

## **Annual medical and sanitary report / Bechuanaland Protectorate.**

### **Contributors**

Bechuanaland Protectorate. Office of the Director of Medical Services.

### **Publication/Creation**

London : printed by Waterlow, [1947]

### **Persistent URL**

<https://wellcomecollection.org/works/d7cew3rh>

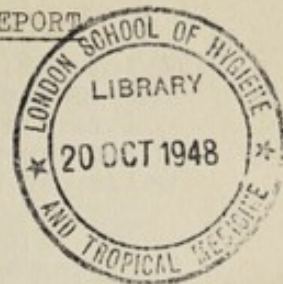
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BECHUANALAND PROTECTORATEANNUAL MEDICAL AND SANITARY REPORT1947SECTION 1 - ADMINISTRATION.STAFF:

The authorised establishment of medical officers is seven, exclusive of the Director of Medical Services and the Medical Officer of Health. In addition there is an African Assistant Medical Officer. Two additional medical officers were paid in anticipation of a Colonial Development and Welfare Fund scheme. Subsequently it became necessary to meet the salaries of these two doctors from surplus balances.

2. One medical officer recruited by the Commonwealth Relations Office from the Indian Medical Service was appointed but did not stay in the Territory for more than a few weeks. Three medical officers were appointed from the Union of South Africa but two, including one of the three, resigned to take up another appointment or to enter private practice.

3. This meant that the establishment was one under the authorised level. The absence of the Director of Medical Services on overseas study leave and the posting of a Medical Officer to Headquarters to act as Director of Medical Services increased the shortage to two. It is not out of place to add that early in the present year the medical staff was still further depleted by two more resignations. This meant a shortage of four medical officers, a state of affairs which continued for some time.

4. The appointment of a medical officer by the Chobe Timber Concessions at Serondellas enabled Government to make provision for medical work in the Chobe district by subsidising the appointment. It was arranged that this doctor should be appointed an Assistant Medical Officer and act as District Surgeon in that area.

5. No fewer than five sisters of a total approved establishment of seven resigned during the year. One matron also left to get married after 8 years service. It is apt to place on record an appreciation of the services rendered to the Bamangwato people by Sister E.A. Haile, M.B.E., throughout 16 years of work at Serowe, where she was mainly responsible for maternity and child welfare work. It was due to her influence and pioneering work that the people have been enlightened and drawn away from their old superstitious beliefs in this branch of medicine. The result has been a vital reduction

in/.....



in the maternal and child mortality and morbidity rates.

6. There has been no change in the Health Staff during the year.

7. The Director of Medical Services, Dr. D.J.M. MacKenzie, M.B.E., was awarded the O.B.E. in the 1947 King's Birthday Honours List.

#### LEGISLATION:

8. The following legislation was enacted during the year:-

(a) Government Notice No.1 of 1947 makes local regulations for the prevention of the spread of yellow fever by the disinsection of aircraft arriving from the Ngamiland and Chobe areas and by the need for travellers to be in possession of valid certificates of inoculation against the disease.

(b) High Commissioner's Notice No.5 of 1947 amends the regulations published under the Public Health Proclamation (No.12 of 1924) by inserting after the word "boarding houses" the words "bakeries, restaurants, refreshment rooms, tea rooms".

(c) Government Notice No.7 of 1947 amends Resident Commissioner's Notice No.18 of 1943 by prohibiting the distribution, as well as the sale, of sulfonamide preparations by unqualified individuals.

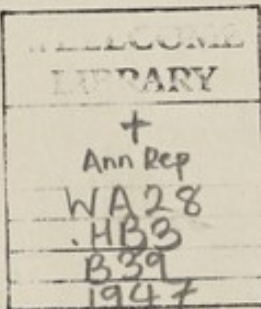
#### SECTION 11 - PUBLIC HEALTH.

9. The Medical Officer of Health is busy with proposed new public health legislation. It had been hoped that this would be completed during the year, but this has not been possible owing to preoccupation with outbreaks of infectious diseases at different times. This legislation is bound up with the establishment of Village Management Boards in the bigger centres.

10. Intensive measures were adopted to prevent outbreaks of epidemic diseases before and during the Royal Visit in April 1947. All those who had not been successfully vaccinated during the previous two weeks were vaccinated before coming into the Lobatsi area.

11. By means of a circular letter the cooperation of the public was sought and obtained to avoid potential dangers due to the sudden influx from all parts of the Territory of a vast mass of people into a comparatively small area. It is a pleasure to record the wholehearted assistance received from the African population.

Lectures/.....



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12. Lectures on health measures were delivered to school children.

13. A great problem was the control of insect vectors. This was accomplished by the extensive use of insecticidal and larvacidal sprays. The interior surfaces of every building, including huts, situated within two miles of the Lobatsi Post Office were sprayed by means of pressure pumps, using 5% D.D.T. in paraffin. Approximately 1,800,000 square feet were sprayed.

14. At the reception and tea-party sites a total area of 260,000 square feet were treated with 2½% D.D.T. emulsion for tick control. Commencing ten days before the visit a total of six applications over the whole area was made.

15. Sanitation presented a problem for the large influx of persons, both European and African, who were to remain only for a short period. By means of improvisation adequate sanitary services were supplied, while at the same time avoiding excessive expenditure.

16. Water and milk supplies and other articles of food were controlled to conform to health regulations. All precautions were adopted to ensure that persons handling food were not carriers of disease.

17. This very briefly gives some idea of the intensive precautions adopted to safeguard the health of the Royal Party and visitors.

18. During the first half of the year living conditions were far from good. This was mainly the result of poor rains during the 1946/1947 season, with an almost universal gross reduction in crop yields. Malnutrition and resulting reduced resistance to disease were the inevitable sequelae.

19. Now that there are no longer large sums of money available to ex-African Pioneer Corp recruits and their dependants, families are unable to supplement their diets to any great extent by purchases from the stores, though the payments to ex-army pensioners which now amount to nearly £20,000 annually are of immense help.

20. Despite propaganda in the schools and elsewhere the average African still has no appreciation of the value of supplementing his traditional diet by the addition of fresh vegetables. Very few make any effort to grow vegetables. Most people do not trouble to make use of local supplies even when available. For example, at Kenya not more than £5 worth of vegetables were bought each month by Africans

for/.....



for their own consumption. The population at Kanye as revealed by the last census is 22,922.

21. A number of doctors have reported on the prevalence of malnourished infants with multiple vitamin deficiencies, infantile diarrhoeas and upper respiratory infections, which were resistant to the usual forms of treatment. These conditions were common also in breast fed infants, which would indicate that the mothers were themselves suffering from gross malnutrition.

#### COMMUNICABLE DISEASES:

##### PLAGUE:

22. There has fortunately been no recrudescence of the extensive outbreaks experienced during the latter part of 1945 and 1946. Two deaths, almost certainly due to pneumonic plague, occurred in the Nokanen area in January, 1947. This was the tail-end of the outbreak which began in December 1946 and which had resulted in 21 deaths.

23. In January reports were also received of several deaths in the Sehitwa area of Ngamiland. Six deaths were investigated which, according to the local description of the illnesses, might have been due to anthrax. There was no indication of plague.

24. Extensive rodent surveys were carried out by the rodent control staff throughout the year. In portions of the Ghanzi area signs of rodent mortality were reported in March. Otherwise rodent and flea activity has been at a low ebb throughout the year.

25. Measures to reduce flea activity by the use of 5% D.D.T. in talc, which had been initiated during the previous year, were continued. One pound of 5% D.D.T. per hut was again used and the experimental flea counts carried out gave adequate proof of the value of this procedure.

##### SMALLPOX:

26. It is probable that at least 1,500 cases of smallpox occurred during the year. The majority of these were in isolated areas of the Territory and were not seen by medical staff. Most Africans are, however, fully acquainted with the disease and great reliance can be placed on their diagnosis. Unfortunately reports from the remote corners of the Territory are normally received too late for effective precautionary measures to be adopted.

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27. The disease was, however, of a mild nature and only one authentic death was reported. This was from Maun hospital. Most cases were ambulatory, a fact which resulted in widespread dissemination of the infection.

28. Just short of 60,000 vaccinations were carried out during the year. Vaccination campaigns were conducted in relation to outbreaks of the disease which meant that this type of activity was going on practically throughout the year. The above figure does not include vaccinations at native labour recruiting centres and in relation to the Royal Visit. This latter would cause the total to approximate 100,000.

29. As a precautionary measure all mine recruits are vaccinated on attestation before leaving the Protectorate. All Native Recruiting Corporation representatives undergo a course of instruction in vaccination from the Medical Officer of the area and, when certified as proficient they are appointed "Lay Vaccinators".

30. At the last meeting of the African Advisory Council a paper on smallpox was read by the Medical Officer of Health. Great interest was taken in the subject by councillors and numerous questions were asked.

#### DIPHTHERIA:

31. Fifty-six cases, with seventeen deaths, were reported during the year, mainly from the Francistown district. The disease has therefore been of high virulence, as is to be expected in a population which has had little or no experience of the disease.

32. An isolation camp was established at Francistown, but the main difficulty in coping with the situation was the inability to maintain an effective stand-still order to avoid unnecessary contacts. Distances between centres of population are great and the people in the area are to a great extent nomadic.

33. Intensive measures actively to immunise the entire population in the affected areas were adopted, supplemented by the customary passive immunisation of all direct contacts.

34. It is of interest to note that many cases of diphtheria are also being reported from the Matabeleland West district of Southern Rhodesia, a district which is contiguous to the area in this Territory where the disease has been most rife.

35. At the end of 1947 cases were still occurring in the Francistown and Serowe districts.



MALARIA:

36. Drought conditions resulted in a marked reduction in the malarial incidence.

37. A field experiment conducted by the Medical Officer, Maun, to compare the efficiency of paludrine and mepacrine in the treatment and prophylaxis of malignant tertian malaria, produced conclusive evidence that paludrine was the superior drug.

38. It is aswell here to quote the considered opinion of the Malaria Sub-Committee of the Colonial Medical Research Council on the question of the use of paludrine suppressively and prophylactically:-

- "1. Paludrine is a superior drug to quinine.
2. 300 mg. of paludrine weekly is more effective than 5 or 10 grs. of quinine daily.
3. For therapeutic purposes the latitude between effective and toxic dosages is much greater than that of quinine.
4. It would be quite safe to sell paludrine in Post Offices and similar Government Offices in the same way as quinine is now sold."

39. By the courtesy of the Union Department of Public Health the Medical Officer of Health was able to spend a few days with the Chief Malaria Officer of the Union and his team at Tzaneen in the Northern Transvaal, as a result of which much useful knowledge in modern anti-malaria technique was acquired. Another result of the visit was the establishment of a most useful liaison, with practical cooperation in dealing with the malaria situation on both sides of the Limpopo River.

40. The routine now being developed in endemic areas is the use of 5% D.D.T. in kerosene in an oil of high spreading pressure on open water surfaces with quarterly spraying of Government and all other premises, together with the use of paludrine as a prophylactic amongst persons who do not normally live in malarious areas.

41. It has also been recommended that Maun Township for approximately 3 miles be protected entirely by 5% D.D.T. for the destruction of adult mosquitoes. Anti-larval work will be confined to the end of the dry months when all breeding grounds are restricted.

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42. In this Territory malaria is not of high virulence, the mortality rate being extremely low. Only three deaths were reported by Medical Officers out of a total of 683 cases dealt with. Blackwater Fever too is not commonly encountered.

#### TRYPANOSOMIASIS:

43. During May all Tsetse Fly Control workers in Ngamiland received a prophylactic injection of 0.5 gm. of M. & B. 300. This dose was repeated in October. All workers have blood smears examined at monthly intervals and positive cases are immediately hospitalised and treated.

44. Eleven cases were diagnosed during the year, ten of these being amongst Tsetse Fly Control personnel. Of the ten six had received prophylactic inoculation, the remaining four being cases diagnosed on routine smear examination soon after attestation and before the prophylactic dose of M. & B. 300 had been given. There were no deaths.

45. The Medical Officer, Maun, is investigating the situation in conjunction with the Tsetse Fly Control Officer, and is inclined to the opinion that there is a reservoir of infection in the general population and that the endemic level is being reflected in the continuous incidence of cases. Healthy "carriers" have been found.

#### TUBERCULOSIS:

46. The situation in regard to the ever-increasing number of cases of tuberculosis encountered by Medical Officers continues to give cause for concern. As is to be expected in a population which has developed little, if any, resistance to the infection, the disease often takes a rapidly fulminating course.

47. The number of cases reported by district medical officers is no reflection of the actual number of cases present in the Territory. This also applies to the number of deaths reported, as the majority of cases die in their own homes.

48. Until such time as an extensive tuberculosis survey of the Territory can be carried out, no estimation of the actual incidence of the disease can be made. Such a survey is contemplated, but will depend upon the approval of the necessary additional funds.

49. At the end of the year the installation of the Maun hospital X-ray plant was completed, which serves a longfelt need in the northern part of the Territory.



50. Arrangements have now been concluded for all candidates on first appointment to the public service to be x-rayed to exclude a possible latent tubercular infection.

#### RABIES:

51. In April two deaths due to rabies were reported from the Bangwaketse Reserve in the Southern Protectorate. A further suspected case was admitted to hospital and prophylactic inoculations were given immediately.

52. In conjunction with the Veterinary Department, rodent extermination work in relation to rabies control was immediately begun and the affected district and surrounding area was placed in quarantine.

53. For some considerable time rabies has been reported from the Union side of the border which is in close proximity to the affected area, both animal and human cases having been encountered. In most instances the diagnosis has been confirmed by post-mortems and subsequent microscopic examinations.

54. No further human cases had occurred up to the end of 1947.

#### VENEREAL DISEASES:

55. An analysis of the problem in the Bechuanaland Protectorate reveals the following facts:-

- (a) At least 40% of our African population have syphilis, as shown by serological tests on unselected cases. In certain remote areas of the Territory the proportion is far higher.
- (b) The majority of patients are women. They tend to attend more regularly and for longer periods than men. Most are young and unmarried and have no hesitation in admitting sexual contact or in mentioning the number of contacts.
- (c) The large number of young schoolgirls affected at puberty. These cases usually deny any sexual contact, easily disproved by examination, for fear of the consequences. A history is therefore difficult to obtain and the tracing of contacts well-nigh impossible.
- (d) Extreme sexual laxity. This is to some extent explained by the extraordinarily scattered state of the component families and the lack of real family life. The children are at schools in the larger villages while the parents are at "the lands" or cattleposts, or husbands are

on the Rand mines and are usually away for nine months of the year. This detribalisation must be an important casual factor in the widespread dissemination of venereal disease.

- (e) Abortions and miscarriages are common and the infant mortality rate appears to be high. Unfortunately we have no vital statistics for the African population.
- (f) Judging by the number of new cases and congenital cases, the venereal disease incidence is increasing.
- (g) Venereal disease is the most widespread disease in the Bechuanaland Protectorate. Its spread is largely due to:-
  - (1) Sexual laxity.
  - (II) Lack of family life.
  - (III) Ignorance of its cause, effects and prevention and cure and a general low standard of education.
  - (IV) Lack of funds to initiate widespread campaigns and more intensive treatment than is at present the routine.
  - (V) Lack of interest of the African population in their own welfare, and their view that venereal disease is not a serious matter.

56. Clinically one does not see the large number of tertiary manifestations one would expect to see, but there can be no doubt that an enormous amount of sub-clinical ill-health and lack of mental and physical vigour is due to syphilis infection, both acquired and congenital. In women a tremendous amount of ill-health, mainly gynaecological, and sterility, is due to gonorrhoea.

57. The adequate treatment of cases encountered is bound up with availability of funds. It has been estimated on the basis of the nosological returns for 1947 (Appendix "B") that the cost of treating venereal disease in the Territory on the lines recommended by venereal disease authorities would absorb 80% of the total medical expenditure for 1948/49. This does not take into account undetected cases which could only be discovered by tribal co-operation and treated by mobile venereal disease units.

58. The latest available information on the treatment of early syphilis as recommended by the Expert Committee on Venereal Diseases of the World Health Organisation indicates as adequate a minimum of four million units of

penicillin/.....



penicillin and preferably 90 doses each of 60,000 units at two-hourly intervals for eight days. This form of treatment was successful in 90% of cases of early syphilis and, if properly applied, to pregnant mothers, would prevent congenital syphilis in the new-born in 100% of cases. Such a routine would be impossible to adopt in this Territory both from the point of view of cost and of hospital accommodation.

#### YELLOW FEVER:

59. The Director of Medical Services and the Medical Officer of Health represented this Government at a Conference on yellow fever held in Pretoria early in 1947. Representatives of the Union Departments of Public Health and Agriculture, the South African Institute for Medical Research and the Governments of Portuguese East Africa, Southern Rhodesia and Nyasaland also attended.

60. Amongst the resolutions taken was one expressing the need for acquiring more knowledge of the epidemiology of the disease in Southern Africa without which adequate control and the prevention of further spread would not be feasible. The Conference urged the establishment of a team of investigators which would include an entomologist, a medical officer, a pathologist and a zoologist to be appointed either singly or jointly by the major authorities concerned namely the Portuguese Colonial Administration, the Belgian Congo, the British Colonial Administration, Southern Rhodesia and the Union of South Africa. If convenient, this team should act in association with the Yellow Fever Research Institute, the Joint Research Committee of the Central African Council and the South African Institute for Medical Research.

61. Following this decision a request for funds to carry out this investigation was made to the Colonial Development and Welfare Fund. At the time of compiling this report the outcome of the application was not known.

62. While no human case of yellow fever in the Territory has as yet been discovered, the need for extending the human immunity survey begun in 1945 is one of urgency. Unfortunately this could not be undertaken during the past years as had been contemplated, owing to the shortage of personnel.

63. Yellow fever legislation enacted during the year is mentioned at paragraph 8(a).

#### BILHARZIA:

64. During the year the Acting Director of Medical Services and the Medical Officer of Health visited Salisbury and by courtesy of the Medical Director, Southern Rhodesia, were able to see a good deal of the laboratory work being

carried/.....



carried out in connection with bilharzia control. Much useful information on modern trends of control, diagnosis and treatment was obtained.

65. This is one of the diseases for the control of which special funds have been requested. Pending the availability of staff and funds it has not been possible to do anything beyond treating confirmed cases.

66. The establishment of a Health Centre at Gaberones with a small number of beds, will enable cases of bilharzia to be hospitalised and to be kept under observation while receiving the intensive course of antimony recommended by certain authorities.

#### NURSES EXAMINATIONS:

67. Despite the difficulties of teaching resulting from shortage of staff, the examination results were of a high order. Of nineteen first-year candidates sixteen were successful, one passing with honours (over 75%) and eight with merit (over 60%). All four candidates who took the second-year examination were successful, two passing with merit. Both third-year candidates passed with merit and of the three pupil midwives who took the examination two passed, both with merit.

#### MILITARY PENSIONERS:

68. A considerable amount of work falls upon medical officers who are responsible for the examinations and recommendations for pensions of ex-army personnel, both European and African. In addition similar work is done on behalf of the Union Department of Pensions in respect of Union Army pensioners now resident in the Territory.

69. The Director of Medical Services and one Medical Officer are also members of the Military Pensions Board which reviews all recommendations. There are now 350 ex-army pensioners in the Bechuanaland Protectorate.

#### SECTION 111 - VITAL STATISTICS.

70. As already indicated vital statistics in respect of the African population are not available.

Total European population	2392
Total European births	33
Total European deaths	17
Birth rate per 1000	32.61
Death rate per 1000	7.10
Infant mortality	3 deaths

TABLE/.....



TABLE SHOWING CAUSES OF DEATHS:

Tuberculosis	2
Cancer	2
Heart Disease	7
Diabetes	1
Pneumonia	1
Liver Disease	1
Accidental Poisoning	1
Prematurity	2

SECTION IV - HYGIENE & SANITATION:

HOTELS & BUILDINGS:

72. As a result of their failure to conform to public health standards the hotels at Lobatsi and Palapye were condemned and new hotels were erected in their place. The new buildings are a great improvement on the old and were built with the active assistance of the Medical Department.

73. Regular inspections of all hotels in the Territory were carried out during the year and a number of suggested improvements have been introduced.

74. Plans for a new European school at Lobatsi were drawn up and a suitable site chosen. It is hoped to complete the building about the middle of 1948. The completion of this structure which will conform to all modern standards of hygiene and sanitation will fill a much desired need.

75. New Nurses' Homes were completed at Serowe and Mahalapye and extensions to the Homes at Lobatsi and Maun are expected to be completed early in 1948. Plans have also been drawn up for an expansion of hospital accommodation at Maun where the building of quarters for the Health Inspector has also been approved.

76. Plans have been drawn up for the establishment of Health Centres at Kanye and Gaberones but at the time of writing the decision in respect of the erection of these centres was not known.

MATERNITY AND CHILD WELFARE:

77. Maternity services continue to be provided under far from ideal conditions owing to the absence of maternity hospitals or blocks. Nevertheless, the volume of this type of work continues to expand. It is, however, felt that additional services of this nature will have to be provided in the more remote centres where medical facilities are minimal or entirely absent.

The/.....

78. The training of midwives continues to be undertaken at Serowe.

# SECTION V - HOSPITALS AND DISPENSARIES.

79. The following are the statistics of treatment in hospitals and dispensaries during the last three years:-

<u>Outpatients:</u>	<u>1945</u>	<u>1946</u>	<u>1947</u>
First attendances	40,480	48,228	52,789
Subsequent attendances	<u>164,018</u>	<u>161,832</u>	<u>170,010</u>
	<u>204,498</u>	<u>210,060</u>	<u>222,799</u>
<u>In-patients:</u>			
Total treated	<u>4,562</u>	<u>4,795</u>	<u>5,605</u>

80. Revenue from hospital and dispensary fees amounted to £3,498.11.7 in 1947 as compared with £3,211. 1.11 in 1946.

81. The following are the number of beds available at each hospital:-

Lobatsi	84
Serowe	58
Francistown	40
Maun	28
Lobatsi Mental Home	9
Mahalapye	9
Kanye Mission Hospital	34
Mochudi Mission Hospital	17
Holepolole Mission Hospital	60
Maun Maternity Centre	<u>6</u>
Total	<u>345</u>

82. This means that one hospital bed is available for every 853 persons in the Territory.

83. There is one Government Medical Officer for every 29,500 of the population. The inclusion of medical missionaries and one subsidised doctor reduces the figure to one per 21,071 persons.

## HOSPITAL VISITING COMMITTEES:

84. The first Committee was established at Serowe during the year. Its function was to visit the hospitals regularly and advise on matters concerning the welfare and needs of African patients in the hospitals. It was not

concerned/.....



concerned with the internal administration of the hospital. It is felt that the Committee has served a useful purpose and has been instrumental in bringing before the authorities very useful suggestions for improvements of a minor but practical nature. It has afforded the people an opportunity of expressing their views unencumbered and as the result of closer contacts, has been the means of removing suspicion and thereby counteracting the numerous superstitious practices that still exist in the Reserves.

85. As a result of the experience gained at Serowe, a second Visiting Committee was established at Maun but it is as yet too early to determine its effectiveness.

#### PRISONS AND ASYLUMS:

86. The health of the prisoners remained good throughout the year. Most illnesses were of only a minor nature and few prisoners required hospitalisation. There were no deaths or releases from prison on account of illness.

87. The Mental Home at Lobatsi, built from money made available by the Colonial Development and Welfare Fund, came into use in January 1947.

88. The original purpose of the Home was the detention there of mental patients under observation until they could be admitted for proper care and treatment in Union institutions. In view of the dearth of beds in the Union this object could not be attained, with the result that mental patients were required to be detained for long periods at Lobatsi under the supervision of the Medical Officer of the hospital, but without the direct supervision of trained nursing staff.

89. Accommodation has been scarce ever since patients were first admitted to the Home. There were three escapes during the year, but steps have now been taken to prevent such occurrences in future.

#### OCCUPATIONAL THERAPY:

90. As a result of discussion with the Department of Education the cooperation of the Welfare Officer and the Homecrafts Education Officer was obtained in introducing occupational therapy on a limited scale and other means of occupying the time of Africans, both adults and children, whilst in hospital.

#### HIGH COMMISSION TERRITORIES NURSING COUNCIL:

91. Members appointed to the Council have/.....

have now been gazetted and it is hoped to hold the first meeting early in the new year. The Bechuanaland Protectorate Nursing Executive Committee met on two occasions during the year. Most of the discussions were concerned with the conduct of examinations for nurses.

FINANCE:

92.

Total revenue from Hospital and Dispensary Fees	£3,650. 0.11
Total Ordinary Expenditure of Medical Department:	
Personal emoluments	£23,910. 6.0
Other charges	<u>27,325. 8.9</u>
	51,235.14. 9
Total ordinary revenue of Bechuanaland Protectorate	469,075.14. 3
Proportion of ordinary medical expenditure to ordinary revenue of Protectorate	10.9%.

The figures are for the financial year ended 31st March, 1947, being the latest audited figures available.

93. No grants from Colonial Development and Welfare Fund were approved during the year.

94. It is a pleasure to record the loyal service rendered by the staff of the Department. Owing to the need for drastic economies it was often necessary to carry out the work under far from ideal conditions. Nevertheless much was achieved.

M.L. FREEDMAN

ACTING DIRECTOR OF MEDICAL SERVICES

Mafeking,  
3rd. September 1948.





"A"  
A P P E N D I X

RETURN OF DISEASES - OUTPATIENTS.

FOR THE YEAR 1947

<u>DISEASES BY SYSTEMS OR GROUPS</u>	<u>MALE</u>	<u>FEMALE</u>
1. Epidemic, Endemic and Infectious Diseases	5,705	7,107
2. General Diseases not mentioned above	1,324	2,096
3. Affections of the Nervous System and Organs of the Senses	1,438	1,641
4. Affections of the Circulatory System	400	419
5. Affections of the Respiratory System	2,135	2,559
6. Diseases of the Digestive System	3,464	5,525
7. Diseases of the Genito-urinary System (non-venereal)	515	5,772
8. Puerperal State	-	2,159
9. Affections of the Skin and Cellular Tissues	1,221	1,441
10. Diseases of Bones and Organs of Locomotion (other than Tuberculous)	355	308
11. Malformations	7	7
12. Diseases of Infancy	63	82
13. Affections of Old Age	14	23
14. Affections produced by External Causes	1,455	807
15. Ill-defined Diseases	122	174
16. Diseases, the total of which have not caused 10 deaths.	1,345	1,303
 TOTALS:	 19,563	 31,423





# APPENDIX "B"

## RETURN OF DISEASES AND DEATHS - INPATIENTS

FOR THE YEAR 1947

	Remaining in Hospital 1946	Yearly Total		Total cases Treated	Remaining in Hospital 1947
		Admis- sions	Deaths		
1. Epidemic, Endemic and Infectious Diseases	32	713	55	745	37
2. General Diseases not mentioned above	14	264	24	278	9
3. Affections of the Ner- vous System and Organs of the Senses	4	278	7	282	12
4. Affections of the Circulatory System	4	145	21	149	6
5. Affections of the Respiratory System	15	479	24	494	7
6. Diseases of the Digestive System	4	330	13	334	8
7. Diseases of the Genito- urinary System (non- venereal)	10	412	7	422	11
8. Puerperal State	16	748	14	764	21
9. Affections of the Skin and Cellular Tissues	5	231	-	236	8
10. Diseases of Bones and Organs of Locomotion (other than Tuber- culous)	3	69	1	72	4
11. Malformations	-	4	-	4	-
12. Diseases of Infancy	7	123	9	130	7
13. Affections of Old Age	-	4	-	4	1
14. Affections produced by external causes	28	544	17	572	28
15. Ill-defined Diseases	2	19	4	21	1
16. Diseases, the total of which have not caused ten deaths	5	661	2	666	16
<b>TOTAL:</b>	<b>149</b>	<b>5,024</b>	<b>198</b>	<b>5,173</b>	<b>176</b>

two Mansonioides africanus and uniformis whose numbers are greatly reduced in winter. I think that if virus is being transmitted during the dry season then it must be carried by these mosquitos. The two species of Mansonioides are known, from laboratory experiments, to be capable of harbouring virus but they have not been found infected in nature. Nothing is known about the anophelines and the other culicines mentioned above in this respect. In Uganda great efforts have been made to isolate virus from wild caught mosquitos in forests where yellow fever is known to be highly endemic amongst monkeys. The only positive results have been obtained with members of the subgenus Stegomyia. It is, of course, inadvisable to be dogmatic but it seems highly unlikely that species of mosquitos found in N. Bechuanaland and Barotseland during winter can act as vectors.

The results of the present survey confirm my previous suggestion that yellow fever virus is probably not actively transmitted during the long dry winter spell, and that conditions for active transmission are only possible for a relatively short period during the rainy season. This seems to preclude the possibility that yellow fever is endemic in Ngamiland and some other explanation must be found for the presence of immunes among the indigenous population. This leads me again to suggest that active virus infiltrates with migrant labour into Ngamiland from some endemic focus in the north and that the short transmission season accounts for the few immunes to be found along the edges of the swamps

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