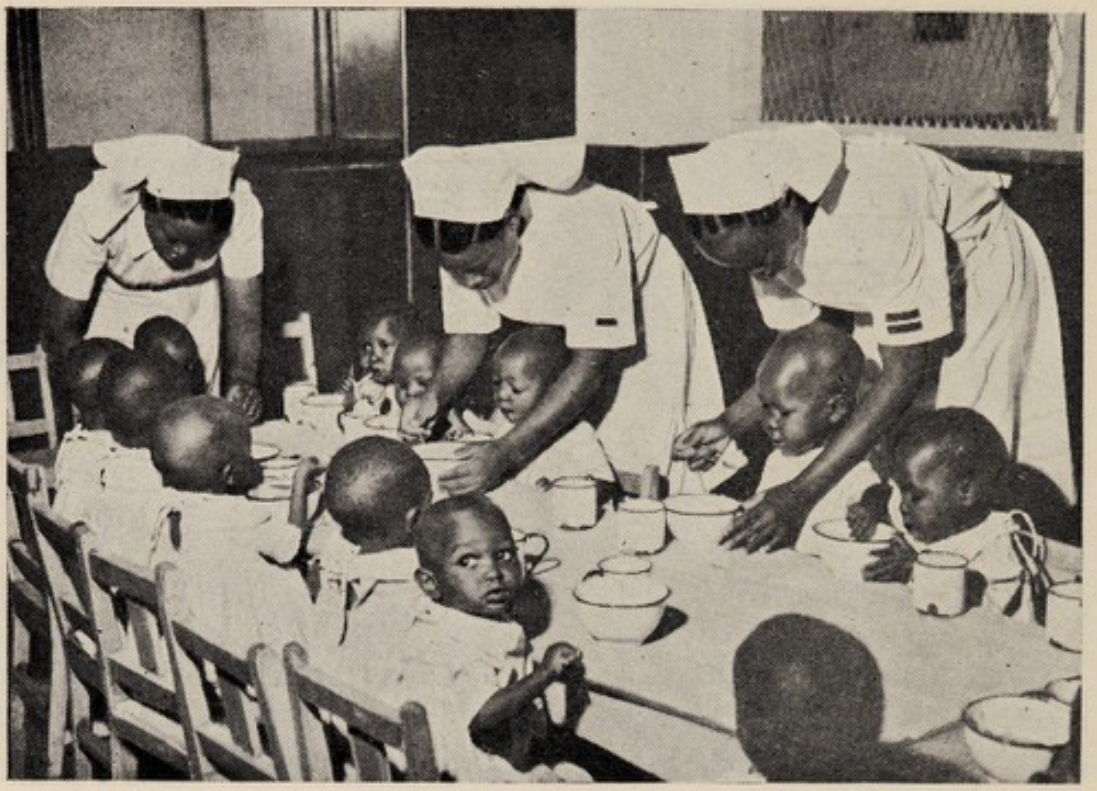
A children's ward at the King George VI Hospital, Nairobi



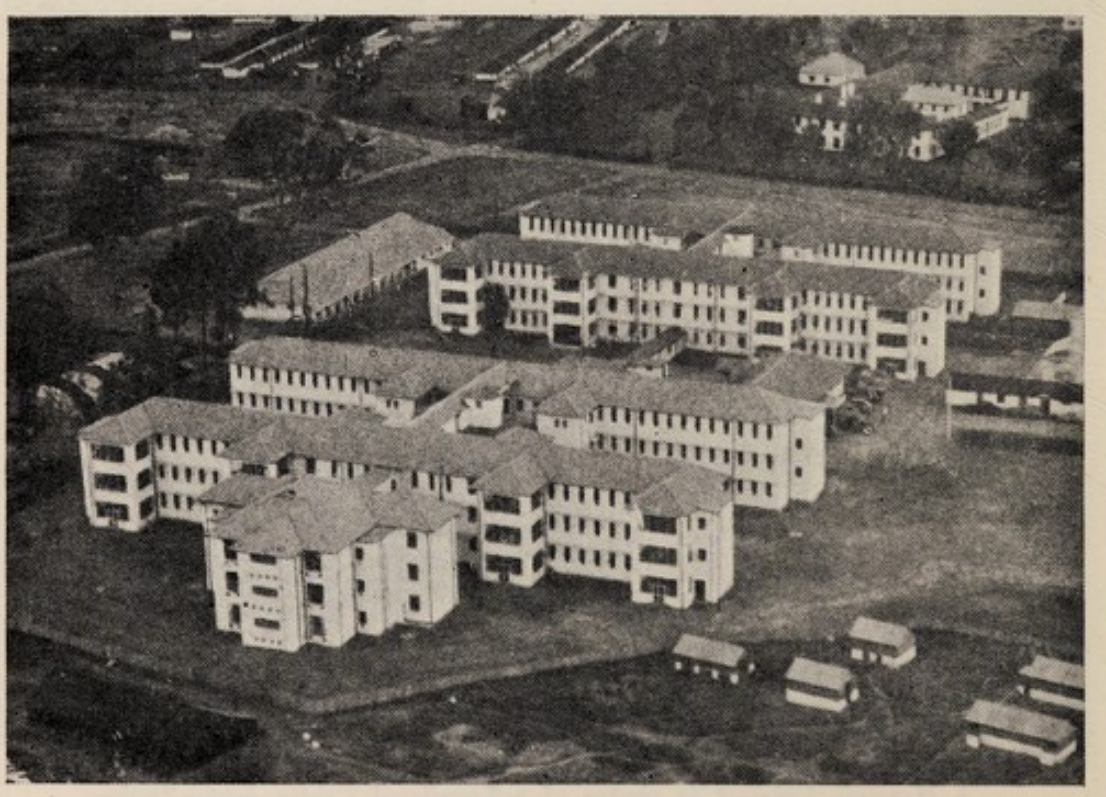
An operation in progress at the King George VI Hospital, Nairobi

African Medical Officer and patients at a coast leprosarium

A Hospital Assistant in charge of a Locational Centre demonstrating health posters



African nurses and convalescent children at the King George VI Hospital, Nairobi



King George VI Hospital, Nairobi

In most specialities, there should be no difficulties in filling promotion posts as they occur from within the Service; the number of Special Grade Medical Officers with higher qualifications were as follows:—

F.R.C.P.	1	F.R.C.S.	6
M.R.C.P.	2	M.Ch.	2
D.Path.	1	D.O.M.S.	1

SURGERY

Departmental surgery in Kenya lies under the general supervision of the Senior Surgical Specialist acting in an advisory capacity. His headquarters are at the European Hospital, Nairobi, where he has a Surgical Assistant to help in the routine work and to assist at operations. At the King George VI Hospital and the allied Orthopædic Centre there are two Surgical Specialists, one of whom is in charge of the Ear, Nose and Throat Department and is responsible for the head and neck work and the other is a general surgeon; there are also an Orthopædic Surgeon, a Gynæcologist and an Ophthalmic Specialist. House Surgeons are appointed to each specialist and may be either recently qualified Europeans doing their year's "intern" or African Assistant Medical Officers trained at Makerere.

At each Provincial Hospital (Mombasa, Kisumu, Nakuru and Nyeri) is stationed a fully-qualified surgeon who carries out all routine surgery and only refers to Nairobi any cases requiring specialized procedures. His duties include periodic visits to District Hospitals in his Province. At the larger District Hospitals a considerable amount of surgery is also practised, but this varies according to the capacity of the Medical Officer. Cases requiring more elaborate treatment are sent to the Provincial Hospitals. The Senior Surgical Specialist visits these Hospitals and the larger District Hospitals about once a year. Surgical rounds are held by the Senior Surgical Specialist one afternoon a week at the King George VI Hospital at which cases of interest are shown by the surgical staff of that Hospital and which are attended by all interested in surgery, including a number of surgeons engaged in private practice. Clinical meetings are also held in the Provincial Hospitals. In these ways efforts are made to maintain the standard of departmental surgery at a reasonably high level. In addition there exists an East African Association of Surgeons, of which the Senior Surgical Specialist is the reigning President, and occasional meetings are held in Nairobi and elsewhere at which distinguished visitors from overseas are frequent speakers.

As regards anæsthetics there is stationed in Nairobi an Anæsthetic Specialist who has another European Anæsthetist to help him. Trained African anæsthetists are also posted to King George VI Hospital and to all the Provincial Hospitals and are capable of employing modern methods of anæsthesia. At the Provincial Hospitals there are usually also Medical Officers who have had experience in the administration of anæsthetics. In the District Hospitals anæsthetics are commonly given by Hospital Assistants who have as far as possible undergone a course of instruction in Nairobi in the simple methods of anæsthesia. The Anæsthetic Specialist pays routine visits to all the larger hospitals.

The standard of surgery in Nairobi is high and we pride ourselves will bear comparison with many of the larger centres in the United Kingdom. Very little in the way of instruments, equipment, drugs and ancillary aids is unavailable and it is nowadays regarded as exceptional for a case to be transferred out of the Colony for special treatment, *except* in the case of irradiation; a matter which sooner rather than later must be given attention of a high priority, as there is no apparatus capable of giving deep X-ray treatment in East Africa.

As regards special lines of work being pursued, the Senior Surgical Specialist is mainly engaged in general surgery among Europeans, with a possible partiality for the abdominal field. A number of partial gastrectomies have been performed during 1952 with generally favourable results. The valve procedure with anterior gastro-colic anastomosis is employed, the patient is out of bed the next day if his condition permits and he is allowed whatever food and drink he fancies in small quantities as soon as he is able to take it. Carcinoma of the breast is not uncommon and the tendency is to follow the Edinburgh school of thought and perform a simple mastectomy followed by irradiation in the United Kingdom.

The Specialist who undertakes Ear, Nose and Throat work, is, perhaps, especially interested in cases of hydrocephalus, for which he has evolved his own method of third ventriculostomy with some very satisfactory results, and of carcinoma of the œsophagus, which he attacks with a two-stage approach; unfortunately many of these cases are seen at almost too late a stage of the disease for successful results to be obtained. A large series of thyroidectomies for both toxic (not very common in the African) and colloid goitre has been done. Hexamethonium bromide has been used frequently as an ischæmic agent with considerable success, thus enabling the technique of careful dissection with display of the recurrent laryngeal nerve to be followed more easily. A chest clinic has been formed and the series of thoracotomies, thoracoplasties and lobectomies, though small as yet, is impressive.

The Medical Officer in charge, Orthopædic Centre, apart from his general fracture work, has interested himself considerably in operations on the hip. He has devised his own method of arthrodesis which has earned publication in the *Journal of Bone and Joint Surgery* and has received considerable commendation. He has also been experimenting with stainless steel and plastic femoral heads. At the end of the year he left on a tour of the United States involving visits to and lectures at several of the centres of orthopædic surgery there. The Orthopædic Technician continues to maintain his own high standard at the Orthopædic workshop and artificial limbs and other orthopædic appliances are turned out as and when required.

The physiotherapy unit continues to work at a high standard of efficiency and provides every conceivable form of treatment.

Vesico-vaginal fistula is one of the main problems which has beset the Gynæcologist, and he is now tending to swing back to treatment by local repair rather than by ureterocolic anastomosis. He has also been investigating the newer methods of operation for urinary stress incontinence. At Mombasa the Provincial Surgeon has been able to deal with cases at the Port Reitz Tuberculosis Hospital requiring chest surgery and has also been interesting himself in surgery of the heart.

Transfusion services, especially in Nairobi, but in other centres as well, have been improving. Gelatine, saline, glucose and so on have always been available and blood is becoming more and more plentiful, the African appearing at last to show signs of losing his fear of being a donor. Auto-transfusion of blood from the thoracic and abdominal cavities is now a common and useful procedure and intra-arterial transfusion in cases of severe shock has produced some quite miraculous recoveries.

GENERAL DISEASES

Under this heading we must consider departures from health which are not due to injuries or communicable diseases. An accurate assessment could only be made if hospital observations and records were supplemented by full field surveys and adequate vital statistics. In fact what is available is the returns of diseases to

be found in tabular form in this Report supplemented by the comments of Medical Officers. The general picture varies little from year to year, variations depending more on rainfall, the availability of foodstuffs, general economic prosperity and freedom from social disturbances than from the methods of treatment practised in the hospitals, but is materially influenced by the gradual spread of education and civilization.

Of the greatest importance is the state of nutrition. Where the cultivation of millet has given place to maize and where milk, meat or beans are not eaten, malnutrition in the form of Kwashiorkor rears its ugly head leading to numerous deaths in the post-weaning period of life. It is to be noted that this also occurs in certain areas where milk production is abundant but where the milk is sold for profit instead of being given to the weaned infants. The later results of malnutrition are more difficult to assess but there is little doubt that it leads to much impairment of bodily efficiency both in the inability to perform productive work and in a lack of resistance to infections. Early protein deficiency may also be a factor in the production of primary carcinoma of the liver, a condition peculiarly common in coloured races.

Nearly all the diseases known to occur in temperate climates occur in Kenya in addition to the exotic diseases to which reference is made under communicable diseases. The general picture in the children's wards, in addition to Kwashiorkor in certain areas, is of a mixture of children in various states of nutrition, affected by gastroenteritis (many of which prove only to be symptomatic to parenteral infections), bronchopneumonia (some influenced adversely by the larvæ of *Ascaris*) or a communicable disease, e.g. malaria or tuberculosis. The rarer malformations, dystrophies and tumours and a variety of helminth infections complete the picture. Measles, whooping cough and other infectious diseases provide perennial problems in attempted isolation.

In the adult wards the prevalence of local communicable diseases becomes apparent causing high fever, dehydration or splenomegaly and anæmia, as the case may be. Pneumonia is ubiquitous, although more frequent and severe in the colder Highlands, where acute rheumatism with its cardiac complications also occurs with considerable frequency. Allergic manifestations, in particular asthma, are no mean problem. Cirrhosis of the liver is distressingly common, the ætiology of it is as yet undefined but is probably related to malnutrition. Acute nephritis is rare but chronic nephritis leading to uræmia is not uncommon. Diabetes mellitus is infrequent but presents a difficult problem to provide continued control by insulin. Dermatoses are often somewhat baffling and Kaposi's hæmorrhagic sarcomatosis undoubtedly much more common than in Europe. Anæmia of all varieties, leukæmia and malignant disease occur as set out in the Returns of Diseases.

Perhaps the most striking feature of general medicine is the worn-out, debilitated state of many adults, particularly the female, by the age of 50 years. Although exceptionally Africans survive to a great age, coronary thrombosis is almost unknown. Diseases affected by stress such as thyrotoxicosis and duodenal ulceration appear to becoming more frequent, although the evidence for stress factors in the former is often lacking.

It is against this background and in relation to the much larger community of sick outside hospitals, reached only in part by dispensary services, that the provision of modern therapeutics has to be considered. It is difficult to withhold an expensive effective drug from a patient who has gained admission to a hospital but in spite of every economy in administration it is not always possible to provide the most desirable treatment just as it is quite impossible at present to create a standard of living in the African areas comparable to the high standards prevailing in the United Kingdom.

MEDICAL STORES

Supply from overseas was greatly affected during the first six months or so of the year by shipping difficulties. As a result stocks became depleted and it was necessary to make local purchase of many stock items in order to maintain services. When regular supply from overseas was resumed the position rapidly improved and by the end of the year stocks were satisfactory.

The half-yearly system of indenting for stores by stations at specified times continued satisfactorily and despite the frustrations of inadequate stock, a fair distribution of most items was possible. Deficiencies in full supply were later made up by medium of the "to follow" list which is kept at Medical Stores for all stations.

Stores handling continues to increase and the following details give a good indication of the amount of work accomplished by the stores staff during the year:—

Packages Received into Medical Stores from Overseas—

9,888 Cases and bales.
600 Parcels by post.

Packages Despatched from Medical Stores to Stations—

11,238 Cases and bales.
544 Parcels by post.

Cylinders of Medical Gages Handled—

7,200 Cylinders.

Issue and Receipt Vouchers Prepared—

4,830.

Railway Warrants Prepared for Despatch of Supplies—

700.

The foregoing statistics add up to a considerable output of effort by the stores staff.

The total expenditure by the Medical Stores was £240,627.

STERILE PREPARATION UNIT

This unit, situated at the King George VI Hospital, under the care of the Pharmacist at the Hospital Dispensary, prepared sterile preparations for intravenous, intramuscular, and hypodermic injection for Colony-wide distribution.

The demands on the unit are ever increasing, and as it worked to capacity during the year plans are envisaged for an enlargement and further modernization of equipment.

The Emergency, occurring at the latter part of the year, taxed the resources of the unit to the utmost. For instance, whilst 530 bottles of perfusion fluids were manufactured in January, 1,560 were prepared to meet demands in December.

The manufactures of the unit have effected considerable savings in both time and money. The cost of the various preparations if imported would be threefold.

During the year 12,269 bottles of 540 ml. size of perfusion fluids and approximately 20,000 bottles of small size intramuscular and hypodermic preparations were manufactured.

LABORATORY SERVICES

Medical Research Laboratory

The staff remained below strength throughout the year. The Biochemist, who retired in July, 1951, has not yet been replaced. The Bacteriologist was in England on study leave for most of the year and three vacancies for European technicians remained unfilled. In the second half of the year there was a great increase in medico-legal work in connexion with the Emergency and those responsible for it were hard pressed. The non-medical staff, including the Senior Africans, continued to acquit themselves well of heavy responsibilities.

Vaccine Production

The production of vaccine continues to be an important function of the laboratory: not only is the vaccine sold outside the country, an important source of revenue, but its manufacture locally saves a substantial sum which would have to be spent if vaccines had to be imported.

	Issued to Other Territories	Issued in Kenya	Total
Vaccine Lymph, done	2,718,680	3,298,846	6,017,526
Typhoid Vaccine (Alcoholised), M1. ..	40,845	66,200	107,845
Rabies Vaccine, M1.	69,120	39,040	108,160
Plague Vaccine	31,245	95,385	126,630

The vaccine section also prepared and issued 71,200 mls. of various standard agglutinable suspensions.

The revenue earned by the sale of vaccines to other Governments was £6,212.

Bacteriological Section

A total of 13,340 specimens were examined. Of 3,628 stool cultures, 1,340 showed pathogens, mainly *Salmonellæ* and *Shigellæ*: *S. oranienberg* was recorded in 240, *S. typhi* in 61. The *Shigellæ* required more work for the identification of atypical strains than could be undertaken; 100 had to be reported as unclassified. Much assistance was given by Dr. Joan Taylor, of the Salmonella Reference Laboratory, in the identification of cultures sent to her. Paratyphoid organisms were found only twice.

C. diphtheriæ were isolated 45 times; they were mostly *mitis* strains. Work on *P. pestis* from an outbreak of plague at Rongai was done in collaboration with the Division of Insect-borne Diseases.

There was some difficulty in keeping up the supply of culture media owing to the lack of a trained technician who could take sole charge of this work.

In the Public Health Laboratory 432 water samples were examined; those from the Nairobi City Council supply were generally satisfactory, but untreated waters from bore holes were mostly bad. Of 160 mineral waters only four were reported as unsatisfactory.

Biochemical Section

Specimens received numbered 4,846. In the latter half of the year there was an increased demand for liver function tests; the serum colloidal gold test was thought to be the most useful. With the introduction into Kenya of toxic insecticides serum dinitro-*ortho*-cresol estimations became necessary and apparatus was obtained for the determination of blood cholinesterase though this, in the event, was not required. In collaboration with the King George VI Hospital, some research was begun on the serum proteins in kwashiorkor.

Section of Medical Biology

Hæmatological examinations numbered 6,377; 12,804 fæcal samples were examined microscopically. Vegetative *E. histolytica* were found in only 30, cysts in 331. Of 12,285 blood slides examined 837 showed malarial parasites.

Pathological Section

Post-mortems were almost entirely restricted to medico-legal cases and numbered 345; fortunately only a small proportion of these involved attendance at court. Sections were reported on from 1,932 cases. Kahn tests numbered 27,931. ABO and rhesus grouping was done on 1,277 blood samples. Attempts were made to carry out pregnancy tests with the local frogs and toads but the results were not entirely satisfactory and the Friedman test remained the routine one; 435 were done. Grouping tests on blood stains for medico-legal purposes were done at the request of the police in 115 cases. Ninety-two electrocardiograms were made and reported on. A new apparatus for the estimation of the basal metabolic rate was obtained towards the end of the year and 16 examinations were made.

Training of African Laboratory Assistants

Seven first-year learners joined the class at the beginning of the year and all but one were of Senior Secondary standard. The higher standard of general education proved an advantage and all passed their first-year examination. One second and one third-year learner were discharged for indiscipline.

Nine Grade II Laboratory Assistants were brought in during the year for refresher courses. There is still a serious shortage of Laboratory Assistants and refresher courses are restricted by the difficulty of providing reliefs in out-stations.

The Kenya Blood Transfusion Service

All blood grouping, the servicing and sterilization of apparatus and the preparation of glucose-citrate for this service which is run by the Kenya Branch of the British Red Cross Society was done in the Laboratory. Blood was taken from 519 donors and check-grouping, Kahn test and an examination for malarial parasites was done in each case.

Provincial Laboratories

The three provincial laboratories are each in the charge of a qualified European Technician.

Coast Province—Mombasa

The shortage of African housing at Mombasa and the system adopted there for the allocation of quarters was a handicap; the transfer of quarters from old to new staff is not allowed and postings are, therefore, almost impossible; those who would like a change must remain there. Nearly 50,000 specimens were received and dealt with. A blood bank was established at Mombasa and all blood grouping work in connexion with it was carried out.

Nyanza Province—Kisumu

The Kisumu laboratory reported on a total of 34,528 specimens during the year. Of these, 11,391 were Kahn tests. The time saved by having such tests done in Kisumu instead of sending the specimens to Nairobi as in the past was much appreciated in the district hospitals.

Rift Valley Province—Nakuru

In this, the most recently established of the Provincial Laboratories, 22,650 specimens were reported on. The technician in charge was posted for a few weeks

to a Mobile Laboratory at the scene of an outbreak of plague some 20 miles away and the Nakuru laboratory served advanced base for the bacteriological investigations which were carried out.

Out-station Laboratories

Work in the small laboratories at the various District Hospitals which are staffed by one or two qualified African Laboratory Assistants is generally restricted to microscopical examinations and blood counts. The number of specimens with which these Africans deal is very large, the totals recorded ranging from 1,500 at the small hospitals to over 20,000 at the larger ones.

INSECT-BORNE DISEASES DIVISION

Routine Duties

Large numbers of sandflies have been identified during the year and new records for Kenya include *P. kirki* and *P. dureni*. Several new species were discovered and sent to Mr. Lewis of the Sudan.

Colonies of ticks in the laboratory include *O. moubata, savignyi, erraticus, turicatæ* and *graingeri*.

The *Aedes ægypti* colony is still being maintained. *Aegypti* control measures have been modified, several townships having been decontrolled.

Field Investigations and Research

(1) Malaria and Mosquito Control Measures

The junior Parasitologist has kept in close touch with the Director of the East African Malarial Unit, and has visited the Headquarters at Amani. In Kenya the Division has helped to reorganize anti-malaria measures in Mombasa and although it may be coincidence, the incidence of the disease in 1952 was lower than for several years. Control measures were also intensified in Nairobi and Kisumu. H.S. oil was applied in large quantities in Nairobi and Mombasa, and in Kisumu huts at the periphery of the town were sprayed with D.D.T. was well.

In Kisumu experiments with D.D.T. emulsion indicated that, in spite of the lower cost, the emulsion was less effective against mosquito larvæ than H.S. oil; its lack of spreading power being the chief disadvantage.

Mosquito and human surveys were made in the Nandi Reserve, the Kisumu Prison Farm (after a severe localized outbreak of malaria), and at Eldoret, Kitale and the surrounding districts.

Lamu and Takaungu in the Coastal Province were sprayed with D.D.T. dispersable powder. All mosquitoes disappeared shortly afterwards but *Culex fatigans* reappeared in a few months. *Aedes ægypti* is apparently permanently abolished from houses by this means. It therefore appears that a new and potent measure for the control of yellow fever has presented itself. The effect on malaria and the vectors *A. gambiæ* and *funestus* is more difficult to assess.

Work on the bionomics of *Aedes ægypti* continues. Attempts to re-establish this mosquito at Mambrui, which was sprayed with D.D.T. dispersable powder four years ago, have failed. The reason for this is not clear. Much information has also been collected concerning numerous other coastal mosquitoes and over 70 species were identified and studied.

The D.D.T. experiment at Kericho, where several thousand huts were sprayed for five successive years, was concluded in February, 1952. The experiment was partially vitiated by the erratic annual incidence of malaria, there being only one severe epidemic in five years.

Twenty-five cases of malaria were treated with daraprim in the King George VI Hospital, Nairobi, daily blood smears were examined from 6 to 43 days. The results were satisfactory and one dose of 50 mgs. rapidly cleared parasites from the blood (1–3 days). Three patients with cerebral malaria were rapidly cured. Daraprim was also tested against a paludrine resistant strain of *P. falciparum* received from Malaya. The strain was found to be completely resistant to 350 mgs. given over three days. Daraprim was administered in doses of 3–100 mgs. (according to age) to nearly 4,000 Africans in the Makueni Settlement, near Machakos. The immediate effect was striking, the parasite rate of a number of school children dropping from 50 to 2 per cent in a month. Unfortunately there is recent evidence of resistant strains in the area. Daraprim may be a useful therapeutic weapon, and prove of value in the control of epidemic malaria.

(2) Plague

An outbreak at Rongai was studied in detail. Evidence was obtained that *Pasteurella pestis* is firmly entrenched in the wild rodents of this area. Cultures were isolated from live *Arvicanthis, Mastomys coucha, otomys* and *Rhabdomys* sp. This is the first time that wild rodents have been implicated in the plague circle in Kenya. *Arvicanthis* and *M. coucha* are probably the most important reservoirs, and it is believed that *Rattus* are accidentally infected particularly in village maize cribs. *Arvicanthis* were also found infected at Konza, near Machakos. At the old silent plague focus of Kerugoya 800 *Rattus* from formerly infected villages were tested but proved negative. It therefore seems most unlikely that *Rattus* is the primary reservoir of plague in Kenya as was formerly supposed. Live rodents were tested by emulsifying their spleens in pools and inoculating into guinea pigs; fleas were also pooled and inoculated in the same way. A useful method of isolating *P. pestis* from dead rodents was to rub the spleen tissue on to abrasions on guinea pigs. Bacteriophage was found too of great value in identifying *P. pestis*. All the cultures tested acidified glycerine and reduced nitrates showing that they belong to the ancient variety of plague, the causative organism being designated *P. pestis* var. antiqua by Devignat (1942). Ten per cent D.D.T. dusting powder, sprinkled on the floors of huts and dwellings from perforated cigarette tins, rapidly terminated outbreaks.

(3) Relapsing Fever and Ticks

Work on the development of spirochætes in lice has been delayed by the difficulty of getting a strain of *S. recurrentis* from Persia and because the enthusiastic use of D.D.T. by the Health Authorities has made it almost impossible to get lice for experimental work.

Man has been successfully infected with *Spirochæta dipodilli*, the new gerbil parasite, and with *S. graingeri* originally isolated from the new argasid tick *Ornithodoros graingeri*. Persons infected with *S. dipodilli* showed a rise in temperature with spirochætes in the blood for several days; some relapsed. Infections with *S. graingeri*, although not accompanied by fever, were most persistent with daily spirochætes apparent in the blood for as long as six weeks.

Terramycin was tested against *S. duttoni* in white rats. Even 100 mg. per kg. failed to prevent relapses or the development of residual brain infections; Spirochætes, however, were rapidly cleared from the blood by much smaller doses.

A new argasid tick, collected from a *Rhabdomys* burrow in South Africa, was received from Dr. Zumpt; it was described and named after him. Another tick, perhaps related to *Argas boueti*, and probably a new species, was found at Kajiado. Specimens of *O. erraticus* were collected from a burrow in the Karamoja District of Uganda; these differ slightly from those found in Kenya.

Gammexane dispersable powder (P. 520) was found much more effective against *O. moubata* than the 0.5 per cent gamma gamma dusting powder used in experiments near Kwale. The floors and lower parts of the inner walls of native huts were sprayed with insecticide. Ticks rapidly disappeared and in most of the treated huts had not reappeared three months later. The technique was first employed in British Somaliland, and if applied on a large scale might eliminate *O. moubata* from houses from large areas.

(4) Trypanosomiasis

G. palpalis appears to have been almost eradicated from the Kibigori Area, practically no flies having been caught during the last six months. Two new species of trypanosomes were found in coastal insectivorous bats.

(5) Onchocerciasis

A comprehensive onchocerciasis survey of South Nyanza was completed, and the Kericho and Kuja River foci were found more extensive than expected. D.D.T. dosing was begun in the Kuja area towards the end of October, and at Kericho on November the 3rd. Over 42 rivers and streams were dosed every tenth day for three months. The last *S. neavei* was caught alongside the Kipsenoi River on 25th November, 1952, but it is still too early to know whether the fly has been permanently eliminated from the two areas. Surveys were also made in the Kimilili and Malakisi Districts on Mount Elgon with inconclusive results. Work on the bionomics of *S. neavei* showed that adults are reluctant to feed early in the morning and late in the evening; and that there is a period of diminished activity between 11 a.m. and 2 p.m. Strong sunlight, wind and rain discourage feeding.

(6) Schistosomiasis and Snails

Experiments carried out by Mr. C. Cridland, of the East African Fisheries Laboratory, Jinja, showed that four species of *Biomphalaria* (*B. sudanica sudanica, B. sudanica tanganikana, B. choanamphala, B. adowensis adowensis*) could be infected with *S. mansoni* and two species of *Bulinus B. globusus globusus, B. nasutus* with *S. hæmatobium.*

(7) Miscellaneous Parasites

A spirochæte was observed in the blood of a bat *Megaderma cor* Peters and named *Spirochæta megadermæ* n. sp. Bartonella swarmed in the blood of gerbils that has been splenectomized. The new hæmosporidian of insectivorous bats was studied further in conjunction with Professor Garnham, but attempts to identify the vector failed.

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APPENDIX A

Category	Number under Training	Length of Course	Educational Standard for Entry	Place of Training
Hospital Assistant ..	120 (102 Male) (18 Female)	4 yrs.	Form II	Medical Training School and King George VI Hospital, Nairobi.
Compounders	16	3 yrs.	Form IV	Medical Training School and King George VI Hospital, Nairobi.
Laboratory Assistants ..	16	4 yrs.	Form IV	Medical Training School and Medical Research Laboratory, Nairobi.
Orthopædic Assistants (Masseurs).	13	4 yrs.	Form II	Medical Training School and Orthopædic Centre, Nairobi.
Health Inspectors ..	18	3 yrs.	Form IV	Jeanes School near Nairobi.
Entomological Assistants (Laboratory Assistants)	—	4 yrs.	Form II	Medical Research Laboratory, Nairobi and in the Field.
Assistant Radiographers	5	3 yrs.	Form VI	Kisumu.

APPENDIX B

HOSPITAL BEDS—1952

Number and Category of Beds

Name and Location of Hospital	Europeans					Asians					Africans				
	General	Obstetrics	Tuberculosis	Infectious	Mental	General	Obstetrics	Tuberculosis	Infectious	Mental	General	Obstetrics	Tuberculosis	Infectious	Mental
King George VI Hospital, Nairobi	—	—	—	—	—	42	—	—	—	—	*661 †51	—	—	—	—
Prison Hospital, Nairobi	—	—	—	—	—	—	—	—	—	—	42	—	—	33	—
Orthopædic Centre, Nairobi	—	—	—	—	—	—	—	—	—	—	120	—	—	—	—
Infectious Diseases Hospital, Nairobi	—	—	—	12	—	—	—	—	6	—	—	—	—	182	—
European Hospital, Nairobi	73	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mathari Mental Hospital, Nairobi	—	—	—	—	17	—	—	—	—	51	—	—	—	—	507
Central Province															
Native Hospital, Meru	—	—	—	—	—	—	—	—	—	—	103	18	—	4	—
Native Hospital, Kerugoya	—	—	—	—	—	—	—	—	—	—	94	14	—	3	—
Native Hospital, Fort Hall	—	—	—	—	—	—	—	—	—	—	140	38	—	10	—
Native Hospital, Muriranjas	—	—	—	—	—	—	—	—	—	—	40	14	—	—	—
Native Hospital, Thika	—	—	—	—	—	—	—	—	—	—	86	8	—	6	—
Native Hospital, Machakos	—	—	—	—	—	—	—	—	—	—	128	8	—	28	—
Native Hospital, Kangundo	—	—	—	—	—	—	—	—	—	—	21	5	—	—	—
Native Hospital, Makindu	—	—	—	—	—	—	—	—	—	—	33	—	—	—	—
Native Hospital, Nyeri	—	—	—	—	—	—	—	—	—	—	82	19	—	12	—
Native Hospital, Karatina	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—
Native Hospital, Kiambu	—	—	—	—	—	—	—	—	—	—	108	26	—	16	—
Cottage Hospital, Tigoni	—	—	—	—	—	—	—	—	—	—	22	—	—	—	—
Native Hospital, Kitui	—	—	—	—	—	—	—	—	—	—	70	—	—	19	—
Native Hospital, Embu	—	—	—	—	—	—	—	—	—	—	42	24	—	—	—
Dispensary, Nanyuki	—	—	—	—	—	—	—	—	—	—	14	—	—	10	—
Coast Province															
Native Hospital, Mombasa	—	—	—	—	—	45	—	—	—	—	178	—	—	—	—
Prison Hospital, Mombasa	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—
Infectious Diseases Hospital, Mombasa	—	—	—	6	—	—	—	10	8	—	—	—	34	50	—
Port Reitz Chest Hospital, Mombasa	—	—	—	—	—	—	—	—	—	—	—	—	112	—	—
Native Hospital, Kilifi	—	—	—	—	—	—	—	—	—	—	71	2	—	—	—
Native Hospital, Msambweni	—	—	—	—	—	—	—	—	—	—	66	2	—	—	—
Leper Camp, Msambweni	—	—	—	—	—	—	—	—	—	—	—	—	—	60	—
Native Hospital, Wesu	—	—	—	—	—	—	—	—	—	—	37	8	—	—	—
Native Hospital, Taveta	—	—	—	—	—	—	—	—	—	—	30	4	—	10	—
Native Hospital, Voi	—	—	—	—	—	—	—	—	—	—	40	4	—	8	—
Native Hospital, Malindi	—	—	—	—	—	—	—	—	—	—	31	2	—	—	—
Native Hospital, Lamu	—	—	—	—	—	—	—	—	—	—	16	4	—	—	—
Native Hospital Kipini	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—
Rift Valley Province															
Native Hospital, Nakuru	—	—	—	—	—	18	—	—	—	—	219	21	—	22	—
Native Hospital, Eldoret	—	—	—	—	—	—	—	—	—	—	97	—	—	16	—
Native Hospital, Kitale	—	—	—	—	—	—	—	—	—	—	95	4	—	4	—
Native Hospital, Kapsabet	—	—	—	—	—	—	—	—	—	—	61	—	—	6	—
Native Hospital, Rumuruti	—	—	—	—	—	—	—	—	—	—	17	—	—	—	—
Native Hospital, Kabarnet	—	—	—	—	—	—	—	—	—	—	26	—	—	4	—
Native Hospital, Tambach	—	—	—	—	—	—	—	—	—	—	18	—	—	6	—
Native Hospital, Kapenguria	—	—	—	—	—	—	—	—	—	—	21	—	—	—	—
Native Hospital, Maralal	—	—	—	—	—	—	—	—	—	—	17	—	—	5	—
Native Hospital, Lodwar	—	—	—	—	—	—	—	—	—	—	25	—	—	7	—
Native Hospital, Lokitaung	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—
Cottage Hospital, Molo	—	—	—	—	—	—	—	—	—	—	28	6	—	—	—
Cottage Hospital, Londiani	—	—	—	—	—	—	—	—	—	—	24	16	—	4	—
Dispensary, Thomson's Falls	—	—	—	—	—	—	—	—	—	—	10	—	—	—	—
Dispensary, Naivasha	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—
Dispensary, Gilgil	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—
Dispensary, Eldama	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—

*Beds. †Cots.

APPENDIX B—(*Contd.*)

HOSPITALS BEDS—1952—(*Contd.*)

Name and Location of Hospital	Europeans					Asians					Africans				
	General	Obstetrics	Tuberculosis	Infectious	Mental	General	Obstetrics	Tuberculosis	Infectious	Mental	General	Obstetrics	Tuberculosis	Infectious	Mental
Nyanza Province															
European Hospital, Kisumu	14	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Prison Hospital, Kisumu ..	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—
Native Hospital, Kisii ..	—	—	—	—	—	—	—	—	—	—	123	36	—	12	—
Native Hospital, Kakamega	—	—	—	—	—	4	—	—	—	—	†173	40	—	44	—
Native Hospital, Kericho ..	—	—	—	—	—	—	—	—	—	—	72	16	—	8	—
Leper Camp, Kakamega ..	—	—	—	—	—	—	—	—	—	—	—	—	—	130	—
Cottage Hospital, Kapkatet	—	—	—	—	—	—	—	—	—	—	31	11	—	—	—
Native Hospital, Kisumu ..	—	—	—	—	—	11	1	—	—	—	152	41	—	10	2
Health Centre, Bungoma ..	—	—	—	—	—	—	—	—	—	—	—	76	—	—	—
Dispensary, Chemagel ..	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—
Northern Province															
Native Hospital, Wajir ..	—	—	—	—	—	—	—	—	—	—	47	1	—	—	—
Native Hospital, Moyale ..	—	—	—	—	—	—	—	—	—	—	44	—	—	4	—
Native Hospital, Marsabit ..	—	—	—	—	—	—	—	—	—	—	16	—	—	4	—
Native Hospital, Mandera ..	—	—	—	—	—	—	—	—	—	—	40	—	—	—	—
Native Hospital, Garissa ..	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—
Native Hospital, Isiolo ..	—	—	—	—	—	—	—	—	—	—	12	—	—	—	—
Masai Extra Province District															
Native Hospital, Narok ..	—	—	—	—	—	—	—	—	—	—	38	8	—	6	—
Native Hospital, Kajiado ..	—	—	—	—	—	—	—	—	—	—	64	1	—	11	—
Number of Maternity Beds Maintained by Municipalities and Local District Councils	—	—	—	—	—	—	—	—	—	—	—	156	—	—	—
Total	87	1	—	18	17	120	1	10	14	51	3,948	633	146	784	509

†Cots.

RETURN OF DISEASES—IN-PATIENTS, 1952

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		General Infectious and Parasitic Diseases												
1	000–008	Respiratory Tuberculosis	9	4	13	—	24	6	30	7	1,432	813	2,245	505
2	010	Tuberculosis of Meninges and Central Nervous System	—	—	—	—	—	—	—	—	56	41	97	81
3	011	Tuberculosis of Intestines, Peritoneum and Mesenteric Glands	—	—	—	—	—	1	1	—	113	87	200	33
4	012, 013	Tuberculosis of Bones and Joints	—	2	2	—	—	1	1	1	217	124	341	20
5	014–019	Tuberculosis—All other Forms	1	1	2	—	7	7	14	—	376	207	583	62
6	020	Congenital Syphilis	—	—	—	—	—	—	—	—	145	157	302	37
7	021.0, 021.1	Primary Syphilis	1	—	1	—	2	—	2	—	476	239	715	—
7	021.2–021.4	Secondary Syphilis	1	—	1	—	2	—	2	1	951	634	1,585	1
8	024	Tabes Dorsalis	—	—	—	—	—	—	—	—	55	9	64	—
9	025	General Paralysis of Insane	—	—	—	—	—	—	—	—	25	24	49	—
10	022,023	Cardio Vascular Syphilis	—	—	—	—	—	—	—	—	8	4	12	3
10	026–029	All other Syphilis	—	—	—	—	5	2	7	—	466	371	837	11
11	030, 031	Gonorrhœa, Genito-Urinary	—	—	—	—	6	2	8	—	1,511	696	2,207	3
11	033	Gonoccal Infection of Eye	—	—	—	—	—	—	—	—	77	47	124	—
11	032, 034, 035	Other Gonoccal Infections	—	—	—	—	2	—	2	—	268	82	350	2
12	040	Typhoid Fever	5	—	5	—	10	5	15	—	307	184	491	89
13	041, 042	Salmonella Infections	—	1	1	—	—	—	—	—	71	65	136	23
14	043	Cholera	—	—	—	—	—	—	—	—	—	—	—	—
15	044	Brucellosis	—	—	—	—	—	—	—	—	76	33	109	6
16	045	Bacillary Dysentery	13	6	19	—	13	7	20	—	857	498	1,355	65
16	046	Amœbiasis	20	13	33	—	12	12	24	—	744	559	1,303	27
16	047, 048	Other Unspecified Dysentery	6	4	10	—	23	6	29	—	376	177	553	19
17	050	Scarlet Fever	—	2	2	—	—	—	—	—	—	—	—	—
18	051	Streptococcal Sore Throat	1	2	3	—	—	—	—	—	175	81	256	2
19	052	Erysipelas	1	—	1	—	—	—	—	—	2	—	2	—
20	053	Septicæmia and Pyæmia	2	—	2	—	1	—	1	1	51	31	82	47
21	055	Diphtheria	1	—	1	—	5	2	7	—	43	23	66	19
22	056	Whooping Cough	7	4	11	—	12	18	30	1	1,710	1,838	3,548	350
23	057	Meningoccal Infections	—	—	—	—	—	—	—	—	74	33	107	42
24	058	Plague	—	—	—	—	—	—	—	—	38	9	47	10
25	060	Peprosy	—	—	—	—	1	—	1	—	288	125	413	6
26	061	Tetanus	—	—	—	—	—	1	1	1	196	132	328	156
27	062	Anthrax	—	—	—	—	—	—	—	—	328	218	546	21

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		General Infectious and Parasitic Diseases—(*Contd.*)												
28	080	Acute Poliomyelitis	14	7	21	4	1	1	2	—	93	79	172	15
29	082	Acute Infectious Encephalitis	2	—	2	—	1	3	4	2	20	12	32	11
30	081, 083	Late Effects Poliomyelitis and Infectious Encephalitis	1	—	1	—	5	3	8	—	21	19	40	1
31	084	Variola Major	—	—	—	—	—	—	—	—	—	—	—	—
31	084	Variola Minor	—	—	—	—	—	—	—	—	—	—	—	—
32	085	Measles	10	16	26	—	6	6	12	—	1,213	874	2,087	42
33	091	Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—
34	092	Infectious Hepatitis	4	—	4	—	3	3	6	—	137	77	214	19
35	094	Rabies	—	—	—	—	—	—	—	—	55	31	86	4
36	100	Louse Borne Epidemic Typhus	—	—	—	—	—	—	—	—	—	—	—	—
36	101	Flea Borne Endemic Typhus	—	—	—	—	—	—	—	—	—	—	—	—
36	104 N.O.S.	Tick-Borne Typhus	23	19	42	—	—	—	—	—	1	—	1	—
36	102–108	Other Rickettsial Diseases	—	—	—	—	—	—	—	—	4	1	5	3
37	110	B.T. Malaria	1	2	3	—	2	—	2	—	241	250	491	8
37	111	Qt. Malaria	2	—	2	—	8	4	12	—	583	534	1,117	—
37	112	S.T. Malaria	79	42	121	—	185	65	250	6	5,655	4,656	10,311	483
37	115 N.O.S.	Blackwater Fever	—	—	—	—	1	1	2	—	56	2	58	5
37	113–117	Other Forms of Malaria	13	4	17	—	133	51	184	—	11,361	9,414	20,775	211
38	123.0	Schistosomiasis (Hæmatobium)	—	—	—	—	4	6	10	—	1,310	415	1,725	11
38	123.1	Schistosomiasis (Mansoni)	—	2	2	—	—	—	—	—	184	73	257	2
38	123.2	Schistosomiasis (Japonicum)	—	—	—	—	—	—	—	—	—	—	—	—
38	123.3	Other Unspecified Schistosomiasis	—	—	—	—	2	—	2	—	54	25	79	3
39	125	Hydatid Disease	—	—	—	—	—	—	—	—	25	12	37	3
40	127	Onchocerciasis	—	—	—	—	—	—	—	—	5	—	5	—
40		Loiasis	—	—	—	—	—	—	—	—	—	—	—	—
40	127	Filariasis (Elephantiasis)	—	—	—	—	1	1	2	—	50	22	72	—
40	127	Other Filariasis	—	—	—	—	—	—	—	—	10	—	10	—
41	129	Ankylostomiasis	—	—	—	—	6	—	6	—	843	669	1,512	14
42	126	Tapeworm and other Cestode Infestation	11	3	14	—	1	1	2	—	679	476	1,155	—
42	130.0	Ascariasis	—	1	1	—	6	1	7	—	1,033	906	1,939	6
42	130.3 N.O.S.	Guineaworm	—	—	—	—	—	—	—	—	5	1	6	—
42	124–130	Other Diseases due to Helminths	—	1	1	—	—	—	—	—	23	22	45	—

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		General Infectious and Parasitic Diseases —(*Contd.*)												
43	036	Chancroid	—	—	—	—	—	—	—	—	189	7	196	—
43	037	Lymphogranuloma Venereum	—	—	—	—	—	—	—	—	14	7	21	—
43	038	Granuloma Inguinale	—	—	—	—	—	—	—	—	16	16	32	—
43	039	Other Unspecified Venereal Diseases	—	—	—	—	—	—	—	—	22	11	33	1
43	049	Food Poisoning, Infective and Toxic (excepting Salmonella Infections)	—	—	—	—	—	—	—	—	77	29	106	3
43	071.0	Relapsing Fever (Louse Borne)	—	—	—	—	—	—	—	—	—	—	—	—
	071.1	Relapsing Fever (Tick Borne)	—	—	—	—	—	—	—	—	182	146	328	12
43	072	Weil's Disease	—	—	—	—	—	—	—	—	—	1	1	—
43	073	Yaws	—	—	—	—	—	2	2	—	473	457	930	3
43	086	Rubella	—	—	—	—	—	—	—	—	17	13	30	—
43	087	Chicken-pox	4	4	8	—	7	2	9	—	790	254	1,044	1
43	088	Herpes Zoster	—	—	—	—	—	—	—	—	90	32	122	—
43	089	Mumps	5	8	13	—	5	3	8	—	1,150	171	1,321	2
43	090	Dengue	1	—	1	—	2	1	3	—	9	4	13	—
43	095	Trachoma	—	—	—	—	1	1	2	—	223	240	463	—
43	096·7	Sandfly Fever	—	—	—	—	1	1	2	—	4	5	9	—
43	120	Leishmaniasis	—	—	—	—	—	—	—	—	84	16	100	10
43	121.0	Trypanosomiasis (Gambiense)	—	—	—	—	—	—	—	—	50	16	66	20
43	121.0	Trypanosomiasis (Rhodesiense)	—	—	—	—	—	—	—	—	—	—	—	—
43	121.2	Other Unspecified Trypanosomiasis	—	—	—	—	—	—	—	—	17	15	32	5
43	131	Derma-ophytosis (Tinea)	1	—	1	—	—	—	—	—	43	43	92	—
43	135	Scabies	—	—	—	—	4	—	4	—	1,776	1,102	2,878	—
43	054–122 N.O.S.	Other Infectious and Protozoal Diseases	5	2	7	—	—	—	—	—	54	110	164	1
43	132–138	Other Parasitic Diseases	—	—	—	—	—	—	—	—	83	64	147	1
		New Growths												
44	140–148	Malignant Neoplasm of Mouth and Pharynx	—	—	—	—	—	1	1	—	38	32	70	10
45	150	Malignant Neoplasm of Oesophagus	1	—	1	1	—	—	—	—	30	3	33	2
46	151	Malignant Neoplasm of Stomach	3	1	4	1	3	—	3	—	39	24	63	11
47	152, 153	Malignant Neoplasm of Intestine	1	1	2	1	2	1	3	—	14	7	21	5
48	154	Malignant Neoplasm of Rectum	1	—	1	1	2	—	2	1	4	4	8	—

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		New Growths—(*Contd.*)												
49	161	Malignant Neoplasm of Larynx	—	—	—	—	1	—	1	—	19	10	29	1
50	162, 163	Malignant Neoplasm of Trachea, Bronchus and Lung not Specified as Secondary	1	1	2	2	3	—	3	—	13	4	17	2
51	170	Malignant Neoplasm of Breast	—	19	19	1	1	1	2	1	9	43	52	2
52	171	Malignant Neoplasm of Cervix Uteri	—	—	—	—	—	—	—	—	—	52	52	3
53	172–174	Malignant Neoplasm of other Unspecified Parts of Uterus	—	3	3	—	—	—	—	—	—	64	64	1
54	177	Malignant Neoplasm of Prostate	1	—	1	1	3	—	3	—	4	—	4	—
55	190, 191	Malignant Neoplasm of Skin	4	1	5	1	—	—	—	—	52	55	107	2
56	196, 197	Malignant Neoplasm of Bone and Connected Tissue	1	3	4	—	—	—	—	—	43	17	60	11
57	155	Malignant Neoplasm of Liver and Bile Passages (Primary)	1	—	1	—	5	—	5	4	57	25	82	43
	N.O.S.													
57	156–199	Malignant Neoplasm of all other and Unspecified Sites	3	1	4	3	5	3	8	—	205	91	296	20
58	204	Leukæmia and Aleukæmia	—	—	—	—	—	—	—	—	14	6	20	4
59	200–203, 205	Lymphosarcoma and other Neoplasm of Lymphatic and Hæmatopoietic Systems	2	1	3	1	—	—	—	—	56	27	83	5
60	210–239	Benign Neoplasms and Unspecified Neoplasms	5	3	8	—	10	4	14	—	155	111	266	3
		Allergic, Metabolic and Blood Diseases												
61	250, 251	Non-toxic Goitre	—	1	1	—	—	—	—	—	3	49	52	—
62	252	Thyrotoxicosis	1	2	3	—	—	—	—	—	—	5	5	—
63	260	Diabetes Mellitus	3	3	6	1	16	8	24	2	30	9	39	10
64	280	Beri-beri	—	—	—	—	—	—	—	—	18	4	22	1
64	281	Pellagra	—	—	—	—	—	—	—	—	98	63	161	8
64	282	Scurvy	—	—	—	—	—	—	—	—	19	5	24	1
64	286.6	Kwashiorkor	—	—	—	—	2	—	2	—	326	291	617	133
64	283–286	Other Deficiency States	—	—	—	—	4	1	5	—	168	141	309	40
65	290	Pernicious and other Hyperchromic Anæmias	—	1	1	—	—	—	—	—	6	11	17	2
65	291	Iron Deficiency Anæmias	—	1	1	—	—	6	6	1	46	74	120	30

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		Allergic, Metabolic and Blood Diseases—(*Contd.*)												
65	292, 293	Other Anæmias	3	1	4	—	10	7	17	3	245	184	429	41
66	241	Asthma	3	2	5	1	17	2	19	—	602	346	948	5
66	240–290 N.O.S.	Other Allergic, Endocrine, Metabolic and Blood Diseases	8	5	13	—	6	1	7	—	107	157	264	9
		Diseases of Nervous System and Sense Organs												
67	300–309	Pyschoses	—	1	1	—	6	1	7	—	40	24	64	1
68	310–324, 326	Pyschoneuroses and Disorders of Personality	4	5	9	—	7	3	10	—	35	47	82	—
59	325	Mental Deficiency	1	—	1	—	1	—	1	—	107	56	163	3
70	330–334	Vascular Lesions Affecting Central Nervous System	—	—	—	—	3	3	6	3	78	22	100	6
71	340.0	Meningitis due to H. Influenzæ	—	—	—	—	—	—	—	—	51	38	89	10
71	340.1	Meningitis due to Pneumoccocus	—	—	—	—	—	—	—	—	136	84	220	90
71	340.2	Meningitis due to other Organisms escept Tuberculous and Syphilitic	—	—	—	—	3	—	3	—	114	69	183	113
71	340	Meningitis (except Meningococcal and Tuberculous)	1	—	1	—	—	—	—	—	36	16	52	34
72	345	Multiple Sclerosis	—	—	—	—	—	—	—	—	1	1	2	—
73	353	Epilepsy	1	—	1	—	5	1	6	2	122	79	191	3
74	370–379	Inflammatory Diseases of Eye	—	—	—	—	17	15	32	—	676	521	1,197	1
75	385	Cataract	7	2	9	—	32	2	34	—	196	91	287	—
76	387	Glaucoma	1	2	3	—	3	16	19	—	32	25	57	—
77	390	Otitis Externa	2	—	2	—	1	2	3	—	132	113	245	—
77	391–383	Otitis Media and Mastoiditis	12	11	23	—	8	8	16	—	329	345	674	4
77	394 N.O.S.	Other Infflammatory Diseases of Ear	12	5	17	—	5	1	6	—	115	108	223	2
78	341–369, 395–398 N.O.S.	All other Diseases of Nervous System, Sense Organs and Auditory System	23	12	35	—	27	2	29	—	342	164	506	22
78	380–389	All other Diseases and Conditions of Eye	13	15	28	—	26	9	35	—	400	328	828	2

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		Circulatory Diseases												
79	400–401	Rheumatic Fever	—	—	—	—	1	2	3	—	217	195	412	2
79	402	Chorea	—	—	—	—	3	—	3	—	14	16	30	—
80	410–416	Chronic Rheumatic Heart Disease	4	2	6	—	1	—	1	1	53	40	93	15
81	420–422	Arteriosclerotic and Degenerative Heart Disease	2	—	2	—	1	—	1	—	41	30	71	3
82	430–434	Other Diseases of Heart	12	4	16	9	20	5	25	13	161	123	284	103
83	440–443	Hyoertension with Heart Disease	6	2	8	5	2	3	5	—	28	23	51	10
84	444–447	Hypertension without Mention of Heart	10	11	21	—	5	—	5	1	23	6	29	2
85	450–456	Disease of Arteries	—	—	—	—	1	1	2	—	23	18	50	5
86	460–468	Other Diseases of Circulatory System	22	20	42	2	17	6	23	1	134	56	190	19
		Respiratory Diseases												
87	470–475	Acute Upper Respiratory Infections	99	80	179	1	87	—	87	—	678	432	1,110	2
88	480–483	Influenza	13	13	26	—	52	—	52	—	732	528	1,260	12
89	490	Lobar Pneumonia	12	11	23	1	39	19	58	4	4,708	2,051	6,759	327
90	491	Bronchopneumonia	6	9	15	1	11	3	14	1	4,775	4,584	9,359	906
91	492, 493	Primary Atypical, other and Unspecified Pneumonia	15	9	24	1	12	3	15	1	1,149	565	1,714	168
92	500	Acute Bronchitis	17	17	34	—	59	26	85	—	2,378	1,693	4,071	25
93	501, 502	Bronchitis, Chronic and Unqualified	3	6	9	—	6	4	10	—	1,026	593	1,619	11
94	510	Hypertrophy of Tonsils and Adenoids	18	13	31	—	65	47	112	1	776	612	1,388	4
95	518, 521	Empyema and Abscess of Lung	1	—	1	—	4	—	4	—	90	69	159	18
96	519	Pleurisy (other than Tuberculosis)	3	6	9	—	6	5	11	1	233	138	371	10
97	523	Pneumoconiosis	—	—	—	—	—	—	—	—	46	20	66	—
97	N.O.S. 511–527	All other Respiratory Diseases	23	22	45	—	39	7	46	—	578	219	797	6
		Alimentary Diseases												
98	530	Dental Caries	2	1	3	—	24	2	26	—	211	142	353	—
98	531–535	All other Diseases of Teeth and Supporting Structures	18	5	23	—	13	8	21	—	167	115	282	8
99	540	Ulcer of Stomach	12	6	18	—	7	3	10	—	90	63	153	1
100	541	Ulcer of Duodenum	20	11	31	1	2	4	6	—	37	7	44	3

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		ALIMENTARY DISEASES—(*Contd.*)												
101	543	Gastritis and Duodenitis	9	2	11	—	17	2	19	—	261	232	523	2
102	550–553	Appendicitis	69	61	130	—	69	43	112	—	129	69	198	24
103	560, 561, 570	Intestinal Obstruction and Hernias ..	18	8	26	1	44	3	47	2	732	258	990	87
104	571.0	Gastro-Enteritis and Colitis between Four Weeks and Two Years	5	4	9	—	17	14	31	2	1,260	1,009	2,269	347
104	571.1	Gastro-Enteritis and Colitis, Ages Two Years and Over	24	20	44	—	38	11	49	—	864	616	1,480	81
104	572	Chronic Enteritis and Ulcerative Colitis	4	5	9	1	3	—	3	2	145	77	222	4
105	581	Cirrhosis of Liver	1	—	1	—	3	—	3	—	112	55	167	65
106	584, 585	Cholelithiasis and Cholecystitis	6	27	33	—	2	—	2	—	10	7	17	3
107	536–587	Other Diseases of Digestive System ..	84	50	134	—	97	24	121	5	965	863	1,828	39
		GENITO-URINARY DISEASES												
108	590	Acute Nephritis	—	2	2	—	—	—	—	—	113	74	187	30
108	591–594	Chronic, other and Unspecified Nephritis	—	1	1	—	1	1	2	—	74	30	104	20
110	600	Infections of Kidney (other than Tuberculous)	—	5	5	2	9	6	15	2	77	76	153	19
111	602, 604	Calculi of Urinary System	12	6	18	2	4	4	8	1	14	10	24	7
112	610	Hyperplasia of Prostate	8	—	8	—	3	—	3	—	39	—	39	3
113	620, 621	Diseases of Breast (not Neoplastic) ..	1	8	9	—	—	3	3	—	51	273	324	1
114	613	Hydrocele	3	—	3	1	8	—	8	—	167	—	167	—
114	634	Disorders of Menstruation	—	5	5	—	—	26	26	—	—	460	460	—
114	601–617 N.O.S.	Other Diseases of Genito-Urinary System and Male Genital Organs	55	—	55	—	28	—	28	—	739	—	739	17
114	622–637	Other Diseases of Uterus and Female Genital Organs	—	68	68	—	—	88	88	1	—	1,601	1,601	24
		DISEASES OF PREGNANCY PEURPERIUM												
115	640–641, 681, 682, 684	Sepsis of Pregnancy Childbirth and the Puerperium	—	—	—	—	—	2	2	—	—	151	151	6
116	642, 652, 685, 686	Toxæmias of Pregnancy and the Puerperium	—	—	—	—	—	4	4	1	—	115	115	5
117	643, 644	Hæmorrhage of Pregnancy and Childbirth	—	—	—	—	—	16	16	—	—	315	357	22
118	650	Abortion without Mention of Sepsis or Toxæmia	—	18	18	—	—	25	25	—	—	1,510	1,510	14

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		Diseases of Pregnancy Peurperium —(*Contd.*)												
119	650	Abortion with Sepsis	—	—	—	—	—	12	12	—	—	1,427	1,427	16
120	660	Delivery without Complication	—	39	39	—	—	116	116	—	—	7,278	7,278	—
120	645–689 N.O.S.	Other Complications of Pregnancy, Child-birth and Puerperium	—	14	14	—	—	32	32	—	—	2,351	2,351	70
		Skin and Musculo-Skeletal Diseases												
121	690–698	Infections of Skin and Subcutaneous Tissue	44	22	66	—	64	15	79	2	2,077	828	2,905	22
122	720–725	Arthritis and Spondylitis	6	4	10	—	19	1	20	—	526	186	712	1
123	726, 727	Muscular Rheumatism and Rheumatism, Unspecified	3	8	11	—	15	8	23	—	563	433	996	5
124	730	Osteomyelitis and Periostitis	4	1	5	—	7	4	11	—	319	128	447	14
125	737, 745–749	Ankylosis and Acquired Musculo-skeletal Deformities	9	6	15	—	3	—	3	—	95	42	137	5
126	715	Chronic Ulcer of Skin	2	3	5	—	10	7	17	—	2,713	1,510	4,223	14
126	700–714, 716	All other Diseases of Skin	25	12	37	—	74	25	99	—	1,711	901	2,612	10
126	731/736, 738–744	All other Diseases of Musculo-skeletal System	40	22	62	—	23	4	27	1	747	386	1,133	5
127	751	Spina Bifida and Meningocele	—	—	—	—	—	—	—	—	13	25	38	11
128	754 N.O.S.	Congenital Malformations of Circulatory System	—	—	—	—	—	1	1	—	7	5	12	2
129	750–759	Other Congenital Malformations	1	2	3	—	4	1	5	—	71	59	130	3
		Diseases of Newborn												
130	760–761	Birth Injuries	—	—	—	—	—	—	—	—	1	6	7	1
131	762	Post-natal Asphyxia and Atelectasis	—	—	—	—	—	—	—	—	6	3	9	5
132	764	Diarrhœa of Newborn (under Four Weeks	—	—	—	—	—	—	—	—	75	58	133	20
132	765	Ophthamia Neonatorum	—	—	—	—	—	—	—	—	7	6	13	2
132	763, 766–768	Other Injections of Newborn	—	—	—	—	—	—	—	—	13	20	33	15
133	770	Hæmolytic Disease of Newborn	—	—	—	—	—	—	—	—	4	3	7	2
134	769, 771, 772	All other defined Diseases of Early Infancy	2	—	2	—	2	1	3	1	52	62	114	34
135	773, 766	Ill-defined Diseases Peculiar to Early Infancy and Immaturity, Unqualified	1	—	1	—	—	2	2	1	47	46	93	24

RETURN OF DISEASES—IN-PATIENTS, 1952—(*Contd.*)

List No.	Code	Diseases	European				Asian				African			
			Admission			Total Deaths	Admission			Total Deaths	Admission			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
		Ill-Defined Diseases												
136	794	Senility without Mention of Psychosis ..	1	—	1	—	—	—	—	—	75	59	134	18
137	788.8	Pyrexia of Unknown Origin	60	29	89	—	8	13	21	—	386	216	602	26
137	793	Observation, without Need for further Medical Care	42	28	70	—	20	13	33	—	687	1,718	2,405	6
137	N.O.S. 780–795	All other Ill-defined Causes of Morbidity	45	32	77	—	123	23	146	1	901	1,397	2,298	25
		Injuries												
138	N.800–N.804	Fracture of Skull	6	1	7	1	8	—	8	3	194	54	248	48
139	N.805–N.809	Fracture of Spine and Trunk	7	8	15	—	10	—	10	3	136	20	156	24
140	N.810–N.829	Fracture of Limbs	41	32	73	—	96	17	113	1	1,849	501	2,350	19
141	N.830–N.839	Dislocation without Fracture	3	7	10	—	26	5	31	—	347	176	523	5
142	N.840–N.848	Sprains and Strains of Joints and Adjacent Muscle	10	4	14	—	12	—	12	—	493	145	638	—
143	N.850–N.856	Head Injury (excluding Fracture) ..	10	5	15	—	9	2	11	1	817	156	973	25
144	N.860–N.869	Internal Injury of Chest, Abdomen and Pelvis	3	—	3	—	3	1	4	1	143	43	186	37
145	N.870–N.908	Laceration and Open Wounds	48	23	71	1	121	15	136	—	3,270	1,067	4,787	46
146	N.910–N.929	Superficial Injury, Contusion and Crushing with Intact Skin Surface	23	12	35	—	16	4	20	—	1,667	870	2,537	
147	N.930–N.936	Effects of Foreign Body Entering through Orifice	—	3	3	—	4	—	4	—	212	109	321	2
148	N.940–N.949	Burns	3	6	9	—	24	10	34	4	1,038	854	1,892	128
149	N.960–N.979	Effects of Poison	1	4	5	—	5	3	8	3	187	53	240	19
150	N.950–N.959, N.980–N.999	All other and Unspecified Effects of External Causes	30	6	36	—	85	26	111	—	1,181	1,789	2,970	45
		Total	1,452	1,122	2,574	49	2,355	1,103	3,458	99	93,213	78,106	171,319	6,492

RETURN OF DISEASES—OUT-PATIENTS

Code	Disease	European			Asian			African		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	Infectious and Parasitic Diseases									
001–008	Respiratory Tuberculosis	2	—	2	1	—	1	987	509	1,496
010–019	Other Tuberculosis	2	—	2	1	—	1	859	562	1,421
020–029	Syphilis	6	—	6	1	4	5	10,846	6,382	17,228
030–035	Gonorrhœa	6	—	6	16	—	16	16,537	6,658	23,195
036–039	Other Venereal Diseases	—	—	—	—	—	—	1,115	570	1,685
045	Bacillary Dysentery	15	21	36	47	19	66	2,433	1,414	3,847
046	Amœbic Dysentery	19	7	26	23	5	28	1,864	1,342	3,206
055	Diphtheria	2	—	2	1	1	2	—	1	1
056	Whooping-cough	22	82	104	56	35	91	6,345	5,862	12,207
057, 340	Meningitis (excluding Tuberculosis)	1	—	1	—	—	—	78	37	115
058	Plague	—	—	—	—	—	—	6	5	11
060	Leprosy	—	—	—	—	—	—	1,283	866	2,149
061	Tetanus	—	—	—	—	—	—	84	70	154
062	Anthrax	—	—	—	—	—	—	146	109	255
071	Relapsing Fever	—	—	—	—	—	—	67	28	95
073	Yaws	—	—	—	—	—	—	5,610	4,205	9,815
080	Acute Poliomyelitis	—	—	—	—	—	—	27	18	45
084	Variola Major	—	—	—	—	—	—	—	—	—
084	Variola Minor	—	—	—	—	—	—	77	28	105
085	Measles	3	47	50	32	20	52	2,022	1,587	3,609
086	Rubella	1	1	2	1	—	1	36	—	36
087	Chicken-pox	6	21	27	14	14	28	1,510	577	2,087
088	Herpes Zoster	5	10	15	14	5	19	742	506	1,248
089	Mumps	16	39	55	9	3	12	2,822	1,651	4,473
092	Infectious Hepatitis	25	63	88	17	3	20	958	509	1,467
095	Trachoma	1	2	3	61	9	70	1,871	1,457	3,328
110	B.T. Malaria	12	1	13	5	5	10	517	650	1,167
111	Qt. Malaria	13	6	19	8	26	34	1,677	597	2,274
112	S.T. Malaria	50	23	73	386	90	476	25,210	18,397	43,607
115	Blackwater	—	—	—	—	—	—	2	1	3
121	Trypanosomiasis	—	—	—	—	—	—	57	80	137
120.0	Schistosomiasis (Hæmatobium	—	—	—	—	—	—	3,229	942	4,171
123.1	Schistosomiasis (Mansoni)	4	6	10	—	—	—	381	244	625
126	Tapeworm	9	2	11	9	4	13	14,364	7,834	22,198
127	Onchocerciasis	—	—	—	—	—	—	—	—	—
129	Ankylostomiasis	—	3	3	23	7	30	3,693	1,413	5,106
103.0	Ascariasis	1	10	11	42	41	83	7,352	6,693	14,045

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

Code	Disease	European			Asian			African		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	INFECTIOUS AND PARASITIC DISEASES—(*Contd.*)									
131	Tinea	25	31	56	13	8	21	2,077	1,286	3,363
135	Scabies	1	4	5	59	35	94	23,808	15,255	39,063
N.O.S. 036–138	Other Infective and Parasitic Diseases	29	54	83	314	74	388	18,879	8,882	27,761
	NEW GROWTHS									
140–205	Malignant Neoplasms	2	6	8	—	4	4	130	46	176
210–239	Benign and other Neoplasms	14	12	26	9	1	10	281	263	544
	ALLERGIC METABOLIC AND BLOOD DISEASES									
241	Asthma	8	12	20	112	55	167	2,760	1,097	3,857
286.6	Kwashiorkor	—	—	—	—	—	—	944	908	1,852
290–293	Anæmia	5	26	31	49	85	134	1,086	675	1,761
N.O.S. 240–299	Other Allergic, Endocrine, Metabolic and Nutritional Diseases	33	83	116	83	51	134	3,272	1,069	4,341
	DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS									
300–326	Mental Disorder	10	10	20	15	13	28	272	126	398
353	Epilepsy	3	3	6	6	3	9	206	104	310
N.O.S. 330–369	Other Diseases of the Nervous System and Sense Organs	42	78	120	175	57	232	4,660	2,194	6,854
	DISEASE OF EYE AND EAR									
370	Conjunctivitis and Ophthalmia	79	73	152	447	104	551	22,290	17,395	39,685
373	Stye	6	17	23	71	18	89	2,098	784	2,882
389	Blindness	3	—	3	—	—	—	328	115	443
N.O.S. 371–388	Other Diseases of Eye (not Trachoma)	366	218	584	815	296	1,111	6,669	2,187	8,856
390–398	Diseases of Ear and Mastoid Process	236	161	397	163	94	257	12,838	6,930	19,768
	CIRCULATORY DISEASES									
400–447	Diseases of the Heart	18	10	28	14	7	21	369	245	614
450–468	Other Circulatory Diseases	56	89	145	7	2	9	1,419	548	1,967

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

Code	Disease	European			Asian			African		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	Respiratory Disease									
490–493 N.O.S.	Pneumonia	28	39	67	64	57	121	2,832	2,656	5,488
470–527	Other Diseases of the Respiratory System (including Coryza, Pharyngitis and Bronchitis)	892	1,191	2,083	3,026	1,037	4,063	134,337	81,610	215,947
	Alimentary Diseases									
530–535	Dental Caries—Other Disease of Teeth and Gums	24	28	52	220	91	311	11,662	8,111	19,773
537	Glossitis	6	29	35	—	—	—	748	580	1,328
536–538	Stomatitis and Other Diseases of the Buccal Cavity and Salivary Glands	40	45	85	176	133	309	11,342	5,449	16,791
560–561, 570	Intestinal Obstruction and Hernia	19	9	28	24	9	33	388	166	554
571.0	Gastro-enteritis under 2 years	9	34	43	76	113	189	9,561	9,004	18,565
571.1 N.O.S.	Gastro-enteritis over 2 years	182	221	403	271	73	344	13,719	6,518	20,237
539–587	Other Diseases of Alimentary System	263	261	524	573	129	702	35,444	23,474	58,918
	Genito-Urinary Diseases									
613 N.O.S.	Hydrocele	3	—	3	5	—	5	532	—	532
590–617	Other Diseases of Genito-Urinary System and Male Genital Organs	94	—	94	48	—	48	3,675	—	3,675
636 N.O.S.	Sterility (Female)	—	5	5	—	—	—	—	1,121	1,121
620–637	Other Diseases of Uterus and Female Genital Organs	—	182	182	—	241	241	—	4,425	4,425
	Normal Pregnancy	—	96	96	—	13	13	—	6,641	6,641
650–652 N.O.S.	Abortion	—	14	14	—	9	9	—	1,209	1,209
640–689	Other Diseases of Childbirth	—	11	11	—	21	21	—	486	486
	Skin and Musculo-Skeletal Diseases									
690–698	Boils, and Infections of Skin and Subcutaneous Tissues	330	338	668	429	138	567	27,935	13,291	41,226
715 N.O.S.	Chronic Ulcers	38	24	62	179	54	233	38,098	19,610	57,708
700–716	Other Diseases of the Skin	142	165	307	257	150	407	11,593	6,330	17,923
720–759	Diseases of Bones, Joints, Muscles and Malformation	218	254	472	525	77	602	25,343	12,574	37,917

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

Code	Disease	European			Asian			African		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	Ill-Defined Diseases and Injuries									
760–776	Neonatal Diseases	1	—	1	—	1	1	116	50	166
788.8 N.O.S.	Pyrexia of Unknown Origin	207	213	420	1,027	381	1,408	36,678	24,175	60,853
780–795	All Other Ill-defined Causes of Morbidity	185	189	374	1	43	44	6,126	2,713	8,839
N.800–N.839	Fractures and Dislocations	101	31	132	9	—	9	2,031	784	2,815
N.840–N.848	Sprains	79	50	129	166	14	180	8,774	2,724	11,498
N.930–N.936	Foreign Bodies	26	10	36	36	7	43	2,643	1,600	4,243
N.940–N.949	Burns and Scalds	9	5	14	105	37	142	8,456	5,380	13,836
N.960–N.979 N.O.S.	Poisoning	4	4	8	98	23	121	146	73	219
N.850–N.999	Other Injuries and Wounds	343	240	583	716	194	910	75,774	28,952	104,726
Y00–Y18	Examination	937	534	1,471	1,679	38	1,717	13,182	2,681	15,863
	GRAND TOTAL	5,337	5,453	10,790	12,829	4,281	17,110	700,328	404,300	1,104,628

RETURN OF ACCIDENTS (COMBINED) IN-AND-OUT-PATIENTS, 1952

Code	List	Accidents	European		Asian		African	
			Cases	Deaths	Cases	Deaths	Cases	Deaths
E.810–E.835	AE.138	Motor vehicle accidents	40	—	55	5	994	39
E.800–E.802, E.840–E.866	AE.139	Other transport accidents	14	—	4	—	839	23
E.870–E.895	AE.140	Accidental poisoning	2	—	1	1	109	6
E.900–E.904	AE.141	Accidental falls	92	—	61	—	3,014	13
E.912	AE.142	Accident caused by machinery	3	—	62	2	627	1
E.916	AE.143	Accident caused by fire and explosion of combustible material	4	—	9	—	2,102	43
E.917, E.918	AE.144	Accident caused by hot substance, corrosive liquid, steam and radiation	8	—	18	—	1,602	20
E.919	AE.145	Accident caused by fire-arm	8	—	1	—	44	6
E.929	AE.146	Accidental drowning and submersion	1	1	—	—	37	3
E.920	AE.147	Foreign body entering eye and adnexa	21	—	64	—	342	—
E.923	AE.147	Foreign body entering other orifice	8	—	7	—	615	2
E.927	AE.147	Accidents caused by bites and stings of venomous animals and insects	24	—	14	—	700	7
E.928	AE.147	Other accidents caused by animals	15	1	1	—	591	4
N.O.S.								
E.910–E.979	AE.148	All other accidental causes	124	—	160	—	15,918	41
E.980–E.985	AE.149	Homicide and injury purposely inflicted by other persons (not in war)	9	1	39	2	1,801	29
E.990–E.999	AE.150	Injury resulting from operations of war	—	—	—	—	—	
		Total	373	3	496	10	29,336	237

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