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UGANDA PROTECTORATE

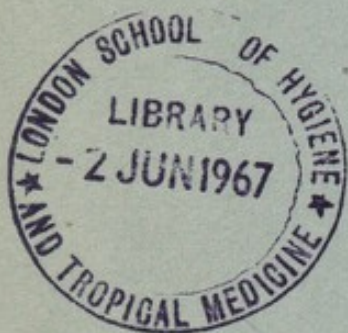
Annual Report
of the
Medical Department

FOR THE YEAR ENDED 31ST DECEMBER, 1952

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UGANDA PROTECTORATE

MEDICAL DEPARTMENT

Annual Report

For the year ended 31st December, 1952

I GENERAL REVIEW

The incidence of disease showed no special changes during 1952. Health education advanced in nearly all districts, and plans were prepared for the further development of this important branch of work. Expansion of other departmental activities was on a small scale due mainly to staff limitations. There was a notable increase in the interest shown by Government departments, commercial enterprises and the public generally in the provision and use of medical facilities. A comprehensive programme for the expansion of departmental services was drawn up, which will be put into effect as the financial and building resources of the Protectorate permit. It is intended to make an early start on the extension of training schools for African technical staff.

The popular demand for antibiotics such as penicillin and chloramphenicol has continued to increase. Falling prices made it possible to issue larger quantities to hospitals, and special provision was made for the use of antibiotics at certain dispensaries, mainly for the treatment of venereal disease and yaws. The outcome of this relatively free use of powerful drugs is a matter for conjecture; the social attitude towards promiscuity, which is the basic predisposing cause of venereal disease, will need radical alteration if there is to be a substantial reduction of the reservoir of infection. The history of the conquest of leprosy in various parts of the world has shown that the most effective control of a disease spread by human contact is the exercise of social sanctions against the behaviour which permits the disease to be transmitted.

The occurrence in 1952 of one case of yellow fever and twelve cases of plague, diseases from which Uganda has apparently been free in recent years, was a reminder that absolute control of disease in the tropics is not to be expected in existing circumstances. These two experiences emphasised, on the one hand, the difficulty of diagnosing yellow fever ante-mortem in an isolated case; and on the other hand, the value of prompt and vigorous sanitary action in preventing the spread of plague from a primary focus.

One of the public health measures undertaken during the year which had the most remarkable effects was an attempt to eradicate the *Simulium* fly from the Victoria Nile by insecticidal treatment of the river. Although this was not achieved, the fly returning to its breeding places after some

ten weeks, the attempt showed that effective control of this vicious insect was well within the bounds of economic practicability. Further work is proceeding to discover the source of reinfestation of the river.

Another advance was in the control of relapsing fever in Ankole by the application of gammexane to African houses. This treatment led to a substantial fall in the incidence of the infection, which has not hitherto been readily controllable by therapeutic methods.

In the past, the Medical Department has had to make do with limited resources. Curative services were available for only a small proportion of the population; while the efforts of health workers, successful though they were in controlling epidemic disease, could not touch the solid core of ignorance and apathy which led to so much mass infection. Now that the Protectorate's production of wealth shows signs of providing additional funds for social services, it is possible to plan a more comprehensive expansion of medical work. The money available will have to be devoted to purposes which are likely to show permanent results, and not spent on palliative activities which cannot affect the general level of health. Campaigns against diseases such as yaws, bilharzia or venereal diseases will need to be prosecuted until it is clear that a public understanding has been created; reliance cannot be placed on drugs alone. Reinfection by parasites must be prevented by inculcating sanitary habits, and by persuading the people to maintain a hygienic environment. In this, which is eminently a social matter, the African local authorities will be expected to take an increasing part. Curative facilities must be expanded, to provide more help for those who fall by the wayside; but the work of the health staff, together with the efforts of the Education, Agriculture, Labour, Community Development and Information Departments, must continue to be the main factor by which a rising standard of health can be achieved.

Plans for the expansion of rural medical services were prepared during the year. These included additional facilities for the training of local staff, including nurses, midwives, nursing orderlies, medical assistants, dispensers, laboratory assistants and health workers. These and other proposals, of which the cost amounted to over one million pounds, were submitted for consideration by a committee set up to advise on the use of part of the Cotton Price Assistance Fund. The first phase of the extension of departmental training centres was included in the 1953 Estimates.

The development of medical services for the general African population owes a great deal to the work of the pioneer medical missionaries, among whom Sir Albert Cook and his brother Dr. J. H. Cook were outstanding personalities. In those early days, Government often relied upon mission units for treatment of its staff in areas where no other facilities existed. As time went on, Government was able to extend its services. Nowadays, Government officers not infrequently assist mission hospitals and maternity centres. Changing financial circumstances in the United

Kingdom have had a serious effect upon some mission services, and methods of providing assistance from public funds were under review during the year.

Although the economic prospects of Uganda seem reasonably good, there are certain disquieting factors. Thus, two districts already show only a small margin between the land under cultivation and the cultivable land available. With population increasing at an average rate of nearly 2% annually, land is likely to be rested less often; intensive cultivation is bound to impoverish the soil unless improvements in agricultural practice are introduced. Under such conditions, a vicious circle of malnutrition—debility—parasitic infestation—decreased food production—malnutrition can readily occur; such a state was well illustrated by the District Medical Officer who wrote, "The main problems at Child Welfare clinics are malnutrition and hookworm infestation, and in the present state of advancement of the district it is very difficult to tackle these problems effectively. A suitable diet is not available in most parts of the district and children are cured of their hookworm only to be re-infested".

The development of new areas—so-called "re-settlement" schemes—generally requires special medical facilities. In the Kigezi scheme, immigrants from non-malarious regions experienced mild epidemics of malaria during the first two years. With almost complete cessation of immigration, and the movement of the more venturesome to paid employment elsewhere, urgent medical problems have diminished. A similar scheme is under way in West Ankole, and others will be needed as the population expands.

Distinguished Visitors

NUFFIELD PANEL OF CONSULTANTS

Mr. E. F. King, Ophthalmic Surgeon to the Westminster and Royal London Ophthalmic Hospitals.

Professor R. C. Browne of the Nuffield Department of Industrial Health, Newcastle-on-Tyne.

COLONIAL OFFICE VISITORS

Sir E. D. Pridie, K.C.M.G., D.S.O., O.B.E., Chief Medical Officer to the Colonial Office.

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

Dr. J. A. Logan, assigned to the Colonial Office by the Rockefeller Foundation.

Mr. L. Farrer Brown, Secretary to the Nuffield Foundation and member of the Colonial Advisory Medical Committee.

WORLD HEALTH ORGANISATION

Miss Eli Magnussen, Nursing Adviser for the Eastern Mediterranean Regional Office.

Dr. L. Verhoestraete of the Maternal and Child Health Section.
 Dr. T. A. Burch, Medical Adviser on Trypanosomiasis.
 Dr. T. A. Austin of the Regional Office for Africa.
 Dr. F. W. Reynolds, Medical Adviser on Treponematoses.
 Mr. R. Newton Clark, Chief Adviser in Public Health Engineering.

II VITAL STATISTICS

Considerable changes have taken place since the last census enumeration was held in 1948, particularly in the non-native population. Their extent can only be guessed roughly, owing to lack of precise data. The estimates quoted in this section use recorded registration or migration data interpreted in the light of inter-censal changes between 1931-1948. Other estimates are current, some based on tax-paying populations, others on immigration records alone; which set is nearer the truth will not be known until the next census is taken.

The interpretation of the immigration data available for non-natives presents some difficulties. The summary provided by the East African Statistical Department, which was quoted in previous years, has been discontinued; data supplied by the Principal Immigration Officer are summarised below as a basis for framing estimates of the migration that has taken place. In each of the past four years between 2,600 and 3,000 permits have been granted for visitors and persons in transit, and between 4,700 and 5,000 re-entry permits have been granted to residents. These are not included in the following table: —

TABLE I

Year	REPORTED IMMIGRATION (ALL NON-NATIVES)		ISSUE AND RENEWAL OF PASSPORTS, ETC.		
	Total permanent immig- ration	Of which passes for four years only	TOTAL	Of Normal duration	Short term (up to one year)
1949	2,703	663	2,965	2,484	481
1950	3,923	1,132	4,705	4,286	319
1951	5,332	1,178	4,121	3,668	453
1952	5,453	1,120	4,565	4,229	336
TOTAL ..	17,411	4,093	16,356	14,667	1,589

Unless there has been extensive unrecorded immigration the upper limit for the net ingress during the past four years is about 16,000 and this figure is closely matched by the number both of passports granted and also of re-entry permits sought. During the same period 10,565 certificates of permanent residence were issued (212 to Europeans)*; 70% of these permanent residents were not born in Uganda. It is evident that in the absence of any emigration records, only the roughest estimates can be framed on the basis of these data.

* The vast majority of Europeans have no intention of making their homes in Uganda, whereas most Asians intend to settle permanently.

The registration of deaths (apart from the deaths of young infants) is believed to be reasonably accurate, but that of births is by no means complete. One result of the immigration legislation operative since 1949 has been a rush to register births previously unregistered. This rush reached its peak in 1950. The oldest "baby" registered in 1952 was a European born in Uganda in 1917.

TABLE II
REGISTRATION DATA—ALL NON-NATIVES

	1948	1949	1950	1951	1952
Births registered ..	2,268	2,580	2,845	3,140	3,009
Late fee registrations ..	166	267	425	309	163
TOTAL REGISTRATIONS FOR PERIOD ..	2,102	2,313	2,420	2,831	2,846
Deaths registered ..	236	226	235	274	250
Natural increase ..	1,866	2,087	2,185	2,557	2,596

The number of non-native births registered annually, which was 1,321 in 1942, has thus doubled in the past ten years, while the deaths are the same as ten years ago (241 in 1942).

There is some indication that notification of infectious disease is improving, but obvious deficiencies still exist.

A. African Population

The mid-year African population in 1952 was estimated to be 5,300,000; the annual rate of increase is believed to be close on 2%.

Counts are made of Africans entering and leaving Uganda at convenient places on the main labour routes, and 90% of the passenger traffic on Lake Victoria is now included in the total of migrants. The net balance of migration, summarised below, is only one-half of that estimated for 1945 and 1946, but it is salutary to bear in mind that figures collected in Uganda bear little resemblance to those collected by the Belgians on the other side of the border.

TABLE III.
AFRICAN MIGRATION INTO UGANDA

	RECORDED MOVEMENTS (thousands)			
	1949	1950	1951	1952
Immigrants	123	81	98	86
Emigrants	115	63	66	60
NET RETENTION ..	8	18	32	26

Deaths in hospital were lower than in previous years, but the possibility that the changeover to the new system of recording may have led to some omissions cannot be overlooked*. The diseases showing the greatest decreases were: —

	1951	1952
Gonococcal infection	74	42 <i>deaths</i>
Pneumonia	420	332
Diarrhoea and enteritis	111	57
Childbirth	201	159

The death-rate based on registered African deaths is about 12·5 per thousand; allowing for unregistered infant deaths, the crude death-rate would probably be about 15 per thousand. Registered births are about 26 per thousand, but unregistered births may raise this to 30 per thousand or even more. The natural increase seems to be about 2% annually, made up of natural increase 1·5%, migration 0·5%.

The registered deaths of infants give an infant mortality rate of about 90 per thousand, but family sample surveys have suggested a figure about twice as high. Doubt about the child's true age, especially in retrospect, affects the reliability of such figures to an unknown extent.

HEALTH OF AFRICAN OFFICERS OF THE LOCAL CIVIL SERVICE

The apparent sickness experience is lower than ever but is no more credible than in previous years; the table usually given is therefore omitted.

B. European Population

The European population at the time of the census in 1948 was 3,545 excluding 4,000 Poles since repatriated; in 1952 it was provisionally estimated to be 7,000. No data regarding emigrants are available, but the permanent immigration during 1952 was 2,457 including 649 persons on four-year temporary employment passes.

Registrations of births and deaths (including Poles) were: —

	1948	1949	1950	1951	1952
Births	109	140	146	175	176
Deaths	39	38	23	21	26

The deaths in 1952 included two deaths of infants under one year old. The wide gap between deaths and births is attributable to the unusual composition of the population, which contains many young and few old people.

*186 deaths are known to have been omitted from Table VI B. The total deaths in hospital were 2,967.

TABLE IV
EUROPEAN PATIENTS AT GOVERNMENT HOSPITALS

	Year	OFFICIAL		NON-OFFICIAL		TOTAL
		Male	Female	Male	Female	
Out-patients	1951	1,882	1,449	1,673	1,846	6,850
	1952	3,122	2,755	1,133	699	7,709
In-patients	1951	305	365	363	312	1,345
	1952	306	338	312	186	1,142
Deaths	1951	4	—	2	2	8
	1952	3	1	4	1	9

European patients treated at the busiest hospitals were: —

	In-patients	Out-patients
Kampala	866	3,684
Entebbe	63	1,529
Jinja	137	1,213
Mbale	73	538

TABLE V
HEALTH OF EUROPEAN OFFICERS

	1950	1951	1952	
			Males	Females
Mid-year number on Staff List	895	983	963	164
Average number resident	709	827	791	143
Number of deaths	1	2	4	—
Number invalided out of service	2	6	4	2
Illnesses causing absence from duty	380	404	362	97
Number of days on sick list	2,783	2,751	2,622	629
Number granted sick leave	75	35	42	12
RATES—				
Daily sick as percentage of average number resident	1.08	0.91	0.91	1.20
Average length of illness in days	7.3	6.8	7.2	6.5
Average duration of sick leave in days	12.6	12.6	13.8	12.7

The causes of death of officers recorded in the above table were: —

Male, aged 31—Acute poliomyelitis.

Male, aged 39—Yellow fever.

Male, aged 55—Spinal tumour (died in United Kingdom).

Male, aged 57—Carcinoma of lung.

The causes of invaliding from the service of officers recorded in the above table were: —

Male, aged 33—Vertebral disk protrusion.

Male, aged 36—Pulmonary tuberculosis.

Male, aged 45—Psychasthenic headaches.
 Male, aged 51—Arteriosclerosis and bronchitis.
 Male, aged 54—Carcinoma of larynx.
 Female, aged 31—Eczema and asthma.
 Female, aged 47—Hypertensive heart failure.

HIGH COMMISSION DEPARTMENTS

73 officers were put off duty for a total of 534 days during 1952.

C. Asian Population

The Asian population was 36,800 at the time of the census in 1948, and was estimated to be just over 50,000 in 1952. Permanent immigrants during 1952 numbered 2,996 including 471 on temporary employment passes, while the natural increase due to excess of births over deaths is approaching 2,500. The number of Goans over the age of 16 registered as aliens was 1,017 (1,008 in 1951). Births and deaths registered in recent years have been—

	1948	1949	1950	1951	1952
Births registered, including late fee registrations	2,049	2,424	2,634	2,634	2,685
Deaths registered	190	186	199	248	214

The recorded infant mortality was 13 per thousand live births.

TABLE VI
ASIAN PATIENTS AT GOVERNMENT HOSPITALS

	Year	OFFICIAL		NON-OFFICIAL		TOTAL
		Male	Female	Male	Female	
Out-patients	1951	4,233	2,168	2,915	2,237	11,553
	1952	5,743	2,480	2,767	1,965	12,955
In-patients	1951	248	238	770	1,092	2,348
	1952	279	293	617	991	2,180

Patients recorded at the busiest hospitals amounted to: —

	In-patients	Out-patients
Kampala	1,261	4,158
Jinja	383	2,397
Entebbe	118	2,562
Masaka	167	142
Tororo	70	2,326
Masindi	84	169
Mbale	45	1,429

The causes of death of Asian patients are shown in Appendix VI C, page 73.

TABLE VII
HEALTH OF ASIAN OFFICERS

	1950	1951	1952
Mid-year number on Staff List	—	398	440
Estimated average number resident including temporary staff	—	600	550
Number of deaths	2	1	1
Number invalided out of service	—	—	—
Illnesses causing absence from duty	562	572	560
Number of days on sick list	2,573	2,504	3,858
Number granted sick leave	18	10	11
RATES—			
Daily sick as percentage of average number resident	—	1.0	1.0
Average length of illness in days	4.6	4.4	6.9
Average duration of sick leave in days	19.8	18.8	12.8

The one death recorded was—

Male (Goan), aged 47—Coronary thrombosis.

HIGH COMMISSION DEPARTMENTS

449 officers of High Commission departments were put off duty for a total of 3,559 days. Three deaths occurred, one from head injury and two ascribed to coronary thrombosis.

III PUBLIC HEALTH

A. General

An Annual Report is a convenient place for displaying a selection of the statistics which are collected in any Government department. The forms of data recorded need to be reviewed from time to time, as there is undoubtedly a tendency to collect facts on the off-chance that they may come in useful some day. Among the ancient data discarded in annual spring cleanings of this kind were the daily average number of pails of excreta classified as buried, burnt, thrown into sea or otherwise dealt with; while returns of the number of quarries inspected, drains oiled or vaccinations performed have ceased to impose burdens upon the health staff. The more reliable standards now required may be illustrated by the analysis of deaths of mental patients (page 46), a number of whom died from tuberculosis. It was hoped to utilise the pre-war death records, which are available since 1922, but only one out of 137 deaths was attributed to tuberculosis. Nearly half the deaths were ascribed to asthenia and there was no indication that autopsies were ever performed. In such circumstances, it was clear that no valid comparison could be made.

It is hoped that the new forms of hospital returns will provide more valuable information in future. The returns for out-patients now differ from those for in-patients in making allowance for the smaller variety of diagnoses which are possible under the usual conditions found in out-patient departments. It has taken a little while for staff to become

accustomed to the new classification, but increasing accuracy in allocating diseases was shown during the first few months of 1952.

The scope of public health work has gradually widened to include the social implications of various conditions of life; from being concerned with deaths and disease, it now embraces functional disabilities; from preoccupation with the parts played by sewage and water supplies in the spread of infections, it now examines the living and working conditions of ordinary folk, and ways of getting ideas into people's heads.

Among the disabilities receiving more attention is blindness, in which the British Empire Society for the Blind has done much to stimulate public interest.

BLINDNESS

Several medical officers have attempted to assess the relative importance of various forms of eye disease during routine surveys, generally in places where trachoma or onchocerciasis were suspected to be common causes of damage. The results of these surveys have been affected by the use of different criteria of assessment and by inability to ensure that all the blind were brought for examination.

A survey of 5,000 persons in the West Nile District revealed 1.7% blind*, 5 of the 85 cases being children under 10; a smaller group in North Bunyoro showed a similar incidence. Elsewhere in the Protectorate much lower rates were recorded. From data collected during the war, the incidence in Uganda would appear to be of the order of 0.3% (these data were subject to the defects mentioned in the last paragraph).

While blindness in children and young adults is largely due to infections (trachoma, acute conjunctivitis, smallpox, etc.), which are largely preventable or curable if treated speedily and adequately, the majority of blind people are old persons with degenerative lesions. The incidence of blindness in persons over 40 is more than ten times as great as in persons under 20.

ANAEMIA

This is another condition of which the importance has been increasingly realised in recent years. The extent and causation are still obscure. The assessment of haemoglobin and red cell levels is difficult to perform accurately under field conditions, but evidence is accumulating that substantial degrees of anaemia are common and widespread. In the West Nile District the haemoglobin level is lower in persons living below the escarpment; in Mbale District the level also seems to be lower on the plains than in the hills. Pregnancy is a well-known factor, while dietary protein appears to be particularly important; helminth infestations do not seem to have a decisive influence. Malaria is important in infants. Iron is a valuable therapeutic measure in dealing with the majority of cases of anaemia seen in Uganda.

* The criterion of blindness was not so stringent as in other districts.

INJURIES

Injuries are common; two outstanding causes among hospital patients are traffic accidents and wounding by wild animals. The injuries tend to be rather stereotyped in the latter category—buffalo wounds in the groin, leopard wounds on head or upper arm. Road accidents caused 232 deaths in the whole Protectorate. One unusual death in Bugishu was that of a girl of 16 after ritual circumcision.

B. Nutrition and Food Supplies

In spite of abnormally heavy rains in the beginning of 1952, which continued throughout the year in the Northern Province, the food position was satisfactory. Germination of finger millet was adversely affected, but shortages were only experienced in the Western Province.

Interest in nutrition has fluctuated from time to time. In the years prior to the war, joint surveys were carried out by members of the agricultural and medical departments, and some valuable results were obtained. This work ceased with the onset of the war, and it was not until hostilities were nearing their end that further investigations were undertaken. With advances in knowledge relating to malnutrition in early childhood, and an increasing realisation of the food requirements of labourers, it became apparent that the adequacy of the state of nutrition of the inhabitants needed to be reviewed. An Advisory Committee on Human Nutrition was therefore formed in 1952 to obtain information on the causes and correction of malnutrition and to advise on action to increase production and improve the availability of foodstuffs. This Committee contains representatives of the Government departments concerned with health and food supplies, together with other persons having special qualifications in these and related fields.

The problem of adequacy of diet can be tackled in two ways: in one, the food intake is contrasted with the theoretical requirements; in the other, search is made for clinical evidence of deficiency. The food intake can be estimated for various levels of requirement (e.g., age, class of work done), and corresponding food balances prepared. Since the bulk of the food eaten is grown on the family's own cultivated plot, little passing through organised markets or distribution channels, improvised methods of dietary assessment have had to be used.

Estimation of territorial production from the recorded acreage of individual crops has been attempted, but the returns from chiefs upon which the calculations were based have shown some obvious defects. These returns will need to be fortified by sample checks and measured surveys if they are to provide reasonably accurate absolute figures. Another disadvantage of the community approach is that it gives only the average amount available, and obscures variations and deficiencies in individual families. In spite of the imperfections of the data, it is apparent that the resources of animal protein are insufficient.

The measurement of plot acreages of individual households was used in the pre-war nutritional investigations. As such an approach ignores details which may be of great importance, such as variation in yield per acre and thoroughness of harvesting and wastage, attempts have recently been made to measure the food intake nearer the consumer. In two surveys in Mbale District during 1952, the usual amount of food eaten in a fixed period of time was shown to the investigator, and in some cases weighed. Although it is probable that the information supplied was an exaggeration of the true picture, the results pointed to some definite deficiencies in the dietaries of many families—of protein in nearly all, of calcium in the plaintain-eating hill dwellers, and of nicotinic acid in the millet-eating plain dwellers. For both groups, the amount of iron ingested was probably insufficient, if allowance was made for its limited availability.

The approach by means of clinical assessment reveals at times occasional cases of scurvy or vitamin A deficiency in the north-eastern corner of Uganda, but attempts to correlate marginal and subnormal diets with clinical defects have not yielded any tangible results. The well-known effects of supplements of milk or meat in increasing the rate of growth of schoolchildren have been observed in Uganda, and suggestive evidence of the beneficial effect of such a dietary in the prevention of dental caries has been obtained by comparing the oral conditions of different tribes.

The main lines of investigation comprised clinical research and biochemical studies at Mulago Hospital and Makerere Medical School*. A Field Nutrition Unit is being formed to survey the nutritional status and dietary habits of population groups throughout the territory. Pending the formulation of long-term programmes, which will be largely concerned with problems of food production, storage and distribution, useful educational literature on methods of infant feeding has been prepared in Luganda. A Baby Week was organised by the Medical Officer in charge of Infant Welfare Clinics in Mengo District, at which special attention was paid to practical dietary instruction.

In towns, it is possible to use the more orthodox method of a weekly budget analysis when studying the situation of those workers who live entirely on bought food. Surveys carried out annually show that the calorie intake has risen, although possibly the diets are not so adequately balanced. The rapid rise in wages and food prices has led to some curious anomalies, such as the African fishermen from Kisumu in Kenya being able to undercut the local fishermen in Busoga. Even medical propaganda may have unexpected results. Recommendations to use dried skimmed milk as a dietary supplement at the time of weaning, with the object of preventing Kwashiorkor, sometimes led to mothers taking their infants off the breast specially for this purpose.

* DEAN, R. F. A. (1952) Treatment of Kwashiorkor with milk and vegetable proteins. *Brit. Med. J.* Vol. 2, p. 791. See also Appendix II, page 56

Distribution problems will become more important as urban populations increase, and some hospitals already find difficulty in obtaining regular bulk supplies. Storage methods designed to minimise losses in transport will also be required. The maintenance of food reserves is a communal as well as an individual responsibility, and the grain storage plant at Jinja was designed to deal with one important aspect of the territory's needs.

C. Communicable Diseases

(1) ARTHROPOD-BORNE

MALARIA

Although the number of cases treated in hospital showed little change, the incidence of malaria seems to have been light during 1952. Adult mosquito catching posts have been operating as a routine in several towns; the catches have shown no appreciable association with rainfall, and are valuable as pointers to danger spots in and around the towns. Two districts in the north of the Protectorate report cases of blackwater fever in Africans. The settlement area of North Kigezi appears quiescent; many of the new cases of malaria in this district can be traced to infection in Buganda.

A survey of Indian schoolchildren in Busoga revealed that malaria was less prevalent than had been thought. The uncertainty of a diagnosis of malaria in Africans, even if supported by a positive blood slide, was emphasised by the finding that one-sixth of apparently normal and healthy African schoolchildren examined in Bunyoro had parasites in their blood.

Coffee husks impregnated with oil were found to be an effective method of treating roadside drains to prevent mosquito breeding. A beneficial side-effect of the *Simulium* eradication scheme in the Victoria Nile was the reduction in breeding of *A. moucheti*. In the Municipality of Kampala, increasing use has been made of benzene hexachloride (0.1% powder) applied by a line of porters traversing waterlogged ground; the TIFA machine is being reserved for use in the dry periods and for dealing with adult mosquitoes. The policy of combining anti-malarial with permanent storm-water drainage, which has been adopted in Kampala and other towns, was commended by a visiting expert and referred to as an example of the evolution of malaria control from a scientific into an economic problem. The transfer of anti-malarial work in townships from the Medical Department vote to the local authorities' budgets led to some preliminary teething troubles; the implications of the new arrangements are now better understood, and they should lead to more satisfactory continuity in the execution of permanent control measures.

PLAGUE

The incidence of plague declined sharply after 1942, and no case occurred from March 1947 until early in 1952. During recent years the disease has been reported from Kenya and Tanganyika, while two foci of endemic plague have persisted in the Belgian Congo close to the Uganda border. One of these foci is at Blukwa on the escarpment overlooking Lake Albert, the other being near the north end of Lake Edward.

In March, 1952, a small epidemic occurred in the Belgian Congo at Mahagi, and six patients seen on the Uganda side of the border were suspected of having pneumonic plague. None died and no bacteriological confirmation was obtained.

Within a few weeks, plague broke out in South Toro near the border of the Belgian Congo; twelve cases with eight deaths occurred over a period of four weeks. Preliminary reports of rodent deaths were not confirmed; only one dead rodent was found, whose spleen smear was bacteriologically negative. All patients except the first were pneumonic in type, suggesting that transmission was largely by the respiratory route. The focus was situated near Bwera on the main road from Uganda to the Belgian Congo, in the foothills of the Ruwenzori Mountains and about 30 miles east of the endemic focus at Lubero. Several of the patients had visited the Congo, and received treatment there.

Control measures consisted of rat hunts, in which 4,000 rats were killed; treatment of over 1,500 huts in Bwera and Katwe with cyanogas and B.H.C. powder to kill rats and fleas; and quarantine restrictions in the two administrative sub-divisions, including closure of markets and schools, banning of public meetings, and control of travel. Many people evacuated themselves voluntarily to higher ground on the mountains.

Three patients died before any treatment could be given. The next five cases received sulphonamides and penicillin, but all proved fatal. The last four patients seen were each given 15 grammes of streptomycin, and all recovered. The sputum of these cases contained *P. pestis* (microscopically diagnosed). Contacts received sulphonamides for three days, and no contact so treated became ill.

RELAPSING FEVER

The known possible vectors of relapsing fever have been increased by the discovery of the small variety of *Ornithodoros erraticus* (Lucas) in Karamoja District.* As with the louse, it has not yet been incriminated as a carrier of disease in Uganda, where all cases are believed to be due to infection transmitted by *O. moubata*.

The majority of cases reported in Mengo District were derived, as in the past, from a sugar estate recruiting immigrant labour from the south-west. The construction of better labour lines should lead to a marked reduction in incidence, although sporadic infection from stray imported ticks will still be possible. The cases in Toro District were mainly from Katwe, and Masaka District now reports more cases than Ankole.

A successful method of control has been evolved in Ankole, formerly the chief focus of infection in Uganda. Benzene hexachloride (in a water-miscible form) was sprayed over walls and floors of huts near Mbarara so as to give a deposit of approximately 11 mgms. of the active isomer per

* HEISCH, R. B. (1952) *E. Afr. Med. J.*, Vol. 29, p. 477.

square foot. The spraying was repeated some months later. The percentage of huts found infected was reduced to one-fifth of the original proportion (5.6%) and the maximum number of ticks in any one house fell from 37 to 2. No case occurred in nearly 1,200 huts treated, whereas 35 infections following tick bites in these huts had occurred during the year prior to treatment. The total number of cases diagnosed microscopically at the district hospital fell to one-quarter of the 1951 figure.

TABLE VIII
CASES OF RELAPSING FEVER REPORTED

District	1949	1950	1951	1952
WESTERN PROVINCE—				
Ankole	327	393	192	50
Kigezi	18	40	23	3
Toro	24	43	41	16
Bunyoro	2	5	2	—
BUGANDA PROVINCE—				
Masaka	105	170	156	91
Mengo	50	70	33	39
Mubende	2	3	7	1
EASTERN PROVINCE—				
Busoga	33	1	1	—
Lango	—	—	—	1
OTHER DISTRICTS	5	2	—	—
TOTAL CASES REPORTED ..	566	727	455	201
Admitted to hospital	346	301	229	181
Deaths in hospital	11	12	4	3

TRYPANOSOMIASIS

"On the 12th November, 1902, when examining a specimen of cerebrospinal fluid taken by lumbar puncture during life from a well marked case of *sleeping sickness*, I was surprised to observe a living trypanosome." This opening sentence in the Royal Society's *Sleeping Sickness Reports*, written by Castellani half a century ago, was the first step forward in the long campaign that is still being waged against the tsetse fly and the trypanosome. No longer is the Entebbe Botanical Gardens, "full of tsetse flies and rank vegetation", a source of infection; but tsetse can still be found in abundance not far away. The disease can be controlled by modern drugs, and its persistence can be attributed to its having become, like so many others, not purely a medical but also a social problem, dependent for its solution on the understanding and co-operation of the indigenous population.

The number of cases and deaths reported in 1952 were the same as in the previous year, i.e., 38 cases and 2 deaths, but the picture of the distribution of the disease is gradually changing. The largest single source of infection is along the River Aswa in the Northern Province, between the road crossings at Awere and at Paranga, where three administrative areas meet. This has on occasion resulted in patients being sent to

hospitals outside their own home areas. By house-to-house visits it has been possible to bring to light cases missed at routine surveys, and more patients have reported voluntarily since treatment has been arranged at the local dispensaries.

A few diagnoses have been made on clinical grounds only, trypanosomes not having been found either in blood, glands or cerebrospinal fluid.

Three cases were reported from Lango District, ten cases with one death from Acholi District, and six cases with one death from the West Nile District.

Buvuma Island, which has been an endemic focus of *rhodesiense* infection since 1943, produced only two cases during the year, although one other case from Ngogwe on the mainland may have been infected from illicit fishing and landing in the closed area (6 cases in 1951, 25 in 1950). The measures adopted to prevent infection—voluntary evacuation and closure of the fly areas—cannot be credited with this fall; voluntary evacuation amounted to only 11% of the total population (1,200) during the past three years, and has now practically ceased; while attempts to consolidate the population and enforce "quarantine" measures have not been successful. Recession of tsetse fly during recent years has been noted both on Buvuma Island and on the mainland in the Eastern Province. In the Eastern Province, three cases were reported from Busoga District and twelve from Mbale District in the region around Mjanji Port. Of these latter cases, six were residents of Busoga and two of Kenya. In three cases infection was suspected to have occurred on islands near Buvuma.

The regular monthly examination of blood slides is probably the most effective measure for detecting early cases. The efforts of the Sleeping Sickness Inspector to secure a local understanding of the way in which all departments are working for the welfare of the inhabitants of Buvuma Island should help to modify their suspicious attitude towards proposals designed to help in solving their problem.

One difficult feature of the present situation is the tendency of the infection to occur sporadically. An area may be free from known cases of the disease for a matter of years, and then new cases infected locally will turn up. In Bunyoro, 20 cases were discovered in the Victoria Nile area in 1944; nothing more was heard until a singleton case was discovered in 1948; the next episode was the discovery of three early cases, one a child of 5 years old, in the opening months of 1953. Busongora, on the southern foothills of Ruwenzori, provides the same picture—two cases were found in January, 1951, and no more for over two years. Such happenings in the past led to the view that the infection was being maintained in animal reservoirs, such as monkeys, crocodiles or sitatunga antelopes; latent and unsuspected infections in human beings can also be responsible.

TYPHUS

123 patients suffering from typhus fever were treated in hospital (114 in 1951), the numbers of Europeans (21) and Asians (3) being slightly

greater than in 1951 (12 and 1 respectively). All except one of the African patients were treated in the vicinity of Kampala and Entebbe, but the majority of the European patients came from the Eastern Province (Jinja and Mbale).

YELLOW FEVER

A fatal case of yellow fever* occurred in January, 1952, the infection being contracted at Kasunganyanja, 20 miles south of Fort Portal. This is the first European case reported in Uganda, and only the second case in which infection has been diagnosed at the time of illness.

The disease was presumably acquired from *Aedes africanus*, which were prevalent in the riverine forest and adjacent banana plantations. The forest monkeys showed a high incidence of immunity to yellow fever virus.

Further investigations have been made into the possibility that bush-babies (*Galago senegalensis albipes*) may act as vectors of yellow fever in the drier parts of the country such as Karamoja. A larger proportion of bush babies give "inconclusive" immunity results than do monkeys; the "inconclusive" individuals are apparently resistant to reinfection, while the few non-immune animals are highly susceptible to infection with the virus.

Owing to the practice of artificial immunisation against yellow fever, surveys for immunity in the African population are now less likely to throw clear light on the occurrence of natural infections. Thus, of 103 persons examined in Karamoja, all but three were non-immune; and of the three, two were discovered to have been vaccinated previously. Similar results have been noted among dhow crews sailing the Indian Ocean, as well as during the work of delimiting the southern border of yellow fever endemicity.

(2) HELMINTHIC DISEASES

DRACONTIASIS (Guinea Worm Infestation)

More detailed information was forthcoming about the distribution of this disease. It occurs in Aringa county in the north of the West Nile District, and also in Madi. In Acholi, it is patchy in its distribution throughout the northern half of the district, being recorded from Attiak, Madi Opei and a few cases from Patonga. In Karamoja, a recrudescence of infestation was attributed to roadside drains.

No reports of the disease were received from Lango or Eastern Teso.

LOIASIS

The filarial worm *Loa loa*, a common West African parasite, is known to infect the inhabitants of the upper Uele River bordering on the West Nile District. The tabanid flies† able to transmit the disease, *Chrysops*

* ROSS, R. W., HADDOW, A. J., RAPER, A. B. and TROWELL, H. C. (1953) *E. Afr. Med. J.*, Vol. 30, p. 1.

† HADDOW, A. J. (1952) "Further observations on the biting habits of *Tabanidae* in Uganda". *Bull. Ent. Res.*, Vol. 42, p. 69.

dimidiatus and *C. silaceus*, stop short of the Uganda border, but *C. distinctipennis* is likely to be found in the north-west of the Protectorate. In view of the length of time, amounting to years, before infection may show itself, it is often difficult to pinpoint the place of infection; three cases reported by Sir Albert Cook in 1901 were probably not infected in Uganda, and the same can be said of one of the two cases reported in 1952 from Acholi and the West Nile respectively. The possibility of this infection being transmitted in Uganda cannot however be ruled out. *C. centurionis*, a crepuscular biter of the forest canopy, is believed to transmit monkey filariasis.

ONCHOCERCIASIS

Interest in this disease has grown in recent years. Its distribution has been found to be much wider than was formerly realised. The possibility that its ocular manifestations had been overlooked has been examined in some areas. A full account of these complications has been given in the Annual Report of the Filariasis Research Unit (East African High Commission), 1951, but they do not appear to be as readily discovered in Uganda as would be expected. A visiting ophthalmologist examined 115 schoolchildren and 20 adults at Bumbo (an endemic area in Southern Bugishu) but found no ocular onchocerciasis; some definite cases have been reported from Busoga. However, at Bondo in the West Nile District, five out of ten partially blind persons had irregular corneal opacities probably due to onchocerciasis. This was rather less than 1% of those examined in a focus of heavy infection with the helminth.

After a careful assessment of the results of the experiment undertaken in 1951, in which insecticide sprayed from aircraft was used to control *S. damnosum* breeding in the Victoria Nile, a more comprehensive scheme was planned and carried out in 1952. Repetition of the aerial spraying on a large scale was considered to be unduly hazardous in view of the nature of the terrain, and planes equipped for this task were not readily available. A modification of a method used in Canada was therefore tried, using a launch instead of aircraft to introduce D.D.T. emulsion into the stream.

The requisite dose of diluted D.D.T. emulsion was pumped into the river as the launch cruised back and forth above the Ripon Falls. Twelve-weekly applications were made between June and August, each application delivering 440 gallons of emulsion in half an hour. The average stream flow was slightly over 600 cubic metres per second, so that a concentration of one part D.D.T. in 2,240,000 parts of water was achieved at each application. The cost of the project including the control measures to determine the effect on the fly population was—

	£
D.D.T. emulsion, including freight (122 × 44 gallons)	5,514
Hire and operation of launch	258
Travelling and control operations	216
TOTAL ..	£ 5,988

The immediate effects of the dosing were impressive. Within fifty minutes of the first application larvae were noted streaming away from their rock and grass attachments, and within four hours many were dead. The lethal effect was noted at the Owen Falls one hour later and at the distal end of the breeding stretch, 40 miles distant, about thirty-six hours later. The rocks were rapidly covered with algal growth, upon which fish browsed and snails increased. On the tenth day a drop in the number of adult flies caught was recorded, and on the thirteenth day no flies could be found, although previously catches of 100 flies per boy-round were being recorded. A small backwater to which the treated water did not penetrate needed special attention, and after the first month only one fly per week was caught.

For two months after the cessation of treatment it seemed that the effect might be durable. A few flies were brought in by Africans, but their origin was not ascertainable. Ten weeks after the cessation of spraying an adult fly was caught on the routine fly-rounds, and a week later breeding was discovered in the Nile. It is of interest that the balance of nature has been disturbed, for no *S. nili* or *S. hargreavesi* have yet been reported, and the larvae now present (*S. damnosum*, *S. griseicollis* and *S. adersi*) include one species which did not breed in the Nile before the treatment. This is *S. adersi*, which is found on the islands in the Lake, and is suspected to occur at points along the Busoga coast line; the larvae are attached to rocks covered with the spray of breakers, and can tolerate slower running water than can *S. damnosum*.

Various hypothetical reasons for the failure to secure eradication of *S. damnosum* are being investigated; among them are the possibilities that females aestivate during dry weather, or that reinfestation may have occurred from unsuspected breeding places on the lake shore where wave action may produce the requisite amount of aeration.

SCHISTOSOMIASIS

The survey of vesical schistosomiasis in Lango District has delimited the areas of heavy infection, and work continued on methods to control the disease. The action of Nilodin was found to be disappointing, while previous experience with tartar emetic had revealed that its effect is often transient. Infection takes place in scattered discrete pools, and the application of copper sulphate appears to be the most effective method of control. The work is being carried out by health staff, the African local authority supplying the material.

(3) DIRECT INFECTIONS

ANTHRAX

123 cases with 6 deaths are known to have occurred during 1952, but it is likely that cases of internal anthrax may pass undiagnosed. The largest focus reported is in Bugungu on the north-east shore of Lake Albert, the infection being conveyed by goats and cattle and maintained by failure to bury infected carcasses.

A focus around Bwera in South Toro produced 20 cases, the daughter of the sub-county chief dying from intestinal anthrax. The source of infection was not known with certainty, but was ascribed to eating buffalo or hippopotamus meat, among which animals there had been an unexplained mortality. Elsewhere in the Western Province, Ankole reported eight cases (two dying) and Kigezi two.

In the opposite corner of the Protectorate seven cases were reported from Kangole and Amudat in Karamoja District. No further incidents were reported from the West Nile and Madi areas. Tororo reported one case; and of three cases in Mengo (one death), two came from Singo county. The source of infection could not be traced in a boy dying in Mulago Hospital.

LEPROSY

Numerous surveys have been undertaken during the year by the Specialist Leprologist and other officers, and it is possible to replace the survey results given in the 1949 report by more reliable data. In order to obtain samples from which valid conclusions can be drawn, careful preparations must be made; full co-operation from chiefs is essential, and several surveys have been disappointing because of inadequate attention to procedure. There are still extensive areas—even whole districts—which have not yet been surveyed, and the rates given in the table below will undoubtedly need adjustment as further results become available.

TABLE IX
LEPROSY PREVALENCE IN UGANDA

District	Rate per thousand population	Estimated number affected
BUGANDA—		
Mengo	10	9,000
Masaka	7	3,000
Mubende	2	200
EASTERN PROVINCE—		
Busoga	35	17,000
Mbale	20	12,000
Teso	32	12,000
NORTHERN PROVINCE—		
Karamoja	(15)	2,000
Lango	16	5,000
Acholi	15	3,000
West Nile	13	4,000
WESTERN PROVINCE—		
Bunyoro	11	1,000
Toro	25	7,000
Ankole	(15)	6,000
Kigezi	6	3,000
UGANDA	16	84,000

As a result of the increased interest shown in this disease, the beneficial effect of the sulphone drugs and the numerous surveys undertaken, African Local Governments have been active in providing treatment centres

in their own districts. Centres are in operation in three districts of the Northern Province—Kuluva in the West Nile District, Alelelele in Acholi District, and Alito in Lango District—with technical supervision provided by Government and the Missions. In Busoga, the creation of residential centres around the Mission settlement at Buluba is under consideration. It has been found necessary for the African Local Governments to provide substantial assistance in the initial construction of the camp; the patients have tried to help, as was the original intention, but are inclined to suffer from minor injuries. The first patients were mainly adult males, but accommodation is to be provided for women and children. The capital cost of Alito camp was estimated at £2,000.

Routine treatment consists of tablets of D.D.S. and injections of sulphetrone, while hydnocarpus oil is still used extensively. It has been noted that children do not respond to treatment so well as adults. Thiacetazone has not given such good results, but was useful for patients sensitive to sulphones and in poor condition. The results of isoniazide treatment are not so far as impressive as in tuberculosis.

An analysis of out-patients at Kumi and Ongino settlements, taken in conjunction with a survey of the surrounding areas, enables an estimate to be framed of the likely benefit to be derived by out-patient attendances. In the sub-counties in which these two settlements are situated, only one-quarter of the known infected persons were attending for treatment. For persons living five miles away the proportion was reduced to 50%, and at ten miles distance to 10%, i.e., only one in forty of all infected persons. "Attending" is used in a broad sense; it does not imply regular attendance with effective treatment. In order that such persons may receive continuous treatment and be effectively segregated, methods of encouraging "squatters" to settle near treatment centres are being evolved.

TABLE X
PATIENTS IN LEPROSY SETTLEMENTS

	Resident at start of year	Admit- ted	Births	Deaths	Left	Resident at end of year
BUGANDA—						
Nyenga (Mengo) ..	280	162	4	4	131	311
EASTERN PROVINCE—						
Buluba (Busoga) ..	504	150	18	6	156	510
Kumi-Ongino (Teso)	787	420	9	16	402	798
NORTHERN PROVINCE—						
Alito (Lango) ..	—	169	2	1	—	170
Alelelele (Acholi) ..	—	65	—	2	9	54
Kuluva (West Nile)—						
A.I.M. ..	36	19	—	1	9	45
A.L.G. ..	—	110	—	2	16	92
WESTERN PROVINCE—						
Bunyonyi (Kigezi) ..	777	72	31	21	69	790
TOTAL ..	2,384	1,167	64	53	792	2,770

TABLE XI
FINANCIAL SUMMARY FOR MISSION LEPROSY SETTLEMENTS

	Bunyo- nyi	Nyenga	Buluba	Kumi- Ongino	TOTAL
	£	£	£	£	£
GRANTS TO SETTLEMENTS—					
<i>From Government—</i>					
Maintenance	1,163	867	779	1,661	4,470
Buildings	247	204	200	349	1,000
Doctors' salaries	300	—	300	300	900
Free drugs (value of)	282	261	294	173	1,010
Water supply	—	—	—	250	250
Motor vehicle	—	—	—	675	675
Emergency grant	—	—	—	1,500	1,500
Education	288	304	297	370	1,259
<i>From African Local Governments</i>	181	—	1,800	3,237	5,218
TOTAL £	2,461	1,636	3,670	8,515	16,282
EXPENDITURE BY SETTLEMENTS—					
Staff	861	263	619	3,012	4,755
Maintenance—					
Food and housekeeping	1,216	1,352	2,601	5,440	10,609
Stores and furniture	—	153	365	178	696
Drugs and dressings	213	143	120	683	1,159
Transport and vehicles	235	24	170	1,916	2,345
Other (schools, postage, station- ery, etc.)	282	432	—	465	1,179
Buildings	775	321	361	1,405	2,862
TOTAL EXPENDITURE £	3,582	2,688	4,236	13,099	23,605

MENINGOCOCCAL MENINGITIS

A total of 213 cases with 42 deaths were notified as cerebrospinal meningitis; 91 cases with 39 deaths occurred in hospitals.

Laboratory results of cerebro-spinal fluid examination reveal that proved meningococcal infection was almost completely restricted to that half of the Protectorate which lies north of a line drawn from Masindi to Soroti; in this region only 30% of purulent meningeal exudates showed meningococci, the rest being pneumococcal. The only epidemic outbreak reported was from Madi sub-district, where in the village of Kale 16 children were attacked and 11 died. It is likely that the number of cases erroneously notified exceeds the cases missed and unnotified; continued striving towards accuracy in diagnosis is desirable if advantage is to be taken of modern methods of control by mass prophylaxis at the onset of an epidemic.

MUMPS

This disease is not included among the notifiable diseases nor was it separately recorded in hospital statistics between 1937 and 1951. For the decade prior to 1937 one European case only can be traced in the returns from the Kampala Hospital.

A brisk visitation of this disease occurred in Uganda in 1952. Numerical information is incomplete, but all districts are believed to have been affected. More than a thousand out-patients were recorded, 25 being Europeans.

POLIOMYELITIS

A mild epidemic of poliomyelitis was experienced, which could be traced back to the middle of 1951, when a small group of cases were reported from Mengo District. Mbale reported more cases during the third quarter of the year, and in December, 1951, a sharp rise in notifications occurred from other areas; this continued until the peak month of June, 1952, the numbers then gradually falling away until the end of the year.

It is likely that many cases pass unnotified and even unrecognised. In one district several instances were recorded of children and infants in the pre-paralytic stage being given an intramuscular injection of quinine; the parents naturally blamed the injection for the paralysis which developed in the traumatized limb.

The distribution of the disease was patchy. It was reported from all districts of the Northern and Eastern Provinces, but an area in the south-west of the Protectorate, including Kigezi, Ankole and Mubende, appears to have escaped very lightly. The districts immediately adjoining this region—Toro, Bunyoro and Masaka were the ones that suffered most severely. From the evidence available, it seems that the infection which broke out in Bunyoro at the end of 1951 travelled to the West Nile District by the steamer route, and to Toro by road traffic.

In the light of subsequent information, the earliest cases in Toro District appear to have occurred in April, 1952, with an explosive outbreak in the town of Fort Portal in May. Cases were reported from all parts of the District, with the exception of the extreme south, until November. It was noted that although the disease in Africans affected children only, their average age (3-9) was rather higher than is usual with Africans, where 1-2 is the commonest age group attacked. This distribution lends some support to the impression of observers that the disease had not been prevalent in Toro District during the previous decade.

The numbers of cases notified depend to a considerable extent upon the numbers seen in hospitals, and the figures in the district summaries reflect the hospital bed provision as well as the prevalence of the disease. For the ten years 1940-49 the proportion of acute poliomyelitis among all admissions was highest in the Northern Province, with the northern part of the Eastern Province next. The proportion in the second half of the decade (1945-49) was double that in the first, and jumped to ten times as much in 1952, with a rate of 2 per thousand in-patients. Deaths in 1952 from acute poliomyelitis amounted to five per thousand deaths in hospitals.

TABLE XII
NOTIFICATION OF POLIOMYELITIS

	1950	1951	1952
BUGANDA—			
Mengo	6	23	49
Masaka	3	1	38
Mubende	—	—	—
EASTERN PROVINCE—			
Busoga	7	6	6
Mbale	—	11	3
Teso	—	—	22
NORTHERN PROVINCE—			
Karamoja	1	—	4
Lango	—	1	9
Acholi	—	—	3
West Nile	—	—	22
WESTERN PROVINCE—			
Bunyoro	1	2	8
Toro	—	—	88
Ankole	—	—	1
Kigezi	—	1	—
TOTAL CASES ..	18	45	253
TOTAL DEATHS ..	1	3	15
European cases ..	2	6	11
Asians	4	(2 d.) 4	(2 d.) 4

The virus was successfully isolated from the faeces of patients and in some cases from cadavers, by inoculating monkeys with material purified by ether or terramycin. In one fatal case, the virus was found to persist for 27 days after the first onset of illness, although no virus was present in the affected parts of the nervous system. Coxsackie virus was isolated from a member of the Virus Research Institute staff who had suffered from Bornholm disease.

SMALLPOX

Sporadic cases of smallpox continued to occur in the south-west of Uganda and in districts bordering the lake shore—Ankole 52 cases, Kigezi 9, Masaka 39, Mengo 6, Busoga 45. Although the route of infection could rarely be traced, the migration of labour appeared to play a part in the dissemination of the disease. The largest foci were in Mitoma County (North Ankole) during April and May, and at Katera in Koki (South Masaka).

Isolated cases were reported from the West Nile District and Acholi, leading up to an outbreak involving 123 cases with 3 deaths around Arua in September. The occurrence of chickenpox at the same time led to difficulties of diagnosis, and 40,000 vaccinations were performed.

When only isolated cases occur, tracing and vaccination of contacts was the routine adopted, but in the face of large outbreaks the limited trained staff available are best used for mass vaccinations. Routine mass

vaccinations are not without danger in the absence of careful supervision. In one district two deaths resulted, from tetanus and septicaemia respectively, due to the application of native remedies prepared from cow-dung.

The total known cases, 243 with 4 deaths, is the largest since 1947 (43 in 1951 with 2 deaths). 432,900 doses of calf lymph were distributed.

TRACHOMA

In the West Nile District, useful light was thrown on the local characteristics of trachoma. The highest incidence was found in children aged 2-10, averaging 30% for the whole district, whilst only 2% of adults showed evidence of infection. Women suffered more than men, possibly on account of having more to do with the children. The disease was more prevalent in the Nile Valley than in the adjacent highlands. In many infected persons the disease was mild and caused only slight discomfort.

Another district where trachoma and its sequelae are rife is Karamoja; here the hot climate, dust, cattle and flies have all been blamed. The operation of tarsectomy, as modified and described by Boase*, is being used widely for the relief of the later complications.

TUBERCULOSIS

The number of deaths from respiratory tuberculosis recorded among hospital patients (80) was the lowest for recent years (142 in 1951), while on the other hand the number of patients diagnosed as non-respiratory tuberculosis was the largest on record. (241 in 1952, 147 in 1951). Until the new system of recording has become stabilised, speculations about the reason for these changes would be premature.

Increasing use has been made of the newer drugs in treatment, and laboratory testing of drug-resistance was initiated. Proposals were being considered for therapeutic trials at Mulago Hospital.

In one district it was noted that all the known cases of tuberculosis were among persons associated with educational institutions. The possibilities of disseminating the infection in such institutions—above all in dormitories—are obvious, especially among scholars engaged in sedentary studies. The tuberculin survey in 1949 showed slightly higher rates of reaction in schools (5% higher in Kampala, and 8% higher near Masindi).

TYPHOID

Judging by hospital statistics, there was an increasing incidence of this disease in pre-war years, rising to two peaks—one in the early years of the war, the second in 1949. The number of patients treated in Government hospitals has remained fairly steady since then.

The disease is less prevalent in the hotter parts of the Protectorate, and is seen more commonly during the wet season. Formerly, the peak

* See Appendix II.

incidence in Mengo District was during October and November, at the end of the rains, but for the past three years it has coincided with the major rains in May or June.

These observations have lent support to theories of both fly-borne and water-borne transmission. Polluted water supplies were suspected of being responsible for an outbreak at Kilembe Mine starting about June, and giving rise to 24 cases with one death; and the same cause was suggested for numerous small epidemics which occurred in rural areas of Kigezi.

The wartime epidemic peak was associated with an increased fatality, but no such rise in fatality was noted with the increased prevalence in 1949. There has instead been a progressive fall in the case fatality; this has been particularly marked during the past two years during which chloramphenicol has been more freely available.

In spite of this decline, the importance of typhoid as a cause of death is as great today as in the middle thirties. This disease is probably one of the most unpleasant to experience, from its protracted and prostrating nature. The need to improve insanitary conditions relating to food and water supplies, to reduce the prevalence and pathogenic hazards of carriers, and to ensure more widespread personal protection by the use of T.A.B. inoculations remains just as great.

TABLE XIII
TYPHOID FEVER

			PATIENTS TREATED IN HOSPITAL		DEATHS		CASE FATALITY %
			ADMISSIONS				
			Average Annual Number	Percentage of all Admissions	Average Annual Number	Percentage of all Deaths	
1936/1938	..	..	101	0·31	28	1·6	28
1939/1941	..	..	191	0·53	65	3·4	33
1942/1944	..	..	228	0·44	44	1·9	19
1945/1948	..	..	279	0·35	50	1·8	18
1949	..	..	469	0·52	77	2·8	16
1950	..	..	336	0·37	60	2·1	18
1951	..	..	372	0·43	38	1·3	10
1952	..	..	371	0·46	31	1·2	8

VENEREAL DISEASES

In spite of the importance attached to these diseases by the man-in-the-street and the ease with which—on paper—all the common forms can now be cured, it must be admitted that our knowledge of their prevalence, economic importance, and the best methods of control are still fragmentary.

In several areas, pilot schemes have been inaugurated, in endeavours to provide answers to the outstanding questions. Primary syphilis was

rarely seen during a special campaign in Busoga, and it is becoming realised that the histories given by ante-natal patients desirous of receiving injections are useless as a guide to the presence of infection; Kahn tests in the absence of strong clinical evidence may also be misleading. As far as the male is concerned, gonorrhoea is more obvious, and the late complications are still rampant in some areas.

An investigation by an African social worker among V.D. patients at Mulago Hospital revealed some important facets of this problem. 15% of the 2,763 patients were schoolchildren, and 70% were unmarried. Many had had previous treatment and had been "cured" three or four times before.

Treatment by the one-shot penicillin method can cure either gonorrhoea or syphilis, although the technique of administration presents some difficulties. It cannot overcome the propensity to reinfection so frequently revealed. In some districts strenuous attempts are made to get both partners treated, but the following report illustrates the difficulties encountered:

"V.D. patients are much less co-operative than any other class of patients. The standard of morals is very low in this district, there is no social stigma attached to V.D., contact tracing is well-nigh impossible, patients often are unwilling to suffer even the slight inconvenience of admission to hospital for a few days for investigation and treatment, marital partners will rarely come for treatment despite requests, and patients never persist in their treatment."

VIRUS DISEASES

Realisation of the wealth of virus infection in Uganda, most of which is inapparent, arouses suspicions of some such infection when obscure cases of illness arise. The virus infections with characteristic symptoms are well known—mumps, chickenpox, smallpox, poliomyelitis, yellow fever; two others deserve a passing note.

Mengo encephalo-myelitis.—Although this virus, a member of the Columbia SK group of viruses, is common in semi-domestic rodents (one quarter of the black rats tested have been found to be immune), wild rodents, shrews and guinea pigs have shown no evidence of infection. Infection is known to occur in the mongoose as well as man and experimental monkeys, and is carried by the common *Taeniorhynchus* (swamp) mosquitoes. The recent recurrence of cases of mild encephalitis-like illness led to a suspicion that Mengo virus might be concerned, but this was not confirmed by the laboratory tests undertaken. Nevertheless, the ability of the virus to cause human infection makes it desirable to bear it in mind.

Rift Valley Fever.—This disease of sheep, cattle and occasionally human beings owes its name to its occurrence in the Rift Valley of Kenya. The virus was recovered from mosquitoes in the Semliki Valley of the

Western Rift Valley in 1944 and protective human sera have been reported from Uganda. Search for evidence of past infection among animals or man in Karamoja has been carried out by the Virus Research Institute, but so far without success.

YAWS

The publication during the year of Hackett's "Bone Lesions of Yaws in Uganda" recalls the intensive study made in Lango District by the author, and the yaws campaign of 1949/50 under the supervision of Dr. R. Alexander, whose untimely death occurred during 1952. The disease is still common in Lango; 1,604 cases of primary and secondary yaws were treated at dispensaries in 1952, accounting for 1.5% of all new patients; yaws was diagnosed in 9% of all patients seen. Some trouble was experienced due to the viscosity of one-shot penicillin, and special syringes and needles were needed to overcome this.

During the year a visit was paid to Lango by Dr. F. W. Reynolds, World Health Organization Adviser on Treponematoses.

D. Health Education

The more spectacular forms of health propaganda may be classified as county shows, health weeks, house competitions and latrine campaigns. Karamoja staged its first county show, and many others were held in districts where they are now a regular feature. The health section is only one feature in the shows and needs an imaginative approach to compete with other attractions and to strike the right note. The collapse of a demonstration house, which actually happened in one district, is the type of occurrence which should be avoided. In Madi, a demonstration was staged to emphasise the contrast between primitive and modern medicine; the former aroused by far the greater interest, and during the absence of the witch doctor the Government dresser threw off his white uniform, donned a skin and deputised with obvious satisfaction for his professional colleague.

More good is done by health weeks in which a preliminary effort is made to produce some popular understanding of the dangers of insanitary conditions. Departmental officers then assist the welfare team in working through the area, providing technical guidance. Attention is switched to another area after three months or so. In the earlier health weeks, formal lectures ushered in the interprise; but it has been found that the listeners often have a sensible distrust of too much talking. They like to see a house that will stand and has obvious good points, rather than hear about it. One gratifying feature in Bugwe was the lead taken by the women when voluntary co-operation was sought.

Of the competitions, the second Annual Public Health Competition in North Kyadondo was probably the most ambitious. It is based on inspec-

tion of a sample of about 200 households in each of four sub-counties, marks being given for housing, latrines, kitchens (usually separate huts) and compounds. The marks achieved for each area varied from 21% to 33%, so that the judges showed no undue complacency. The best house, that of a health orderly, dropped only $\frac{1}{2}$ point out of a possible 20. It was estimated that one-quarter of the households in an area immediately adjoining Kampala have no latrine. The number of latrines constructed in the latrine campaign rose from 37,000 in 1951 to 61,000 in 1952. The construction of concrete stances was begun at Kyadondo county headquarters.

In other districts the competition is only partly a health effort; it may be one facet only of a land utilisation competition, as in Teso, or of a model homestead competition.

Latrine campaigns are now the vogue, and many areas can boast of a large proportion of households provided with latrines.

The difficulty of digging a 15' pit latrine has been overcome in many ingenious ways. A photograph of one shows how a man who had only one small child to assist him arranged a pulley over the pit mouth, so that he could raise the mortar pan of earth to ground level from the bottom of the pit, the child then tipping out the earth. Elsewhere co-operative teams based on villages have been evolved, reducing the time taken to complete each latrine to a fortnight. Once a campaign has gained impetus it has been found that the desire to be in the fashion keeps it going. It is perhaps this justifiable pride in a new possession, which people feel should be kept for display rather than practical use, that leads to latrines not always being put to their rightful purpose.

Several medical officers have pointed out that it is only the exceptional householder who voluntarily makes use of the latrine he has built unwillingly—generally the man who has been a boy scout, or has served under army discipline; and that the successful outcome of a latrine campaign depends on the active follow-up by the chief or health staff.

In many areas awakened interest in sanitary living has been reported. Besides latrines, the items featured commonly include protected springs and raised cooking platforms out of the reach of small children.

Lecture notes prepared by the World Health Organisation were found useful, and are being translated into local vernacular languages. Another experimental approach was the posting of an Assistant Medical Officer to a rural centre in Busoga. Having the resources of a dispensary behind him, he was able to participate in affairs to a greater extent than if tied down to a busy rural hospital, and was able to carry out useful work in the control of venereal disease.

E. Maternal and Infant Welfare

Shortage of trained midwives has limited any expansion of rural maternity services, and in a few instances centres were closed through lack of staff. Nevertheless the number of institutional deliveries continues to mount. Out-patient attendances at some units show fluctuations from year to year that obscure any general trends.

The change of outlook by which sick children's clinics are being converted to welfare clinics—clinics for the well-being of the normal child, maintaining the child in health rather than waiting till disease has become established—is gaining ground very slowly. The new outlook demands greater flexibility in the use of unorthodox methods by the medical staff, more detailed knowledge of the home life, diet and customs of the people, and greater facility in explaining in the native tongue what needs to be done. Experience has shown that one of the most useful fields of instruction is in the correction of irregular or excessive feeding, too early weaning or the use of unsuitable foods when the child is weaned.

TABLE XIV
ANTE-NATAL SUPERVISION

					1950	1951	1952
NEW PATIENTS—							
<i>Government units—</i>							
At hospitals					34,388	34,742	36,856
At rural centres					32,865	38,972	40,486
<i>All Government units</i>					67,253	73,714	77,342
<i>Mission units</i>					31,219	40,617	36,166
TOTAL NEW PATIENTS					98,472	114,331	113,508
ATTENDANCES—							
<i>Government units</i>					208,585	207,598	196,609
<i>Mission units</i>					82,392	106,849	80,567
TOTAL ATTENDANCES					290,977	314,447	277,176

TABLE XV
INSTITUTIONAL DELIVERIES

				Beds available	Live Births	Still Births	Abortions (com- plete)	Infant Deaths	Maternal Deaths
1949	..	..	..	...	18,101	1,098	1,523	486	214
1950	..	..	..	1,280	20,422	1,209	1,158	496	215
1951	..	..	..	1,286	21,950	1,387	1,222	571	301
1952	..	..	..	1,304	23,153	1,585	1,432	641	248
Annual increment				1%	8%	12%	11%	10%	8%

TABLE XVI

ANALYSIS OF BIRTHS AND ASSOCIATED DEATHS IN INSTITUTIONS
(GOVERNMENT AND MISSION UNITS COMBINED)

	By Race			Africans only			
	Euro- pean	Asian	African	Buganda	Eastern Province	Northern Province	Western Province
Live births ..	90	809	22,254	10,690	7,558	1,115	2,891
Still births ..	1	26	1,558	710	553	83	212
TOTAL BIRTHS ..	91	835	23,812	11,400	8,111	1,198	3,103
Maternal deaths ..	—	4	244	108	97	11	28
Infant deaths in hos- pital ..	2	13	626	337	195	28	66
<i>Rates per Thousand</i>							
Still births ..	11	28	66	672	68	69	68
Maternal deaths ..	—	4	10	10	12	9	9
Infant deaths in hos- pital ..	22	16	28	31	26	25	23

Maternal deaths were ascribed to the following causes, the corresponding figures for 1951 being added in brackets—

Sepsis 27 (29), eclampsia and toxæmia 2 (8), hæmorrhage 42 (42), abortion 5 (6), and other complications of childbearing 135 (176). The total of 235 deaths (296) included 24 from causes not related to childbearing (39). Since the deaths from "other complications" constitute the bulk of maternal deaths they deserve fuller analysis, and the results are becoming increasingly more valuable with the greater detail of the causes of death supplied by the clinics.

TABLE XVII

DEATHS FROM "OTHER COMPLICATIONS OF CHILDBIRTH"—ITEM A 120

International List No.		1951	1952
645 ..	Ectopic pregnancy	4	1
646 ..	Anæmia of pregnancy	—	9
648 ..	Foetal death	—	1
673 ..	Abnormality of bony pelvis	2	5
674 ..	Disproportion or malposition of foetus	3	11
675 ..	Abnormality of soft parts	—	3
	Tonic contraction	—	3
	Atony or inertia	—	2
	Obstruction, not otherwise specified	71	39
	Prolonged labour, not otherwise specified	6	17
677 ..	Rupture of uterus, cause not specified	35*	25†
678 ..	Exhaustion, cause not specified	} 35	8
	Shock, cause not specified		8
688 ..	Sudden death, cause unknown	—	3
TOTAL DEATHS FOR WHICH INFORMATION IS AVAILABLE		156	135

* In addition, one hydramnios and two transverse presentations (Item 674), three obstructed and two prolonged labours (675), and one toxæmia (642) also had ruptured uteri, making a total of 44 deaths.

† In addition, one small pelvis (Item 673), two P.O.P's (674), one previous C.S., five obstructions, one tonic contraction and four prolonged deliveries (675) also had ruptured uteri, making a total of 39 deaths.

It is often difficult to obtain reliable histories and to be certain that information about unskilled interference is not being suppressed. The detailed case histories supplied by the Obstetric Unit at Mulago Hospital illustrate how the final cause of death is often only the last item in a chain of misfortune. In this series of 32 deaths, half were of primiparae, and it was noted that sepsis seems more frequent in first or second pregnancies. Although rupture of the uterus does occur in primiparae, its relative incidence increases with increasing parity; other complications showing the same trend are tonic contraction and post-partum haemorrhage, all possibly symptoms of an ageing, fibrosed muscle.

Favourable results in the care of premature babies were reported from Mulago Hospital. The survival rate until the mother's discharge from hospital was—

Birth weight under $2\frac{1}{2}$ lbs.—	7 babies, none survived.
Birth weight $2\frac{1}{2}$ lbs.—	31 babies, 55% survived.
Birth weight $3\frac{1}{2}$ lbs.—	54 babies, 81% survived.
Birth weight $4\frac{1}{2}$ lbs.—	152 babies, 93% survived.

It has been found elsewhere in Uganda that surprisingly good survival rates can be obtained without elaborate equipment solely by careful nursing, presumably as the result of the favourable climatic conditions prevailing. The 50% survival point (by graphical fitting of a probit curve) is $3\frac{1}{4}$ lbs.

F. School Health

A Medical Officer was seconded to assist the Medical Officer of Health of Kampala Municipality and it was thus possible towards the end of the year to renew the medical examination of schoolchildren. Some interesting racial differences were noted—

African children alone suffered from trachoma (9%), had a higher spleen rate (14%) than the other races, but the lowest proportion with caries (5%). The average age was 11.0 years.

Goan children suffered most from pediculosis capitis, and the proportion with caries exceeded all other races (45%). Average age was 9.5 years. Other Asian children had a low spleen rate (1%) and pediculosis rate (2%) with an intermediate caries rate (26%). Average age was 9.9 years.

All the European children were vaccinated; 39% showed evidence of dental caries. Average age was 8.4 years.

In Jinja and Busoga extensive surveys have been carried out among schoolchildren of all ages. Attempts have been made to correct defects, as by the administration of iron tonic for anaemia, but difficulties have been experienced from the apathy of the parents.

Attention has been directed to the disadvantages under which African schoolchildren suffer by travelling considerable distances to school with

no substantial meal until the evening, and ways of providing sustenance were explored. In several districts schools were beginning to be equipped with first aid equipment, or simple household remedies, instruction being given to the teachers in their use. In Hoima, both missions provide special medical facilities for their schools—one a dispensary, the other a travelling ambulance. In Mbale District, liaison has been established with the schoolmasters with the object of clearing up certain conditions amenable to treatment—bad eyes, yaws and ulcers.

G. Environmental Hygiene

(1) HOUSING AND TOWN PLANNING

Progress was made in demarcating provisional boundaries for the new trading centres in Buganda and planning the lay-out of shopping areas so that they should be set back from motor roads. The surveying of plots to implement the plans may take some time. A plan was prepared for Katwe, a congested African area immediately outside Kampala, on the main road to Entebbe. The western extension of the railway runs through this region and work was started on a by-pass to avoid the main market street which is usually crowded with vehicles and pedestrians. A planning scheme has been sketched out, but the organisation of an efficient controlling authority is a difficult problem in this area. The Jinja Outline Scheme was deposited during the year, but the direction of future extension is dependent upon developments in other parts of the country and their repercussions on industry in Jinja.

Relaxation of standards for new houses laid down in the Building Rules has been urged by some, forgetting that unduly cheap construction always leads to higher costs of maintenance, and to increased risks of respiratory and insect-borne disease both to the inhabitants and to the neighbourhood. There is also the increased fire hazard. Lack of security of tenure and the absence of full services of water, electricity and sewage may make some compromises necessary, but they should be recognised as second best alternatives.

(2) WATER SUPPLIES

A new pumping station was under construction at Jinja as the old source of supply will be submerged when the dam is in operation. In Tororo, the gravity supply from Mount Elgon is being supplemented by bore-holes in the town, and in Kitgum experiments have been conducted to obtain water from enclosed wells sunk in a dry river bed. Additional storage tanks were brought into operation in Mbale and Lira, and a piped water supply became available in Gulu.

The standard of water remained good in all township supplies but difficulty was experienced with water from bore-holes in Kitgum; this contained iron and sulphates in excess, and would require boiling before use.

Swimming pools are maintained in many of the larger towns and purification plants are installed at Kampala and Jinja.

(3) FOOD HYGIENE

Meat inspection in townships is carried out by departmental officers if veterinary staff are not available, the Scottish meat regulations being used as the basis of inspection. Tuberculosis was found in 15% of long-horned cattle slaughtered in Mbarara, and in 0.2% of carcasses in Kampala; it was absent from the Northern Province (Zebu cattle) and was not recorded from districts of the Western Province other than Ankole. Measles (*Cysticercus bovis*) and liver fluke (*Fasciola hepatica*) are common, and often call for condemnation of meat or organs. Regular meat inspection is not possible in the scattered rural slaughtering places outside townships, although an increasing amount of meat is slaughtered in Kampala and subsequently sold in rural centres.

Growing interest is being taken in the cleanliness of food products. Sugar is, in theory, a simple chemical compound; but samples sent to the United Kingdom for analysis were reported to contain 0.3% insoluble dirt, including siliceous and vegetable matter, the latter presumably derived from the packing material. Investigations have shown excessive amounts of moisture and extraneous matter, while rat infestation of stocks has been detected in the smaller retail stores.

A similar adverse report was received on samples of maize meal, in which rodent hairs and mites were found, with 150 large insect fragments in 10 grains of meal. The number of mould spores was 100 times the number to be expected after five years' storage under United Kingdom conditions; and this, combined with the rancidity of the fat, accounted for the unpalatability of the meal.

Conditions in markets are gradually being improved. Raised stalls are now being provided in most township markets, and fly-proof containers required for some foodstuffs. The licensing system under the Sale of Milk Rules was applied more widely during the year, and improvement in dairies in towns can be hoped for in the future. The supply of processed milk from Kenya was extended to more towns during the year.

(4) HOTELS

A new Hotels Ordinance was enacted during the year, strengthening the hands of the Board by providing powers of entry and inspection and inserting penalties for obstruction or giving false information. Formerly the hotel-keeper alone needed a licence: in future both hotel and hotel-keeper will need to satisfy the Board, and will require separate licences. The number of hotels remained unchanged, and no licences were refused in 1952.

(5) URBAN SANITATION

The examination of plans for buildings takes up a considerable part of the time of health staff in towns where active building is in progress.

Government's dual role of legislator and builder (outside the law) has at times caused complications in procedure under public health and town planning legislation.

Disposal of waste water in closely built-up areas remains a difficult problem where no sewage system exists. Soakage within the plot boundary is not always satisfactory, and it has been necessary to insist upon the use of grease-traps before allowing discharge of domestic waste water into surface water drains. Sedimentation or filtration before final discharge of the effluent may also be needed.

The planning of the proposed sewage system for Mbale gave rise to technical difficulties which were ultimately overcome by the engineers. In those towns where bucket removal of night-soil is still in force, trenching is the usual method of disposal, but the Otway system has been tried in the Northern Province.

(6) RURAL SANITATION

Developments in rural hygiene are described more fully under Health Education (page 28). The view has been expressed by a distinguished visitor that the public health services in Uganda were not advancing as rapidly as the curative services. This criticism must be accepted, although the increased amount of essential clinical and administrative work with which the medical staff have to deal cannot be forgotten.

Sanitation is one of the many facets of rural hygiene for which the services of a trained corps of workers is needed, and in which there is scope both for the evolution of new methods and the intensive application of existing knowledge for the best development of the community.

H. Health and Welfare of Employed Persons

The progress of constructional work on the Nile dam at Jinja, the completion of the cement factory at Tororo, and the extension of the railway line westward to aid in supplying Ruwenzori's minerals are but a fore-taste of the encroachment of the industrial age on Uganda's peasant economy. Problems now arising in the industrial areas of Kampala and Jinja call for the ingenuity of the town-planner, for the organisation of food supplies for the urban worker, and for special investigations into the social and economic effects of changing conditions on native life. To cope with the growing health hazards a new Factory Ordinance was introduced, following closely the lines of the English model.

WELFARE

The well-being of the worker is catered for in one factory in Jinja by a canteen supplying a hot midday meal, washrooms, lockers and the provision of uniforms. It was recorded that the introduction of female workers was quickly followed by an improvement in male standards of attire. Elsewhere, the practice of providing meals, and a cup of hot tea at the beginning of a shift, is gaining ground.

The housing of urban workers is being met by the erection of housing estates in the vicinity of their work places, but the cost of construction and the consequent economic rent is high; the lack of land for the women to cultivate is a serious disadvantage in the present phase of wage evolution.

Transit camps are provided along the two main routes used by immigrant labour—from the south-west and from the north-west—but on the south-west route direct bus transport by recruiting agents is increasing. The needs of Kilembe mines diverted some labour away from the route to Kampala and regions to the east.

HEALTH

The general health of workers remained good. Medical examination of contract labour is carried out at the place of enrolment, and this duty imposes a substantial task on departmental staff; in addition 17,000 persons were examined for medical passes before returning to Belgian territories.

TABLE XVIII
MORBIDITY RATES—EMPLOYED LABOUR

	Agri- culture	Cons- truction	Factories	Mines	All workers
	<i>Percentage of all workers</i>				
<i>Daily sick rate—</i>					
1950	2.7	...	3.5	8.3	3.04
1951	2.4	2.9	3.6	13.3	3.07
1952	2.1	3.8	5.5	5.1	2.73
<i>Average duration—</i>			<i>Days</i>		
1951	2.4	4.8	2.1	14.9	3.02
1952	2.5	2.6	2.8	3.6	2.66

The data in the above table are based upon returns submitted from the larger employers, the sample representing about one-sixth of all employed workers. The proportion reporting sick for the first time remained unaltered at 1.02%.

The three major causes of morbidity, as in 1951, were—malaria (usually a clinical diagnosis) 19% of all illnesses; respiratory diseases 17%; and injuries and ulcers together making 29%. Most of the larger concerns issue anti-malarial drugs to their employees, but the extent to which they are regularly consumed is uncertain.

The type of occupation influences morbidity, agricultural workers showing the lowest rates of reported morbidity. The death rate in the sample amounted to 3.9 per thousand workers (5.6 in 1951), but it is likely that many unfit workers leave the labour force and so are omitted from the returns. For example, 28 cases of pulmonary tuberculosis were recorded, but no deaths. The principal causes to which the 135 deaths were ascribed include—clinical malaria 34, pneumonia 30, injuries 16, diarrhoea



RURAL DISPENSARY AND MATERNITY CENTRE, MPIGI, MONGO DISTRICT, BUGANDA



KULUVA LEPROSY SETTLEMENT, WEST NILE DISTRICT



HEALTH WEEK AT BUTOLO, MENO DISTRICT, BUGANDA
DEMONSTRATION OF FOOD VALUES



EYE CLINIC, MULAGO HOSPITAL, KAMPALA



A PROTECTED SPRING—INSPECTION BY CHIEF WITH ASSISTANT HEALTH INSPECTOR



SEARCHING FOR LARVAE OF *Simulium damnosum* AT THE RIPON FALLS, JINJA



PRACTICAL TRAINING FOR PUPIL MIDWIVES AT C.M.S., MENGU HOSPITAL



CLASS WORK FOR MEDICAL ASSISTANTS AT THE TRAINING SCHOOL, MASAKA

and dysentery 14, typhoid fever 3. The mortality from pneumonia is highest in agricultural workers, and the decline in the total death rate is due mainly to the improvement shown in this group, the pneumonia death-rate per thousand agricultural workers falling from 3.0 in 1951 to 1.0 in 1952. If this was due to the drier climatic conditions in 1952 as compared with 1951, it is of interest that the biggest discernible effect should have been on pneumonia and not on malaria.

INJURIES AND INDUSTRIAL DISEASES

Accidents caused 83 deaths among the whole labour force and 1,631 accidents were reported which caused death or absence from work for five days or more. The increases shown in the accompanying table probably reflect the more comprehensive reporting of accidents rather than any great increase in their actual occurrences.

	1951	1952
Compensation cases opened	1,402	1,631
Closed cases—		
<i>Total number</i>	1,372	2,043
Compensation paid	£10,833	£13,010
<i>Fatal cases (included above)</i>	60	79
Compensation paid	—	£4,333

The amount paid in compensation is not the only cost to the employer—in addition there is the cost of medical treatment (over £2,000 in Government hospitals alone) and the wage payments during the period of disability.

The distribution of cases in the Protectorate was—

District	Accidents reported	Deaths	Compensation paid
Mengo	1,025	36	£3,933
Busoga	659	18	6,718
Mbale	175	9	1,155
Masaka	63	10	602
Bunyoro	106	3	376
Toro	80	3	225

I. International and Port Hygiene

New International Sanitary Regulations came into force on 1st October, replacing the earlier International Sanitary Conventions. To most travellers the only difference noted is that new types of international certificate of vaccination are being issued, but the general effect has been to limit the restriction which may be placed upon travellers. No occasion arose during the year to invoke the powers allowed under the regulations or conventions.

Entebbe is the only airport used by international traffic and the passenger handling facilities were extended during the year. The airport does not yet possess a "direct transit area" to house passengers and crew within the perimeter of the airport nor has it yet been designated a "sanitary airport". The medical equipment and procedures in case of emergency were reviewed during the year. Drainage works to avoid erosion and prevent breeding of anopheline mosquitoes were put in hand during the year, oiling of the bare ground adjoining the tarmac airstrip being necessary in the interim.

J. HEALTH OF PRISONERS

The average number of prisoners rose from 2,832 in 1951 to 3,230 in 1952 and some anxiety was felt about the possible ill-effects of the resultant overcrowding, but the sickness position remained satisfactory.

TABLE XIX
HEALTH RATES FOR PRISONERS

	1949	1950	1951	1952
Death rate annually per thousand prisoners	7.1	10.1	12.3	7.1
Percentage of prisoners on sick list (daily average)	1.2	1.3	1.6	2.4
Annual admissions to hospital per thousand prisoners	502	507	498	439

The increase in the number of prisoners on the sick list was confined to the Central Prison, but is not believed to be due to any real increase in sickness.

Seven cases of pulmonary tuberculosis were discovered, and six deaths occurred. A few cases of nightblindness occurred at the end of the year. Constant difficulty was experienced in obtaining green vegetables. The installation of water-borne sanitation is an improvement hoped for in the future.

Small epidemics of mumps (32 cases) and measles (43 cases) were reported from the Central Prison, and gastric troubles and dysentery were common. Attention has been given to the incidence of common diseases in the prisoners, as an indication of the level that may be expected in the general population. Among 780 admissions, nine cases of leprosy were diagnosed (1.2%), 103 were considered to be syphilitic, and 156 to have been infected with gonorrhoea.

The accommodation provided for sick prisoners includes a ward of 30 beds in Luzira Central Prison; a guarded ward for prisoners in Mulago General Hospital, with 24 beds; 8 beds at Kitalya Prison Farm dispensary; and 10 beds in the Buganda jail at Mengo. The diet of prisoners was reviewed, and a minor amendment in the prescribed scale was effected.

TABLE XX
CAUSES OF DEATH IN PRISONERS

Inter- national List No.	Disease	1950	1951	1952	Remarks
A 1	Respiratory tuberculosis ..	4	8	6	
A 9	General paralysis of insane ..	—	—	2	1 Lira (1 lunatic; 1 criminal lunatic).
A 10	Other sequelae of syphilis ..	2	2	—	
A 11	Gonococcal infection ..	1	—	—	
A 12	Typhoid fever ..	1	—	—	
A 16	Dysentery ..	—	—	2	Mbarara, Masindi (1 lunatic).
A 37	Malaria ..	1	—	1	
A 43	Other infective diseases ..	—	1	—	
A 57	Malignant neoplasm ..	—	2	—	
A 58	Leukaemia ..	—	1	—	
A 65	Anaemia ..	1	1	2	Arua, Moroto.
A 66	Abscess of spleen ..	—	1	—	
A 67	Psychosis ..	1	2	—	
A 70	Vascular lesions of C.N.S. ..	1	—	—	
A 71	Meningitis ..	—	—	1	
A 73	Epilepsy ..	1	—	—	
A 78	Transverse myelitis ..	—	1	—	
A 82	Congestive heart failure ..	1	—	—	
A 89	Lobar pneumonia ..	2	3	1	
A 90	Bronchopneumonia ..	1	2	2	1 Mbale.
A 91	Other unspecified pneumonia ..	—	—	1	
A 95	Empyema and abscess of lung ..	1	1	—	
A 97	Pulmonary oedema ..	1	—	—	
A 100	Ulcer of duodenum ..	—	1	—	
A 104	Enteritis ..	1	—	—	
A 105	Cirrhosis of liver ..	2	—	2	1 Kitanya.
A 107	Other diseases of digestive system ..	—	3	—	
A 109	Chronic nephritis ..	—	3	—	
A 110	Infections of kidney ..	1	1	1	Gulu (lunatic).
A 137	Ill-defined causes ..	2	1	—	
AN144	Rupture of spleen ..	1	—	—	
AN150	Homicide (AE 149) ..	1	—	—	
	Suicide (AE 148) ..	—	—	2	Jinja, Lira.
	G.S.W. escaping (AE 149) ..	—	1	—	
	TOTAL ..	27	35	23	Luzira 13.

The African Local Government prisons are administered separately from the Protectorate prisons. On the eve of the extension of the responsibilities of African Local Governments foreshadowed by the Wallis Report, it is depressing to refer again to a well-known jail that is literally "under the nose" of the Government responsible for its maintenance. Conditions continued to be unsatisfactory; replacement of worn-out night-soil buckets was only effected after the rather unconstitutional action of the Medical Officer of Health threatening to serve a nuisance notice on the Local Authority itself. In general, however, marked improvement in the supervision and conditions in A.L.G. prisons was reported, and use has been made of them at times to house Protectorate prisoners.

IV CURATIVE SERVICES

A. HOSPITALS

Staff.—It was possible to post Medical Officers to Hoima, Mubende and Moroto, district hospitals formerly in charge of Assistant Medical

Officers. The improved position with regard to European staff was however counter-balanced by losses of African doctors: the number posted to Mulago Hospital had to be reduced, and four rural hospitals in the Eastern Province reverted to the charge of Medical Assistants.

Buildings.—Works relating to Mulago Hospital formed the greater part of the departmental building programme undertaken during the year. The radiological unit was completed and put into operation, and work was started on the hostel for nurses and nursing students.

The new hospital at Moroto (total cost £22,000) was occupied, but awaits the installation of water-borne sanitation. Work was begun on a new hospital at Mbarara (£27,000)*, after many years of making-do with a set of obsolete and decaying buildings. Smaller improvements included a new ward and kitchen at Mbale (£2,500), the opening of the maternity ward at Lira started three years previously (total cost £8,000), and staff quarters at Arua (£1,000). A programme of major improvements to Jinja Hospital was put in hand.

In all, buildings costing £140,000 were erected, of which £76,000 was by contract. The total was slightly less than one-third of the approved programme estimated to cost £407,000, while in the previous year buildings costing £59,000 were erected out of a programme estimated to cost £159,000.

Masaka Hospital experienced some set-backs. An out-patient shelter collapsed through termite damage and a child was killed: roof trusses in the Training School had to be replaced owing to the depredations of borer beetle, while fire destroyed some students' huts. At several stations, shortage of staff accommodation was overcome by the erection of pre-fabricated aluminium huts. Improvement included a piped water supply at Gulu and electric wiring for stations likely to be supplied with power in the near future.

Administration.—Mutual benefit has been derived from staff conferences at the larger hospitals; these enable staff of all grades to ventilate grievances and put forward suggestions for improving conditions, while supervising officers can outline Government policy and explain why things are done as they are. In addition, hospital advisory committees have been formed, at which representatives of the various communities are able to put the point of view of the patient to the authorities.

New scales of charges for services rendered (additional to the existing daily maintenance charges in hospitals) were provisionally brought into force, and the position with regard to private practice has been clarified. Specialists, dental surgeons and medical officers performing prescribed special services are permitted to claim part of the official fees levied for

* Unless otherwise stated figures in brackets refer to the amount spent during 1952 only.

this work. Charges for medical attention under the Workmen's Compensation Ordinance account for a considerable portion of the new revenue. Partly on account of these new charges, and partly because of the large numbers of temporary workers now in the territory, there has been a big increase in the outstanding arrears of revenue; the amounts outstanding three months after the end of the year rose from £370 in respect of 1950, to £1,750 for 1951 and £2,490 for 1952.

At the second largest hospital in the Protectorate, some praiseworthy innovations were attempted. A hospital garden was inaugurated, pigs being maintained on the peelings from plantains and uneaten meals; improved hospital diets were laid down, planned to be adequate in calories and all necessary nutrients; vegetables were ordered direct from Kenya to avoid the middleman's charges; and oil-fired burners were improvised to avoid the exorbitant cost of wood-fuel for the kitchen. But this is Africa. The pigs broke loose and had to be sold to pay for the damage they had caused; the technical and moral limitations of the kitchen staff made short work of the planned diets; the waste-oil for the furnaces turned out to be more expensive than the old supply of firewood; and the local middleman was found after all to ensure a more regular supply of food.

Following a review of hospital diets, substantial improvements were effected. Additional funds (£4,500) were made available by Government for this purpose.

Mulago Hospital.—Staff changes caused temporary difficulties during the year through absences on leave and shortage of general duty officers. In spite of this, it was possible for specialists to pay visits to other hospitals in order to advise on selection of cases and improved methods of treatment. Among the technical improvements recommended were schemes for the systematic treatment of leg ulcers and burns, and the replacement of circumcision by dorsal slitting.

Research work carried out at Mulago Hospital included studies by Professor E. Holmes of serum proteins, nitrogen balance and iron absorption. Members of the hospital staff collaborated with Drs. R. F. A. Dean and M. Thompson (M.R.C.) in a clinical and biochemical investigation of the treatment of Kwashiorkor with soya bean. Professor J. H. Heller (Bristol University) carried out work on oedema, and studies by the physicians of the medical school and hospital are gradually elucidating the clinical characteristics of endomyocardial fibrosis.

The hospital is now included by the Council of the Royal College of Surgeons of England in the list of places at which post-graduate training may be given for the final examination leading to the Fellowship of the College. The history of the hospital and medical school was recounted in the presidential address* to the Uganda Branch of the British Medical Association.

* WILLIAMS, A. W. *East Afr. Med. J.* Vol. 29, p. 253.

B. DISPENSARIES

Buildings.—In Mengo District, the dispensary at Buwama and the staff quarters at Semuto were completed; the clinic and ward at Semuto and an 18-bed ward at Mukono were nearing completion at the end of the year. A sub-dispensary was re-opened at Busungwe (Masaka District), where an isolated station is maintained by the East African Railways and Harbours for the Kagera River service. In the Eastern Province, new wards were finished at Budadiri and Budaka, and staff quarters at Lumino (Mbale District); a new ward was completed at Bugiri (Busoga District).

Bundibugyo dispensary (Toro District, Western Province), on the edge of the western rift valley, was damaged by an earthquake; this dispensary was subsequently extended by the addition of a maternity ward. In Ankole District, a maternity ward was completed at Bushenyi and a new aid-post established at Mutsirira. Aluminium huts were tried out in two districts (Acholi and the Sesse Islands, Masaka), but proved disappointing when erected without skilled supervision.

Administration.—The practice of undertaking minor surgery at dispensaries was introduced in one district, including urethral dilatations and dental extractions. It was with such a system of regular surgical clinics in mind that the designs of many of the early dispensaries in the Eastern Province included operation theatres; but the number of medical staff needed to maintain a regular visiting programme has rarely been attained in the past.

The question of levying charges on patients treated at dispensaries was reopened during the year. In pre-war days, a general charge was levied on all patients attending, while special fees were levied with the object of encouraging regular attendance for full courses of arsenicals. The system was abolished with general approbation, mainly because of abuses; but the high cost of drugs which are nowadays in popular demand may make it necessary to consider reversion to some arrangement involving personal payment by those patients who can afford it.

Mission and Other Private Medical Activities.—A dispensary with 20 general and 6 maternity beds was constructed at Magale (Mbale District) by the Roman Catholic Mission, while the hospital at Kamuli (Busoga District) was completed with the aid of the African Local Government. The staff position at the Protestant Mission hospitals improved, although some of them experienced financial difficulties.

Advice was given regarding projects for the establishment of private nursing homes at Jinja and Soroti. A plot has been reserved in the Kampala planning scheme for the construction of a nursing home. One unauthorised nursing home in Jinja was closed.

TABLE XXI

SUMMARY OF UNITS AND BEDS

(A) GOVERNMENT AND AFRICAN LOCAL GOVERNMENT INSTITUTIONS

	Kampala	Rest of Buganda	Eastern Province	Northern Province	Western Province	TOTAL
UNITS—						
<i>Hospitals—general:</i>						
European	1	1	2	—	—	4
Asian	1	2	4	1	2	10
<i>African—</i>						
District hospitals ..	1	3	4	5	5	18
Rural hospitals ..	—	2	5	1	—	8
Mental hospitals ..	1	—	—	—	—	1
Prison hospitals ..	—	1	—	—	—	1
<i>Dispensaries:</i>						
With beds	—	27	20	21	28	96
Without beds	—	7	14	25	11	57
Aid-posts	—	46	11	7	37	101
<i>Maternity centres:</i>						
At dispensaries ..	—	12	10	—	10	32
Solitary	—	—	1	—	1	2
BEDS—						
For Europeans ..	37	3	11	—	1	52
For Asians	55	13	33	3	7	111
<i>For Africans—</i>						
In District hospitals ..	623	453	621	332	337	2,366
In Rural hospitals ..	—	109	208	28	—	345
In other units ..	—	332	548	127	376	1,383
For mental patients ..	322	—	—	—	—	322
For prisoners ..	24	48	—	—	—	72
TOTAL BEDS ..	1,061	958	1,421	490	721	4,651
General beds ..	652	715	1,190	443	590	3,590
Maternity beds ..	87	243	231	47	131	739
(B) UNITS AND BEDS IN MISSION INSTITUTIONS						
UNITS—						
Hospitals	2	—	2	1	3	8
Others	—	18	14	3	2	37
BEDS—						
In hospitals	376	—	194	24	137	731
In other units ..	—	360	128	26	4	518
TOTAL BEDS ..	376	360	322	50	141	1,249
General beds ..	284	—	164	42	121	611
Maternity beds ..	92	360	158	8	20	638
(C) BEDS MAINTAINED BY EMPLOYERS OF LABOUR						
In hospitals	—	50	56	—	—	106
In dispensaries ..	—	24	6	—	31	61

TABLE XXII
COMPARATIVE SUMMARY OF PATIENTS AT GOVERNMENT MEDICAL
INSTITUTIONS

Year	Hospitals			Dispensaries and Aid-posts	All Units	
	Admitted	Died	Out-patients*	Total Patients†	Total Patients†	Total Attendances
1950 ..	89,912	2,842	887,115	1,504,495	2,391,610	4,995,356
1951 ..	88,025	3,037	775,532	1,553,483	2,417,040	4,839,025
1952 ..	80,990	2,967	744,616	1,553,123	2,378,729	4,670,627

TABLE XXIII
ANALYSIS OF PATIENTS—1952

	Buganda Province	Eastern Province	Northern Province	Western Province	TOTAL
IN-PATIENTS—					
<i>Hospital admissions:</i>					
European ..	947	193	—	2	1,142
Asian ..	1,537	538	3	102	2,180
African ..	29,606	27,503	9,467	11,092	77,668
All races ..	32,090	28,234	9,470	11,196	80,990
<i>Dispensary admissions</i>	6,182	21,249	5,506	8,399	41,336
OUT-PATIENTS—					
NEW PATIENTS—					
<i>At hospitals:</i>					
European ..	5,192	2,086	109	258	7,645
Asian ..	6,786	5,562	124	483	12,955
African ..	229,081	244,952	128,886	121,097	724,016
All races ..	241,059	252,600	129,119	121,838	744,616
<i>At dispensaries and aid-posts</i>	372,114	535,230	345,685	324,107	1,577,136
TOTAL OUT-PATIENTS	613,173	787,830	474,804	445,945	2,321,752
RE-ATTENDANCES—					
<i>At hospitals</i> ..	287,733	206,793	138,900	149,683	783,109
<i>At dispensaries and aid-posts</i> ..	433,274	368,752	379,265	352,404	1,533,695
TOTAL ATTENDANCES	1,349,180	1,375,375	995,040	951,032	4,670,627
DEATHS—					
<i>African:</i>					
In hospitals ..	1,499	862	270	284	2,915
In dispensaries ..	173	492	206	173	1,044
<i>European</i> ..	8	—	—	—	8
<i>Asian</i> ..	24	19	—	1	44
TOTAL DEATHS IN GOVERNMENT INSTITUTIONS ..	1,704	1,373	476	458	4,011

* "Out-patients" included admission to hospital during the first five months of 1950.

† In past years returns of dispensary in-patients were not submitted from all districts. For comparative purposes, therefore, dispensary in-patients have been omitted from these totals.

C. DISEASES TREATED

The new International Classification of Diseases (1949) was introduced for hospital in-patients from the beginning of 1952 and is set out in Appendix VI; out-patients are classified on a simpler system as in the past. The data recorded in 1952 may not be as accurate as can be expected when the classification becomes thoroughly familiar to those using it.

It is an interesting exercise to compare the diseases recorded among the three racial groups, using the total number of patients in each group as a denominator. Most of the differences noted illustrate factors which must be allowed for before any true epidemiological comparison can be attempted—euphemistic diagnoses (Cf. Items 4 and 57 of the out-patient list), varying use of laboratory aids to diagnosis (Items 20 and 37), and the effect of alternative means of treatment, either at a dispensary, as a hospital in-patient or by a dentist (Items 58 or 48(a)). Force of tradition may be showing itself in Items 24 and 36 and in the preponderance of syphilis as a diagnosis among females (Item 3).

Another interesting exercise is to note the diseases which are listed but have not been encountered in Uganda during 1952. For the most part they are tropical diseases—i.e., cholera, rabies, leishmaniasis, hydatid disease and beri-beri. Only two temperate climate diseases were not recorded, tabes dorsalis and disseminated sclerosis, the latter a favourite diagnosis for neurological puzzles in the past.

D. MENTAL HOSPITAL AND MENTAL HEALTH

The Specialist Alienist was absent from the Protectorate during most of the year. A breakdown of the apparatus led to a reduction in the number of electro-convulsant treatments given. Other forms of convulsant therapy give less satisfactory results in conditions encountered locally.

The number of patients housed in the mental hospital, planned to accommodate 322, rose to a maximum of 515 in February, 1952, but fell to 496 by the end of the year. This overcrowding could not fail to affect district prisons, where the accommodation may be severely strained by the reception of a single violent or dirty lunatic.

Preliminary steps were taken towards the construction of the new mental hospital to be situated $4\frac{1}{2}$ miles east of Kampala. The first phase of this hospital is estimated to cost £82,000, and will provide accommodation for 160 patients.

Criminal lunatics are usually cared for in Luzira Prison; if needing treatment, they are transferred to Mulago General or Mental Hospital. During the war years the average number in Luzira Prison was slightly less than 5; it rose to a peak of 17 in 1947 and has fallen to 7 in 1952.

The Mental Treatment Ordinance applies *inter alia* to idiots. The number of such persons certified under the provisions of the Ordinance is small; two were in-patients at the end of 1952, and only two deaths of such patients have been recorded in the past four years.

The nutritional state of the patients remained good. The rapidity with which some patients put on weight after admission was remarkable, while the response to an adequate diet has come to be regarded as a useful prognostic sign. Deaths among patients amounted to 24% of the average population (23% in 1951); the number dying or discharged rose to 68%, exceeding the previous peak of 1948.

Chest diseases provide an increasing proportion of deaths. The number of deaths from tuberculosis rose from 14 in 1951 to 19 in 1952, all except one being from respiratory tuberculosis. The toll of this disease fell most heavily upon the age groups 25 to 35, where it accounted for one-quarter of all deaths in the hospital. Heavy rates of mortality from tuberculosis in mental hospitals have been recorded in the United Kingdom, accounting for a peak rate of 5 deaths per 1,000 hospital population in the period 1945-49. The average rate in Uganda for 1949-52 was over 20 deaths per 1,000 hospital population. The reduction of overcrowding which will be brought about by the opening of the new mental hospital should help to reduce this high incidence.

TABLE XXIV
CAUSES OF DEATH OF MENTAL PATIENTS

	1949	1950	1951	1952
Tuberculosis (all forms) ..	4	5	14	19
Pneumonia	3	11	5	10
Lung abscess and gangrene ..	2	5	4	4
Bronchitis	—	2	—	—
TOTAL RESPIRATORY INFECTIONS	9	23	23	33
Syphilitic disease	16	25	43	38
Cerebro-vascular disease ..	2	9	10	4
Other disease of brain	—	—	3	—
<i>Mental disease—</i>				
Schizophrenia	1	2	6	9
Epilepsy	5	3	6	4
Manic-depressives	3	4	2	8
Dementia	2	1	1	2
Other causes	9	10	16	23
TOTAL DEATHS ..	47	77	110	121
Average population	343	433	491	502

TABLE XXV
NUMBER OF PATIENTS IN MENTAL HOSPITAL

	1950	End of 1951	1952
TOTAL PATIENTS ..	477	505	496
European	—	2	—
Asian	8	9	8
African	469	494	488
<i>Non-Criminal Cases—</i>			
Male	288	302	282
Female	125	141	150
<i>Criminal Cases—</i>			
Male	50	50	52
Female	14	12	12
Planned accommodation	322	322	322

TABLE XXVI

ADMISSIONS, DEATHS AND DISCHARGES: MENTAL HOSPITAL

End of	Lunacy cases heard by District Courts	Admissions		Deaths	Discharges
		New	Re-admissions		
1950 ..	326	268	27	77	131
1951 ..	377	297	34	112	191
1952 ..	519	307	27	121	222
1952	<i>Criminal—</i>				
	Males	7	—	5	—
	Females	—	—	—	—
	<i>Civil—</i>				
	Males	220	19	94	165
	Females	80	8	22	57
	European	4		—	6
	Asian	12		—	13
	African	318		121	203

E. DENTAL SERVICE

Improvement in the staff position made it possible to open a new dental unit in Entebbe*. The dental surgeons stationed at Jinja, Kampala and Entebbe each undertake biennial visits to outlying towns.

It has been found since the opening of the dental unit in Jinja two years ago that there has been a welcome change in the ratio of conservative treatment to extractions, indicating that arrears of neglected mouths have been overtaken and that the value of early treatment is being appreciated.

A summary of the work carried out is shown below:

	1950	1951	1952		
			Kampala	Jinja	Entebbe*
Extractions	685	1,481	692	746	316
Conservative treatment—					
Scalings	280	546	315	342	251
Fillings	741	1,321	833	713	383
Temporary fillings and dressings	244	425	357	58	92
Crowns, inlays, etc.,					
Splints and obturators ..	17	28	14	26	10
Prostheses—					
New dentures	51	145	80	118	26
Repairs and alterations ..	40	116	57	120	6
Orthodontic appliances ..	—	3	24	6	7
TOTAL ATTENDANCES ..	2,412	4,568	2,314	2,650	1,236
			6,200		

F. RADIOLOGICAL SERVICE

The new radiological building at Mulago was opened during the year. Three units are in action and provision has been made for a fourth. The building has ample waiting spaces and clerical facilities, while teaching and demonstration needs have been catered for.

*For the last four months only.

Two small X-ray sets arrived for use at Jinja and Mbale respectively and were installed at the end of the year.

The development of this service is illustrated by the numbers of African patients examined in Kampala—

Year	1946	1947	1948	1949	1950	1951	1952
Patients	1,220	1,362	2,069	4,374	4,000	4,786	5,200

Included in the total for 1952 are 616 patients examined for mission hospitals and 164 referred by private practitioners.

Preparations were in hand for the training of African Assistant Radiographers, whose three-year course was to start early in 1953.

G. PHARMACEUTICAL SERVICE

Two new posts of storekeeper were created. These officers will undertake duties which have hitherto been performed by pharmacists. A pharmacist was appointed towards the end of the year, leaving one vacancy in a total European establishment of seven.

Two new stores were erected, primarily to house reserve stocks of equipment. Routine supplies are still inconveniently dispersed—some in the pier store, Entebbe, and others in borrowed stores in Kampala. Until the new stores were completed, large quantities of goods had to be kept in the open under tarpaulins. Although the pier stores are of "temporary" materials, they have withstood the ravages of thieves and time for fifty years; they are now verging on collapse, and beyond repair.

The estimated purchases amounted to £230,000, and stores ordered in previous years accounted for another £100,000.

The printing and distribution of the Uganda Formulary was completed. A committee including Government Specialists and Makerere professional staff had devoted a large amount of time to producing an up-to-date and simple guide, suitable for local needs.

Increased amounts of penicillin were made available, and the comment of one hospital is worth quoting:

"The introduction of penicillin on a large scale to a hospital like this is almost miraculous in effect. Longstanding infections disappear like snow in sunshine".

Supervision of stores in district hospitals imposes a heavy burden of laborious and responsible work upon the medical and nursing staff. African clerical staff have been employed in the past on these duties but have seldom attained a satisfactory level of efficiency or reliability. Arrangements have now been made for the establishment of a cadre of Assistant Storekeepers, who will be specifically trained in this important branch of medical work.

SUMMARY OF SOME PREPARATIONS MANUFACTURED

	1950	1951	1952
<i>Injections:</i>			
Bismuth oxide litres	979	1,262	956
Emetine hydrochloride litres	36	10	9
Glucose litres	257	501	485
Hydrocarpus oil litres	2,708	1,119	1,921
Procaine litres	17	26	14
Quinine litres	109	211	232
Sulphathiazole litres	26	25	12
<i>Galenicals:</i>			
Extracts pints	510	403	132
Infusions pints	408	465	—
Liniments pints	4,827	3,872	4,212
Mixtures pints	1,019	586	390
Ointments lb.	24,733	10,026	9,691
Syrups pints	945	335	—
Tinctures pints	3,642	3,270	3,079
<i>Insecticides:</i>			
Benzyl benzoate emulsion pints	204	150	303
Bug spray pints	1,843	—	—
B.H.C. spray pints	160	—	352
B.H.C. powder lb.	416	—	—
D.D.T. spray pints	2,975	5,664	6,656
Pyrethrum spray pints	1,560	1,944	1,056
Oil of Hydrocarpus (external use) litres	69	184	408
Narcotic preparations pints	—	347	235

H. AMBULANCES AND TRANSPORT

A welcome improvement in the general condition and serviceability of departmental vehicles was maintained during the year. Many of the older and unsuitable vehicles were disposed of and replaced. The repair garage in Entebbe was able to undertake a wider range of servicing operations, for which vehicles were sent periodically from district stations.

The state of the transport fleet at the end of the year is shown in the following table.

TABLE XXVII

	1950	1951	1952	Average age
	<i>No.</i>	<i>No.</i>	<i>No.</i>	
<i>Vehicles in working order:</i>				
Ambulances	15	12	11	4·7 years.
Vans	10	17	16	3·2 years.
<i>Vehicles not in working order:</i>				
Ambulances	7	9	2	7·0 years.
Vans	2	1	2	1·5 years.
<i>No longer serviceable</i>	6	4	8	6·1 years.
TOTAL VEHICLES ..	40	43	39	
New vehicles purchased	4	7	4	
Vehicles written off	1	4	8	

African Local Governments in the Eastern Province were able to put new vehicles on the road, two in Busoga District and one in each of the

sub-districts of Mbale; light vans were selected as being most suitable for local needs. There are now twelve African Local Government vehicles at work in this Province, generally stationed at rural centres.

I. REGISTRATION OF PROFESSIONAL PERSONS

Registration is controlled by the Medical Practitioners and Dentists Ordinance, the Midwives Ordinance, and the Pharmacy and Poisons Ordinance. Registration of nurses is under consideration. A summary of entries in the registers is given below.

Names on Registers and Licences granted			Number at 31-12-51	Names added in 1952	Names removed	Number at 31-12-52
Doctors, registered	..	..	151	32	16	167
Doctors, licensed	..	..	81	12	11	82
Dentists, registered	..	..	10	2	3	9
Dentists, licensed	..	..	1	1	—	2
Pharmacists	..	..	15	2	5	12
Midwives, C.M.B. standard	..	..	116	19	12	123
Midwives, locally trained	..	..	616	16	*	632

* Machinery for removing names not yet in action.

DOCTORS AT 31-12-52	REGISTERED				LICENSED			
	Euro-pean	Asian	African	TOTAL	Euro-pean	Asian	African	TOTAL
Government	54	3	1	58	1	8	52	61
Other public service ..	16	—	—	16	—	1	—	1
Mission ..	20	—	—	20	—	—	—	—
Private ..	4	41	1	46	1	12	7	20
TOTAL IN UGANDA ..	94	44	2	140	2	21	59	82
Not resident in Uganda ..	20	7	—	27	—	—	—	—
TOTAL ..				167				82

The number of registered doctors in Uganda increased by 24, viz.— 8 Asian private practitioners, 7 Government, 5 mission and 4 Makerere European doctors.

V LABORATORY SERVICES

The removal of the radiological section to Mulago Hospital enabled part of the Central Laboratory building to be converted into a biochemical laboratory. The staff of the laboratory was strengthened by the arrival

of two new Pathologists, one being on transfer, and two Laboratory Technicians. One Pathologist now works in the branch laboratory at Mulago Hospital.

The value of the services has been increased by the widened scope of work undertaken in district laboratories. In some of these, African laboratory assistants now undertake Kahn and other serological tests, and also simple bacteriology.

The findings of interest during the year included:

Endometriosis: was found in 9 out of 229 gynaecological specimens from African women.

Rhinoscleroma: was diagnosed five times.

Tuberculosis: seven local strains were cultivated by a slide technique in Youman's fluid medium and tested for drug sensitivity by comparison against a standard strain of H 37 Rv. Healed primary tuberculosis has now been detected at autopsy in 46% of 164 bodies of adult Africans not suffering from overt tuberculosis.

Peptic ulcer: has been detected in 16.5% of adult African bodies at autopsy; in only 4 out of the 200 examined was this disease suspected during life.

Friedländer's bacillus: infection by this organism, which is insensitive to penicillin, was the cause of five deaths.

Blood groups: grouping of prospective blood donors gave the following distribution in 2,086 Africans—

Phenotypes A = 22.6%, B = 21.6%, AB = 4.1%, O = 51.7%.

Gene frequencies $a = 0.144$, $b = 0.138$, $r = 0.718$.

Hookworms: worms collected from 23 cadavers were identified as *A. duodenale* in 5 and *N. americanus* in 18.

HISTOLOGICAL EXAMINATION AND AUTOPSIES

The number of blocks prepared from autopsy material fell to 1,120 (1,310 in 1951), but the number of biopsy specimens increased to 1,190 and the blocks prepared rose to 1,602 (1,346 in 1951). Most of the biopsy specimens came from district and mission hospitals.

Of 991 bodies received in Mulago mortuary, autopsies were performed on 588. A total of 309 autopsies were performed at the request of the police. This is the highest number on record and two and a half times as many as ten years ago. Medico-legal work now engages the whole time of one pathologist in Kampala. 152 police exhibits were examined, mostly for the presence of human blood.

TABLE XXVIII
SUMMARY OF WORK DONE IN LABORATORIES IN KAMPALA

	1951	1952
Bacteriological	3,066	3,595
Serological	1,643	1,691
Venereal diseases—		
Kahn tests	31,280	24,482
Others	11,850	10,142
Haematological	16,346	20,512
Biochemical	3,543	2,827
Blood films for parasites	27,142	20,412
Urine examinations	4,062	4,400
Faeces, microscopical	7,862	8,214
Sputum	2,780	2,461
C.S.F. cytology	699	793
Histological blocks	2,656	2,722
Others	255	230
TOTAL	113,184	102,481

VI TRAINING SCHOOLS

Medical education for doctors in Uganda has developed out of the older departmental training course for Medical Assistants; by fortifying the course of instruction, Senior Native Medical Assistants were transformed into Assistant Medical Officers. In 1944 the qualification was re-named the Diploma of Medicine (East Africa) as from December, 1936. The medical school, which adjoins the Government hospital on Mulago Hill, has become a department of Makerere College; Government officers, who originally formed the teaching staff, are now outnumbered by whole-time clinical instructors.

The medical school was originally founded to meet the needs of the public service, but the increasing aspirations of African doctors to enter private practice on their own account has led to a review of the registration procedure. Freedom to practice independently will inevitably affect the number of African doctors available for the public service for several years to come.

The numbers who have qualified and entered Government service in recent years are shown in the following table: the numbers to be expected in coming years are still far too small for the needs of the Protectorate.

TABLE XXIX

	1945	1946	1947	1948	1949	1950	1951	1952
Numbers qualifying and entering Government service	3	5	5	—	4	4	3	3
Numbers leaving Government service	—	1	5	2	—	3	4	6
Number in Government service at end of year	49	53	53	51	55	56	55	52*
Number licensed to practise independently, under the 1949 Registration Ordinance	—	—	—	—	—	2	2	3

* Three of these have notified their wish to leave the service early in 1953.

The four departmental training schools are concerned with the training of ancillary staff. Masaka, the second largest hospital in the Protectorate, is used for training Medical Assistants; Assistant Health Inspectors are trained at Mbale, a moderate-sized town whose conditions and surrounding rural neighbourhood are still typical of many in East Africa. Nursing Orderlies are trained at Lira; and Nurses, Dispensers and Laboratory Assistants are trained at Mulago Hospital and the Kampala Laboratories.

Fourteen midwives were engaged during the year from Mission training schools. Government does not at present undertake this form of training, but it has become necessary to consider arrangements for the training of midwives at Mulago and possibly at some centre in the Northern Province.

TABLE XXX
STUDENTS IN TRAINING

	Medical Assistants	Nurses (female)	Nursing Orderlies	Assistant Health Inspectors	Dispensers	Laboratory Assistants
In training at start of 1952	29	101	33	17	10	4
New entrants ..	20	56	22	12	5	2
Abandoned course ..	1	40	7	1	1	—
Completed course ..	12	13	17	6*	3	1
Still in training at end of year ..	36	104	31	22	11	5
Educational standard required ..	Sec. III	Sec. I	Sec. II	Sec. III	Sec. V	Sec. III
Length of course in years	3	3	2	3	3	3
Number passed final examination ..	11	13	13	9	3	1

* In addition, one candidate who completed the course in 1950 and two who completed the course in 1951 passed the certificate examination of the Royal Sanitary Institute, London.

The expansion of rural medical services will require more trained staff. It is equally important to raise the standard of training; this entails a higher educational standard at entry, which reduces the number of candidates available for enrolment. In the Northern Province particularly, this is an important factor hindering the development of medical and maternity services. Minor building works were put in hand at existing training centres to enable a slightly larger number of students to be enrolled in 1953.

Special attention was paid to the welfare of students. Treatment and instruction were given by Government dental surgeons on their visits, and assistance was also given in the clearing and levelling of football pitches and tenniquoit courts. In one training school a prefect has been appointed for each year, whose status was recognised by the issue of a Dunlopillo mattress. In the same school, a system of forfeits and fines for lack of tidiness or cleanliness augmented the funds of the Students' Club.

LEGISLATION

BUGANDA GOVERNMENT SHOP LAW, 1950

Legal Notice 102 provides for the licensing of each shop by a Gombolola Chief on the payment of a fee and for new buildings to be built in accordance with the Town Planning Law, 1947, or the Shop Building Law, 1950. Shops are not to be within one mile of any trading centre or township (except Kampala or Namirembe) and the name of the owner is to be displayed.

BUGANDA GOVERNMENT SHOP BUILDING LAW, 1950

Legal Notice 103 provides for plans to be submitted to chiefs for approval and gives power to fine, imprison or demolish for sanitary or other defects.

DISTRICT COUNCIL BYE-LAWS

Legal Notice 235 The Protection of Health Bye-law enforces the digging and maintenance of latrines, the clearing of compounds and the safeguarding of public water supplies in Ankole District.

Legal Notice 260 The Bye-law for the Improvement of Health of the Madi District Council lays down simple standards for huts, pit latrines and the hygiene of the compound.

Legal Notice 65 The Bye-law to make provision for Hygiene in Homesteads of the Bukedi District Council enforces the provision of a kitchen and cleanliness in homesteads and prohibits certain animals in the house or kitchen.

Legal Notice 272 The Bye-law to make provision for Hygiene in Homes prohibits the keeping of cattle in inhabited houses and lays down standards for houses and compound hygiene in Toro District.

Legal Notice 313 The Bye-law to make provision for Compulsory Registration of Births and Deaths of the Bugishu District Council prescribes a fine of Shs. 10 for failure by the head of a household to register births and deaths within 14 days of the event. The issue of a certificate is permissible.

Legal Notices 69 and 230 control the brewing and drinking of beer in Teso and Ankole Districts.

FACTORY ORDINANCE NO. 5 OF 1952

This Ordinance makes provision for the health, safety and welfare of persons employed in factories. All factories will be registered and requirements for cleanliness, absence of overcrowding, ventilation, lighting, drainage and provision of sanitary conveniences are set out. Measures are specified for the removal of dust or fumes, the avoidance of poisoning and the wearing of protective clothing, goggles, etc. Penalties are laid down if death or injury is caused through contravention of the provision of this Ordinance.

HOTELS ORDINANCE NO. 22 OF 1952

Replaces the Ordinance of 1946, and lays down the procedure for granting licences to hotels and hotel-keepers, and the grounds upon which a licence may be cancelled.

MUNICIPALITIES ORDINANCE, CAP. 103

General Notice 585 increases the charges for emptying cesspools or septic tanks and for inspecting temporary latrines.

Legal Notice 54 enacts the *Bakehouse Bye-laws* for Kampala.

Legal Notice 248 varies the boundaries of Kampala Municipality.

PHARMACY AND POISONS ORDINANCE, CAP. 96

General Notice 213 gives a list of licensed sellers of poisons under section 29.

General Notice 215 gives a list of premises licensed under section 15.

General Notices 214 and 216 give the names of pharmacists removed from the register, and of those still on the register on 1st June, 1952, respectively.

General Notice 221 gives a list of persons authorised to provide a certificate to purchase poisons under section 21 (1) (c) of the Ordinance.

PRISONS ORDINANCE, CAP. 59

Legal Notice 277 amends the scheduled diet of prisoners.

PUBLIC HEALTH ORDINANCE, CAP. 98

Legal Notice 115 *The Sale of Milk and Milk Products Rules* substitutes a list of township areas to which the rules are in part or wholly applicable.

Legal Notice 191 *The Condensed Milk Rules* lay down requirements for the composition and the labelling of receptacles of condensed milk.

Legal Notice 178 applies *The Bakehouse Rules* to Masaka.

Legal Notice 43 deletes Kampala from the operation of *The Bakehouse Rules*.

Legal Notice 296 increases the maximum fees payable for slaughter of animals under *The Meat Rules*.

Legal Notice 200 brings *The School Buildings Rules* into force from 1st June, 1954, and makes minor amendments.

DRAINAGE AND SANITATION RULES

Legal Notice 82 applies rule 76 (*Plumber's and Drainlayer's Licences*) to the townships of Jinja and Mbale.

Legal Notice 199 makes minor amendments to the rules.

SLEEPING SICKNESS ORDINANCE, CAP. 100

General Notice 241 prohibits entry into and residence at certain areas in the South Busoga Sleeping Sickness Area.

Legal Notice 51 varies the boundaries of the South Busoga restricted area.

Legal Notices 161 and 170 vary the boundaries of the East Madi and Western Gulu restricted area.

TOWN AND COUNTRY PLANNING ORDINANCE, 1951

Legal Notice 245 The Town and Country Planning Regulations, 1952 lay down the procedure to be adopted in making application for buildings on, or development of, land in a planning area.

General Notice 1322 Jinja Outline Scheme notifies the deposit of the Jinja Outline Scheme and sets out its provisions.

Legal Notice 31 delegates power to the Jinja Planning Committee to prepare an outline scheme for Jinja.

Legal Notice 304 gives notice of the appointed date for Jinja planning area (18th December, 1952).

TOWNSHIPS ORDINANCE, CAP. 102

Legal Notice 58 notifies the fees for cattle impounded in Jinja township.

Legal Notice 226 abolishes Kibanga Township.

General Notice 628 appoints members of Township Authorities in the Eastern Province.

Legal Notice 106 varies the limits of Entebbe Township.

WATERWORKS ORDINANCE, CAP. 130

Legal Notice 216 Soroti Water Supply.

Legal Notices 74, 77 and 78 Fort Portal Water Supply, collector and catchment area.

APPENDIX II

SCIENTIFIC PUBLICATIONS

BY MEMBERS OF THE DEPARTMENT

BOASE, A. J. "Tarsectomy". *British Journal of Ophthalmology*, Vol. 36, page 645.

BOASE, A. J.—"Blindness in Uganda". *East African Medical Journal*, Vol. 29, page 311.

BOASE, A. J.—"Glaucoma". *East African Medical Journal*, Vol. 29, page 45.

BROWN, J. A. K.—"Leprosy in Uganda. Preliminary investigations with special reference to methods of survey". *East African Medical Journal*, Vol. 29, page 493.

BURKITT, D. P.—"Acute abdomens—British and Baganda compared". *East African Medical Journal*, Vol. 29, page 189.

MUSOKE, L. K.—"Typhoid Fever in Mulago Hospital in 1949". *East African Medical Journal*, Vol. 29, page 209.

RAPER, A. B.—"Sickle cell inheritance in a case of disputed paternity". *East African Medical Journal*, Vol. 29, page 125.

RAPER, A. B., ELMES, B. G. T. and MUSOKE, L. T.—"Cancer of the lung in Africans; a report of six autopsies". *East African Medical Journal*, Vol. 29, page 433.

RAPER, A. B., IKIN, E. W. and MOURANT, A. E.—“Blood groups of the Amba pigmoids of Uganda”. *J. Roy. Anthropol. Inst.*, Vol. 62, page 60.

TROWELL, H. C. and THOMPSON, M. O.—“Pancreatic Enzyme Activity in duodenal contents of children with a type of Kwashiorkor”. *Lancet* (1952), Vol. i, page 1031.

TROWELL, H. C. and DAVIES, J. N. P.—“Kwashiorkor. I. Nutritional background, distribution and incidence”. *British Medical Journal* (1952) Vol. ii, page 796.

TROWELL, H. C., DAVIES, J. N. P. and DEAN, R. F. A.—“Kwashiorkor. II. Clinical picture, pathology and differential diagnosis”. *British Medical Journal* (1952) Vol. ii, page 799.

WELBOURN, H. F.—“Haemoglobin estimations in African children”. *East African Medical Journal*, Vol. 29, page 131.

APPENDIX III

REVENUE AND EXPENDITURE, 1952

1951	Revenue, 1952	1952	
Actual		Estimated	Actual
£		£	£
	CHARGES FOR SERVICES RENDERED—		
5,253	Hospital charges, European ..	12,000	18,139
3,304	Hospital charges, Asian ..		
408	Sale of Drugs ..		
209	Pathological examinations ..		
70	Ambulance and other charges ..		
17	Sale of surplus stores ..	1,200	1,213
—	Dental charges ..		
	SERVICES SUBJECT TO PART REPAYMENT TO OFFICERS—		
1,127	Radiological examinations ..	8,600	5,964
1,683	Dental, private patients ..		
844	Medical and surgical treatment ..		
1,710	Workmen's Compensation patients ..	2,000	2,874
£16,607	TOTAL (including revenue not allocated) £	23,800	28,190
	CAPITATION FEES—		
3,493	East African Railways and Harbours ..	3,500	3,739
2,401	Other High Commission Departments, Makerere College and other bodies ..	1,100	3,334
	CONTRIBUTIONS FROM AFRICAN LOCAL GOVERNMENTS—		
2,200	Buganda—medical stores ..	2,200	2,200
390	Reimbursement of salary of A.M.O. at Kabarole Hospital ..	540	570
	OTHER—		
4	East African Railways and Harbours for anti-malarial clearing ..	40	193
—	Other East African Governments for Mulago Teaching Hospital ..	5,000	5,000
	COLONIAL DEVELOPMENT AND WELFARE SCHEMES—		
23,000	D.1351 Medical Development ..	28,000	28,000
£48,095	£	64,180	71,226

1951	Expenditure, 1952	1952	
Actual		Estimated	Actual
£		£	£
	STAFF—		
422,986	Personal Emoluments	470,313	460,130
37,973	Transport of staff and patients	37,565	45,340
1,043	Payment to Government practitioners ..	1,000	1,696
—	Part payment of private fees to Government practitioners	4,000	3,601
298	Payments to private practitioners and nurses ..	500	194
1,414	Courses of instruction	1,200	1,871
1,720	Rations for probationer nurses	2,205	2,046
—	Staff recreation fund	10	10
	MATERIALS—		
(129,000)	Stores, drugs and equipment	200,000	258,576
1,479	Transport of stores	1,989	1,871
135	Incidentals	244	234
390	Publications	450	417
	UPKEEP—		
47,307	Maintenance of hospitals and laboratories ..	52,855	57,486
5,900	Water	5,400	5,714
11,446	Electricity	12,845	11,083
2,967	Postal services	3,700	3,622
250	Non-native mental patients	250	339
	HYGIENE—		
5,493	Control of disease	7,425	5,659
228	Public health propaganda	550	399
	CONTRIBUTIONS—		
6,777	Mission training schools	7,875	6,175
5,532	Mission leprosy settlements	5,650	5,620
2,335	Mission leprosy settlements special expenditure ..	1,000	1,000
—	Mission leprosy settlements motor vehicle ..	675	675
300	Ngora Hospital, C.M.S.	—	—
—	Ngora Hospital, water supply, maintenance ..	250	250
500	Kabarole Hospital, C.M.S.	500	500
886	C.M.S. Special Grant	—	—
100	B.R.C.S. Blood transfusion service	100	100
70	Others	100	80
	SPECIAL EXPENDITURE—		
816	New equipment for hospitals and dispensaries ..	23,610	17,481
5,973	Radiological equipment for Mulago	4,350	4,361
5,659	Motor vehicles	5,025	5,082
289	Headquarters Workshop	—	—
41	Office equipment (Headquarters)	350	346
723	Simulium eradication	10,000	5,954
113	Dental equipment	28	—
61,165	Reserve stores	53,006	(53,000)
£747,794	TOTAL: MEDICAL DEPARTMENT £	814,560	960,912
	PUBLIC WORKS DEPARTMENT—		
59,278	New buildings and extensions	407,000	132,000
5,302	Minor works and maintenance	5,700	(5,700)
850	Maintenance of temporary buildings	1,103	1,051
290	Servicing of motor vehicles	—	—
	TOWNSHIPS AND LOCAL GOVERNMENT—		
(10,661)	Anti-malarial	9,795	9,800
(9,335)	Public health, Kampala	27,248	27,200
	MISCELLANEOUS—		
(18,700)	Passages	19,000	20,120
(250)	Travelling on leave	—	4,092
—	Rhodes Centenary Exhibition	150	150
	SUBVENTIONS—		
5,222	E.A. High Commission services	7,600	7,600
8,000	Makerere College, Medical School	—	—
484	Others	724	724

STAFF

HONOURS

Januario Tinkamanyire, Medical Assistant, awarded the Certificate of Honour.

DIPLOMAS AND POST-GRADUATE DEGREES

A. J. Boase, O.B.E.	..	F.R.C.S. (Eng.).
J. D. Gillett	..	Ph.D. (Lond.).
E. J. Hines	..	M.R.San.I.
N. N. Kanyarutokye	..	D.P.H. (Liverpool).
J. N. Twohig	..	D.P.H. (Lond.).

SENIOR STAFF

Director ..	..	R. S. F. Hennessey, B.A., M.D., F.R.C.P.I., Dip.Bact. D.T.M.&H.
Deputy Director ..	..	J. K. Hunter, M.B., D.T.M.&H., D.P.H.
Assistant Director ..	..	A. J. Board, M.B., D.T.M., D.P.H.
Medical Superintendent, Mulago Hospital	..	A. A. Alderdice, M.B., M.R.C.P.
Specialists—		
Physicians ..	..	H. C. Trowell, M.D., F.R.C.P. P. W. Hutton, B.A., M.D., M.R.C.P., D.T.M.&H.
Surgeons ..	..	I. W. J. McAdam, M.B., F.R.C.S. D. P. Burkitt, B.A., M.D., F.R.C.S.
Ophthalmologist	..	A. J. Boase, O.B.E., F.R.C.S., D.O.M.S.
Radiologist ..	..	J. Scott Brown, M.D., D.T.M.&H., D.M.R.E.
Alienist ..	..	G. Campbell Young, M.R.C.S., D.P.M.
Anaesthetist ..	..	H. R. Hudd, B.Sc., M.B., M.R.C.S., D.A.
Leprologist ..	..	J. A. K. Brown, B.Sc., M.D., M.R.C.S., D.T.M.&H.
Gynaecologist ..	..	H. N. Mansfield, M.D., M.R.C.S., M.R.C.O.G.
Senior Medical Officers	..	W. A. Wilson, M.D., M.R.C.S., D.P.H., D.T.M.&H. D. G. Snell, B.A., M.B., M.R.C.S., D.P.H., D.T.M.&H. I. W. MacKichan, B.A., M.B., M.R.C.S., D.P.H., D.T.M.&H. W. Barnetson, M.B., D.T.M.&H. J. M. Caldwell, B.A., M.B., D.P.H., D.T.M.&H. A. F. Fowler, M.R.C.S., D.P.H., D.T.M.&H.
Senior Pathologist	..	A. B. Raper, B.Sc., M.D., M.R.C.P., D.T.M.&H.
Entomologist	..	G. R. Barnley, M.Sc.
Chief Matron ..	..	Miss M. O. C. Bonthron, S.R.N., S.C.M., R.F.N., Diploma in Nursing.
Chief Pharmacist ..	..	J. C. Baird, M.P.S.
Chief Health Inspector	..	E. J. Hines, M.R.San.I., A.M.I.San.E.
Secretary, Medical Directorate	..	E. J. Kennard.

APPOINTMENTS AND PROMOTIONS

Aiken, D. F.	..	Dental Mechanic	..	4/ 7/52
Armitt, T. L.	..	Senior Health Inspector	..	14/ 1/52
Asea, Dr. S. B.	..	Assistant Medical Officer	..	1/ 1/52
Ayre, N. P. W.	..	Health Inspector	..	6/ 3/52
Batten, Dr. K. L.	..	Medical Officer	..	31/ 3/52
Behan, Dr. T. G.	..	Medical Officer	..	13/ 8/52
Boase, Mr. A. J., O.B.E.	..	Acting Medical Superintendent	13/10/52—25/ 1/53	
Bolt, K. S.	..	Health Inspector	..	17/10/52
Brisland, Miss P. I. V.	..	Nursing Sister	..	2/ 8/52
Brown, L. M.	..	Assistant Hospital Superinten- dent	..	10/10/52
Buchan, Miss E. S.	..	Nursing Sister	..	5/12/52
Bunbury, Miss U. M.	..	Physiotherapist	..	19/ 1/52
Bunge, V. A.	..	Senior Health Inspector	..	6/ 5/52
Burkitt, Mr. D. P.	..	Specialist (Surgeon)	..	20/ 6/52
Calder, Miss J.	..	Nursing Sister	..	12/ 5/52
Carpenter, T. R., D.F.C.	..	Dental Surgeon	..	11/ 3/52
Cowan, Miss J. M. N.	..	Nursing Sister	..	9/ 2/52
Davies, Dr. A. G. M.	..	Medical Officer	..	1/ 4/52
Dixon, Miss V. S.	..	Nursing Sister	..	11/ 3/52

Dodsworth, Miss E.	.. Matron, Grade II ..	.. 24/ 8/52
Doyle, Miss M. P.	.. Nursing Sister ..	.. 29/ 9/52
Duffy, Miss B. A.	.. Nursing Sister ..	.. 29/ 9/52
Fowler, Dr. A. F.	.. Senior Medical Officer ..	.. 10/10/52
Garrity, Miss P. D.	.. Nursing Sister ..	.. 9/ 2/52
Hoar, Dr. C. E. W.	.. Pathologist ..	.. 20/12/52
Hunter, Dr. J. K.	.. Acting Deputy Director ..	.. 1/ 1/52—19/ 8/52
	Deputy Director ..	.. 20/ 8/52
Hutton, Dr. P. W.	.. Acting Medical Superintendent	
	Mental Hospital ..	.. 1/ 1/52— 1/10/52
Jacob, Dr. (Miss) G. P.	.. Pathologist ..	.. 15/ 8/52
Kadama, Dr. I. S.	.. Senior Assistant Medical Officer ..	.. 1/ 6/52
Kagezi, Dr. S. M.	.. Senior Assistant Medical Officer ..	.. 1/ 6/52
Kasirye, Dr. J. W. S.	.. Assistant Medical Officer ..	.. 21/ 7/52
Kidza, Dr. J. W. S.	.. Senior Assistant Medical Officer ..	.. 1/ 6/52
Kiremerwa, Dr. D. N.	.. Senior Assistant Medical Officer ..	.. 1/ 6/52
Knight, A. E.	.. Health Inspector ..	.. 31/ 3/52
Ladkin, Dr. R. G., M.B.E.	.. Acting Senior Medical Officer ..	.. 3/ 1/52
Larlham, D. J.	.. Storekeeper ..	.. 13/ 6/52
Lindsey, Miss M. W.	.. Nursing Sister ..	.. 31/ 3/52
McCarthy, Dr. D. D.	.. Acting Director ..	.. 1/ 1/52—12/ 5/52
MacFadyen, J. B.	.. Health Inspector ..	.. 24/12/52
McFie, Dr. J.	.. Medical Officer ..	.. 12/ 5/52
McIver, Miss M. M.	.. Nursing Sister ..	.. 29/ 8/52
MacKichan, Dr. I. W.	.. Acting Assistant Director ..	.. 20/ 8/52—23/11/52
Maher, Miss M.	.. Nursing Sister ..	.. 30/10/52
Mansfield, Mr. H. N.	.. Specialist (Gynaecologist) ..	.. 31/10/52
Moore, Dr. W.	.. Medical Officer ..	.. 13/ 8/52
Muganwa, Dr. S. B.	.. Senior Assistant Medical Officer ..	.. 1/ 6/52
O'Donnell, Dr. T. A.	.. Medical Officer ..	.. 31/ 3/52
Postlethwaite, G. H.	.. Acting Chief Health Inspector ..	.. 25/ 7/52— 7/12/52
Prebble, D.	.. Health Inspector ..	.. 31/ 3/52
Ross, H. M.	.. Laboratory Technician ..	.. 15/10/52
Salter, Miss L. E.	.. Acting Matron, Grade I ..	.. 26/ 3/52
	Matron, Grade I ..	.. 24/ 4/52
Seale, Dr. W. B.	.. Medical Officer ..	.. 13/ 8/52
Simpson, Miss D. M.	.. Nursing Sister ..	.. 5/ 6/52
Skedge, C.	.. Storekeeper ..	.. 9/ 3/52
Stanners, Miss E. O.	.. Nursing Sister ..	.. 23/ 6/52
Thomas, T. E.	.. Acting Chief Pharmacist ..	.. 22/ 5/52— 3/ 1/53
Tizard, Dr. D. A. T.	.. Medical Officer ..	.. 2/ 8/52
Twohig, Dr. J. N.	.. Acting Senior Medical Officer ..	.. 25/ 8/52—22/11/52
Walker, Miss J.	.. Nursing Sister ..	.. 29/ 4/52
Webb, F. J.	.. Hospital Superintendent ..	.. 17/ 5/52
Wilkie, W.	.. Acting Instructor of Hygiene ..	.. 8/ 7/52
	Instructor of Hygiene ..	.. 19/ 9/52
Wilson, Dr. W. A.	.. Acting Assistant Director ..	.. 1/ 1/52—19/ 8/52
		.. 24/11/52
	Acting Deputy Director ..	.. 20/ 8/52—23/11/52
Woollard, A. R.	.. Health Inspector ..	.. 24/11/52

DEPARTURES

Allan, Miss A. M.	.. Nursing Sister, <i>resigned</i> ..	.. 30/11/52
Bamugye, Dr. A. K.	.. Assistant Medical Officer, <i>retired</i> ..	.. 21/ 7/52
Bamundaga, Dr. D. D.	.. Assistant Medical Officer, <i>retired</i> ..	.. 31/ 5/52
Barlass, Miss L.	.. Nursing Sister, <i>resigned</i> ..	.. 31/ 3/52
Binta, Dr. P. B.	.. Assistant Medical Officer, <i>resigned</i> ..	.. 30/ 6/52
Black, Dr. J. J.	.. Senior Medical Officer, <i>retired</i> ..	.. 2/ 8/52
Brown, Dr. J. Scott	.. Specialist (Radiologist), <i>retired with effect from</i> ..	.. 31/ 8/53
Cockburn, Miss E. M.	.. Nursing Sister, <i>resigned</i> ..	.. 1/ 5/52
Dick, J.	.. Health Inspector, <i>resigned</i> ..	.. 31/12/52
Gabura, Dr. P. R.	.. Assistant Medical Officer ..	.. 7/ 8/52
Hall, Miss B. E.	.. Nursing Sister, <i>resigned</i> ..	.. 19/ 6/52
Handley, Miss M.	.. Nursing Sister, <i>contract ended with effect from</i> ..	.. 12/ 6/52

Holmes, Dr. G.	..	.. Specialist (Gynaecologist), <i>retired</i>	.. 13/ 3/53
Key, J. K.	..	.. Health Inspector, <i>resigned</i>	.. 11/ 5/52
Landmark, G.	..	.. Senior Health Inspector, <i>transferred</i>	.. 20/ 1/52
Lennon, N. G.	..	.. Senior Health Inspector, <i>resigned</i>	.. 13/ 6/52
McCarthy, Dr. D. D.	..	.. Deputy Director, <i>retired with effect from</i>	.. 27/ 9/53
Megens, M. J. C.	..	.. Male Mental Nurse, <i>resigned</i>	.. 31/12/52
Mowat, Mr. A. H.	..	.. Specialist (Surgeon), <i>retired</i>	.. 2/11/52
Monger, N. D.	..	.. Hospital Superintendent, <i>transferred</i>	.. 31/ 5/52
Munday, D. W.	..	.. Instructor of Hygiene, <i>retired with effect from</i>	.. 7/ 4/53
Muwazi, Dr. E. M. K.	..	.. Assistant Medical Officer, <i>resigned</i>	.. 30/ 4/52
Owtram, C. E. C.	..	.. Sanitary Overseer, <i>transferred</i>	.. 31/ 7/52
Rennie, Miss M. M.	..	.. Matron, Grade II, <i>retired with effect from</i>	.. 8/ 7/53
Rush, Dr. S. V.	..	.. Medical Officer, <i>transferred</i>	.. 6/10/52
Shepherd, W. R.	..	.. Sanitary Overseer, <i>retired</i>	.. 25/12/52
Stark, Miss J. M.	..	.. Nursing Sister, <i>transferred</i>	.. 2/10/52
Walpole, Miss R.	..	.. Matron, Grade I, <i>retired</i>	.. 15/ 6/52
Wasswa, Dr. A.	..	.. Assistant Medical Officer, <i>retired</i>	.. 14/ 2/52
Watts, Miss C.	..	.. Nursing Sister, <i>resigned</i>	.. 25/ 7/52

APPENDIX V

SANCTIONED ESTABLISHMENT, 1952

ADMINISTRATION

1 Director of Medical Services.	LOCAL CIVIL SERVICE POSTS
1 Deputy Director.	2 Chief Clerks.
1 Assistant Director.	
6 Senior Medical Officers.	
1 Administrative Assistant.	
2 Accountants.	
4 Stenographers.	

GENERAL

1 Medical Superintendent.	4 Medical Officers (L.C.S.).
2 Specialists (Physicians).	1 Senior Sub-Assistant Surgeon.
2 Specialists (Surgeons).	8 Sub-Assistant Surgeons.
1 Specialist (Ophthalmologist).	5 Senior Assistant Medical Officers.
1 Specialist (Gynaecologist).	57 Assistant Medical Officers
1 Specialist (Anaesthetist).	(10 vacancies).
1 Specialist (Leprologist).	14 Clerks (Executive Class).
40 Medical Officers (11 vacancies).	63 Clerks (Clerical Class).
1 Hospital Superintendent.	3 Hospital Cooks.
5 Assistant Hospital Superintendents	77 Clerical Assistants and Clinical
(1 vacancy).	writers.
1 Welfare Worker.	5 Artisans.
3 Hospital Assistants.	

NURSING

1 Chief Matron.	15 Asian Nurses.
2 Matrons (Grade I).	34 Nurse Midwives } (5 vacancies).
5 Matrons (Grade II).	138 Midwives
56 Nursing Sisters (4 vacancies).	137 Nurses (15 vacancies).
2 Physiotherapists.	274 Medical Assistants (32 vacancies).
	122 Senior Nursing Orderlies.
	681 Nursing Orderlies.
	211 Ward Maids.
	147 Nurses in training.

LABORATORY AND ENTOMOLOGICAL

	LOCAL CIVIL SERVICE POSTS
1 Senior Pathologist.	1 Laboratory Technician.
3 Pathologists.	58 Laboratory Assistants (<i>9 vacancies</i>).
1 Government Chemist.	3 Entomological Assistants.
3 Senior Entomologist and	31 Laboratory Orderlies.
Entomologists (<i>1 vacancy</i>).	7 Entomological Observers.
4 Laboratory Technicians (<i>1 vacancy</i>).	
1 Assistant Bacteriologist.	

PHARMACEUTICAL

1 Chief Pharmacist.	1 Assistant Storekeeper.
4 Pharmacists (<i>1 vacancy</i>).	48 Dispensers.
2 Storekeepers.	

RADIOLOGICAL

1 Specialist (Radiologist).
4 Radiographers (<i>2 vacancies</i>).

HYGIENE

1 Chief Health Inspector.	99 Assistant Health Inspectors
21 Senior Health Inspectors and Health	(<i>14 vacancies</i>).
Inspectors (<i>5 vacancies</i>).	113 Hygiene Orderlies.
4 Sanitary Overseers (<i>1 vacancy</i>).	61 Health Orderlies.

DENTAL

4 Dental Surgeons.	3 Dental Orderlies.
2 Dental Mechanics.	

MENTAL HOSPITAL

1 Specialist (Alienist).	19 Male Attendants.
1 Superintendent.	14 Female Attendants.
3 Male Nurses.	78 Male Mental Orderlies.
1 Sister in Charge.	44 Female Mental Orderlies.
1 Female Nurse.	

TRANSPORT

2 Mechanics (General Division).
1 Driver (General Division).
42 Drivers (Employees Division).

TEACHING

1 Instructor of Hygiene.	149 Learner L.C.S.
2 Medical Officers	147 Female Nurses in training.
3 Nursing Sisters	} included above.
1 Health Inspector	

N.B.—All vacancies for European staff are counted at end of year.

Other grades are in some cases counted at the time estimates for next year are submitted.

PATIENTS ATTENDING GOVERNMENT HOSPITALS

OUT-PATIENTS: 1952

	Africans	Asians	Euro- peans	Males	Females	TOTAL
1. Tuberculosis of the res- piratory system ..	157	15	1	128	45	173
2. Other tuberculous diseases ..	62	8	1	54	17	71
3. Syphilis ..	29,742	17	1	16,288	13,472	29,760
4. Gonorrhoea ..	23,364	14	8	15,603	7,783	23,386
5. Other venereal diseases ..	5,493	1	3	3,622	1,875	5,497
6. Unspecified fevers ..	17,425	315	235	13,484	4,491	17,975
7. Bacillary dysentery ..	1,076	19	36	628	503	1,131
8. Amoebic dysentery ..	597	25	15	429	208	637
9. Diphtheria ..	—	—	—	—	—	—
0. Whooping cough ..	1,000	44	10	590	464	1,054
1. Meningitis ..	1	—	—	1	—	1
2. Plague ..	5	—	—	5	—	5
3. Leprosy ..	346	—	—	207	139	346
4. Tetanus ..	3	—	—	2	1	3
5. Anthrax ..	2	—	—	2	—	2
6. Acute poliomyelitis ..	19	—	—	10	9	19
7. Smallpox— (a) Variola major ..	—	—	—	—	—	—
(b) Variola minor ..	2	—	—	1	1	2
8. Measles ..	322	24	7	206	147	353
9. Mumps ..	1,108	45	25	874	304	1,178
0. Malaria— (a) Benign tertian ..	70	2	—	39	33	72
(b) Quartan ..	434	27	—	212	249	461
(c) Malignant tertian ..	22,064	1,298	209	14,086	9,485	23,571
(d) Other unclassified ..	60,479	1,140	81	38,400	23,300	61,700
1. Blackwater fever ..	4	7	1	9	3	12
2. Schistosomiasis— (a) Vesical ..	61	1	—	49	13	62
(b) Intestinal ..	555	—	—	325	230	555
3. Onchocerciasis ..	11	—	—	7	4	11
4. Ankylostomiasis ..	5,761	22	1	3,481	2,303	5,784
5. Guinea worm ..	370	2	—	259	113	372
6. Other helminthic diseases ..	7,742	39	53	4,722	3,112	7,834
7. Relapsing fever ..	21	—	—	17	4	21
8. Yaws ..	17,851	1	—	10,625	7,227	17,852
9. Chicken pox ..	577	7	3	396	191	587
0. Trachoma ..	4,846	88	—	2,846	2,088	4,934
1. Other diseases of eye and annexa (except Ophthal- mia neonatorum) ..	23,882	173	111	15,074	9,092	24,166
2. Trypanosomiasis— (a) Gambiense ..	3	—	—	3	—	3
(b) Rhodesiense ..	—	—	—	—	—	—
(c) Unspecified ..	—	1	—	1	—	1
3. Tinea ..	1,472	15	31	1,079	439	1,518
4. Scabies ..	14,693	46	8	9,154	5,593	14,747
5. Tumours— (a) Malignant (including leukaemia) ..	108	2	1	55	56	111
(b) Benign and unspeci- fied ..	382	15	22	157	262	419
6. Asthma ..	371	190	23	397	187	584
7. Diabetes ..	8	23	2	24	9	33
8. Vitamin deficiency states ..	237	22	4	154	109	263
9. Diseases of blood and blood forming organs ..	2,402	218	18	1,276	1,362	2,638
0. Cerebral vascular lesions ..	1	5	5	5	6	11

OUT-PATIENTS: 1952

	Africans	Asians	Euro- peans	Males	Females	TOTAL
41. Mental disorders ..	29	26	52	53	54	107
42. Epilepsy ..	29	1	2	28	4	32
43. Other diseases of nervous system ..	1,565	164	206	1,205	730	1,935
44. Diseases of ear and mastoid sinus ..	8,904	178	148	5,351	3,879	9,230
45. Diseases of the circulatory system—						
(a) Heart disease ..	558	41	25	373	251	624
(b) Other circulatory diseases ..	322	40	49	235	176	411
46. Pneumonia—						
(a) Lobar pneumonia ..	232	52	2	188	98	286
(b) Bronchopneumonia ..	236	33	4	178	95	273
47. Other diseases of respiratory system ..	78,961	1,648	1,035	51,558	30,086	81,644
48. Diseases of teeth and gums—						
(a) Caries ..	13,862	197	31	8,814	5,276	14,090
(b) Other conditions ..	4,715	75	27	2,947	1,870	4,817
49. Appendicitis ..	4	24	9	26	11	37
50. Intestinal obstruction and hernia ..	1,720	13	9	1,493	249	1,742
51. Gastro-enteritis (over 4 weeks of age) ..	8,430	157	138	5,042	3,683	8,725
52. Cirrhosis of the liver ..	12	—	—	8	4	12
53. Other diseases of liver and bile passages ..	204	28	16	164	84	248
54. Other diseases of digestive system ..	49,708	568	426	29,446	21,256	50,702
55. Nephritis ..	155	15	2	130	42	172
56. Hydrocele ..	473	3	—	476	—	476
57. Other diseases of genito-urinary system ..	3,088	221	232	963	2,578	3,541
58. Diseases of pregnancy, childbirth, and the puerperium—						
(a) Abortion ..	122	40	5	—	167	167
(b) Toxaemia of pregnancy ..	11	20	7	—	38	38
(c) Other conditions ..	492	79	26	—	597	597
59. Arthritis and rheumatism ..	21,859	127	104	13,769	8,321	22,090
60. Chronic ulcer of leg ..	25,645	34	9	19,454	6,234	25,688
61. (a) Other diseases of skin ..	32,965	575	625	22,209	11,956	34,165
(b) Other diseases of musculo-skeletal system ..	9,265	340	141	7,053	2,693	9,746
62. Congenital malformation and diseases of early infancy—						
(a) Diarrhoea of newborn ..	2,629	35	3	1,518	1,149	2,667
(b) Ophthalmia neonatorum ..	3	1	4	2	6	8
(c) Immaturity ..	22	—	—	6	16	22
(d) All other malformations and diseases of early infancy ..	904	4	18	491	435	926
63. Fractures and dislocations, except where classifiable under item (64) ..	1,073	87	60	936	284	1,220
64. Injuries by animals or insects ..	6,184	47	113	5,127	1,217	6,344

OUT-PATIENTS: 1952

	Africans	Asians	Euro- peans	Males	Females	TOTAL
Other wounds and super- ficial injuries (excluding burns)	47,381	434	255	36,574	11,496	48,070
Effects of foreign bodies ..	974	19	25	650	368	1,018
Burns and scalds ..	4,807	69	30	3,004	1,902	4,906
Effects of poisons ..	18	17	3	23	15	38
All other injuries from external causes ..	19,443	599	166	14,599	5,609	20,208
(i) Examinations and pro- phylactic injections ..	128,602	2,897	2,354	65,771	68,082	133,853
(ii) Ill-defined conditions	27,535	176	369	14,877	13,203	28,080
Unallocated	286	—	64	212	138	350
TOTAL	748,556	12,955	7,709	469,939	299,281	769,220
TOTAL ATTENDANCES ..	783,109	13,472	5,952	...	...	802,533

IN-PATIENTS AT GOVERNMENT HOSPITALS, 1952

Inter-national List No.	Disease	PATIENTS					DEATHS			
		Africans	Asians	Euro-peans	Male	Female	TOTAL	Male	Female	TOTAL
A.	1. Tuberculosis of respiratory system ..	387	5	1	282	111	393	65	15	80
A.	2. Tuberculosis of meninges and central nervous system ..	1	—	1	1	1	2	1	—	1
A.	3. Tuberculosis of intestines, peritoneum and mesenteric glands ..	50	2	1	30	23	53	2	2	4
A.	4. Tuberculosis of bones and joints ..	49	2	—	48	3	51	—	—	—
A.	5. Tuberculosis, all other forms ..	70	6	2	50	28	78	10	3	13
A.	6. Congenital syphilis ..	233	—	—	132	101	233	9	22	31
A.	7. Early syphilis (I and II) ..	1,192	—	—	768	424	1,192	2	—	2
A.	8. Tabes dorsalis ..	—	—	—	—	—	—	—	—	—
A.	9. General paralysis of insane ..	7	—	—	6	1	7	—	—	—
A.	10. All other syphilis ..	470	2	—	299	173	472	9	4	13
A.	11. Gonococcal infections— (a) Genito-urinary .. (b) Ophthalmic .. (c) Other forms ..	4,493 96 470	4 — 1	— — —	2,517 57 342	1,980 39 129	4,497 96 471	31 2 4	5 — —	36 2 4
A.	12. Typhoid fever ..	355	15	1	223	148	371	22	9	31
A.	13. Paratyphoid fever and other Salmonella infections ..	8	—	6	6	8	14	1	—	1
A.	14. Cholera ..	—	—	—	—	—	—	—	—	—
A.	15. Brucellosis (undulant fever) ..	8	—	—	7	1	8	—	—	—
A.	16. (a) Bacillary dysentery .. (b) Amoebiasis (excluding symptomless cyst carriers) .. (c) Other unspecified forms of dysentery ..	622 273 135	3 6 —	16 29 6	426 198 74	215 110 67	641 308 141	11 3 2	5 — 2	16 3 4
A.	17. Scarlet fever ..	—	—	—	—	—	—	—	—	—
A.	18. Streptococcal sore throat ..	41	7	9	27	30	57	—	—	—
A.	19. Erysipelas ..	16	—	—	12	4	16	—	—	—
A.	20. Septicaemia and pyaemia ..	36	—	—	17	19	36	6	7	13
A.	21. Diphtheria ..	17	1	—	11	7	18	3	—	3
A.	22. Whooping cough ..	304	2	1	140	167	307	3	9	12
A.	23. Meningococcal infections ..	91	—	1	51	41	92	23	16	39
A.	24. Plague ..	—	—	—	—	—	—	—	—	—
A.	25. Leprosy ..	40	—	1	26	15	41	3	—	3
A.	26. Tetanus ..	55	1	—	37	19	56	16	5	21
A.	27. Anthrax ..	21	—	—	12	9	21	3	1	4

IN-PATIENTS AT GOVERNMENT HOSPITALS

Inter-national List No.	Disease	PATIENTS					DEATHS			
		Africans	Asians	Euro-peans	Male	Female	TOTAL	Male	Female	TOTAL
A. 28.	Acute poliomyelitis	146	13	8	99	68	167	10	3	13
A. 29.	Acute infectious encephalitis	11	2	3	11	5	16	1	1	2
A. 30.	Late effects of acute poliomyelitis and acute infectious encephalitis	11	1	—	9	3	12	—	1	1
A. 31.	Smallpox— (a) Variola major	3	—	—	1	2	3	—	—	—
	(b) Variola minor	19	—	—	15	4	19	—	—	—
A. 32.	Measles	241	2	3	135	111	246	1	3	4
A. 33.	Yellow fever	—	—	1	1	—	1	1	—	1
A. 34.	Infectious hepatitis	90	2	7	65	34	99	6	7	13
A. 35.	Rabies	—	—	—	—	—	—	—	—	—
A. 36.	(a) Louse-borne (epidemic) typhus	—	—	—	—	—	—	—	—	—
	(b) Flea-borne (murine) typhus	87	—	2	64	25	89	—	—	—
	(c) Tick-borne typhus	2	—	4	3	3	6	—	—	—
	(d) Unspecified typhus	10	3	15	25	3	28	—	—	—
	(e) Other rickettsial diseases	—	—	—	—	—	—	—	—	—
A. 37.	(a) Vivax malaria (benign tertian)	18	14	1	13	20	33	7	4	11
	(b) Malariae malaria (quartan)	97	9	5	64	47	111	3	—	3
	(c) Falciparum malaria (malignant tertian)	4,651	108	97	2,783	2,073	4,856	91	66	157
	(d) Other unspecified malaria	4,800	73	13	2,889	1,997	4,886	46	41	87
	(e) Blackwater fever	8	9	—	15	2	17	2	—	2
A. 38.	Schistosomiasis— (a) Vesical	61	2	—	52	11	63	—	—	—
	(b) Intestinal	258	—	4	149	113	262	—	—	—
A. 39.	Hydatid disease	—	—	—	—	—	—	—	—	—
A. 40.	(a) Onchocerciasis	10	—	—	8	2	10	—	1	1
	(b) Loiasis	—	—	—	—	—	—	—	—	—
	(c) Filariasis (bancrofti)	11	—	—	10	1	11	—	—	—
	(d) Other filariasis	25	—	—	17	8	25	—	—	—
A. 41.	Ankylostomiasis	2,344	8	3	1,151	1,204	2,355	21	10	31
A. 42.	(a) Tapeworm	458	3	—	310	151	461	—	—	1
	(b) Ascaris	332	3	—	152	183	335	1	—	1
	(c) Guinea worm	61	—	—	57	4	61	—	—	—
	(d) Other helminths	388	—	—	217	171	388	2	—	2

IN-PATIENTS AT GOVERNMENT HOSPITALS

APPENDIX VI B—contd.

Inter-national List No.	Disease	PATIENTS					DEATHS	
		Africans	Asians	Euro-peans	Male	Female	Male	Female
A. 43.	(a) Lymphogranuloma venereum	130	—	—	44	86	1	4
	(b) Granuloma inguinale, venereal	28	—	—	16	12	—	1
	(c) Other and unspecified venereal diseases	396	—	—	231	165	—	—
	(d) Food poisoning infection and intoxication (excluding Salmonella infections)	11	2	—	10	3	—	1
	(e) Relapsing fever	181	—	—	127	54	2	1
	(f) Leptospirosis (Weil's disease)	3	—	—	2	1	—	—
	(g) Yaws	321	—	—	210	111	—	1
	(h) Chickenpox	275	—	1	182	94	—	—
	(i) Dengue	—	—	—	—	—	—	—
	(j) Trachoma	1,334	—	—	519	815	—	—
	(k) Sandfly fever	1	—	—	—	1	—	—
	(l) Leishmaniasis	—	—	—	—	—	—	—
	(m) Trypanosomiasis—	—	—	—	—	—	—	—
	(i) T. gambiense	3	—	—	2	1	—	—
	(ii) T. rhodesiense	1	—	—	1	—	—	—
	(iii) Unspecified	8	—	—	5	3	—	—
	(n) Tinea	67	—	—	44	25	—	—
A. 44.	(o) Scabies	198	—	—	138	60	—	—
	(p) All other parasitic diseases	168	1	4	117	56	3	—
	Malignant neoplasm of—	—	—	—	—	—	—	—
	Buccal cavity and pharynx	13	2	—	10	5	—	4
	Oesophagus	10	—	—	8	2	—	1
	Stomach	10	—	—	7	3	1	2
	Intestine, except rectum	12	1	—	5	8	—	—
	Rectum	2	—	1	1	2	—	—
	Larynx	—	—	—	—	—	—	—
	Trachea, and of bronchus and lung not specified as secondary	10	—	—	8	4	1	—
	Breast	28	—	2	8	21	—	—
	Cervix uteri	24	—	1	2	22	—	2
	Other and unspecified parts of uterus	33	—	—	—	33	—	2
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—
	—	—	—	—	—	—	—

Inter-national List No.	Disease	PATIENTS					DEATHS	
		Africans	Asians	Euro-peans	Male	Female	Total	Total
A. 54.	(a) Prostate	6	—	1	7	—	7	2
A. 55.	(b) Penis	27	—	—	27	—	27	—
A. 56.	Skin	37	—	—	29	8	37	2
A. 57.	Bone and connective tissue	31	1	—	14	18	32	2
A. 58.	Other unspecified sites	132	—	1	77	56	133	18
A. 59.	Leukaemia and leukaemia	6	1	1	5	3	8	2
A. 60.	Neoplasms of lymphatic and haematopoietic system	38	—	1	29	10	39	2
A. 61.	Benign and unspecified neoplasms	598	6	17	116	505	621	9
A. 62.	Nontoxic goitre	20	1	1	10	12	22	—
A. 63.	Thyroiditis with or without goitre	1	1	1	2	1	3	—
A. 64.	Diabetes mellitus	42	15	5	38	24	62	8
A. 65.	(a) Beriberi	—	—	—	—	—	—	—
A. 66.	(b) Pellagra	2	—	—	1	1	2	—
A. 67.	(c) Scurvy	9	—	—	9	—	9	—
A. 68.	(d) Kwashiorkor	191	1	1	96	96	192	1
A. 69.	(e) Other deficiency states	228	2	1	132	99	231	26
A. 70.	(a) Hyperchromic anaemias	19	1	—	10	10	20	30
A. 71.	(b) Hypochromic anaemias	186	3	—	96	93	189	4
A. 72.	(c) Other unspecified anaemias	448	4	—	196	256	452	11
A. 73.	(a) Asthma	204	25	8	156	81	237	55
A. 74.	(b) All other allergic disorders, endocrine, metabolic and blood diseases	261	1	3	136	129	265	1
A. 75.	Psychoses	29	4	2	17	18	35	2
A. 76.	Psychoneuroses and disorders of personality	77	9	20	69	37	106	3
A. 77.	Mental deficiency	22	1	—	13	10	23	3
A. 78.	Vascular lesions affecting central nervous system	31	3	3	25	12	37	14
A. 79.	Meningitis (except meningococcal and tuberculous)	150	2	—	85	67	152	75
A. 80.	Disseminated sclerosis	—	—	—	—	—	—	—
A. 81.	Epilepsy	48	2	—	41	9	50	5
A. 82.	Inflammatory diseases of eye	439	1	1	283	158	441	—
A. 83.	Cataract	41	37	3	50	31	81	—
A. 84.	Glaucoma	46	3	—	41	8	49	1

APPENDIX VI B—contd.

Inter-national List No.	Disease	PATIENTS					DEATHS			
		Africans	Asians	Euro- peans	Male	Female	Total	Male	Female	Total
A. 77.	(a) Otitis externa.	87	—	2	32	57	89	1	—	1
	(b) Otitis media and mastoiditis	350	2	1	195	158	353	3	1	4
	(c) Other inflammatory diseases of ear	113	—	—	65	48	113	1	—	1
A. 78.	(a) All other diseases and conditions of eye	822	22	5	520	329	849	1	—	1
	(b) All other diseases of the nervous system and sense organs	200	15	8	142	81	223	4	1	5
A. 79.	Rheumatic fever	25	5	—	20	10	30	1	—	1
A. 80.	Chronic rheumatic heart disease	23	4	—	15	12	27	1	—	1
A. 81.	Arteriosclerotic and degenerative heart disease	11	3	9	17	6	23	5	2	7
A. 82.	(a) Syphilitic disease of heart or aorta	43	—	—	24	19	43	2	4	6
	(b) Other diseases of heart.	175	14	6	133	62	195	42	17	59
A. 83.	Hypertension with heart disease	18	12	5	24	11	35	4	4	8
A. 84.	Hypertension without mention of heart	9	13	3	15	10	25	2	1	3
A. 85.	Diseases of arteries	6	5	6	14	3	17	4	—	4
A. 86.	Other diseases of circulatory system	165	4	20	125	64	189	5	—	5
A. 87.	Acute upper respiratory infections	1,169	9	24	692	510	1,202	7	12	19
A. 88.	Influenza	221	27	5	164	89	253	—	—	—
A. 89.	Lobar pneumonia	2,284	21	2	1,582	725	2,307	103	53	156
A. 90.	Bronchopneumonia	1,308	32	5	773	572	1,345	78	47	125
A. 91.	Primary atypical, other and unspecified pneumonia	686	9	7	462	240	702	28	23	51
A. 92.	Acute bronchitis	843	9	5	480	377	857	3	3	6
A. 93.	Bronchitis, chronic and unqualified	473	7	14	322	172	494	1	—	1
A. 94.	Hypertrophy of tonsils and adenoids	162	27	10	114	85	199	1	—	1
A. 95.	Empyema and abscess of lung	40	1	1	32	10	42	7	2	9
A. 96.	Pleurisy	62	4	4	55	15	70	1	1	2
A. 97.	(a) Pneumoconiosis	—	—	—	—	—	—	—	—	—
	(b) All other respiratory diseases	544	8	10	332	230	562	4	1	5
A. 98.	(a) Dental caries	167	3	4	106	68	174	—	—	—
	(b) All other diseases of teeth and gums	343	4	6	231	122	353	—	1	1
A. 99.	Ulcer of stomach	40	1	6	34	13	47	2	—	2
A. 100.	Ulcer of duodenum	65	6	6	66	11	77	3	—	3
A. 101.	Gastritis and duodenitis	22	2	14	21	38	38	1	—	1
A. 102.	Appendicitis	38	68	22	89	39	128	5	1	6

IN-PATIENTS AT GOVERNMENT HOSPITALS

APPENDIX VI B—contd.

Inter-national List No.	Disease	PATIENTS					DEATHS			
		Africans	Asians	Euro-peans	Male	Female	TOTAL	Male	Female	TOTAL
A. 103.	Intestinal obstruction and hernia	1,904	38	15	1,617	340	1,957	126	23	149
A. 104.	(a) Gastro-enteritis and colitis, between 4 weeks and 2 years	267	10	6	153	130	283	12	11	23
	(b) Gastro-enteritis and colitis, age 2 years and over	347	4	23	218	156	374	21	12	33
	(c) Chronic enteritis and ulcerative colitis	37	—	1	25	13	38	1	—	1
A. 105.	Cirrhosis of liver	141	3	3	105	42	147	27	8	35
A. 106.	Cholelithiasis and cholecystitis	19	8	15	16	26	42	—	—	—
A. 107.	Other diseases of digestive system	1,622	33	22	962	715	1,677	27	18	45
A. 108.	Acute nephritis	66	6	1	46	27	73	8	2	10
A. 109.	Chronic, other and unspecified nephritis	98	6	4	69	39	108	17	6	23
A. 110.	Infections of kidney	160	16	16	37	155	192	1	1	2
A. 111.	Calculi of urinary system	1	7	10	16	2	18	—	—	—
A. 112.	Hyperplasia of prostate	10	2	—	12	—	12	1	—	1
A. 113.	Diseases of breast	128	5	4	16	121	137	—	—	—
A. 114.	(a) Hydrocele	278	1	—	279	—	279	7	—	7
	(b) Disorders of menstruation	205	36	5	—	246	246	—	2	2
	(c) All other diseases of the genito-urinary system	1,206	43	45	607	687	1,294	20	2	22
A. 115.	Sepsis of pregnancy, childbirth and the puerperium	204	5	2	—	211	211	—	12	12
A. 116.	Toxaemias of pregnancy and the puerperium	31	10	—	—	41	41	—	1	1
A. 117.	Haemorrhage of pregnancy and childbirth	112	15	5	—	132	132	—	8	8
A. 118.	Abortion without mention of sepsis or toxæmia	1,066	53	31	—	1,150	1,150	—	4	4
A. 119.	Abortion with sepsis	168	1	—	—	169	169	—	2	2
A. 120.	(a) Other complications of pregnancy, childbirth and the puerperium	2,117	78	28	—	2,223	2,223	—	132	132
	(b) Delivery without complications	5,587	516	84	—	6,187	6,187	—	—	—
A. 121.	Infections of skin and subcutaneous tissue	1,557	38	29	1,102	522	1,624	19	8	27
A. 122.	Arthritis and spondylitis	345	7	7	286	73	359	—	1	1
A. 123.	Muscular rheumatism unspecified	340	4	6	250	100	350	—	—	—
A. 124.	Osteomyelitis and periostitis	243	7	2	181	71	252	—	—	—
A. 125.	Ankylosis and acquired musculo-skeletal deformities	78	2	5	58	27	85	—	—	—
A. 126.	(a) Chronic ulcer of leg	1,945	10	1	1,401	555	1,956	7	7	14
	(b) All other diseases of skin	1,466	20	17	970	533	1,503	5	—	5
	(c) All other diseases of musculo-skeletal system	843	2	10	612	243	855	5	2	7

IN-PATIENTS AT GOVERNMENT HOSPITALS

APPENDIX VI B—*contd.*

Inter-national List No.	Disease	PATIENTS				DEATHS	
		Africans	Asians	Euro-peans	Male	Female	TOTAL
A. 127.	Congenital malformations— Spina bifida and meningocele	74	2	1	41	36	77
A. 128.	Circulatory system	7	1	—	5	3	8
A. 129.	All others	28	5	3	27	9	36
A. 130.	Birth injuries	41	—	—	8	33	41
A. 131.	Diseases of newborn (under 4 weeks)— Asphyxia and atelectasis	24	1	1	13	13	26
A. 132.	(a) Diarrhoea	208	5	1	107	107	214
	(b) Ophthalmia	69	—	1	37	33	70
	(c) Other infections	48	—	—	28	20	48
A. 133.	Haemolytic disease	21	1	—	11	11	22
A. 134.	Other defined diseases	67	6	1	46	28	74
A. 135.	Ill-defined diseases and immaturity	329	4	5	140	198	338
A. 136.	Senility without mention of psychosis	21	1	—	15	8	23
A. 137.	(a) Pyrexia of unknown origin	994	32	35	567	494	1,061
	(b) Observation, without need for further medical care	1,902	119	26	838	1,209	2,047
	(c) All other ill-defined causes of morbidity	2,690	24	16	1,602	1,128	2,730
AN. 138.	Fracture of skull	155	8	6	150	19	169
AN. 139.	Fracture of spine and trunk	103	17	7	108	19	127
AN. 140.	Fracture of limbs	915	58	28	756	245	1,001
AN. 141.	Dislocation without fracture	223	3	3	178	51	229
AN. 142.	Sprains and strains of joints and adjacent muscle	224	2	14	203	37	240
AN. 143.	Head injury (excluding fracture)	308	7	8	270	53	323
AN. 144.	Internal injury of chest, abdomen and pelvis	121	3	1	105	20	125
AN. 145.	Laceration and open wounds	2,156	74	22	1,743	509	2,252
AN. 146.	Superficial injury, contusion and crushing with intact skin surface	1,720	10	9	1,264	475	1,739
AN. 147.	Effects of foreign body entering through orifice	87	2	2	51	40	91
AN. 148.	Burns and scalds	771	22	5	465	333	798
AN. 149.	Effects of poisons	85	5	1	48	43	91
AN. 150.	All other and unspecified effects of external causes	854	5	17	600	276	876
	TOTAL	77,668	2,180	1,142	42,981	38,009	80,990
					1,654	1,127	2,781*

* See footnote p. 6

CAUSES OF DEATH OF NON-NATIVES, 1952

Inter-national List No.	Disease	DEATHS REGISTERED DURING 1952										DEATHS IN HOSPITAL					
		Race					Age				Sex		Euro- pean	Asian			
		Euro- pean	Indian	Goan	Arab	Other	0-	1-	5-	15-	45-	65-			M	F	Total
A. 1.	Tuberculosis of respiratory system	—	5	—	—	—	—	1	1	1	2	—	2	3	5	—	1
A. 2.	Tuberculosis of meninges and central nervous system	—	1	—	—	—	—	1	—	—	—	1	—	1	1	—	—
A. 10.	All other syphilis	—	—	—	1	—	—	—	—	—	—	—	—	—	4	—	1
A. 12.	Typhoid fever	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
A. 16.	Dysentery	—	1	—	—	—	—	1	—	—	—	—	—	—	1	—	—
A. 21.	Diphtheria	—	1	—	—	—	—	—	1	—	—	—	—	—	1	—	—
A. 22.	Whooping cough	—	—	—	—	1	1	—	—	—	—	—	—	—	1	—	1
A. 23.	Meningococcal infection	—	1	—	—	—	—	—	—	1	—	—	—	—	1	—	—
A. 26.	Tetanus	—	1	—	—	—	—	1	—	—	—	—	—	—	1	—	—
A. 28.	Acute poliomyelitis	3	—	—	—	—	—	—	—	3	—	—	3	—	3	2	—
A. 33.	Yellow fever	1	—	—	—	—	—	—	—	1	—	—	1	—	1	1	—
A. 37.	Blackwater fever	—	7	—	—	—	—	—	—	7	—	—	4	3	7	—	4
	Cerebral malaria	—	21	1	—	—	—	7	6	2	—	—	9	13	22	—	—
	Other malaria	1	12	—	2	—	3	6	4	2	1	—	6	9	15	—	—
	Fever	—	2	—	1	—	—	1	1	—	—	—	1	2	3	—	—
A. 43.	Food poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
A. 45.	Cancer of oesophagus	—	1	—	—	—	—	—	—	—	—	—	—	1	1	—	1
A. 48.	Cancer of rectum	—	1	—	—	—	—	—	—	—	1	—	1	—	1	—	—
A. 49.	Cancer of larynx	—	1	—	—	—	—	—	—	—	1	—	1	—	1	—	—
A. 50.	Cancer of lung	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A. 54.	Cancer of prostate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A. 57.	Other unspecified cancer	2	1	—	—	—	—	—	—	—	2	1	2	1	3	1	—
A. 59.	Neoplasms of lymphatic and haematopoietic system	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A. 63.	Diabetes mellitus	—	3	—	—	—	—	—	—	3	1	—	—	3	4	—	1
A. 65.	Anaemia	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
A. 66.	Asthma	—	1	—	—	—	—	1	—	—	—	1	—	1	1	—	—
A. 68.	Alcoholism	—	2	—	—	—	—	—	—	1	1	—	2	—	2	—	—

CAUSES OF DEATH OF NON-NATIVES.

APPENDIX VI C—contd.

Inter-national List No.	Disease	DEATHS REGISTERED												DEATHS IN HOSPITAL			
		Race					Age					Sex		Total	Euro-pean	Asian	
		Euro-pean	Indian	Goan	Arab	Other	0-	1-	5-	15-	45-	65-	M				F
A. 70.	Vascular lesions affecting central nervous system ..	3	4	—	—	—	—	—	—	1	3	3	4	3	7	1	1
A. 71.	Meningitis (other than meningococcal and tuberculous) ..	—	5	—	—	—	—	1	2	1	1	—	3	2	5	—	1
A. 78.	Other diseases of eye and nervous system ..	—	1	—	1	—	—	1	—	—	—	1	2	—	2	—	1
A. 80.	Chronic rheumatic heart disease ..	—	1	—	—	—	—	—	—	—	—	—	1	—	1	—	—
A. 81.	Arteriosclerotic and degenerative heart disease ..	3	16	3	—	1	—	—	—	3	17	3	22	1	23	1	—
A. 82.	Other disease of heart ..	—	7	—	—	—	—	—	—	1	3	3	4	3	7	1	4
A. 83.	Hypertension with heart disease ..	—	3	—	—	—	—	—	—	—	2	—	2	1	3	—	1
A. 84.	Hypertension without heart disease ..	1	1	—	—	—	—	—	—	—	1	1	2	—	2	1	—
A. 86.	Other diseases of circulatory system ..	1	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—
A. 89.	Lobar pneumonia ..	—	4	—	—	—	—	1	1	—	1	—	2	2	4	—	—
A. 90.	Bronchopneumonia ..	—	6	—	1	—	—	1	—	—	1	—	4	3	7	—	3
A. 91.	Other or unspecified pneumonia ..	1	18	2	1	—	8	5	2	1	3	3	10	12	22	—	3
A. 93.	Bronchitis, chronic or unqualified ..	—	2	—	—	—	1	—	—	—	—	—	1	1	2	—	—
A. 95.	Hypertrophy of tonsils and adenoids ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A. 97.	All other respiratory disease ..	1	2	—	1	—	1	—	—	1	1	1	3	1	4	—	1
A. 100.	Ulcer of duodenum ..	1	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—
A. 103.	Intestinal obstruction and hernia ..	—	1	—	1	—	—	—	—	1	1	1	2	—	2	—	1
A. 104.	Gastro-enteritis ..	—	6	—	1	—	4	2	—	1	1	—	4	2	6	—	3
A. 105.	Cirrhosis of liver ..	—	2	—	—	—	—	—	—	—	2	—	3	—	3	—	2
A. 107.	Other diseases of digestive system ..	—	3	—	—	—	—	—	—	2	—	1	1	2	3	—	1
A. 109.	Chronic and other unspecified nephritis ..	—	3	—	—	—	—	—	—	—	1	1	2	1	3	—	—
A. 114.	Diseases of genito-urinary system ..	—	1	—	—	—	—	—	—	1	1	—	1	1	2	—	—
A. 116.	Toxaemia of pregnancy ..	—	2	1	—	—	1	—	—	—	—	—	—	—	2	—	—
A. 117.	Haemorrhage of pregnancy and child birth ..	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—

REPORT OF THE GOVERNMENT CHEMIST FOR 1952

Three hundred and sixty-four samples and exhibits were submitted for analysis in the course of the year.

1. WATER

Thirty-six samples were examined. They included borehole waters and raw and treated water from Gaba, Entebbe, Jinja and Mbarara. Samples from different points of the Nile at Jinja and Namasagali were examined for traces of metallic impurities and public water supplies were analysed for fluorine content. Three samples of sewage and one of trade effluent were received for analysis.

2. FOOD

Ninety-five samples were received for examination. They included thirty-one samples of fresh milk and twenty-seven samples of vegetable oil and samples of margarine, ghee, sugar, flour, rice, groundnuts and native beer.

3. MEDICAL

Twenty-one samples were examined. They consisted mainly of specimens of viscera or body fluids for the identification of poison. Poisonous substances found were arsenic, bromides and alcohol. Samples of drugs, chemicals used in water treatment and medicines were also sent for analysis.

4. CRIMINAL INVESTIGATIONS

One hundred and forty-one specimens or exhibits were received, of which eighty-two were for the identification of poison. Poisons found were arsenic, bismuth, alcohol, ganja and a native medicinal plant which was thought to be a species of Euphorbia.

Negative findings in a number of cases were possibly attributable to the use of native medicines containing no identifiable active principle or to the examination of specimens in cases when the medical officer concerned was satisfied that death was due to natural causes.

Other exhibits examined were waragi and other illicit spirits, specimens of paint in connection with car accidents and clothing for the detection of the products of combustion of smokeless powder.

5. MISCELLANEOUS

Forty-one samples were received from the Collector of Customs, consisting mainly of textile fabrics, also including rectified and denatured spirit, denaturants and physical instruments for checking.

Other samples under this head were soaps, crude oils, chemicals and bottles of substituted spirit in insurance claims.

CORRIGENDA TO ANNUAL REPORT OF MEDICAL DEPARTMENT FOR 1951

PAGE 7. TABLE I—

For column "Issue and renewal of Passports, etc." of "Normal duration" substitute the following figures:—

"2,484
4,286
3,668".

PAGE 37. TABLE XV—

For "Reattendances" read "Total attendances". Delete "Total attendances" and figures given.

PAGE 81. Appendix VI B.—Deaths in Government Hospitals, 1951:—

For "Item 18. Tetanus" add "Total deaths 52, Males 37, Females 15, Africans 52".

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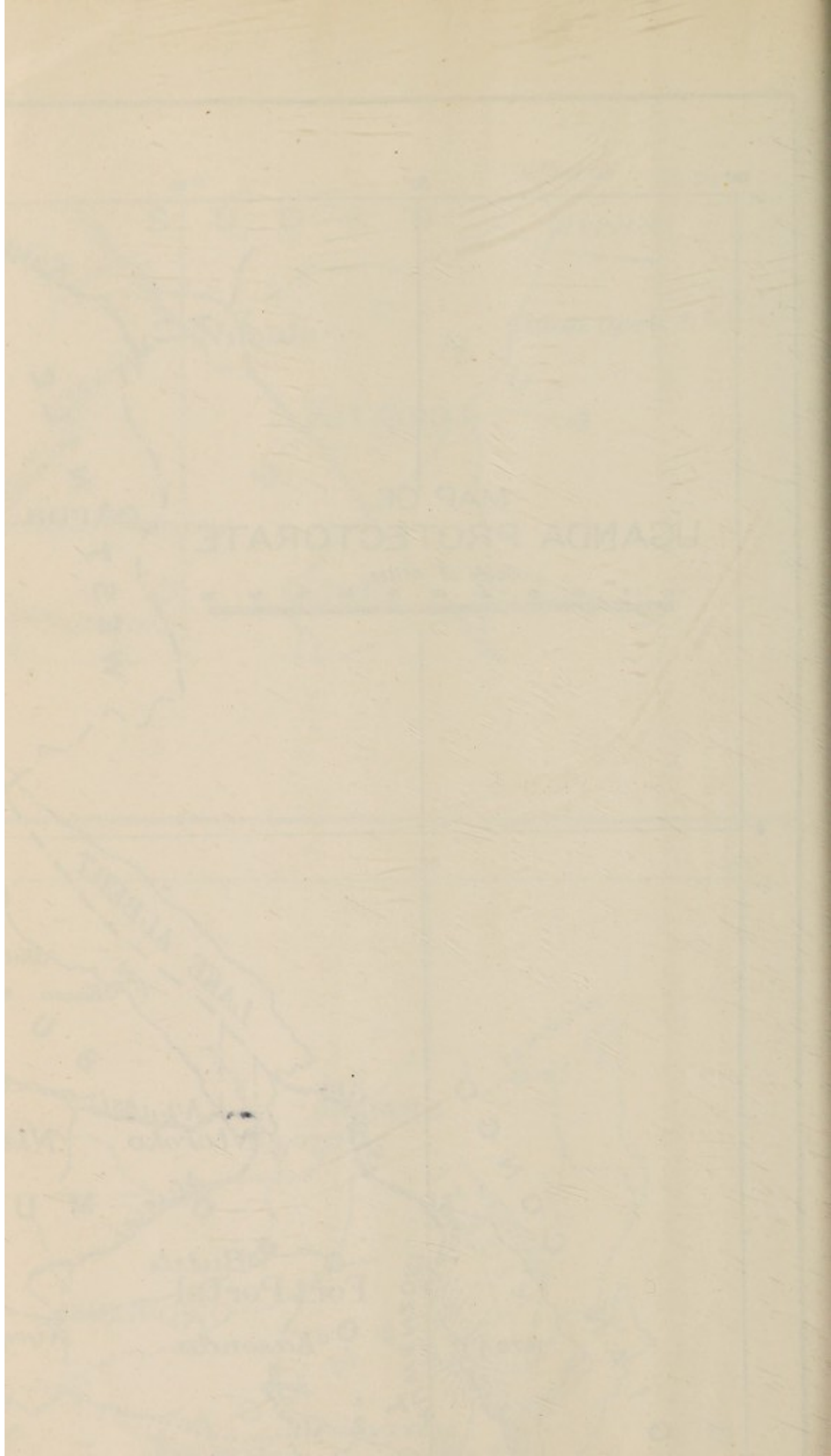
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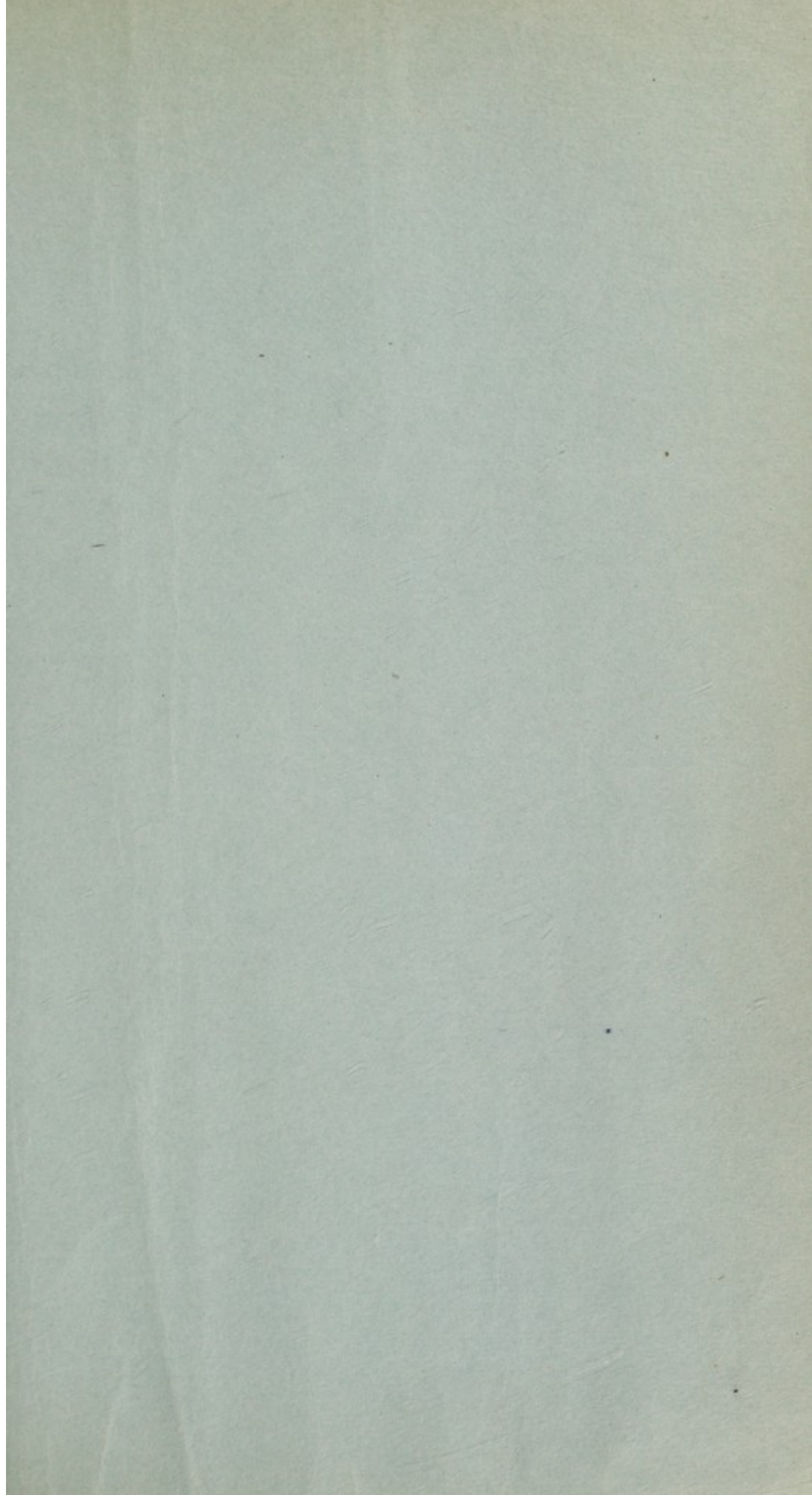
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