Bechuanaland Protectorate

ANNUAL MEDICAL & SANITARY REPORT

FOR THE YEAR 1957

Mafmail

E R R A T U M

Malaria map facing page 5.

Delete the two lines from "co-operative - - - South boundaries" and substitute the following :-

"Areas of co-operative anti-malarial field work between Bechuanaland Protectorate and the Union of South Africa during 1957 are shown by fine line shading along part of the southern boundary and by the enclosure marked 'Tuli Block' on the eastern boundary."

ANNUAL MEDICAL AND SANITARY REPORT

FOR THE YEAR 1957

C O N T E N T S

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BECHUANALAND PROTECTORATE

ANNUAL MEDICAL

AND

SANITARY REPORT

FOR THE YEAR 1957

SECTION I - ADMINISTRATION

1. STAFF

SENIOR SERVICE

	Director of Medical Services
1	Medical Officer of Health
14	Medical Officers
4	Health Inspectors
2	Field Officers
1	Matron
3	Sisters-in-Charge
12	Nursing Sisters
1	District Nursing Sister
1	Housekeeper
3	Clerks
2	Lady Clerks

JUNIOR SERVICE

9	Health Assistants
7	Clerks
27	Dispensers
1	Microscopist
1	Senior Sanitary Inspector
8	Sanitary Inspectors
1	Pupil Sanitary Inspector
4	Rodent Assistants
17	Medical Orderlies
36	Staff Nurses
39	Probationer Nurses
6	Male Nurses
4	Male Attendants (Mental Home)
3	Female Attendants (Mental Home)
10	Cooks
11	Drivers
7	Lorry Labourers
5	Gardener/Messengers
7	Labourers
78	General Duty Assistants

2. European staffing difficulties remained acute throughout the year, especially as regards Nursing Sisters. Four Sisters resigned during the year leaving, at the end of the year, four Sisters only on the fixed establishment, one of whom was on an overseas course during the whole year, the other vacancies

being../

being held by a series of locums.

3. Two Medical Officers were recruited during the year.

4. VISITORS:

Professor T. H. Davey, Liverpool Institute of Tropical Medicine.

Dr. F. Zumpt, South African Institute for Medical Research.

Mr. W. H. Brauns, South African Institute for Medical Research.

Dr. A. E. Lewis, Tsetse Fly Control Consultant.

Mr. J. Pilson, Ecologist, Tsetse Fly Control.

5. LEGISLATION:

Government Gazette No. 3011 - High Commissioner's Notice No. 103 of 1957 : Approval of Clauses of the High Commission Territories Nursing Council.

Government Gazette No. 3024 - Proclamation No. 71 of 1957 : Bechuanaland Protectorate Medical, Dental and Pharmacy (Amendment) Proclamation, 1957.

SECTION II - PUBLIC HEALTH

6. STAFF

SENIOR SERVICE

1 Medical Officer of Health
2 Health Inspectors
3 Field Officers

JUNIOR SERVICE

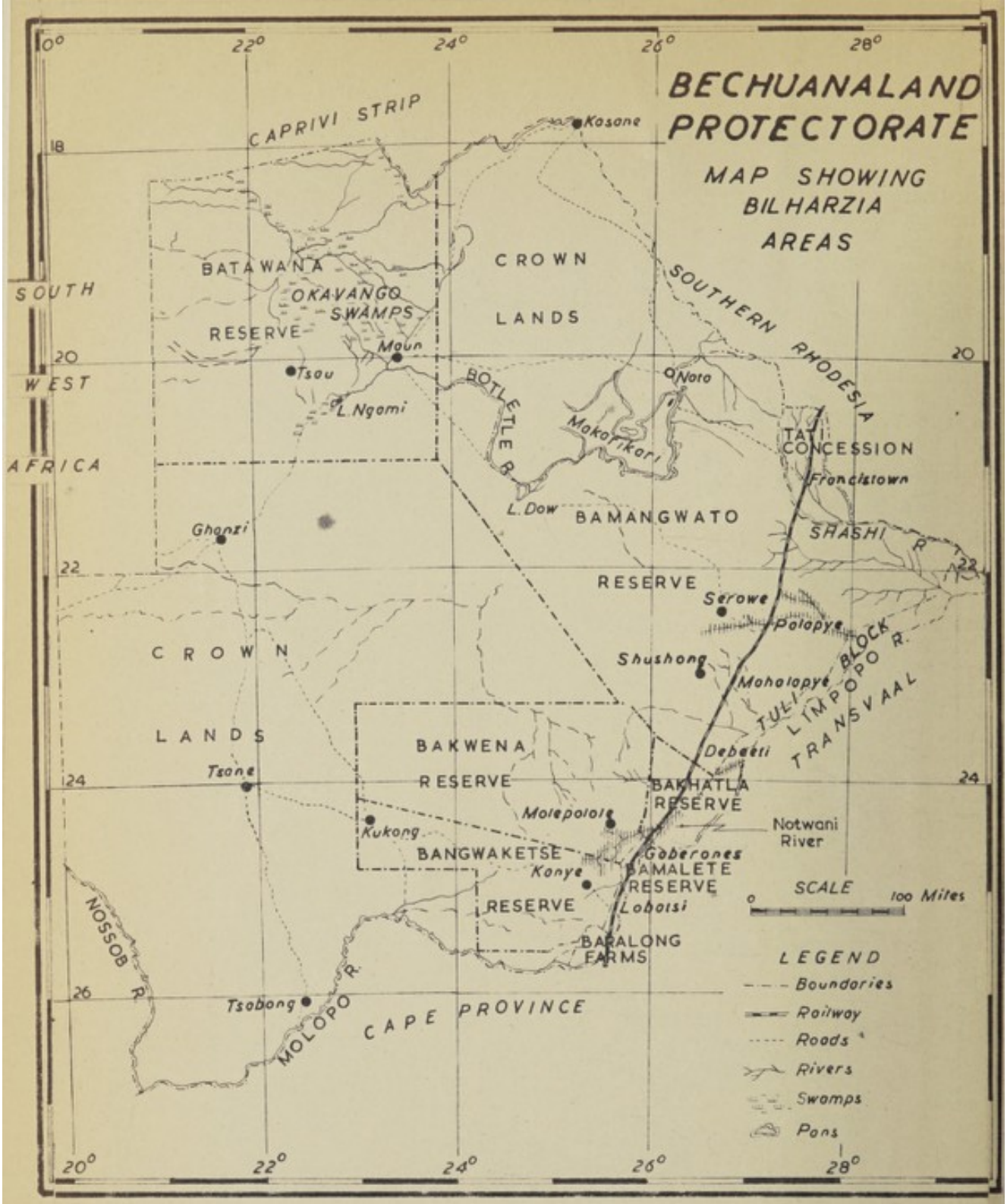
1 Senior Sanitary Inspector
7 Sanitary Inspectors
9 Health Assistants
1 Pupil Sanitary Inspector
4 Rodent Assistants.

7. The Medical Officer of Health covered 8,303 miles on duty during the year; the Health Inspector of the Northern Division 3,678 miles and the Health Inspector of the Southern Division 7,874 miles.

8. Two Field Officers were appointed during the year, one of whom was attached to C.D.F. Scheme D.3067 (Diphtheria/Whooping Cough Campaign). The third post remained vacant during the year.

9. The Field Officers carried out their usual plague control duties, in addition to which the Field Officer stationed at Gaberones was attached to C.D.F. Scheme D.3067 for the first four months of the year.

10../



Bilharzia: S. haematobium infections are intense at Palapye and along the Notwani river in Bakwena and Bakgatla reserves (vertical shading). Suspected are all eastern flowing streams feeding the Limpopo, together with the Nata and Botletle rivers and the Mogobane irrigation works near Gaberones. The Okovango and Molopo rivers are not infected. River floods alter snail habitat yearly.

B. Physopsis sp. were found in most of the river beds where pools formed after floods and in the Mogobane irrigation works. Those cattle drink dams which become heavily charged with faeces appear to house no snails.

Planorbis sp. were found in the Okovango system at Maun, but no cases of S. Mansoni were recorded.
The Okovango and Botletle and Chobe swamps and their associated streams move slowly, persisting through most years. Rivers on the east and south sides flood during rains leaving many large pools along dry beds in which snails propagate for a few months.

10. NOTES ON DISEASES OF PUBLIC HEALTH INTEREST

BILHARZIASIS. A snail survey to locate Bilharzia carriers was continued from the previous year. By the end of 1957 a large proportion of the territory had been covered. Specimens of snails collected by the field staff have been submitted to the Snail Identification Section of the Malaria and Bilharzia Research Laboratory at Salisbury, Southern Rhodesia. A better appreciation of the host-snail habitat has already resulted from this work. Workers in the Mochudi area several years ago reported Physopsis species found in the Notwani river within the village area, but this finding was not confirmed in 1956 and 1957. Many specimens of this carrier species were found, however, in stagnant river pools both upstream and downstream from the village; it has become clear that the habitat varies from year to year in this river, most probably because of the variable scouring effect of periodic floods. Physopsis and Biomphalaria spp. have been found only in certain streams, and not in such artificial dams and cattle drinking pools as are not in communication with a river bed. If this observation, which appears to be in line with the findings of Transvaal Research teams, is confirmed, control measures will be much facilitated. The Notwani river and its tributaries, together with the Lotsani river, yielded infected specimens of Bulinus (Physopsis) africana during several months. Of urine specimens taken from school children at Mogobane, Gobane and Mochudi in the Notwani riverine system, and Palapye in the Lotsani system, 30 - 40% were infected. All other rivers flowing to the east, together with the Chobe and Botletle rivers, are suspected of harbouring infected snails. The Molopo river, which seldom flows throughout its entire length, the Okavango swamps to the north west of Maun and the Thamalokane river appeared to be uninfected, although numerous specimens of Bulinus africana and Biomphalaria pfeifferi are frequently found in the latter river at Maun.

11. The survey is to be extended during 1958.

12. A list of snails so far identified at Salisbury is given in Annexure "A".

13. Cases reported from hospitals and dispensaries number 224 in 1957. Of these 5 were admitted to hospital. The distribution is as follows :-

TABLE I

Francistown	7
Gaberones	54
Kanye	2
Mahalapye	12
Maun	4
Mochudi	75
Molepolole	7
Serowe	63
	224

14. As emphasised in the 1956 report, the results of special urine tests performed on groups of school children at various villages makes it likely that the real incidence of Schistozomal infection is greater than the above figures would indicate.

15. DIPHTHERIA. The number of cases was 42. There were no extensive outbreaks. The cases were distributed thus :-

TABLE II../

TABLE II

Francistown	13
Kanye	5
Lobatsi	9
Mahalapye	1
Maun	1
Ramoutsa	2
Molepolole	3
Serowe	8
	42

16. The UNICEF and C.D. & W.F.-assisted mass campaign to immunise all Protectorate children against diphtheria failed in its object owing to lack of response from the people. Their seasonal migration to the arable lands from the villages caused so much defection in attendance that, after the initial dose, attendance fell to negligible numbers for later doses. After a gruelling and costly effort to reach all the children in the areas dealt with, the campaign had to be abandoned.

17. Government hospitals and dispensaries are now pressing their local population to accept the inoculation in an alternative effort to create blocks of immune persons in the more densely populated areas. The campaign is being continued, therefore, on a smaller scale without outside help, at a speed of action acceptable to the inhabitants and in areas which offer satisfactory chances of maintaining the desired standard of immunity in after years.

18. It is hoped that the UNICEF equipment issued for this campaign against diphtheria and whooping cough will be reallocated for use on current public health work and surveys operated by the territorial medical staff with its own finances.

19. DYSENTERY. One thousand, seven hundred and sixty three cases were notified, of which 782 were bacillary, 10 were amoebic and 976 unspecified. 3 deaths were recorded. It is to be emphasised that owing to the absence of laboratory facilities, differential diagnosis is difficult.

20. ENTERIC FEVER. Two cases only were notified. The low incidence of fevers of the enteric group continues to be remarkable in view of the almost complete lack of sanitary measures in the greater part of the reserves.

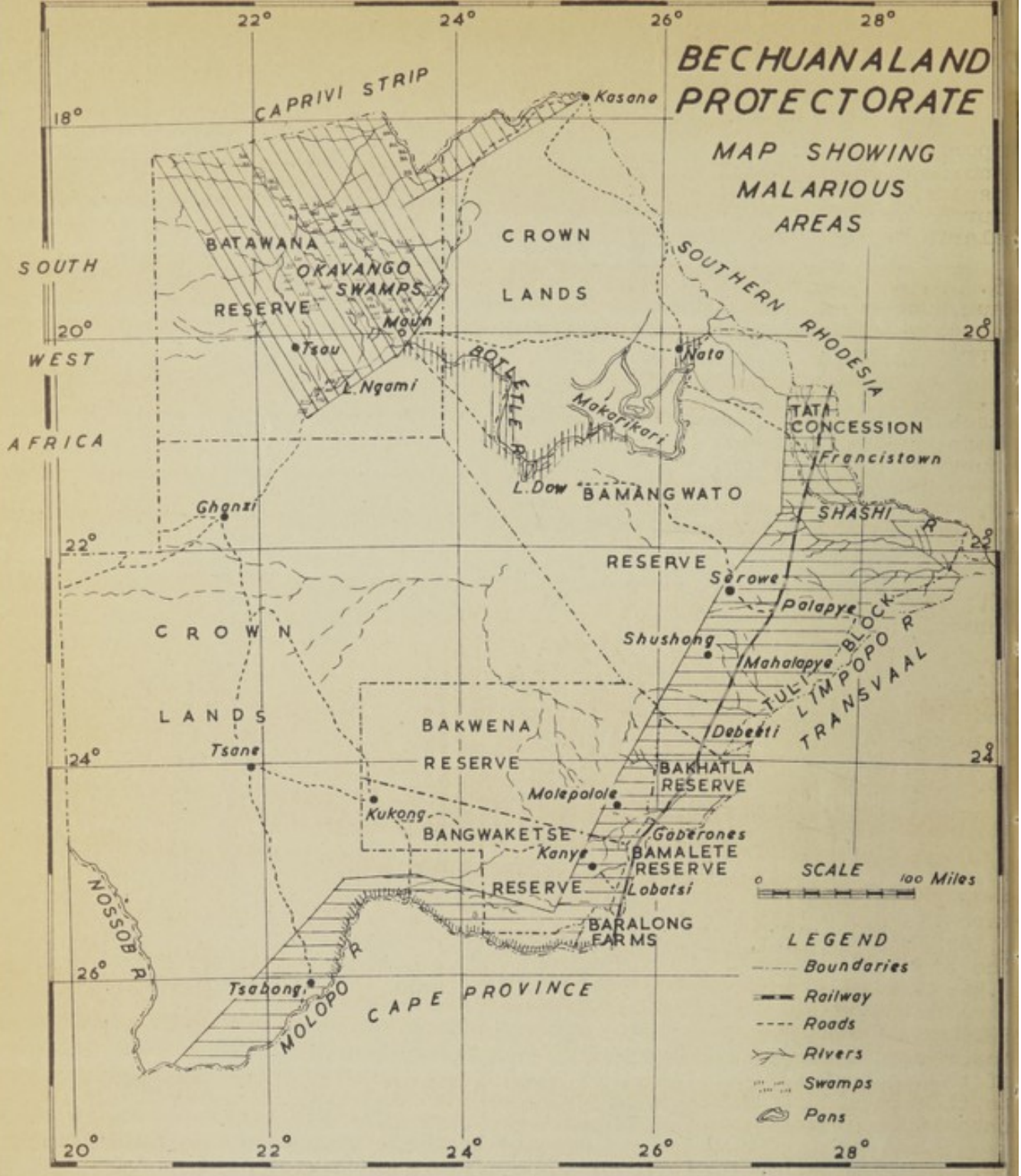
21. LEPROSY. Thirty four cases were reported. Many of these cases are, it is believed, long standing infections. Observations in Ngamiland and Chobe river areas indicate a possibly higher rate of infection amongst the fisher folk in those swamp areas than elsewhere in the Protectorate, but the incidence is not believed to be serious.

22. MALARIA. One thousand, seven hundred and ninety three cases were reported. Of these, 1,172 were in Ngamiland and Chobe areas.

23. Malaria control has received increasing attention, and close co-operation with surrounding countries has been maintained. In October an inter-territorial meeting was convened at Pietersburg by the Chief Health Officer of the Northern Transvaal. The meeting was attended by the Director of Medical Services and Medical Officer of Health of this territory, and by the Director of the Malaria Research Laboratory, Salisbury, Southern Rhodesia.

24. The South African Institute for Medical Research has

reported../



LEGEND: Areas of Malarial Hypoendemicity shown by east to west bars.
Areas of Malarial Mesoendemicity shown by vertical bars.
Areas of Malarial Hyperendemicity shown by slanting bars.

Co-operative anti-malarial field work with Union Health Department units are shown by fine line shading on the East and South boundaries. Unshaded parts of the Kalahari semi-desert, lying West of the Bamangwato and Bakwena reserves record occasional cases of imported malaria.

Factors influencing malarial distribution and malaria control are :-

Area in square miles of the Bechuanaland Protectorate	275,000
Population total	300,000
Occupation of the people	Pastoral 95%
Altitude averages	3,000 ft.
Rainfall yearly average of the South Western semi-desert	5-6 ins.
Rainfall yearly average of the Eastern areas ...	25 ins.

Absence of flowing streams or permanent lakes in the south west.
Inland drainage to swamps of the Okovango and Nata rivers in the northern area, together with swamps along the Chobe river on both

reported upon blood smears taken by the field survey team. These records, combined with additional data supplied by reports from hospitals, health centres and dispensaries, have provided the source from which a preliminary assessment of the distribution of malaria in the territory has been made. (See Map "B")

25. It appears that the hyperendemic areas of the Okavango, Maun, Chobe and Kachikau areas provide the centres from which the majority of the cases in the western and central areas of the territory are derived.

26. MALNUTRITION AND DEFICIENCY STATES. The number of cases recorded was three thousand, five hundred and thirty. Of these, 404 were diagnosed as beri-beri, 289 as pellagra, 348 as scurvy and 25 as other deficiency states.

27. The rainy season of 1956/57 was a poor one, and in the Ghanzi area famine relief measures were applied during the winter months.

28. PLAGUE. No cases of plague were recorded. Routine control surveys were carried out during the year.

29. POLIOMYELITIS. Eight cases were reported with two deaths. Inoculations, with vaccine obtained both from the Union and Great Britain in limited quanitities, were carried out, at request, throughout the year.

30. RABIES. No cases were reported.

31. RELAPSING FEVER. Nine cases were diagnosed.

32. RESPIRATORY DISEASES. The total number recorded was twenty two thousand, two hundred and fifty five. Of these, 1,856 were diagnosed as pneumonias, of which 575 were lobar pneumonia, 1,162 broncho-pneumonia and 121 atypical and unspecified forms. The total number of deaths from pneumonia of all kinds was 23 or 1.3%. Cases diagnosed as influenza numbered 2,783

33. SMALLPOX. An epidemic broke out in the Kasane area in October. Sixty five cases with 3 deaths were recorded. The source of the infection is believed to have been extra-territorial. Owing to the prevalence of floods a mass vaccination campaign was prolonged into 1958.

34. TRYPANOSOMIASIS. Nineteen cases were reported from Ngamiland : all were infected with Trypanosoma rhodesiense. Most of these cases were from the Tsau - Nokaneng area. All were admitted to hospital and made good progress with appropriate treatment. Routine blood smears were taken from employees of the Tsetse Fly Control staff during the year. Only one case of Trypanosomiasis was detected amongst these workers.

35. TUBERCULOSIS. One thousand, five hundred and fifty five cases were recorded during the year of which respiratory tuberculosis accounted for 939, tuberculosis of bones and joints for 86, intestinal tuberculosis for 130, tuberculosis of the central nervous system for 10 and other forms for 390. There were 44 deaths.

36. Further plans for the control of tuberculosis awaited the receipt of the Tuberculosis Survey Team report which had not been received by the end of the year.

37../

37. VENEREAL DISEASES. The total cases recorded were fourteen thousand and eighty of which 14,043 were due to syphilis and gonorrhoea. The remaining 73 were comprised of 3 cases of lymphogranuloma, 2 cases of granuloma inguinale and 14 cases of unspecified venereal disease.

38. WHOOPING COUGH. One thousand, five hundred and forty cases were reported. Of this number, 532 occurred in the Mahalapye area and 390 in the Serowe area.

39. With regard to the prophylactic campaign, the same remarks apply as in paragraph 16 (Diphtheria).

40. MISCELLANEOUS INFECTIOUS AND CONTAGIOUS DISEASES.

The recorded incidence of these diseases is as follows:-

Meningitis (Cerebro-spinal)	21
Measles	1,196
Varicella	161

41. MEAT INSPECTION. Meat inspection and slaughter control is exercised at present in four of the large settlements only.

42. Meat inspection at the Colonial Development Corporation export abattoir at Lobatsi, and the Lobatsi village abattoir where the kill is for local consumption, is undertaken by the Veterinary Department. At other centres this duty devolves upon the Health Inspector and a Sanitary Inspector.

43. The village abattoirs at Francistown and Lobatsi are owned and maintained by Government. At other villages each licensed butcher has his own slaughter pole.

44. HOUSING AND TOWN PLANNING. All plans for new buildings are examined by Medical Headquarters in co-operation with the Architect on the staff of the Public Works Department.

45. NEW BUILDINGS. The following were completed or begun during the year:-

(a) New offices for the Health Inspector, Lobatsi
(b) Lecture room, Lobatsi
(c) Matron's office at the Athlone Hospital, Lobatsi
(d) Addition to the office of the Health Inspector, Francistown.
(e) Dispensary, Maun Hospital.

SECTION III - VITAL STATISTICS

46. There is no compulsory registration of African births and deaths.

47. Figures for the 1956 census are not yet available for Africans. Europeans, Asiatic and Coloured are given below:-

TABLE III

Europeans	3,174
Africans	292,755 x
Asiatic	248
Coloured	676
Total population:	296,853

x 1946 census

The .../

The mean population density is just over 1 per square mile.

European births and deaths TABLE IV

European births	110
Births per 1,000	36
European deaths over 1 year of age	19
Deaths per 1,000	7
Deaths under 1 year of age	7

Causes of European Deaths

TABLE V

Accident	4
Arteriosclerosis	2
Assault	1
Cancer	1
Cardiac Failure	6
Cerebral Haemorrhage	2
Coronary Thrombosis	1
Enteritis	1
Gastritis	1
Hydrocephalus	1
Malaria	1
Neo-natal death	1
Pneumonia	1
Poliomyelitis	1
Snake bite	1
Suicide	1
	26

48. ILLNESS OF OFFICIALS. Causes of morbidity amongst Senior And Junior Service officers who were off duty for more than 14 days are given in Table VI.

TABLE VI

SENIOR SERVICE

Appendicitis	1
Cardiac Failure	1
Fractures	2
Haemorrhoids	2
Infectious Hepatitis	1
Influenzal Infection	1
Inguinal hernia	1
Malaria	1
Mastoiditis	1
Neurosis	2
Ovarian Cyst	1

Fibromata ...../

Fibromata	1
Pertussis	1
Verrucae	1

JUNIOR SERVICE

Accident	1
Appendicitis	3
Arthritis	1
Bronchiectasis	1
Bronchitis	1
Carcinoma	1
Cardiac Failure	1
Cataract	1
Diphtheria	1
Fractures	3
Gastritis	1
Hypertension	1
Miscarriage	1
Pleurisy	1
Tuberculosis	1

There was one African death.

SECTION IV - MATERNITY AND CHILD WELFARE

49. MATERNITY AND CHILD WELFARE. Two thousand, eight hundred and ninety six normal confinements were recorded at the various centres. A further 396 cases were admitted for complication, not including abortion or miscarriage. Two hundred cases of abortion or miscarriage were admitted.

50. Ante-natal attendances number fifteen thousand, six hundred and sixty five and post natal 1,236. Attendances at Child Welfare Clinics number 2,048.

SECTION V - HOSPITALS AND DISPENSARIES

51. OUT-PATIENTS. The number of initial attendances was one hundred and forty seven thousand, one hundred and fifteen with 290,389 subsequent attendances. Total - 437,504.

52. IN-PATIENTS. Admissions numbered twelve thousand, four hundred and seventy six with 512 remaining in hospital at the end of 195 . The total number treated was 12,988.

53. At the end of the year the number of hospital beds available in the Territory, both Government and Mission, was six hundred and eighty. Of these 29 were European, 539 African, with 112 cots. This gives a bed population ratio of approximately 1 : 490. This increase is mainly due to extra accommodation at the Mission hospitals.

54. The distribution of beds and patients is given in Table VII :

TABLE VII

	BEDS			PATIENTS	
	European	African	Cots	Admissions	Deaths.
Francistown	5	67	15	2,995	94

Gaberones ..../

	European	African	Cots	Admission	Deaths
aberones	-	8	5	438	21
anye (S.D.A.)	2	74	6	1,418	25
anye (Moffat)	1	32	7	640	14
hale	-	5	-	-	-
bbatsi (including Mental Home)	11	117	15	1,272	16
ahalapye	-	13	1	379	14
aun	5	32	4	675	23
aun Maternity Centre	-	12	10	128	1
bchudi (D.R.C.)	-	32	8	366	13
blepolole (U.F.C.)	-	49	10	853	9
amoutsa (Hermannsburg Mission)	-	13	-	90	-
erowe	5	85	31	3,222	105
	29	539	112	12,476	335

5. HEALTH CENTRES AND DISPENSARIES. The Health Centres as aberones and Mahalapye are now fully established. The number f out-patient attendances during the year was 10,082 and 15,196 espectively.

6. Dispensaries are established at the following centres and re visited regularly by a Medical Officer :-

Dikgatlong	Nokaneng
Gabane	Palapye
Ghanzi	Pilikwe
Kalamari	Rakops
Kalkfontein	Ramoutsa
Kasane	Sefhare
Kumukhuane	Sehitwa
Machaneng	Shakawe
Moeng	Tsau

7. The following centres are visited regularly by a dispenser nd, whenever possible, by a Medical Officer :-

Nojane, Kuli and Karakobis from Kalkfontein ;
Kachikau, Satau and Panda-ma-Tenka from Kasane ;
Sepopa and Seronga from Shakawe.

8. The following centres are now visited by Mission doctors :-

Digawana	(3)	Mabule	(3)
Ga-Thamaga	(4)	Mmathete	(3)
Hukuntsi	(5)	Mmangodi	(4)
Kakia	(5)	Moshupa	(1)
Kang	(5)	Mogemani	(3)
Kukong	(5)	Moshaneng	(1)
Lehututu	(5)	Ntswelatsu	(4)
Letlakeng	(4)	Pitsani-Molopo	(4)
Lokwabe	(5)	Ranaka	(3)
Magweraapitsi	(3)	Tshane	(4)
Molopojani	(3)	Tshidilamolomo	(3)
Manyana	(3)		

(1) Weekly visits
(3) Every three weeks
(4) Monthly visits
(5) Every two months.

59. The Kalahari area was visited six times during the year by one of the medical missionaries from the Seventh Day Adventist Mission at Kanye. Besides the established visits to Tsane, Kakia and Kukong, extensions have been made to Hukuntsi, Lokwabi and Kang. During these visits the Mission Medical Officer carried out a large number of vaccinations using lymph provided gratis by this department.

60. The number of centres where medical treatment can be obtained, even though periodically, is now 53 as against 42 in 1956 and 36 in 1955.

61. NURSING EXAMINATIONS

TABLE VIII

NURSING EXAMINATION RESULTS

	Number of Candidates	Passed	Failed
First Year General Medical and Surgical	51	44	7
Second Year General Medical and Surgical	21	15	6
Third Year General Medical and Surgical	15	10	5
Final Midwifery	9	7	2

There were ten passes with merit.

62. GENERAL. The total number of operations performed was two thousand, five hundred and thirty three, of which 487 were reckoned as major. 2,749 x-ray examinations were conducted.

63. MEDICAL EXAMINATIONS ON FIRST APPOINTMENT. Two hundred and eighty two examinations were made, with x-ray report.

SECTION VI - GENERAL

64. AFRICAN LABOUR RECRUITMENT. The total number of recruits examined and attested in the territory was 20,360 who were examined at the centres shown in Table IX. On these, 1,381 were transported by air lift.

65. In addition 47,205 recruits from Barotseland and Nyasaland were transferred by air lift to Francistown, the total number of miles flown being 1,680,591 without accident.

TABLE IX./

TABLE IX

	Number examined	Number of rejects
Francistown	1,142	47
Gaberones	1,811	50
Kanye	1,891	52
Lobatsi	2,872	30
Mahalapye	1,769	48
Maun	3,569	80
Mochudi	318	--
Molepolole	3,169	80
Serowe & Palapye	3,819	133
	20,360	520

66. Rejected candidates comprised 2.5% of the total number examined. The main causes of rejection were chronic affections, extreme youth and poor physique.

67. PRISONS. Regular weekly gaol inspections are held at all centres where a Government Medical Officer is stationed. A sick parade is held at the same time, but prisoners may report for medical attention whenever there is urgent need.

68. Rations were provided according to the diet prescribed in 1952 and no complaints were received.

69. For many years Lobatsi was the only prison with water borne sanitation but at the end of 1957 such sanitation was being installed at Maun gaol.

70. Two prisoners died in hospital during the year. The only case of notifiable disease reported was one of pulmonary tuberculosis which was removed to hospital.

71. In general, the health of the prison population was good. The daily ratio of number of prisoners in hospital to the total prison population was less than 1%.

72. MENTAL HOME. The Lobatsi Mental Home maintained its full complement of patients (24) throughout the year. One patient was admitted during the year and one discharged.

73. There were no deaths and no transfers to Ingutsheni Mental Hospital.

74. The general health of the patients was good, and the usual facilities for out-door occupations were available throughout the year.

75. COLONIAL DEVELOPMENT AND WELFARE FUND SCHEMES.

Scheme D.1037 (Extra-venereal Treponematosis) was concluded.

76. Scheme D.2835 (Diphtheria and Whooping Cough Prophylaxis) was abandoned.

77. Scheme D.3067 (Development of Medical Services) was continued during the year. Towards the end of the year a lecture room and an office for the matron were erected at Lobatsi and new store accommodation for the Health Inspectors at Lobatsi and Francistown. X-ray equipment was purchased for Gaberones and Mahalapye Health Centres.

75./

78. WORLD HEALTH ORGANIZATION AND UNICEF.

Schemes in progress and completed during the year were :-

(a) Extra-Venereal Treponematosis - World Health Organization Scheme Bechuanaland 1.

This was concluded in October; the total number of people inoculated during the second part of the scheme was 230,446.

(b) Tsetse-Fly Control - Bechuanaland 2.

The scheme was continued : a consultant visited the territory during the year.

(c) Tuberculosis Control - Bechuanaland 3.

At the end of 1957 decision in the project was still held up pending the receipt of a report from the Tuberculosis Assessment Team who visited the territory during 1956.

(d) Diphtheria/Whooping Cough Immunization - Bechuanaland 4.

~~These~~ this scheme was abandoned (paragraph 16).

(e) Health Education and Development of Public Health Services - Bechuanaland 5.

After further discussion in Mafeking, action was delayed pending further investigations as to the financial implications for Government.

79. HABIT FORMING DRUGS. Six permits were issued during the year for morphine only - 114.4 grammes.

80. FINANCE. Total revenue from Government hospital and dispensary fees was £11,712. 1. 6d. made up as follows :-

TABLE X

Francistown	£ 2,345. 7. 9.
Gaberones	1,564. 12. 9.
Lobatsi	1,236. 14. 9.
Mafeking	19. 8. 0.
Mahalapye	1,783. 9. 6.
Maun	2,030. 14. 10.
Serowe	2,731. 13. 11.
TOTAL:	£11,712. 1. 6.

This represented an increase of £1,804. 3. 10d. over the revenue for 1956.

81. The total ordinary expenditure of the department for the financial year ended 31st March, 1958 was :-

Personal./

TABLE XI

	£
Personal Emoluments	72,024
Upkeep of Hospitals and Dispensaries	31,132
Maintenance of Lunatics	3,116
Pathological Investigations	1,000
Grants to Missions and Union Hospitals	2,311
Public Health Measures	5,303
Sanitation	2,411
Office and Incidental Expenses	455
Travelling and Transport	10,898
Bicycles	91
Contribution to C.D. & W. Scheme D.3067 - Development of Medical Services	10,099
TOTAL:	£138,840

82. The total ordinary revenue of the Bechuanaland Protectorate during the period 1957/58 was £1,447,436. The proportion of ordinary medical expenditure to ordinary revenue of the Protectorate was 9.6%.

83. The total ordinary expenditure of the Bechuanaland Protectorate during the period 1957/58 was £1,633,717. The proportion of ordinary medical expenditure to ordinary expenditure of the Protectorate was 8.5%.

84. In conclusion, the ready assistance and loyalty of the staff of the department is gratefully acknowledged.

B. T. SQUIRES

DIRECTOR OF MEDICAL SERVICES

MAFEKING.
November, 1958.

ANNEXURE "A"

SNAILS AND THEIR HABITATS

NAME	HABITAT
Pila gradate	Maun
Lanistes spp.	Maun
Lymnaea natalensis	Very widespread in Bakwena, Bangwaketse, Bamangwato, Bakgatla Reserves, in Ngamiland and at Gaberones and Lobatsi.
Achatina spp.	Mogoditsane, Lobatsi, Lephophe, Dutlwe.
Achatina damaraensis	Kang village.
Achatina zebra	Lepephe, Bataamane, Rametsane.
Xerocemstus damaraensis	Shells only at Kokogane (Bakwena), Lepephe and all over southern desert area, away from water. The shells are found in great abundance. No living specimen has yet been found.
Anisus natalensis	Seruli and Ramathlabama
Bulinus Bulinus tropicus	Seruli, Serowe area, Molopo, Notwani (Mochudi), Makarikari, Nata, Mahalapye, Lobatsi, Lepephe. Widespread but selective in habitat.
Bulinus Bulinus forskalii	Very widespread on the eastern side of the territory. In 1957 has been demonstrated at Maun, Francistown, Tsessebe, Mochudi, Molepolole area, Lepephe area, Lobatsi and in the Molopo river bed.
Bulinus Bulinus reticulatus	Notwani near Mochudi.
Bulinus (Physopsis) africanus	The primer carrier, in South Africa, of S.Haematobium was taken from streams or pools in stream beds only. Found in the following areas :- Maun, Francistown, one farm in the Tati area and all tributaries and main streams of the Notwani system.

ANNEXURE "B"

BECHUANALAND PROTECTORATE

RETURN OF DISEASES, INJURIES AND CAUSES OF DEATH FOR THE YEAR 1957

	IN-PATIENTS					OUT-PATIENTS	
	*Remaining in Hospital at end of 1956	Yearly Admissions	Total Deaths	+Total Cases Treated	/Remaining in Hospital at end of 1957	Male	Female
A.							
1. Tuberculosis of respiratory system	95	347	38	442	102	455	484
2. Tuberculosis of meninges and central nervous system	-	13	5	13	1	4	6
3. Tuberculosis of intestines, peritoneum and mesenteric glands	4	29	-	33	2	60	70
4. Tuberculosis of bones and joints	14	46	1	60	11	46	40
5. Tuberculosis, all other forms	7	40	-	47	-	224	166
6. Congenital Syphilis	-	8	-	8	-	401	556
7. Early syphilis	-	2	-	2	-	681	1,036
8. Tabes dorsalis	-	-	-	-	-	1	-
9. General Paralysis of insane	-	-	-	-	-	-	-
10. All other syphilis	2	21	-	23	1	1,147	2,102
11. Gonococcal infections	3	95	-	98	3	3,454	4,666
12. Typhoid Fever	-	4	1	4	1	-	2
13. Paratyphoid fever and other Salmonella infections	-	-	-	-	-	-	-
14. Cholera	-	-	-	-	-	-	-
15. Brucellosis (undulant fever)	-	-	-	-	-	1	-
16. (a) Bacillary dysentery	1	48	2	49	-	393	387
(b) Amoebiasis	1	10	1	11	-	2	5
(c) Other unspecified forms of dysentery	-	3	-	3	-	420	556
17. Scarlet Fever	-	-	-	-	-	-	-
18. Streptococcal sore throat	-	35	-	35	1	557	742
19. Erysipelas	-	-	-	-	-	7	1
20. Septicaemia and pyaemia	-	7	2	7	1	4	3
21. Diphtheria	-	36	6	36	1	16	20
22. Whooping Cough	1	48	-	49	2	665	879
23. Meningococcal infections	-	22	5	22	-	13	8
Total carried forward:	128	814	61	942	126	8,551	11,729

DISEASES	*Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total Cases Treated	/Remaining in Hospital at end of 1957	Male	Female
Brought forward	128	814	61	942	126	8,551	11,729
24. Plague	-	-	-	-	-	-	-
25. Leprosy	1	-	-	1	1	15	19
26. Tetanus	-	6	3	6	-	3	1
27. Anthrax	-	-	-	-	-	-	-
28. Acute Poliomyelitis	7	8	2	15	-	5	3
29. Acute infectious encephalitis	-	4	1	4	-	3	1
30. Late effects of acute poliomyelitis and acute infectious encephalitis	-	5	-	5	-	3	3
31. Smallpox	-	1	-	1	-	68	85
32. Measles	3	108	3	111	4	450	596
33. Yellow Fever	-	-	-	-	-	-	-
34. Infectious hepatitis	-	14	-	14	-	17	8
35. Rabies	-	-	-	-	-	-	-
36. (a) Louse-borne epidemic typhus	-	-	-	-	-	-	-
(b) Flea-borne epidemic typhus (murine)	-	-	-	-	-	-	-
(c) Tick-borne epidemic typhus	-	-	-	-	-	5	7
(d) Mite-borne typhus	-	-	-	-	-	-	-
(e) Other and unspecified typhus	-	1	-	1	-	3	-
37. (a) Vivax malaria (benign tertian)	-	11	-	11	-	127	109
(b) Malariae malaria (quartan)	-	-	-	-	-	-	-
(c) Falciparum malaria (malignant tertian)	3	106	4	109	3	663	534
(d) Blackwater fever	-	-	-	-	-	-	-
(e) Other and unspecified forms of malaria	-	47	-	47	1	179	181
38. (a) Schistosomiasis vesical (S. Laematobium)	-	4	-	4	-	145	75
(b) Schistosomiasis intestinal (S.mansoni)	-	1	-	1	-	-	2
(c) Schistosomiasis pulmonary (S.japonicum)	-	-	-	-	-	-	-
(d) Other and unspecified schistosomiasis	1	2	-	3	-	2	-
39. Hydatid disease	1	-	-	1	-	-	-
40. (a) Onchocerciasis . .. ..=	-	-	-	-	-	-	-
(b) Loiasis	-	-	-	-	-	-	-
(c) Filariasis (bancrofti)	-	-	-	-	-	-	-
(d) Other filariasis	-	-	-	-	-	1	-
Carried forward:	144	1,132	74	1,276	134	10,240	13,353=

DISEASES	*Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total Cases Treated	/Remaining in Hospital at end of 1957	Male	Female
Brought forward	144	1,132	74	1,276	134	10,240	13,353
41. Ankylostomiasis	-	-	-	-	-	-	-
42. (a) Tapeworm infestation and other cestode infestations	-	20	-	20	-	201	214
(b) Ascariasis	-	3	-	3	-	84	131
(c) Guinea worm (dracunculosis)	-	-	-	-	-	-	-
(d) Other disease due to helminths	-	-	-	-	-	47	44
43. (a) Lymphogranuloma venereum	-	2	-	2	-	2	1
(b) Granuloma inguinale, venereal	-	1	-	1	-	11	9
(c) Other and unspecified venereal diseases	-	-	-	-	-	4	10
(d) Foodpoisoning infection and intoxication	-	2	-	2	-	7	7
(e) Relapsing Fever	4	2	-	6	-	5	4
(f) Leptospirosis icterohaemorrhagica (Weil's disease)	-	-	-	-	-	-	-
(g) Yaws	-	1	-	1	-	5	6
(h) Chickenpox	1	10	-	11	-	86	75
(i) Dengue	-	2	-	2	-	1	6
(j) Trachoma	-	7	-	7	-	20	30
(k) Sandfly fever	-	-	-	-	-	-	-
(l) Leishmaniasis	-	-	-	-	-	-	-
(m) - a Trypanosomiasis gambiensis	-	-	-	-	-	-	-
- b Trypanosomiasis rhodesiensis	2	14	-	16	6	17	2
- c Other and unspecified Trypanosomiasis	-	-	-	-	-	-	-
(n) Dermatophytosis	-	-	-	-	-	73	107
(o) Scabies	-	5	-	5	-	733	852
(p) All other diseases classified as infective and parasitic	-	3	-	3	-	124	144
44. Malignant neoplasm of buccal cavity and pharynx	-	2	-	2	-	-	-
45. Malignant neoplasm of oesophagus	-	1	-	1	-	-	-
46. Malignant neoplasm of stomach	-	3	2	3	-	1	2
47. Malignant neoplasm of intestine, except rectum	-	3	2	3	-	-	2
48. Malignant neoplasm of rectum	-	6	-	6	-	1	2
49. Malignant neoplasm of larynx	-	2	1	2	-	-	1
50. Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	-	2	-	2	-	2	-
carried forward:	151	1,223	79	1,374	140	11,662	15,002

DISEASES	×Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total cases Treated	✓Remaining in Hospital at end of 1957	Male	Female
brought forward	151	1,223	79	1,374	140	11,662	15,002
51. Malignant neoplasm of breast	-	3	-	3	-	-	2
52. Malignant neoplasm of cervix uteri	-	4	-	4	-	-	9
53. Malignant neoplasm of other and unspecified parts of uterus	-	4	1	4	-	-	11
54. Malignant neoplasm of prostate	-	1	-	1	-	2	-
55. Malignant neoplasm of skin	1	14	1	15	1	7	7
56. Malignant neoplasm of bone and connective tissue	-	9	1	9	-	1	-
57. Malignant neoplasm of all other and unspecified sites .	-	20	6	20	1	16	21
58. Leukaemia and aleukaemia	-	-	-	-	-	3	1
59. Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	-	1	-	1	-	3	2
60. Benign neoplasms and neoplasms of unspecified nature ..	4	70	2	74	4	131	286
61. Nontoxic goitre	-	-	-	-	-	3	8
62. Thyrotoxicosis withor without goitre	-	3	-	3	-	2	8
63. Dibbetes mellitus	-	6	1	6	-	6	10
64. (a) Beriberi	-	5	-	5	-	215	189
(b) Pellagra	-	10	-	10	-	89	200
(c) Scurvy	1	5	-	6	-	161	187
(d) Other deficiency states	3	102	16	105	5	829	1,760
65. (a) Pernicious and other hyper chronic anaemias	-	1	-	1	-	19	18
(b) Iron deficiency anaemias (hypo-chromic)	3	7	-	10	1	118	468
(c) Other specified and unspecified anaemias	-	9	-	9	-	71	275
66. (a) Asthma	-	78	1	78	-	519	757
(b) All other allergic disorders, endocrine, metabolic and blood diseases	-	41	2	41	2	506	717
67. Psychoses	24	11	1	35	1	15	11
68. Psychoneuroses and disorders of personality	2	19	-	21	1	55	120
69. Mental Deficiency	-	2	-	2	-	15	12
70. Vascular lesions affecting central nervous system . ..	-	24	4	24	-	19	15
71. Nonmeningococcal meningitis	-	8	4	8	-	1	5
72. Multiple sclerosis	-	-	-	-	-	-	-
73. Epilepsy	2	14	1	16	4	72	68
carried forward:	191	1,694	120	1,885	160	14,540	20,169

DISEASES+	*Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total cases Treated	/Remaining in Hospital at end of 1957	Male	Female
brought forward	191	1,694	120	1,885	160	14,540	20,169
74. Inflammatory diseases of eye	3	85	-	88	-	1,954	2,541
75. Cataract	-	19	-	19	-	41	38
76. Glaucoma	-	11	-	11	-	5	8
77. (a) Otitis externa	-	12	-	12	-	372	481
(b) Ititis media and mastoiditis	1	26	-	27	-	453	591
(c) Other inflammatory diseases of ear	-	1	-	1	-	209	267
78. (a) All other diseases and conditions of eye	-	56	-	56	-	381	415
(b) All other diseases of the nervous system and sense organs	2	33	2	35	1	219	267
79. Rheumatic fever	1	13	-	14	2	37	74
80. Chronic rheumatic heart disease	2	21	9	23	3	25	51
81. Arteriosclerotic and degenerative heart disease	1	37	3	38	5	35	38
82. Other diseases of heart	3	68	7	71	1	192	245
83. Hypertension without mention of heart	-	17	-	17	-	41	64
84. Hypertension with heart disease	1	14	3	15	-	16	21
85. Disease of arteries	-	6	1	6	-	14	6
86. Other diseases of circulatory system	5	23	-	28	5	58	61
87. Acute upper respiratory infections	-	153	-	153	6	2,877	3,701
88. Influenza	2	225	1	227	2	1,305	1,478
89. Lobar pneumonia	8	253	7	261	5	292	283
90. Bronchopneumonia	9	331	22	340	6	562	600
91. Primary atypical, other and unspecified pneumonia . ..	2	135	5	137	1	61	60
92. Acute bronchitis	2	164	1	166	1	2,353	2,666
93. Bronchitis, chronic and unqualified	3	103	1	106	-	2,597	3,225
94. Hypertrophy of tonsils and adenoids	3	116	-	119	1	569	979
95. Empyema and abscess of lung	1	2	-	3	-	2	-
96. Pleurisy	1	33	-	34	-	95	100
97. (a) Pneumoconiosis	-	1	-	1	-	9	1
(b) All other respiratory diseases	-	10	-	10	-	331	374
98. (a) Dental caries	-	3	-	3	-	1,175	1,819
(b) All other diseases of teeth and supporting structures	1	34	-	35	-	446	488
99. Ulcer of stomach	-	5	1	5	-	4	6
100. Ulcer of duodenum	-	-	-	-	-	6	3
carried forward	242	3,704	183	3,946	199	31,276	41,120

	DISEASES	IN-PATIENTS					OUT-PATIENTS	
		≠Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total cases Treated	≠Remaining in Hospital at end of 1957	Male	Female
	brought forward :	242	3,704	183	3,946	199	31,276	41,120
101.	Gastritis and duodenitis	-	29	1	29	-	809	1,134
102.	Appendicitis	6	88	-	94	1	43	81
103.	Intestinal obstruction and hernia	1	25	2	26	1	229	233
104.	(a) Gastro-enteritis and colitis between 4 weeks and two years	3	172	21	175	4	2,018	2,090
	(b) Gastro-enteritis and colitis, ages 2 years and over	1	122	8	123	2	1,471	1,619
	(c) Chronic enteritis and ulcerative colitis ..	-	76	1	76	-	157	215
105.	Cirrhosis of liver	-	17	2	17	1	17	11
106.	Cholelithiasis and cholecystitis	-	7	1	7	-	20	38
107.	Other diseases of digestive system	3	89	2	92	2	3,330	5,679
108.	Acute nephritis	1	15	4	16	1	10	17
109.	Chronic, other and unspecified nephritis	-	12	3	12	1	95	31
110.	Infections of kidney	-	15	-	15	-	154	241
111.	Calculi of urinary system	-	4	-	4	3	16	9
112.	Hyperplasia of prostate	1	7	-	8	2	24	-
113.	Diseases of breast	1	33	-	34	-	3	400
114.	(a) Hydrocele	-	13	-	13	3	42	-
	(b) Disorders of menstruation	1	107	-	108	-	-	4,709
	(c) All other disease of the genito-urinary system	6	379	1	385	8	1,001	4,581
115.	Sepsis of pregnancy, childbirth and the puerperium	2	26	2	28	-	-	57
116.	Toxaemias of pregnancy and the puerperium	-	7	1	7	-	-	9
117.	Haemorrhage of pregnancy and childbirth	-	78	4	78	-	-	13
118.	Abortion without mention of sepsis or toxaemia. ..	2	180	-	182	2	-	292
119.	Abortion with sepsis.	1	7	-	8	-	-	21
120.	(a) Other complications of pregnancy, childbirth and puerperium	7	276	14	283	5	-	4,066
	(b) Delivery without complications	57	2,718	-	2,775	41	-	583
121.	Infections of skin and subcutaneous tissue	2	302	2	304	7	2,546	3,233
122.	Arthritis and spondylitis	2	28	-	30	1	332	465
123.	Muscular rheumatism and rheumatism, unspecified ..	-	84	-	84	4	2,876	4,507
124.	Osteomyelitis and periostitis	2	37	-	39	-	59	58
	carried forward	341	8,657	252	8,998	288	46,528	75,512

DISEASES	IN-PATIENTS					OUT-PATIENTS	
	*Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total Cases Treated	/Remaining in Hospital at end of 1957	Male	Female
brought forward	341	8,657	252	8,998	288	46,528	75,512
125. Ankylosis and acquired musculo-skeletal deformities	-	6	-	6	1	167	75
126. (a) Chronic Ulcer of Skin (including tropical ulcer	-	8	-	8	3	223	365
(b) All other diseases of skin	1	50	1	51	5	1,341	1,676
(c) All other diseases of musculo-skeletal system	2	48	-	50	-	519	712
127. Spina bifida and meningocele	-	2	2	2	-	2	1
128. Congenital malformations of circulatory system ..	-	6	-	6	-	7	6
129. All other congenital malformations	1	12	1	13	-	47	25
130. Birth injuries	-	7	1	7	-	2	1
131. Postnatal asphyxia and atelectasis	-	133	15	133	-	1	1
132. (a) Diarrhoea of newborn (under 4 weeks)	-	21	1	21	-	69	71
(b) Ophthalmia neonatorum	-	1	-	1	-	3	14
(c) Other infections of newborn	-	-	-	-	-	5	8
133. Haemolytic disease of newborn	-	1	-	1	-	-	2
134. All other defined diseases of early infancy	3	24	15	27	-	241	294
135. Ill-defined diseases peculiar to early infancy and immaturity, unqualified.	4	40	25	44	1	52	74
136. Senility without mention of psychosis	-	14	3	14	-	27	50
137 (a) Pyrexia of unknown origin	1	39	4	40	1	78	110
(b) Observation, without need for further medical care	113	2,236	-	2,349	38	2,742	5,030
(c) All other ill-defined causes of morbidity ..	6	182	1	188	6	950	1,034
ACCIDENTS, POISONINGS, AND VIOLENCE (EXTERNAL CAUSE)							
A.E.							
138. Motor Vehicle accidents	-	43	1	43	2	54	10
139. Other transport accidents	6	55	1	61	5	111	29
140. Accidental poisoning	1	22	-	23	3	27	24
141. Accidental falls	7	229	3	236	9	510	342
142. Accident caused by machinery	4	10	-	14	3	87	9
143. Accident caused by fire and explosion of combustible material	4	78	2	82	4	392	397
144. Accident caused by hot substance, corrosive liquid, steam and radiation	-	62	5	62	-	153	152
carried forward	494	11,986	333	12,480	369	54,338	86,024

		IN-PATIENTS					OUT-PATIENTS	
		*Remaining in Hospital at end of 1956	Yearly Total Admissions	Yearly Total Deaths	+Total Cases Treated	/Remaining in Hospital at end of 1957	Male	Female
	brought forward	494	11,986	333	12,480	369	54,338	86,024
145.	Accident caused by firearm	-	15	-	15	1	8	6
146.	Accidental drowning and submersion	-	-	-	-	-	-	-
147.	Foreign body entering eye and adnexa	-	6	-	6	-	100	41
	Foreign body entering other orifice	-	31	-	31	-	121	76
	Accidents caused by bites and stings of venomous animals and insects	1	78	1	79	1	188	131
	Other accidents caused by animals	6	59	-	65	6	221	83
	All other accidental causes	7	178	1	185	6	1,561	657
148.	Suicide and self inflicted injury	-	-	-	-	-	19	3
149	Homicide and injury purposely inflicted by other persons (not in war)	4	123	-	127	4	284	254
150	Injury resulting from operations of war	-	-	-	-	-	-	-
	TOTAL:	512	12,476	335	12,988	387	56,840	87,275

* i.e. the year previous to that for which the return is made.

\+ "Total cases treated" will, of course, include those remaining in hospital at the end of the previous year.

/ The figures in this column to be carried on to the next year's Return.

This form is adapted in accordance with the "Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death, World Health Organisation, Geneva, 1948.