

Annual medical and sanitary report / Bechuanaland Protectorate.

Contributors

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Bechuanaland Protectorate.

*Annual Medical and Sanitary Report
For the Year 1938.*



*Published for the Government of the Bechuanaland Protectorate
by the Crown Agents for the Colonies, 4, Millbank, London, S. W. 1.
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BECHUANALAND PROTECTORATE

ANNUAL MEDICAL AND SANITARY REPORT

1938

SECTION I - ADMINISTRATION.

1. STAFF.

The authorised staff consists of:-

EUROPEAN:

- 1 Principal Medical Officer.
- 9 Medical Officers.
- 5 Subsidized Medical Missionaries.
- 1 Subsidized Doctor at Mafeking.
- 1 Clerk to the Principal Medical Officer.
- 1 Lady Clerk.
- 1 Part-time Clerk (Chamber of Mines).
- 3 Hospital Matrons.
- 7 Hospital Sisters.
- 1 Welfare Officer (Chamber of Mines).
- 1 Hospital Assistant and Dispenser.
- 2 Sanitary Inspectors.
- 2 Chauffeur-Mechanics.
- 1 Mechanic.

NATIVE.

- 2 Dispensers.
- 2 Dispenser-Interpreters.
- 2 Pupil Dispensers.
- 4 Pupil Sanitary Inspectors.
- 6 Male Nurses (Grade IV).
- 2 "Nurse Aids"
- 7 Female Nurses (Grade V).
- 1 Messenger.
- 2 Lorry Drivers.
- 3 Cooks.
- 6 Washerwomen and Laundry Boys.
- 3 Ward Attendants.
- 3 Staff Housemaids.
- 3 Gardeners.
- 1 Mechanic.
- 3 Kitchen Boys.

2. APPOINTMENTS, CHANGES, ETC. IN THE STAFF:

Dr. D. Drew was appointed Principal Medical Officer of Swaziland and assumed duty there on the 1st February.

Dr. H. G. Maguire was appointed as a Temporary Medical Officer on the 1st March.

Miss M. Harris, who assumed duty as a locum nurse on 25th March, was later appointed as a Temporary Hospital Sister.

Miss M. Ensor-Smith, Hospital Sister, was killed in the Vakaranga railway disaster on the 4th April. Mr. H.F. Bennett, Hospital Assistant and Dispenser, also lost his life in this accident.

Miss E. Jones was appointed as a Hospital Sister on the 11th April.

Miss M. Rutherford was appointed as a Hospital Sister on the 28th April.

Miss D. Welman, Hospital Sister, left the Service on the 30th April.

Miss E. Jones, Hospital Sister, left the Service on the 18th May.

Miss W. Baker was appointed as a Hospital Sister on the 1st July.

Miss A. Fish was appointed as Lady Clerk on the 12th July vice Miss D. Mearns who was transferred to the Resident Commissioner's office on the 25th July.

Miss D. Hurne, Hospital Sister, was discharged in terms of her engagement on the 31st July.

Miss V.N. Frost was appointed as a Hospital Sister on the 1st August.

Dr. R.V. de Villiers, Temporary Medical Officer, was appointed as a Medical Officer on the 1st September, with effect from the 1st September, 1937.

Miss M. Rutherford, Hospital Sister, left the Service on the 20th September.

Dr. M. Gerber, Medical Officer, left the Service on the 30th September.

Miss G.M. Ross, Hospital Sister, left the Service on the 30th September.

Miss G. Matthews, Hospital Sister left the Service on the 30th September.

Miss D.M. Koolman, Hospital Sister, left the Service on the 1st October.

Mr. G. Duhy, Chauffeur Mechanic, left the Service on the 9th November.

Mr. C. Ellis was appointed as a Chauffeur Mechanic on the 10th November.

Miss M. Baxter, Hospital Matron, was appointed on the 12th November.

Miss C. Carvolth, Hospital Sister, was appointed on the 12th November.

Miss D. J. Davis, Hospital Sister, was appointed on the 29th November.

Miss D. Barr, Hospital Sister, was appointed Matron on the 30th November, with effect from the 1st October.

Miss M.E. Coburn was appointed as a Hospital Sister on the 1st December.

Miss P. Sawyer was appointed as a Hospital Matron on the 5th December.

During the year Dr. Barnett and Nurse Dunn of the London Missionary Society arrived in the Territory.

3. POSTINGS OF STAFF ON 31st. DECEMBER, 1938:

MAFEKING:

| | |
|----------------------------|--------------------|
| Principal Medical Officer, | Dr. J. W. Stirling |
| Clerk, | Mr. J. Anderson |
| Lady Clerk, | Miss A. Fish |
| 1 Native Messenger. | |
| 1 Native Washerwoman. | |

FRANCISTOWN:

Medical Officer, Dr. A. A. Morgan.
Matron, Miss P. Sawyer.
Sisters, Miss M. E. Coburn,
Miss M. Harris.
1 Native Pupil Dispenser.
4 Native Nurses.
1 Native Ward Attendant.
1 Native Housemaid.
1 Native Laundry Boy.
1 Native Gardener.
1 Native Cook.
1 Native Kitchen Boy.

LOBATSI:

Medical Officers, Dr. D. J. M. MacKenzie,
Dr. H. G. Maguire.
Matron, Miss D. Barr.
Sisters, Miss W. Baker,
Miss V. N. Frost,
Miss D. J. Davis,
Part-time Clerk, Miss B. Cocklin.
1 Native Dispenser.
5 Native Nurses.
1 Native Ward Attendant.
3 Native Laundry Boys.
1 Native Cook.
1 Native Housemaid.
1 Native Gardener.
1 Native Mechanic.
1 Native Kitchen Boy.

SEROWE:

Medical Officer, Dr. M. L. Freedman.
Matron, Miss M. Baxter.
Sisters, Miss C. E. Warren,
Miss C. Carvolth.
Welfare Officer, Miss E. Halle.
Mechanic (Pumper), Mr. P. A. MacIntosh.
1 Native Pupil Dispenser.
4 Native Nurses.
1 Native Ward Attendant.
1 Native Housemaid.
1 Native Cook.
1 Native Washerwomen.
1 Native Gardener.
1 Native Kitchen Boy.

GABERONES:

Medical Officer Dr. J. Harpur (Locum).
1 Native Pupil Dispenser.

TRAVELLING DISPENSARY No. I (Based on Mafeking)

Medical Officer, Vacant.
Chauffeur Mechanic, Mr. C. Ellis.
1 Native Driver.

TRAVELLING DISPENSARY No. II (Based on Francis town)

Medical Officer, Dr. B. T. Squires.
Chauffeur Mechanic, Mr. H. R. Gorlt.
1 Native Pupil Dispenser.
1 Native Driver.

MAHALAPYE:

Medical Officer, Dr.C.G.Hamilton.
1 Native Dispenser - Interpreter.

SANITATION:

Sanitary Inspector, Mr.G.T.Joyce.
4 Native Pupil Sanitary Inspectors.

KANYE: (Seventh Day Adventist Mission).

Subsidized Medical Missionary.
1 European Trained Nurse.

MOCHUDI: (Dutch Reformed Church).

Subsidized Medical Missionary.

MAUN: (Seventh Day Adventist Mission):

2 Subsidized Medical Missionaries.
2 European Trained Nurses.

RAMOUTSA: (Berlin Lutheran Mission).

Subsidized Welfare Worker.

KHALE: (Roman Catholic Mission).

Subsidized Welfare Worker.

SEFHARE: (London Missionary Society).

Subsidized Medical Missionary.
1 European Trained Nurse.

ABSENT ON LEAVE:

Medical Officer, Dr.R.V.de Villiers.

4. It has again been found necessary to maintain the authorised European Staff by the employment of a certain number of locums, not only to allow the Staff to obtain leave, but also to fill vacancies in the Service.

5. ORDINANCES AFFECTING THE PUBLIC HEALTH ENACTED DURING THE YEAR:

The Public Health Regulations. High Commissioner's Notice No. 116 of 18th July, 1938.

6. FINANCIAL: In respect of financial years ending 31st March, 1938 and 31st March, 1939:-

ORDINARY REVENUE:

Hospital and Dispensary fees
for year ending 31st March,
1938.

£1,560.17. 7

Hospital and Dispensary fees
for year ending 31st March,
1939.

£1,551. 6. 0

ORDINARY EXPENDITURE:

| | | |
|---|----------------------|----------------|
| Personal Emoluments | £11,920.14. 2 | |
| Other Charges | <u>£10,831. 3. 8</u> | |
| For year ending 31st March, 1938 | | £22,751.17.10 |
| Personal Emoluments | £12,270.18. 3 | |
| Other Charges | <u>£14,570.10. 1</u> | |
| For year ending 31st March, 1939. | | £26,841. 8. 4 |
| Total Expenditure of Protectorate for year ending 31st March, 1938 | | £181,790. 5. 5 |
| Total Expenditure of Protectorate for year ending 31st March, 1939 | | £209,804. 0. 5 |
| Relation of Medical Expenditure to total expenditure for year ending 31st March, 1938 | | 12.51% |
| Relation of Medical Expenditure to total expenditure for year ending 31st March, 1939 | | 12.79% |

SECTION II - PUBLIC HEALTH

7. During the year under review the general health of the Territory has been fairly good. No epidemics have been reported but owing to the poor crops in the 1937-38 season malnutrition and scurvy showed an increase during the year, but owing to the poor rainfall such diseases as Malaria showed a marked decline.

8. TRYPANOSOMIASIS: In 1935 Dr. Lamborn, Medical Entomologist, Nyasaland, carried out investigations as to the prevalence of Sleeping Sickness in the Tsetse Fly Belts in the Northern Protectorate. As a result of these investigations no cases of Sleeping Sickness were discovered, although evidence was forthcoming that there must have been a minor epidemic in the northern fly belt. It was therefore thought that no special precautions were necessary beyond the carrying out of the recommendations of his report.

In October 1938 a native recruit to the Johannesburg mines was discovered to be suffering from Sleeping Sickness. Steps were immediately taken to survey the area from which this man had been recruited. The District Commissioner, a Medical Officer and Government Veterinary Officer accordingly proceeded to this area. Blood smears were taken from 354 natives. All were negative, except one clinically suspected case which was removed to the Maun Hospital. This case, after several smears had been examined, proved to be positive.

On this survey a large number of fly were caught, all being identified as *Glossina Morsitans*.

From a careful investigation into the history of these two cases it would appear that they had been infected in the northern fly belt.

In December the wife of a Government Official who had been for a trip with her husband to a place 40 miles north west of Maun where a cattle treatment centre for Trypanosomiasis had been established was found to have contracted Human Trypanosomiasis. At the end of the year a European lad was brought into Maun Hospital supposed to be suffering from Mastoiditis. Blood examination revealed that he was actually suffering from Trypanosomiasis. Investigation into his movements proved that he must have been infected in the Naragha Valley about thirty miles south west of Maun.

Steps are being taken to have a preliminary survey done in this area with a view to having a complete survey of the human population undertaken but there can be no question as to the fact that, contrary to previous belief, the southern fly belt is now infected with Trypanosomiasis.

9. SCURVY: Owing to the poor crops resulting from indifferent rains there was a marked increase in the number of cases of Scurvy and other nutritional diseases; the number of cases reported being 619 as against 168 cases in 1937.

10. INFLUENZA: A large number of patients suffering from Influenza have been seen, but this disease has been of a mild type with few respiratory complications. 740 Cases were recorded.

11. TUBERCULOSIS: The following table gives the incidence of Pulmonary and other forms of this disease for the last three years:

| | <u>1936</u> | <u>1937</u> | <u>1938</u> |
|-------------|-------------|-------------|-------------|
| Pulmonary | 332 | 324 | 163 |
| Other forms | 103 | 194 | 123 |

From this it will be seen that there has been a considerable decrease in this disease in spite of the fact that there has been a record in attendances at the Government and Mission Hospitals and dispensaries. The present advice given, that those affected with this disease should remain at the lands and not live in the villages, may have some influence in the lowering of these figures.

12. SYPHILIS: One of the recommendations of the Medical Commission was that a larger sum be set aside for the more intensive treatment of this disease. Accordingly the medical vote was increased by £2,000 to meet this need. Medical Officers and all Medical Missionaries are now supplied with the necessary Arsenical and Bismuth preparations for the purpose of giving free treatment.

As the intensive treatment campaign was only started in October, it is not possible at this stage to state what the effect of such a campaign is likely to be, but

it must be remembered that economic factors will enter largely into the success or otherwise of such a scheme and the ultimate benefits can only be appreciated after it has been in operation for several years.

The following table gives the number of cases treated for the last three years, also the percentage of syphilitic cases to the total number of first attendances at the dispensaries, but to arrive at a more or less accurate perspective comparison must be made with the tables for out-patient attendances at the Government and Mission Medical stations. The real fact of the matter is that exaggerated statements made about the number of people affected with this disease, varying from 20% to 70%, only seem to indicate the very imperfect knowledge which is available with regard to the prevalence of this disease:

| | <u>Total Cases</u> | <u>Total number of Outpatients First Attendances</u> | <u>Proportion of Syphilitics to Out - Patients</u> |
|------|--------------------|--|--|
| 1936 | 5572 | 27196 | 21% |
| 1937 | 6061 | 31403 | 19.3% |
| 1938 | 6359 | 34442 | 18.4% |

13. GONORRHOEA: The following table shows the incidence of this disease for the last three years. It would appear that either the natives are becoming conscious of the serious consequences of this disease or the expansion of the medical services is drawing more of these cases into the medical net which is gradually spreading over the Protectorate. The latter is the more likely: -

| | |
|------|------------|
| 1936 | 622 cases |
| 1937 | 693 cases |
| 1938 | 1011 cases |

14. MALARIA: 822 Cases were reported during the year, a decrease of 571 over last year. As this disease is dependant largely on the amount and distribution of the rainfall in the Territory, it is not surprising that the incidence has been lower this year, but with the excessive rains towards the latter part of the year and prospects of more in the coming year there is every possibility of this disease assuming local epidemic proportions in 1939.
15. BILHARZIA: It is a matter for regret that the optimistic view taken in the 1937 report must be revised. The number of cases reported this year is 265 as against 31 in 1937. All except one were in the Bakhatla Reserve. It is well known that the Notoane River, a tributary of the Limpopo, and the Limpopo itself are infected. The Missionary doctor at Mochudi started a routine examination of the school children, with the result that 84% out of 500 children examined were found to be suffering from the disease, but unfortunately he was transferred to another station before the completion of his investigations. In view of the figures given above, the necessity of a survey at some future date must be borne in mind. The Protectorate is fortunate in that this reserve is the only one infected at present. Sporadic cases have occurred in neighbouring reserves but in most instances infection could be traced to the Bakhatla Reserve.
16. MEASLES: Thirty cases were seen during the year, but the Missionary at Ramoutsa reported a large number who were attended by the Welfare Nurse attached to the Mission.
17. WHOOPING COUGH: This disease accounted for 149 cases, a decrease of 295 on the figures for last year.

18. DYSENTERY: Was not quite so prevalent during the year, only 203 cases having been seen.

19. ALASTRIM: Only one case was seen during the year. Several were reported which, on investigation, proved to be Chicken Pox.

20. VACCINATION: Owing to the prevalence of Smallpox in the Transvaal and the impossibility of controlling traffic along the extensive eastern border of the Territory it was considered advisable, as a safety measure, to institute a vaccination campaign. It was decided not to vaccinate the whole Territory but a strip extending from the southern boundary at Ramatlabama to the north as far as Ramaqabane. This strip, commencing west of the railway line, included the large villages of Kanye, Molepolole and Serowe. All persons east of this line were to be vaccinated.

As such wholesale vaccination had never before been attempted in the Territory the campaign was entered upon with some diffidence.

The interest of the Chiefs was enlisted and to their courage and enthusiasm, the credit of a large amount of the ultimate success must be attributed. Native vaccinators were selected and trained by the medical staff and medical Missionaries. The campaign was carried out between June and September and, in all, approximately 135,000 men, women and children were vaccinated at an average cost of 3d. per head. It was not possible to inspect all those vaccinated, but the consensus of opinion of Medical Officers was that between 80% and 90% of those not previously vaccinated on the mines or elsewhere were successful. Suspicious cases in the Nata and Chanzi districts led to an unexpected extension of the campaign.

One of the main difficulties encountered was the question of the preserving of the vaccine in a country where long distances and climatic conditions do not lend themselves to the ideal keeping of lymph. An attempt was made to overcome this by improvising a cheap double container, the outer one perforated and packed with saw dust and coarse salt, the inner containing the tubes of lymph. From the apparent success of the vaccinations it would appear that this method had been successful.

21. LEPROSY: Twenty-one cases were reported during the year, of which number twenty were from Ngamiland.

22. PLAGUE: This year has been fortunate in that no suspicious cases of Plague have been reported, nor has any exceptional mortality amongst rodents been discovered.

23. NUTRITIONAL DISEASES: Owing to the indifferent season in 1937-38 these diseases have been more prevalent, and in addition to Scurvy, Pellagra and Beri-Beri have been diagnosed. The Medical Officer in charge of No.2 Travelling Dispensary, in addition to his ordinary medical work, is carrying out investigations into Malnutrition in that part of the Protectorate in which his work lies. Notes on the work undertaken so far are to be found in Appendix "D" of this report.

SECTION 111 - VITAL STATISTICS.

24. According to the census of 1936 the total population of the Territory was 260,064. Vital statistics in respect of the native population are not available, there being no registration of births and deaths.

The following figures for the European population have been obtained from the District Commissioners:

| | |
|---------------------------|-------|
| Total European population | 1939 |
| Total European births | 34 |
| Total European deaths | 21 |
| Birth rate per thousand | 17.53 |
| Death rate per thousand | 10.83 |

SECTION 1V - SANITATION AND HYGIENE.

25. The work of the Sanitary Inspector continues, as in previous years, to show slow but sure progress. There are at present four native pupil sanitary inspectors. The work on the location at Lobatsi and the training of the native pupil sanitary inspectors in the construction of good type huts, the erection of suitable sanitary conveniences and anti-mosquito measures has continued. The problem of dealing with sanitation in the larger villages still remains to be solved.

As has been mentioned in previous reports close co-operation between the Education and Medical Departments still continues. The teaching of hygiene in the schools is considered essential and is stressed in and out of season, as it is felt that progress in this direction depends largely on the influences inculcated in youth. Since 1935 Hygiene has been a compulsory subject in the Std.VI. examinations. To illustrate the progress made in this direction a comparison between Std.VI. Hygiene in 1935 and 1938 might not be out of place. In 1935, there were 62 candidates with a pass of 27 (minimum marks 30%), a

percentage of 43.5 with a very poor all round quality of papers, whereas in 1938, 150 candidates sat for the examination and 130 passed, a percentage of 86.6, with a very marked improvement in the general run of papers, one candidate obtaining 92% of marks. The Medical Department sets and corrects the papers and, in addition, gives lectures at subsidiary teacher training courses on such subjects as Hygiene, First Aid, Plague, Tuberculosis, etc.

26. MATERNITY AND CHILD WELFARE WORK: It is gratifying to be able to report that the total number of normal labour cases during the year has increased by 138 to 427, thus bearing out the contention that native women are now becoming alive to the benefits of having skilled assistance for their confinements.

The work at Serowe under the Welfare Worker continues to progress satisfactorily. During the year she visited 860 huts, attended 176 women for their confinements or during the period of the puerperium, and 226 attended the ante-natal and child welfare classes.

Good work continues to be done in child welfare and maternity work by the Welfare Worker at the Lutheran Mission at Ramoutsa. Similar work is now being carried out by a representative of the London Mission Society at Maun, Ngamiland.

The Medical Commission in its report of 1937 recommended the building of maternity blocks at each hospital, but it was felt that the financial strain would be too great for the country. It was therefore suggested that a central Maternity Hospital at Serowe should be erected where selected native women could be trained in this work and afterwards drafted to various centres to carry on this work amongst their people. Accordingly, a scheme has been presented to the Colonial Development Fund for a grant for the building of such an institution.

SECTION V - HOSPITALS AND DISPENSARIES.

27. The total number of attendances recorded at the Government and Medical Mission Hospitals and dispensaries for the year was 98,855 of which number 34,442 were first attendances, an increase of 19,676 and 3,039 respectively on the figures for last year.

The following table gives the number of attendances at each station:

| <u>STATION</u> | <u>First Attendances</u> | <u>Subsequent Attendances</u> | <u>TOTAL</u> |
|------------------------------|------------------------------|-----------------------------------|--------------|
| Lobatsi | 2154 | 2247 | 4401 |
| Gaberones | 1915 | 3899 | 5814 |
| Serowe | 3972 | 13444 | 17416 |
| Francistown | 6747 | 1023 | 7770 |
| Ngamiland | 2206 | 3343 | 5549 |
| (a) Mafeking | 2313 | 1297 | 3610 |
| Travelling Dispensary No.1. | 1213 | 2096 | 3309 |
| Travelling Dispensary No.11. | 731 | 23 | 754 |
| Kanye | 2933 | 3199 | 6132 |
| Mochudi | 2879 | 10790 | 13699 |
| Molepolole | 3558 | 9166 | 12724 |
| Sefhare | 849 | 1297 | 2146 |
| (c) Mahalapye | 2972 | 3499 | 6471 |
| (b) Ramoutsa | | | 9090 |
| | <u>34442</u> | <u>55323</u> | <u>98855</u> |

(a) Includes 1721 Railway employees on the Mafeking - Palapye Section.

(b) Detailed figures not available.

(c) New Government Station.

A new dispensary consisting of a consulting-room and dispensing-store room was opened at Mahalapye, 220 miles from Mafeking on the Railway. This station is staffed by a Medical Officer and Native dispenser - interpreter. In

addition to his work at this station the Medical Officer periodically visits Shoshong, 30 miles west, Lechen 38 miles north, Palapye 59 miles and Madinare about 150 miles from Mahalapye. At all stations the number of patients seen would indicate the appreciation of these visits. He is also within reasonable distance of the London Mission Society Hospital at Sefhare, should their staff at any time require additional medical assistance.

28. TRAVELLING DISPENSARIES: The work of these units continues to give satisfaction although the Northern Unit has been hampered by serious breakdowns and latterly by inability to travel owing to rains. As the Fixed Dispensary scheme progresses it is intended to supersede No.2. Unit by a light travelling van.

29. SCHEME FOR FIXED DISPENSARIES: The Medical Commission of 1937 recommended the establishment of Fixed Dispensaries throughout the Territory, not only for combating Tuberculosis, but as centres for the intensive treatment of Venereal Disease. In addition, these Fixed Dispensaries would, in the course of time, form the nucleus of health centres.

With this end in view it was decided to approach the Colonial Development Fund for a grant for the establishment of twenty such dispensaries over a period of four years. These will be in charge of trained African Natives under the supervision of the Medical Officers in whose district they are situated.

In October the Colonial Development Fund approved the grant of £9,125 for this purpose and the work of training the Dispensary Attendants was immediately started. The building of these is being undertaken by the Public Works Department.

This scheme was brought to the notice of the Chamber of Mines, Johannesburg, who have always shown an interest in the health of the natives and they have signified their

intention of giving the following assistance towards the running of these Dispensaries:

£250 the first year,

£500 the second year and

£1000 for the third and fourth years.

30. HOSPITALS: The total number of patients treated in the hospitals was 2,478. The number of operations performed was 868 of which 288 were major operations. The following table shows the number of patients treated in the hospitals during the year and a comparison with the previous year:

| | <u>1937</u> | <u>1938</u> |
|-------------|--------------|--------------|
| Lobatsi | 515 | 456 |
| Serowe | 440 | 461 |
| Francistown | 440 | 559 |
| Ngamiland | 205 | 226 |
| Kanye | 163 | 170 |
| Mochudi | 123 | 185 |
| Molepolole | 231 | 286 |
| Ramoutsa | 17 | - |
| Sefhare | - | 135 |
| | <u>2,134</u> | <u>2,478</u> |

When visiting the hospitals one is immediately struck with the number of patients lying on mattresses on the verandahs. There can be little doubt but that the Bechuana are awakening to the fact that hospital treatment is more effective treatment of their ills than the incantations, charms and bone-throwings of their revered witch-doctors. Be this as it may - modern medical efforts have a long way to go before the influence of witch-doctors in the Protectorate is broken. Patience and perserverance coupled with kindness and tact must be the watchwords of this and other departments if ultimate success is to be attained.

31. MISSION HOSPITALS: The following are the Mission Hospitals in the Protectorate. All are bearing a share in the advancement of medical work according to the financial means at their disposal.

MOLEPOLOLE: The Scottish Livingstone Hospital of the United Free Church of Scotland is responsible for the medical work in this area.

The staff consists of one Medical Missionary and three European State Registered Nurses who also hold the C.M.B. qualification. The native staff consists of three men and nine women, four of whom are undergoing training as native nurses. During the year nearly £1,600 was spent in the erection of new buildings and over £120 in providing additional equipment.

In addition to the work - Missionary and Medical - at Molepolole, outstation dispensaries are held regularly, and towards the end of the year the attendance at such dispensaries was over 100 a day. It therefore is not surprising that the medical Missionary feels the "heat and burden of the day" becoming too great if progressive expansion of the work is to continue. It is gratifying to learn that a movement is afoot to send a second medical Missionary to his assistance.

KANYE: This hospital, consisting of two European and sixteen native beds, is under the aegis of the Seventh Day Adventists Mission. The European staff consists of one doctor and one European nurse with a native staff of nine

Owing to indifferent hospital accommodation it is not possible to undertake as much work as is desirable in this area, but there is every evidence that the medical work of this station is increasing.

MOCHUDI: The medical work in this district is carried on by a Medical Missionary of the Dutch Reformed Church.

There is a small hospital of twenty-one beds, and the staff consists of one European Medical Missionary, One General and Maternity trained native female nurse, one dispenser, one cook and a washerwoman. This hospital was greatly improved by the addition of a kitchen, bathroom, dispensary and consulting-room, and has been further improved by the addition of new equipment. The water system has been improved and the disposal of night soil has been partly solved by the installation of "Wembley" Closets.

The Medical Missionary is being transferred to another station of the Dutch Reformed Church and it appears as if some difficulty will be experienced in replacing him in the near future.

SEFHARE: This hospital, situated about forty miles east from the railway line, is under the London Mission Society. It was opened by His Honour the Resident Commissioner on the 29th. June, 1938, in the presence of Chief Tshekedi and a large number of his people (the Bamangwato). It consists of twelve beds and a maternity ward of one bed with ample verandah space for additional beds when this becomes necessary. The staff consists of a Medical Missionary, a European nurse and a native staff of ten, of whom four are nurses. Considering the difficulties to be contended with, both before and after its opening, the attendance is not discouraging when it is realized that any new institution must, as its first step towards success, gain the confidence of the natives for whose benefit it has been erected.

MAUN: This hospital, erected by the Seventh Day Adventists Mission with the aid of a Government Grant from

the Colonial Development Fund, has at present two European and twenty native beds. It is staffed by two European doctors, two European nurses and a native staff of twelve, of whom two are pupil dispensers and three are native nurses. The Medical Director has had great difficulty this year in obtaining suitable natives as nurses and attendants. He has also experienced difficulty in obtaining the services of suitable European nurses owing to the general shortage throughout the country. Gradual improvement is taking place in this institution in the way of additional buildings and increased quipment.

The people of Ngamiland still look upon hospital treatment with considerable doubt and trepidation, but signs are not wanting that this will gradually be overcome.

All the above hospitals, with the exception of Molepolole, receive subsidies from the Government. The total amount paid annually is approximately £2,950, in addition to which they have the privilege of ordering drugs, dressings, etc. through the Medical Department. The Medical Missionaries also undertake the duties of district surgeon for the areas in which they are stationed.

The cordial relations and co-operation between the representatives of the various Missions and the Medical Department must again be stressed.

32. OFFICIAL VISITS: During the course of the year the following places were visited by His Honour the Resident Commissioner:

Lobatsi, Mahalapye, Francistown, Serowe, Kanye, Sefhare, Molepolole and Mochudi.

The Principal Medical Officer, during the course of his duties, visited all Government and Mission Hospitals and Dispensaries.

PRISONS AND ASYLUMS.

33. PRISONS: Medical inspection of the Prisons is carried out regularly at the stations where Medical Officers are posted. The others are inspected as opportunity arises. At the regular inspection the Medical Officer usually accompanies the District Commissioner.

The prisons are fairly well maintained. Certain improvements have been carried out, although still further improvements are required. The number of prisoners who died in gaol was four, and one was released on the grounds of ill health.

MENTAL HOSPITALS: The financial position of the Territory has, up to the present, precluded the erection of a mental institution. Dangerous lunatics are detained in the Union Asylums and those who are harmless are cared for by their relatives and friends. At the end of the year two Europeans and nine natives were inmates of Union Mental Hospitals.

SHORT REVIEW OF PROGRESS IN THE MEDICAL WORK OF THE TERRITORY FOR THE FIVE YEARS FOLLOWING THE PRESENTATION OF THE PIM REPORT, 1933:

34. As this report completes the five year period after the publishing of the Pim Report, it is considered that it might not be out of place to outline briefly the extension of medical work which has taken place in the Bechuanaland Protectorate during that time. From a perusal of this it will be seen how great is the indebtedness of the Territory to the Dominions Office, British Treasury and the Colonial Development Fund for the development which has taken place.

POSITION AT BEGINNING OF 1934: In order to arrive at a correct estimate of the advances made in the medical work of the Territory it is essential that a brief summary of the position as at the beginning of 1934 should first be stated. This information is extracted from the annual Medical Report of 1933. The following is a list of the staff at that time and the stations to which they were posted:

EUROPEAN:

Principal Medical Officer.
4 Medical Officers.
2 Medical Officers (Temporary).
2 Subsidised Medical Missionaries.
2 Hospital Matrons.
4 Staff Nurses.
1 Welfare Nurse.
2 Dispensers.
1 Principal Medical Officer's Clerk.

NATIVE:

1 Dispenser.
2 Pupil Dispensers.
3 Medical Orderlies.
4 Male Nursing Orderlies.
5 Female Nurses.

MAFEKING:

Principal Medical Officer.
1 Clerk.
1 Native Orderly.

FRANCISTOWN:

1 Medical Officer.
1 European Dispenser.
1 Native Pupil Dispenser.

SEROWE:

1 Medical Officer.
Matron.
Staff Nurse.
Subsidised Welfare Nurse.
European Dispenser.
Native Orderly.
2 Native Male Nursing Orderlies.
2 Native Female Nurses.

GABERONES:

Medical Officer.
Native Orderly.

LOBATSI:

Medical Officer.
Matron.
3 Staff Nurses.
1 Native Dispenser.
2 Native Male Nursing Orderlies.
3 Native Female Nurses.

NGAMILAND:

Medical Officer.
1 Native Orderly.

KANYE:

Medical Missionary (Subsidised).
1 Trained European Nurse.

MOCHUDI:

Medical Missionary (Subsidised).
1 Trained Nurse.

MOLEPOLOLE:

Medical Missionary.
1 Trained Nurse.

In addition to work at these stations the following outstations were visited as frequently as financial, professional and weather conditions would permit both by Government Medical Officers and Medical Missionaries:

GOVERNMENT MEDICAL OFFICERS

| | | |
|---------------|---------------------|---------------------------|
| From Serowe | Monthly | Shoshong |
| " " | " | Madinare and area |
| " Francistown | " | Makaleng and area |
| " " | " | Tonoto and area |
| " " | " | Tsessebe |
| " Gaberones | Fort- nightly | Ramoutsa and area |
| " Maun | Every 2 months | Tsau and Toteng |
| " " | 3 times annually | Ghanzi and Kalkfontein |

MEDICAL MISSIONARIES :

| | | |
|--------------|---------|-----------------|
| From Kanye | Monthly | Manyane |
| " Molepolole | | Gabane and area |

Comparative tables for the years 1933 and 1938 in regard to finance, hospital and dispensary work will be given at the end of the summary.

One of the most important developments at this time was a memorandum put forward by the Principal Medical Officer for the extension of medical services, the more important of which included provision for additional Medical Officers, two Travelling Dispensary Units, one Sanitary Inspector with native pupil sanitary inspectors, pathological investigations, additional supplies of drugs, dressings, etc., particularly anti-syphilitic remedies, additional travelling expenses, raising of the present salaries of the Medical Officers, training of native nurse aids and nurse dispensers, clerical assistance for the Principal Medical Officer and the appointment of a Specialist in Venereal Disease work and medical sanitation. The Secretary of State, in a despatch dated 8th April, 1935, approved of the following parts of this memorandum, namely, the provision of funds necessary for the acquiring and maintaining of two Travelling Dispensaries, the appointment of a European Sanitary Inspector with a native staff of pupil sanitary inspectors, additional clerical assistance for the Principal Medical Officer, pathological investigations and the appointment of additional Medical Officers.

CO-OPERATION BETWEEN THE EDUCATION AND MEDICAL DEPARTMENTS:

Close co-operation between the Education and Medical Departments has existed during the whole of this period. Two books have been translated into Sechwana. Dr. Hope Trant's booklet "Advice to Mothers" and the translation of Dr. Dyke's book on Hygiene with the title of "Boitlekanelo". The latter was recommended for use in the native schools of the Protectorate as an official text book. In 1935 Hygiene was made a compulsory subject for the Std. VI examinations, this department assisting in the drawing up of the syllabus. The department sets and corrects all hygiene papers for this examination. In addition members

of the department give lectures on Hygiene, Tuberculosis, Plague, First Aid and Child Welfare at all subsidiary teacher training courses. It is felt that the future health of the Protectorate rests largely with the inculcation of the principles of hygiene in the younger generation; while work is also being done with regard to adults, much greater results can be expected from the former.

PLAGUE: In 1935 an outbreak of plague on the borders of the Protectorate and the Transvaal necessitated the taking of precautions. European rodent officers were trained and Europeans resident in the Protectorate were instructed in the cyno-gassing of their premises. Trained rodent staff proceeded from village to village cyno-gassing huts and granaries. Two cases of human plague were discovered on the Baralong farms, but fortunately no further human cases occurred. Constant vigilance has been maintained and every suspected or rumoured outbreak is investigated as soon as possible.

The officials, chiefs and headman have received instructions to report immediately any undue mortality amongst rodents. A plague survey of the northern Protectorate was very kindly undertaken by Dr. Fourie of the Union Health Department. This showed that the danger from human plague was practically over for the time being.

SLEEPING SICKNESS: In view of the persistent rumours of Sleeping Sickness in the northern Protectorate and the fact that two cases had actually been discovered authority was sought to obtain the services of a competent entomologist. Dr. Lamborn, of the Nyasaland Service, was seconded for two months for this purpose. His investigations proved negative and the recommendations embodied in his report were adopted. It was therefore thought that the question of human Sleeping Sickness in the fly belts of the Protectorate was negligible. However, in October, 1938,

a case of Sleeping Sickness in a mine recruit was discovered in Johannesburg, following which another native and two Europeans were discovered to have contracted the disease in the southern fly belt. The position is at present being investigated with a view to obtaining a grant from the Colonial Development Fund for a complete survey of the human population in Ngamiland.

HOSPITALS: The Scottish Livingstone Hospital of the United Free Church of Scotland was opened in September, 1934. This hospital was built by native artisans under European supervision and is doing excellent work under Dr. Shepherd.

Applications were made to the Colonial Development Fund for the building of a Government hospital at Francistown and for grants towards the building of two Mission hospitals, one at Maun by the Seventh Day Adventists Mission and another at Sofala under the auspices of the London Mission Society.

The building of the Francistown Hospital was commenced in 1934 and it was opened in August, 1935. This hospital has since had additions in the shape of an isolation block and the erection of a sterilising room, and it is hoped before long to instal electric light.

The Maun Hospital was opened in February, 1937, and the Sefhare Hospital was opened in June, 1938, by His Honour the Resident Commissioner.

The addition of these three hospitals has materially added to the extension of medical work in the Protectorate and all three serve parts of the Territory which were, at the time of the Pim Commission, without such institutions.

Various other additions have been made to the hospitals of the Protectorate such as, the installation of an X-Ray plant at Lobatsi hospital, the enlargement of the operating theatre at the Lobatsi hospital and the three Government

hospitals were equipped with frigidaires. The building of a nurses' home at Serowe and extensions to the buildings, water supply and sanitation at the Mochudi hospital have also been undertaken. The position now is that there is one bed to approximately every 1,300 of the population.

DISPENSARIES: At the beginning of 1937 a new dispensary, staffed by a Medical Officer and a dispenser-interpreter, was opened at Mahalapye, 220 miles on the railway line from Mafeking. The establishment of this dispensary has more than justified itself and, in addition, the Medical Officer visits several out stations.

Two Travelling Dispensaries, authorised by the Secretary of State, were put into commission in 1936, one in the Kalahari with headquarters at Mafeking and the other in the northern part of the Protectorate with headquarters at Francistown. These dispensary units, each consisting of two vehicles, were specially built and equipped. They carry 130 gallons water and 50 gallons petrol, thus giving them a range of approximately 300 miles. The first unit was taken out to the Kalahari by the Principal Medical Officer, accompanied by the Director of Education, and visited Tsabong, Tsane, Lehututu, Lokwabe, Gukunsi, and on this occasion a road was cut from Gukunsi to Nojane, a distance of 132 miles. To-day this Travelling Dispensary visits Tsabong, Khuis, Bokspits, Nwatile, Tsane, Lokwabe, Lehututu, Gukunsi, Kong and Nojane. It also occasionally visits Olifantskloof and Kalkfontein. The northern unit visits various villages lying along the Nata River to a place called Gweta. It also visits Tonoto and other villages in the Tati Concession.

Each Travelling Dispensary has a crew consisting of a Medical Officer, a European Chauffeur-Mechanic, a native dispenser-interpreter and native driver.

CHAMBER OF MINES: In 1934 the Chamber of Mines gave a grant of £10,000 to the High Commission Territories for the purpose of training native male and female nurses. The Protectorate's share of this amounted to £3,065. There are, at present, nine training under this scheme, but there have been many casualties in the course of the training due to various causes.

The examination of recruits for the mines was made compulsory in 1935 and a circular containing suggestions with regard to the medical examination of native mine labourers was issued to Medical Officers. Arrangements have been made with the Witwatersrand Native Labour Association whereby all natives repatriated from the Gold Mines are reported. The intention of this is to enable Medical Officers in the districts to follow up cases of actual or suspected Tuberculosis.

SANITATION: A Sanitary Inspector was appointed in 1936. He has under him native pupil sanitary inspectors. Inspection of hotels, giving of lectures to school children on hygiene, malaria and other fly borne diseases, and talks on sanitation at various camps and villages form part of his routine work. Since his appointment there has been marked improvement in sanitation in several of the camps, but a great deal remains to be done in connection with the sanitation of native villages. It is hoped, as the pupil sanitary inspectors become trained, to extend the work in the native villages.

CO-OPERATION WITH THE UNION GOVERNMENT: Co-operation between the Union and the Protectorate was arranged at a conference held at Johannesburg in 1936 with reference to mutual assistance whereby expert officers of the Union Department of Public Health would continue to be made available to the High Commission Territories, also with

regard to Leprosy, Tuberculosis and the purchase of drugs from the Central Medical Stores in the Union. Dangerous lunatics are also admitted to Union Mental Hospitals.

INCREASED SALARIES OF MEDICAL OFFICERS AND EUROPEAN NURSING STAFF:

In view of the great difficulty of obtaining suitable medical officers at the salary scale in force in the Protectorate representations were made to the Secretary of State, and in September, 1936, the scale of salary was increased from £550 x 20 - £750 to £600 x 25 - £900.

In 1938, owing to the great difficulty of obtaining and retaining the services of suitable nurses, the Secretary of State authorised an alteration in their scale of salaries which were increased to £250 x 10 - £300 for Hospital Sisters and £300 x 15 - £360 for Matrons with free furnished quarters.

Even with the increased emoluments it has been found difficult to obtain suitable candidates owing to isolation and the lack of amenities in the Protectorate.

ADMINISTRATION OF THE DEPARTMENT: In 1936 an alteration was made in the running of the Medical Department in that all accounts of the Department were checked, and vouchers drawn and paid by the Medical Department. Later developments were the taking over of all medical stores for which the Principal Medical Officer is now directly responsible.

Whilst this has entailed additional work on Headquarters without corresponding increase of staff, it is felt that it has been to the benefit of the Medical Department.

MEDICAL COMMISSION REPORT: In 1937 a medical commission was appointed to advise on the medical administration of the Bechuanaland Protectorate. Amongst the more important recommendations of the Commission was

the establishment of fixed dispensaries, control of Venereal Disease by injections of bismuth at these dispensaries, more intensive treatment at hospitals, the free issue of arsenical and bismuth preparations to Mission Hospitals with treatment at both Government and Mission Hospitals and Dispensaries; control of Tuberculosis by the notification and follow up of Tuberculosis cases repatriated from the mines and the same course to be adopted for patients who are diagnosed at the hospitals, and building and equipping a Tuberculosis ward; the appointment of a second sanitary inspector and the encouragement of Medical Officers to take more active part in public health work; and the improvement of training of African nurses and the staffing of Government hospitals. The improvement of facilities at hospitals by increasing equipment and the increase of the grant to Seventh Day Adventist Mission at Maun were also advocated.

After the Medical Commission Report a sum of £2,000 was put on the Medical Vote in order to give free arsenical and bismuth treatment for syphilis by all Government stations and Medical Missions.

CHILD WELFARE AND MATERNITY WORK: In 1933 a subsidised Welfare Worker under the aegis of the London Mission Society was conducting a centre for maternity work and mothercraft at Serowe, and the Lutheran Mission at Ramoutsa also had a Welfare Worker.

The work at Serowe has grown considerably and in 1937 the Tribe (the Bamangwato) built two huts for the reception of maternity cases. Work has grown to such an extent that it is well nigh impossible for one health worker to undertake it all - many women now come in from the lands for their confinements. The Medical Commission recommended a maternity block at each hospital, but for financial reasons it was felt that this recommendation was beyond

the resources of the Territory. A suggestion that a central maternity hospital be built at Serowe (the centre with the largest population) at which native women could be trained and drafted to the more populous centres received favour, and consequently an application for a grant to cover the capital expenditure has been prepared and forwarded to the Colonial Development Advisory Committee.

At Ramoutsa the work of the Welfare Nurse has greatly increased and it is of interest to note that the Mission contemplates building a small maternity hospital in the near future.

Miss Taylor of the London Mission Society also carries out Child Welfare and maternity work at Maun.

FIXED DISPENSARIES: An application was prepared and forwarded to the Colonial Development Advisory Committee for the establishment of twenty fixed dispensaries throughout the Protectorate. The situation of these dispensaries was governed by the population that would be served at each centre. It was decided to build these as follows:-

MEDICAL CENTRE

VILLAGE AREA

Francistown

Tonoto
Madinare
Bobonong
Rasebolai
Senete
Gweta

Serowe

Lothlekane

Mahalapye

Shushong
Lechin
Monnatlala

Scfala

Sesola

Gaberones

Codi

Lobatsi

Good Hope
Macheng

Mochudi

Sequani

Maun

Tsau
Nokaneng
Ikwaga
Rakops

Kanye

Moshupa

This scheme was approved in October, 1938, and steps were immediately taken for the training of dispensary attendants.

On this scheme being brought to the notice of the Chamber of Mines, who, as is well known, take a keen interest in the health of the natives, their committee signified their willingness to assist in the maintenance of these by contributing £250 the first year, £500 in the second year and £1,000 per annum in the third and fourth years.

MAPS: The map marked 1934 gives some idea of the medical work in the year 1934, and the one marked 1938 shows not only Outstations at present visited by both Medical Officers and Medical Missionaries but also indicates the position of those which will eventually form fixed dispensaries under this scheme.

The comparative table for the years 1933 and 1938 in respect of Finance, Hospitals and Dispensaries, will be found at page 33.

During this period sums aggregating £22,915 were generously granted by the Colonial Development Fund for extension of Medical Services in the Bechuanaland Protectorate.

J.W. STIRLING

PRINCIPAL MEDICAL OFFICER.
BECHUANALAND PROTECTORATE.

MAFEKING.

COMPARATIVE TABLE FOR YEARS 1933 AND 1938
IN RESPECT OF FINANCE, HOSPITALS AND
DISPENSARIES.

| | | |
|-----------------------------------|-------------|-------------|
| <u>FINANCE:</u> | <u>1933</u> | <u>1938</u> |
| Revenue | £542 | £1,551 |
| Expenditure | £12,920 | £26,841 |
| Total Expenditure of Protectorate | £185,136 | £209,804 |

| | | |
|--|-------|--------|
| Relation of Medical Expenditure to Total Expenditure of Protectorate | 6.98% | 12.79% |
|--|-------|--------|

| | | | | |
|-------------------|-----------------|-----------------|-----------------|-----------------|
| <u>HOSPITALS:</u> | <u>In</u> | <u>Out</u> | <u>In</u> | <u>Out</u> |
| | <u>Patients</u> | <u>Patients</u> | <u>Patients</u> | <u>Patients</u> |
| Lobatsi | 319 | 3,678 | 456 | 4,401 |
| Serowe | 269 | 6,777 | 461 | 17,416 |
| Francistown | | | 559 | 7,770 |
| Ngamiland | | | 226 | 5,549 |
| Kanye | 136 | 7,463 | 170 | 6,132 |
| Mochudi | 38 | 1,513 | 185 | 13,669 |
| Molepolole | 47 | 8,426 | 286 | 12,724 |
| Sefhare | | | 135 | 2,146 |

DISPENSARIES:

| | | |
|-----------------------------|-------|-------|
| Gaberones | 3,615 | 5,814 |
| Francistown | 30 | 4,836 |
| Ngamiland | 4,036 | |
| Mafeking | 876 | 3,610 |
| Travelling Dispensary No.1. | | 3,309 |
| Travelling Dispensary No.2. | | 754 |
| Mahalapye | | 6,471 |
| Ramoutsa | | 9,090 |

| | | | | |
|----------------|-----|--------|-------|--------|
| <u>TOTALS:</u> | 839 | 41,220 | 2,478 | 98,855 |
|----------------|-----|--------|-------|--------|

APPENDIX "A"

RETURN OF DISEASES - OUTPATIENTS.

FOR THE YEAR 1938.

| Diseases by Systems or Groups | Principal Diseases | Male | Female |
|---|---|------|--------|
| 1. <u>EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES:</u> | 5. Malaria: | | |
| | (a) Tertian | 470 | 291 |
| | (c) Aestivo-autumnal | 3 | - |
| | (d) Cachexia | 18 | 37 |
| | (e) Blackwater | 3 | - |
| | 6. Smallpox: | | |
| | A Alastrim | - | 1 |
| | 7. Measles | 20 | 10 |
| | 8. Scarlet Fever | 1 | - |
| | 9. Whooping Cough | 77 | 72 |
| | 10. Diphtheria | 4 | 1 |
| | 11. Influenza | 387 | 353 |
| | 13. Mumps | 15 | 3 |
| | 15. Epidemic diarrhoea | 8 | 13 |
| | 16. Dysentery: | | |
| | (a) Amoebic | 40 | 33 |
| | (b) Bacillary | 2 | - |
| | (c) Undefined or due to other causes | 70 | 58 |
| | 20. Leprosy | 16 | 5 |
| | 21. Erysipelas | - | 2 |
| | 22. Acute Poliomyelitis | 1 | - |
| | 23. Encephalitis Lethargica | 3 | - |
| | 24. Epidemic Cerebro-spinal Fever | 2 | - |
| | 25. Other Epidemic Diseases: | | |
| | (b) Varicella (Chicken-pox) | 5 | 3 |
| | (g) Yaws | 9 | 9 |
| | 27. Anthrax | 5 | - |
| | 30. Mycosis | 1 | - |
| | 31. Tuberculosis, Pulmonary and laryngeal | 85 | 78 |
| | 32. Tuberculosis of the Meninges or Central Nervous System | 1 | - |
| | 33. Tuberculosis of the Intestines or Peritoneum | 3 | 6 |
| | 34. Tuberculosis of the Vertebral Column | 16 | 5 |
| | 35. Tuberculosis of Bones and Joints | 4 | 3 |
| | 36. Tuberculosis of other organs: | | |
| | (a) Skin or Subcutaneous Tissue (lupus) | - | 4 |
| | (c) Lymphatic System | 46 | 33 |
| | (d) Genito-urinary | 2 | - |
| | 38. Syphilis: | | |
| | (a) Primary | 95 | 21 |
| | (b) Secondary | 829 | 1031 |
| | (c) Tertiary | 1602 | 2176 |
| | (d) Hereditary | 153 | 167 |
| | (e) Period not indicated | 250 | 35 |
| | 39. Soft Chancre | 4 | 2 |
| | Total Carried Forward | 4250 | 4452 |

| Diseases by Systems or Groups | | Principal Diseases | Male | Female |
|--|---------------|--|------|--------|
| 1. <u>EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES</u> (Contd.) | | Brought forward | 4250 | 4452 |
| <u>Male</u> | <u>Female</u> | 40.A. Gonorrhoea and its complications | 566 | 356 |
| | | B. Gonorrhoeal Ophthalmia | 40 | 37 |
| | | C. Gonorrhoeal Arthritis | 7 | 5 |
| | | D. Granuloma Venereum | - | 4 |
| 4867 | 4856 | 42. Other Infectious Diseases | 3 | 2 |
| | | Trypanosomiasis | 1 | - |
| 11. <u>GENERAL DISEASES NOT MENTIONED ABOVE.</u> | | | | |
| <u>Male</u> | <u>Female</u> | 43. Cancer or other malignant Tumours of the Buccal Cavity | 2 | - |
| | | 44. Cancer or other malignant Tumours of the Stomach or Liver | 3 | 3 |
| | | 45. Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum | 1 | - |
| | | 46. Cancer or other malignant Tumours of the Female Genital Organs | - | 6 |
| | | 47. Cancer or other malignant Tumours of the Breast | - | 2 |
| | | 48. Cancer or other malignant Tumours of the Skin | - | 2 |
| | | 49. Cancer or other malignant Tumours of the Organs not specified | 9 | 3 |
| | | 50. Tumours non-Malignant | 45 | 49 |
| | | 51. Acute Rheumatism | 27 | 24 |
| | | 52. Chronic Rheumatism | 624 | 542 |
| | | 53. Scurvy (including Barlow's Disease) | 306 | 313 |
| | | 54. Pellagra | 4 | 13 |
| | | 55. Beri-Beri | 20 | 20 |
| | | 56. Rickets | 5 | 10 |
| | | 58. Anaemia: | | |
| | | (a) Pernicious | - | 1 |
| | | (b) Other Anaemias and Chlorosis | 57 | 141 |
| | | 60. Diseases of the Thyroid Gland. | | |
| | | (b) Other diseases of the Thyroid Gland, Myxoedema | 3 | 10 |
| | | 61. Diseases of the Para-Thyroid Glands | - | 2 |
| | | 64. Diseases of the Spleen | 49 | 53 |
| | | 65. Leukaemia: | | |
| | | (b) Hodgkin's Disease | 1 | - |
| | | 66. Alcoholism | 3 | 1 |
| | | 67. Chronic poisoning by mineral substances (lead, mercury etc.) | 1 | - |
| | | 69. Other General Diseases | 61 | 58 |
| 111. <u>AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.</u> | | | | |
| <u>Male</u> | <u>Female</u> | 70. Encephalitis (not including Encephalitis Lethargica) | 1 | - |
| | | 71. Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) | 1 | - |
| | | 72. Locomotor Ataxia | 1 | - |
| | | 73. Other affections of the Spinal Cord | 1 | - |
| | | 74. Apoplexy: | | |
| | | (a) Haemorrhage | 2 | - |
| | | Total Carried Forward | 6094 | 6109 |

| Diseases by Systems or Groups | Principal Diseases | Male | Female |
|--|--|------|--------|
| <u>111. AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES (Contd.)</u> | Brought forward | 6094 | 6109 |
| <u>Male</u> <u>Female</u> | 75. Paralysis: | | |
| | (a) Hemiplegia | 6 | 3 |
| | (b) Other Paralyses | 12 | 5 |
| 1216 | 77. Other forms of Mental Alienation | 15 | 8 |
| 1146 | 78. Epilepsy | 28 | 9 |
| | 79. Eclampsia, Convulsions (non- puerperal) 5 years or over | 2 | - |
| | 80. Infantile Convulsions | 2 | 2 |
| | 81. Chorea | 2 | 1 |
| | 82. A. Hysteria | 1 | 7 |
| | B. Neuritis | 96 | 121 |
| | C. Neurasthenia | 15 | 38 |
| | 83. Cerebral Softening | 1 | 1 |
| | 84. Other affections of the Nervous System, such as Paralysis Agitans | 29 | 35 |
| | 85. Affections of the Organs of Vision: | | |
| | (a) Diseases of the Eye | 181 | 160 |
| | (b) Conjunctivitis | 387 | 358 |
| | (c) Trachoma | 22 | 35 |
| | (d) Tumours of the Eye | 4 | 3 |
| | (e) Other affections of the Eye | 196 | 146 |
| | 86. Affections of the Ear or Mastoid Sinus | 211 | 214 |
| <u>IV. AFFECTIONS OF THE CIRCULATORY SYSTEM.</u> | | | |
| <u>Male</u> <u>Female</u> | 87. Pericarditis | 2 | 3 |
| | 88. Acute Endocarditis or Myocarditis | 14 | 20 |
| | 89. Angina Pectoris | 3 | 1 |
| 221 | 90. Other Diseases of the Heart: | | |
| 210 | (a) Mitral | 18 | 20 |
| | Aortic | 5 | 5 |
| | Pulmonary | - | 2 |
| | (b) Myocarditis | 16 | 11 |
| | 91. Diseases of the Arteries: | | |
| | (a) Aneurism | - | 1 |
| | (b) Arterio-Sclerosis | 6 | 6 |
| | (c) Other diseases | - | 2 |
| | 92. Embolism or Thrombosis (non- cerebral) | 1 | - |
| | 93. Diseases of the Veins: | | |
| | Haemorrhoids | 8 | 5 |
| | Varicose Veins | 3 | 8 |
| | Phlebitis | - | 1 |
| | 94. Diseases of the Lymphatic System: | | |
| | Lymphangitis | 5 | 5 |
| | Lymphadenitis, Bubo (non-specific) | 61 | 46 |
| | 95. Haemorrhage of undetermined cause | 15 | 11 |
| | 96. Other affections of the Circulatory System | 64 | 63 |
| <u>V. AFFECTIONS OF THE RESPIRATORY SYSTEM:</u> | | | |
| <u>Male</u> <u>Female</u> | 97. Diseases of the Nasal Passages: | | |
| | Adenoids | 4 | 6 |
| | Polypus | 3 | 3 |
| | Rhinitis | 27 | 43 |
| | Coryza | 183 | 96 |
| 1775 | 98. Affections of the Larynx: | | |
| 1654 | Laryngitis | 35 | 37 |
| | 99. Bronchitis: | | |
| | (a) Acute | 296 | 304 |
| | (b) Chronic | 401 | 403 |
| | Total Carried Forward | 8478 | 8361 |

| Diseases by Systems or Groups | | Principal Diseases | Male | Female |
|---|---------------|---|-------|--------|
| V. <u>AFFECTIONS OF THE RESPIRATORY SYSTEM:</u>(Contd) | | Brought forward | 8478 | 8361 |
| <u>Male</u> | <u>Female</u> | 100. Broncho-Pneumonia | 36 | 14 |
| 1775 | 1654 | 101. Pneumonia: | | |
| | | (a) Lobar | 28 | 13 |
| | | (b) Unclassified | 65 | 59 |
| | | 102. Pleurisy, Empyema | 65 | 43 |
| | | 103. Congestion of the Lungs | 3 | 1 |
| | | 105. Asthma | 21 | 21 |
| | | 106. Pulmonary Emphysema | 3 | - |
| | | 107. Other affections of the Lungs | 601 | 607 |
| VI. <u>DISEASES OF THE DIGESTIVE SYSTEM:</u> | | 108.A.Diseases of Teeth or Gums: | | |
| <u>Male</u> | <u>Female</u> | Caries, Pyorrhoea, etc. | 398 | 462 |
| 3246 | 3688 | B.Other affections of the Mouth: | | |
| | | Stomatitis | 46 | 57 |
| | | Glossitis, etc. | 11 | 4 |
| | | 109. Affections of the Pharynx or Tonsils: | | |
| | | Tonsillitis | 298 | 363 |
| | | Pharyngitis | 100 | 85 |
| | | 110. Affections of the Oesophagus | 1 | - |
| | | 111.A.Ulcer of the Stomach | 14 | 6 |
| | | B.Ulcer of the Duodenum | 8 | 1 |
| | | 112. Other affections of the Stomach: | | |
| | | Gastritis | 50 | 52 |
| | | Dyspepsia, etc. | 232 | 280 |
| | | 113. Diarrhoea and Enteritis: | | |
| | | Under two years | 165 | 188 |
| | | 114. Diarrhoea and Enteritis: | | |
| | | Two years and over | 258 | 282 |
| | | Colitis | 14 | 19 |
| | | 115. Ankylostomiasis | 4 | - |
| | | 116. Diseases due to Intestinal Parasites: | | |
| | | (a) Cestoda (Taenia) | 28 | 23 |
| | | (c) Nematoda (other than Ankylostoma) | | |
| | | Ascaris | 1 | 3 |
| | | Dracunculus | - | 1 |
| | | Oxyuris | 1 | 3 |
| | | (f) Unclassified | 6 | 4 |
| | | 117. Appendicitis | 19 | 10 |
| | | 118. Hernia | 33 | 29 |
| | | 119.A.Affections of the Anus, Fistula, etc. | 9 | 5 |
| | | B.Other affections of the Intestines: | | |
| | | Enteroptosis | - | 1 |
| | | Constipation | 1439 | 1691 |
| | | 122. Cirrhosis of the Liver: | | |
| | | (a) Alcoholic | 4 | 1 |
| | | (b) Other forms | 1 | 1 |
| | | 123. Biliary Calculus | - | 3 |
| | | 124. Other affections of the Liver: | | |
| | | Hepatitis | 15 | 18 |
| | | Cholecystitis | 2 | 9 |
| | | Jaundice | 2 | 1 |
| | | 126. Peritonitis (of unknown cause) | 1 | - |
| | | 127. Other affections of the Digestive System | 86 | 86 |
| Total Carried Forward | | | 12546 | 12807 |

| Diseases by Systems or Groups | | Principal Diseases | Male | Female |
|--|---------------|---|-------|--------|
| <u>VII. DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)</u> | | Brought forward | 12546 | 12807 |
| <u>Male</u> | <u>Female</u> | 128. Acute Nephritis | 11 | 18 |
| | | 129. Chronic | 26 | 20 |
| | | 130.A. Schistosomiasis | 106 | 159 |
| 356 | 1884 | 131. Other affections of the Kidneys: Pyelitis, etc. | 29 | 115 |
| | | 132. Urinary Calculus | - | 1 |
| | | 133. Diseases of the Bladder: Cystitis | 64 | 90 |
| | | 134. Diseases of the Urethra: (a) Stricture | 15 | - |
| | | (b) Other | 57 | 2 |
| | | 135. Diseases of the prostate: Hypertrophy | 10 | - |
| | | Prostatitis | 5 | - |
| | | 136. Diseases (non-Venereal) of the Genital Organs of Man: Epididymitis | 9 | - |
| | | Orchitis | 8 | - |
| | | Hydrocele | 7 | - |
| | | Ulcer of Penis | 8 | - |
| | | 137. Cysts or other non-malignant Tumour* of the Ovaries | - | 11 |
| | | 138. Salpingitis | - | 35 |
| | | Abscess of the Pelvis | - | 415 |
| | | 139. Uterine Tumours (non-malignant) | - | 48 |
| | | 140. Uterine Haemorrhage (non-puerperal) | - | 43 |
| | | 141.A. Metritis | - | 116 |
| | | B. Other affections of the Female Genital Organs | - | 4 |
| | | Displacements of Uterus | - | 106 |
| | | Amenorrhoea | - | 73 |
| | | Dysmenorrhoea | - | 431 |
| | | Leucorrhoea | - | 165 |
| | | 142. Diseases of the Breast (non- puerperal): Mastitis | 1 | 14 |
| | | Abscess of Breast | - | 9 |
| | | 143.A. Normal Labour | - | 427 |
| | | B. Accidents of Pregnancy: (a) Abortion | - | 29 |
| | | (b) Ectopic Gestation | - | 1 |
| | | (c) Other accidents of Preg- nancy | - | 10 |
| | | 144. Puerperal Haemorrhage | - | 4 |
| | | 145. Other accidents of Parturition | - | 23 |
| | | 146. Puerperal Septicaemia | - | 6 |
| | | 148. Puerperal Eclampsia | - | 1 |
| | | 149. Sequelae of Labour | - | 25 |
| | | 150. Puerperal affections of the Breast | - | 13 |
| | | 152. Boil | 21 | 18 |
| | | Carbuncle | 74 | 47 |
| | | 153. Abscess | 17 | 21 |
| | | Whitlow | 75 | 66 |
| | | Cellulitis | 36 | 25 |
| | | 154.A. Tinea | 9 | 7 |
| | | B. Scabies | 539 | 526 |
| | | Total Carried Forward | 13673 | 15940 |
| <u>Male</u> | <u>Female</u> | | | |
| 1070 | 1096 | | | |

| Diseases by Systems or Groups | Principal Diseases | Male | Female |
|---|--|-------|--------|
| <u>IX. AFFECTIONS OF THE SKIN AND CELLULAR TISSUES (Contd.)</u> | Brought forward | 13673 | 15940 |
| <u>Male</u> <u>Female</u> | 155. Other Diseases of the Skin | 115 | 157 |
| 1070 1096 | Brythema | 10 | 26 |
| | Urticaria | 30 | 35 |
| | Eczema | 127 | 151 |
| | Herpes | 15 | 13 |
| | Psoriasis | 1 | 4 |
| | Elephantiasis | 1 | - |
| <u>X. DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)</u> | 156. Diseases of Bones: | | |
| <u>Male</u> <u>Female</u> | Osteitis | 25 | 13 |
| 264 201 | 157. Diseases of Joints: | | |
| | Arthritis | 83 | 84 |
| | Synovitis | 54 | 24 |
| | 158. Other Diseases of Bones or Organs of Locomotion | 102 | 80 |
| <u>XI. MALFORMATIONS:</u> | 159. Malformations: | | |
| <u>Male</u> <u>Female</u> | Hydrocephalus | 1 | 1 |
| 5 5 | Hypospadias | 2 | - |
| | Spina Bifida, etc. | 2 | 4 |
| <u>XII. DISEASES OF INFANCY</u> | 162. Other affections of Infancy | 42 | 41 |
| <u>Male</u> <u>Female</u> | 163. Infant neglect (infants of three months or over) | 2 | 1 |
| 44 42 | | | |
| <u>XIII. AFFECTIONS OF OLD AGE:</u> | 164. Senility: | | |
| <u>Male</u> <u>Female</u> | Senile Dementia | 15 | 4 |
| 15 4 | | | |
| <u>XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.</u> | 166. Corrosive Poisoning (intentional) | - | 2 |
| <u>Male</u> <u>Female</u> | 168. Suicide by Hanging or Strangulation | 1 | - |
| 1736 853 | 176. Attacks of poisonous animals: | | |
| | Snake Bite | 4 | 1 |
| | Insect Bite | 55 | 46 |
| | 177. Other accidental Poisonings | 3 | 1 |
| | 178. Burns (by Fire) | 135 | 158 |
| | 179. Burns (other than by Fire) | 28 | 22 |
| | 181. Poisoning by Gas (accidental) | 7 | - |
| | 182. Drowning (accidental) | 2 | 1 |
| | 183. Wounds (by Firearms, war excepted) | 2 | 1 |
| | 184. Wounds (by cutting or stabbing Instruments) | 215 | 178 |
| | 185. Wounds (by Fall) | 249 | 95 |
| | 186. Wounds (in Mines or Quarries) | 357 | - |
| | 187. Wounds (by Machinery) | 45 | 3 |
| | 188. Wounds (crushing, e.g. railway accidents, etc.) | 65 | 7 |
| | 189. Injuries inflicted by Animals, Bites, Kicks, etc. | 119 | 38 |
| | 192.A. Over fatigue | 3 | - |
| | B. Hunger or Thirst | 4 | - |
| | 194. Exposure to Heat: Heatstroke | 2 | - |
| | Total Carried Forward | 15596 | 17131 |

| Diseases by Systems or Groups | Principal Diseases | Male | Female |
|---|--|-------|--------|
| <u>XIV. AFFECTIONS PRODUCED BY EXTERNAL CAUSES (Contd.)</u> | Brought forward | 15596 | 17131 |
| <u>Male</u> <u>Female</u> | 195. Lightning Stroke | 2 | 4 |
| 1736 853 | 199. Murder by other means | 1 | - |
| | 201. A. Dislocation | 7 | 8 |
| | B. Sprain | 45 | 15 |
| | C. Fracture | 45 | 18 |
| | 202. Other external injuries | 340 | 255 |
| <u>XV. ILL-DEFINED DISEASES</u> | 205. A. Diseases not already specified or ill-defined | 191 | 137 |
| <u>Male</u> <u>Female</u> | Ascites | 2 | 1 |
| 301 290 | Oedema | 3 | 7 |
| | Asthenia | 75 | 143 |
| | Shock | 3 | - |
| | B. Malingering | 27 | 2 |
| <u>XVI. DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS:</u> | | 189 | 195 |
| <u>Male</u> <u>Female</u> | | | |
| 189 195 | | | |
| | TOTAL | 16526 | 17916 |

RETURN OF DISEASES AND DEATHS - IN-PATIENTS

FOR THE YEAR 1938

| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases Treated | Remaining in Hospital 1938 |
|------------------------|---|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| 1. | <u>EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES:</u> | | | | | |
| 1. | Enteric Group: | | | | | |
| | (d) Type not defined | 1 | - | - | 1 | - |
| 3. | Relapsing Fever | - | 1 | - | 1 | - |
| 5. | Malaria: | | | | | |
| | (a) Tertian | 3 | 113 | 5 | 116 | - |
| | (c) Aestivo-autumnal | - | 10 | - | 10 | 1 |
| 7. | Measles | - | 2 | - | 2 | - |
| 9. | Whooping Cough | - | 6 | 1 | 6 | - |
| 10. | Diphtheria | - | 2 | 1 | 2 | 1 |
| 11. | Influenza | 1 | 43 | - | 44 | - |
| 13. | Mumps | - | 1 | - | 1 | - |
| 16. | Dysentery: | | | | | |
| | (a) Amoebic | 1 | 25 | 1 | 26 | - |
| | (c) Undefined or due to other causes | - | 15 | 1 | 15 | - |
| 20. | Leprosy | - | 1 | 1 | 1 | - |
| 21. | Erysipelas | - | 2 | - | 2 | - |
| 23. | Encephalitis Lethargica | - | 1 | 1 | 1 | - |
| 24. | Epidemic Cerebro-Spinal Fever | - | 1 | 1 | 1 | - |
| 25. | Other Epidemic Diseases: | | | | | |
| | (h) Trypanosomiasis | - | 3 | - | 3 | 1 |
| 29. | Tetanus | - | 1 | 1 | 1 | - |
| 30. | Mycosis | - | 1 | - | 1 | - |
| 31. | Tuberculosis, Pulmonary and Laryngeal | - | 44 | 6 | 44 | 1 |
| 33. | Tuberculosis of the Intest- ines or Peritoneum | 1 | 6 | 1 | 7 | - |
| 34. | Tuberculosis of the Vertebral Column | 3 | 11 | - | 14 | 6 |
| 35. | Tuberculosis of Bones and Joints | 1 | 14 | - | 15 | 1 |
| 36. | Tuberculosis of other organs: | | | | | |
| | (a) Skin or Subcutaneous Tissue (Lupas) | - | 1 | - | 1 | - |
| | (c) Lymphatic System | - | 23 | - | 23 | 3 |
| | (d) Genito-urinary | 2 | - | - | 2 | - |
| | (e) Other organs | - | 1 | - | 1 | - |
| 38. | Syphilis: | | | | | |
| | (a) Primary | - | 8 | - | 8 | - |
| | (b) Secondary | 2 | 69 | 1 | 71 | 3 |
| | (c) Tertiary | 5 | 58 | 1 | 63 | 2 |
| | (d) Hereditary | - | 17 | 1 | 17 | - |
| | (e) Period not indicated | - | 2 | - | 2 | - |
| 40.A. | Gonorrhoea and its complicat- ions | 1 | 28 | - | 29 | - |
| B. | Gonorrhoeal Ophthalmia | - | 6 | - | 6 | - |
| C. | Gonorrhoeal Arthritis | 1 | 2 | - | 3 | - |
| Total carried forward: | | 22 | 518 | 23 | 540 | 19 |

| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases treated | Remaining in Hospital 1938 |
|------|--|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward: | 22 | 518 | 23 | 540 | 19 |
| 1. | <u>EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES (Contd.)</u> | | | | | |
| 42. | Other Infectious Diseases | - | 4 | - | 4 | - |
| | Trypanosomiasis | 1 | 3 | - | 4 | 1 |
| 11. | <u>GENERAL DISEASES NOT MENTIONED ABOVE:</u> | | | | | |
| 44. | Cancer or other malignant Tumours of the Stomach or Liver | - | 3 | 1 | 3 | 1 |
| 45. | Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum | - | 2 | - | 2 | - |
| 46. | Cancer or other malignant Tumours of the Female Genital Organs | - | 8 | 1 | 8 | - |
| 47. | Cancer or other malignant Tumours of the Breast | - | 1 | - | 1 | - |
| 48. | Cancer or other malignant Tumours of the Skin | - | 1 | - | 1 | - |
| 49. | Cancer or other malignant Tumours of the Organs not specified | - | 4 | 1 | 4 | 1 |
| 50. | Tumours non-Malignant | 2 | 27 | - | 29 | - |
| 51. | Acute Rheumatism | - | 14 | 1 | 14 | - |
| 52. | Chronic Rheumatism | - | 36 | 1 | 36 | 3 |
| 53. | Scurvy (including Barlow's Disease) | 2 | 65 | 3 | 67 | 4 |
| 54. | Pellagra | - | 3 | - | 3 | 1 |
| 55. | Beri-Beri | 1 | 15 | - | 16 | 3 |
| 57. | Diabetes (not including Insipidus) | - | 1 | - | 1 | - |
| 58. | Anaemia: | | | | | |
| | (a) Pernicious | - | 1 | - | 1 | 1 |
| | (b) Other Anaemias and Chlorosis | - | 8 | 2 | 8 | - |
| 59. | Diseases of the Pituitary Body | - | 1 | - | 1 | - |
| 64. | Diseases of the Spleen | - | 3 | - | 3 | - |
| 65. | Leukaemia: | | | | | |
| | (a) Leukaemia | - | 1 | 1 | 1 | - |
| 66. | Alcoholism | - | 1 | - | 1 | - |
| 69. | Other General Diseases: | | | | | |
| | Purpura Haemorrhagica | - | 1 | - | 1 | 1 |
| | Onyala | - | 2 | - | 2 | - |
| 111. | <u>AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES:</u> | | | | | |
| 70. | Encephalitis (not including Encephalitis Lethargica) | - | 1 | - | 1 | 1 |
| 71. | Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis) | - | 1 | - | 1 | - |
| | | 28 | 725 | 34 | 753 | 36 |

| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases Treated | Remaining in Hospital 1938 |
|------|---|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward: | 28 | 725 | 34 | 753 | 36 |
| 111. | <u>AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES (Contd.)</u> | | | | | |
| 74. | Apoplexy: | | | | | |
| | (a) Haemorrhage | - | 2 | - | 2 | 1 |
| 75. | Paralysis: | | | | | |
| | (a) Hemiplegia | - | 1 | - | 1 | - |
| | (b) Other Paralysees | 1 | 5 | - | 6 | 1 |
| 77. | Other forms of Mental Alienation | - | 7 | - | 7 | 1 |
| 78. | Epilepsy | - | 8 | - | 8 | - |
| 81. | Chorea | 1 | 2 | - | 3 | - |
| 82. | A. Hysteria | - | 5 | - | 5 | - |
| | B. Neuritis | - | 7 | - | 7 | - |
| | C. Neurasthenia | - | 4 | - | 4 | - |
| 84. | Other affections of the Nervous System, such as Paralysis Agitans | - | 3 | - | 3 | 1 |
| 85. | Affections of the Organs of Vision: | | | | | |
| | (a) Diseases of the Eye | 1 | 29 | 1 | 30 | 1 |
| | (b) Conjunctivitis | - | 19 | - | 19 | - |
| | (c) Trachoma | - | 4 | - | 4 | - |
| | (d) Tumours of the eye | - | 17 | - | 17 | - |
| | (e) Other affections of the Eye | 2 | 37 | - | 39 | - |
| 86. | Affections of the Ear or Mastoid Sinus | - | 17 | - | 17 | 1 |
| IV. | <u>AFFECTIONS OF THE CIRCULATORY SYSTEM:</u> | | | | | |
| 87. | Pericarditis | - | 1 | - | 1 | - |
| 88. | Acute Endocarditis or Myocarditis | 1 | 8 | 1 | 9 | - |
| 89. | Angina Pectoris | - | 1 | 1 | 1 | - |
| 90. | Other Diseases of the Heart: | | | | | |
| | (a) Mitral | 2 | 7 | 1 | 9 | - |
| | Aortic | - | 2 | - | 2 | - |
| | Pulmonary | - | 1 | - | 1 | 1 |
| | (b) Myocarditis | - | 11 | 1 | 11 | - |
| 91. | Diseases of the Arteries: | | | | | |
| | (a) Aneurism | - | 4 | - | 4 | - |
| | (b) Arterio-Sclerosis | - | 1 | - | 1 | - |
| | (c) Other diseases | - | 1 | - | 1 | - |
| 93. | Diseases of the Veins: | | | | | |
| | Haemorrhoids | - | 5 | - | 5 | - |
| | Varicose Veins | - | 4 | - | 4 | - |
| | Phlebitis | - | 2 | - | 2 | 1 |
| 94. | Diseases of the Lymphatic System: | | | | | |
| | Lymphangitis | - | 13 | 1 | 13 | 1 |
| | Lymphadenitis, Bubo (non- specific) | - | 17 | - | 17 | 1 |
| 95. | Haemorrhage of undetermined cause | - | 1 | - | 1 | 1 |
| | Total carried forward: | 36 | 971 | 40 | 1,007 | 47 |

| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases Treated | Remaining in Hospital 1938 |
|------|--|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward: | 36 | 971 | 40 | 1,007 | 47 |
| V. | <u>AFFECTIONS OF THE RESPIRATORY SYSTEM.</u> | | | | | |
| 97. | Diseases of the Nasal Passages: | | | | | |
| | Adenoids | - | 2 | - | 2 | - |
| | Polypus | 1 | 1 | - | 2 | - |
| | Rhinitis | 1 | 1 | - | 1 | - |
| 98. | Affections of the Larynx: | | | | | |
| | Laryngitis | - | 2 | - | 2 | - |
| 99. | Bronchitis: | | | | | |
| | (a) Acute | - | 41 | - | 41 | 2 |
| | (b) Chronic | - | 10 | 1 | 10 | - |
| 100. | Broncho-Pneumonia | 1 | 34 | 11 | 35 | 4 |
| 101. | Pneumonia: | | | | | |
| | (a) Lobar | 1 | 61 | 17 | 62 | 6 |
| | (b) Unclassified | - | 4 | 2 | 4 | - |
| 102. | Pleurisy Empyema | - | 18 | - | 18 | 2 |
| 103. | Congestion of the Lungs | - | 3 | - | 3 | - |
| 105. | Asthma | - | 9 | - | 9 | - |
| 106. | Pulmonary Emphysema | - | 1 | - | 1 | - |
| 107. | Other affections of the lungs: | | | | | |
| | Pulmonary Spirochaetosis | - | 1 | 1 | 1 | - |
| VI. | <u>DISEASES OF THE DIGESTIVE SYSTEM.</u> | | | | | |
| 108. | A. Diseases of Teeth or Gums: | | | | | |
| | Caries, Pyorrhoea, etc. | 1 | 12 | - | 13 | - |
| | B. Other affections of the Mouths: | | | | | |
| | Stomatitis | - | 7 | - | 7 | - |
| 109. | Affections of the Pharynx or Tonsils: | | | | | |
| | Tonsillitis | 1 | 54 | - | 55 | - |
| | Pharyngitis | - | 22 | - | 22 | 1 |
| 111. | A. Ulcer of the Stomach | - | 2 | - | 2 | - |
| | B. Ulcer of the Duodenum | - | 1 | - | 1 | - |
| 112. | Other affections of the Stomach: | | | | | |
| | Gastritis: | 1 | 5 | - | 6 | - |
| | Dyspepsia, etc. | 1 | 3 | - | 4 | - |
| 113. | Diarrhoea and Enteritis: | | | | | |
| | Under two years | - | 23 | 4 | 23 | - |
| 114. | Diarrhoea and Enteritis: | | | | | |
| | Two years and over | - | 15 | 1 | 15 | 1 |
| | Colitis | - | 4 | - | 4 | 1 |
| 116. | Diseases due to Intestinal Parasites: | | | | | |
| | (a) Cestoda (Taenia) | - | 11 | - | 11 | - |
| | (c) Nematoda (other than Ankylostoma) | - | 2 | - | 2 | - |
| | (f) Unclassified | - | 1 | - | 1 | - |
| 117. | Appendicitis | 1 | 15 | - | 16 | - |
| 118. | Hernia | - | 7 | - | 7 | 2 |
| 119. | A. Affections of the Arms, Fistula, etc. | - | 4 | - | 4 | - |
| | Total carried forward | 44 | 1,347 | 77 | 1,391 | 66 |

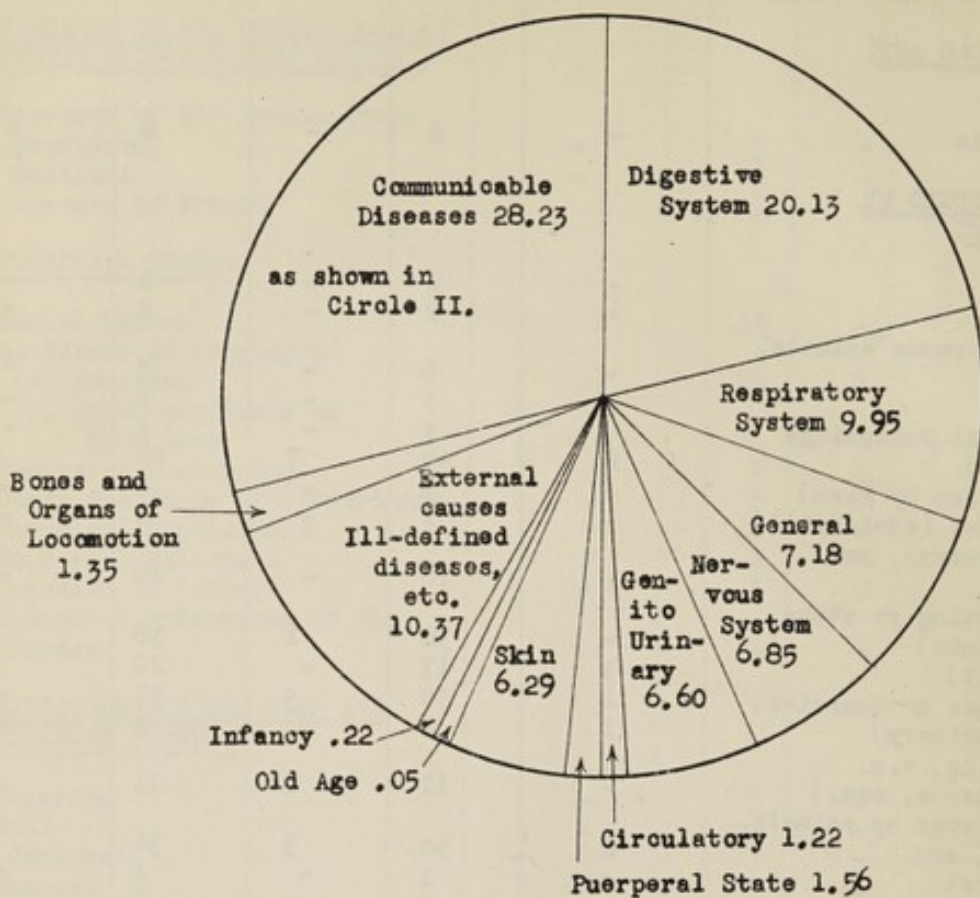
| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases Treated | Remaining in Hospital 1938 |
|--------|--|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward: | 44 | 1,347 | 77 | 1,391 | 66 |
| VI. | <u>DISEASES OF THE DIGESTIVE SYSTEM: (Contd.)</u> | | | | | |
| 119.B. | Other affections of the Intestines: | - | 1 | - | 1 | - |
| | Constipation | 1 | 27 | - | 28 | 1 |
| 121. | Hydatid of the Liver | - | 1 | - | 1 | - |
| 122. | Cirrhosis of the Liver: | | | | | |
| | (a) Alcoholic | - | 1 | - | 1 | 1 |
| | (b) Other forms | - | 2 | 1 | 2 | - |
| 124. | Other affections of the Liver: | | | | | |
| | Abscess | - | 1 | - | 1 | - |
| | Hepatitis | - | 6 | 1 | 6 | - |
| | Cholecystitis | - | 4 | 1 | 4 | - |
| | Jaundice | - | 1 | - | 1 | 1 |
| 125. | Diseases of the Pancreas | - | 1 | 1 | 1 | - |
| 126. | Peritonitis (of unknown cause) | - | 3 | 2 | 3 | - |
| 127. | Other affections of the Digestive System | - | 7 | - | 7 | - |
| VII. | <u>DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL):</u> | | | | | |
| 128. | Acute Nephritis | - | 15 | - | 15 | - |
| 129. | Chronic | - | 5 | 1 | 5 | 1 |
| 130.B. | Schistosomiasis | - | 5 | - | 5 | - |
| 131. | Other affections of the Kidneys: | | | | | |
| | Pyelitis, etc. | - | 10 | 1 | 10 | - |
| 132. | Urinary Calculus | - | 7 | - | 7 | - |
| 133. | Diseases of the Bladder | 1 | - | - | 1 | - |
| | Cystitis | - | 13 | - | 13 | 2 |
| 134. | Diseases of the Urethra: | | | | | |
| | (a) Stricture | - | 6 | - | 6 | 1 |
| | (b) Other | 1 | 6 | 1 | 7 | - |
| 135. | Diseases of the Prostate: | | | | | |
| | Hypertrophy | - | 6 | - | 6 | 1 |
| | Prostatitis | - | 3 | - | 3 | - |
| 136. | Diseases (non-Venereal) of the Genital Organs of Man: | | | | | |
| | Epididymitis | - | 1 | - | 1 | - |
| | Orchitis | - | 2 | - | 2 | - |
| | Hydrocele | 1 | 5 | 1 | 5 | - |
| | Ulcer of Penis | - | 5 | - | 6 | - |
| 137. | Cysts or other non-malignant Tumours of the Ovaries | 1 | 4 | - | 4 | - |
| 138. | Salpingitis | - | 5 | - | 6 | 1 |
| | Abscess of the Pelvis | - | 8 | - | 8 | 1 |
| 139. | Uterine Tumours (non-malignant) | - | 59 | - | 59 | 1 |
| 140. | Uterine Haemorrhage (non-puerperal) | - | 10 | 1 | 10 | 2 |
| 141.A. | Metritis | - | 1 | - | 1 | - |
| B. | Other affections of the Female Genital Organs: | | | | | |
| | Displacements of Uterus | - | 11 | - | 11 | - |
| | Amenorrhoea | - | 1 | - | 1 | - |
| | Dysmenorrhoea | - | 15 | - | 15 | 1 |
| | Leucorrhoea | - | 2 | - | 2 | - |
| | | - | 17 | - | 17 | - |
| | | - | 11 | - | 11 | - |
| | Total carried forward: | 49 | 1,635 | 88 | 1,684 | 80 |

| No. | D I S E A S E S | Remaining in Hospital 1937 | Yearly Total | | Total cases Treated | Remaining in Hospital 1938 |
|--------|---|-------------------------------------|-----------------|--------|---------------------------|-------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward | 49 | 1,635 | 88 | 1,684 | 80 |
| VII. | <u>DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL) (Contd.)</u> | | | | | |
| 142. | Diseases of the Breast (non- puerperal) | - | 3 | - | 3 | - |
| | Mastitis | - | 6 | - | 6 | - |
| | Abscess of Breast | 1 | 3 | - | 4 | - |
| VIII. | <u>PUERPERAL STATE.</u> | | | | | |
| 143.A. | Normal Labour | 4 | 114 | - | 118 | 3 |
| B. | Accidents of Pregnancy: | | | | | |
| | (a) Abortion | - | 18 | 1 | 18 | 1 |
| | (c) Other accidents of Pregnancy | 1 | 14 | 1 | 15 | - |
| 144. | Puerperal Haemorrhage | - | 1 | 1 | 1 | - |
| 145. | Other Accidents of Parturition | - | 6 | - | 6 | 1 |
| 146. | Puerperal Septicaemia | - | 12 | - | 12 | - |
| 148. | Puerperal Eclampsia | - | 1 | - | 1 | - |
| 149. | Sequels of Labour | - | 3 | - | 3 | - |
| 150. | Puerperal affections of the Breast | - | 1 | - | 1 | - |
| IX. | <u>AFFECTIONS OF THE SKIN AND CELLULAR TISSUES:</u> | | | | | |
| 151. | Gangrene | - | 5 | 1 | 5 | - |
| 152. | Boil | - | 3 | - | 3 | - |
| | Carbuncle | - | 7 | - | 7 | - |
| 153. | Abscess | - | 2 | - | 2 | - |
| | Whitlow | - | 17 | 1 | 17 | - |
| | Cellulitis | - | 40 | - | 40 | 1 |
| 154.B. | Scabies | 1 | 21 | - | 22 | - |
| 155. | Other Diseases of the Skin | - | 1 | - | 1 | - |
| | Urticaria | - | 2 | - | 2 | - |
| | Eczema | 1 | 3 | - | 4 | - |
| X. | <u>DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS):</u> | | | | | |
| 156. | Diseases of Bones | | | | | |
| | Osteitis | 2 | 24 | - | 26 | 6 |
| 157. | Diseases of Joints: | | | | | |
| | Arthritis | 3 | 13 | 1 | 16 | - |
| | Synovitis | - | 15 | - | 15 | 1 |
| 158. | Other Diseases of Bones or Organs of Locomotion | - | 6 | - | 6 | - |
| XI. | <u>MALFORMATIONS:</u> | | | | | |
| 159. | Malformations: Spina Bifida, etc. | - | 1 | - | 1 | - |
| XII. | <u>DISEASES OF INFANCY:</u> | | | | | |
| 160. | Congenital Debility | - | 5 | - | 5 | - |
| 162. | Other affections of Infancy | - | 1 | 1 | 1 | - |
| 163. | Infant neglect (infants of three months or over) | - | 1 | - | 1 | - |
| | Total carried forward: | 62 | 1,984 | 95 | 2,046 | 93 |

| No. | D I S E A S E S | Remaining in Hospital 1937. | Yearly Total | | Total cases Treated | Remaining in Hospital 1938. |
|---------------|--|--------------------------------------|-----------------|--------|---------------------------|--------------------------------------|
| | | | Admis- sions | Deaths | | |
| | Brought forward: | 62 | 1,984 | 95 | 2,046 | 93 |
| XIII. | <u>AFFECTIONS OF OLD AGE:</u> | | | | | |
| 164. | Senility: Senile Dementia | - | 2 | - | 2 | - |
| XIV. | <u>AFFECTIONS PRODUCED BY EXTERNAL CAUSES:</u> | | | | | |
| 175. | Food Poisoning | - | 1 | - | 1 | - |
| | Botulism | - | 2 | - | 2 | - |
| 176. | Attacks of poisonous animals: | | | | | |
| | Snake Bite | - | 5 | - | 5 | - |
| | Insect Bite | - | 3 | - | 3 | - |
| 177. | Other accidental Poisonings | - | 4 | - | 4 | - |
| 178. | Burns (by Fire) | 2 | 46 | 7 | 48 | 1 |
| 179. | Burns (other than by Fire) | 1 | 5 | - | 6 | - |
| 181. | Poisoning by Gas (accidental) | - | 1 | - | 1 | - |
| 183. | Wounds (by Firearms, war excepted) | - | 10 | - | 10 | - |
| 184. | Wounds (by cutting or stab- bing Instruments) | - | 38 | 1 | 38 | 3 |
| 185. | Wounds (by Fall) | 3 | 17 | - | 20 | 1 |
| 186. | Wounds (in Mines or Quarries) | 1 | 36 | 3 | 37 | - |
| 187. | Wounds (by Machinery) | 1 | 2 | - | 3 | - |
| 188. | Wounds (crushing, e.g. Railway accidents, etc.) | - | 11 | 1 | 11 | 2 |
| 189. | Injuries inflicted by animals, Bites, Kicks, etc. | 2 | 34 | 5 | 36 | 1 |
| 192.B. | Hunger or Thirst | - | 1 | - | 1 | - |
| 195. | Lightning Stroke | - | 2 | - | 2 | - |
| 201.A. | Dislocation | - | 15 | - | 15 | - |
| C. | Fracture | 6 | 58 | 1 | 64 | 6 |
| 202. | Other external Injuries | 3 | 85 | - | 88 | 3 |
| XV. | <u>ILL-DEFINED DISEASES:</u> | | | | | |
| 204. | Sudden Death (cause unknown) | - | 1 | 1 | 1 | - |
| 205.A. | Diseases not already specified or ill-defined: | | | | | |
| | Ascites | 1 | 1 | 1 | 2 | - |
| | Asthenia | - | 10 | 2 | 10 | - |
| | Shock | - | 4 | - | 4 | 1 |
| B. | Malingering | - | 1 | - | 1 | - |
| XVI. | <u>DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED 10 DEATHS:</u> | 2 | 15 | 1 | 17 | - |
| TOTAL: | | 84 | 2,394 | 118 | 2,478 | 111 |

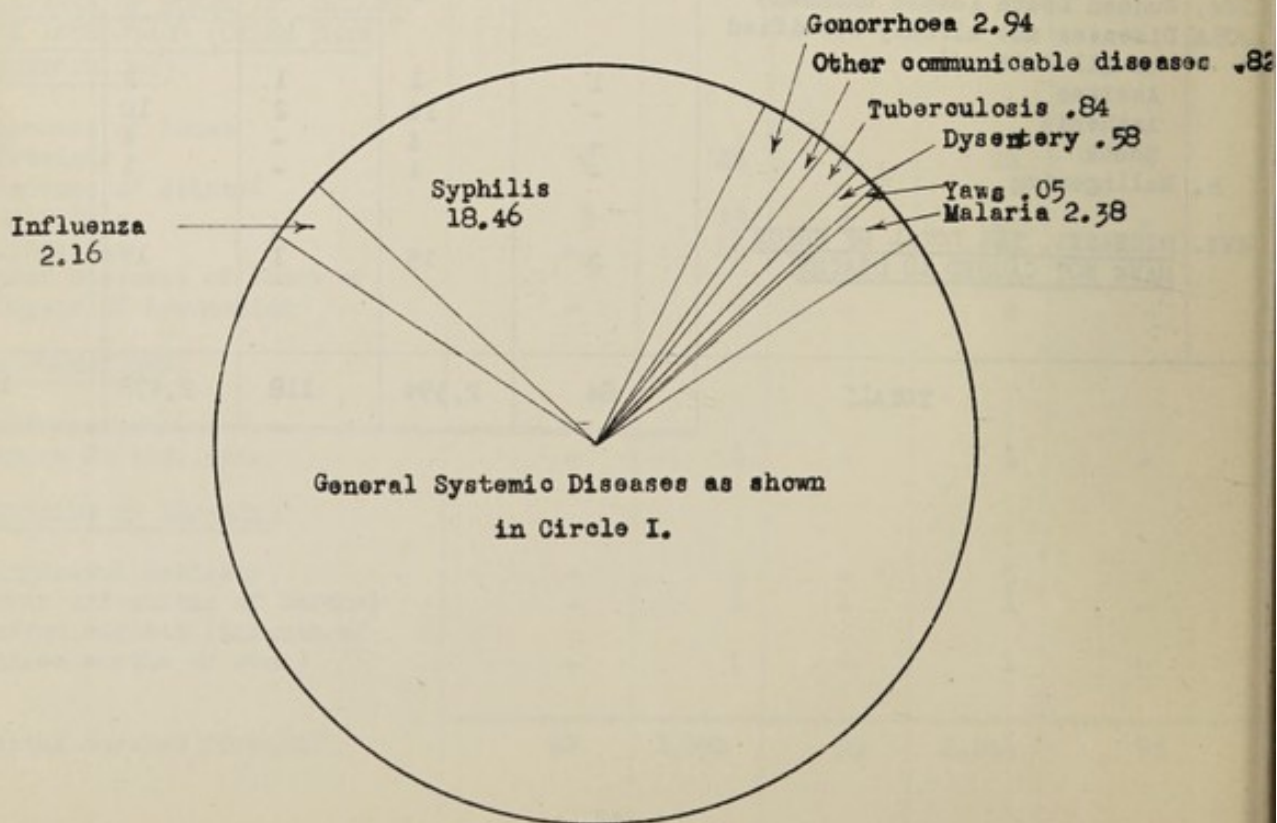
COMMUNICABLE AND GENERAL SYSTEMIC DISEASES

I. DIAGRAMS SHOWING INCIDENCE OF DISEASE



COMMUNICABLE DISEASES

II.



A P P E N D I X "D"

REPORT UPON INVESTIGATIONS INTO MALNUTRITION

As a preliminary to commencing this investigation, in April I paid a visit to the Union for the purpose of becoming acquainted

(a) with the methods to be employed in the nutrition survey started by the Union Health Department;

(b) with the latest methods of investigation used at the South African Institute for Medical Research.

2. I submitted a suggested method of procedure and a report upon the results of my visit on May 25th.

3. It became evident at an early stage of my inquiry that the methods used in the Union would in general be unsuited for use in the Protectorate, since the personnel and funds available here are very small compared with those of the Union.

4. The scheme that I drew up was therefore, purposely made very elastic, so that it might easily be modified if necessary, to suit the two main requirements

(a) that the investigation must be made as far as possible in conjunction with routine duties;

(b) that the methods employed must be essentially simple and able to be used by one man.

5. The methods used in nutritional research at the present fall roughly into three groups,

(1) somatometric

(2) clinical and physiological

(3) sociological.

6. The somatometric method has hitherto enjoyed a great vogue both in Europe and in America; during the last decade the number of formulae introduced connecting height, weight, and other measurements, which purport to

give an indication of the degree of malnutrition, or otherwise, has been legion. The majority of these have enjoyed popularity and have then been condemned as inexact.

7. The latest method, that of the A. C. H. (arm-chest-hip) index does, however, seem to 'select' children who will repay a detailed clinical examination.
8. The method has been extensively used in America for some years, and very recently has been employed for European children in the Union by H. le Riche (1); Aykroyd (2) in India has found it useful for Indian children, but, so far as I know, no results have yet been produced for African children.
9. The A. C. H. method, like so many of its kind, has the drawback of being intended for children whose ages are between 7 and 12. This difficulty of age springs up immediately when dealing with native children, for so many do not know their ages, nor do their parents.
10. School registers are often very inaccurate in this matter, and I have taken a series of photographs of children who are of the same age according to the school register, but between whom there is obviously a great difference.
11. Method (2), clinical and physiological, is independent of temporal age and is therefore, in my opinion, to be preferred as a criterion of malnutrition wherever possible.
12. The chief drawback of this method is that it entails the use of laboratory apparatus and a training in the discipline of modern biochemistry; on the other hand, there are many simple investigations, e.g. haemoglobin in blood, ascorbic acid in urine, which give

a positive answer to the question asked. Somatometric methods can only indicate that so many subjects may be suffering from malnutrition or another disease.

13. Method (3) includes the examination and assessment of all factors e.g. economic, which are likely to have a bearing upon the food supply.

14. Of these three methods, I have so far used only the second and third, and have pursued several lines of investigation at once, as occasion offered.

15. Since it is of importance to produce at least a preliminary report within a reasonable time, the first piece of work carried out was a close examination of the out-patient registers, both of the Travelling Dispensary and of Francistown, to trace the topographical incidence of acute deficiency disease in neighbouring districts.

16. Some half dozen districts were selected for further investigation. The attached chart shews the incidence of acute deficiency as a percentage of all patients seen from these districts.

17. These districts were then visited as occasion permitted, and a dental survey of all available children carried out.

18. From this survey all children who had lived less than five years in the district were excluded, and the criterion of a 'bad' tooth was one in which at least two sides had been destroyed by caries.

19. Although this criterion is severe, yet it is more objective than the noting of pitting of more or less severity.

20. The results of the dental examination indicate that there is a general agreement between the frequency of dental caries and the incidence of acute deficiency disease.

21. We have now two independent lines of investigation to confirm the fact that 'good' and 'bad' districts exist.
22. It is my intention, as soon as weather conditions permit, to investigate the worst and the best district intensively.
23. Before we can apply physiological and biochemical methods to the detection of chronic malnutrition (for acute malnutrition is easily recognized clinically) it is essential to know the average physiological and biochemical limits of natives.
24. This offers a vast field for research but little is known therein.
25. I have started such 'average' determinations with haemoglobin, blood urea and urinary ascorbic acid and have now some hundreds of records of findings in apparently healthy natives.
26. I have found that the haemoglobin content of the blood varies within much wider limits than is the case with Europeans; it would seem that a 70-85% haemoglobin is compatible with health.
27. This remark is contrary to that expressed by current text-books of physiology and of clinical medicine, so that I have used an additional means of determining haemoglobin besides the Tallqvist scale.
28. For this purpose I have described the oxygen capacity of the blood by means of the Haldane blood gas manometer; this piece of apparatus works with 1 ml. of blood, and with it the percentage oxygen capacity, the total oxygen capacity and the CO₂ content can be determined in one operation. Further, the determination of the oxygen capacity is the ultimate method of finding the haemoglobin content.

29. Similarly, I have determined blood urea and urinary ascorbic acid. Both of these determinations give very low figures for normal natives. The urinary ascorbic acid output is of the order of 11-17 mgms. per diem as compared with the average output in Europe of 25 mgms. This affords an illustration of the necessity of knowing normal biochemical figures, for it might easily be concluded that a native with an output of 15 mgms. was suffering from sub-scurvy, whereas in fact the output would have to be of the order of 8 mgms. before such a conclusion could be correctly drawn.
30. Saturation experiments with ascorbic acid shew that natives can take up a large amount of ascorbic acid before any 'spill over' takes place, as shewn by an increased output, but I have not yet performed sufficient work on this aspect to give reliable figures.
31. Estimations of serum calcium in natives also give very low figures which are compatible with apparently good health. This has also been remarked by W. Stone working at Salisbury (3).
32. When I have accumulated sufficient data for use as normal standards, I intend to carry out similar work in the field in 'good' and 'bad' districts. The investigations to be performed are (1) haemoglobin (2) ascorbic acid (3) serum calcium (4) urinary nitrogen (5) vitamin B1 in blood by Sinclair's method (4).
33. A consideration of the results of this work should give an indication of the direction in which any dietary deficiency lies.
34. An elegant control to the above results would be afforded by similar investigations on natives living on a different diet, e.g. the fish-eaters along the Chobe, where I hope to be able to carry out such experiments.

35. The third method I have hitherto only used for inquiry into native diets. This is an extremely difficult problem, for although we have not to deal to any extent with the added complication of income levels, as in Europe, yet it is no easy matter to ascertain even approximately how much natives do eat. Dietary budgets can be obtained from the better educated class of natives, such as teachers, but with the less civilized the only way is to sit with them and watch them eat.
36. So far my figures tend to shew that in a good year they get sufficient bulk of food and enough carbohydrate and (probably) fat. The diet is deficient in first class protein, but on the whole they get about enough second class protein for basal requirements, but not enough, according to European standards, for prolonged physical labour.
37. Minerals are, in general, deficient, especially calcium and also vitamins.
38. I am also getting water samples analysed; this is of importance in view of the fact that the composition of drinking water may have far-reaching effects upon the absorption of food from the intestine.
39. A subsidiary investigation completed has been one on the ascorbic acid content of local native beers. A special report of the investigation has been submitted during the year.
40. In conclusion, the majority of the apparatus indented for last June has arrived so that I shall be able to get on with the intensive determinations outlined above.
41. I hope, in the absence of unforeseen circumstances, to be able to produce a detailed report upon the districts mentioned by the end of June, 1939.

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- (1) Le Riche, H.S. Afr. Journ. Med. Sci. 3, 2, 60.
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- (3) Stone, W. Trans. Roy. Soc. Trop. Med. & Hyg. XXX
2, 165.
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BECHUANALAND PROTECTORATE
GOVERNMENT

7.2.39.

Incidence of Acute Deficiency Disease
as Percentage of Total No. of Patients seen.

