Annual report of the Medical Department / Uganda Protectorate.

UGANDA PROTECTORATE.

ANNUAL REPORT

OF THE

Medical Department

FOR THE

Year ended 31st December, 1939.

PRICE: SHS. 2.

Published by Command of His Excellency the Governor.

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(7845)

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MEDICAL DEPARTMENT.

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SECTION I.—ADMINISTRATION.

Staff.—There have been several losses of personnel which it will be difficult to repair. Dr. Macleod, medical officer, has been promoted to be Deputy Director of Medical Services, Hong Kong; Dr. Mackay, medical officer, has gone to Tanganyika Territory as Senior Medical Officer; Dr. Forrest, medical officer, and Dr. Roberts, medical officer, have been promoted as Specialist (Physician), Tanganyika Territory, and Specialist (Surgeon), Zanzibar, respectively; while Dr. Murray has accepted appointment as Senior Health Officer, Palestine, though he has not yet left the Protectorate. Dr. Shelton took up his duties as Deputy Director of Medical Services in March on transfer from Tanganyika Territory and Dr. Semple, Senior Medical Officer, was promoted to be Assistant Director of Medical Services. Dr. Gilkes, Deputy Director of Medical Services, Trinidad, has been appointed a Senior Medical Officer but has not yet arrived to take up his duties. Two medical officers, Dr. Hunter and Dr. Caldwell, arrived on first appointment during the year.

The loss of so many officers of more than average ability is serious in a department which employs so many African Assistant Medical Officers, for it is of the utmost importance that the first years of service after qualification of these assistants should be spent under the direct supervision of capable European officers who will be able by example and precept to instil into their minds the respect for their position as professional men and the ideal of devotion to duty which should be among their distinguishing characteristics.

Further loss of personnel, only of a temporary character it is to be hoped, has been occasioned by the war, for it has been necessary

to provide officers to staff certain military medical units. In spite of these losses every effort has been made to carry on the medical services as if no emergency had arisen; this has only been possible by increasing the responsibilities of Asian Sub-assistant Surgeons and African Assistant Medical Officers. Two sub-districts are in charge of an Asian Sub-assistant Surgeon and an African Assistant Medical Officer respectively, and one large district is controlled by an Asian Sub-assistant Surgeon assisted by an African Assistant Medical Officer, occasional supervision being exercised by an European Medical Officer.

The military units which were equipped and staffed, passed on mobilisation out of the control of the Department into that of the A.D.M.S., Force Headquarters, Nairobi.

The officer who was seconded for nutritional investigations in 1938, proceeded on leave in July, after completing reports of his work up-to-date. No one was available to relieve him, and it now seems doubtful if it will be possible to release him from routine departmental duties on his return.

The title of "Sanitary Inspector" was changed at the beginning of the year to "Health Inspector". Approval was given to the creation of two additional "Senior Health Inspector" posts from 1st January, 1940, a corresponding reduction of two posts being made in the establishment of Health Inspectors. Approval was also given in the 1940 Budget for the rates of pay of pharmacists to be increased.

Five European nursing sisters resigned during the year in order to marry; one was invalided; two were transferred to other East African Territories; one was not re-engaged at the end of the probationary period; eight arrived on first appointment.

2. *Nutrition.*—Of all the problems which confront the Department none is of greater importance than the removal of the condition of sub-nutrition which is so prevalent among the local African tribes. It is safe to say that if the general level of nutrition among the people could be raised the incidence and severity of the common African diseases would be greatly diminished.

The investigations by the medical officer seconded for nutritional research (Dr. Loewenthal) were continued until his departure on leave in July. The results of his work have been published in a series of reports under the aegis of the Nutritional Sub-committee of the Agricultural Survey Committee. His conclusions may be summarised shortly as follows:—

1. A condition of sub-nutrition is widely prevalent in Teso District in those areas where there is relative overcrowding on the land.

2. In certain families where the ratio of consumers to workers is high, areas under food crops may not be large enough for adequate support of the family.

3. Where fish forms part of the diet, the evidence of sub-nutrition is less obvious than in other areas.

4. (*a*) Families with a large acreage of sweet potato show less deficiency than families with small acreages.

(*b*) This is probably due to the use of the leaves of sweet potato as a vegetable since (*a*) does not hold in an area in Kigezi where much sweet potato is eaten but no use is made of the leaves.

5. Leg ulcers are rare in fish-eating people.

6. Immigrant labourers (Banyaruanda) of poor physique fed on an adequate mixed diet and protected from the effects of malaria infection by a daily dose of quinine become labourers of first-class quality.

The most obvious deficiency is that of vitamin A, but other nutritional defects, probably the result of deficiency of vitamin B_1 and B_6, are fairly common.

No additional investigations would make us more sure than we now are that a better balanced diet would remove most of the sub-nutritional conditions existing at present, and the time has come when our knowledge should be converted into practice. Such a diet must contain more protein of good biological value, more of the vitamins A, B and C, and more animal fat. The effect of a diet higher in protein is seen in the well-nourished appearance of the children living in the fishing settlement at Katwe.

Much could be done at once to improve conditions if a determined effort were made to change dietary habits, but it is recognised that a sudden change of habit in people essentially conservative and suspicious of interference with custom, is extremely difficult. "Tabus" have grown up, the origin of many of which is now completely obscure, and these can only be broken by extensive propaganda and education. Yet that this can be done is seen by the use of all kinds of food in the boarding schools.

An experiment has been arranged in Teso to establish a demonstration area in which special observation of the food habits of the people will be made; special educative efforts will be organised to effect improvement in the balance of diets and to demonstrate better and more palatable methods of cooking old and new foods; improved agricultural practices will be introduced; and every effort made to demonstrate the better health and greater prosperity which will result therefrom. This area will be used as an object lesson to persuade officers in other districts to institute similar demonstration areas so that the leaven of new ideas may begin to work all over the Protectorate. Imitation is characteristic of the African as of so many other races, and if the demonstration areas are sufficiently numerous, a comparatively rapid change may be made in African habits. The experiment, however, will require the closest possible co-operation of all the Services concerned with social welfare, and the accord with which the Agricultural Survey Committee works is a happy augury that such co-operation will be forthcoming.

In connection with nutrition may be mentioned the introduction of new foods. Soya bean has been established in two or three areas and is growing well. Unfortunately it has little taste so that new methods of cooking must be introduced. Again Uganda is a country of lakes and rivers, and fish should be within the reach of most of the inhabitants. Unfortunately fish is not eaten as widely at present as it should be, but the way in which the fishing industry has developed at Katwe and the amount of dried fish bought by the wealthier Africans promises well for the greater use of fish if sufficiently intensive propaganda is made, and the cost of fish kept low. It is distressing to see lorry-loads of dried fish going from Katwe to the Congo where its value is better appreciated than in Uganda.

3. *Social Welfare.*—Nutrition is one aspect of social welfare but there are many others which are also important and where improvement is perhaps more readily visible. All over the country can be seen a change from the beehive grass hut to the round wattle and daub grass-roofed hut, from the latter to the grass-roofed rectangular hut, and from that to the rectangular hut roofed with beaten-out kerosene tins, corrugated iron or even tiles. Such changes are welcome because they demonstrate a desire to get away from the hut jointly used to house domestic animals and man, but the most welcome change is the provision in most houses of windows which are now usually kept open when the occupiers are at home. Such windows not only give ventilation but they also admit sunlight and allow the housewife to see the dirt inside. It is indeed the rule to find that the rooms are tidy and reasonably clean in huts where there are windows which are kept open. Many such houses have curtains to the windows, and clean table-cloths on the table, and often there is a very creditable attempt to make a flower garden in front of the dwelling.

These changes are commonest in the more advanced areas of the Protectorate, but they are happening everywhere. Even in Bufumbira in the family groups whose huts are dotted over the mountainsides, latrines are recognised as one of the essential out-buildings of the farmstead.

Houses in burnt or sundried brick, or in pisé de terre, are not yet common, because burnt bricks are beyond the means of most rural Africans to buy and they have not learnt how easily they can be made. Pisé de terre is only very slowly becoming popular because it requires a good deal of hard labour, though buildings erected in 1935 are still most satisfactory. There seems little doubt that if boys were taught in schools to make sundried or burnt bricks, many more houses would be built of these materials instead of in wattle and daub, a type of construction which deteriorates rapidly in a country where white ants are common. It is probable that more use would be made of cement in building if this imported article were cheaper or could be produced locally. It is estimated by one reliable contractor that cement blocks are not economical unless burnt bricks cost more than fifty shillings

a thousand. As the African can but rarely afford bricks at the latter price, it is obvious that cement as a building material is beyond his means.

No reason has yet been seen to revise the views expressed as to the value of floors and roofs rendered watertight with a bitumen preparation. Those made up to date have proved most satisfactory. It is a pity, however, that corrugated iron sheets for roofing are still so relatively high in cost in spite of some reduction in the railway freight.

4. *Ante-natal, Maternity and Child Welfare Services.*—The popularity of these services is shown by the steady rise in the number of attendances at the clinics, the large increase in the number of women confined in the maternity wards at hospitals, dispensaries and maternity centres, and in the constant demand from Native Authorities for additional units in areas at present lacking these facilities.

Over 500 live children were born in the maternity ward at Masaka during the year; other places had over 200, while smaller centres returned figures of 120 to 150. In one centre in Ankole District, only opened a year ago, 91% of the 136 women delivered in the maternity ward had attended the ante-natal clinic, a proportion indicative of the confidence felt in the medical and nursing staff in charge of the district.

First attendances at ante-natal clinics rose by 36% compared with 1938; births in medical units by 12%; and attendances at child welfare clinics by 18%. These results are most satisfactory, but their effect will be largely lost unless equal care can be given to children of pre-school and school age. Plans to effect this are under consideration, but will be difficult to put into operation until a larger medical staff is available. At the same time it is unquestionable that the period from birth to school leaving age is that most susceptible to the effects of sub-nutrition, communicable disease, and infestation with parasites, and the protection of the individual during these years from such ills is one of the most important functions of the medical department.

5. *Townships and Town-Planning.*—A town-planning ordinance has been drafted and is under consideration with a view to control of the urban development which is taking place rapidly. In certain areas it is proceeding in such an undisciplined way that slums are arising, and it will soon be impossible to arrange adequate township services without interference with vested interests. Most of this development is non-African, but a problem is arising in the larger towns, such as Kampala, from the increase in the employment of African clerks, artizans, and professional men, and from the influx of unskilled labourers. The wages received by the latter are rarely enough to enable them to rent separate houses, and they must be catered for either by municipal enterprise erecting dormitory accommodation, or by private enterprise running boarding houses or hotels. This accommodation cannot attract casual labourers while native landowners within easy reach of Kampala are permitted to allow the erection on their lands of small grass huts at a rent of 50 cents a month.

For the more well-to-do African there is no provision at present unless he buys or rents land and builds his own house. If he is in Government service, he is unwilling to do this since his conditions of service render him liable to transfer from one station to another. One Native Administration has tried to solve the problem by building small houses in permanent materials which it lets out at a reasonable rent.

In Entebbe an African housing scheme has been adopted and a commencement made with the erection of demonstration houses built as examples which can be let at an economic rent within the means of most Africans. The building materials are such as can be used by any African who wishes to build for himself, while the houses will have plenty of light and ventilation. They are orderly, because they are laid out to a building line to facilitate township services. There will be ample space left around the groups of houses to ensure that there is no overcrowding and no loss of the amenities hitherto enjoyed by the African in his rural surroundings. Similar schemes are on foot in other centres to provide suitable accommodation for the growing African Civil Service. The African is becoming urbanised, but it should be our concern to see that he does not become so in slums, but in garden cities.

Housing in trading centres and townships has not been such as to provide examples to the African worthy of imitation. Vested interests now forbid a great deal being done to alter these conditions other than to insist on the improvement necessary to make the housing reasonably sanitary. But as new trading centres come to be laid out, it is intended that these shall be situated on branch roads off the main roads, a lay-out being adopted which will follow more the lines of a garden city.

6. *Water Supplies.*—The Geological Survey Department has continued its programme of work for the provision of water supplies in all parts of the country. Bore holes have been put down in Chua and Gulu, and the Drilling Section has now moved to Madi. A high percentage of successful bores has been attained. Meanwhile private firms are working under contract in other parts of the country, while the Geological Survey Department has continued the making of collecting reservoirs in those parts of the Protectorate where water is scarce and bore holes are not likely to be successful. From the public health point of view, it is impossible to over-stress the importance of an adequate supply of water within easy reach of the population, and the attendance at each bore hole testifies to the appreciation of the African for a clean water supply.

The Medical Department has pursued its policy of showing Africans how easily water supplies from springs can be improved and protected from pollution by man or beast. Emphasis has been particularly laid on the importance of not damming back the water until too great a head of liquid is put over the spring, since the water then inevitably finds an outlet elsewhere. For this reason the type protected spring has a concealed overflow which users of the spring cannot block in order to get a temporary increase in flow from the main delivery pipe.

7. *Disposal of night-soil and rubbish.*—Since the last report was written, a modification of the Indore process as then carried out, was introduced. A cement floor was built on which to carry out the various stages. It was found that a considerable nuisance then arose from the odours evolved, and trial is now being made of using this cement floor only for the later stages of the process, since it is believed that the smell arose chiefly from the fluid which oozed from the material in the heaps in the initial stage, such fluid in the days prior to the building of the cement platform having been absorbed by the earth below the heap.

It is sad to have to record that the demand for the final product of the Indore process has not increased, and steps are being taken to popularise it by demonstrating the influence it has on the growth of native grains and roots. Incidentally a sweeper recently pointed out with pride the improved quality of the sweet potatoes he was able to grow on old night-soil trenches.

The sewerage works at Kampala are now nearly complete while the task of connecting up buildings with the sewers is progressing as rapidly as the shortage of drainage material permits.

The provision of septic tanks in the residential areas of Entebbe is almost complete. The difficulty in the way of providing sewers in the congested bazaar area will be largely removed when the leases of the present occupants fall in in some five or six years, and new leases will then only be granted in the more level area at the entrance to the township where the provision of drainage will be simpler.

The new type of septic tank latrine mentioned in the paragraph devoted to schools may solve some of the problems of conservancy in townships where no piped water supply is available.

8. *Schools.*—One of the most striking developments in the Protectorate has been the general improvement in conditions in the schools. Class rooms are now in general well-lighted and ventilated, as are also the dormitories which are not as overcrowded as they were in years gone by. This has meant usually the complete replacement of old buildings by new, and in most cases new construction is in burnt brick. Sanitation has also been improved and in most schools deep pit latrines adequate in number have been provided. Improved types of pit latrines have been introduced in some places, most of these being a combination of a trough latrine and a pit into which the contents of the trough are flushed at intervals with water carried in buckets. In Entebbe a modified form of septic tank in which the seats are over the first chamber and the liquid level is maintained by the occasional addition of water from a bucket, has proved satisfactory. Such a latrine should have a wide application in hospitals as well as in schools in places where there is no piped water supply.

Notwithstanding all these improvements, however, there are still to be found associated with schools, huts used to house female kitchen helpers or catechumens which, besides being dilapidated and dirty, are without light or ventilation and could in no way be considered an

example to the children taught at the school. It does not seem to be understood that the children are not likely to associate the large dormitory or the school-rooms with the way they should live at home, since such buildings have little in common with their own domiciles, but they do tend to base their ideas of what their homes should be on houses in the school area comparable in size with their own. If such houses are no better or even worse than their own homes, any propaganda for improved housing is likely to fall on deaf ears since children naturally assume that what is good enough for the school authorities is good enough also for them.

The Government has given large grants to Missions to improve school buildings, and plans for these have been submitted for approval to the Public Works and the Medical Departments. Unfortunately many of the plans were so drawn that no proper indication was given of the intentions of the school authorities. Some of these were altered in accordance with legal requirements, others were so poor that they were incapable of adjustment; most showed singularly little appreciation of the provisions of the School Building Rules, or of elementary principles of safety in building. Instructions have now been issued in regard to plans for 1940 grants, but it would be wise if school authorities would realise that building plans require the skilled knowledge of an architect f they are to be satisfactory.

The examination of school children in certain selected schools continued until medical staffs were depleted for military units. It is hoped to restart the service early in the new year when more African Assistant Medical Officers will be available. The difficulties mentioned in the last Annual Report of ensuring that defects in Asian school children are attended to have not diminished, and it has been necessary to offer free treatment for such children at the Asian Hospital at Kampala.

During the year instructions were issued to all schools by the Education Department for all teachers to put drops of ½ per cent zinc sulphate solution into the eyes of all school children morning and afternoon in the hope of reducing the incidence of trachoma. Reports so far received do not show any appreciable reduction, but it may be that it is as yet too early to see much result.

Inspections of school children have revealed the need of many for dental treatment, but it is quite impossible to provide this until African dentists are available from Makerere College.

9. *Medical Education.*—The Medical School is now an integral part of Makerere College and the Principal has been given the title of Dean. Arrangements have been made for a visit by Sir Richard Needham, who has been selected by the General Medical Council at the request of the Secretary of State to inspect the training given at the School. It is anticipated that much profit will be gained from his advice and criticism. It is important to record that the Makerere College Council has decided that the sum of £8,000 subscribed as a gift by Native Administrations shall be used to build part of that section of the College

which will be used to house girl students. It seems probable, from information received from schools, that the first of these will be students studying medicine.

Mention has been made in past reports of the inadequacy of the medical school for teaching purposes, the crowded state of the hospital, and the out-of-date type of wards, though improvements have been effected to the latter by the installation of a water-borne sewerage system. It is pleasing to record that His Majesty's Government has approved a grant of £240,000 from the Colonial Development Fund to provide for the building of a new Medical School and a new hospital of 500 beds which may be expanded to hold 1,000 patients if need arises. The site selected for the new unit is near the present hospital but on more level ground, and it will be somewhat nearer the main Makerere College buildings and the Medical Laboratory. This munificent gift will provide medical teaching facilities for students which are not to be found elsewhere in Eastern Africa, and will enable a much higher standard of training to be attained than has hitherto been possible.

Only one change has been made in the curriculum this year; this has been the transfer of the examinations in Forensic Medicine and Public Health to the end of the 5th year of study instead of the end of the 6th year. Questions on both these subjects will however be included in the medicine papers in the examinations at the end of the 6th year. The appointment of an African Assistant Medical Officer as Assistant Lecturer in Surgery has been so successful that similar appointments for Medicine and Obstetrics have been made for 1940.

The training of African Nurses, Nursing Orderlies, Dispensers, Health Inspectors, Laboratory Assistants and Midwives has been continued as in previous years in spite of the interference with staff occasioned by the demands of the military authorities. An examination for African Health Inspectors was held in December by the East African Examining Board appointed by the Royal Sanitary Institute and ten out of eleven candidates were successful in gaining certificates.

It is pleasing to hear from the hospitals to which qualified African female nurses have been posted, how satisfactorily they have carried out their duties. In Mulago Hospital the female wards are now completely staffed by female attendants, and it is but a matter of time to see all nursing duties in hospitals carried out by trained girls, particularly as the education of girls is advancing so rapidly. In some hospitals female nurses are now being used to staff the male wards.

10. *Hospitals.*—Mention has already been made in the section on medical education of the projected new Mulago Hospital, and nothing further need be recorded here.

At the end of 1938, Kitgum hospital became uninhabitable, and the patients had to be moved into temporary quarters in the district office. A small unit in permanent materials designed to be adequate for the needs of the district has now been built on a new site adjacent to the old hospital. A bore hole has been sunk in the hospital compound

and an adequate supply of water is now assured, sufficient indeed to allow water-borne sanitation to be provided next year.

Masindi hospital is in course of having alterations and additions made to it to improve the facilities provided there. A maternity ward is among the new buildings. The office of the Provincial Medical Officer has now been moved from the hospital to the building housing the headquarters of the Provincial Administration.

A new maternity centre has been completed at Entebbe and was opened in February. It has proved very popular. A similar institution was opened at Namwendwa in Busoga District and at Mpigi in Mengo West, the latter replacing a Church Missionary Society centre at Kabasanda which has been closed. The Church Missionary Society centre at Jungo in Mengo West has also been taken over, and negotiations are in progress for the handing over to Government of three centres in Ankole District which the Church Missionary Society are not in a position to supervise satisfactorily. Arrangements have been made also for the transfer of the Church Missionary Society centre at Rubona in Toro District to the Kisomoro Government dispensary three miles away.

The plans for the new wing at the European and Asiatic Hospital, Kampala, are now completed, and building will commence early in 1940.

The installation of a water-borne sanitation system was completed at Mbale, Jinja and Entebbe hospitals, bringing the number of hospitals where this improvement has been effected up to five. The difficulties of training African patients to their proper use have not been so great as had been expected.

11. *Dispensaries.*—New units have been built at Muyembe, Bukwat Kyenjojo, Anyeki, Mutunda, Naam, Patongo, Bolo, Atanga, Kubala, Maracha and Katwe. Pakwach and Koboko were rebuilt in permanen' materials.

12. *Labour Conditions.*—Constant watch is maintained by the district medical staff over labourers employed in industrial undertakings. There has been for some considerable time a gradual improvement in the housing provided for labour and in the general amenities of camps. Many employers have now realised the advantages accruing from better feeding, and one stated recently that since he gave meat as a bonus for work in excess of an estimated task, the efficiency of his labour had risen three hundred per cent, partly because he can now pick his employees from the large crowd of applicants for work, partly because of the stimulus to increased work arising from the bonus, and partly because of the improved physique of the labour. He has also found that the provision of a free allowance of maize meal porridge when the morning shift starts work, has stopped the falling off in efficiency which used to occur about ten in the morning, the result of working on an empty stomach which is the rule in these countries.

13. *Epidemic and Endemic Diseases.*—The Sanitary Convention with the Belgian Congo has now been signed by His Majesty's Government and steps are being taken to implement its provisions.

The incidence of typhoid fever has continued at a higher level than normal, and towards the close of the year cases of plague occurred in the Kampala commercial area. Measures were taken to reduce the rat population in the neighbourhood, and were still in progress at the close of the year. Poliomyelitis cases have appeared sporadically, but no suggestion of an epidemic has occurred. It is pleasing to note that the number of cases of trypanosomiasis detected in the West Nile District has been considerably reduced.

The visit of Dr. Muir in 1938 has had a beneficial effect on the treatment of lepers in the Protectorate settlements. Many lepers who have shown no active signs of the disease for over two years and are considered non-infectious, have been discharged to their homes under surveillance. At Bunyoni the island has been divided into two parts, and infectious cases confined to one part of it. Mr. Lambert, a member of the Toc H organisation, arrived in June, and after a few days at Kumi Leper Settlement, he settled at Bunyoni to develop the vocational therapy already started there. It has now become an established practice for able lepers to give one day's unpaid work to communal duties such as maintenance of paths, planting trees, etc.

14. *Anti-malarial Works.*—In Kampala the deepening and straightening of the channel of the Nakivubo River has been carried out from its outlet into Lake Victoria to a level with the new railway station. The area round this is swampy and cannot be drained until the Nakivubo River bed is lowered in its vicinity.

Two other rivers in Kampala, both named the Kitante, though they flow in opposite directions from the watershed lying below Mulago Hospital, require canalisation in order to remove anopheline breeding places from the immediate neighbourhood of Kampala.

The anti-malarial drainage works at Mbale are now completed while the work of drainage conversion in Soroti is still in progress. Planting of eucalyptus trees as an anti-malarial measure continues and a large new area has been included at Gulu, though constant watch has to be maintained lest these plantings, though removing swampy conditions, should bring *G. palpalis* into the station.

15. *Public Health Legislation.*—There has been a spate of legal enactments during the year owing to the necessity for replacing by Rules under the Public Health Ordinance many of the Rules made under the Townships Ordinance, 1903, which was repealed at the end of the year by virtue of the Townships Ordinance, 1938. An amendment to the Public Health Ordinance was required to give the powers necessary to make certain of the Rules, and to change certain provisions of the original Ordinance, in the application of which difficulties had arisen. The Building Rules were finally passed after being revised several times in the light of criticisms received from members of the public; at the same time the Drainage and Sanitation Rules were revised, though

too late in the year for publication to be possible before 1940. The following is a list of the measures passed during the year:—

Township Rules.

Market Rules.

Public Health (Slaughter House) Rules.

" " (Aerated Water and Ice) Rules.

" " (Bake-house) Rules.

" " (Eating House) Rules.

" " (Sale of Milk and Milk Products) Rules.

" " (Licensing and Tradesmen) Rules.

" " (Cemeteries and Burial) Rules.

" " (Kampala Township Boundary Sanitary Board) Rules.

" " (Building) Rules.

" " (Plague Control) Rules.

" " Amendment Ordinance.

SECTION II.—PUBLIC HEALTH.

(*a*) General Remarks.

16. *Establishment.*—The medical officer seconded for nutrition duties continued his investigations until he went on leave in July. The two vacancies in the Health Inspectors establishment remained unfilled and this staff was further depleted on the outbreak of war by the mobilization of five Health Inspectors in military medical units. Two Senior Medical Officers, seven Medical Officers and one Laboratory Assistant were mobilised for military duty. The establishment of Nursing Sisters remained as before.

17. *Returns.*—The following table compares the attendances at hospitals and dispensaries with the previous four years:

	1935	1936	1937	1938	1939
New cases (excluding examinations) ..	906,486	973,478	932,111	1,099,231	1,048,689
In-patients	33,805	31,077	33,443	33,590	32,728
In-patient days ..	464,673	431,601	465,315	449,045	420,701
Total attendances ..	3,139,985	3,094,829	2,895,933	3,375,078	3,324,778
Surgical operations ..	4,443	5,433	6,692	6,885	5,978

Cases by Races:—

	1938		1939	
	New cases.	Admissions.	New cases.	Admissions.
European	3,407	531	3,719	558
Asian	9,384	1,318	7,719	1,242
African	1,086,440	31,741	1,037,251	30,928

Note.—In all subsequent tables—Western Province—includes the former Northern Province.

18. *Dispensaries.*—There were 108 dispensaries and 49 aid posts in use or under construction. Seven dispensaries were completed in permanent materials; five were in process of building in permanent materials; two were re-built in permanent materials; four were completed in temporary materials; and two were in process of building in temporary materials.

19. *Hospitals.*—Minor improvements and maintenance work were carried out at most district hospitals. New maternity units were completed at Entebbe and Jinja, and one was in course of construction at Masindi. New wards, female and K.A.R., were completed at Jinja, as were also one isolation ward at Masindi; and one children's ward at Masaka. A new Administrative block and operating theatre were in course of construction at Masindi, and pisé de terre sick lines at Arua. At Kampala an X-ray plant was installed early in the year and over 1,100 examinations and treatments were carried out.

20. The number of cases seen at station hospitals and dispensaries was as follows:—

	1938		1939	
	New cases including examinations.	Re-attendances.	New cases including examinations.	Re-attendances.
Hospitals	477,793 ..	892,368	460,923 ..	768,066
Dispensaries	712,301 ..	1,292,616	661,515 ..	1,434,274
TOTAL	1,190,094 ..	2,184,984	1,122,438 ..	2,202,340
Total attendances ..	3,375,078		3,324,778	

Only the diseases treated in station hospitals and at dispensaries in charge of an African Assistant Medical Officer are included in Tables V and VI (*see* Appendices). The tables have been expanded to show the distribution of diseases according to sex.

21. The following were the principal causes of deaths in hospitals:—

	1935	1936	1937	1938	1939
Total admissions	33,805	31,077	33,443	33,590	32,728
Total deaths	1,724	1,833	1,799	1,868	1,762
Pneumonia	346	320	369	461	329
Accidents	173	162	148	170	162
Plague	41	34	9	8	11
Syphilis	43	60	41	32	23
Dysentery	48	49	58	31	36
Malaria	116	142	134	115	81
Tuberculosis	62	94	112	88	96
Cerebro-spinal meningitis ..	76	114	115	139	51
Cancer	26	30	16	16	20
Child-birth	78	74	75	86	108
Death-rate in hospitals ..	5·09%	5·89%	5·37%	5·56%	5·24%

22. There was a slight decrease in the number of in-patients as compared with 1938. But the tendency for more serious cases to come to hospital for treatment continues.

I. General Diseases.

23. *Epidemic, endemic and infectious diseases.*—The incidence in this group was 107,849 and there were 490 deaths in hospital. Malaria accounted for 36,056 cases. There were 23,023 cases of syphilis and 19,078 of yaws.

24. *General diseases.*—32,165 cases were reported. Rheumatic conditions accounted for 21,501 of these but as mentioned in previous reports a number of other indefinite diseases are probably included. There were 882 cases of cancer or other tumour of which 361 were non-malignant or undetermined. There were 20 deaths.

25. *Affections of the nervous system and organs of sense.*—There were 32,454 cases. Trachoma was responsible for 3,166 cases, a decrease of nearly 400 as compared with 1938.

26. *Affections of the circulatory system.*—There were 3,668 cases in this group. 724 patients suffered from heart disease and 562 were treated in hospital with 44 deaths.

27. *Affections of the respiratory system.*—There were 35,575 cases. The pneumonias continue to show an increase, being 3,325 with 329 deaths as compared with 2,526 with 461 deaths last year. The fall in the death rate may be attributed largely to the use of "M and B 693".

28. *Diseases of the digestive system.*—43,291 cases were recorded.

29. *Disease of the genito-urinary system.*—There were 3,010 cases of non-venereal diseases of the genito-urinary system.

30. *Puerperal state and diseases of infancy.*—These are dealt with in section V at page 39.

31. *Affections of the skin, cellular tissue, and the organs of locomotion.*—A large proportion of the 57,494 cases included in this group were cases of tropical ulcer.

32. *Affections produced by external causes.*—58,653 cases were reported in this group and range from slight injuries to fatal accidents.

II. Communicable Diseases.

(*a*) Insect-Borne.

33. *Trypanosomiasis.*—The following table shows the incidence of this disease with the number of deaths for the past five years:—

Year.	Reported deaths.	New cases.
1935	72	675
1936	58	1,927
1937	14	728
1938	5	684
1939	7	504

The distribution of cases for the last five years has been:—

	1935	1936	1937	1938	1939
West Nile	568	1,867	700	656	475
Gulu	16	7	2	4	12
Madi	13	24	7	..	8
Chua	14	2	9	23	..
Lake Edward–George Area ..	64	27	4	..	8
Kigezi	..	..	..	..	..
Lake Victoria Area	..	..	..	..	1
Source of infection uncertain ..	9	..	2	1	..

Six deaths were reported from the West Nile District and one from Madi District.

West Nile Sleeping Sickness Area.

There were 475 cases reported which shows a decrease of nearly two hundred on the figures for 1938. This decrease is particularly significant in view of the fact that more people were examined than in former years. The whole of the district, with the exception of the highlands along the Congo border, is now under regular examination and it is believed that few infected persons escape detection.

34. *Relapsing Fever.*—459 cases reported, of which the majority were miscroscopically diagnosed. Of these 297 were treated in hospital with 3 deaths.

	1936	1937	1938	1939
Fort Portal and dispensaries	51	42	29	40
Kabale and dispensaries	40	29	45	18
Mbarara and dispensaries	238	222	252	266
Masaka and dispensaries	108	109	112	105
Kampala	..	..	10	16

Cases were also treated at Jinja (6); Butiaba (4); Mubende, Entebbe, Masindi, West Nile, 1 each.

35. *Plague.*—323 cases with 308 deaths were reported, compared with 385 cases with 376 deaths in 1938. These occurred in the Mengo and Masaka Districts of Buganda Province, in the Teso, Busoga and Central Districts of the Eastern Province and in the Lango District of the Western Province. There was a remarkable drop in the number of cases in Busoga which fell from 63 in 1938 to 1 in 1939, and in Teso there were 30 less than in 1938. The total decrease in the Eastern Province was 92, but there was a small increase of 31 in Buganda Province. The death rate for the Protectorate was 95·36 per cent. as compared with 98·75 in 1938.

Cases were distributed as follows:—

	1938		1939	
	Cases.	Deaths.	Cases.	Deaths.
Buganda Province	154	154	184	181
Eastern Province	215	206	123	111
Western Province	16	16	16	16

During the last 10 years the number of deaths from plague have been reported as follows:—

Year.	Deaths.	Year.	Deaths.
1930 ..	2,370	1935 ..	1,871
1931 ..	2,299	1936 ..	929
1932 ..	990	1937 ..	478
1933 ..	833	1938 ..	376
1934 ..	937	1939 ..	308

36. *Typhus.*—Two cases were reported, one from Teso and one from Mengo. The use of Carnie's disinfestor continued throughout the year in Kigezi and it is satisfactory to report that no cases were recorded from that district.

37. *Malaria.*—There were 75,933 cases with 81 deaths in hospital, showing a decrease on last year. The number of cases reported had been increasing for some years.

	Cases.	Deaths in Hospital.
1935	62,581	116
1936	71,407	142
1937	72,238	134
1938	78,240	115
1939	75,933	81

36,056 cases attended at station hospitals and 39,877 at dispensaries. Of those attending hospitals 9,600 showed subtertian parasites, 1,296 showed quartan parasites, and 318 showed benign tertian parasites. The following table compares the incidence of malaria in stations where it is particularly prevalent:—

	Total Cases Reported.		
	1937	1938	1939
Kampala	5,566	5,480	6,046
Entebbe	1,555	1,738	1,826
Masaka	2,791	1,396	1,756
Mbarara	2,394	1,977	2,536
Jinja	2,283	2,753	2,477
Tororo	1,811	1,807	2,189
Soroti	2,638	2,665	3,612
Lira	1,067	1,335	1,676
Gulu	529	984	1,243
Masindi	880	1,184	1,275
Arua	1,154	1,662	1,065

The distribution by Provinces for the last three years has been as follows:—

Year.	Buganda Province.		Eastern Province.		Western Province.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1937	21,951	74	29,053	28	22,052	32
1938	23,785	37	33,423	41	21,032	37
1939	22,799	29	29,812	23	23,322	29

The number of admissions to hospital was 3,774 compared with 3,724 in 1938 and the deaths fell from 115 to 81.

The following table gives the death rates for the past five years:—

Year.	Number of in-patients.	Number of deaths.	Death-rate per cent.
1935	3,910	116	2·96
1936	4,587	142	3·09
1937	4,184	134	3·20
1938	3,724	115	3·08
1939	3,774	81	2·15

The following table shows the number of cases of malaria reported, compared with all diseases in each Province, and the number of cases per thousand of the population:—

	1936	1937	1938	1939
BUGANDA PROVINCE:—				
Cases of malaria	21,982	21,133	23,785	22,799
Rate per 1,000 cases all diseases ..	105	98	95	79
Rate per 1,000 population ..	24	23	26	25
*EASTERN PROVINCE:—				
Cases of malaria	27,980	28,947	33,423	29,812
Rate per 1,000 cases all diseases ..	83	93	100	79
Rate per 1,000 population ..	24	24	27	25
WESTERN PROVINCE:—				
Cases of malaria	11,319	12,127	10,349	23,322
Rate per 1,000 cases all diseases ..	75	80	64	47
Rate per 1,000 population ..	15	16	13	15
NORTHERN PROVINCE:—				
Cases of malaria	10,126	9,925	10,683	Included in
Rate per 1,000 cases all diseases ..	42	40	30	Western
Rate per 1,000 population ..	12	12	13	Province.
*TOTALS FOR PROTECTORATE:—				
Cases of malaria	71,407	72,238	78,240	75,933
Rate per 1,000 cases all diseases ..	72	77	71	65
Rate per 1,000 population ..	19·8	20·0	21·1	20·5

*The population of Karamoja has been excluded from these figures.

38. *Blackwater Fever.*—169 cases with 41 deaths were reported. Of these 85 with 26 deaths were treated by Government medical officers, and 84 with 15 deaths by private practitioners. The cases by race and sex were:—

Race.	Males.		Females.	
	Cases.	Deaths.	Cases.	Deaths.
Europeans	8	..	1	..
Asians	127	33	25	6
Africans	6	1	2	1
TOTAL	141	34	28	7

In 1938 out of 163 cases 5 were European, 144 Asian and 14 African.

The number of cases, deaths and case mortality for the last years (Africans excluded) has been:—

Year.	Cases.	Deaths.	Case Mortality.	Year.	Cases.	Deaths.	Case Mortality.
1930 ..	140	35	25·0	1935 ..	152	41	27·1
1931 ..	155	43	27·7	1936 ..	149	28	18·8
1932 ..	120	39	32·5	1937 ..	164	42	25·6
1933 ..	143	41	28·6	1938 ..	149	34	22·8
1934 ..	135	36	26·6	1939 ..	161	39	24·2

The number of cases reported is higher than in 1938 and the case mortality has increased by 1·4 per cent. The incidence of blackwater fever amongst the European population was 3·9 per thousand and amongst the Asian 7·9 per thousand. The case rate amongst Europeans shows an

increase over the 1938 figure which was the lowest yet recorded in these reports, while that for Asians, although considerably higher than the European rate, is the lowest since 1929. It still appears that the higher standard of housing and nutrition which prevails amongst Europeans is a considerable contributory factor in the different rates of incidence in the two communities.

The incidence by provinces (Africans excluded) for the last two years has been as follows:—

Year.	Buganda Province.		Eastern Province.		Western Province.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1938	47	8	82	20	20*	6*
1939	45	11	73	19	43	9

*Including Northern Province figures for 1938.

The following table gives the incidence in the combined European and Asian populations of each province:—

	Buganda Province.		Eastern Province.		Western Province.	
	1938	1939	1938	1939	1938	1939
Population: European and Asian	8,648	9,732	7,552	8,476	3,170*	3,215
Incidence per 1,000 population..	5·4	4·62	10·8	8·6	12·3	13·4

*Including Northern Province figures for 1938.

The case incidence in age groups was:—

Age.	Cases.	Deaths.
0— 5	5	1
6—10	18	0
11—15	5	1
16—20	30	5
21—30	64	21
31—40	26	7
41—50	6	1
51—60	6	2
61—70	1	1

Case Incidence, Mortality and Fatality Rates:—

Year.	Race.	Yearly average Population.	Cases of Blackwater Fever.	Case Incidence per 1,000 Population.	Mortality Rate per 1,000 population.	Percentage Case Fatality Rate.
1938	European	2,111	5	2·3	..	..
	Asian ..	17,256	144	8·3	1·8	21·53
	Totals ..	19,367	149	7·7	21·53	20·80
1939	European	2,282	9	3·9	..	..
	Asian ..	19,141	152	7·9	2·03	25·7
	Totals ..	21,423	161	7·5	1·8	24·2

(*b*) INFECTIOUS DISEASES.

39. *Cerebro-spinal fever.*—There were 127 cases with 58 deaths compared with 358 cases with 167 deaths in 1938.

The distribution was as follows:—

	Cases.	Deaths.
Buganda Province	17	8
Eastern Province	62	30
Western Province	48	20
TOTAL	127	58

40. *Dysentery.*—2,559 cases were reported. There were 1,316 cases of amœbic dysentery, 344 bacillary, and 899 unclassified.

41. *Influenza.*—9,024 cases were reported.

42. *Small-pox.*—No small-pox was notified during the year.

43. *Syphilis and yaws.*—There was an increase in the cases of syphilis and also an increase in the cases of yaws treated.

	1934	1935	1936	1937	1938	1939
Syphilis ..	74,141	72,361	63,695	67,621	56,545	57,542
Yaws	57,056	64,715	62,240	65,358	73,489	76,427
Both diseases ..	131,197	137,076	125,935	132,979	130,034	133,969

The distribution between provinces was:—

	Syphilis.	Yaws.
BUGANDA PROVINCE—		
Hospital cases	8,156	860
Dispensary cases	16,256	1,899
TOTAL	24,412	2,759
EASTERN PROVINCE—		
Hospital cases	11,229	5,285
Dispensary cases	8,091	5,864
TOTAL	19,320	11,149
WESTERN PROVINCE—		
Hospital cases	2,492	12,344
Dispensary cases	11,318	50,175
TOTAL	13,810	62,519

44. *Gonorrhoea.*—The number of cases of gonorrhoea, 16,465, shows an increase. The incidence for the past five years is:—

1935	1936	1937	1938	1939
11,849	14,101	16,236	14,763	16,465

The results of treatment remain unsatisfactory owing to irregular attendance of the patients, but further encouraging results were obtained by the use of "M and B 693" though for reasons of economy this drug had to be limited to the treatment of complicated cases.

45. *Leprosy.*—At Government hospitals and dispensaries 1,700 lepers attended for treatment, compared with 1,702 in 1938. Most cases of the disease are treated in the leper colonies which are under the control of mission societies.

REPORTS ON MISSION LEPER COLONIES.

Buluba Leper Settlement, Busoga.—This settlement, under the supervision of the Franciscan Sisters, has continued to make good progress. Clearing and planting has gone on during the year and the usual cultivation of cotton and food crops has been continued. Unfortunately destruction of the latter from incursions of animals still continues and causes considerable discouragement; it is proposed however to plant sisal hedges and it is hoped that these when grown will form an effective barrier to these unwelcome visitors.

A refectory for women, a second dormitory for boys with its own refectory, and a new kitchen and store have been erected, while at the same time the lepers have been assisted to build better huts for themselves.

Constant endeavour is made to keep the lepers interested in various forms of work. Boys are trained in the hospital, carpenter's shop and garden and an evening class in the usual school subjects is held for the benefit of those who, on account of other work, are absent during the usual school hours.

During the year the usual method of treatment has been with intramuscular injections of Hydnocarpus oil (supplied by the British Empire Leprosy Relief Association) and the immediate results appear to be very encouraging. There were resident 74 male lepers, 39 female, and 62 children, in addition to 18 non-lepers (husbands, wives and children). Arrangements are now in progress whereby boys suffering from nodular leprosy, will be separated from the rest.

Nyenga Leper Colony, Mengo.—This is also under the management of the Franciscan Sisters.

This year three new water tanks were installed in the Colony and this has helped to some extent to relieve the shortage of water which has always been a difficulty here. Government has given a grant of Shs. 2,000 for improvement of the water supply but the work on which this money is being expended is not yet complete.

There were resident 93 male adult lepers, 22 female and 20 children. Eleven deaths and one birth occurred in the Colony during the year.

This settlement is for advanced cases but one case was discharged symptom-free and three others whom it had been intended to discharge for the same reason, left of their own accord before the appointed time.

The children, whose diet is supplemented with milk, eggs, cod-liver oil and fresh fruit, are bright and happy and the majority take part in games. They are taught by a well-educated leper boy.

Bunyoni Leper Colony, Kigezi.—This colony is under the management of the Church Missionary Society.

Housing during 1939 has been improved by the completion of the third series of twelve permanent dwelling houses and all non-infectious lepers, with the exception of one family, are now accommodated in burnt or mud brick houses. This is the first complete year since the segregation

scheme, recommended by Dr. Muir, Secretary of the B.E.L.R.A., has been put into practice.

A plan has been drawn up whereby the hospital will be divided into two equal portions—one for infectious and the other for non-infectious cases—but the present building, built nine years ago of sun-dried brick and temporary materials, is in very poor condition and when funds allow it would probably be preferable to construct two small hospitals for each type of case.

Mr. Lambert, a lay worker under the Toc H scheme of the B.E.L.R.A., has lived at Bunyonyi for the last five months of the year and has rendered most valuable services in commencing occupational therapy and in assisting and teaching the lepers to combat the growing danger of soil erosion. Mr. Lambert also helped with the Scout troop and was most popular in the Colony.

The District Commissioner has given valuable assistance by providing more ground for cultivation by the lepers on the mainland and also by reserving a portion of land for an observation village for healed cases. Dr. Church, the Medical Officer in charge, reports that the general happiness and morale on the island continues to be excellent.

School and Crêche.—Here there is a general improvement in the standard of work and health of the children.

The number of lepers resident on the island at the end of 1939 was 402 made up as follows:—

Men	...	...	Infectious 57	Non-infectious		90
Women	...	...	„ 44	„	„	79
Children	...	...	„ 18	„	„	114

Deaths during the year 22, births 14, and discharges 40.

Teso Leper Settlements.—These settlements are under the control and supervision of the Church Missionary Society, and consist of the Kumi Children's Home and the Ongino Leper Colony.

Kumi Children's Home.—The number of children resident in the home was 531, including 55 untainted children of leper parents. Of this number 183 showed marked improvement, 185 slight improvement, 52 were discharged symptom free, 11 became worse, 11 left before the disease was arrested, 3 died and in 17 cases the disease was arrested with deformity.

All of the 52 children discharged symptom free were able to read and write, had a knowledge of arithmetic, and could cut out and make their own clothes and also knew some English, *i.e.*, their education had not suffered. The building of an observation block was completed during the year and has accommodation for 30 children. This was a gift from the Mission for Lepers.

Ongino.—During the year 522 lepers were treated in the settlement—281 males and 241 females—an increase of 26 over the preceding year. Of these 253 were much improved and 166 slightly improved, 39 cases were discharged as non-infectious, 6 died, 8 were apparently stationary, 20 left of their own accord and 30 "wanderers" *i.e.*, casual visitants, were accommodated for short periods.

Ten new permanent houses were erected, complete with kitchens, stores and latrines.

The water supply problem is still difficult, but the position has been improved by the provision of three cement tanks at the dispensary.

The lepers now take great interest in their gardens and occupational therapy is popular.

46. *Typhoid fever.*—311 cases, of which 15 were para-typhoid, were treated by Government medical officers. There were 61 deaths in hospitals. There were 12 cases in the European and Asian residential areas of Kampala, and 33 reported from its immediate environs. In addition, 32 African cases were reported in the town though almost certainly infected in the environs. Fort Portal and Jinja reported 16 cases each, and Entebbe reported 14.

Several additional wells were protected in the Kibuga area. A large number of European and Asian adults and 90 per cent. of Indian school children were inoculated.

47. *Tuberculosis.*—782 cases of pulmonary disease and 192 of other forms of tuberculosis attended Government institutions. Mulago hospital with 244 cases and Masaka hospital with 140 again provided the largest numbers of patients. Admissions to hospital for this disease amounted to 300 cases of pulmonary tuberculosis, 75 of whom died, and 101 cases of other tuberculous diseases, 21 of whom died.

48. *Anthrax and Rabies.*—A few cases of anthrax were diagnosed in Kigezi. No rabies was reported.

49. *Measles.*—397 cases were recorded by station hospitals compared with 925 in 1938. Two minor epidemics occurred in the Namasagali area, but the disease does not appear to have been severe anywhere this year.

(*c*) Helminthic Diseases.

50. The number of cases of infection with intestinal parasites recorded in the returns includes only those patients whose symptoms are diagnosed as due to such parasites. Many other infections are discovered during the routine examination of stools of in-patients in hospitals but are not separately reported, though treatment is given when advisable.

51. *Ancylostomiasis.*—2,615 cases were recorded. Although the infection appears to be wide-spread, medical officers report that as a rule it causes little disability.

52. *Schistosomiasis.*—357 cases were reported.

53. *Filariasis.*—Onchocerca volvulus, to which reference was made in last year's report, has again been recorded in Toro, but not in Kigezi.

There were 4,126 cases of other helminthic infections, of which the most common were Taenia and Ascaris. The former is found most frequently in the Kigezi, Ankole, Mubende, and Bugishu Districts and the latter is common in Kigezi and Masaka Districts. Dracontiasis is confined to the Acholi and West Nile Districts.

(*b*) Vital Statistics

54. The vital statistics for the Protectorate are given in Tables A, B and C. The population has been calculatated from the census figures of 1931, by the addition of births and the subtraction of deaths in each subsequent year.

55. The following table gives the yearly increase of the provincial population per 1,000 persons:—

	1935.	1936.	1937.	1938.	1939.
Buganda Province	3·4	4·4	4·6	6·9	6·9
Eastern Province	1·5	1·5	3·2	7·1	11·2
Western Province	6·3	12·4	9·6	15·2	15·2
Northern Province	14·2	12·4	10·4	9·5	

56. *Birth Rate and Death Rate.*—Live births exceeded deaths by 43,960 and the population increased by 12·1 per thousand. The corresponding figures for 1938 were 33,671 and 9·3. All districts showed an excess of live births over deaths.

57. *Still-Birth Rate.*—The number of still-births recorded was 3,554 compared with 3,512 in 1938, but these figures are probably not accurate. The percentage of still-births to the total of live births and still-births ranges from 0·25 in Teso to 6·77 in Bunyoro. The rate for the Protectorate was 3·21.

58. *Infant Mortality Rate*—This rate—130·84 per thousand live births—continues to fall. It still remains high in the West Nile (282·36), Acholi (255·37), and Busoga (177·82). The lowest figure was found this year in Mengo West (59·79).

59. *Maternal Mortality Rate.*—This rate fell from 10·64 to 9·08. The figures given are probably not very reliable.

TABLE A.—RETURN SHOWING BIRTH, DEATH, STILL-BIRTH AND INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE FOR THE LAST SEVEN YEARS.

PROVINCE AND DISTRICT.	BIRTH RATE PER 1,000 POPULATION.							DEATH RATE PER 1,000 POPULATION.							STILL-BIRTH RATE PER 100 BIRTHS AND STILL-BIRTHS.							INFANTILE MORTALITY RATE PER 1,000 BIRTHS.							MATERNAL MORTALITY RATE PER 1,000 BIRTHS AND STILL-BIRTHS.						
	1933	1934	1935	1936	1937	1938	1939	1933	1934	1935	1936	1937	1938	1939	1933	1934	1935	1936	1937	1938	1939	1933	1934	1935	1936	1937	1938	1939	1933	1934	1935	1936	1937	1938	1939
BUGANDA :—																																				
* Mengo ...	17·05	17·49	19·74	19·83	19·71	20·06	21·90	22·44	19·34	21·61	20·56	19·37	17·92	19·37	4·52	3·10	4·22	3·21	3·09	3·09	3·76	134·80	93·29	83·98	91·73	89·26	76·41	69·03	15·71	11·79	12·37	15·42	9·93	10·02	8·84
* Entebbe ...	18·12	18·93	19·06	20·34	20·32	21·19	21·58	15·07	13·29	13·36	16·10	14·95	13·21	12·38	1·52	0·58	1·18	1·33	1·05	0·90	1·78	87·96	72·13	62·33	74·03	60·50	59·28	59·79	6·41	4·76	4·95	6·92	6·91	6·82	4·93
Masaka ...	29·79	29·92	28·84	33·30	32·27	32·93	33·12	16·64	16·78	16·38	17·62	17·89	16·38	16·34	3·07	4·04	4·48	6·09	4·48	3·52	2·58	96·10	83·03	76·96	76·73	61·16	58·46	61·33	6·90	6·53	5·94	6·95	7·97	6·53	9·31
Mubende ...	19·36	19·16	20·99	22·02	20·17	21·54	11·96	16·49	19·33	19·12	19·39	18·85	16·83	10·17	6·44	7·19	7·75	5·09	4·30	4·97	3·47	103·87	122·66	120·00	120·87	114·41	87·72	78·84	6·50	5·58	5·34	5·78	7·86	5·03	5·11
TOTAL ...	20·23	20·07	21·71	23·17	22·60	23·32	22·53	18·62	17·51	18·29	18·77	18·02	16·38	15·59	3·87	3·61	4·37	4·07	3·34	3·12	2·95	105·59	90·92	84·16	88·76	79·36	69·45	69·03	9·75	7·81	7·95	9·60	8·43	7·52	7·84
EASTERN :—																																				
Busoga ...	31·66	27·49	26·45	23·80	22·23	21·75	20·85	20·82	23·53	24·36	26·37	26·98	21·57	16·98	7·59	7·78	7·65	8·27	7·62	6·10	6·36	202·66	229·65	227·75	276·66	248·04	211·04	177·82	13·84	13·50	13·75	16·12	18·12	18·24	15·32
Budama ...	36·25	28·70	31·42	32·97	31·22	27·84	30·37	21·39	22·58	24·57	24·93	21·82	17·27	15·02	1·18	0·69	0·63	0·58	1·05	3·59	0·41	123·03	142·43	147·47	174·41	145·62	125·90	107·74	10·36	11·94	12·26	9·29	7·85	10·11	6·90
‡ Bugishu ...	45·45	30·55	33·52	38·13	34·05	31·32	38·04	24·87	23·25	21·53	26·07	20·72	16·00	20·15	5·32	5·20	5·05	5·03	5·40	5·47	3·09	196·68	272·87	207·00	217·66	200·36	144·04	122·00	11·26	12·48	8·70	11·48	11·77	9·82	7·44
‡ Bugwere ...	31·96	29·62	28·00	30·45	28·13	27·08		20·34	28·04	37·27	32·14	24·23	18·73		5·66	5·70	6·29	5·28	5·08	4·42		142·58	155·52	188·65	157·92	149·54	106·02		11·51	12·75	19·72	12·25	7·94	7·64	7·64
Teso ...	21·93	18·93	16·36	16·30	17·79	21·59	25·70	15·51	18·75	18·31	17·90	14·48	13·73	16·06	0·17	0·32	0·31	0·18	0·14	0·31	0·25	93·77	102·83	97·81	92·28	56·38	53·94	71·66	10·46	12·47	14·47	13·22	9·62	8·85	7·09
TOTAL ...	32·20	26·47	26·13	26·58	25·21	24·90	28·68	20·22	22·94	24·48	25·05	21·99	17·85	17·51	4·76	4·81	4·82	4·71	4·50	3·75	2·94	163·33	191·54	185·77	199·87	173·07	135·93	122·56	11·91	12·81	13·57	12·91	12·04	11·74	9·19
WESTERN :—																																				
Toro ...	20·92	22·58	19·38	21·37	20·09	23·52	26·61	16·00	16·76	16·73	20·28	17·88	17·49	15·16	3·81	3·83	3·28	4·01	3·61	3·28	3·51	207·66	190·40	223·29	202·47	139·59	111·03	112·13	14·58	23·18	10·30	12·97	13·33	11·77	12·06
Ankole ...	21·39	23·17	21·75	26·81	24·07	26·37	26·21	17·25	20·14	20·01	13·88	15·87	15·74	15·59	4·60	4·22	4·34	2·93	3·20	3·27	3·21	162·58	177·54	169·47	103·30	123·87	115·96	109·78	7·74	8·47	7·91	8·58	7·64	4·01	5·49
Kigezi ...	36·07	33·11	32·97	33·33	31·77	39·84	39·52	13·05	15·81	18·87	12·72	14·92	13·03	14·36	0·97	0·71	1·63	0·94	0·95	1·97	2·61	100·17	152·47	168·91	96·41	133·38	69·63	74·30	5·22	9·82	5·61	5·00	5·89	3·20	3·04
Lango ...	37·27	33·53	37·06	35·63	34·04	33·96	30·75	20·99	28·43	30·06	22·18	22·93	22·14	17·44	1·03	1·53	1·46	2·27	2·91	2·65	3·14	122·66	181·73	133·75	129·97	140·08	153·49	116·28	8·76	8·95	9·72	9·78	9·44	9·37	7·92
Bunyoro ...	20·38	16·90	17·57	18·96	15·84	15·33	16·50	20·59	18·47	14·56	14·32	14·43	10·10	11·20	16·01	14·69	11·90	10·43	10·00	7·66	6·77	167·46	136·83	105·24	93·42	107·20	62·14	67·89	6·87	5·76	3·51	4·95	4·45	7·82	4·38
§ Gulu ...	51·31	50·90	53·71	46·27	45·38	47·19	45·86	26·79	40·56	23·68	24·86	25·49	33·60	24·77	4·35	5·19	5·52	5·63	5·46	6·23	5·13	238·11	325·99	143·94	174·53	196·07	260·09	255·37	5·71	4·19	3·00	5·31	9·11	4·99	8·27
§ Chua ...	46·75	46·26	50·44	25·76	38·16	38·10		24·35	27·60	22·38	11·87	22·74	34·56		5·59	6·59	5·68	6·30	5·58	6·52		305·10	356·53	283·03	311·79	364·68	564·22		17·60	21·35	16·41	17·81	17·48	16·99	
West Nile ...	25·54	22·66	23·12	20·65	18·69	24·68	35·96	10·00	11·88	9·11	10·27	10·90	12·67	21·51	2·26	2·64	2·68	2·31	2·82	1·61	2·65	243·55	329·84	279·61	316·23	314·10	362·28	282·36	35·27	50·40	20·16	46·11	32·01	41·54	21·83
TOTAL ...	...	...	...	...	...	...	32·64	...	...	...	...	...	...	17·46	...	...	...	...	...	...	3·50	...	...	...	...	...	...	160·50	...	...	...	...	...	...	9·49
UGANDA PROTECTORATE	28·39	26·05	26·43	26·42	25·38	26·70	28·89	18·43	20·58	20·66	19·60	18·95	17·50	17·02	4·09	4·08	4·19	3·97	3·79	3·46	3·21	160·64	188·53	165·88	158·64	155·67	147·18	130·84	11·81	13·48	10·60	12·28	11·17	10·64	9·08

† The population of Karamoja has been excluded from the total population and from all calculations of rates because no vital statistics are submitted from that district.

* The Entebbe District was amalgamated with the Mengo District on 1st November, 1936.

‡ The Bugishu and Bugwere Districts were amalgamated into the Central District on 1st January, 1937.

§ The Gulu and Chua Districts were amalgamated into the Acholi District on 1st January, 1937.

TABLE B.—VITAL STATISTICS RETURN OF THE UGANDA PROTECTORATE FOR THE YEAR 1939 (AFRICAN POPULATION ONLY).

PROVINCE AND DISTRICT.	TOTALS FOR THE WHOLE YEAR.									ESTIMATED POPULATION.	RATES FOR THE YEAR.				
	Live Births.			Still Births.	Deaths						Birth Rate per 1000 Population.	Percentage of Still Births to Births plus Still Births.	Infantile Mortality Rate per 1000 Live Births.	Maternal Mortality per 1000 Births and Still Births.	Death Rate per 1000 Population.
					Of Children under 1 Year.			Of Women in Child Birth.	All Other Deaths.	Total Deaths.					
	M.	F.	Total.		M.	F.	Total.								
BUGANDA PROVINCE:—															
Mengo { Mengo	4,009	3,725	7,734	302	319	285	604	71	6,165	6,840	353,104	21·90	3·76	69·03	8·84	19·37
Mengo { Entebbe ...	2,071	2,110	4,181	76	139	111	250	21	2,126	2,397	193,673	21·58	1·78	59·79	4·93	12·38
Masaka	3,273	3,217	6,490	172	201	197	398	62	2,741	3,201	195,952	33·12	2·58	61·33	9·31	16·34
Mubende	985	905	1,890	68	76	73	149	10	1,448	1,607	157,969	11·96	3·47	78·84	5·11	10·17
TOTAL ...	10,338	9,957	20,295	618	735	666	1,401	164	12,480	14,045	900,698	22·53	2·95	69·03	7·84	15·59
EASTERN PROVINCE:—															
Busoga	4,113	3,957	8,070	548	753	682	1,435	132	5,004	6,571	386 991	20·85	6·36	177·82	15·32	16·98
Budama	2,404	2,506	4,910	20	267	262	529	34	1,865	2,428	161,628	30·37	0·41	107·74	6·90	15·02
Central	7,423	7,167	14,590	466	891	889	1,780	112	5,833	7,725	383,460	38·04	3·09	122·00	7·44	20·15
Teso	3,588	3,585	7,173	18	281	233	514	51	3,918	4,483	279,101	25·70	0·25	71·66	7·09	16·06
†Karamoja	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL ...	17,528	17,215	34,743	1,052	2,192	2,066	4,258	329	16,620	21,207	1,211,180	28·68	2·94	122·56	9·19	17·51
WESTERN PROVINCE:—															
Toro	2,757	2,603	5,360	195	337	264	601	67	2,384	3,052	201,366	26·61	3·51	112·13	12·06	15·16
Ankole	3,913	3,839	7,752	257	447	404	851	44	3,716	4,611	295,735	26·21	3·21	109·78	5·49	15·59
Kigezi	5,397	5,182	10,579	284	403	383	786	33	3,024	3,843	267,671	39·52	2·61	74·30	3·04	14·36
Lango	3,824	3,512	7,336	238	414	439	853	60	3,247	4,160	238,545	30·75	3·14	116·28	7·92	17·44
Bunyoro	973	942	1,915	139	67	63	130	9	1,160	1,299	116,027	16·50	6·77	67·89	4·38	11·20
Acholi	4,895	4,511	9,406	509	1,253	1,149	2,402	82	2,597	5,081	205,099	45·86	5·13	255·37	8·27	24·77
West Nile	4,849	4,784	9,633	262	1,452	1,268	2,720	216	2,825	5,761	267,859	35·96	2·65	282·36	21·83	21·51
TOTAL ...	26,608	25,373	51,981	1,884	4,373	3,970	8,343	511	18,953	27,807	1,592,302	32·64	3,50	160·50	9·49	17·46
UGANDA PROTECTORATE ...	54,474	52,545	107,019	3,554	7,300	6,702	14,002	1,004	48,053	63,059	3,704,180	28·89	3·21	138·84	9·08	17·02

† The population of Karamoja has been excluded from the total population and from all calculations of rates because no Vital Statistics are submitted from that District.

TABLE C.—TABLE SHOWING INCREASE OR DECREASE OF REPORTED BIRTHS OVER REPORTED DEATHS FOR FIVE DISTRICTS FOR THE LAST 20 YEARS.

Year.	Buganda.	Busoga.	Bunyoro.	Ankole.	Toro.	Total Increment.
1920 ..	— 2,204	+ 2,025	— 1,012	+ 496	+ 907	+ 212
1921 ..	— 711	— 1,483	— 997	+ 889	+ 1,896	— 406
1922 ..	— 1,458	+ 2,953	— 891	+ 1,503	+ 1,872	+ 3,979
1923 ..	— 624	+ 2,194	— 856	+ 1,611	+ 1,670	+ 3,995
1924 ..	+ 37	+ 3,295	— 970	+ 2,329	+ 2,924	+ 7,615
1925 ..	+ 1,059	+ 5,726	— 818	+ 3,727	+ 3,253	+ 12,947
1926 ..	+ 1,179	+ 5,314	— 500	+ 2,891	+ 3,602	+ 12,486
1927 ..	+ 3,475	+ 5,703	— 443	+ 4,446	+ 3,955	+ 17,136
1928 ..	+ 1,091	+ 4,656	— 492	+ 4,848	+ 3,686	+ 13,789
1929 ..	+ 1,357	+ 5,572	— 329	+ 4,238	+ 3,505	+ 14,343
1930 ..	— 940	+ 3,799	— 801	+ 3,139	+ 1,571	+ 6,768
1931 ..	+ 213	+ 3,084	— 406	+ 2,945	+ 497	+ 6,333
1932 ..	+ 357	+ 3,322	— 246	+ 1,556	+ 743	+ 5,732
1933 ..	+ 1,474	+ 4,184	— 24	+ 1,167	+ 962	+ 7,763
1934 ..	+ 2,769	+ 1,536	— 179	+ 858	+ 1,143	+ 6,127
1935 ..	+ 3,001	+ 813	+ 343	+ 494	+ 640	+ 5,291
1936 ..	+ 3,828	— 997	+ 531	+ 3,682	+ 218	+ 7,262
1937 ..	+ 4,069	— 1,830	+ 162	+ 2,373	+ 438	+ 5,212
1938 ..	+ 6,204	+ 70	+ 604	+ 3,110	+ 1,200	+ 11,188
1939 ..	+ 6,250	+ 1,499	+ 616	+ 3,141	+ 2,308	+ 13,814

European Officials.

60. Only those officials whose names appear in the Protectorate Staff List are shown in Table D. Wives and families are not included.

TABLE D.

61. Table showing the sick, invaliding and death rates of European officials during the last three years:—

	1937	1938	1939
Total number of officials resident	595	652	667
Average number resident	499	522	563
Total number on sick list	883	928	1,319
Total number of days on sick list	2,638	2,492	3,782
Average daily number on sick list	7·23	6·83	10·36
Percentage of daily sick to average number resident ..	1·49	1·31	1·84
Average number of days on sick list each patient ..	2·99	2·68	2·79
Average sick time each resident	5·29	4·77	6·72
Total number invalided	1	4	1
Percentage of invalidings to total residents	0·17	0·61	0·15
Total deaths	4	2	nil
Percentage of deaths to average number resident ..	0·80	0·38	..
Percentage of deaths to total residents	0·67	0·31	..
Number of cases of sickness contracted away from station	No record	No record	No record
Number granted local sick leave	37	43	43
Average number of days sick leave for each patient granted local sick leave	17·38	18·72	16·41

The principal causes of sickness were:—

Malaria, 244; Diseases of the digestive system, 64; Injuries, 32; Diseases of the respiratory system, 85; Influenza, 44.

62. Medical Boards were held on seven European officials for the following conditions:—

Disease.	No. of Cases.	Result of Board.
Urinary symptoms	1	To proceed on home leave for treatment.
Post-influenzal debility and cardiac irritability	1	To proceed on home leave for treatment.
Pulmonary tuberculosis	1	To proceed on home leave for treatment.
Duodenal ulcer	1	To be employed on sedentary work only for one year.
Chronic ischiorectal abscess ..	1	To proceed on home leave by air for treatment.
Fracture of right os calcis ..	1	Fit for sedentary work only.
Sciatica	1	To proceed on home leave for treatment.

European Non-Officials.

63. Cases of illness among European non-officials who were treated by Government medical officers amounted to 2,394, as compared with 2,201 in 1938. Principal causes were:—

Malaria, 337; Diseases of the digestive system, 194; Injuries, 20; Diseases of the respiratory system, 75; Influenza, 29.

64. *Deaths.*—Fourteen deaths were recorded, the causes of which were:—

Diabetic gangrene, 1; Heart failure, 4; Malaria, cerebral, 1; Pneumonia, 1; Pyelonephritis and hydronephrosis, 1; Prematurity, 1; Osteomyelitis and septicaemia, 1; carcinoma of oesophagus, 1; senility, 1; Acute poliomyelitis, 1; Convulsions, 1.

Asian Officials.

65. In Table E, officials of the Kenya and Uganda Railways and Harbours, artizans employed by the Public Works Department on temporary agreement and the wives and families of all officials are omitted.

TABLE E.

66. Table showing the sick, invaliding and death rates of Asian officials during the last three years:—

	1937	1938	1939
Total number of officials resident	387	406	419
Average number resident	323	345	379
Total number on sick list	580	543	724
Total number of days on sick list	1,648	1,573	1,821
Average daily number on sick list	4·02	4·31	4·94
Percentage of daily sick to average esident	1·79	1·25	1·46
Average number of days on sick list for each patient ..	2·84	2·89	2·52
Average sick time each resident	5·10	4·55	4·35
Total number invalided	3	3	2
Percentage of invalidings to total residents	0·78	0·74	0·48
Total deaths	Nil	Nil	Nil
Percentage of deaths to total residents	..	..	..
Percentage of deaths to average number resident ..	..	..	..
Number of cases of sickness contracted away from station	No record	No record	No record
Number granted local sick leave	6	12	10
Average number of days on sick leave for each patient granted sick leave	20·00	21·58	16·80

The principal causes of sickness were:—

Malaria, 275; Diseases of the digestive system, 82; Diseases of the respiratory system, 48; Influenza, 39.

67. Medical Boards were held on six Asian officials for the following conditions:—

Disease.	No. of Cases.	Result of Board.
Asthma	1	To be moved to other quarters.
Neurousis	1	To remain in Kampala.
Malarial cachexia	1	To be invalided out of the service.
Peptic ulcer	1	
General debility	1	To retire on completion of normal tour.
General debility	1	To be transferred to Kenya.

Asian Non-Officials.

68. Cases of sickness among the non-official community who were treated by the Government medical staff, amounted to 7,291 as compared with 7,662 in 1938. The principal causes of sickness were:—

Malaria, 2,019; Diseases of the digestive system, 378; Injuries, 144; Blackwater fever, 56.

69. Seventy deaths were reported to this department. The causes were:—

Blackwater fever	21	Pneumonia	13
Prematurity	1	Malaria	7
Parturition	1	Gangrene	1
Marasmus	2	Burns	4
Plague	2	Abortion	1
Intestinal obstruction ...	1	Diabetes	2
Whooping cough	1	Angina pectoris	1
Infantile convulsions ...	1	Puerperal sepsis	1
Enteritis	1	Hodgkin's disease	1
T.B. meningitis	1	Typhoid	3
Pulmonary tuberculosis ...	1	Undefined	1
Acute poliomyelitis	2		

African Officials (African Civil Service).

TABLE F.

70. Table showing the sick, invaliding, and death rate of African civil servants, excluding wives and families:—

	1937	1938	1939
Total number of officials resident	212	183	222
Average number resident	212	183	222
Total number on sick list	93	108	89
Total number of days on sick list	220	324	227
Average daily number on sick list	0·60	0·88	·62
Percentage of daily sick to average number resident ..	0·28	0·48	0·28
Average number of days on sick list for each patient ..	2·36	3·00	2·55
Average sick time each resident	1·03	1·77	1·02
Total number invalided	..	..	..
Percentage of invalidings to total residents	..	..	..
Total deaths	1	..	..
Percentage of deaths to total residents	0·47	..	..
Percentage of deaths to average number resident ..	0·47	..	..
Number of cases of sickness contracted away from station	No record	No record	No record
Number granted local sick leave	1	2	1
Average number of days on sick leave for each patient granted sick leave	21	28	21

SECTION III.—HYGIENE AND SANITATION.

A. General Review of Work Done and Progress Made.

I. Preventive Measures.

(*a*) Insect-Borne Diseases.

71. *Malaria.*—The use of larvicides, clearing of drains, filling in of depressions, and the protection of wells and springs continued as routine measures in most stations.

In Tororo over 100 acres were planted with trees as an anti-malarial measure, and similar planting was carried out in Masindi, Gulu and Masaka. New drainage was laid down in Masaka, Mbale, Soroti, Masindi, Gulu and Arua, and a mosquito survey was carried out at Soroti.

In Kampala the operations for deepening the Nakivubo river which began at its outlet into the Lake, have reached as far as the Railway Station, and this measure has had a marked effect in the reduction of *anopheline* breeding places on the southern and eastern extremities of the town. During the latter part of the year a continuous adult mosquito survey of the whole town was carried out by the Senior Entomologist (Medical) which enabled special attention to be given to those areas where *anophelines* were found.

A scheme of anti-malarial drainage in the vicinity of Luzira Jail was instituted early in the year. This included planting about 70 acres of foreshore with eucalyptus; filling and planting about 5 acres of swamp north of the railway; sub-soil drainage and canalization of the swampy area extending southwards from the railway; and filling in large brickfields about 1½ miles from the jail. The second and third items have been completed and the first begun, and already a very considerable diminution in mosquito breeding and in the number of adult mosquitoes in the jail has been observed.

72. *Trypanosomiasis.*—In the West Nile District, which is still the chief focus of this disease in the Protectorate, it is pleasing to record that the progressive diminution in the number of new cases shown in the previous two years has been continued this year and only 475 new cases were found.

This progressive decrease is all the more significant when it is remembered that during the past three years the periodical examinations of the population have been increasing in thoroughness, until now it may confidently be asserted that few cases can escape detection.

The Victoria Nyanza area remained free of this disease except for one case which occurred early in the year. This was an African Sleeping Sickness Inspector working on the lake shore of Busiro County. He had worked there for the past five years but had done short periods of duty in Toro and the West Nile during that time. The shore population of Busiro County was carefully examined, but as no case of sleeping sickness was discovered and none has since occurred, it is assumed that the Inspector contracted the disease while on duty in the West Nile or Toro.

All clearings have been maintained on the Victoria Nyanza shore and the Sleeping Sickness Rules enforced to prevent the introduction of the disease from elsewhere.

In Toro clearings were maintained and frequently inspected, and in the Lake Edward-Lake George Sleeping Sickness area all fishermen and ancillary employees received prophylactic injections of antrypol quarterly. Eight new cases were found, and those in the early stages showed apparently complete recovery under treatment.

In Acholi District six-monthly inspections of the newly settled areas mentioned in last year's Report were continued and all clearings inspected and maintained. All persons proceeding to Madi, West Nile and the Sudan were examined and prophylactic injections of antrypol given to all those whose duties took them into closed areas. Only two new cases were found during the year and these appear to have been cured.

In Chua, the population of Atanga and Pader Gem were registered, and quarterly examinations were carried out in those areas where cases have occurred in the past two years.

In Madi clearings were inspected and maintained and half-yearly inspections carried out. Eight new cases were found and one died.

73. *Plague.*—There were 323 cases with 308 deaths compared with 385 cases with 376 deaths in 1938. Busoga showed a further decrease from 63 to 1. African Health Orderlies continued to give propaganda talks and demonstrations in numerous villages in the endemic areas.

In Kampala six cases occurred during the last quarter of the year, being the first cases since 1936. Extensive rat mortality was reported in the vicinity of the Uganda Company Ginnery in November and by the end of that month the first human cases occurred. The entire godown area in South Street and the Railway godowns, the ginnery and the adjacent blocks of buildings, were all systematically disinfested, and rat-trapping measures were augmented.

74. *Yellow Fever.*—The work of the Yellow Fever Research Institute was continued, but field work at the Bwamba field station had to be discontinued on the outbreak of the war and was not resumed before the end of the year. In addition to Bwamba, investigations were carried out at Masaka, Kome Island, Kiryandongo, and in the Bugoma and Budongo forests. Protection tests made on a large number of sera from the Bwamba area showed 10·2 per cent. of the population had been immunized against yellow fever. There was a marked difference in the percentage of protective sera between adults and children, those of the former being about ten times those of the latter.

In the Laboratory 2,665 sera were examined in the course of forty-four protection tests. Work on Virus 459, isolated from the blood of an African working in Bwamba forest, continues, and from information gained so far, it is almost certain that it is the etiological agent of the disease known locally as "Bwamba fever".

The results of work on the West Nile virus, mentioned in last year's Report but not hitherto described, have been submitted for publication. This virus, now in its 88th passage, is strictly neurotropic and intracerebral inoculation to a 1 in 100,000,000 dilution caused the death of all inoculated mice. Guinea-pigs and rabbits similarly inoculated showed no illness but developed neutralizing antibodies, while monkeys, both *Cercopithecus* and

Rhesus, showed varying constitutional reactions and also developed neutralizing antibodies after inoculation.

Neutralization tests can be performed with the virus and homologous antiserum using either intracerebral or intraperitoneal inoculations, but antisera to the viruses of louping ill and St. Louis encephalitis showed no neutralizing power against the West Nile virus, nor did serum potent in yellow fever antibodies protect against it. On the other hand serum active against Japanese "B" encephalitis showed marked neutralizing action, but the lesions in *Rhesus* monkeys caused by inoculation with West Nile virus appear to be distinct from those described as occurring in animals infected with the virus of Japasese "B" encephalitis.

(*b*) Epidemic Diseases.

75. *Cerebro-Spinal Fever.*—There was a marked decrease in the incidence of this disease, the number of cases falling to little more than a third of the number reported last year. The disease is, however, still widely distributed, most cases occurring in the Eastern Province.

76. *Small-pox.*—No cases were reported. The number of vaccinations carried out were as follows:—

Province.	Population.	Number of vaccinations performed.
Buganda	904,180	113,849
Eastern	1,271,698	63,688
Western	1,571,343	95,153
Total	3,747,221	272,690

(*c*) Helminthic Diseases.

77. Infections with *Ascaris* and *Ancylostoma* occur widely though generally without producing definite clinical symptoms. The consideration of mass treatment as a medically economic measure must await such improvement in rural sanitation as will render re-infection improbable, but progress in rural hygiene will, of course, in itself tend to reduce the incidence of these diseases.

78. *T. saginata* is a common parasite especially in the Kigezi District of the Western Province. Meat inspection is carried out in all the large townships and infested meat is condemned and destroyed.

79. *Dracontiasis* is confined to the Nilotic districts of the Western Province, and the inhabitants of infested districts are encouraged to boil drinking water or at least to strain it through a cloth before use. These methods are additional to the measures being taken to provide protected water supplies.

80. *Schistosomiasis.*—This disease is widely but thinly distributed. The majority of cases are reported from the northern part of Acholi District but the parasite appears to cause little disability.

II. General Measures of Sanitation.

81. The Kampala water-borne sewage scheme was extended to Mulago and Makerere, and in Entebbe the septic tank system was almost

completed, though the congested area of the bazaar presents difficulties which will take some little time to solve.

The Geological Department continued their programme of providing water supplies in Acholi District where numerous bore-holes were made with a high percentage of success. Towards the end of the year the drilling section was established in Madi District. That department also carried out work on reservoirs in areas where bore-holes were unsuccessful.

In addition to the work carried out by the Geological Survey Department's drillers, fifteen successful bore-holes were made under Government contract by private firms. Most of these bore-holes are in Budama.

III. School Hygiene.

82. Frequent visits to schools were made by medical officers and assistants until the outbreak of war, when shortage of staff and rationing of petrol curtailed activities in this respect. School buildings continued to improve, but it was not found practical to enforce the Public Health (School Buildings) Rules *in toto* owing to the exigencies of the war. Nevertheless, there has been marked improvement in the lighting and ventilation of classrooms and dormitories and in the provision of latrines. The medical examinations of school children carried out by Medical Officers revealed the need for dental treatment, but unfortunately little can be done to remedy this with the present staff of one Dental Surgeon.

IV. Labour Conditions.

83. Improvement continues in the housing and general conditions of employment of labour. Employers are beginning to realise that the cost of an improved diet is more than compensated for by increased production. As an example may be quoted the case of one large firm which has instituted, in addition to a generous ration, a bonus of half a pound of meat to every labourer completing a standard task. The increase in output is in the neighbourhood of 300 per cent.

Labour camps, ginneries, and other factories have been inspected regularly during the year by Provincial Medical Officers, District Medical Officers, Sub-Assistant Surgeons and European and African Health Inspectors, over eight hundred inspections being carried out by District Medical Officers alone. The majority of these inspections were made during the first eight months of the year as war conditions in the latter four months considerably restricted work of this kind.

V. Housing and Town Planning.

84. Medical Officers in all districts are endeavouring to improve the housing in the townships of their districts, and their efforts have met with a considerable degree of success. Until, however, the Town-planning Ordinance, now under consideration, becomes law, little can be done to control the promiscuous and ill-considered siting of dwellings and other premises in trading centres.

In Kampala and Jinja the housing of Africans employed as clerks, artizans, etc., is becoming a serious problem. The solution of this difficulty in Jinja, to which reference was made in last year's Report is still at the stage of preliminary surveys, but in Entebbe, where the problem is rather easier, a start has been made in the erection of model dwellings. These

are constructed of materials which can be obtained and used by the average African, and demonstrate that the use of such is no bar to the provision of sanitary housing with adequate lighting and ventilation.

VI. Food in Relation to Health and Disease.

85. As previously mentioned elsewhere in this Report the medical officer seconded for duty for nutritional investigations continued his research until his departure on leave in July.

The series of reports published by him revealed a disquieting degree of sub-nutrition among the African population of the Protectorate, most generally obvious as a Vitamin A deficiency.

The various rules under the Public Health Ordinance mentioned in last year's Report as in preparation were enacted during the year as reference to Appendix I will reveal.

B. Measures Taken to Spread the Knowledge of Hygiene and Sanitation.

86. Health propaganda has been carried out in all districts, and prizes and trophies have been given for maternity and child welfare and other activities relating to African health welfare. Attention to Asian bazaars has been continued and reports received from District Medical Officers indicate that there is a considerable amount of improvement. Stress has again been laid on the importance of the proper preparation of food, the cleanliness of utensils and the provision of meatsafes. Interest continues to be taken in the protected springs which the department is constructing, and there can be no doubt that the African population generally is being educated to prefer clean drinking water.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION.

Not applicable.

SECTION V.—MATERNITY AND CHILD WELFARE.

87. This year 26,229 women attended for ante-natal supervision as compared with 20,861 in 1938. A further 3,826 who began to attend in 1938, continued their attendances.

88. The following are the figures for some of the larger centres:—

Centre.	1938		1939	
	New cases.	Attendances.	New cases.	Attendances.
Entebbe	312	1,529	382	1,698
Mulago	1,380	6,520	1,550	6,213
Masaka and dispensaries ..	3,239	15,620	4,303	14,429
Mbale and dispensaries ..	5,271	11,086	5,788	8,651
Bugembe	576	3,111	669	2,705
Masindi and dispensaries ..	212	1,404	442	3,597
Hoima and dispensaries ..	843	6,630	1,126	7,167
Soroti and dispensaries ..	1,827	8,874	2,706	9,712
Mbarara and dispensaries ..	968	3,574	1,975	5,907
Fort Portal and dispensaries ..	1,676	5,983	1,881	6,797
Kabale and dispensaries ..	901	2,446	1,298	2,546
Mubende and dispensaries ..	1,246	5,511	1,247	4,511

89. Among 30,055 women who attended for ante-natal supervision, 2,492 terminated their pregnancies in hospitals or maternity centres. A further 851 who had not been under ante-natal supervision, were delivered in hospital.

90. The following table shows the results of pregnancy for women delivered in hospital and for some delivered in their homes:—

	Women under ante-natal supervision.		Women not under ante-natal supervision delivered in institutions.
	Confined in Hospital.	Confined in their homes.	
Number of women confined ..	2,492	3,026	851
Pregnancies resulting in:—			
(*a*) Miscarriage	90	60	133
(*b*) Still-birth	158	46	173
(*c*) Living child	2,244	2,596	545
(*d*) Unknown	..	324	..
Number of maternal deaths ..	45	14	61
Percentage of pregnancies resulting in:—			
(*a*) Miscarriage	3·6	2·2	15·6
(*b*) Still-birth	6·3	1·7	20·3
(*c*) Living child	90·0	96·1	64·0
(*d*) Maternal deaths ..	1·8	0·5	7·2

91. The following table gives the number of confinements and their results in some of the Government institutions:—

Institution.	Confinements excluding miscarriages.	Still-births.	Living births.	Maternal deaths.
Entebbe	126	8	118	2
Mulago	421	47	374	18
Masaka	561	59	502	15
Bugembe	206	13	193	2
Kamuge	108	14	94	5
Serere	168	8	160	Nil.
Budaka	153	16	137	Nil.

92. The following obstetric operations were performed:—

Caesarian section	31
Forceps delivery	190
Perforation and cranioclasm	31
Internal version	21
Removal of retained placenta	85

93. The number of healthy, or relatively healthy, infants brought to centres for supervision amounted to 32,129. Sick children are shown in the sick returns from hospitals and dispensaries.

94. The following table gives the number of children attending child welfare clinics in some of the Government institutions:—

Institution.	1938		1939	
	Number of infants.	Attendances	Number of infants.	Attendances.
Entebbe	232	676	176	593
Bugembe	336	1,985	410	2,420
Masindi and dispensaries	192	1,525	431	2,369
Soroti and dispensaries	2,898	16,486	4,238	24,887
Mbarara and dispensaries ..	3,613	7,924	3,005	9,547
Hoima and dispensaries	937	4,498	983	11,227
Fort Portal and dispensaries ..	4,481	11,053	4,874	16,997
Lira and dispensaries	5,211	14,060	7,454	14,005
Kabale and dispensaries	3,175	17,161	4,562	10,467

95. The percentage of miscarriages, still-births and maternal deaths is higher in the case of women who did not come for ante-natal supervision, than among those who attended ante-natal clinics. As might be expected the best results were obtained in women who attended ante-natal clinics and were confined in their own homes, since these were cases which gave no trouble. The results of pregnancy in those women who had attended these clinics and had been delivered in hospital are almost as good; the slight difference being due to abnormal labours in women who were advised to come to hospital for their confinements and of others who commenced labour in their houses but who sought assistance when unforeseen difficulties arose. The group whose confinements were terminated in hospital but who had not attended ante-natal clinics, was less satisfactory. In considering this group it must be remembered that a number of women are brought to hospital as a last resort by their friends when the local handywomen have failed, and the figures, therefore, are not comparable with those for the previous groups. There can be little doubt that many of the fatalities could have been avoided, had the mothers attended for ante-natal treatment.

Report on the Lady Coryndon Maternity Training School.

No new centres have been opened and the centre at Jungo, Mengo District, was taken over by Government in September. The centres at Kabasanda, Kira, Namulonga, and Mbarara, were closed at the end of six, seven, seven and nine months, respectively.

The following table gives the number of patients admitted to the wards attached to the school, and also the number of out-patient attendances:—

Total admissions	480	Maternal deaths	20
Total confinements (including those born before arrival but not miscarriages)	386	Infant deaths	8
		Number of new women for ante-natal treatment	1,074
Living babies born	322	Number of attendances ...	2,576
Still-births	64	Number of infants attending ...	—
Miscarriages	18	Number of attendances ...	417
Threatened miscarriages ...	48		

The causes of maternal deaths were:—

Retained placenta	1	Eclampsia	2
Ante-partum haemorrhage ...	3	Post-operative (caesarian section) haemorrhage	1
Puerperal sepsis	4		
Obstructed labour	14		

The following operations were performed:—

Caesarian section	15	Internal version	7
Delivery by forceps	39	Repair of perineum	3
Perforation	18	Other operations	9
Removal of placenta	17		

During the year there were 39 girls in training as midwives of whom seven passed the final examination. There were also 41 girls in training as nurses and of these nine passed the final examination.

Report on the Country Centres.

Centre.	Confinements, including babies born before admission but excluding miscarriages.	Still-births.	Living children born.	Miscarriages.	Threatened miscarriage.	Maternal deaths.	Infant deaths.	New ante-natal cases.	Infant welfare.	Total number of ante-natal attendances.
Bushenyi ..	59	2	57	..	..	..	..	180	540	528
Ibanda	90	4	86	..	..	..	..	120	744	452
Iganga	89	5	88	2	10	..	3	353	739	870
Kabasanda ..	30	4	26	6	..	..	1	275	209	744
Kabuwoko	88	9	79	10	3	..	..	684	292	1,592
Kabwohe	61	2	59	1	1	..	..	168	588	756
Kako	65	4	63	1	15	..	..	868	360	1,413
Kapeka	88	5	84	..	1	..	..	529	219	1,464
Kasaka	46	4	43	..	..	1	3	422	294	843
Kiboga	81	3	83	4	..	..	..	212	93	455
Kikoma	111	5	106	2	..	1	1	219	157	582
Kira	18	1	18	2	..	..	1	76	126	176
Lutete	79	5	74	2	3	1	3	744	396	1,516
Mbarara	34	..	34	1	..	..	..	87	444	296
Mityana	68	7	61	6	6	..	5	512	286	1,407
Mukono	187	16	172	16	13	1	6	888	807	1,646
Nakifuma	149	5	145	7	10	..	9	765	667	1,558
Namulonga	36	..	36	..	3	..	3	170	193	450
Ndeje	71	5	66	5	10	..	2	546	364	1,023
Ngogwe	62	4	58	..	7	..	1	525	330	1,379
Total ..	1,512	90	1,438	65	82	4	38	8,343	7,848	19,150

Report on Nsambya Maternity Training School.

The following table gives the number of patients admitted to the wards attached to the school, and also the number of out-patient attendances:—

Total admissions	709	Maternal deaths	17
Total confinements excluding miscarriage	496	Infant deaths	27
Miscarriages	34	Number of new women for ante-natal treatment	891
Still-births	48	Number of attendances ...	5,011
Living children born	448	Number of infants attending ...	365
Threatened miscarriage ...	7	Number of attendances ...	1,016

The following operations were performed:—

Caesarian section	12	Internal version	1
Forceps delivery	31	Retained placenta	10
Perforation and cranioclasm ...	6	Perineal repair	102

The causes of maternal deaths were:—

Ante-partum haemorrhage and placenta praevia	2	Post-partum haemorrhage ...	1
Puerperal sepsis	6	Shock	1
Ruptured uterus	6	Peritonitis	1

The causes of infant deaths were:—

Prematurity	13	Convulsions	3
White asphyxia	5	Congenital syphilis	1
Melaena neonatorum	2	Congenital absense of rectum ...	1
Intra-cranial injuries	2		

There was an average of thirty students in training during the year. Four passed the examination of the Uganda Midwives Board.

REPORT ON THE COUNTRY CENTRES.

CENTRE.	Confinements, including births before admission but excluding miscarriage.	Still-births.	Living children born.	Miscarriages.	Threatened miscarriage.	Other conditions.	Maternal deaths.	Infant deaths.	New ante-natal cases.	Infant welfare.	Total out-patient attendances.
Ngora	169	3	166	1	13	..	3	..	174	120	870
Nagalama	86	2	84	4	10	..	..	1	266	186	1,476
Nkokonjeru ..	125	5	120	15	14	14	..	..	227	143	1,133
Kamuli	259	18	241	11	1	..	1	1	304	120	1,433
Rubaga	81	3	78	5	3	..	..	..	98	722	1,318
Mitala Maria ..	275	26	246	13	..	..	..	..	486	..	3,380
Villa Maria ..	312	10	302	8	27	15	..	..	794	..	5,299
Katende	83	4	79	3	..	..	..	..	323	..	745
Kisubi	72	2	70	5	5	15	..	..	141	332	2,204
Nyenga	80	2	78	1	2	5	..	..	275	..	2,781
Namilyango ..	39	3	36	1	1	1	..	..	163	72	430
Gayaza	142	3	139	8	30	..	..	..	316	348	1,673
Lwala	86	10	76	5	13	19	1	..	457	1,016	2,303
Nagongera	89	14	75	9	6	14	..	..	266	678	1,925
Bikira	133	6	127	7	3	..	..	..	379	..	2,653
TOTAL ..	2,046	111	1,917	96	128	83	5	2	4,669	3,737	35,649

Section VI.—*See* Table II.

Table G.—Medical Units, Beds, and Patients by Provinces.

	Buganda Province.	Eastern Province.	Western Province.	Protectorate. Totals.
Medical Units.				
European Hospitals	2	2	..	4
Asian Hospitals	3	4	2	9
African Hospitals	5	6*	10*	21
Dispensaries	23	22	63	108
In Patients.				
Beds Available:				
Europeans	27	7	..	34
Asian	36	26	5	67
African—Hospitals	534	353	413	1,300
African—Dispensaries	113	363	198	674
Total	710	749	616	2,075
Cases Admitted:				
European	513	45	..	558
Asian	1,013	200	29	1,242
African	12,948	8,490	9,490	30,928
Total	14,474	8,735	9,519	32,728
Total Number of In-Patient Days	176,611	100,419	143,671	420,701
Average Daily Number in Wards	485·9	275·1	393·3	1,152·6
Out-Patients.				
Attendances	906,021	871,165	1,547,592	3,324,778
Total New Cases.				
European	2,442	796	481	3,719
Asian	3,800	2,665	1,254	7,719
African	84,741	149,133	141,862	375,736
Total	90,983	152,594	143,597	387,174
Dispensaries Total	143,413	207,022	311,080	661,515
Medical Examination Total	38,667	6,572	28,510	73,749
Grand Total	273,063	366,188	483,187	1,122,438
Surgical Operations.				
General Anaesthesia	1,708	1,094	1,030	3,832
Spinal Anaesthesia	8	43	65	116
Other Anaesthesia	587	853	590	2,030
Total	2,303	1,990	1,685	5,978

*Bululu and Butiaba Hospitals are now Dispensaries,

A List of Sub-Dispensaries Open or Under Construction in 1939.

Name.	District.	New Cases including examinations.	Re-attendances 1939.	Year Opened.	Remarks.
Mukono ..	Mengo ..	7,357	29,160	1923	Permanent buildings.
Kasangati ..	,, ..	7,058	18,392	1923	,, ,,
Bowa ..	,, ..	8,626	19,696	1923	,, ,,
Kalagala ..	,, ..	6,377	13,395	1930	,, ,,
Kome ..	,, ..	1,074	4,500	1923	Temporary buildings Island Dispensary
Buvuma ..	,, ..	1,241	4,759	1923	Temporary buildings Island Dispensary.
Nakasongola ..	,, ..	3,769	8,869	1931	Temporary buildings.
Wakiso ..	,, ..	11,587	19,606	1923	Permanent buildings.
Mpigi ..	,, ..	8,558	11,467	1923	Permanent buildings with ward.
Buwama ..	,, ..	9,061	11,256	1937	Temporary buildings.
Jungo ..	,, ..	Not available.		1939	Permanent buildings with ward.
Mityana ..	Mubende	9,882	19,789	1923	Permanent buildings.
Kibale ..	,, ..	6,297	22,605	1926	,, ,,
Kakumiro ..	,, ..	4,057	14,732	1928	,, ,,
Madudu ..	,, ..	3,340	11,118	1928	,, ,,
Kyanasoke ..	,, ..	2,884	12,180	1931	Temporary buildings.
Mubende Hill	,, ..	730	1,897	1926	Closed in September 1939.
Kalisizo ..	Masaka ..	6,587	27,592	1923	Permanent buildings.
Kalungu ..	,, ..	5,571	9,153	1927	,, ,,
Kiebbe ..	,, ..	3,048	4,872	1936	Temporary buildings.
Kalangala ..	,, ..	1,386	2,849	1923	Temporary buildings Island Dispensary.
Rakai ..	,, ..	3,677	9,087	1927	Temporary buildings.
Lyantonde ..	,, ..	3,317	21,402	1927	Permanent buildings with ward in temporary materials.
Sembabule ..	,, ..	3,563	7,283	1937	Temporary buildings.
Kaliro ..	Busoga ..	7,602	5,571	1927	Permanent buildings with ward.
Namwendwa*	,, ..	14,549	7,785	1925	Permanent buildings, and with ward and maternity ward 9 beds.
Namungalwe	,, ..	12,334	11,526	1925	Permanent buildings with ward.
Bugiri ..	,, ..	9,766	8,446	1932	Temporary buildings.
Nsinze ..	,, ..	10,800	9,860	1932	Permanent buildings with ward.
Buyende ..	,, ..	2,067	5,030	1936	Temporary buildings.
Bugembe† ..	,, ..	Not available.		1939	Permanent buildings, with ward.
Nagongera ..	Budama	7,204	17,953	1927	,, ,, ,, ,,
Butaleja ..	,, ..	8,015	9,545	1927	Permanent buildings with ward and maternity ward.
Masafu ..	,, ..	9,093	16,253	1926	Permanent buildings, with ward.
Budadiri ..	Central ..	10,337	17,237	1922	Temporary buildings.
Bulucheke ..	,, ..	8,015	10,582	1931	,, ,,
Budaka ..	,, ..	9,625	9,624	1930	Permanent buildings, with ward.
Bukedia ..	,, ..	10,777	11,676	1926	Permanent buildings.
Kamuge* ..	,, ..	12,418	13,207	1922	,, ,,
Nakaloke ..	,, ..	7,894	17,468	1936	Pisé de terre buildings.
Muyembe ..	,, ..	6,790	10,304	1939	Permanent buildings.
Bubulu‡ ..	,, ..	12,780	12,192	1939	Mixed Permanent and Temporary buildings.
Bukwa ..	,, ..	Under construction		1939	Permanent buildings.
Katakwe ..	Teso ..	13,287	23,579	1926	Permanent buildings, with ward.
Serere ..	,, ..	34,101	43,719	1924	Permanent buildings.
Amuria ..	,, ..	25,532	32,863	1924	,, ,,
Kamod ..	,, ..	18,783	18,825	1931	Temporary buildings.
Kaberamaido*	,, ..	10,058	30,925	1931	Permanent buildings, with ward.
Kakabara ..	Toro ..	5,783	8,127	1922	Temporary buildings.
Kasule ..	,, ..	7,547	12,934	1930	,, ,,
Butiti ..	,, ..	10,934	15,202	1925	,, ,,
Bundibugyo ..	,, ..	7,982	10,790	1926	Permanent buildings.
Kisomoro ..	,, ..	8,369	23,555	1926	,, ,,
Bugoye ..	,, ..	4,969	3,826	1932	,, ,,
Mpondo ..	,, ..	6,350	7,595	1932	,, ,,

* The figures from this dispensary are included in Tables V and VI.
† Maternity Centre only.
‡ Formerly shown as a hospital.
Note.—In addition to the above dispensaries there are 49 aid posts.

A List of Sub-Dispensaries Open or Under Construction in 1938—*contd.*

Name.	District.	New cases including examination.	Re-attendances 1937.	Year Opened.	Remarks.
Kanyampara	Toro ..	9,843	15,677	1933	Temporary buildings.
Rwaitengya ..	,, ..	5,430	5,739	1931	,, ,,
Kyenjojo ..	,, ..	Under construction		1939	Permanent buildings.
Katwe ..	,, ..	2,366	3,665	1939	,, ,,
Bushenyi ..	Ankole ..	8,561	14,058	1922	,, ,,
Lwasamaire ..	,, ..	9,401	15,636	1922	Permanent buildings, with ward.
Kinoni ..	,, ..	4,874	13,869	1931	Permanent buildings.
Ruhoko ..	,, ..	6,296	11,782	1922	Temporary buildings.
Rukungiri ..	Kigezi ..	11,215	8,359	1922	Permanent buildings with ward.
Kisolo ..	,, ..	5,048	85,748	1922	,, ,, ,, ,,
Mpalo ..	,, ..	7,330	21,979	1922	,, ,, ,, ,,
Kinkizi ..	,, ..	4,934	14,334	1922	,, ,, ,, ,,
Aduku ..	Lango ..	12,093	21,188	1922	,, ,, ,, ,,
Aboki ..	,, ..	17,353	40,308	1931	,, ,, ,, ,,
Omoro ..	,, ..	10,135	13,264	1935	Temporary buildings.
Anyeki ..	,, ..	Under construction		1939	Permanent buildings.
Dwoli ..	Bunyoro	4,581	39,643	1925	Temporary buildings.
Kiziranfumbi	,, ..	1,831	26,465	1925	,, ,,
Kiseru ..	,, ..	2,731	8,448	1931	,, ,,
Masindi Port..	,, ..	2,216	10,462	1925	Permanent buildings.
Kiriyandongo	,, ..	3,533	11,163	1926	,, ,,
Mutunda ..	,, ..	1,201	9,598	1939	Temporary buildings.
Kinyala ..	,, ..	2,000	11,248	1925	Permanent buildings.
Bujenje ..	,, ..	3,574	21,472	1932	Temporary buildings.
Kijunjubwa ..	,, ..	461	1,429	1933	,, ,,
Bulisa ..	,, ..	2,401	14,397	1935	,, ,,
Butiaba ..	,, ..	12,376	13,529	..	Permanent buildings, with ward.
Palabek ..	Acholi ..	3,281	7,986	1936	Temporary buildings.
Lokung ..	,, ..	2,967	3,397	1936	,, ,,
Pajule† ..	,, ..	9,437	14,806	1938	,, ,,
Minakulu ..	,, ..	4,931	7,590	1930	Temporary buildings.
Attiak ..	,, ..	7,334	14,389	1931	Permanent buildings.
Awach ..	,, ..	3,181	3,878	1932	,, ,,
Naam ..	,, ..	4,015	5,541	1939	Temporary buildings.
Patongo ..	,, ..	1,358	2,109	1939	,, ,,
Bolo ..	,, ..	1,174	2,374	1939	,, ,,
Atanga ..	,, ..	Under constructoin		1939	,, ,,
Ajumani ..	Madi ..	4,274	6,363	1937	Permanent buildings.
Zaipi ..	,, ..	4,086	2,844	1931	Temporary buildings.
Ubongi ..	,, ..	1,555	1,710	1933	,, ,,
Laropi ..	,, ..	3,089	4,136	1931	,, ,,
Lufori ..	,, ..	1,012	1,437	1935	,, ,,
Terego ..	West Nile	5,484	31,619	1925	Permanent buildings.
Aringa* ..	,, ..	8,356	6,666	1928	,, ,,
Pakwach ..	,, ..	5,295	14,598	1939	,, ,,
Pai-Ida ..	,, ..	5,332	12,018	1930	,, ,,
Okollo ..	,, ..	6,044	19,054	1934	Temporary buildings.
Warr ..	,, ..	5,283	7,807	1934	,, ,,
Udupe ..	,, ..	2,244	3,738	1932	,, ,,
Ladongo ..	,, ..	1,511	1,657	1932	Closed August 1939.
Moicha ..	,, ..	..	..	1936	Closed in 1939.
Koboko ..	,, ..	8,133	7,347	1937	Permanent buildings.
Matuma ..	,, ..	2,841	6,082	1938	Temporary buildings.
Rhino Camp ..	,, ..	3,612	10,873	1938	Permanent buildings.
Kubala ..	,, ..	3,295	5,742	1939	Temporary buildings.
Maracha ..	,, ..	6,512	9,155	1939	,, ,,

*The figures from this dispensary are included in Tables V and VI.

†A travelling nursing orderly is employed in Gulu District and the people who attend his clinics are included under Pajule.

NOTE.—In addition to the above dispensaries there are 49 aid posts.

Table H.

In the following table are set out the amounts of some preparations manufactured, wholly or partly, in the Pharmaceutical Section of the Medical Store during the past six years:—

	1934	1935	1936	1937	1938	1939
Tincture .. .. *pts.*	2,217	2,305	1,789	2,109	1,645	2,194
Liniments .. .. ,,	2,852	3,798	2,486	4,494	3,646	3,824
Ointments .. .. *lbs.*	17,848½	16,308	16,880	16,932	16,371	14,274
Dusting powder .. ,,	700	400	501	400	505	375
Infusions, conc. .. *pts.*	482	650	1,485	1,457	1,691	1,333
Hard soap .. .. *lbs.*	..	2,284	3,600	1,290	1,850	500
Soft soap .. .. ,,	11,027	14,451	6,899	17,684	9,135	10,245
Sundries .. .. ,,	506½	2,540	1,994	2,414	1,207	4,277
Bismuth sod. pot. tart. ,,	42½	7½	..	..	..	..
Cataplasma kaolin .. ,,	1,003	1,045	1,875	1,868	2,250	2,027½
Insecticide .. .. *pts.*	746	1,709	1,454	2,398	1,963	2,861
Oxymels and syrups .. *lbs.*	1,175	1,554	1,932	1,709	2,273	1,793
Glycerine preparations ,,	522	457	482	553	481	627
Liquors .. .. *pts.*	2,032	2,828	2,526	1,234	597	1,138
Spirits .. .. ,,	653	966	298	740	1,629	445
Metal polish .. *bots.*	..	686	1,585	940	1,281	..
	cc.	cc.	cc.	cc.	cc.	cc.
Injections and Suspensions—						
Bismuth oxid. 30cc. *bots.*	166,460	410,170	432,540	767,950	607,980	696,420
Bismuth Salicyl. in oil ..	..	..	960	..	..	..
Emetine hydrochlor. 10cc. *bots.*	5,720	10,600	11,710	7,180	15,310	10,240
Quinine bihydrochlor. 10cc. ,,	11,360	15,000	22,240	30,350	53,830	45,410
Camphor in oil .. ,,	490	1,720	2,540	5,280	1,830	4,340
Thiosinamin	330	..	..	..	..	..

SECTION VII.—REPORT ON PRISONS.

The details for each Protectorate Prison are as follows:—

Prison.	Accomodation available.	Daily average in Prison.	Daily average on sick list.	Deaths.
Central Prison, Luzira	883	885·00	12	10
Masaka	65	11·41	0·05	..
Mubende	26	1·15	0·55	..
Jinja	78	38·00	3	..
Mbale	90	87·00	5	..
Soroti	30	12·00	1	..
Moroto	41	30·29	12	..
Masindi	34	20·04	1·88	1
Lira	120	43·00	2	2
Arua	77	60·00	6	3
Gulu	78	69·59	4·62	1
Mbarara	37	32·32	0·08	..
Fort Portal	15	13·34	5·33	..
Kabale	..	22·00	1·28	1
TOTAL	1,590	1,325·14	54·79	18

The commonest complaints were malaria, tropical ulcer, minor injuries and diseases of the respiratory tract. Further cases of vitamin A deficiency were observed in Luzira prison but the condition disappeared after the addition of sweet potatoes and cod liver oil to the diet.

There were 18 deaths. The causes were:—

Streptococcal meningitis ...	1	Peritonitis	2
Acute anterior poliomyelitis ...	1	Pyonephrosis	1
Dysentery, bacillary	1	Chronic nephritis	1
Dysentery, amoebic	1	Pneumonia	3
Heart failure	1	Chronic gonorrhoea and complications	1
Septicaemia	2	Malaria, S.T.	2
Syphilitic aortitis	1		

NATIVE ADMINISTRATIONS PRISONS.

The standard of Native Administration prisons continues to improve, but diets are still in many cases inadequate, and overcrowding has not been eliminated everywhere. The health of the inmates was generally satisfactory. In all districts, medical officers or their assistants paid regular visits to these prisons.

SECTION VIIa.—PROTECTORATE MENTAL HOSPITAL.

There were 33 males and 8 females admitted for observation in the Mental Hospital. One female died while under observation, and 28 males and 6 females were certified and adjudicated by a magistrate and admitted to the hospital for care and treatment.

There were 28 deaths, due to the following causes:—

Cause.	Males.	Females.
Pneumonia	2	1
Neuro-syphilis	11	5
Dysentery (unclassified)	..	1
Pulmonary tuberculosis	1	..
Asthenia	3	..
Dementia praecox	1	..
Suffocation by hanging	1	..
Epilepsy	2	..
TOTAL	21	7

SECTION VIII.—METEOROLOGY.

All available information will be found in the Blue Book.

SECTION IX.—SCIENTIFIC.

Scientific papers published:—

Dr. L. J. A. Loewenthal.

"Diseases of the Skin in Negroes". Journal of Tropical Medicine and Hygiene, April 1, 1939.

"Syphilis in Natives of Uganda: A Brief Review". The Urologic and Cutaneous Review, March, 1939.

"Diseases of the Skin in Negroes". A series of articles published in the Journal of Tropical Medicine and Hygiene, 1938.

"Syphilis in Uganda". Urologic and Cutaneous Review. November, 1938.

"The effect of the Addition of Milk to the Diet of Schoolboys in Buganda". East African Medical Journal, Vol. XV, p. 35.

"The Assessment of the Nutritional State of Natives of Uganda". East African Medical Journal, Vol. XV, p. 239.

"Abstract of a Further Survey of Health in Relation to Agriculture in Teso, Uganda". Uganda Government Press, Entebbe.

"The Effect of Dietary and other Supplements on the Health and Working Capacity of Banyaruanda Labourers". Uganda Government Press, Entebbe.

"The Effect of various Dietary Supplements on the growth of School Children in Uganda". Uganda Government Press, Entebbe.

Dr. L. J. A. Loewenthal and Dr. W. A. Wilson.

"Problems of Chance in Medicine and Research". British Medical Journal.

Dr. L. J. A. Loewenthal and Dr. H. C. Trowell.

"Xeroderma Pigmentosum in African Negroes". British Journal Derm. and Syph. L., 66, 1938.

Mr. E. G. Gibbins.

"*Simuliidae* and *Onchocerciasis* in Uganda". East African Medical Journal, Vol. XV, p. 378.

"*Simuliidae*". Ruwenzori Expedition, 1934–5, Vol. I, No. 2–3.

"Mosquitoes". Ruwenzori Expedition, 1934–5, Vol. I, No. 2–3.

Dr. P. W. Hutton.

"The Treatment of Pneumonia in Africans with M & B. 693". East African Medical Journal, Vol. XVI, p. 74.

Dr. A. W. Williams.

"Heart Disease in the Native Population of Uganda Part II—Bacterial Infections of the Heart". East African Medical Journal, Vol. XVI, p. 2.

Dr. A. J. Boase.

"Disposal of Night-soil in small Townships". East African Medical Journal, Vol. XV, p. 341.

Dr. R. S. F. Hennessey.

"Observations on Nephritis in Uganda Natives". East African Medical Journal, Vol. XV, p. 329.

Books.

Hygiene and Sanitation—Mr. H. Jordan.

Diagnosis and Treatment—Dr. H. C. Trowell.

REPORT OF MEDICAL SCHOOL.

During the year one student who was referred in Pathology was re-examined and passed.

The yearly examination took place in December with the following results.

SECOND EXAMINATION FOR THE MEDICAL CERTIFICATE. (ANATOMY AND PHYSIOLOGY).

Eleven candidates were presented; seven passed, four with distinction in Anatomy; two were referred for one year; two were recommended to discontinue the course.

THIRD EXAMINATION (PART I). (PATHOLOGY AND PHARMACOLOGY).

Six students were presented. Four passed one with distinction in both subjects, one with distinction in Pharmacology. Two were referred for six months.

THIRD EXAMINATION (PART II). (FORENSIC AND PREVENTIVE MEDICINE).

Nine candidates were presented. Eight passed; one was referred in Forensic Medicine for six months.

THIRD EXAMINATION (PART III). (OBSTETRICS, SURGERY AND MEDICINE).

Four candidates were presented. Two passed. One who was referred in Obstetrics for three months gained distinction in Medicine. One was referred in all subjects for six months.

The External Examiners were:—

Francis William Vint, M.D. (Belf.), B.A.O., Senior Pathologist, Kenya (Pathology and Forensic Medicine).

Cecil J. MacQuillan, B.A., M.D., B.A.O., Medical Officer, Tanganyika Territory (Medicine).

Noël Chilton, B.A. (Oxon), D.M., D.T.M., & H., Medical Officer i/c Training of Personnel, Tanganyika Territory (Physiology and Pharmacology).

Cecil R. C. Rainsford, M.D. (Belf.), B.A.O., D.T.M. (Liverp.), District Medical Officer, Uganda (Anatomy and Surgery).

Douglas Murray, M.B., Ch.B. (St. And.), D.P.H. (Lond.), District Medical Officer, Uganda (Preventive Medicine).

Charles Frank Shelton, M.D. (Lond.), M.R.C.P. (Lond.), D.T.M. & H., Deputy Director of Medical Services, Uganda (Obstetrics).

Foundation Medals:—

The Keane Medal in Medicine was awarded to Mr. A. K. Kibaya.

LABORATORY REPORT.

The building vacated by the Agricultural Laboratory Division was taken over and occupied in May and is a great improvement on the old Laboratory.

The European staff was severely depleted during the latter part of the year by the absence of two of its members on military duty, and two others on leave. Useful assistance was rendered by the Senior Entomologist (Medical) who was able to take over a part of the serological work.

Two trained African Laboratory Assistants are now working at Mulago Hospital, where they carry out urgent microscopical examinations, blood counts, haemoglobin estimations, etc. Their work is included in the summary given below.

The total number of examinations carried out was 38,445. A summary of the work follows:—

(1)	PARASITOLOGY—	
	Blood films	10,392
	Dark ground examinations	9
	Faeces	3,341
	Urine	40
(2)	SEROLOGY—	
	Kahn tests on sera	14,756
	Kahn tests on cerebro-spinal fluid	294
	Enteric agglutination tests	614
	Brucella agglutination tests	195
	Weil-Felix reactions	15
(3)	BACTERIOLOGY—	
	Blood cultures	36
	Urine cultures	40
	Faeces cultures	287
	Sputum for *My. tuberculosis*	1,021
	Sputum for *P. pestis*	443
	Cerebro-spinal fluid	98
	Swabs and smears	956
	Vaccines	39
	Sterility tests on drugs	93
	Water samples	158
(4)	CLINICAL PATHOLOGY—	
	Blood	1,180
	Cerebro-spinal fluid	525
	Pleural and other fluids	70
	Urine	2,660
	Faeces, occult blood	99
	Miscellaneous examinations	10
(5)	Biochemical examinations	381
(6)	AUTOPSIES AND HISTO-PATHOLOGY—	
	Autopsies	229
	Histo-pathological examinations	299
(7)	CHEMICAL EXAMINATIONS—	
	For the Medical Department	50
	For the Police	96
	For the Agricultural Department	10
	For the Public Works	3
	For the Posts and Telegraphs Department	4
	Miscellaneous	2

The Entomologist, who from 1929 to 1932 was formerly Medical Entomologist, was re-transferred from the Agricultural Department as Senior Entomologist (Medical) together with an European Laboratory Assistant as from January 1st.

He continued the rat and flea survey of Bunyoro and Masaka Districts and carried out a similar survey in Busoga District. From these and former surveys he draws the interesting conclusion that *X. cheopis* is the dominant flea in both hut and field rats in the areas of the Protectorate so far free of plague, whereas in the endemic plague areas it is dominant in townships only, and *X. brasiliensis* is the common flea in the districts.

A mosquito survey in Kampala and a tsetse survey at Katwe and the Kazinga channel were also carried out.

An investigation to ascertain the species of flies frequenting ulcers and wounds revealed that 95 per cent. are *Musca sorbens,* the principal breeding place of which was found to be human faeces.

REPORT OF THE GOVERNMENT DENTAL SURGEON.

The treatment of officials and their families is shown in the following tables:—

(i) Appointments	... ...	1,806
(ii) Conservative work:—		
Amalgam fillings	... ...	538
Porcelain and cement fillings	... ...	114
Gold inlays	... ...	4
Crowns	... ...	2
(iii) Treatment:—		
Zinc oxide dressings	... ...	130
Carbo dressings	... ...	2
Root treatments	... ...	7
Gum treatments	... ...	39
Zinc chloride and silver nitrate applications	...	19
Scalings	... ...	354
Extractions with local anaesthetic	... ...	256
Extractions with general anaesthetic	... ...	17
(iv) Prosthetic work:—		
Dentures	... ...	37
Repairs	... ...	56
Orthodontic appliances	... ...	7

2. A number of students from Makerere College received dental treatment.

3. A course of lectures and demonstrations embracing local anaesthetics, extractions, temporary fillings and oral hygiene was given to the Sixth-year students of the Medical School, Mulago.

4. Visits were paid by the Dental Surgeon to the following stations:—

February ...	... Mbale and Jinja.
March ...	... Arua and Masindi.
July ...	... Masaka, Mbarara and Fort Portal.
October ...	... Mbale and Jinja.
November ...	... Masindi.

W. H. KAUNTZE,
Director of Medical Services.

Appendix I.

List of Ordinances, etc., affecting Public Health, enacted during the year.

Public Health (Amendment) Ordinance, 1939.
Township Rules, 1939.
Market Rules, 1939.
Public Health (Slaughter House) Rules, 1939.
,, ,, (Aerated Water and Ice) Rules, 1939.
,, ,, (Bake-house) Rules, 1939.
,, ,, (Eating-house) Rules, 1939.
,, ,, (Sale of Milk and Milk Products) Rules, 1939.
,, ,, (Licensing and Tradesmen) Rules, 1939.
,, ,, (Cemeteries and Burial) Rules, 1939.
,, ,, (Kampala Township Boundary Sanitary Board Rules, 1939.
,, ,, (Building) Rules, 1939.
,, ,, (Plague Control) Rules, 1939.

Registration of Medical Practitioners and Dentists.

The Ordinance governing registration came into force on the 1st July, 1913, since when and up to the 31st December, 1939, the following have been placed on the registers:—

Registered Medical Practitioners	211
Registered Medical Practitioner and Dentist	1
Dentists	11
Licensed Medical Practitioners	112

The numbers actually on the registers on the 31st December, 1939, were:—

Registered Medical Practitioners	99
Dentists	9
Licensed Medical Practitioners	49

Registration of Midwives.

The Ordinance governing registration came into force on the 31st March, 1927, since when and up to the 31st December, 1939, the following have been placed on the registers:—

Europeans and Asians	129
Africans	281

The number actually on the registers on the 31st December, 1939, were:—

Europeans and Asians	92
Africans	270

Financial.

The expenditure on medical services was £197,322 which represents 11·53 per cent. of the total revenue of the Protectorate.

The total revenue of the Department was £18,205.

TABLE I.

SANCTIONED ESTABLISHMENT.

This is available in the Protectorate Staff List and the Estimates, 1939.

TABLE II.

ACTUAL EXPENDITURE.

	£	s.	cts.
PERSONAL EMOLUMENTS	107,907	7	88
OTHER CHARGES:—			
Stores, furniture and equipment	27,390	12	91
Upkeep of hospitals and medical school	9,336	19	24
Control of epidemic and endemic diseases	3,600	2	47
Promotion of public health and infant welfare ...	251	0	53
Leprosy relief measures	1,484	10	58
Miscellaneous services (including motor and bicycle allowances, maintenance of motor vehicles, water charges, telephone rentals, upkeep of hospital grounds, courses of instruction to medical staff, uniforms for African staff, etc.)	23,887	19	11
	173,858	12	72
GRANTS TO MISSIONS:—			
Contribution to Lady Coryndon Maternity School and grants to missions for maintenance of midwifery centres and midwives	2,260	0	00
Grants to Church Missionary Society for training African Nursing Sisters	1,100	0	00
	3,360	0	00
SPECIAL EXPENDITURE:—			
Anti-malarial measures—afforestation	749	1	85
Yellow fever investigations	4,246	7	52
X-Ray plant	138	0	78
Control of leprosy	2,000	0	00
Motor vans for Sanitary Inspectors	499	7	64
Motor ambulances	1	15	17
Reserve stock of Medical Stores	12,364	15	72
Grant in aid for the European Ladies Hostel at Kampala	103	17	09
	20,103	5	77

The following sums were spent by the Public Works Department on medical buildings:—

	£
Mulago	1,084
Kampala	28
Jinja	421
Mbale	150
Mbarara	500
Masindi	2,051
Kitgum	4,477
	£8,711

REVENUE.

The total amount of revenue collected was as follows:—

	£	s.	cts.
Hospital fees, sales of medicines and surgical stores, registration fees	8,122	18	96
Re-imbursements from Kenya and Uganda Railways and Harbours on account of medical and sanitary services	1,745	3	23
Contribution from Native Administrations towards cost of medical attendants and stores for sub-dispensaries	7,945	0	00
Dental charges	391	13	00
	18,204	15	19

Table III.

RETURN OF STATISTICS OF POPULATION.

The only statistics available are embodied in the Blue Book.

Table IV.

METEOROLOGICAL RETURN.

All available information under this head is embodied in the Blue Book.

Tables V and VI.—Return of Diseases and Deaths for the Year 1939.

DISEASES.	TABLE V.							TABLE VI.	
	Remaining in Hospital at end of 1938.	Yearly Admissions. Males.	Yearly Admissions. Females.	Total Cases Treated.	Total deaths. Males.	Total deaths. Females.	Remaining in Hospital at end of 1939.	All Cases including both In- and Out-Patients. Males.	All Cases including both In- and Out-Patients. Females.
1. (*a*) Typhoid fever	8	151	41	200	49	11	5	153	44
(*b*) Paratyphoid fever	..	5	..	5	1	..	..	8	2
2. Typhus fever	..	..	..	..	..	..	..	..	..
3. Relapsing fever	..	232	65	297	2	1	3	346	96
4. Undulant fever	1	2	..	3	1	..	..	3	..
5. Smallpox	..	..	..	..	..	..	..	..	..
6. Measles	2	95	16	113	..	..	..	199	85
7. Scarlet fever	..	..	..	..	..	..	..	..	..
8. Whooping-cough	2	46	39	87	5	3	9	202	234
9. Diphtheria	..	3	2	5	..	..	..	5	2
10. Influenza—									
(*a*) with respiratory complications	..	100	25	125	..	..	14	2,613	993
(*b*) without respiratory complications	1	189	31	221	..	..	1	3,120	1,954
11. Cholera	..	..	..	..	..	..	..	..	..
12. Dysentery—									
(*a*) Amœbic	8	220	136	364	15	5	5	675	277
(*b*) Bacillary	2	99	25	126	10	2	3	153	65
(*c*) Unclassified	1	94	17	112	4	..	1	586	201
13. Plague—									
(*a*) Bubonic	..	5	1	6	3	1	..	5	2
(*b*) Pneumonic	..	3	1	4	3	1	..	3	1
(*c*) Septicæmic	..	2	1	3	2	1	..	2	2
14. Acute poliomyelitis	..	19	7	26	3	3	..	26	23
15. Encephalitis lethargica	..	7	..	7	..	..	..	8	..
16. Cerebro-spinal fever	8	74	20	102	41	10	3	77	29
17. Rabies	..	..	..	..	..	..	..	..	1
18. Tetanus	..	9	3	12	7	..	..	9	4
19. Tuberculosis of the respiratory system	16	235	49	300	71	4	15	373	108
20. Other tuberculous diseases	5	71	25	101	18	3	3	81	30
21. Leprosy	3	31	5	39	..	1	3	359	110
22. Venereal diseases—									
(*a*) Syphilis	22	833	289	1,144	10	13	50	12,089	9,788
(*b*) Gonorrhœa	30	1,003	169	1,202	52	3	41	5,762	1,955
(*c*) Other venereal diseases	14	433	218	665	5	1	28	1,862	448
23. Yellow fever	..	..	..	..	..	..	..	..	..

24. Malaria—										
(*a*) Benign tertian	..	23	14	37	..	..	2	219	99
(*b*) Subtertian	19	1,507	585	2,111	37	17	45	6,326	3,274
(*c*) Quartan	2	168	71	241	1	..	5	853	443
(*d*) Unclassified	24	1,053	353	1,430	18	8	30	16,690	8,152
25. Blackwater fever	1	41	6	48	12	3	2	71	18
26. Kala-azar	..	..	..	..	..	..	..	..	..
27. Trypanosomiasis	28	92	61	181	2	..	10	92	81
28. Yaws	23	360	206	589	2	..	39	10,422	8,067
29. Other protozoal diseases	..	1	2	3	..	..	..	11	6
30. Ankylostomiasis	24	463	251	738	6	1	10	1,292	596
31. Schistosomiasis	7	80	31	118	2	..	5	164	76
32. Other helminthic diseases	6	314	136	456	1	..	6	2,431	1,238
33. Other infectious and/or parasitic diseases	9	228	58	295	16	9	7	501	181
34. Cancer and other tumours—									
(*a*) Malignant	2	77	44	123	13	5	8	82	47
(*b*) Non-malignant	5	65	67	137	..	1	3	107	106
(*c*) Undetermined	..	10	1	11	1	..	1	20	8
35. Rheumatic conditions	3	185	73	261	1	1	5	14,181	7,059
36. Diabetes	..	16	4	20	6	1	..	18	4
37. Scurvy	..	1	..	1	..	..	..	3	..
38. Beri-Beri	..	1	..	1	..	..	..	1	..
39. Pellagra	..	1	1	2	..	1	1	1	1
40. Other diseases—									
(*a*) Nutritional	2	61	18	81	5	1	4	217	134
(*b*) Endocrine glands and general	1	19	18	38	..	1	1	129	73
41. Diseases of the blood and blood-forming organs	11	140	64	215	17	8	3	855	559
42. Acute and chronic poisoning	..	24	7	31	3	1	1	39	8
43. Cerebral hæmorrhage	..	7	3	10	7	..	1	11	4
44. Other diseases of the nervous system	12	281	83	376	39	7	16	5,092	2,280
45. Trachoma	4	86	54	144	..	..	5	1,703	1,319
46. Other diseases of the eye and annexa	4	263	94	361	..	..	14	8,412	5,590
47. Diseases of the ear and mastoid sinus	1	78	37	116	2	2	6	4,172	2,888
48. Diseases of the circulatory system—									
(*a*) Heart diseases	4	123	44	171	30	7	10	344	188
(*b*) Other circulatory diseases	3	111	43	157	11	3	1	821	347
49. Bronchitis	8	271	94	373	3	1	6	4,443	1,990
50. Pneumonia—									
(*a*) Broncho-pneumonia	9	255	167	431	62	28	5	344	266
(*b*) Lobar-pneumonia	22	826	222	1,070	165	40	32	828	246
(*c*) Otherwise defined	5	142	37	184	21	13	1	149	45
51. Other diseases of the respiratory system	9	278	100	387	10	2	11	21,110	9,947
52. Diarrhœa and entiritis—									
(*a*) Under 2 years of age	2	75	48	125	7	8	3	1,505	1,129
(*b*) Over 2 years of age	1	168	73	242	6	5	2	3,138	1,630
53. Appendicitis	1	23	16	40	..	..	1	26	19

DISEASES.	TABLE V.							TABLE VI.	
	Remaining in Hospital at end of 1938.	Yearly Admissions. Males.	Yearly Admissions. Females.	Total Cases Treated.	Total deaths. Males.	Total deaths. Females.	Remaining in Hospital at end of 1939.	All Cases including both In-and Out-Patients. Males.	All Cases including both In-and Out-Patients. Female.
54. Hernia, intestinal obstruction	29	655	58	742	74	10	24	849	195
55. Cirrhosis of the liver	3	37	17	57	13	3	2	40	18
56. Other diseases of the liver and biliary passages	6	84	35	125	9	1	5	142	73
57. Other diseases of the digestive system	15	426	299	740	17	15	17	20,333	12,169
58. Nephritis (all forms)—									
(*a*) Acute	4	35	21	60	6	3	1	75	32
(*b*) Chronic	1	42	11	54	17	2	3	47	14
59. Other non-venereal diseases of the genito-urinary system ..	32	276	354	662	11	7	34	891	1,175
60. Diseases of pregnancy, childbirth, and the puerperal state—									
(*a*) Abortion	4	..	357	361	..	8	4	..	357
(*b*) Ectopic gestation	..	..	7	7	..	1	..	..	7
(*c*) Toxœmias of pregnancy	..	..	21	21	..	3	..	..	204
(*d*) Other conditions of the puerperal state	33	..	385	418	..	96	15	..	420
61. Diseases of the skin, cellular tissue, bones and organs of locomotion	194	2,962	1,130	4,286	58	31	240	37,003	16,213
62. Congenital malformations and diseases of early infancy—									
(*a*) Congenital debility (children under 1 year) ..	1	19	25	45	8	12	..	32	33
(*b*) Premature birth (children under 1 year)	..	37	29	66	16	11	..	37	29
(*c*) Injury at birth (children under 1 year)	..	42	50	92	40	40	..	42	50
63. Senility	1	25	2	28	..	..	..	63	22
64. External causes—									
(*a*) Suicide	..	1	2	3	1	2	..	1	2
(*b*) Other forms of violence	151	3,386	963	4,500	102	60	169	40,517	12,510
65. Ill-defined causes	23	280	158	461	27	13	11	2,680	1,385
66. Malingering	..	14	2	16	..	..	..	50	10
67 Ante-natal supervision	12	..	347	359	..	..	13	..	13,647
68 Normal living babies	39	934	1,060	2,033	..	..	40	934	1,060
69 Post-natal supervision	1	2	144	147	..	..	4	6,424	5,694
70 Normal labour	..	..	1,581	1,581	..	..	45	..	1,581
TOTAL	924	21,135	11,429	33,488	1,207	555	1,113	245,702	141,472
71. Examinations	1	109	55	165	..	..	1	67,149	6,600
Dispensaries	..	..	..	..	..	..	..	388,689	272,826
GRAND TOTAL ..	925	21,244	11,484	33,653	1,207	555	1,114	701,540	420,898