Annual report of the Medical Department / Nyasaland Protectorate.

NYASALAND PROTECTORATE

Annual Report of the Medical Department for the year ending 31st December, 1953

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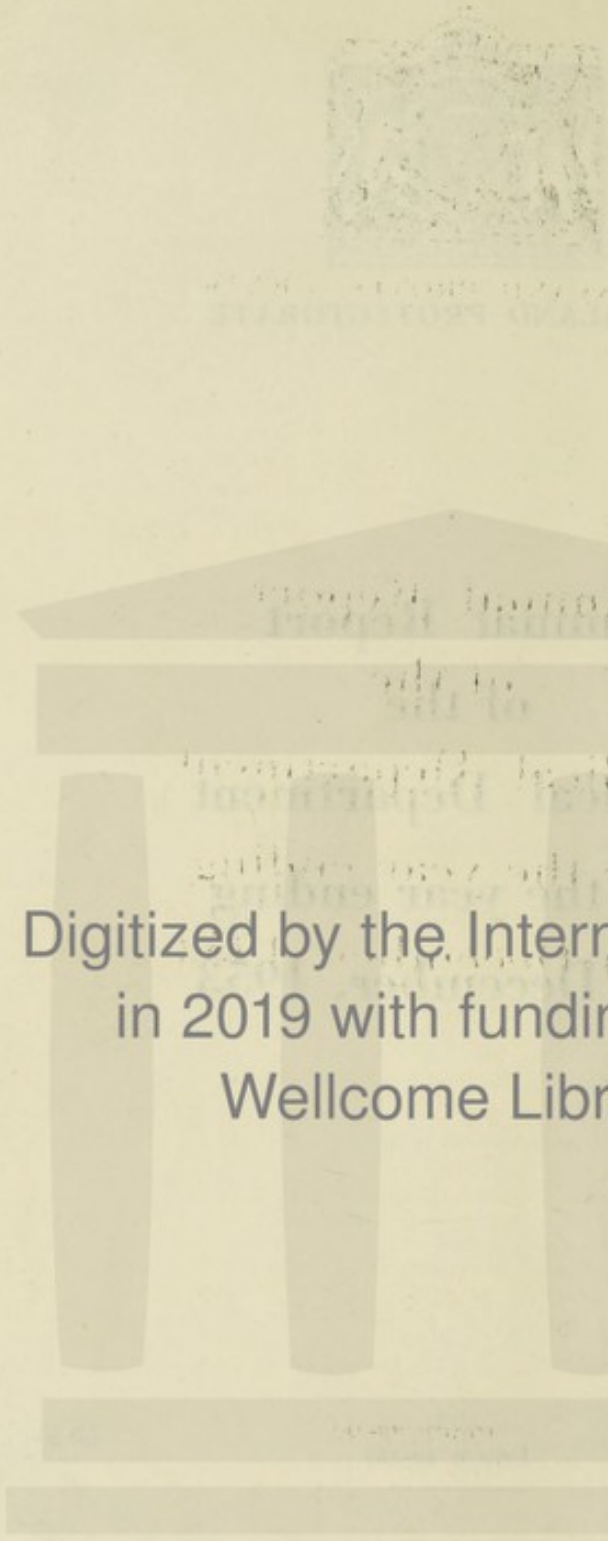

Annual Report of the Medical Department for the year 1953

SECTION I—ADMINISTRATION

A. Staff

1. The establishment was, on the whole, well maintained during the year. The posts of Assistant Director of Medical Services (Health), Chief Health Inspector and one Health Inspector continued to be held in abeyance throughout the year as were the posts of Medical Officer (Leprosy) and Male and Female Mental Nurse.

2. Four Medical Officers arrived on first appointment, two of whom are on secondment from the United Kingdom Health Service; four Medical Officers left the service, two on resignation, one was invalided from the service and one left on the completion of a contract appointment.

3. It is with great regret that the untimely death of Dr. John Leycester Hardman, M.R.C.S., L.R.C.P., is recorded. Dr. Hardman was a promising and highly respected Medical Officer who was in his first tour of service. He bequeathed £1,000 and the value of his estate in Nyasaland to the Nyasaland Government for the purpose of building a medical or surgical unit in the Northern Province.

4. Mr. M. A. W. Roberts, B.A., M.B., CH.B., B.A.O., F.R.C.S.I., Senior Surgical Specialist, went on leave during July, pending retirement, after serving for 11 years in the Protectorate as Surgical Specialist.

5. Mr. Handley Laycock, M.A., M.B., CH.B., F.R.C.S. (Eng.), assumed duty as Surgical Specialist during November. Mr. R. M. Mitchell, M.B., CH.B., F.R.F.P.S. (Glas.), and Mr. E. J. Kirwan, M.B., CH.B., B.A.O., M.CHIR. (Galway), both acted as Surgical Specialist during the year.

6. Dr. C. H. Gurd, M.B., CH.B., M.R.C.P., D.T.M. & H., C.P.H., acted as Medical Specialist during the leave of the substantive holder of the post.

7. One Dental Surgeon arrived on first appointment.

8. Four Nursing Sisters resigned to get married and four Nursing Sisters arrived on first appointment.

9. Mr. V. Mahajan was promoted to Senior Sub-Assistant Surgeon with effect from 3rd August, 1953.

Post Graduate Courses

10. Five Medical Officers attended post graduate courses in the course of the year. Dr. H. Mowschenson, M.D. (Prague), obtained the D.P.H. and the D.I.H., Dr. C. H. Gurd, M.B., CH.B., obtained the M.R.C.P.E., and the D.T.M. & H.; Dr. W. O. Petrie, M.B.E., M.B., CH.B., D.T.M. & H., obtained the D.P.H.

Honours

11. Dr. W. O. Petrie was awarded the M.B.E. (Civil Division) in the Coronation Honours List. Mr. Andrew Chipole was awarded a Certificate of Honour.

B. Ordinances and Subsidiary Legislation

12. *Ordinances* 1953

The Mental Treatment (Amendment) Ordinance, 1953, amends the principal Ordinance of 1948, to make provision for the conditional discharge of quiet, well-behaved mental patients from the Mental Hospital to institutions approved by His Excellency the Governor. The measure enables mental patients, who require limited supervision and care that cannot be provided in the villages, to be discharged to the care of Mission organizations willing to undertake this service. It also enables conditional discharge to sheltered employment in approved institutions for those who require rehabilitation under supervision. Provision is also made for the appointment of a Medical Inspector to visit patients in approved institutions and lays upon the Inspector the duty to submit Reports to the Director of Medical Services on the progress of patients on conditional discharge.

13. *Government Notices* 1953

(*a*) Government Notice No. 2 defines the boundaries of the Lilongwe Planning Area under the Town and Country Planning Ordinance, 1948.

(*b*) Government Notice No. 9 applies the Sanitary Board Rules to the Visanza Sanitary Area as defined in Government Notice No. 61 of 1952.

(*c*) Government Notice No. 30 appoints an additional member to the Pharmacy and Poisons Board constituted under the Pharmacy and Poisons Ordinance, 1942.

(*d*) Government Notices Nos. 78 and 79 regulate the brewing of beer and the keeping of domestic fowls in the Mzimba Sanitary Board Area.

(*e*) Government Notice No. 93 lays down the boundaries of the African public cemetery in Blantyre under section 112 of the Public Health Ordinance, 1948.

(*f*) Government Notice No. 97 appoints a Sanitary Board for the Namadzi trading centre.

(*g*) Government Notices Nos. 98 and 251 lay down the scale of charges for medical treatment of in-patients and out-patients for Asians and Euro-Africans respectively.

(*h*) Government Notice No. 195 authorizes, and lays down the boundaries for a Mohammedan cemetery in Zomba.

C. Visitors

14. Dr. E. R. Cullinan, M.D., F.R.C.P., of the Nuffield Panel of Medical Visitors paid a second visit to the Protectorate, the first visit having been made three years previously.

15. Dr. N. Lloyd Rusby, M.D., M.R.C.P., also of the Nuffield Panel paid a second visit after a lapse of three years.

16. These visits have been of general benefit to the medical profession in Nyasaland and to the Medical Service. Such contacts with consultants stimulate interest, present new ideas and give valuable advice on modern trends of thought and practice. The scheme as such comes to an end in 1954, but it is hoped that this arrangement, which has proved to be so beneficial, may be continued.

17. Lieutenant General Daubenton, C.B.E., Regional Director of the World Health Organization in Africa, Dr. T. A. Austin, C.M.G., Zonal Public Health Officer of the World Health Organization Regional Office, Miss J. McLarty, World Health Organization Nursing Consultant for Africa and Dr. R. Marti of United Nations International Childrens' Emergency Fund, all visited the Protectorate during the year. As a result, schemes for assistance from these International Organizations are being formulated and practical help has already been given by the provision of equipment for the training schools for African auxiliaries.

18. Dr. R. M. Morris, O.B.E., Secretary for Health, Southern Rhodesia, and Dr. P. B. Robinson, Director of Medical Services of Northern Rhodesia, toured the Central and Southern Provinces during October when hospitals, training schools, health units and dispensaries were inspected. This visit was made in connection with the planning of a Federal Ministry of Health for the Federation of the Rhodesias and Nyasaland.

19. Dr. J. C. R. Buchanan, C.M.G., Principal Medical Officer of the Colonial Office, visited the Protectorate during November on a tour of inspection which covered all three Provinces. During his visit to Lilongwe Dr. Buchanan opened the Mitundu Health Unit.

D. Financial

20. The estimated expenditure of the Department during 1953, exclusive of that chargeable to the Colonial Development and Welfare Fund was 7.31 per cent. of the estimated total ordinary expenditure of the Protectorate and 6.06 per cent. of the estimated total expenditure.

21. Assistance towards health services from the Colonial Development and Welfare Fund since 1951 has been on the basis of a reimbursement from the fund of 30 per cent. of Protectorate medical expenditure over and above the 1948 level, termed development expenditure, subject to an annual maximum of £35,000. The following is an analysis of such development expenditure and reimbursement.

	Development Expenditure	*C.D. & W. Reimbursement*
	£	£
1951	91,400	31,990
1952	79,538	27,838
1953	93,000 (*estimated*)	32,550
TOTAL ..	£263,938	£92,378

Revenue

	1952	1953	
	£ s d	£ s d	
Hospital Fees	9,304 7 10	8,503 3 0	(*Decrease of in-patients*)
Sale of Stores	3,952 4 8	2,402 9 4	
Pathological Fees	21 0 0	3 2 0	
Radiological Fees	749 12 6	655 17 6	
Dental Fees	1,055 19 6	745 11 8	
Ambulance Fees	48 7 8	52 10 4	
Yellow Fever Inoculation Fees ..	2 18 0	3 14 0	
TOTAL ..	£15,134 10 2	£12,366 7 10	

22. The sharp drop in revenue is accounted for by several factors. Firstly, there was a drop in the admissions to the European hospitals from 1,205 in 1952, to 1,049 in 1953. Secondly, there has been a considerable delay in the payment of fees. For example if all dental and radiological fees had been collected during the year in which they fell due, it is unlikely that there would have been any drop in revenue. Finally, it was necessary to curtail sales of drugs from Central Medical Stores to estate dispensaries and Missions in order that district units could receive more adequate supplies.

23. Sales of quinine, mepacrine and paludrine at Post Offices were as follows:—

	1952	1953
	£ s d	£ s d
Quinine	1,112 13 1	833 19 11
Mepacrine	509 2 4	747 7 2
Paludrine	1,185 12 4	1,282 15 4
TOTAL ..	£2,807 7 9	£2,864 2 5

SECTION II—PUBLIC HEALTH

General Remarks

24. The year 1953 has been an historic and eventful one—marked by the coronation of Her Majesty the Queen and the promulgation of the constitution of the Federation of the Rhodesias and Nyasaland.

25. The Health Service is to become a Federal responsibility on the 1st July, 1954, and a Working Party, consisting of the Secretary for Health, Southern Rhodesia, and the Directors of Medical Services of Northern Rhodesia and Nyasaland, was set up during May to make recommendations for the integration of the three Territorial Health Services into a Federal Ministry of Health. The Working Party visited all three Territories to obtain an appreciation of the structure of the existing services and submitted its recommendations to the Interim Federal Public Services Commission.

26. Unhappily, one of the events of the year was the outbreak of civil disturbances in areas of the Southern Province. Fortunately, the casualties resulting were relatively few and the medical arrangements were not subjected to any undue strain. It is fitting to place on record here that almost without exception the African Staff went about their duties steadily and loyally, and at no time was there any suggestion that the political upheaval would in any way upset the working of the arrangements for the reception of casualties, or the routine care of the sick.

27. The health of the community was good throughout the year, and no major epidemics of disease occurred. The routine work of the Department was well maintained, and certain of the development projects passed from the planning stage to some certainty of execution.

28. The aims of the Development Programme for the years 1950/1955 have been to provide more general duty staff with adequate facilities for transport and travelling, to improve the equipment of central curative units, to train more African auxiliaries, to develop the health unit and dispensary system, to reorganize the leprosy service on modern lines and to establish a mental hospital where modern treatment can be given.

29. Generally speaking the staff situation has been at a more adequate level in the districts than it has been for years. All Medical Officer stations were manned and the establishment of Nursing Sisters was well maintained despite frequent changes. A Nursing Sister was posted to the hospital at Fort Johnston for the first time.

30. Financial stringency, however, had its inevitable effect on the preventive service and the posts of Assistant Director of Medical Services (Health), Chief Health Inspector and one Health Inspector remained in abeyance. In addition, restrictions on travelling had to be continued so that the full supervision, so necessary to raise the standard of the service given in the rural areas, was seriously curtailed. The minimal ambulance service available was not adequate to cope with the increasing calls made upon it.

31. The detailed planning of the new Group Hospital for Blantyre was almost completed by the end of September and tenders for the work were called for during October.

32. Only minor works were possible at the larger Provincial hospitals and no major extensions were achieved. At Lilongwe the Asian community by voluntary subscription, provided funds for extensions to the Dharap Memorial Ward and the work was almost completed by the end of the year.

33. The training of African auxiliaries went ahead and the schools at Lilongwe and Zomba for medical aides, medical assistants and health assistants admitted their full quota of men for training.

34. The new Midwives hostel at Zomba was opened in February by His Excellency the Governor. The opening of this hostel released dormitory and classroom space which was badly needed for men taking the courses of training for medical aides and medical assistants.

35. The curricula of the courses for medical aides and hospital assistants were revised, the latter course being extended from one year to two years and the title changed to medical assistant. Greater emphasis is being laid on the positive health functions of these auxiliaries, in preparation for an extension of the Health Unit system.

36. The first four health units are now in full operation, staffed by locally trained African auxiliaries. Two of these units were opened at Mitundu and Mwanza in November and December respectively. No extension of the rural dispensary service was possible.

37. The disbursements from the Brown Memorial Fund have given a great stimulus to the development of the leprosy control service. The construction of the Government Leprosy Settlement at Kochira has gone ahead as fast as the supply of materials and labour permitted. All Mission Settlements are now supplied free from Government stocks with their requirements of the sulphone group of drugs and substantial capital grants from the Brown Memorial Fund have initiated increased accommodation for leprosy patients.

38. At the new mental hospital all major construction work had been completed by the end of the year, but delays in the installation of services postponed the transfer of patients from the old Central Lunatic Asylum. It is now hoped to open the new hospital by the middle of 1954.

39. To mark the occasion of the coronation of Her Majesty the Queen, the Mayor of Blantyre, on behalf of the town council, presented to the Blantyre African and Asian hospital wireless sets; a child's cot and mattress was presented to the European hospital.

A. Work of Boards, Societies and Committees

Advisory Board of Health

40. The Board did not meet during the year, no legislation or matters of public health importance having been referred for its consideration. Towards the end of 1952, the Board had lodged certain objections with the Governor in Council to the memorandum by the Blantyre and Limbe Town and Country Planning Committee on the " *Principles of Town Planning, Blantyre and Limbe High Density Residential Areas* ". These objections were mainly concerned with the system of sanitation proposed for the high density areas and with the standards of accommodation to be adopted for African bachelor labour.

41. The Board's objections were upheld and as a result the Governor in Council directed that water borne sanitation should be provided in these African High Density Areas. A Consulting Sanitary Engineer from the Union of South Africa was commissioned to visit the townships of Blantyre/Limbe, Zomba and Lilongwe and to submit an outline plan and estimates of costs for the sewerage of these townships. The consultant visited Nyasaland during April and submitted his Report during August. After consideration of the Report by Government, priority was given to the Blantyre and Limbe High Density Residential Areas for Africans.

Midwives Board

42. The Board met twice during the year to conduct routine business in connection with the examinations. Three candidates sat and passed the examinations held in March; during September 34 pupils from seven training centres entered for the examinations for the vernacular grade of midwives, that is, midwives Class III. Of this number 26 passed and eight failed. The first group of pupil midwives trained in the English medium at the Zomba African Hospital entered for Class II midwives examination. Of the three girls who sat, two passed and one failed.

43. The future of this course of training is still uncertain as there has been considerable difficulty in getting a sufficient number of Standard VI girls to enter the course.

Factories Board

44. The constitution of the Board was altered in that the Commissioner for Labour took over the Chairmanship from the Director of Public Works, and the Factories Inspector became a member of the staff of the Labour Department. The Board met three times during the year.

45. Occupational diseases as such are not yet of major public health importance in Nyasaland and working time lost from industrial injuries is relatively little. All industrial injuries are reported to the Chairman of the Board and only 26 notifications of injuries were received throughout the year, the majority being injuries to the hands sustained in tea factories through carelessness and disobeying safety instructions. There was only one fatal accident, an African builder who died as a result of a fall from the roof of the newly constructed Blantyre and Limbe Power Station.

Central Labour Advisory Board

46. The Board met three times and the most important business conducted was the detailed consideration of the African Employment Bill. This Bill deals comprehensively with health safeguards and medical care of African workers in scheduled employment. The Workmen's Compensation Ordinance was applied by notice in the *Government Gazette* to workmen employed in all occupations throughout the Protectorate.

Nyasaland Branch of the British Red Cross Society

47. The invaluable support given by the Branch to the Mission and Government Medical Services is again a subject for grateful comment. The seven Divisions of the Branch maintain work parties that make and distribute comforts and medical requisites to Mission hospitals, clinics, and leprosaria that the Divisions have " adopted ". The African membership of the Branch is growing steadily and three Divisions now have work parties of African women.

48. First-aid lectures were given at a number of centres and a first-aid detachment was started in Zomba. This aspect of the work is becoming increasingly popular amongst Africans, particularly at the Government training schools for medical and health auxiliaries. In this way a cadre of certified instructors is being built up who will be available for the expansion of the instruction in first-aid in the districts.

49. The diversional therapy, started at the Zomba and Lilongwe African hospitals, has been continued and is a source of great benefit to the patients. They look forward eagerly to the weekly classes and a variety of attractive articles is now being made and purchased by the patients themselves at a price covering the cost of materials.

50. More work was done on the organization of the Blood Transfusion Service. The lists of donors were brought up to date and during the civil disturbances a small reserve of blood was banked for emergencies. Fortunately, little was needed, but the organization worked smoothly and was of great assistance.

51. There are now five Junior Links in the Protectorate with a membership of 135, an increase of 66 during the year.

52. Comforts were supplied by the Branch to the sick and wounded of the 2nd Battalion of the King's African Rifles serving in Malaya. Papers, books and gramophone records in Chinyanja were distributed through the Red Cross Welfare Officer in Malaya and a gift of money from the Branch was used for the local purchase of cigarettes, games and other small necessities for Askari in hospital.

53. Supplies of dried milk were maintained to Mission Maternity and Child Welfare Clinics; items of equipment were donated to Mission hospitals, a wireless set was presented to the Tuberculosis Section of the African Hospital, Zomba, and equipment and soft furnishings donated to the Asian wards at the Blantyre and Lilongwe Hospitals. A third and final grant of £50 was made to the U.M.C.A. Mission at Likoma Island for the purchase of Nilodin, which is being used in an attempt to eradicate bilharzia from the Island community.

54. This brief review gives only an outline of the work done by the Branch, but it suffices to show that there is a very live and practical Red Cross organization in the Protectorate whose assistance is acknowledged with gratitude.

Boards of Hospital Visitors

55. These Boards are appointed annually for the Zomba, Blantyre, Lilongwe and Mzimba hospitals. Hospitals are visited at intervals and an active interest is taken by the members in the welfare of the patients and the administration of the hospitals. Annual appointments are made so that there is an opportunity to obtain an insight into the workings of the hospital service for as many as possible of the public who are interested. In this way many new ideas are presented and much constructive criticism offered. Reports on each visit are sent to Medical headquarters with copies to the Medical Officers in charge of the hospitals concerned.

British Empire Society for the Blind—Nyasaland Branch

56. The Executive Committee of the Branch, appointed in 1952, met five times during the year and the General Committee met twice. In preparation for a major appeal for funds during 1954, a draft constitution was drawn up for a Nyasaland Society for the Blind, which will be affiliated with the British Empire Society for the Blind in London. Regional Action Committees were set up in nine districts and a great deal of preliminary propaganda initiated. A film of the Lulwe School for the Blind in the Port Herald District was made and annotated.

57. Three trained blind basket-makers from the Lulwe School were placed in employment on tea estates and preliminary reports of this experiment were very encouraging. There is a considerable scope for the employment of blind basket-makers in the tea and tobacco industries and the Branch has, as one of its aims, a plan to build a central training Institute for the Blind in Blantyre. A site has been allocated by the Town and Country Planning Committee in the African residential area and the Government Architect, with the permission of Government, has prepared schedules of accommodation and preliminary sketch plans. Meantime the Lulwe School will receive such support and encouragement as the Branch is able to afford. A second Mission Training Centre for the Blind has been started by the Dutch Reformed Church Mission in the Kasungu District with financial assistance from the Native Development and Welfare Fund and this development promises to be of great value to the blind in the Central and Northern Provinces.

Tsetse and Trypanosomiasis Committee

58. This Committee met once during the year, when the progress of the Karonga Reclamation Scheme, financed from a Colonial Development and Welfare Fund Grant, was reviewed. The Committee recommended to Government that this Scheme should continue and that selective clearing, followed by burning, to check regeneration was the most effective means of control.

59. The fly situation in the Chikwawa District has been reviewed and it is obvious that intensive settlement of the fertile Mwanza Plain is the answer to the problem in that area. Cases of human sleeping sickness are still being reported from Chikwawa, but in reduced numbers.

Advisory Committee on Medical Mission Work

60. A meeting of this Committee was held in June, 1953, when the training of general nurses, the participation of Missions in Leprosy control, the care of certain categories of mental patients at Mission institutions, and the acute financial situation of the Medical Missions were discussed. Much valuable advice was given by the Mission representatives and this Committee holds out promise of fruitful co-operation in the development of the Mission and Government Health Services.

The Brown Trust

61. The Brown Memorial Fund, totalling £220,000, was established during 1952, by an order of the High Court. The trust was formally constituted by the end of that year and the first meeting of the Trustees took place in January, 1953. Altogether three meetings were held during the year.

62. Capital grants amounting to £22,750 were disbursed during the year to Malamulo, Utale and Mua Mission Leprosy Settlements and to the Government Leprosy Settlement at Kochira. The grants were made towards the establishment of water supplies, facilities for food storage, the erection of permanent houses for leprosy patients and sanitation.

63. The Trust policy is to assist, by capital grants, the establishment of permanent and enhanced facilities for the treatment of leprosy, to assist in the furtherance of leprosy control and to aid research. The creation of the Trust has given a great stimulus to leprosy control measures throughout the Protectorate.

B Communicable Diseases

64.—*Smallpox.* Six cases occured during the year with no fatalities. Table I indicates the vaccination and smallpox cases for 1953.

TABLE I

Vaccination and Smallpox Cases, 1953

Medical District	Primary	Accelerated	Immediate	Not seen again	Total	Smallpox	
						Cases	Deaths
Northern Province							
Karonga	7,444	4,021	556	12,021	24,042	1	0
Mzimba	19,413	9,461	7,476	39,528	75,878	1	0
Chinteche	1,070	535	1,433	926	3,964	0	0
Total Northern Province ..	27,927	14,017	9,465	52,475	103,884	2	0
Central Province							
Kasungu	2,364	2,583	898	5,988	11,833	0	0
Kota Kota	—	—	—	9,118	9,118	0	0
Fort Manning	2,993	2,872	2,298	32,163	40,326	0	0
Dowa	1,667	6,621	2,839	2,322	13,449	0	0
Lilongwe	3,985	2,369	2,489	66,885	75,728	0	0
Dedza	5,351	2,989	1,748	15,443	25,531	2	0
Ncheu	49	14	21	15,910	15,994	0	0
Total Central Province ..	16,409	17,448	10,293	147,829	191,979	2	0
Southern Province							
Domasi	231	—	—	—	231	0	0
Fort Johnston	2,633	1,104	844	690	5,271	0	0
Liwonde	—	—	—	1,201	1,201	1	0
Zomba	19	64	75	36	192	0	0
Blantyre	554	62	—	177	793	0	0
Chiradzulu	35	58	73	28	194	0	0
Mlanje	3,498	2,490	1,694	1,812	9,494	0	0
Cholo	8,405	5,134	4,676	6,306	24,521	1	0
Chikwawa	11,593	4,032	1,825	1,156	18,608	0	0
Port Herald	4,565	4,616	2,715	3,459	15,355	0	0
Total Southern Province ..	31,533	17,560	11,902	14,865	75,860	2	0
Total Protectorate ..	75,869	49,025	31,660	215,169	371,723	6	0

65. Vaccination campaigns were continued in all Provinces with major emphasis on the Central Province. Unfortunately, the large number of cases not seen again for checking purposes continues but the general picture appears to offer satisfactory safeguards to the public. The calf lymph used was of our own manufacture and proved eminently satisfactory.

66.—*Poliomyelitis.* Ten cases were reported with no deaths.

67.—*Influenza.* Eighty-two cases were reported sporadically and no deaths were recorded.

68.—*Rabies* The reported incidence was 15 cases and these appeared as presumptive cases following suspect dog-bites. The Veterinary Department is actively engaged in combating this disease in dogs, but the reservoir of the disease remains apparently unaltered.

69.—*Yellow Fever.* No cases were recorded but the problem remains under active consideration between ourselves and the Virus Research Institute, Entebbe.

70.—*Measles.* Two hundred and seventy-two cases were recorded with no reported special features.

71.—*Relapsing Fever.* Four hundred and eight cases were recorded with eight deaths, the Northern Province, Mzimba area and the Central Province, Kasungu area, provided the majority of the cases. Treatment of infected huts with Gammexane was carried out and the Africans' interest was considerable, offering future planned campaigns every possibility of success.

72.—*Filariasis.* Ninty-four cases of filariasis were recorded mainly from the Karonga Lake-shore and the Lower River area.

73.—*Malaria.* There was no significant increase in the incidence, but it is still considered to be of major importance affecting the health and economy of the Protectorate regarding the African population. 37,288 cases were treated at hospital and out-patient departments, and 4,531 cases treated as in-patients with 85 deaths. Of the 111 Europeans admitted for treatment none died.

74. Permanent anti-malarial works continued in the main centres of Blantyre, Zomba, Lilongwe and Mzimba with expansion of mosquito catching stations.

75. Vector Control Units performed routine sprayings against malaria at all the administrative District headquarters and hospitals in the Southern and Central Provinces, and to a lesser extent in the Northern Province.

76. The vector control organization assumed larger commitments and worked most satisfactorily during the year and is obviously becoming a practical focus of preventive hygiene, creating marked interest.

77.—*Bilharzia.* A total of 10,013 cases were seen at hospital out-patient departments and a further 8,286 cases were reported from rural dispensaries. There were 2,115 cases treated in hospital and no deaths due to bilharzia were recorded.

78.—*Ankylostomiasis.* Of 8,893 cases seen at hospital out-patient departments, 4,338 were admitted to hospital for treatment; there were six deaths. At rural dispensaries a further 7,015 cases were diagnosed.

79. The drive to provide pit latrines for all families in the villages continues district by district. Progress is slow, particularly in view of the paucity of supervisory personnel, but is nevertheless being made. The enforcement of Native Authority Rules, requiring the construction of the latrines, is becoming more general. This does not necessarily mean that the latrines are in constant use, but such inspections as are possible do indicate that the villagers may be becoming more co-operative in this direction.

80.—*Trypanosomiasis.* Three cases with one death were reported from the Chikwawa District.

81.—*Leprosy.* There are seven Mission leprosy settlements, six of them in Nyasaland, treating Nyasaland leprosy patients, which received a subsidy from Government for this work. Sulphones for treatment and certain other essential medicines are supplied free.

82. There was a daily average of 1,291.2 in-patients treated in these settlements during 1953, a further 243 patients attended Mission out-patient departments for treatment. In Government hospitals 111 leprosy patients were treated in isolation wards or as out-patients. More patients were under treatment with drugs of the sulphone series than in any previous year, and all Mission settlements are now using these drugs.

83. Table II sets out the detail of the work undertaken by the Mission leprosy settlements. Although there was little expansion possible during 1953 a great deal of work has been done and it is fitting to pay a tribute to these doctors, nurses and lay workers who have done, and are doing, so much to relieve the lot of the leprosy patients under their care. The future holds out greater possibilities of expansion of the work under improved conditions and may be faced with confidence.

TABLE II

Settlement	In settlement beginning of 1953.	Admitted or re-admitted during 1953.	Discharged or paroled during 1953.	Absconded during 1953.	Died during 1953.	In settlement at end of 1953.	Daily average in settlement.	New Out-patients.
Loudon (Church of Scotland)	29	54	33	—	2	48	44.2	—
Likwenu (Universities Mission to Central Africa) ..	58	10	11	4	1	53	39	80
Malamulo (Seventh Day Adventists)	347	223	150	82	9	284	212	96
Mua (White Fathers)	333	196	168	9	5	350	351	29
Mwami (Seventh Day Adventists)	114	69	28	44	3	130	117	18
Utale (Marist Fathers)	463	335	155	18	12	614	528	20
Nsadzu (Dutch Reformed Church Mission) ..	Not available							
TOTAL ..	1,344	887	545	157	32	1,479	1,291.2	243

84.—*Tuberculosis.* A total of 458 cases of tuberculosis were treated in Government Hospitals; there were 36 deaths from this cause. Of the cases treated 234 had pulmonary tuberculosis.

85. Little new survey work was possible during the year but the Medical Specialist conducted an investigation in the clinical aspects of tuberculosis as presented by the cases admitted to his wards. Chiradzulu Hospital was taken over as a convalescent home for tuberculosis patients transferred from Zomba African Hospital.

86.—*Venereal Diseases.* There were 145 fewer cases of syphilis and 40 fewer cases of gonorrhoea in 1953 than in 1952 as reported from hospitals (as distinct from diagnosies made at Dispensaries).

87. The policy of building up stocks of penicillin, within the limitation of budget allocations, is being followed. Once adequate stocks have been accumulated then the standard treatment will be by penicillin. In the meantime penicillin is being used for the treatment of venereal disease at the Zomba African Hospital in order to assess the most economical and practical regimen of treatment. Table III below sets out the details of cases treated, in all institutions that furnish records to the Department.

TABLE III

	Out-patients treated at Govt. hospitals and dispensaries	*Cases treated at non-Govt. hospitals and dispensaries*	*Total*
1945	5,671 ..	Not known ..	5,671
1946	10,011 ..	639 ..	10,650
1947	17,978 ..	1,906 ..	19,884
1948	16,899 ..	1,278 ..	18,177
1949	19,580 ..	2,670 ..	22,250
1950	22,570 ..	3,029 ..	25,599
1951	23,736 ..	4,917 ..	28,653
1952	17,896 ..	4,135 ..	22,031
1953	19,825 ..	Not known ..	19,825

C. General Diseases

88.—*Deficiency Diseases.* There were 174 cases recorded of which 147 were due to pellagra. Comment has been made in previous Reports on the relatively few cases of frank deficiency seen each year. On the other hand there are many signs of the stigmata of deficiency to be seen in out-patient departments, all associated with worm infestation or other debilitation diseases.

89.—*Diseases of the Skin and Cellular Tissues.* Of the total of 80,244 out-patient attendances 50,430 attendances were due to " ulcer ". Male attendances for this cause totalled 38,168 and female attendances 12,262. Tropical ulcer is an important cause of loss of production, particularly as the peak incidence is during the months of greatest agricultural activity. The figures recorded give no real indication of the total incidence of this disabling condition.

90.—*Diseases of the Digestive System.* The majority of the out-patient attendances of 45,630 persons were due to minor complaints, constipation, dyspepsia and dental caries accounting for just under 45 per cent. of the attendances. The commonest cause of admission to hospital was inguinal hernia, followed by diarrhoea and enteritis of children under two years.

91.—*Diseases of the Respiratory System.* There were 59,393 out-patient attendances, of which 28,920 were due to bronchitis. Pneumonia accounted for 1,388 attendances and of those attending 1,277 were admitted to hospital. There were 99 deaths in hospital from pneumonia giving a death rate of 12.8 per cent. Pneumonia continues to show the highest death rate of all diseases treated in hospital, despite the use of antibiotics and the drugs of the sulpha group. The main factor in the maintenance of this high rate is believed to be the late stage in the disease at which the majority of cases come for treatment.

92.—*Diseases of the Eye.* There were 21,167 cases of eye disease treated, of which 18,931 were suffering from conjunctivitis. Trachoma was diagnosed in 49 cases and corneal ulcer in 295 cases. Again only a small proportion of those suffering from diseases of the eye attend at hospital out-patient departments and figures quoted give no idea of the true incidence in the territory.

93.—*Injuries and other forms of violence.* Under this group there is again a very substantial number of attendances recorded, totalling 65,662. Of this total 23,098 were due to wounds, 3,088 due to burns, 10,218 due to injuries by falls, etc., and 27,179 due to other forms of violence. There were 4,074 admissions to hospital and 62 persons died as a result of injuries.

D. Hospitals and Dispensaries

94. During the year 1,023,909 persons of all races attended at Government hospital out-patient departments, health centres and rural dispensaries. Of this total 35,903 were admitted to hospitals, there were 697 deaths in the hospitals. During domiciliary visits to villages 64,096 persons were given treatment for minor illnesses and 246,273 persons attended health talks and demonstrations. When the numbers of persons reached in the villages is added to the above totals, it will be seen that a grand total of 1,334,278 persons had a direct contact with the Government Medical Services. The Mission Medical Services also treated a very large total, but records are very incomplete as yet, and not even an approximate figure can be given.

95. The record of work of Government medical institutions for the six year period 1948/1953 is set out in Table IV.

TABLE IV

Patients Treated at All Centres by Government Medical Services

	Out-patients					In-patients		
Year	*Rural dispensaries*	*African hospitals*	*European hospitals*	*Village visits*	*Total*	*European hospitals*	*African hospitals*	*Total*
1948 ..	571,302	283,145	2,880	—	857,327	651	29,459	30,110
1949 ..	608,520	341,749	3,611	—	953,880	740	26,693	27,443
1950 ..	625,356	371,162	4,374	—	1,005,902	984	30,173	31,157
1951 ..	672,517	379,541	4,592	—	1,052,650	1,094	30,118	31,212
1952 ..	691,078	391,252	4,829	32,619	1,119,778	1,181	32,976	34,157
1953 ..	736,785	399,558	5,443	67,185	1,208,971	1,049	34,870	35,919

96. An interesting feature of the work of the rural dispensaries has been the increased work done during village visits. Not included in Table IV are the figures for attendance at health talks, given during these visits, 246,273 persons being recorded as having attended the talks. This may be a relatively small number, but it is nevertheless a substantial beginning in health education in the villages, however rudimentary the teaching may be. Immediate results cannot be expected but over a period of years a sense of the importance of village hygiene will inevitably be developed.

97.—*Hospitals.* The three European hospitals, maintained by Government provide a total of 39 beds, an increase of one bed over the 1952 figure. The daily average number of in-patients was 13.1—a decrease over the 1952 figure of 21.45.

98. In the African Government hospitals there are 1,245 beds, but this is purely a formal indication of beds available rather than ward capacity. The daily average in-patient state was 1,416.9 and despite an increased turnover of patients it is now essential to provide more accommodation in the African hospitals if the needs of the territory as a whole are to be met.

99.—*Health Units.* Two Health Units are now in full operation in addition to those at Kaphuka and Salima; they are at Mwanza and Mitundu.

100. The function of the Health Unit is to provide a curative service for those patients who do not require hospital treatment, a maternity and child welfare service, and a health education service to the surrounding villages. The staff consists of a hospital assistant, a medical aide, a health assistant and a midwife—all Africans trained in Nyasaland. The staff pay regular visits to the villages, during which they see such patients as may need attention at home and follow up the progress of those who have received treatment at the Unit. Talks are given on health subjects, particularly the simple means of prevention of the common endemic diseases. The health assistant, in turn, follows up with practical advice and assistance.

101. Each Health Unit consists of a dispensary, a maternity ward of four beds, to which is attached a labour ward, and a resthouse for patients who have to remain at the Unit for treatment. The patients feed themselves and treatment is provided free.

102.—*Rural Dispensaries.* The shortage of medical aides continues to be acute and the rural dispensary service has been maintained with difficulty. Little new work has been possible and arrears of maintenance are still mounting. Further, the allocation of funds for travelling has been such that regular supervision has not been generally possible. Despite these difficulties, a greater volume of work than ever before has been dealt with, and the system of domiciliary visits, already referred to, has been expanded.

103. One fortunate feature has been the ability to allocate larger quantities of drugs and dressings to the dispensaries. Substantial indents, placed during 1952, permitted more realistic allocations to the district hospitals and, generally speaking, medical aides have not been without supplies.

104. Tables V and VI set out the incidence of diseases, by groups, treated at all Government hospitals and dispensaries.

TABLE V

In-patients

	European					Asian and African				
	Male	Female	Total	Deaths	Per cent.	Male	Female	Total	Deaths	Per cent.
1. Infectious and parasitic diseases ..	133	64	197	—	—	6,374	4,715	11,089	203	1.83
2. Cancer and tumours	1	1	2	—	—	189	180	369	28	7.59
3. Rheumatism, diseases of nutrition, endocrine glands and general diseases	7	4	11	—	—	206	238	444	7	1.58
4. Blood and blood-forming organs ..	1	3	4	—	—	82	91	173	9	5.2
5. Chronic poisoning	3	—	3	—	—	10	1	11	—	—
6. Nervous system and sense organs ..	14	15	29	—	—	1,038	730	1,768	22	1.24
7. Circulatory system	21	7	28	1	3.57	177	102	279	29	10.39
8. Respiratory system	29	30	59	2	3.39	1,633	1,036	2,669	105	3.93
9. Digestive system	133	94	227	1	.44	1,217	768	1,985	64	3.22
10. Non-Venereal diseases and genito-urinary system	17	43	60	—	—	599	455	1,054	21	1.99
11. Pregnancy, childbirth and puerperal state	—	147	147	1	.68	—	3,129	3,129	67	2.14
12. Skin and cellular tissues	41	20	61	—	—	3,773	2,291	6,064	18	.29
13. Bones and organs of locomotion ..	—	—	—	—	—	—	—	—	—	—
14. Congenital malformations	3	1	4	—	—	14	30	44	9	20.45
15. Diseases of early infancy	—	—	—	—	—	—	—	—	—	—
16. Old age	—	1	1	—	—	9	4	13	2	15.38
17. Violence	55	26	81	1	1.23	3,088	986	4,074	78	1.91
18. Ill-defined diseases	64	55	119	1	.84	757	948	1,705	28	1.64
Totals ..	522	511	1,033	7	.67	19,166	15,704	34,870	690	1.98

TABLE VI

Out-patients

	European Hospitals			Asian and African Hospitals			Rural Dispensaries		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1. Infectious and parasitic diseases	239	119	358	44,965	26,933	71,898	33,117	33,678	66,795
2. Cancer and other tumours	8	13	21	290	242	532	40	42	82
3. Rheumatism, diseases of nutrition, endocrine glands and general diseases	65	49	114	6,200	3,924	10,124	2,439	2,658	5,097
4. Blood and blood-forming organs	8	46	54	453	432	885	707	993	1,700
5. Chronic poisoning	3	—	3	9	1	10	—	—	—
6. Nervous system and sense organs	278	192	470	19,768	13,704	33,472	32,215	36,589	68,804
7. Circulatory system	97	43	140	488	270	758	181	240	421
8. Respiratory system	284	232	516	37,869	18,669	56,538	51,967	44,907	96,874
9. Digestive system	659	444	1,103	33,522	19,307	52,829	48,825	48,374	97,199
10. Non-venereal diseases and genito-urinary system	32	186	218	1,371	983	2,354	47	818	865
11. Pregnancy, childbirth and puerperal state	—	94	94	—	3,400	3,400	—	434	434
12. Skin and cellular diseases	504	278	782	52,162	19,990	72,152	67,786	41,837	109,623
13. Bones and organs of locomotion	62	34	96	4,607	2,610	7,217	11,428	11,714	23,142
14. Congenital malformation	20	1	21	9	9	18	—	—	—
15. Diseases of early infancy	—	23	23	34	53	87	—	—	—
16. Old age	—	3	3	18	13	31	—	—	—
17. Violence	532	244	776	51,016	13,877	64,893	40,215	20,002	60,217
18. Ill-defined diseases	366	285	651	16,454	5,906	22,360	11,203	9,267	20,470
19. Unclassified	—	—	—	—	—	—	—	—	—
Totals	3,157	2,286	5,443	269,235	130,323	399,558	300,170	251,553	551,723

Total All Out-Patients

1. European Hospitals	5,443
2. Asian and African Hospital	399,558
3. Rural Dispensaries	551,723
4. Domiciliary Cases	67,185
Grand Total	1,023,909

E. Special Services

Central Laboratory

105. Despite shortages and changes in the staff of technicians the work of the laboratory increased and a total of 43,267 routine examinations were carried out. The volume of histological and medico-legal work undertaken showed the largest proportionate increase.

106. Vaccine lymph production was expanded and the manufacture of lanolinated lymph begun. A total of 1,042,450 doses of lymph was issued during the year of which 325,900 doses were exported to Southern Rhodesia. By the end of the year lanolinated lymph only was being produced, the manufacture of glycerolated lymph had been abandoned and an adequate reserve stock of processed lymph was in hand.

107. The manufacture of intravenous fluids was continued and production almost doubled. The supply still falls short of the demand but a new manufacturing section in the laboratory is in the process of completion and it is estimated that all territorial demands will be met by the end of 1954.

108. Instruction in elementary laboratory methods was given to the hospital assistants' class and a course of training for laboratory assistants maintained throughout the year. These men attended this latter course which is designed to provide well-trained laboratory assistants for the district hospitals.

109. The following routine examinations were carried out during the year:—

	1953	1952
Bacteriological	2,662	2,558
Serological	9,856	8,071
Biochemical	1,419	2,323
Haemotological	4,052	5,477
Parasitological	24,790	23,555
Medico-legal	93	53

The details of the work of the laboratory and comments thereon by the Pathologist are at Appendix I.

Surgical Services

110. There are now surgeons with post-graduate qualifications posted to each Province. At Lilongwe in the Central Province and at Mzimba in the Northern Province, a surgical service is provided at each of these centres by a special grade Medical Officer who also has to undertake general duties. The Lilongwe African Hospital is now well equipped to deal with cases requiring major surgery and Mzimba is to be similarly equipped in the near future.

111. The Surgical Specialist is posted to the Zomba African Hospital in the Southern Province, which is at present the specialist surgical centre for the Protectorate. The Surgical Specialist has 79 beds under his control at the Zomba African Hospital, and he visits Blantyre regularly each week for consultations and operative work at the two Government hospitals there. His services are also available for consulting and operative work, on request, at the district hospitals.

112. At the larger hospitals at Zomba, Blantyre, Lilongwe and Mzimba 3,346 operations were performed, of which 805 were classified as major operations. In the district hospitals 2,965 operations were carried out, the great majority of which were of a minor nature. The increased operative work undertaken at the four larger centres over the past four years gives some indication of the development of the surgical service.

1950	1951	1952	1953	*Increase over 4 year period*
2,091	2,575	2,845	3,346	62 per cent.

113. The teaching of clinical and systematic surgery to hospital assistants is carried out by the Surgical Specialist, and four sessions each week are devoted to this duty.

Medical Specialist

114. The Medical Specialist is based at the Zomba African Hospital, where he has a total of 70 general and tuberculosis beds under his control. Regular weekly visits are paid to the hospitals in Blantyre and he visits other centres for consultations on request. Unfortunately, the restriction of funds for travelling again prevented a routine tour of all district hospitals in the Protectorate.

115. The teaching of clinical medicine to medical assistants is an important function of the Medical Specialist and three sessions each week are given to clinical instruction in the wards.

116. Research into the clinical manifestations of tuberculosis were continued and the detailed histories of 200 cases of tuberculosis treated in the wards of the Zomba African Hospital are now being collated for publication.

Dental Service

117. The filling of the vacant post in the establishment during March for a second Dental Surgeon has resulted in a more adequate service to the public, particularly in the Central and Northern Provinces. It is by no means a comprehensive one, but at least facilities for conservative and other treatment are now available twice each year in the Central and Northern Provinces.

118. Visits to Lilongwe and Mzimba were made twice during the year. The first visit covered the period April to July and the second visit, October to December. At Lilongwe a room has been set aside in the out-patients department at the European Hospital and some permanent equipment installed.

119. The second Dental Surgeon is posted to the Blantyre Dental Clinic. He also conducts a regular clinic at the Blantyre African Hospital where temporary accommodation has been arranged, pending the building of the new Group Hospital.

120. The total attendances at all centres amounted to 8,797 of which 4,853 were attendances by Africans. The relevant figures for 1952, were 5,758 and 3,292 respectively.

121. During the third year of the course for hospital assistants at Zomba, 12 lectures in the use of conservative dressings, local anaesthesia and in extractions are given by the Dental Surgeon. A large number of extractions are carried out each year by African auxiliaries at hospitals, health units and dispensaries.

Radiography

122. No extension of the service was possible during the year and Zomba, Blantyre and Lilongwe, are still the only centres at which diagnostic radiography is undertaken. There are no facilities for radiotherapy in the Protectorate and the nearest centre at which this service is available is at Salisbury in Southern Rhodesia.

123. The Radiographer was on leave during the last six months of the year and the service in Zomba was maintained by a Nursing Sister, with experience in X-ray work, assisted by locally trained hospital assistants. Blantyre was visited once weekly by a Medical Officer with experience in radiology who is in charge of a nearby district hospital. A total of 4,075 persons were X-rayed during the year at the three centres as against 2,956 persons during 1952.

124. Arrangements were made during the year for a twice yearly visit by an X-ray engineer from Southern Rhodesia. Regular maintenance of the equipment is thus assured and has resulted in a much more efficient working. A new portable X-ray machine was installed at the Zomba European Hospital towards the end of the year.

125. The hospital assistant in charge of the X-ray Department at Lilongwe spent three months at the Zomba African Hospital undergoing a refresher course. The Radiographer also visited Lilongwe early in the year when instruction was given on the use of the apparatus and the running of the Department.

Health Survey—Domasi Community Development Scheme

126. This work, commenced during 1951 on a part-time basis, was expanded during 1952, when a resident Medical Officer was posted to Domasi and assumed full time duty as district Medical Officer. The details of the medical aspects of the Scheme have been fully commented upon in the two preceeding Annual Reports. It suffices, therefore, to recapitulate briefly the aims and objects of the health survey.

127. When the survey was initiated, the directive given to the Medical Officer in charge was " . . . . to acquire factual health data which will indicate the disease pattern and so the priorities for control measures ". Working initially on a part-time basis, with only African auxiliaries as assistants, and with the equipment normally available to a district Medical Officer, information was sought as to the most acceptable survey technique which could be applied under similar circumstances in other districts. Thereafter, when a full-time posting was possible, the results of the initial survey were assessed and certain aspects of the investigation amplified. Treatment of the common ailments encountered was given as part of the survey work, and control measures, which could be applied by the villagers and Native Authority themselves, were instituted against bilharzia, which had been assessed as the most urgent health problem in the district.

128. The political unrest and the ensuing civil disturbances, which marked the year, necessarily resulted in a high degree of non-co-operation by the major part of the adult population concerned. As a result, attention was concentrated on the health of the schoolchildren.

129. Dealing first with the work amongst the general population an intestinal parasite survey started in December, 1952, was completed during February, 1953. A check on the accuracy of observations made previously was carried out at the same time, and a high degree of constancy in the results obtained. After specimens had been collected and examined specific treatment was given to those with parasites. At the same time non-specific treatment was available for all those who presented themselves complaining of common ailments.

130. Of a total of 762 specimens examined the incidence of hookworm was 7.6 per cent. and this incidence was found to be fairly constant from village to village. In the 0–5 age group the average was 10.3 per cent. and both sexes equally affected. The roundworm incidence averaged 2.1 per cent. but there were definite pockets of infestation, the heaviest being 23.7 per cent. in the higher reaches of the Domasi Valley. Again, there was no sex preponderance and the 0–5 age group showed a higher average of 5.5 per cent.

131. Tapeworm, 0.13 per cent., *S.mansoni* 0.52 per cent., and *Entamoeba histolytia* 0.13 per cent were all present in relatively low incidences.

132. It was concluded that mass treatment for intestinal parasites was not warranted and that the approach was a campaign of education allied to demonstrations on improved village sanitation. Each village was visited, all latrines inspected and persuasive action taken to attain minimum requirements both as to numbers, design and construction of latrines. This work was undertaken by African sanitary assistants trained at the Zomba School of Hygiene. During 1954, it is proposed to follow this up by a campaign of enforcement under the Native Authority Health Rules.

133. During March the survey of schoolchildren was begun. The aims were:—

(*a*) to treat children and adolescents in the schools who were suffering from the more important endemic diseases and if possible to measure the effect of treatment on educational attainments;

(*b*) to cross check the incidences of specific diseases against data acquired previously;

(*c*) to attempt to determine the proportionate affects of malaria, hookworm and bilharzia on haemoglobin levels;

(*d*) to compare under local conditions the Sahli and Tallquist methods of haemoglobin estimations; and

(*e*) to Tuberculin Test the children at intervals of 12 months to determine conversion rates.

134. As the survey developed the following investigations were also undertaken :—

(*a*) to determine the clinical effects of malaria in the children using temperatures as a guide ;

(*b*) to continue the measurement of heights and weights at three monthly intervals and so attempt to gain, for future reference, basic data on incremental gains ;

(*c*) to test the clinical and therapeutic efficiency of drugs used in treatment ; and

(*d*) to compare the results of microscopic and miricidiascopic examination of the urine in the diagnosis of bilharzia.

135. The clinical examinations conducted in conjunction with the investigations, aimed at an assessment of the nutritional defects encountered as represented by the stigmata of vitamins A, B and C deficiencies and their relationship to haemoglobin levels, the incidence of bilharzia and of hookworm. It was found that the incidence of bilharzia in both the A and B deficiency groups was significantly higher than the average for the total sample.

136. The incidence of hookworm and roundworm in the schools corresponds closely to that in the corresponding age groups covered in the district survey. Amoebiasis and S. *mansoni* infections were not found; only occasionally was tapeworm encountered. The incidence of bilharzia in the school survey was 37 per cent. For accurate diagnosis, microscopy of the urine is the method of choice always bearing in mind that the miracidiascope may well give a truer index of infectivity.

137. Other aspects of the survey work have not yet been fully assessed. When this has been done the results will be the subject of a scientific paper to be published later.

138. Work on the control of bilharzia continued throughout the year and the campaign for the protection of water supplies went ahead steadily, on a self-help basis, under the supervision of a sanitary assistant.

139. During July, work was started by sanitary assistants on a system of treatment with copper sulphate. In the course of the general survey, notes had been made of the locations of villages and their main water supplies. Villages were now listed in a set order, commencing from the north and following down each stream from its source; where a confluence was reached the second stream was traced to its source. This procedure was followed from north to south until every village in the area had been covered. Thereafter a letter was drawn up explaining the objects of the campaign and asking the responsible village authority to help by listing all water supply points, washing places and stream crossings in the vicinity which were used by the villagers. In addition the villagers were requested to clear the vegetation from the margins of the water areas to be treated when due notice was given of the arrival of the team. The team consisted of a sanitary assistant in charge and two pupil sanitary assistants in training from the Zomba School of Hygiene.

140. Prior to treatment each collection of water was searched for ten minutes for snails, the snails counted and presumptive identification carried out. Specimens were sent to the World Health Organization Centre in Salisbury for identification. Thereafter the water was treated with copper sulphate, the Unit moving steadily downstream as the work progressed.

141. The campaign is continuing, each round of treatment occupying 18 weeks. A round was completed before the rains and will be repeated at the end of the wet season. It is too early to attempt any assessment of results and the main subsidiary functions of training and costing are receiving prior attention.

F. Maternity and Child Welfare

142. The greater part of the Maternity and Child Welfare work is done by the Medical Missions and an annual grant-in-aid is made to these Missions where the work is under the supervision of a qualified Medical Practitioner and a qualified European midwife. At the Government hospitals maternity beds are available and ante-natal clinics are maintained at those hospitals to which it is possible to post a trained African midwife. The shortage of trained African midwives continues to be acute and there is no increase in the number of candidates coming forward for training.

143. Table VII below sets out the detail of the work done during 1953.

TABLE VII

NUMBERS OF CONFINEMENTS AND FIRST ATTENDANCES OF ALL RACES AT MATERNITY AND CHILD WELFARE CLINICS MAINTAINED BY MISSIONS AND GOVERNMENT DURING 1953

	Confinements	*Ante-natal Clinics*	*Child Welfare Clinics*
Church of England (5) ..	184	1,016	1,111
Church of Scotland (5) ..	6,573	5,178	3,133
White Fathers (6)	1,947	3,755	1,868
Seventh Day Adventists (1) ..	96	499	336
Dutch Reformed Church (6) ..	1,527	1,892	398
Government Hospitals (21) ..	2,677	6,310	2,270
TOTAL ..	13,004	18,650	9,116

144. There has been a marked increase in the popularity of these services during the past six years. Although there was a falling off in the attendances during 1950, this appears to have been only temporary and is believed to have been occasioned by the pre-occupation with the tending of gardens after the food shortage.

The figures for the past six years are as follows:—

	Confinements	*Ante-natal Clinics*	*Child Welfare Clinics*
1948	6,745 ..	7,620 ..	6,759
1949	7,742 ..	9,045 ..	8,782
1950	6,892 ..	8,956 ..	6,772
1951	9,804 ..	9,941 ..	8,233
1952	10,505 ..	13,563 ..	9,668
1953	13,004 ..	18,650 ..	9,116

145. As in previous years, it is a pleasure to record the generosity of the Nyasaland Branch of the British Red Cross Society, which has continued to donate quantities of dried milk to the child welfare clinics throughout the Protectorate.

G. Training

146. Medical assistants, medical aides, health assistants and midwives are all trained in the Protectorate at training schools attached to the Zomba and Lilongwe African Hospitals. At Lilongwe only medical aides are in training. Hospital assistants are trained at the Malamulo Mission Hospital of the Seventh Day Adventists, medical aides at the Church of Scotland Mission at Livingstonia and hospital dressers by the Universities Mission to Central Africa at Malindi.

147. Again, there has been a sufficient number of men coming forward to allow for selection of the entrants to the Government training schools. The minimum educational standard for entry is the Government Standard VI School Certificate.

148. During the year the system of training medical aides and medical assistants was reorganized. The course for medical aides lasts for two years, during which they are given instruction in elementary nursing procedures and the diagnosis and treatment of the common endemic diseases. Examinations are held at the end of the first and second years and those who have passed the second year examination are posted as medical aides. In previous years, from those who passed the second examination not more than six were selected, on grounds of merit and ability, to go on to a third year of training as hospital assistants. During the third year instruction was given in elementary medicine, surgery, laboratory methods and pharmacology. A final examination was held at the end of this third year and those who passed became hospital assistants.

149. This gave rise to certain dissatisfaction in that once a medical aide always a medical aide, and the prospects of promotion were very limited. Further, the rapidly decreasing age of entry to the primary schools meant that boys of immature age were coming forward with the Standard VI Certificates. It was decided therefore to insist that all medical aides after qualifying would be posted direct to hospitals and that the selection of men for training as medical assistants would be made from medical aides of at least two years' experience. Selection will be on merit, ability and sense of responsibility as demonstrated in the field.

150. The medical assistants course has been extended to two years so that the curriculum can be expanded to give more adequate training in preventive medicine and for Health Unit practice.

151. With the changes in the system of training there have been certain changes in title. The title of hospital assistant is replaced by that of medical assistant; the title of sanitary assistant now becomes health assistant.

152. Post qualification courses are being developed for medical aides in laboratory methods, dispensing, domiciliary visiting from Health Units, Theatre techniques and Radiography. A number of promotion posts, carrying the title of senior medical aide and laboratory assistant, are being created so that medical aides not adjudged to be suitable for training as medical assistants will have some incentive.

153. The opening of the midwives hostel has released dormitory and classroom accommodation which is now being used for the men's training school. The former African Hospital, built in 1922 and used for out-patient clinics, has also been converted to provide a common room and dining hall which is used for recreational purposes. Part of the building has been converted to house an African Warden, originally trained as a Hospital Assistant and with many years of experience as a Warrant Officer in the King's African Rifles, who is responsible for the welfare, discipline and organized games of the men in the training school.

154.—*Medical Aides.* There was a total intake of 60 students at the Zomba and Lilongwe training schools; 17 men at Zomba and 18 men at Lilongwe entered the second year of the course. The first group of medical aides numbering 12, from the Lilongwe school and 13 men from Zomba passed the examinations at the end of the second year of the course. As these men had entered the course when the previous system of training was in vogue a certain number were selected for training as hospital assistants three from each school, and four others were selected from medical aides qualified for two years or over.

155.—*Medical Assistants.* Of the six medical aides taking the course five passed the final examination and one was deferred for six months. Ten men entered the first year of the new course of training.

156.—*Health Assistants.* At the School of Hygiene six men sat the final examination at the end of the two year course and five passed; one failed and was deferred for six months. Six men entered the first year of the course.

157. A number of improvements were carried out at the School of Hygiene by the students themselves; as part of the training, instruction is given in bricklaying and carpentry and minor construction works at the School were carried out as a practical exercise.

158.—*Laboratory Assistants.* Three men attended the one year course of training for laboratory assistants, which is given by the Pathologist at the Central Laboratory. This is the first course of its kind to be held and the first examinations will be held early in 1954.

Midwives

159. The new midwives hostel was opened in February and provides accommodation for 22 pupil midwives. Unfortunately, recruitment for the new course for Class II midwives, conducted in English, has fallen well below expectations and it has been necessary to carry on as well, a course in the vernacular for Class III midwives.

160. At the end of the first course for Class II Midwives, only three pupils sat the examination, of whom two passed; the third was deferred for six months. There are now seven girls in the second year of the course.

161. Seven pupils sat for the Class III qualification and all passed; there are 11 girls now in the second year.

162. The failure to recruit Standard VI girls for the more advanced course has been a big disappointment and the whole question has been discussed by the Midwives Board and the Advisory Committee on Medical Missionary Work. Despite the fact that the inception of the course was received well, it now appears that the parents of girls eligible for training wish their girls to enter institutions nearer home. Further, the girls themselves now indicate a preference for a general nursing course. The background is that of the tradition that unmarried girls should not attend at childbirth in the villages.

163. As a result it is proposed to start a three year course in English for nursing assistants at the end of 1954, at the Zomba African Hospital. Later this training will be carried out at Blantyre when the Group Hospital is opened. Thereafter the Midwifery Course in English will be reopened at Zomba so that the girls trained in general nursing can obtain a Midwifery qualification as well.

SECTION III. VITAL STATISTICS

The following tables show sick, invaliding and death rates for European and African officials during 1953, together with the corresponding figures for 1952.

A. European Officials

	1952	*1953*
Total number of European officials resident	816	808
Average number resident	631.1	637.2
Total number on sick list	204	158
Total number of days on sick list	2,007	1,593
Average daily number on sick list	5.48	4.36
Percentage of sick to average number resident	0.868	0.684
Average number of days on sick list for each patient	9.64	10.08
Average sick time to each resident	2.46	1.97
Total number invalided	2	1
Percentage of invalids to total residents	0.24	0.124
Total number of deaths	2	2
Percentage of deaths to total residents	0.244	0.247

B. African Officials

	1952	*1953*
Total number of African officials resident	7,908	8,397
Average number resident	7,378	6,636
Total number on sick list	910	876
Total number of days on sick list	6,681	4,799
Average daily number on sick list	18.30	13.15
Percentage of sick to average number resident	0.25	0.132
Average number of days on sick list for each patient	7.34	5.48
Average sick time to each resident	0.84	0.57
Total number invalided	Nil	Nil
Percentage of invalidings to total number resident	Nil	Nil
Total number of deaths	8	13
Percentage of deaths to total number resident	0.101	0.154

SECTION IV—HYGIENE AND SANITATION

164. The posts of Assistant Director of Medical Services (Health), Chief Health Inspector and one Health Inspector continued to be held in abeyance, and the most that could be done was to try and maintain the services already provided. With an establishment of four Health Inspectors, one of whom was on leave for the greater part of the year, great credit is due to the Health Inspectors and their African Assistants for the cheerful and efficient way they have borne the burden.

165. The town councils of Blantyre and Limbe both maintain full time Health Inspectors. In Lilongwe and Zomba, Town Managers have been in office throughout the year and these appointments have aided materially the work of the Government Health Inspectors at these two centres.

166. Night soil disposal systems are in operation in all four townships, and regular refuse collections are made. There is a serious lack of equipment for all these services, however, and until more financial support can be given, they will continue to remain woefully inadequate.

167. The composting of night soil has been started in three of the townships and, the results have been satisfactory.

168. In connection with the development of the Blantyre and Limbe African High Density Residential Areas, plans have been completed for an interim night soil disposal organization which will provide a full dual pail latrine service. This service is to be run, independently of the Town Council services, by the Health Department under the direction of the Provincial Medical Officer, Southern Province, who is Medical Officer (Health) to the two townships. These residential areas are to receive priority in the water-borne sewage scheme for the townships.

169. A Consulting Sanitary Engineer from the Union of South Africa visited the Protectorate during April and surveyed the townships of Blantyre, Limbe, Zomba and Lilongwe. An outline scheme for a water-borne sewerage for each area was prepared along with an estimate of costs. The Report was submitted to Government in August.

170. The overcrowding in the densely populated trading area of Limbe was investigated and brought to light an exceedingly serious and urgent problem which can only be solved by providing housing for Asians and Africans away from the congested shopping centre. The construction of African housing in planned residential areas is now under way and large scale development will take place during the next few years.

171. In the districts, the hygiene and sanitation of the main centres of population is controlled by Sanitary Boards. The district Medical Officer, who is *ex-officio* the Medical Officer (Health) has a staff of one or more African Health Assistants who act as the executives for the sanitary services. Standards are improving slowly within the limits of the finance available for these services. Certain of the larger Sanitary Boards have Health Inspectors as members of the Board who carry out regular inspections, and advise both on improvements that can be effected and on plans submitted for approval.

172. Sanitation in the rural areas continues to be one of the major public health problems. An increasing number of Native Authorities are taking an interest in the sanitation of their areas and in this connection, the Course in Local Government at Domasi is of great importance. Selected Native Authorities and Councillors attend this course, lasting four months, during which time they are given talks on the common endemic diseases and their prevention by simple village hygiene. Practical demonstrations are given in the field and at the Zomba School of Hygiene, as part of the work of the course.

173. Domiciliary visiting from Health Units and Rural Dispensaries is also playing an important part in the campaign for improved village hygiene. The results achieved cannot as yet be measured but the continuing propaganda, arising from frequent personal contacts between the Health Staff and the villagers, is believed to be having its effect.

174.—*Water Supplies:* The Mudi Dam, which provides the supply to Blantyre and Limbe, was completed and filled during the year. The main reticulation was finished on schedule and these townships now have a modern protected water supply.

175. At Zomba the new reservoir on Zomba Mountain was in being by the end of the year, and the improved reticulation is in the course of construction. Work on the Lilongwe water supply is going ahead, and the erection of the purification plant is now in progress.

176. Work on the improvement of water supplies to certain of the smaller centres is continuing, those at Mzimba and Dedza having been completed.

177.—*Meat and Other Foods:* Increasing attention is being given to the quality and purity of food supplies, particularly in the townships where there are Health Inspectors.

178. Accurate statistics of the animals slaughtered in the four townships only are available. Slaughtering is done in the town abatoirs and carcases are examined by a qualified inspector.

	Bovines	*Sheep and Goats*	*Pigs*
Blantyre	2,270	391	1,038
Zomba	508	1,341	45
Lilongwe	952	645	75
Limbe	—	—	—

Condemnations all Townships	
Whole carcases	14
Livers	1,922
Hearts	10
Kidneys	35
Lungs	66
Heads	3

(*No Limbe figures*)

179. The slaughterhouses at Zomba, Blantyre and Limbe are well maintained and adequate for their purpose. Improvements have been effected at Limbe during the year.

180. At the markets situated in the district centres, slaughter poles are maintained and considerable improvements in the design of meat shops has been effected at a number of the larger markets. Meat inspection is carried out by the African Health Assistants under the supervision of the Medical Officer of Health.

181. The main source of protein for the African population is fish, which is distributed mainly as dried fish by itinerant fish sellers from the Lake-shore, travelling on bicycles. The packing and distribution of fresh fish from the Lake is a constant source of difficulty, and much valuable protein is lost each year as a result of lack of care during transport. A few consignments of fresh fish to the markets had to be condemned because of pulping and putrefaction due to bad packing.

182. The hygiene of markets has shown a notable improvement in those rural areas where there is a district hospital or a health unit in the close proximity. Again, attention has been given to the hygiene of the large number of African canteens at markets and on the main roads. A new market at Lilongwe is now under construction.

183.—*Housing.* Reference has already been made earlier to certain aspects of the housing problem. Housing for African civil servants is a most pressing problem, and a considerable programme of work has been in hand over the past four years. To ease the shortage Government decided to build initially a large number of two-roomed houses, and the effect of this programme is now beginning to be felt. It is, however, far from complete, but it has resulted in more hygienic conditions in the larger centres of district administration. When the salaries revision took place, an element for rent was consolidated in the basic wage, and a sub-economic rent is now payable by Civil Servants for houses of a certain standard.

184. A Standing Committee on African Housing Design was set up by Government during the year, under the Chairmanship of the Director of Public Works. It consists of the Senior Unofficial Member of the Legislative Council, the Director of Medical Services, the Town Planning Officer, the Government Architect and two African members nominated by the African Civil Servants' Association. The first task of the Committee was to advise Government on the policy to be followed in providing services to all new housing estates; the next was to evolve a standard design for an economic two-roomed house which would be the basic housing unit to be built. A satisfactory design has been evolved at a reasonable cost which can be erected using the maximum of locally produced materials.

185.—*Town Planning.* The Town and Country Planning Committee for the townships of Blantyre and Limbe continued its work throughout the year. For the first time a member of the Health service has been included in the membership, and the Provincial Medical Officer, Southern Province, who is Medical Officer of Health of the two townships, is now a member.

186. An outline plan for the development of Lilongwe was prepared by the Lilongwe Town and Country Planning Committee for submission to the Governor in Council. The planning of Nkata Bay has also continued actively.

187.—*Hotels.* The Provincial Hotels Boards have met regularly and inspections of hotels have been carried out *in situ*. The increasing popularity of Nyasaland as a tourist centre warrants vigorous control at the present stage of development. With only a skeleton establishment of Health Inspectors it has not been possible to ensure the regular inspection of the hotels, which is so essential in a sub-tropical country with its full quota of endemic diseases.

188.—*Port and Railway Health.* No restrictive measures had to be applied during the year as a result of epidemic outbreaks of disease. Two sporadic cases of smallpox occurred on the system near the Lake-shore port of Chipoka. Active measures were taken by the Government Health Staff and no secondary cases occurred.

189. The Railways Medical Officer left the Protectorate on the termination of his contract and, unfortunately, no replacement has been effected.

190.—*Air Services.* Rigorous mosquito control by the use of residual insecticides, and anti-larval measures where necessary, has been maintained at the main airports of Blantyre (Chileka) and Lilongwe. At Chileka an efficient sanitary control of the airport and its perimeter has been established.

191. Lilongwe traffic has increased very considerably as a result of the regular air service by which the Witwatersrand Native Labour Association mine recruits are flown to Francistown in the Bechuanaland Protectorate en route to the Witwatersrand Gold Mines. Health safeguards agreed upon in consultation with the Administrations concerned have been maintained.

192.—*Vector Control.* This service is expanding steadily and all low level stations are now treated at regular intervals with residual insecticides. Certain highlands stations where a specific problem exists—for example relapsing fever—have also been included in the routine service.

193. The experimental work at Chiromo in the Lower River had to be abandoned owing to the lack of supervisory staff.

194.—*Vaccination against Smallpox.* The vaccination campaign in the Central and Northern Provinces was carried out mainly by the staff of Health Assistants. This has proved to be a much more efficient and less costly means of incurring adequate protection than the previous system of vaccination by Native Authorities' vaccinators.

195.—*Health Propaganda.* The students at the School of Hygiene maintained stalls at the Agricultural Shows and other similar functions. Playlets in Chinyanja have been written by the staff of the School and the performances have been very popular and acceptable.

SECTION V—PRISONS AND ASYLUMS

196.—*Prisons.* There are 13 prisons and three prison farms in the Protectorate and the daily average number of prisoners detained during the year was 1059.27—an increase of 107.14 over 1952, which was accounted for by the civil disturbances.

197. The health of the prisoners was good. The daily average number on the sick list showed a sharp decrease from the 1952 figure of 21.42 to 13.27 during 1953. There were 346 admissions to hospital with seven deaths as against 365 admissions and 15 deaths during the previous year. No judicial executions took place in 1953.

198.—*Central Prison and Prison Farm, Zomba.* The daily average number of prisoners under detention was 1059.57. All prisoners were medically examined when they were admitted to prison and the results of routine investigations on 1,559 prisoners are as follows:—

	Prison Population (Males) Per cent.	*Domasi Survey (Males) Per cent.*
Hookworm ova	16.9	7.0
Ascaris ova	2.3	2.1
S. *mansoni* ova	1.0	0.52
Tapeworm ova	0.1	0.13
S. *haematobium* ova	21.8	24.9
Kahn H+ or HH	3.9	12.81
Malaria parasites in blood	3.6	11.0
Microfilariae in blood	0.1	nil.

199. The relevant incidences recorded during the Domasi survey are of some interest. The Prison population is, to a great extent, a representative sample of the apparently healthy male adult population of the Protectorate as a whole.

200. During this year, however, there was a good deal of " loading " from the areas in which the civil disturbances occurred. For example, a large number of men were admitted from the Chikwawa District, and 25 cases of hydrocele, were observed amongst these men. Therefore until all data can be further analysed, the comparative incidences above are merely of interest and no significance can be attached to them.

201. The overall average increase of weight noted in long term prisoners (three years or over) was 10 lbs. The Medical Officer in charge notes that " because of the regular exercise, adequate diet and fresh air which the prisoner enjoys, his general health is usually improved by his term of imprisonment ".

202. In Zomba, there is a prison hospital of 14 beds staffed by two medical aides, assisted by " trusty " prisoners. The hospital is visited three times weekly by the Medical Officer and more often if the work so requires. There were 350 prisoners admitted to the hospital, of whom 89 were admitted to the Zomba African Hospital on account of serious illness or for operation; the daily average of in-patients was 12.2. There were 2,251 prisoners treated as out-patients. Four deaths occurred from cancer, pneumonia, perinepheric abscess and septicaemia respectively.

203. The commonest diseases treated in hospital were malaria, pneumonia and bronchitis. Three cases of pulmonary tuberculosis were diagnosed and five prisoners were found to be suffering from leprosy. Apart from an epidemic of mild diarrhoea during the last quarter of the year, there were no epidemic attacks of disease.

204. When the sudden influx of prisoners occurred during the civil disturbances an infestation of lice occurred. This was dealt with promptly by dusting the prisoners with D.D.T. powder and treating the cells with residual insecticide. The Prison is sprayed regularly with Gammexane during the malaria transmission season.

Mental Hospital

205. The main construction work at the new Mental Hospital is now completed but, owing to unforeseen delays in connection with water and electricity supplies, the buildings cannot be put into use before the middle of 1954. Meantime, conditions at the old Asylum have been as satisfactory as possible under the circumstances prevailing. Comments on the work of the year by the Medical Officer in charge are at Appendix " B ".

206. The daily average number of in-patients was 152.7; the daily average in the sick bay was 5.34 males and 0.079 females. Details of admissions, discharges and deaths are as follows:—

Committed under Criminal Procedure Code	*On Roll at 31-12-52*		*Admitted during 1953*		*Discharged during 1953*		*Died*		*On Roll at 31-12-53*	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(*a*) Guilty but insane	16	1	2	2	4	0	0	1	14	2
(*b*) Unfit to plead	25	4	2	2	3	1	1	0	23	5
(*c*) Admitted under Reception Order	89	15	37	3	25	4	2	1	99	13

The causes of death were:—

Cancer of the oesophagus	1
Acute stomatitis	1
Abdominal tuberculosis	1
Pulmonary tuberculosis	1
Senile dementia	1

207. A statutory Visiting Committee, consisting of four members appointed by the Governor, inspects the hospital at monthly intervals. Individual members visit the hospital at other times and close attention is given to the welfare of the patients.

208. A Bill amending the Mental Treatment Ordinance, 1948, was passed at the Budget Session of the Legislative Council. The amending legislation makes provision for the conditional discharge of quiet well-behaved mental patients to approved institutions. Under this system, patients who no longer need close supervision or active treatment but who are fit to be discharged to the care of relatives or who have no responsible relative who can take care of them, can be discharged to institutions approved by His Excellency the Governor. Certain Mission institutions have agreed to admit such patients and an annual grant is made for maintenance on a per capita basis.

209. In this way it is hoped to accelerate the turn-over of patients at the Mental Hospital and so ensure that, as far as possible, it fulfills its function as a centre for treatment and rehabilitation. Inevitably a relatively high proportion of mental patients can never be fit for absolute discharge to their village homes. There are, however, always borderline cases, particularly amongst the aged and the epileptics, who with understanding, supervision and care, can be maintained at institutions other than a mental hospital without being a danger or a nuisance to the community.

210. A patient under conditional discharge whose mental condition deteriorates while at an approved institution can thus be returned to the mental hospital with a minimum of formality. The Medical Officer in charge of the mental hospital is appointed the Medical Inspector for the purposes of the Ordinance and will visit and report at regular intervals on all patients in approved institutions.

211. An *ad hoc* Committee consisting of the Attorney General as Chairman, the Secretary for African Affairs, the Director of Medical Services and a Secretariat Officer reviews every six months the cases of all criminal lunatics detained in the Mental Hospital as guilty but insane. Recommendations are then made to His Excellency the Governor on the further treatment and detention of these patients.

Acknowledgement

212. It is again a pleasure to pay a sincere tribute to the energy, team work and enthusiasm of all members of the Department. They have worked hard and loyally during a particularly difficult year and so demonstrated in practice that health and disease know no creeds. The co-operation and assistance of the other departments of Government are also gratefully acknowledged.

D. J. M. Mackenzie
Director of Medical Services

Work of the Laboratory

Statistics showing details of work performed are given at the conclusion of this Report. Only points of special interest or importance are mentioned here.

A. *Clinical Pathology*

Forty-three thousand, two hundred and sixty-seven specimens were examined during the year, a slight increase as compared with 1952.

(1) *Bacteriology and Serology*

There is still some reluctance on the part of Medical Officers to make full use of the bacteriological diagnostic facilities of the Laboratory, although this showed some improvement towards the end of the year. No major epidemics were encountered and the organisms found were those occurring endemically. Of these the tubercle bacillus heads the list in frequency and importance. It is to be noted that the African's sputum when it contains tubercle bacilli generally does so in great numbers. The importance of this not only from the nursing point of view is obvious.

Venereal diseases—particularly gonorrhoea—also appears common and again gonococci are generally numerous in smears. Syphilis also appears common, but there would seem to be a tendency to rely too much on the Khan test for diagnosis. It should be appreciated that this test is not specific for syphilis.

The most prevalent intestinal pathogen would seem to be *Shigella flexneri*. It is probable in fact that it is much commoner than the number of isolations indicates. In spite of this, epidemic proportions were not reached.

Water samples were submitted from Blantyre Municipality regularly throughout the year. Samples remained on the whole satisfactory bacteriological purity. Tests on the water from the new plant at the Mudi Dam were examined bacteriologically and chemically during the final phases of construction and after completion. Zomba water was found to be grossly polluted at the end of the year as the result of work on the hydro-electric scheme on Zomba Mountain, and recommendations to boil all drinking water were once more made. A number of food products were also tested for bacteriological purity.

(2) *Biochemistry*

A considerable increase in the variety of tests asked for and performed is seen as compared with previous years. The total number is still small.

(3) *Haematology*

Most of this was of routine diagnostic nature. A number of obscure anaemias were investigated including one in a child which was almost certainly a sickle cell anaemia. On first admission the case was complicated by malaria but even after treatment an anaemia of a haemolytic nature with a reticulocyte count of 15 per cent. and a haemoglobin of 6 grams per cent. persisted. Sealed preparations of blood showed marked sickling with the formation of filamentous processes of the R.B.CS. The mother and two siblings also showed sickling but to a much less marked degree and their haemoglobin levels were all over 10 grams per cent. The father could not be obtained for examination.

As a result of blood group determination on Africans, blood group frequencies have been worked out from a total of over 300 cases. These were group 0=53 per cent., group B=26 per cent. and group AB=3 per cent.

The reduction in number of erythrocyte sedimentation rate examinations is due to the fact that the acting Medical Specialist preferred to perform these himself as a sideroom measure.

(4) *Parasitology*

The plasmodium was the most frequent parasite found. It occurred 36 times (8 per cent.) in films from Europeans, 113 times (30 per cent.) from Asians and 392 times (30 per cent.) from Africans. *Plasmodium falciparum* was predominant being present in all positive films from Europeans, in 98 per cent. from Asians and 95 per cent. from Africans.

The records of positive slides from Africans showed considerable variation from month to month and it is interesting to note that the rise in parasite rates preceded the advent of the rains. This phenomenon was also noted in 1952, and it seemed likely that the reason was drying up of streams with the formation of pools which breed anophelines. This is further borne out by the anopheline larvae catches by the Health Department in Zomba which showed a rise preceding the parasites rise. *See* graph Appendix 2.

A further interesting feature was the occurrence of a number of fairly severe malaria infections and attacks in Africans at the end of the dry season. It would seem that some loss of immunity must occur, possibly exacerbated by poorer nutrition and increased exertion during the hoeing season.

One interesting case was the occurrence of a particularly severe attack of malaria in a patient who had undergone splenectomy, bearing out the importance of the spleen in the immunity mechanism.

No other protozoal infections reached significant proportions during the year. One slide showing trypanosomes was from a patient in Chikwawa District.

Ankylostomiasis and Schistosomiasis remained the chief metazoal disease diagnosed in the Laboratory. Three cases of visceral schistosomiasis were found histologically—one in a bladder which had developed a carcinoma. Insufficient data is available as to the incidence of vesical carcinoma secondary to schistosomiasis but it seems possible that this is one of the hazards of bilharzial infections as carcinoma of the bladder is a rare disease in those parts of Africa where schistosome infection is uncommon.

An interesting finding was three cases of Cysticercosis. In one case a cyst was found as a chance discovery in the heart muscle at a Medicolegal autopsy. No other cysts could be discovered. The other two cases were where nodules were removed at biopsy for histological examination, and were found to be cysticerci. There was no evident calcifaction of any cyst examined and no history of epilepsy. In view of the common occurrence of the latter condition in Nyasaland, however, the finding of cysticercosis may be significant and should be borne in mind as a possible aetiological factor now that it is known to occur in the Protectorate.

(5) *Histology*

There has been a gratifying increase in the number of specimens submitted for histological examination as compared with previous years. The commonest specimens submitted were tuberculosis of lymph glands of which 13 were seen during the year. A wide variety of tumours was seen and are enumerated in Appendix I. but insufficient data is available to assess relative frequency of the various types in the population.

B. *Medicolegal Examinations*

The volume of this work is steadily increasing, Medicolegal autopsies now averaging rather more than one per week. Other Laboratory examinations of Medicolegal nature also show an increase and while no suggestion is made that saturation point is being reached, these examinations are often very time consuming and can be undertaken only by the Pathologist. Further, many requests particularly for analysis for poisons have to be refused because of lack of a suitable chemist to undertake them or of suitable Laboratory facilities for those examinations. It is probable that many more requests are not made because of the knowledge that such facilities do not exist in this country.

C. *Vaccine Lymph Production*

Stocks of lymph at the close of the year showed a considerable improvement, as compared with the close of the previous year, in spite of increasing issues. One batch of lymph had to be discarded owing to the presence of B. *tetani*, but otherwise it appeared to be satisfactory both as regards bacteriological purity and potency. The main point of interest with regard to production was the commencement of manufacture of lanolinated lymph. Experimental production was begun and a number of technical difficulties overcome. One point on which a certain amount of misgiving was felt was the effect of phenol used for cleansing the lymph on the virus suspended in a waxy substance such as lanoline. Any fears, however, have so far been found to be groundless and both experimentally and in the field there seems no reason to suppose that the lanolinated lymph loses potency any more rapidly than the glycerolated.

The Provincial Medical Officer, Northern Province, kindly agreed to conduct a pilot experimental vaccination campaign. Glycerolated and lanolinated lymphs were used in parallel. Some of each variety was stored at room temperature and the rest in a domestic refrigerator. Results showed that there was no essential difference in number of " takes " between the two varieties although the lanolinated variety was much easier to handle. Nearly 100 per cent. of primary vaccinal reactions were still being obtained after 53 days at room temperature. Very little secondary sepsis was recorded.

Following on this a complete switchover was made to lanolinated lymph. Reports have so far been entirely satisfactory and vaccinators have found it easy to use and to transport. It is this form which is now supplied to Southern Rhodesia.

D. *Intravenous Fluids*

A total of 1,094 pints of sterile fluids for intravenous transfusions were prepared during the year. This amount still falls short of demands and with present equipment is not an economical product as it can only be made in small batches. When the new manufacturing Laboratory is completed early next year an output of 80 to 120 bottles a week should be possible, which should more than meet any possible requirements.

The greater part of the fluids prepared was 5 per cent. glucose in normal saline but other fluids have also been made on request. Bottles containing 2 per cent. sodium citrate for blood collection for transfusion have also been prepared. This procedure is much to be preferred to the addition of sterile sodium citrate to the M.R.C. transfusion bottle at the time of transfusion, as previously practised, as introduction of contaminant organisms and subsequent reactions are much less likely.

The M.R.C. transfusion bottle is used as the standard container.

APPENDIX I

Summary of Routine Work

Specimen	Pathogens isolated		Total Examined
Bacteriology			
Faeces	*Sh. sonnei*	12	387
	Sh. flexneri	39	
	Sh. newcastle	1	
	Sh. boyd	1	
	Sh. shiga	1	
	Salm. typhi	7	
	S. enteritidis	1	
Urine			23
Pus			48
Miscellaneous swabs			70
	Diphtheriae	3	
Blood culture			24
	S. typhi	3	
Cerebro spinal fluids			15
Ascitic and pleural fluids			37
Sputa direct microscopic			1,166
	Tubercle bacilli	369	
Sputa culture			13
	Tubercle bacilli	3	
Skin snips			33
Nasal smears			25
Urethral/vaginal smears			604
	Gonococci	308	
Dark ground examinations			103
	T. pallidum	60	
Antibiotic sensitivity			2
Tubercle bacilli I.N.A.H. sensitivity			2
Water examinations			105
Analysis of milk			1
Analysis of food products			4
	Total		2,662
Serology			
Kahns			9,799
	Negative	7,209	
Widals			128
Weil-felix			20
Brucella agglutinations			9
	Total		9,956
Biochemistry			
Fractional test meals			51
Kidney function tests			3
Estimation of blood urea			69
Estimation of blood glucose			17
Glucose tolerance curves			3
Estimation of serum billirubin (Van den bergh)			12
Estimation of protein			3
Estimation of blood uric acid			4
Estimation of serum acid phosphatase			1
Estimation of serum Alkaline phosphatase			3
Estimation of serum inorganic phosphate			1
Estimation of serum calcium			1
Estimation of thymol turbidity			3
Chemical examinations of cerebrospinal fluid			44
Lange colloidal gold curves			17
Chemical examination of pleural fluid			1
Chemical examination of urinary calculus			1
Examination for Bence-Jones Proteose			1
Friedman tests			1
Routine examination of urine			1,182
Chemical examination of tooth brushes			6
Chemical examination of ascitic fluid			1
	Total		1,425

Histology:

Total examined				263
The following tumours were found:				
Epithelioma		4		
Epithelioma developing in chronic ulcer		5		
Carcinoma of penis		1		
,, of cervix		1		
,, of breast		1		
,, of stomach		1		
,, of colon		1		
,, of bladder		3		
Adenocarcinoma of salivary gland		4		
Adamantinoma		1		
Mixed parotid tumours		3		
Adenomyosis uteri		2		
Metastatic carcinoma		7		
Melanoma		2		
Hypernephroma		1		
Chorionepithelioma		1		
Cystadenoma of ovary		2		
Sarcoma		4		
Fibrosarcoma		1		
Angiosarcoma		1		
Lymphosarcoma		2		
Hodgkins disease		1		
Kaposi sarcoma		1		
Osteoclastoma		1		
Giant cell tumour of tendon sheath		1		
Lymphangioma		1		
Fibroangioma		1		
Selerosing angioma		2		
Fibroadenoma of breast		1		
Dermoid Cyst		1		
Teratoma		1		
Undifferentiated malignant tumours		1		
Haematology:				
Haemoglobin estimations				1,077
Erythrocyte counts				246
Leucocyte counts				964
Differential leucocyte counts				597
Erythrocyte sedimentation rates				842
Packed cell volumes				47
Reticulocyte counts				19
Marrow examinations				7
Prothrombin time estimations				1
Fragility tests				3
Bleeding time estimations				3
Clotting time estimations				11
Sickling tests—Positive		3		
Paul-Bunnell tests				1
Blood grouping estimations				230
Coombes test				2
Rhesus groupings				2
		TOTAL		4,052

Parasitology:

Blood films				
Europeans	*P. falciparum*	36		460
Asians	*P. falciparum*	110		
	P. vivax	3		268
Africans	*P. falciparum*	3,869		
	P. malaria	13		
	P. vivax	153		
	Borelia duttonii	32		
	Trypanosomes	1		
	Microfilariae	7		
Faeces	*Hookwork ova*	1,051		
	Ascaris ova	104		
	Taenia ova	7		
	Schistosome mansoni ova	57		
	Enterobius vermicularis	23		
	Strongyloides larvae	57		
	E. histolytica	6		
	E. coli	10		4,880
Urine	*S. haematobium*	1,749		
	Identification of ticks			2

Medicolegal Examination:

Autopsies performed at request of Coroner	55
Examination of exhibits for blood stains	17
Examination of exhibits for seminal stains	2
Chemical Examination:—	
Suspected poisons	2
Blood alcohol determinations	7
Histological examinations for medicolegal purposes	5
Blood groupings for medicolegal purposes	5
TOTAL	93

Calf Lymph Production:

	Raw Pulp	*Processed lumph*
Balance in hand 31/12/53	334 grams	217,200 doses
Issues made during 1953	1,042,450 doses	
Balance in hand 31/12/53	904 grams	153,400 doses

Distribution of Issues:

	Glycerolated	*Lanolinated*
Within Protectorate	281,100 doses	431,450 doses
Exported	212,500 doses	113,400 doses
Number of calves vaccinated	60	
Weight of pulp produced	3,346 grams	
Average weight of pulp per calf	56 grams	
Value of lymph exported	£353–7s	

Intravenous Fluid Production:

Sterile fluid prepared and bottled	1,094 pints.

MENTAL HOSPITAL ANNUAL REPORT

By W. H. Watson, M.D.,
Medical Officer i/c, Mental Hospital, Zomba

Despite the fact that the new hospital is not yet functioning it can be said that the existing old hospital is over its growing pains and is running smoothly under its new management the Medical Department. This is said with confidence because the regular medical officer, who was absent on leave for the second half of the year, returned to find his " baby " flourishing and not in the least need of his attention. It has, however, been a year barren of any notable advances and it would appear that further progress must await the transfer of the patients to the much better surroundings of the new hospital, and the arrival of the additional European Staff.

Admissions during 1953 were 48 (52 in 1952), discharges were 37, (42 in 1952) deaths five (six in 1952), and at the end of the year there were 156 patients remaining compared with 150 at the end of 1952.

That the low death rate has been maintained over the three years the Medical Department has been in charge, is gratifying even although it is resulting in a gradual increase of the number of patients in the Hospital.

Of the 37 discharges, 22 were of patients who had been admitted during the year, while the rest had been in hospital the following number of years: 2–1, 7—3 years, 3—9 years, 2—11 years and 1—31 years. The " long service " group cannot be described as cures, but they had become stabilized sufficiently to maintain themselves under supervision at home. The patient who had been an inmate for 31 years, was mentioned in last year's Annual Report. His relatives were located and this hale and hearty old gentleman who works well agreed to go home with the proviso that if he did not like it at home he was coming back. So far he has not returned.

The general health of the patients has continued to be good. Of 105 patients who had spent at least a year in hospital, 69 gained an average 7.6 lbs., 24 lost an average 4.5 lbs. and 12 showed no change.

In the Report for 1952 the Medical Officer was rash enough to say, " In a well run hospital no vitamin deficiencies should occur ". He has now to report that Vitamin A deficiencies have been occurring amongst schizophrenics who in many cases were on specially high vitamin containing diets. The signs of Vitamin A deficiency are liable to appear, irrespective of the intake of Vitamin A, but are synchronous with the clinical alteration of the mental state. The patient many be quite fat, often due to lack of exercise, but he is unhealthy looking and the signs of a Vitaminosis A fluctuate quite rapidly even from week to week. It is of course well known that metabolic changes vary with the mental phase of schizophrenic patients, and it would appear from these observations that, whatever the mechanism is, there is also failure to absorb or utilize vitamin A.

Occupational Therapy. There have been no changes or advances made in occupational therapy during the year. The financial aspect of this important section of the work is flourishing. The balance of funds credited to the patients' account with Government totalled £171–15s–8d at the end of the year (£140–2s–8d at the end of 1952). Monthly payment for work done amounted to £108–9s–2d (£109–18s–2d in 1952) while £72–7s–3d was spent on sundry purchases by individual patients, (£49–12s in 1952). Spending increased, probably because more patients now have the small bank balance which the Medical Officer likes them to have against the time of their discharge and so they now tend to spend more as they earn.

The system of payment for work done, even although it amounts to only 1d or 2d and rarely 3d for every seven hours' work, has proved a success. An average of 82 patients were working daily and some of them have stated on recovery that payment for work gave them the feeling they were not useless creatures, but still free and independent men even if mentally afflicted. Often, after a set-back, recovery is heralded by a demand for work and steady improvement in a patient's mental state is often accompanied by a request for more difficult work commanding a rise in pay.

While there is the drawback that occasionally patients, after a month's work, claim to be sane because they are working and earning money, much can be learned about the mental state of the patients by their attitude to money and with returning sanity there is the pleasure, frequently indulged in, of asking the Medical Officer to authorize the withdrawal of say 2s–6d for a " party " with friends at the *mudzi* (Annexe).

The rise in the total balance of funds credited to the patients from £140–2s–8d in 1952, to £171–15s–8d in 1953, conceals a story of big business. A patient suffering from epilepsy controlled by treatment, but still liable to swings of mood and agressiveness, took to money-lending during 1953. In the six months, during the absence on leave of the Medical Officer, he banked £30. This made the relieving Medical Officer suspicious and in December he discovered the patient had entered business as a money-lender. On his return from leave at the end of December the Medical Officer had the patient "on the mat ". He frankly admitted what he was doing and said that he charged interest at the rate of 100 per cent. per mensem !!! Quite manfully and in the best tradition he refused to name his clients. He was told that he must go out of business forthwith but requested that forthwith (being 10th January) should be changed to 31st January, as he had quite a number of accounts outstanding. Permission was granted, he closed his books at the end of the month and deposited £20. From a psychiatric point of view it is likely that few people would default in paying a money-lender who is also an aggressive epileptic. " Ex Africa etc. . . . "

Medico-Legal. During the past three years this branch of the work has greatly increased and, when any suspicion of insanity arises in criminal work, magistrates and police in the Southern Province now refer the matter to the Medical Officer of the Mental Hospital. When the charge is not of a serious nature the accused is frequently sent to the Mental Hospital itself for observation, while in cases of a serious nature, such as murder the accused is sent to the Central Prison and the Medical Officer is called in consultation. Lack of good previous histories is one of the troubles which afflict the examiner and it is not always easy to come to a definite conclusion in some of these cases.

KOCHIRA LEPROSY SETTLEMENT

Period 1st January to 31st December, 1953

This has been the first year since work was commenced at Kochira, that it has been possible to work at full pressure, the funds provided having been adequate, and to observe the possible rate of progress in this district.

The programme for the year was based largely on theory, with not a little "wishful thinking", and the progress, compared with the programme, has been disappointing.

The largest single factor which has limited progress has been the shortage of labour.

The lack of carpenters has meant that houses have been put up to wallplate level by the builders quicker than the available carpenters have been able to deal with them, and this largely accounts for the number of unfinished buildings at the end of the year.

During the six months, May to October, the large number of miscellaneous workmen is accounted for by the inclusion of Brick and Tile Makers and Layers in this column. Some of the more skilful of these were kept on the strength as builders' labourers during the wet season, in an effort to keep them at hand for next season's tile and brick operations.

Transport has also had a slowing effect on progress. For the first part of the year, a 3-ton lorry only was available and from July, 1953, this was augmented by a 5-ton lorry. The 5-ton lorry has been used largely for bringing in supplies from Lilongwe and, in some instances, from further afield. In between outside trips, the two lorries strove to keep abreast of the needs of the internal works. The heaviest months were from May to October, when the lorries had to carry firewood to the kilns and water to the builders in addition to the normal supplies of bricks and sundries.

A certain amount of difficulty was encountered in obtaining adequate supplies of building and other materials, but this was eventually smoothed out. The Provincial Engineer and the Storekeeper at Lilongwe have been very co-operative and have done much to ensure a steady flow of supplies.

Much of the timber used in roof construction has been cut in the Settlement, three companies of sawyers having been employed throughout the year on a footage basis. This has meant that green timber has had to be used but, without this source of supply, work would have been even further curtailed.

During January, there was still some doubt about the future finances of the Settlement, and this is reflected in the slow build-up of the labour force. By March, when the situation was stable, the work was going with a swing.

Throughout the year there has been a hard-core of builders, carpenters and labourers, who could be relied upon to be present at all times, and as the opportunity has arisen, these have been promoted to be Headmen of companies.

Personal troubles were confined to the effects of internally brewed beer, and the occasional "woman palaver". In these latter cases, when an outside person was involved, the matter was referred to the Native Authority at Zulu, and native law and custom allowed to take its course.

Interest in the growth of the Settlement by other Government Departments has been maintained, and the Settlement was visited by officers of the Agricultural, Forestry, Veterinary and Public Works Departments. Advice was sought and readily given on a number of counts.

In addition to visits by the Director of Medical Services, the Provincial Medical Officer, Central Province, and other Medical Officers, the Settlement was visited by the Secretary of Health, Southern Rhodesia, the Director of Medical Services, Northern Rhodesia, and Dr. Buchanan, the Chief Medical Adviser to the Colonial Office.

All these visits were appreciated, and much valued advice was given.

Land Clearing:—103 acres were stumped and cleared for all purposes, at an average cost of £7 per acre.
Cultivation:—5 acres of land were ploughed and harrowed ready for a crop.
Roads:—4 miles and 85 yards of new road were made, at an average cost of £21–3s–4d per mile.
Bricks:—700,000 bricks were made, at an average cost of 18s–11d per 1,000.
Tiles:—25,000 tiles were made, at an average cost of £11–8s–4d per 1,000.
Machinery:—The following vehicles and machinery were received during 1953:—

(i)	1 tractor
(ii)	1 disc plough
(iii)	1 disc harrow
(iv)	1 5-ton lorry.

Cattle:—The number increased during the year to a total of 41 beasts. There were four deaths due to various causes.

Nurseries:—Extensive nurseries were made and seed supplied by the Forestry Department was planted

Rate of germination was good in most cases.

Planting out started during December and, by the end of the year some 1,700 seedlings had been placed in plantations. This work is proceeding.

Variaties of trees either planted out, or awaiting planting, are as follows:—

(i)	Bluegum—3 varieties
(ii)	Gmelina
(iii)	Mwimbi
(iv)	Cassia—3 varieties
(v)	Casuarina
(vi)	Persian Lilac
(vii)	Peltophorum
(viii)	Bamboo.

Table VIIIa. Return of Diseases and Deaths (European In-patients) for the year 1953

Diseases	Remaining at the end of 1952	Admissions during 1953	Total cases treated	Deaths	Remaining at the end of 1953
2. (*b*) Paratyphoid Fever	—	2	2	—	—
3. Typhus fever (Tick)	1	14	15	—	-
4. Relapsing fever	—	1	1	—	—
11. Influenza	—	19	19	—	—
13. Dysentery :—					
(*a*) Amoebic	2	14	16	—	—
(*b*) Bacillary	—	7	7	—	—
(*c*) Unclassified	—	5	5	—	—
22. Tetanus	—	3	3	—	—
23. Tuberculosis of the respiratory system	—	1	1	—	—
24–32. Other tuberculosis diseases ...	—	1	1	—	—
38. Malaria :—					
(*a*) Benign Tertian	—	2	2	—	—
(*b*) Subtertian	—	49	49	—	—
(*c*) Quartan	—	3	3	—	—
(*d*) Unclassified	—	57	57	—	—
39. Trypanomiasis	—	1	1	—	—
41–42. Other helminthic diseases ...	—	8	8	—	—
15, 19, 20, 36, 43, 44. Other infectious and/or parasitic diseases	—	10	10	—	—
45–55 *Cancer and other tumours* :—					
45–53. (*a*) Malignant	—	1	1	—	—
54. (*b*) Non-malignant	—	1	1	—	—
56–57. Rheumatic conditions	—	3	3	—	—
59. Diabetes	—	2	2	—	—
60. Scurvy	—	2	2	—	—
58, 63, 64, Other diseases :—					
(*a*) Nutritional	1	3	4	—	1
65–69. (*b*) Endocrine glands and general	—	1	1	—	—
70–74. *Diseases of the blood and blood-forming organs*	—	4	4	—	—
75–77. *Acute and Chronic Poisoning* ...	—	3	3	—	—
82. Cerebral haemorrhage	—	2	2	—	—
78–81, Other diseases of the nervous					
83–87. system	—	17	17	—	—
88. Trachoma	—	1	1	—	1
Carried forward	4	237	241	—	2

Table VIIIa. Return of Diseases and Deaths (European In-patients) for the year 1953

	Diseases	Remaining at the end of 1952	Admissions during 1953	Total Cases treated	Deaths	Remaining at the end of 1953
	Brought forward	4	237	241	—	2
	Other diseases of the eye, and annexa	—	5	5	—	—
89.	Diseases of the ear and mastoid sinus	—	4	4	—	1
90–103.	*Diseases of the Circulatory System.*					
90–95.	*(a)* Heart Diseases	—	6	6	1	—
96–103	*(b)* Other circulatory diseases ...	—	22	22	—	—
106	Bronchitis	—	13	13	1	—
107–109	Pneumonia :—					
	(*a*) Broncho-pneumonia ..	—	7	7	—	—
	(*b*) Lobar Pneumonia ...	—	4	4	—	—
	(*c*) Otherwise defined	—	8	8	—	—
104–105, 110–114	Other diseases of the respiratory system	1	27	28	1	—
119–120	*Diarrhoea and enteritis*—					
	(*a*) Under 2 years of age ..	—	39	39	—	—
	(*b*) Over 2 years of age ..	1	19	20	—	1
121	Appendicitis	—	19	19	—	—
122	Hernia, intestinal obstruction ..	1	5	6	—	—
124	Cirrhosis of the liver ...	—	3	3	1	—
125–127	Other diseases of the liver and biliary passage	1	12	13	—	—
115–118, 123–128 129	Other diseases of the digestive system	2	130	132	—	1
130	Nephritis acute	—	1	1	—	—
133–139	Other non-venereal diseases of the genito-urinary system ..	1	60	61	—	—
140–141	(*a*) Abortion..	—	14	14	—	—
142	(*b*) Ectopic gestation	—	3	3	—	—
145–147	(*c*) Toxaemias of pregnancy ..	—	3	3	—	—
143–144 148–150	(*d*) Other conditions of the puerperal state ...	1	127	128	1	—
151–156	*Diseases of the skin, cellular tissue, bones and organs of locomotion*	2	61	63	—	2
157–161	*Congenital malformations and diseases of early infancy*	—	3	3	—	—
159	(*b*) Premature birth ...	—	1	1	—	—
162	*Senility*	—	1	1	1	—
163–198	*External Causes*—					
172–198	(*b*) Other forms of violence ..	—	80	80	—	—
199–200	*Ill-defined*	2	119	121	1	1
	TOTALS ..	16	1,033	1,049	7	8

Table VIIIb. Return of Diseases and Deaths (African In-patients) for the year 1953 (including Asiatics, African Officials, K.A.R. other Ranks, African General Population, Asiatic and African Convicts)

	Diseases	Remaining at the end of 1952	Admissions during 1953	Total Cases treated	Deaths	Remaining at the end of 1953
1–44	*Infectious and Parasitic diseases*:—					
1	(*a*) Typhoid fever	—	26	26	2	—
	(*b*) Paratyphoid fever	—	—	—	—	—
	(*c*) Type undefined	—	1	1	—	—
3	Typhus fever	—	3	3	—	—
4	Relapsing fever	5	232	237	6	5
5	Undulant fever	—	2	2	—	—
6	Smallpox	—	4	4	—	—
7	Measles	—	37	37	—	—
8	Scarlet fever	—	85	85	—	—
9	Whooping-cough	1	138	139	3	1
10	Diphtheria	—	12	12	5	—
11	Influenza	—	17	17	—	—
13	*Dysentery*:—					
	(*a*) Amoebic	1	144	145	5	1
	(*b*) Bacillary	2	94	96	2	2
	(*c*) Unclassified	1	58	59	4	1
16	Acute poliomyelitis	—	6	6	—	—
18	Cerebro-spinal fever	—	23	23	9	—
22	Tetanus	1	56	57	12	—
23	*Tuberculosis of the respiratory system*	26	352	378	24	28
24–32	Other tuberculous diseases	5	106	111	12	5
33	Leprosy	10	101	111	—	10
34–35	*Venereal Diseases*:—					
	(*a*) Syphilis	55	995	1,050	13	53
	(*b*) Gonorrhoea	10	546	556	—	10
	(*c*) Other venereal disease	—	41	41	—	—
38	*Malaria*:—					
	(*a*) Benign tertian	3	203	206	3	—
	(*b*) Subtertian	37	1,937	1,974	51	4
	(*c*) Quartan	3	44	47	—	36
	(*d*) Unclassified	64	2,250	2,314	31	66
39	Trypanosomiasis	1	8	9	—	1
	Yaws	4	58	62	2	4
40	Ankylostomiasis	72	2,133	2,205	6	72
42	Schistosomiasis	32	1,039	1,071	—	37
41–42	Other helminthic diseases	6	209	215	8	—
15, 19, 20, 36, 43, 44	Other infectious and/or parasitic diseases	3	139	142	5	3
45–55	*Cancer and other tumours*:—					
45–53	(*a*) Malignant	2	164	166	28	2
54	(*b*) Non-malignant	5	195	200	—	5
55	(*c*) Undetermined	—	10	10	—	—
56–69	*Rheumatism, diseases of nutrition and Endocrine glands and other general diseases*:—					
56–57	Rheumatic conditions	14	347	361	1	14
59	Diabetes	1	2	3	—	—
60	Scurvy	—	5	5	—	1
61	Beriberi	—	6	6	—	—
62	Pellagra	1	30	31	—	1
58, 63, 64	*Other diseases*:—					
	(*a*) Nutritional	—	4	4	—	—
65–69	(*b*) Endocrine glands and general	—	50	50	6	—
70–74	*Diseases of the blood and blood forming organs*	7	173	180	9	8
75–77	Acute and chronic poisoning	—	11	11	—	—
82	Cerebral haemorrhage	6	68	74	7	6
78–81	Other Diseases of the nervous					
83–87	system	3	211	214	12	3
88	Trachoma	2	12	14	—	—
	Carried forward	383	12,387	12,770	266	379

Table VIIIb. Return of Diseases and Deaths (African in-patients) for the year 1953 (including Asiatics, African officials, K.A.R. other Ranks, African General Population, Asiatic and African Convicts)

	Diseases	Remaining at the end of 1952	Admissions during 1953	Total cases treated	Deaths	Remaining at the end of 1953
	Brought forward	383	12,387	12,770	266	379
88.	Other diseases of the eye and annexa	38	1,232	1,270	—	31
89.	Diseases of the ear and mastoid sinus	5	245	250	3	5
90–103.	Diseases of the circulatory system—					
90–95.	(*a*) Heart diseases	5	106	111	27	5
96–103.	(*b*) Other circulatory diseases ...	6	173	179	2	4
104–114.	*Diseases of the Respiratory System.*					
106.	Bronchitis	19	1,125	1,144	—	20
107–109.	Pneumonia:					
107,	(*a*) Broncho-pneumonia	9	772	781	73	11
	(*b*) Lobar-pneumonia	9	454	463	26	8
	(*c*) Otherwise defined	7	32	39	—	5
104–105, 110–114.	Other diseases of the Respiratory System	8	286	294	6	9
115–129.	*Diseases of the digestive system*					
119–120.	Diarrhoea and enteritis :—					
	(*a*) Under 2 years of age ...	8	240	248	8	6
	(*b*) Over 2 years of age ...	6	195	201	3	7
121.	Appendicitis	—	34	34	—	—
122.	Hernia, intestinal obstruction ...	7	255	262	10	6
124.	Cirrhosis of the liver	—	39	39	8	2
125–127.	Other diseases of the liver and biliary passage	—	107	107	7	1
115–118, 123, 128, 129.	Other diseases of the Digestive System	29	1,105	1,134	28	26
130–139.	*Non-Venereal diseases of the Genito-Urinary System.*					
130–132.	Nephritis (all forms)—					
	(*a*) Acute	3	36	39	7	3
	(*b*) Chronic	—	20	20	—	—
133–139.	Other non-venereal diseases of the Genito-Urinary system ...	43	998	1,041	14	44
140–150.	*Diseases of Pregnancy, Child-birth and the puerperal state.*					
140–141 142.	(*a*) Abortion	4	192	196	45	2
145–147.	(*c*) Toxaemias of pregnancy ...	2	54	56	8	2
143–144, 148, 150.	(*d*) Other conditions of the puerperal state	32	2,883	2,915	14	34
151–156.	Diseases of the Skin, Cellular Tissue, Bones and Organs of Locomotion	210	6,064	6,274	18	229
157–161.	Congenital Malformations and diseases of early infancy ...	—	5	5	—	—
158.	(*a*) Congenital debility (children under one year.) ...	—	11	11	3	—
	(*b*) Premature birth (do) ...	—	26	26	5	—
	(*c*) Injury at birth (do) ...	1	2	3	1	—
162.	Senility	—	13	13	2	1
163–198.	External causes —	175	4,074	4,249	78	177
172–198.	(*b*) Other causes	42	1,705	1,747	28	41
199–200.	Ill defined					
	TOTALS ...	1,051	34,870	35,921	690	1,058

Table IXa. Return of Diseases (European Out-patients) for the year 1953

Diseases	Males	Females
1–44. *Infectious and parasitic Diseases.*		
1–2. Enteric Group :—		
(*b*) Paratyphoid Fever	1	—
(*c*) Type undefined ...	9	—
3. Typhus fever ...	3	—
7. Measles	1	—
8. Scarlet fever ...	—	1
9. Whooping cough ...	1	1
11. Influenza	24	5
13. Dysentery—		
(*a*) Amoebic	6	2
(*b*) Bacillary	6	3
(*c*) Unclassified ...	13	4
17. Encephalitis lethargica	—	1
21. Rabies	5	3
22. Tetanus ...	1	—
24–32. Other tuberculous diseases	1	2
34–35. Venereal Diseases :—		
(*a*) Syphilis	1	—
(*b*) Gonorrhea ...	1	—
38. Malaria—		
(*a*) Benign tertian ...	—	2
(*b*) Subtertian ...	42	25
(*c*) Quartan	8	1
(*d*) Unclassified ...	55	28
39. Trypanosomiasis ...	1	—
42. Schistosomiasis ...	5	—
41–42. Other Helminthic diseases	25	22
15, 19, 20, 36, 43, 44. Other infectious and/or parasitic diseases	34	18
45–55. *Cancer and other Tumours.*		
45–53. (*a*) Malignant ...	2	2
54. (*b*) Non-malignant ...	4	11
56–57. Rheumatic conditions	55	36
59. Diabetes	3	3
62. Pellagra	1	1
58, 63, 64. Other diseases— (*a*) Nutritional ...	5	—
65, 69. (*b*) Endocrine glands and general ...	—	9
70–74. *Diseases of the Blood and Blood-forming Organs*	8	46
75–76. Acute and Chronic Poisoning ...	3	—
82. Cerebral haemorrhage	4	—
78, 81, 83, 87. Other diseases of the Nervous System ...	22	20
88. Trachoma	1	—
88. Other diseases of the eye and annexa ...	94	77
Carried forward ...	445	323
Brought forward ...	445	323
89. Diseases of the ear and mastoid sinus ...	157	95
90–103. *Diseases of the Circulatory System.*		
90–95. (*a*) Heart diseases	11	1
(*b*) Other circulatory diseases ...	86	42
106. Bronchitis	77	57
107–109. Pneumonia :—		
(*b*) Lobar-pneumonia	1	1
(*c*) Otherwise defined	3	3
104–105, 110–114. Other diseases of the Respiratory System ...	203	171
119–120. Diarrhoea and Enteritis :—		
(*a*) Under 2 years of age	30	43
(*b*) Over 2 years of age	170	95
121. Appendicitis ...	8	6
122. Hernia, intestinal obstruction	6	3
124. Cirrhosis of the liver ...	2	1
125–127. Other diseases of the liver and billiary passage	12	5
115–118, 123, 128, 129. Other diseases of the digestive system ...	431	291
130–132. Nephritis (all forms) :— (*a*) Acute	—	1
133–139. Other non-venereal diseases of the Genito-urinary system ...	32	185
140–150. *Diseases of Pregnancy, Childbirth, and the Puerperal State.* ...	—	73
140–141, 142. (*a*) Abortion ...	—	16
145–147 (*c*) Toxaemias of pregnancy	—	2
143–144 148, 150. (*d*) Other conditions of the puerperal state ...	—	3
151–156. *Diseases of the Skin, Cellular Tissue, Bones and Organs of Locomotion* ...	565	314
157–161. *Congenital malformations and Diseases of Early Infancy.*		
158. (*a*) Congenital Debility (children under 1 year)	20	21
(*b*) Premature birth	—	1
(*c*) Injury at birth	—	2
162. Senility	—	1
163–198. *External Causes.*		
172–198. (*b*) Other forms of violence	532	239
199–200. *Ill-defined diseases*	366	291
TOTAL	3,157	2,286

Table IXb. Return of Diseases (African Out-patients) for the year 1953 (including Asiatics, African Officials, K.A.R. African Ranks and African Convicts)

	Diseases	*Males*	*Females*
1–44.	*Infectious and parasitic Diseases*		
1	(*a*) Typhoid fever	19	7
2	(*c*) Type undefined	1	—
3	Typhus fever	—	3
4	Relapsing fever	219	137
6	Smallpox	2	2
7	Measles	178	93
8	Scarlet fever	1	—
9	Whooping-cough	351	309
10	Diphtheria	19	2
11	Influenza	33	4
13	*Dysentery*—		
	(*a*) Amoebic	155	92
	(*b*) Bacillary	120	41
	(*c*) Unclassified	416	84
16	Acute Poliomyelitis	3	1
17	Encephalitis lethargica	1	—
18	Cerebrospinal fever	14	6
21	Rabies	7	—
22	Tetanus	51	27
23	Tuberculosis of the respiratory system	168	109
24–32	Other tuberculous diseases	142	43
33	Leprosy	362	214
34–35	*Venereal Diseases*—		
	(*a*) Syphilis	3,697	2,720
	(*b*) Gonorrhoea	2,004	906
	(*c*) Other venereal diseases	2	—
38	*Malaria*—		
	(*a*) Benign tertian	593	463
	(*b*) Subtertian	5,869	3,922
	(*c*) Quartan	140	92
	(*d*) Unclassified	16,513	9,535
44–6a	Blackwater fever	1	—
	Trypanosomiasis	2	3
39	Yaws	139	128
	Other protozoal diseases	—	1
40	Ankylostomiasis	5,079	3,814
42	Schistosomiasis	6,963	3,045
41, 42	Other helminthic diseases	881	587
15, 19, 20, 36, 43, 44	Other infectious and/or parasitic diseases	820	533
45–55	*Cancer and other tumours*—		
45–53	(*a*) Malignant	85	72
	(*b*) Non-malignant	201	161
	(*c*) Undetermined	4	9
56–57	Rheumatic conditions	6,014	3,761
59	Diabetes	—	2
60	Scurvy	1	3
61	Beriberi	9	4
62	Pellagra	85	60
58, 63, 64	*Other diseases*—		
	(*a*) Nutritional	5	—
	(*b*) Endocrine glands and general	86	94
70–74	Diseases of the blood and blood forming organs	453	432
75–77	Acute and chronic poisoning	9	1
82	Cerebral haemorrhage	59	25
78–81, 83–87	Other diseases of the nervous system	1,667	592
88	Trachoma	24	24
	Other diseases of the eye and annexa	11,481	9,523
89	Diseases of the ear and mastoid sinus	6,525	3,540
	Carried forward	71,673	45,226

Table IXb. Return of Diseases (African Out-patients) for the year 1953 (including Asiatics, African Officials, K.A.R. African Ranks and African Convicts)

	Diseases	*Males*	*Females*
	Brought forward	72,974 ..	45,226
	Diseases of the nervous system and sense organs—		
90–103	*Diseases of the circulatory system—*		
90–95	(*a*) Heart diseases	72 ..	53
96–103	(*b*) Other circulatory diseases	410 ..	217
106	Bronchitis	17,448 ..	11,338
107–109	*Pneumonia—*		
	(*a*) Broncho-pneumonia	272 ..	290
	(*b*) Lobar-pneumonia	433 ..	222
	(*c*) Otherwise defined	117 ..	46
104–105, 110–114	Other diseases of the respiratory system ..	19,600 ..	6,773
119–120	*Diarrhoea and enteritis—*		
	(*a*) Under two years of age	2,275 ..	1,784
	(*b*) Over two years of age	2,026 ..	1,153
121	Appendicitis	154 ..	12
122	Hernia, intestinal obstruction	271 ..	8
124	Cirrhosis of the liver	24 ..	13
125–127	Other diseases of the liver and biliary passage ..	142 ..	74
115–118	Other diseases of the digestive		
123, 128, 129	system	28,640 ..	16,268
130–132	Nephritis (all forms)—		
130	(*a*) Acute	19 ..	10
	(*b*) Chronic	17 ..	10
133–139	Other non-venereal diseases of the genito-urinary system	1,335 ..	963
140–150	*Diseases of pregnancy, child-birth and the puerperal state—*		
140–142	(*a*) Abortion	— ..	186
	(*b*) Ectopic gestation	— ..	4
145–147	(*c*) Toxaemias of pregnancy	— ..	155
143, 144, 148, 150	(*d*) Other conditions of the puerperal state ..	— ..	3,055
151–156	*Diseases of the skin, cellular tissue, bones and organs of locomotion—*	56,769 ..	22,600
157–161	*Congenital malformations and diseases of early infancy—*		
158	(*a*) Congenital debility (children under 1 year)	39 ..	23
159	(*b*) Premature birth	3 ..	25
160	(*c*) Injury at birth	1 ..	14
162	*Senility*	18 ..	13
163–198	*External causes—*		
172–198	(*b*) Other forms of violence	51,016 ..	13,872
199–200	Ill-defined	16,461 ..	5,916
	TOTALS ..	269,235	130,323