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1950.

LEGISLATIVE COUNCIL, FIJI.

COUNCIL PAPER No. 24.

Medical Department.

(ANNUAL REPORT FOR 1949.)

I—ADMINISTRATION.

(1) ESTABLISHMENT AND STAFF.

(a) MEDICAL DIRECTORATE.

THE departmental establishment is set out in Appendix I to this Report.

2. Dr. J. M. Cruikshank, O.B.E., Assistant Medical Adviser at the Colonial Office, assumed duty as Inspector-General, South Pacific Health Service and Director of Medical Services, Fiji, on the 4th February, 1949, and Dr. K. R. Steenson, who had been acting in the combined post since the 2nd August, 1948, resumed duty as Deputy Director of Medical Services.

3. Dr. K. R. Steenson proceeded on a short period of leave to New Zealand on the 3rd April, 1949, returning on the 1st August, 1949, and during the period of his absence his duties were performed by Dr. R. W. D. Maxwell.

4. The duties of Chief Health Inspector were carried out by Mr. W. C. Cockell until the 12th October when he proceeded on leave and Mr. R. B. Fyfe, Health Instructor, was appointed to act as Chief Health Inspector.

5. Mr. A. L. Baker continued to perform the duties of Secretary and Miss D. T. Pedersen the duties of Nursing Superintendent on the Headquarters staff.

(b) MEDICAL, NURSING AND TECHNICAL STAFF.

6. The departmental establishment provides for 28 Medical Officers and difficulty in maintaining this establishment continued to be experienced during the year. In December, 1949, there were five vacancies. Endeavours were made to fill these vacancies by temporary appointments on contract and at the end of the year there were good prospects that vacancies would be filled by such appointments. This shortage of Medical Officers made it necessary to leave Levuka in the Southern District and Nadroga in the Western District without a resident Medical Officer. Other district hospitals have experienced shortage of staff.

7. Dr. H. S. Evans, who retired from the post of Deputy Director of Medical Services in 1946, was temporarily re-employed on agreement for three years with effect from the 22nd November, 1949, and appointed to the conjoint post of District Officer and District Medical Officer, Rotuma, an island approximately 300 miles to the North of the main Fiji Group.

8. Dr. C. J. Austin, O.B.E., Medical Superintendent of the Fiji Leprosy Hospital at Makogai, proceeded on vacation leave to the United Kingdom, via New Zealand where he attended the seventh Pacific Science Congress, to which Dr. R. W. D. Maxwell was also a delegate. Dr. P. G. Griffiths acted as Medical Superintendent, Makogai, during Dr. Austin's absence.

9. Dr. K. H. Black, who had been granted vacation and study leave to the United Kingdom in 1948, was successful in obtaining his diploma in Public Health at Edinburgh University. Dr. Black returned to the Colony in September, 1949, and was then seconded for a tour of duty in Tonga, where he acted as Chief Medical Officer, relieving Dr. J. R. Reid, who proceeded on leave to the United Kingdom.

10. The Surgeon Specialist, Mr. K. J. Gilchrist, proceeded on leave prior to transfer to Nigeria in October, and Dr. G. T. Barnes, Pathologist, and Dr. M. L. McCauley, proceeded on leave to the United Kingdom on the 9th November.

11. Dr. P. W. J. Searle resigned from the service after completing three years' service; he was granted 180 days' leave prior to resignation, with effect from the 11th September, 1949.

12. Trained nursing staff is recruited from New Zealand, the majority of nurses being recruited on a two year contract. The New Zealand Health Department continued to give ready assistance in the recruitment of nurses for service in Fiji, despite staff shortages in New Zealand.

13. Arrangements were made during the year for one nursing sister to proceed to New Zealand under a Government Bursary to enable her to take a post-graduate course in maternity and Plunket work. This Sister was successful in obtaining her certificates.

14. At the end of 1949 the total number of Assistant Medical Practitioners on the active strength was 73 Fijians and 13 Indians. There were 191 locally trained Assistant Nurses employed, of whom 97 were working in hospitals and 94 employed on district work in towns and villages. In addition there were 160 Fijian and Indian pupil nurses in training, of whom 83 were at the Colonial War Memorial Hospital, Suva, 12 at the Tamavua Hospital, Suva, and 65 at the Lautoka Hospital. Thirty-six pupil nurses graduated from the nursing schools during the year.

(2) LEGISLATION.

15. The following laws, regulations, etc., relating to medical and public health matters were enacted:—

ORDINANCES.

No. 11 of 1949, to amend the Pure Food Ordinance (Cap. 114). This amendment was enacted to provide for a small quantity of starch or sesame oil to be added to margarine to simplify the detection of margarine which may be mixed with butter and the mixture sold as butter. It is expected that locally manufactured margarine will be on sale early in 1950. This product is to be fortified by the addition of 8,800 international units of vitamin A per pound. This content will be controlled by regulation under the Pure Food (Amendment) Ordinance.

No. 16 of 1949, to provide for the establishment and administration of a War Memorial Anti-tuberculosis Fund. Under this Ordinance provision is made for the constitution of a War Memorial Anti-tuberculosis Fund with the moneys subscribed under the War Memorial Appeal launched during the year, the declaration of purposes for which the fund may be applied and provision for the appointment, powers and duties of trustees for the Fund.

No. 19 of 1949, to amend the Quarantine Ordinance (Cap. 108). The object of this amendment is to dispense with the requirement of bills of health in respect of vessels calling at Fiji, as recommended by the International Sanitary Convention of 1944.

PROCLAMATIONS.

No. 7 of 1949, cancelling the Quarantine (Infected Places) Proclamation, No. 5 of 1946 and No. 1 of 1948, in which New Zealand and the British Solomon Islands Protectorate were declared to be places infected with acute anterior poliomyelitis.

No. 9 of 1949, cancelling Proclamation No. 17 of 1947, in which Egypt was declared to be a place infected with cholera.

REGULATIONS.

Regulations made under the Quarantine Ordinance (Cap. 108) relating to overtime charges for fumigation and disinfection.

Regulations made under the Public Health Ordinance (Cap. 107) applying the Public Health (Sanitary Services) Regulations to the Rural Sanitary District of Sigatoka.

Regulations made under the Quarantine Ordinance (Cap. 108) relating to disinfection, disinfestation and deratization of aircraft.

Regulations made under the Public Hospitals Ordinance (Cap. 106), altering the Colonial War Memorial Hospital visiting hours.

(3) FINANCE.

16. The following table shows the revenue and expenditure of the Department during 1949:—

Gross Expenditure	£398,907
Revenue	39,712
Net Expenditure	359,195

Taking the total expenditure of the Colony as £2,648,516, the gross cost of the Medical and Health services was 12.51 percent of the total Colony expenditure or 25 shillings 0.48d. per head of population.

17. The following table shows the expenditure on medical and public health services per head of the population over the past 14 years:—

COST OF MEDICAL SERVICE PER HEAD OF THE POPULATION.

Year	Population	Expenditure (per caput.)	Remarks
1936	201,086	8s. 0.77	
1939	215,030	10s. 7.42	
1942	233,895	10s. 0.78	
1944	246,485	12s. 0.81—£30,614 free grant from C.D. and W. funds deducted.	
1945	254,676	14s. 1.67—£26,264 free grant from C.D. and W. funds deducted.	
1946	260,468	16s. 6.38—£14,880 free grant deducted. £5,000 for new X-ray plant included.	
1947	269,274	20s. 7.85—£15,762 free grant from C.D. and W. funds deducted.	
1948	277,372	24s. 4.49—£12,130 free grant from C.D. and W. funds deducted.	
1949	284,955	25s. 0.48—£2,426 free grant from C.D. and W. funds deducted.	

Rising costs of drugs, equipment and food for patients are mainly responsible for the increase.

18. The following grants have been received from Colonial Development and Welfare Funds for schemes which are more fully described later in the report:—

(i) TUBERCULOSIS SURVEY—£28,230.

To enable a full survey to be carried out in Fiji, the British Solomon Islands Protectorate and the Gilbert and Ellice Islands Colony into the incidence of tuberculosis.

(ii) SUVA MEDICAL CENTRE—£239,982.

To enable Stage I and part of Stage II of the Suva Medical Centre proposals to be carried out, including the new Central Medical School and Hostel, the new Central Nursing School and Hostel, in addition to the new maternity annex and Out-Patients Department at the Colonial War Memorial Hospital in Suva. A separate grant of £50,000 has been made for furniture and equipment for the new Medical Centre.



(iii) CENTRAL MEDICAL RESEARCH LIBRARY—£4,051.

To provide for the establishment in Suva of a Central Library where various departmental collections of books, reports, monographs and journals can be stored, indexed and maintained in such a manner as to enable references to be made available for Medical Officers and other workers in Fiji and the neighbouring island territories.

(iv) PRELIMINARY RESEARCH INTO ANAEMIAS AND DENTAL DISEASE—£480.

To enable preliminary investigation to be carried out of the problems in order that a fuller investigation may later be planned. The preliminary survey will commence at the beginning of January, 1950.

(4) MEDICAL STORES AND EQUIPMENT.

19. The cost of imported medical stores and equipment has continued to rise sharply, but supplies have been coming forward more regularly. It has not been possible to build up reserves of stocks owing to the necessity of endeavouring to keep within the amount provided in the Budget.

20. The value of issues from the Medical Stores during 1949 totalled £50,409. The items issued included drugs, instruments, appliances, clothing, bedding and equipment. Included in the total value of issues was the sum of £3,994 for child welfare work, £105 free issues to mission stations and £449 sales to private practitioners and other persons.

II—PUBLIC HEALTH.

(1) GENERAL REMARKS.

21. The Colony is divided up into some 48 areas, in each of which there is a district hospital, a rural hospital or a dispensary in the care of a Medical Officer or an Assistant Medical Practitioner. From each hospital and dispensary monthly morbidity returns are sent in to Administrative Headquarters and any necessary action is taken on the results of the information received. In addition to these monthly returns, each Medical Officer in charge of a district submits a telegraphic return of infectious diseases which have occurred in his district. This information is referred to the Health Department staff and immediate action taken to investigate the conditions under which diseases have occurred and to prevent their spread. There was no epidemic during the year which affected the health of the community in general.

(2) COMMUNICABLE DISEASES.

22. At Appendix II will be found tables showing notifications of cases of infectious diseases for the year 1949 by districts, races and months.

23. *Influenza*.—As is usual influenza was prevalent throughout the year. 3,566 cases were reported but this figure would be very much lower than the number of cases which actually occurred.

24. *Dysentery*.—A total of 667 cases of dysentery was reported during the year, 12 being amœbic in origin, 125 bacillary and 530 unclassified. It is noteworthy that the majority of cases occurred in the outlying parts of the group which are not so well provided with medical and health services.

25. *Infantile Diarrhoea*.—A total of 798 cases was reported, which is considerably more than in 1948, but approximately the same as in 1947. The majority of notifications were in respect of Fijian children and the incidence was fairly evenly spread over the various districts of the Colony.

26. *Whooping Cough*.—Three hundred and fifty cases were reported, mainly from the Southern and Eastern Districts.

27. *Dengue Fever*.—Two hundred and seventy-four cases were reported many of which would have been in a fairly mild form. The number of notifications of this disease in 1947 was 318 and in 1948, 188.

(3) VENEREAL DISEASE.

28. Two hundred and sixty cases of Gonorrhoea, four of ophthalmia neonatorum, one of soft chancre and 54 of syphilis were reported. The total number of notifications of venereal disease was slightly lower than in 1948 and considerably lower than in 1947. This is perhaps due to the fact that conditions are slowly returning to normal after the dislocation of the war years.

(4) IMMUNIZATION AND PROPHYLAXIS.

29. Anti-diphtheria and anti-whooping cough immunization is carried out on a voluntary basis at all public health centres and mass immunization against typhoid is arranged in all areas where typhoid has occurred. Vaccination against smallpox is also carried out at the main health centres. B.C.G. vaccinations have been arranged in connexion with the Anti-tuberculosis Campaign, which is described in the following paragraph.

(5) TUBERCULOSIS.

30. Tuberculosis is probably the greatest health problem which the Department has to face. Notifications of tuberculosis in 1949 numbered 448. A tuberculosis register for the Colony was commenced in 1947 and has been kept up to date and, to assess the prevalence of the disease, a tuberculosis survey, for which a grant of £28,230 has been made from Colonial Development and Welfare Funds, is still in progress. Dr. L. G. Poole, Medical Officer-in-Charge of Tamavua Hospital, has been appointed Tuberculosis Officer and Officer in Charge of the Survey. He has been assisted by two Assistant Medical Practitioners who have had special training in the United Kingdom in

anti-tuberculosis work. As soon as transportable X-ray equipment is available, it is proposed to X-ray as many of the population as possible. In the meantime, mantoux tests are being continued and B.C.G. vaccination, which was introduced in September, is being administered to school children and contacts of active cases if mantoux and X-ray negative. Of a group of 2,658 school children in urban areas, ranging in age from 5 to 16 years, approximately 800 were mantoux negative and have received B.C.G. vaccination since this programme was instituted in September. Post-vaccination mantoux testing reveals a conversion rate of between 96 per cent and 98 per cent.

31. In conjunction with the tuberculosis survey an anti-tuberculosis campaign is being carried out with the staff and hospital facilities available.

32. Tamavua Hospital provides 216 beds for tuberculosis cases and arrangements were well in hand at the end of the year to open additional wards to increase the capacity of this hospital. The conversion of a disused building at the Lautoka Hospital to provide an annexe to take 20 tuberculosis cases was nearing completion at the end of the year and the annexe will be brought into use as soon as the necessary furniture and equipment has been provided. Construction of additional tuberculosis annexes attached to regional and rural hospitals will be undertaken in 1950. Tamavua Hospital will then be reserved for patients who will benefit from specialist treatment, whereas patients who require rest only and those awaiting admission to Tamavua, in addition to advanced cases, will be accommodated at the annexes attached to rural hospitals. At the present time many of these cases have to be returned to the villages, where they are a source of danger to their fellow-villagers, for lack of hospital accommodation.

33. A representative Committee decided that the Colony's war memorial should take the form of an appeal for funds for prevention, treatment and control of tuberculosis. The Government undertook to subsidize £ for £ of voluntary contributions up to a maximum of £20,000. A Central War Memorial Appeal Committee was established in Suva with branches throughout the Colony. The appeal, which extended over a period of three months, was most generously supported by all sections of the population and at the end of 1949 the magnificent sum of over £60,000 had been voluntarily subscribed, to which must be added the £20,000 contributed by Government. It is proposed to make the appeal an annual one and an Ordinance was passed during the November session of the Legislative Council setting up a Statutory Board of Trustees to administer the Anti-tuberculosis Fund.

(6) LEPROSY.

34. Notifications of leprosy in Fiji for 1949 numbered 46. The Fiji Leprosy Hospital on the island of Makogai serves Western Samoa, Eastern (American) Samoa, the Cook Islands, Niue, Tonga, the Gilbert and Ellice Islands Colony and New Zealand, in addition to Fiji. All cases are compulsorily segregated on this island and the discharge rate, controlled by strict criteria of inactivity, remains satisfactory. There is a carefully controlled follow-up of discharged patients and the percentage of re-admissions has been low. There were approximately 700 patients in 1949. Dr. C. J. Austin, O.B.E., Medical Superintendent of the Fiji Leprosy Hospital, proceeded on leave to the United Kingdom in January, and returned to the Colony in December, during which time Dr. P. G. Griffiths acted as Medical Superintendent. Treatment with sulphetrone was initiated in 1948 and it has been established that this drug represents a very real advance in the treatment of cases of lepromatous leprosy. £5,000 was voted in 1949 to cover the cost of the importation of sulphetrone, iron and yeast in order that treatment on a fuller scale could be carried out. A copy of the annual report for 1949, prepared by Dr. Austin, Medical Superintendent at Makogai, setting out in detail the work of the Fiji Leprosy Hospital, is enclosed as Appendix III. An interesting report by Dr. Manson-Bahr on investigations carried out at Makogai into anaemia associated with sulphetrone treatment is enclosed as Appendix IV.

(7) ANTI-MALARIAL CONTROL.

35. In addition to the usual measures instituted in the Health Department to combat mosquito breeding, intensified anti-mosquito measures are in force at the airports in the Colony especially directed to prevent the introduction of anopheles mosquitoes which, so far, are not present in the Fiji Islands. Nadi is the only port of entry for land planes from malarial areas, Laucala Bay, Suva, for seaplanes from malarial areas, and Suva for surface craft. Interchanges of population between countries involve real danger of the introduction of malaria and the anopheline mosquito by ship or aircraft. It has, therefore, been necessary to continue anopheline prevention measures in and around the above air and sea ports.

36. Up to the end of 1948 the anti-malarial control scheme was financed from Colonial Development and Welfare Funds and grants totalling £90,400 had been received for this purpose. From the 1st January, 1949, responsibility for the provision of funds for this work was assumed by the Fiji Government and expenditure in 1949 amounted to £F12,007. Residual spraying with D.D.T. and regular inspections at the Nadi Airport are undertaken and the drainage system is kept under repair. Regular check surveys were carried out at Nausori Airport, the Laucala Bay Airport and the Suva wharf area.

37. Responsibility for mosquito control work in the Suva town area rests with the Suva Town Council. Regular house-to-house inspections are carried out and notices served on the occupiers of premises in which mosquito larvae are found.

(8) FILARIASIS.

38. In 1944 a campaign was started against filariasis by the elimination of the vector mosquito (*Aedes scutellaris-pseudo scutellaris*) from the vicinity of towns and villages. Thirty-nine inspectors and four supervising inspectors, all locally trained, are at present employed. Apart from eliminating the breeding places of mosquitoes near Fijian towns, the general sanitation of these villages has been improved through the activities of the Filariasis Inspectors.

39. A severe loss was sustained on the 20th July, 1949, by the death of the Officer-in-Charge of the Campaign, Mr. D. W. Amos, M.B.E. Mr. Amos had been in charge of the campaign since its inception and, through his knowledge and enthusiasm, a colony-wide organization had been built up. Mr. S. Nelson, Surveyor in Charge of the Anti-malarial measures, has taken charge of both the anti-malaria and filariasis control schemes.

40. Expenditure on the anti-filariasis campaign in 1949 was £F5,177. The following are the details of the microfilarial survey carried out during the year:—

Males and Females combined.—61,967 blood tests showing 9,197 positive or 14.84 per cent.

Males only.—31,322 blood tests showing 5,710 positive or 18.23 per cent.

Females only.—30,645 blood tests showing 3,487 positive or 11.38 per cent.

(9) DENTAL HEALTH.

41. The dental clinic, which is attached to the Colonial War Memorial Hospital, is at present under the charge of the Travelling Dental Surgeon, Ratu I. Vosailagi, who is assisted by two Assistant Dental Practitioners. The Travelling Dental Surgeon is also in charge of the Dental Training School in addition to being required to visit other centres in the Colony. A new post of Senior Dental Surgeon and Principal of the Dental School was included in the estimates for 1949, but it has not so far been possible to recruit a dental surgeon to fill the post. When the Senior Dental Surgeon is appointed, the Travelling Dental Surgeon will be able to concentrate on work in the districts and among the school children. The Senior Dental Surgeon will also take charge of the Dental School which is run in conjunction with the Central Medical School. It is hoped that it will later be possible to take students from other administrations at the Dental School.

42. During the year a total of 3,628 extractions and 890 fillings were done at the dental clinic at the Colonial War Memorial Hospital and other treatments given in 353 cases. Treatment was also given at the Tamavua Hospital, the Lautoka Hospital and the Levuka Hospital.

43. At the end of 1948 Mr. H. N. Davies of the Dental School of the University of Otago, New Zealand, made a survey of dental conditions among the Fijian race and his very useful and informative report entitled, "Report on the Dental Status of Native Fijians" was received in 1949. The information contained in this document will be most useful for future reference.

(10) DIETETICS AND NUTRITION.

44. Further individual assistance has been given to schools in their dietary problems by Miss J. King, Dietitian to the South Pacific Health Service, who was appointed in March, 1948. The interest aroused in the necessity for improvement in school meals has been evidenced in the requests for advice and assistance which have come forward from many schools. Tuition in infant feeding and meals for the pre-school child is given to many of the District Nurses who in turn are supervised by qualified European Health Sisters in passing on this knowledge to mothers in the villages. Health Sisters employed in district work have assisted in passing on information on dietary matters.

45. Food posters have been designed and sent overseas for printing and arrangements have been made for posters to be reproduced locally by the silk screen process. Translations into Fijian and Hindustani of lectures and articles on dietary subjects have been printed and broadcast from time to time. The Dietitian has visited some of the more distant islands, both in Fiji and the Western Pacific High Commission territories.

(11) VITAL STATISTICS.

46. In Appendix V is shown the estimated population at the end of 1948 and 1949. The relative increase in the population of the various races, observed in previous years, has been maintained, the Fijian population having increased by 2,655 and the Indian population by 4,180. Since the 1946 census it is estimated that the total population of the Colony has increased by 25,350. In 1949 the natural increase per thousand of the total population was 26.45.

47. The crude birth rate per thousand for 1949 was 38.07 compared with 40.79 in 1948. The Fijian birth rate was 35.53 and the Indian 41.85, while the Fijian death rate was 14.95 and the Indian 10.22.

48. The infant mortality rate for Fijians in 1949 was 70.00 per thousand, compared with 74.88 in 1947 and 59.84 (the lowest figure on record) in 1948. The Indian infant mortality figure was 56.01, compared with 36.59 (the lowest recorded figure) for 1947, and 53.56 for 1948.

49. Infant mortality and crude birth and death rates for Fijians and Indians for the period 1926 to 1949 are shown on a graph which forms part of Appendix V.

III—HYGIENE AND SANITATION.

(1) ADMINISTRATION.

50. The administration of the Public Health Ordinance is vested, by the terms of that Ordinance, in the Central Board of Health and is decentralized by the Board to local authorities. Advisory functions are shared between the Director of Medical Services and the Central Board of Health, which latter body receives regular reports from, and where necessary directs the activities of, the local authorities.

51. Port health and quarantine in Suva is in the charge of the Medical Officer of Health and all Government Medical Officers in country districts are Medical Officers of Health for the sanitary districts in their charge. There is a small group of fully trained Health Inspectors and a number of Assistant Health Inspectors who are locally trained; the co-ordination of the work of these officers is carried out by the Chief Health Inspector, who is also secretary to the Central Board of Health. A limited number of district Health Sisters is employed on district work, field inspections, and the direction of child welfare activities in the towns and districts. The work of these nurses is more fully described under Section V of the Report.

52. There were 18 local authorities functioning in the Colony and the minutes of 67 meetings were forwarded to the Central Board of Health. The Suva Urban and Rural Local Authorities met each month; other local authorities met at irregular intervals.

53. The following is a summary of the work carried out by Health Inspectors and Assistant Health Inspectors during the year:—

- (a) *General Sanitary Inspection*.—50,141 inspections and re-inspections were carried out resulting in 18,451 sanitary defects being remedied. 24,703 written notices were issued. Buildings in suburban areas, which were beyond repair, received attention as follows:—

Closing Orders issued	48
Demolition Orders issued	37
Buildings demolished by owners	15
Buildings demolished by Local Authority	Nil

- (b) *Food Supplies and Premises*.—3,770 inspections were made of food premises and vehicles and 841 improvements to such premises completed during the year. Food inspection was well maintained, approximately 6½ tons of unsound foodstuffs being condemned and destroyed. Two hundred samples of food were taken for laboratory examination (103 chemical; 97 bacteriological) and appropriate action was taken in respect of substandard goods.

- (c) *Supervision of Erection of New Buildings*.—The standard of new housing in the Suva Rural area is showing an improvement with each year. Every new building, where a piped water supply exists, has a septic tank system of sewage disposal, and concrete is in a large measure replacing timber frame construction. No tenement buildings have been approved in the Suva Rural area in 1949, their place having been taken by new flats with up-to-date amenities.

In the 18 sanitary districts excluding the town of Suva, Health Inspectors, who also act as Building Inspectors, dealt with 808 applications in respect of new buildings or structural alterations or repairs to a value of £423,187. At the end of the year 1,341 building projects were under supervision.

- (d) *Legal Proceedings*.—Legal proceedings were instituted in 68 instances for offences against Public Health and Pure Food legislation and 58 convictions were obtained.

(2) SEWAGE DISPOSAL.

54. During 1949 many householders in suburban and rural districts took advantage of the facilities offered by the Health Office, Suva, for sewage disposal. 924 applications for permission to install septic tanks were received and 1,587 reinforced concrete latrine slabs, which are manufactured at the Health Office, Suva, were supplied at cost price to applicants who wished to install them.

(3) GARBAGE DISPOSAL.

55. A new garbage collection service was begun at Sigatoka on 14th April, 1949. In 12 sanitary districts 4,829 premises were served by regular garbage collection services supported by garbage collection rates.

(4) RAT DESTRUCTION.

56. 13,820 traps were set and 3,523 rats caught in 1949. 117 of these rats were submitted for laboratory examination but none was found to be infected.

(5) WATER SUPPLIES.

57. One hundred and eighty samples of drinking water were taken for laboratory examination during the year.

Water supplies in all towns and township areas are under Government control. The treatment of the Suva water supply is still unsatisfactory viewed by modern standards and as part of the Colony's development plan, it is intended to install an efficient filtration and chlorination plant.

(6) SCHOOL HEALTH AND HYGIENE.

58. Routine inspections of school children were carried out during the year by the District Medical Officers and Health Sisters. Miss E. M. Kennedy, Health Sister, was employed on school inspection work in the Suva area, assisted by a trained Fijian and Indian nurse. In addition to the Suva schools, regular inspections were made of the Methodist Mission School at Nausori and the Adi Cakobau Girls' School at Sawani. The following statistics relating to school inspections show that a large programme of work was carried out:—

Number of children inspected	6,053
Treatment for minor ailments	10,248
T.A.B. inoculations	6,005
Treatment for internal parasites	357
Stools examined for parasites	426

A programme of health teaching has been carried out at the school clinics and the infant welfare clinics and classes on first aid and home nursing have been held in several of the schools.

IV—SEAPORT AND AIRPORT HEALTH AND QUARANTINE.

59. Suva, Lautoka and Levuka are the three ports of entry in the Colony for overseas ships, with Suva the only port of entry for ships from malarial ports. Aeroplanes use the airports at Nadi and Nausori and flying boats land at Laucala Bay. During 1949 the total numbers of ships and aircraft arriving at these ports from overseas were as follows:—

<i>Ships.</i>		<i>Aircraft.</i>	
Suva	77	Nadi	732
Lautoka	10	Nausori	29
—	—	Laucala Bay	83
	87		844

60. Nadi, as the Colony's main airport, handled the bulk of the traffic during the year. 12,623 passengers, including 2,275 landing passengers and crew members totalling 5,444, were examined there. There is a Medical Officer stationed at Nadi Airport and a Health Inspector, who assists in the fumigation of aircraft, anti-mosquito measures and general sanitary measures. Aircraft from malarial places are required to land at either Nadi or Laucala Bay and may use Nausori only in exceptional circumstances. Strict precautions are taken with such aircraft, the Medical Officer of Health, Suva, being required to attend in the case of aircraft landing at Laucala Bay.

61. Twenty-six overseas vessels and 47 local vessels were fumigated by the use of cyanide during the year.

62. The Medical Officer of Health and Health Inspectors inspected the quarantine islands of Nukulau and Makuluva periodically during the year. These islands were satisfactorily maintained, the launch *Vuniwai ni Toba* making regular trips to service them.

63. On 30th April, m.v. *Orna* arrived from Calcutta via Singapore with 461 passengers. She reported that two cases of chickenpox had been landed at Singapore on 10th April, and on examination four other cases of chickenpox were found. Certificates of smallpox vaccination and cholera inoculation were held by all passengers and checked on arrival. The vessel was subsequently fumigated by cyanide.

V—MATERNITY AND CHILD WELFARE.

64. Infant mortality figures are given in Appendix V and the graph attached to this appendix shows the birth and death rates of Fijian and Indian infants since the year 1926. The success of the child welfare campaign is reflected in the improvement in these figures over the past years. It is the policy of the Medical Department to stress the importance of district child welfare work through the District Medical Officers, Health Sisters, Assistant Medical Practitioners and District Nurses.

65. Seven Health Sisters are employed on district work and the number of locally-trained Assistant Nurses employed on this work increased from 88 in 1948 to 94. The duties of a Health Sister are arduous, involving constant travelling under difficult conditions, and a great deal of reliance has to be placed on the Assistant Nurses in the villages to carry on the work. A Mission Sister is employed on health work at Rotuma on a part-time basis and arrangements were in hand at the end of the year to post a Health Sister to Labasa on the island of Vanua Levu. The smaller islands within easy travelling distance of Viti Levu are visited regularly by the Health Sisters but, so far, it has been necessary to rely on the Assistant Nurses, who have the help of the Assistant Medical Practitioners, to carry on infant welfare work in the outlying islands.

66. The following figures show the attendances at the Suva and other clinics, including the mobile clinics:—

Europeans	2,086
Part-Europeans	1,785
Fijians	10,879
Indians	9,809
Chinese	559
Others	720
Total	25,838
T.A.B. Inoculations (including those given at schools)	1,816
Smallpox vaccinations	595
Pertussis, Diphtheria inoculations, etc.	1,441
Home visits made	4,566
Number of children under 2 years seen at the Clinic	4,411

67. The mobile clinic which operated in the Suva and Rewa areas had to be laid up at the end of 1948 as it had become unserviceable. It was possible, however, during the year, to purchase a new clinic from funds which had been donated by the Colonial Sugar Refining Company for infant welfare work, supplemented by funds realized from the sale of the old vehicle. This mobile clinic was put into operation in Suva and Rewa areas. The construction of a second mobile clinic had almost been completed at the end of the year from funds subscribed through the efforts of the Suva Rotary Club, the Central Indian Organization, and the Mahila Mandil. It is proposed that this clinic should operate in the Western districts of Viti Levu.

68. Twenty-four beds are available at the Maternity Annexe, Colonial War Memorial Hospital, which is a very busy unit. The following figures give some indication of the work carried out and the increasing use made of the Maternity Annexe over recent years:—

	1943	1946	1948	1949
Births	410	581	773	841
Ante-Natal Attendances	757	1,999	3,387	4,800

69. Provision for a new and enlarged Maternity Annexe is included in Stage I of the new medical centre proposals, to be financed from Colonial Development and Welfare funds.

VI—HOSPITALS AND DISPENSARIES.

A.—GENERAL REMARKS.

70. Medical units in the Colony are classified as general or specialized hospitals, district hospitals, rural hospitals and rural dispensaries. The Colonial War Memorial Hospital in Suva is the largest general and consulting hospital in the Colony. The services of a Surgeon Specialist and Physician Specialist are available there, and patients are admitted from all parts of Fiji for specialized investigations and treatment. Tamavua Hospital, situated on a ridge about five miles from Suva, accepts patients suffering from tuberculosis from all parts of the Colony and provides modern facilities for medical and surgical treatment of the disease. The Colony's Mental Hospital is also situated in Suva. At Lautoka, Labasa, and Levuka there are District Hospitals which are equipped to deal with all emergency demands. In addition there are 14 rural hospitals and 36 dispensaries in the charge of Assistant Medical Practitioners at strategic points throughout the Group.

71. Besides the Government Hospitals there are also the following four small private hospitals each of which is subsidized by Government:—

- Nurse Morrison's Maternity Home, Suva.
- The Methodist Mission Indian Women's Hospital, Ba.
- The Cottage Hospital, Ba.
- The Waiyevo Cottage Hospital, Taveuni.

Appendix VI shows the number of attendances at Government Hospitals and Dispensaries during the year.

B.—COLONIAL WAR MEMORIAL HOSPITAL, SUVA.

72. This hospital, which has a capacity of 274 beds, including 24 beds in the obstetric annexe, is crowded and it has been necessary to continue to use the verandahs and the temporary hut ward. In 1949, 3,805 persons were admitted, the daily average occupied bed rate being 243.57.

73. Dr. T. A. Doran, continued as Medical Officer in Charge of the hospital. Mr. K. J. Gilchrist, Surgeon Specialist, accepted a post in Nigeria and left Fiji in October on overseas leave prior to his transfer. Dr. P. E. C. Manson-Bahr was Physician Specialist. Two other Medical Officers and a Dental Surgeon were posted to the hospital for duty. The nursing staff at the hospital, including the obstetric annexe consisted of the Matron, Miss J. Sinclair, the Assistant Matron, a Sister in Charge, 22 Sisters, 25 locally trained Nurses and 71 pupil nurses.

74. Revenue collected during the year amounted to £5,098. The system of taking deposits from patients was continued resulting once again in a substantial reduction in the list of arrears of revenue.

75. Clinical research, especially in connexion with anaemias, was continued during the year by the Physician Specialist. He also conducted investigations into filariasis and the use of penicillin in oil for the treatment of Yaws.

76. In the field of surgery 1,089 operations were performed in the operating theatre as well as 2,854 minor operations in the out-patients department. Approval was given for the installation of an air-conditioning plant for the operating theatre and funds were set aside for its provision as soon as possible. Some improvement has been obtained by the installation, as a temporary measure, of a cooling device whereby air is blown over a block of ice and conducted by a shaft into the theatre. The work of the Eye Clinic, under the sole charge of A.M.P. S. T. Uluilakeba, was very well carried out, 2,993 treatments being given during the year. It is hoped that it will be possible to arrange for this A.M.P. to do a short course in ophthalmology at the Otago University next year. It was not possible for Mr. Blakemore, Eye Specialist of Sydney, to visit Fiji this year. In November, A.M.P. Vilikesa Ramaqa was sent on a short course in Anaesthetics to the University of Otago in New Zealand. He is due back early in 1950. With the graduation from the Central Medical School in January a system of A.M.P. Housemen was started and one A.M.P. was appointed to the hospital as House Physician. This scheme has proved a great success during the year.

77. There has again been a very heavy demand for radiographic examinations and the X-ray department has been heavily worked during the year, 11,012 examinations of patients being carried out. With the introduction of the Tuberculosis Survey in connexion with the Anti-tuberculosis campaign a considerable amount of extra work has fallen on the Department. The mass miniature X-ray apparatus was brought into use in September for this survey and three afternoons a week were devoted entirely to mass miniature radiography. The attendances at the out-patients department continued to be heavy during the year in spite of the fact that the dispensary opened in the thickly-populated Samabula area also functioned at high pressure. As part of Stage I of the new medical centre proposals it is intended to build a new out-patients department to relieve the congestion of the existing facilities.

78. Dr. D. J. Oldmeadow continued to give valuable assistance as honorary visiting obstetrician to the maternity annexe the work of which has been dealt with in Section V above.

C.—TAMAVUA TUBERCULOSIS HOSPITAL.

79. Dr. L. G. Poole was Medical Officer in Charge of Tamavua Hospital throughout the year. This hospital, which was opened for tuberculosis patients on February 15th, 1946, entered its fourth year as the tuberculosis sanatorium for the Colony. Accommodation consists of four wards with a total of 216 beds. The subordinate staff is supervised by the Matron, Miss E. E. Butt and eight Nursing Sisters, while the Medical Officer in Charge is assisted by a Steward and Clerk, a House-keeper and four Assistant Medical Practitioners.

80. As far as possible the policy of limiting admissions to tuberculosis cases in which quiescence or cure can be expected was continued. Admission, discharges and deaths during 1949 were as follows:—

In patients 1949:—

Total number of patients in Hospital on 1st January, 1949	154
Admitted during 1949 for first time	248
Re-admissions of old cases (pre-1949) during 1949	46
Total Tuberculosis patients 1949	448
Discharged 1949	191
Died 1949	79
In hospital on 31st December, 1949	178
Total number of admissions 1949	294

The daily average of patients was 166.

81. The work of the Tamavua Hospital X-ray department was greatly increased during the year. As early in the year there was only one Radiographer at the Colonial War Memorial Hospital who could not be made available for all the work required to be done, at Tamavua Hospital two Fijian nursing orderlies were successfully trained to take chest X-rays. Assistant Medical Practitioner Macu Salato, who was carrying out the mantoux testing of school children in Tailevu Province as part of the tuberculosis survey, requested X-rays of many children. Suspicious chests were brought by bus for X-ray to Tamavua Hospital. When the mass miniature X-ray camera was brought into use at the Colonial War Memorial Hospital later in the year persons requiring large films as a result of the miniature X-ray were X-rayed at Tamavua Hospital. During the year 889 X-rays of in-patients, 1,320 of out-patients and 270 of staff, were taken, a total of 2,479. The work of the department was hampered towards the end of the year by a breakdown of the X-ray equipment necessitating the shipment of the part to New Zealand for repair. The difficulties experienced in maintaining a separate register of all tuberculosis cases in the Colony, begun in 1946, are gradually being overcome and an accurate register is in the process of compilation. To assist in the registration of new cases of tuberculosis and to try to ensure that only those patients who have a good chance of recovery are admitted to Tamavua Hospital, as well as to assist other Medical Officers, all X-ray films are sent to Tamavua Hospital for examination by the Medical Officer in Charge. A total of 3,260 films was examined of which 414 showed evidence of tuberculosis. The occupational therapy unit made sales valued at £117 15s. 0d. and showed a gross profit of £86 18s. 0d. for the year. Sales from the hospital canteen showed a profit of £40 12s. 10d. This amount with the net profit of £151 12s. 1d. at the end of 1948 less £80 2s. 2d., the cost of comforts bought for patients, brought the total net profit at the end of 1949 to £108 1s. 5d.

82. Planting was carried out continually during the year, a larger area than previously being now under cultivation, but owing to the continued wet weather all food crops were very late in maturing. It is hoped to purchase a plough when the land, which has been under cultivation for several years, can be rejuvenated by ploughing and manuring. The Agricultural Department continued to give ready assistance and marked out the land for contouring.

83. Through the generosity of H.R.H. Princess Elizabeth two new movie projectors were presented to the hospital during the year and pictures are screened once every week for the benefit of patients and staff. Once a month Mr. W. B. Martin very kindly conducted concerts which were greatly appreciated by the patients. The band of the Fiji Military Forces gave four concerts during the year and played carols in each ward at Christmas. St. Andrew's Guild visited the hospital at Christmas and distributed presents to all patients.

84. The following table shows the new cases of tuberculosis and the number of deaths registered in the years 1946-1949:—

Race	No. of new cases notified	No. of deaths notified
1946—		
Fijian	246	117
Indian	95	40
Others	33	11
Total	374	168
1947—		
Fijian	284	209
Indian	87	17
Others	65	42
Total	436	268
1948—		
Fijian	334	148
Indian	148	35
Others	75	26
Total	557	209
1949—		
Fijian	288	128
Indian	118	30
Others	57	35
Total	463	193

D.—MENTAL HOSPITAL, SUVA.

85. During the year under review, daily visits were made by the Deputy Director of Medical Services, Dr. K. R. Steenson, who carried out the duties of Medical Superintendent of the Mental Hospital, Suva. Regular weekly visits were also made by the Matron of the Colonial War Memorial Hospital. Mr. H. Leaver Head Attendant, and the Assistant Attendant, Mr. M. Fenn, continued in their respective offices.

86. It was necessary to retain the services of the two additional female attendants for the European female ward and one extra male orderly was engaged during the year. The remainder of the staff consisted of seven male Samoan warders, three male Fijian warders and eight Samoan female wardresses.

87. During 1949, 149 patients were treated, and 28 discharged unconditionally. There were 56 admissions, and six deaths in the Institution. The total number of patients remaining on the 31st December, 1949, was 86.

88. The following table shows the sex and racial distribution, and the classification of total admissions by type of disease:—

(i) RACIAL AND SEX DISTRIBUTION.

	Male	Female	Total
European	4	2	6
Fijian	11	7	18
Indian	28	22	50
Others	6	6	12
	49	37	86

(ii) DISTRIBUTION BY TYPE OF DISEASE.

	No. of cases	No. of deaths
1. Manic-depressive insanity	90	4
2. Paranoia and Paranoid States	11	.
3. Schizo-phrenia	2	.
4. Puerperal	1	.
5. Epilepsy	8	1
6. Mental deficiency	8	.
7. Hysteria	2	.
8. Senile Dementia	27	1
	149	6

89. Electro-convulsive therapy treatment, commenced in 1948, was continued in 1949 with considerable success. 558 treatments were given by Dr. D. J. Oldmeadow in conjunction with officers of the Medical Department.

E.—DISTRICT AND RURAL MEDICAL UNITS.

90. Appendix VII contains a full list of these units.

91. From year to year an increasing amount of work is done at the three district hospitals as can be seen from the figures appearing in Appendix VIII. The district hospitals at Lautoka and Labasa, serving as they do closely populated areas, are particularly busy units. The new Sabeto block at the Lautoka Hospital was brought into use during the year and fulfills a very pressing need. Dr. T. A. U. Clunie took over from Dr. R. W. D. Maxwell as District Medical Officer Western in November when Dr. Maxwell was posted to Labasa as District Medical Officer Northern to relieve Dr. M. L. McCauley who proceeded on leave. Dr. W. L. I. Verrier continued as Travelling Medical Officer for the Provinces of Macuata and Bua until December when he was posted to the Southern District as District Medical Officer Southern with headquarters at Nausori.

92. Appendix IX includes the diseases treated at the three district hospitals.

F.—AIDED HOSPITALS.

93. The Methodist Mission Hospital for Indian Women at Ba, which is assisted by a grant-in-aid from Government funds, fulfills an important function in that area. The hospital is under the medical charge of Dr. (Mrs.) D. Delbridge who was assisted by three trained nursing sisters and 10 Indian nurses in training. Assistance in the form of a building grant was promised by Government towards the cost of extensions to the hospital planned by the Mission. 966 patients were admitted to hospital, the daily average being 23.8 and 4,991 out-patients were treated. 189 obstetric patients were admitted to hospital compared with 162 in 1948 and 122 in 1947. Attendances at the Infant Welfare Clinic numbered 70.

94. The Cottage Hospital, Waiyevo, Taveuni, where three beds are available, is situated close to the rural hospital. The hospital is managed by a committee of the local residents of which the Medical Officer is Chairman, and is maintained by public subscription augmented by a Government subsidy. Eighteen patients were admitted during the year.

95. The Cottage Hospital at Ba has five beds and is in the medical charge of the Colonial Sugar Refining Company's Medical Officer, who is assisted by a resident Nursing Sister.

96. Nurse Morrison's Maternity Home at Suva caters for maternity cases attended by private practitioners and receives a Government subsidy of £400 a year. In 1949 there were 71 births of the following racial groups:—

Europeans	56
Part-Europeans	5
Chinese	8
Indians	2
	71

VII—LABORATORIES AND RESEARCH.

97. Dr. G. T. Barnes, the Pathologist, proceeded on vacation leave in November, 1949, and the Physician Specialist acted as Pathologist in addition to his own duties. Mr. J. E. Pery-Johnston assisted him as Laboratory Superintendent. Three Laboratory students qualified as Laboratory Assistants during the year and were retained in the Laboratory, where their assistance enabled the Laboratory to cope with the great volume of work. The Laboratory students in training also helped in the general work of the Laboratory and were given lectures on General Pathology by the Physician Specialist.

98. The total number of investigations completed in 1949 was 27,570, a similar figure to last year, but the types of examinations performed were different in that a reduction of 4,000 in routine examinations was achieved with a corresponding increase in the more difficult examinations. Permission for the performance of post-mortem examinations is now being more readily given and the number of these examinations continued to increase during the year. Much valuable information is being collected as a result. Due to the investigation into megaloblastic anaemia undertaken during the year by the Physician Specialist there was a great increase in the number of blood counts and to meet the increased popular demand for protection against enteric fevers the Laboratory was called upon to supply nearly twice as much T.A.B. vaccine as in 1948. The number of analyses and laboratory procedures carried out in 1949 are set out in the following table:—

Post-mortem examinations	..	..	..	..	..	135
Histology preparations	..	..	..	..	..	482
Clinical Pathology	..	..	..	..	..	9,896
Parasitology	..	..	..	..	..	9,812
Bacteriology	..	..	..	..	..	4,098
Public Health Examinations	..	..	..	..	..	415
Vaccines prepared	..	..	..	..	..	1,493
Biochemistry	..	..	..	..	..	813
Animal inoculations	..	..	..	..	..	6
Rat autopsies for plague	..	..	..	..	..	100
Medicolegal (other than autopsies)	..	..	..	..	..	32
Veterinary	..	..	..	..	..	38
Not classified	..	..	..	..	..	250
Total	..	..	..	..	..	27,570

99. Dr. Barnes during the year completed his research into Rheumatic Fever in Fiji and his report was accepted for publication in the Transactions of the Royal Society of Tropical Medicine and Hygiene. An improvement in laboratory methods enabled the early diagnosis of 90 per cent of the typhoid and para-typhoid cases notified during the year. This means also that a closer watch can be kept for carriers of enteric fever when cured cases are discharged from hospital.

100. At Lautoka Hospital the small laboratory in charge of Assistant Medical Practitioner Peni Tuidrake carried out 3,269 procedures during the year.

101. A start was made during the year on the organization of the Central Medical Research Library for which a grant of £4,051 was received from Colonial Development and Welfare funds. An Honorary Librarian was appointed with effect from the 1st July and considerable equipment and furniture has already been installed. Indexing and cataloguing of existing reference and medical textbooks has been completed and orders have been placed with the Crown Agents for a large number of books which have been selected by a committee. Arrangements are being made for the Honorary Librarian, Mrs. Frater, to take a librarian course whilst on leave in the United Kingdom.

VIII—TRAINING.

A.—GENERAL.

102. Work on the preparation of sites for the new Central Medical School and the new Central Nursing School, both of which projects form part of the Suva Medical Centre proposals, was carried out during the year. When the buildings have been completed a greatly improved centre for the teaching of medical, health, nursing and allied sciences will be available for students from the South and West Pacific islands.

B.—CENTRAL MEDICAL SCHOOL.

103. Dr. A. S. Frater, M.B.E., continued as Principal of the Central Medical School during 1949. He was assisted by Mrs. Frater who was in charge of the teaching of preliminary science subjects and physiology. Assistant Medical Practitioner Ram Singh, in addition to undertaking his share of hospital duties, has lectured in Anatomy throughout the year and has assumed more responsibility with that subject. The school is indebted to the assistance afforded it during the year by the 10 honorary lecturers.

104. The Central Medical School in 1949 accommodated 44 students, accepted from Fiji, Western Samoa, Tonga, Nauru, Cook Islands, Gilbert and Ellice Islands, British Solomon Islands, Niue Island and Papua, New Guinea. There were 42 medical students who receive a four-years' course leading to a certificate as an Assistant Medical Practitioner, one Dental Student and one Pharmacy Student.

105. The following summary shows the students from the various Administrations attending the school in 1949:—

Administration	No. of students
Fiji	19
Western Samoa .. .	7
Tonga	3
Cook Islands .. .	1
Gilbert and Ellice Islands .. .	4
British Solomon Islands .. .	1
Niue Island .. .	2
Papua, New Guinea .. .	5
Nauru	2
Total	44

Appendix X contains the Principal's report for the year.

C.—ASSISTANT DENTAL PRACTITIONERS.

106. Funds were provided in 1949 for the appointment of a Senior Dental Surgeon and Principal of the Dental School, but no appointment had been made at the end of the year. The Travelling Dental Surgeon and the two Assistant Dental Practitioners undertook the dental work at the Colonial War Memorial Hospital besides travelling in the districts.

D.—NURSES' TRAINING SCHOOLS.

107. Tuition at all the training centres extends over a period of three years in accordance with a syllabus drawn up by the South Pacific Board of Health. Nurses obtain their general training at the Colonial War Memorial Hospital and the Lautoka District Hospital while specialized tuberculosis training is given at Tamavua Hospital. Miss Storck continued to perform the duties of Principal of the Central Nursing School in Suva, and Miss M. Farland, M.B.E., was responsible for nurses' training at Lautoka. Miss E. McMillan acted as Tutor Sister from February to May during Miss Farland's absence on leave.

108. Seventy-six girls were accepted for training as nurses during the year but two were found to be suffering from tuberculosis and could not continue. Of the 74 new pupils eight were Indian, two Rotuman-part-European and 64 Fijian. At the Central Nursing School Suva pupil nurses numbered 83; at Lautoka there were 65 and at Tamavua 12. 29 nurses graduated during the year from the Central Nursing School and 11 nurses passed their final examinations at the Lautoka Training School.

109. The Methodist Mission Hospital at Ba is also recognized as a training unit for nurses and is able to take on an average seven pupil nurses.

110. Local girls of the required educational standard are encouraged to go overseas to obtain full nurses' qualifications. A system of post-graduate bursaries to enable selected nurses to gain higher qualifications was also in operation during the year.

E.—ASSISTANT HEALTH INSPECTORS.

111. During 1949 six health students attended the Central School of Sanitation. Arrangements have been made for the instruction of students from Niue, Ellice Islands, New Hebrides and Papua.

F.—ASSISTANT LABORATORY TECHNICIANS.

112. Three Laboratory students qualified as Laboratory Assistants during the year. Their course of training includes instruction in physics, inorganic chemistry and mathematics as well as practical instruction in the work of the Laboratory.

G.—ASSISTANT PHARMACISTS.

113. There were three qualified Pharmacy Assistants at the beginning of 1949, one being posted to the Government Pharmacy, one to the Colonial War Memorial Hospital, and one stationed at Lautoka Hospital. One resigned during the year. There were two students in training, one from Tonga and one from Fiji. It is intended to expand the facilities for training and this should be of particular value to member territories of the South Pacific Health Service who will be able to send students to Suva.

IX—METEOROLOGY.

114. A summary of meteorological observations for the year is included as Appendix XI.

J. M. CRUIKSHANK,
Director of Medical Services.

APPENDIX I.

ESTABLISHMENT, 1949.

Director of Medical Services	1
Deputy Director of Medical Services	1
Secretary	1
Surgeon Specialist	1
Physician Specialist	1
Medical Officer of Health, Suva	1
Principal, Central Medical School	1
Principal, Central Nursing School and Tutor Sisters ..	4
Pathologist	1
Medical Superintendent, Fiji Leprosy Hospital	1
Medical Officers	20
Assistant Medical Practitioners	86
Dental Surgeon	1
Travelling Dental Surgeon	1
Government Pharmacist and Medical Storekeeper	1
Assistant Pharmacist	1
Laboratory Superintendent	1
Health Inspectors and Health Assistants	33
Trained Nursing Staff—General and District Hospitals ..	74
Native Nurses (Certificated)	208
Radiographers and Assistants	6
Dietitians	2
Attendants, Mental Hospital	17
Clerical Staff	29
Nursing Staff, Fiji Leprosy Hospital	28
Orderlies, Tuberculosis Hospital	38
Subordinate Staff	382
Housekeeper	1
Laundry Supervisors	2

APPENDIX II.
TABLE A.—NOTIFICATION OF INFECTIOUS DISEASES BY DISTRICTS FOR THE YEAR 1949.

NAME OF DISEASE.	SUVA.				SOUTHERN.							WESTERN.								EASTERN.		NORTHERN.			CAMAROU.		ROTU- MA.	TOTAL.				
	Suva Urban.	Suva Rural.	Aircraft.	Ships.	Tailevu.	Rewa.	Naitasiri.	Serua.	Kadavu.	Nadroga.	Nadi.	Lautoka.	Ba.	Tavua.	Nadarivatu.	Ra.	Aircraft.	Ships.	Nadi Aerodrome.	Lomalviti.	Lau.	Macuata.	Bua.	Taveuni.	Savu Savu.	Rabi.			Rotuma.			
Cerebro-Spinal Meningitis ..	..	1	..	..	..	..	7	..	..	9	1	2	4	2	..	2	..	..	..	6	1	21	2	8	..	..	..	..	..	..	4
Chicken Pox (Varicella) ..	8	2	..	..	6	1	..	..	..	..	..	..	2	2	..	3	..	..	..	..	2	11	1	8	..	..	..	..	..	..	69
Anthrax ..	1	..	..	..	2	..	..	..	..	3	..	5	14	..	..	9	..	..	..	..	2	..	..	..	..	..	..	..	..	..	12
Bacillary Dysentery ..	..	28	..	..	4	7	3	1	2	3	..	5	47	13	6	9	..	..	3	2	162	143	8	5	..	..	..	..	..	..	6
Unclassified Dysentery ..	10	1	..	..	15	..	3	18	..	39	43	2	..	..	..	7	..	..	8	162	139	133	8	5	..	..	..	..	..	..	830
Infantile ..	..	181	..	..	198	5	137	101	..	137	99	152	419	369	30	96	..	..	81	3	129	153	187	53	82	..	..	..	..	..	7
Measles (Morbilli) ..	12	19	..	..	67	..	1	..	..	5	3	..	..	20	..	1	..	..	3	1	..	..	1	4	15	..	..	..	..	..	1,064
Measles (German) ..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	152
Eutetic Fever ..	..	25	..	..	15	5	5	3	1	29	9	13	20	8	..	2	..	..	2	17	4	36	4	1	..	..	..	..	..	..	7
Pure Typhoid fever ..	..	4	..	..	6	1	..	..	..	3	..	2	..	1	..	..	..	..	2	4	..	..	..	..	..	..	..	..	..	..	202
MarTypical fevers ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21
Whooping Cough (Pertussis) ..	1	4	..	..	34	4	8	28	..	61	10	72	13	33	2	44	..	..	5	23	15	..	2	..	..	..	..	..	..	..	359
Diphtheria ..	..	..	..	..	24	3	3	..	..	17	21	..	93	46	..	17	..	..	5	15	3	..	22	..	..	..	..	..	..	..	274
Erysipela ..	1	1	..	..	..	..	..	..	..	..	1	6	1	..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	3
Infantile Diarrhoea ..	..	15	..	..	121	11	69	23	..	61	42	37	39	17	7	33	..	..	5	47	58	56	33	82	49	..	..	..	..	..	10
Infective Hepatitis ..	..	1	1	..	3	1	1	1	3	3	5	3	3	1	..	6	..	..	..	..	1	..	1	..	..	..	..	..	..	..	788
Legion ..	..	4	..	..	4	1	2	..	..	..	..	..	..	..	..	..	..	..	..	6	..	4	..	..	..	..	..	..	..	..	13
Malaria ..	..	..	..	..	2	..	3	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	46
Pustular Fever ..	5	6	..	..	2	..	..	2	..	8	1	6	15	4	..	4	..	..	..	2	..	5	..	..	..	..	..	..	..	..	7
Scarlet Fever ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	69
Tetanus ..	..	..	..	..	2	1	24	2	..	1	6	2	2	2	..	5	..	..	..	5	2	2	..	1	..	..	..	..	..	..	30
Tuberculosis Pulmonary ..	36	2	..	..	4	9	9	3	27	26	19	25	13	16	1	22	..	..	2	13	3	4	3	12	..	..	..	..	..	..	87
Tuberculosis other forms ..	..	1	..	..	6	..	3	1	1	2	1	1	1	1	2	9	..	..	1	17	9	29	19	2	6	..	..	..	..	..	401
Geacercosis ..	30	35	..	..	13	2	3	2	1	4	29	28	30	6	..	12	..	..	5	24	3	8	5	2	5	..	..	..	..	..	47
Ophthalmia neonatorum & Gonorrhoeal Soft Chancres ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Syphilis ..	8	9	..	..	15	2	1	..	..	1	1	10	4	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total ..	123	379	..	7	595	82	282	185	35	413	292	379	714	484	54	315	..	6	108	188	398	487	294	169	161	1,087	7,155

TABLE B.
NOTIFICATION OF INFECTIOUS DISEASES BY RACE FOR THE YEAR 1949.

Disease.	Europeans.	Part-Europeans.	Fijians.	Indians.	Others.	Total.
Cerebro-Spinal Meningitis .. ..	....	....	3	1	....	4
Chicken Pox (Varicella)	4	1	65	14	5	89
Amoebic Dysentery .. ..	....	....	5	7	....	12
Bacillary Dysentery	9	2	29	77	8	125
Unclassified Dysentery	6	3	224	288	9	530
Influenza	24	48	1,340	1,090	1,064	3,566
Measles (Morbilli)	5	2	96	38	11	152
Measles (German)	2	....	1	4	....	7
Mumps .. ..	....	....	1	....	....	1
Enteric Fever	4	3	75	115	5	202
Para-Typhoid Fevers .. ..	....	....	12	9	....	21
Whooping Cough (Pertussis)	10	18	146	170	6	350
Dengue Fever	12	10	105	145	2	274
Diphtheria .. ..	....	....	....	3	....	3
Erysipelas	1	....	3	5	1	10
Infantile Diarrhoea	10	14	508	264	2	798
Infective Hepatitis .. ..	....	....	4	9	....	13
Leprosy .. ..	....	2	17	27	....	46
Malaria	1	....	6	....	....	7
Puerperal Fever .. ..	....	....	12	46	2	60
Scarlet Fever .. ..	....	....	....	1	....	1
Tetanus .. ..	....	....	14	16	....	30
Trachoma .. ..	....	3	67	13	4	87
Tuberculosis Pulmonary	2	7	262	109	21	401
Tuberculosis other forms .. ..	....	1	39	5	2	47
Gonorrhoea	31	12	75	129	13	260
Ophthalmia Neonatorum .. ..	....	....	....	4	....	4
Soft Chancre .. ..	....	....	....	1	....	1
Syphilis	2	2	....	47	3	54
Total	123	128	3,109	2,637	1,158	7,155

TABLE C.
NOTIFICATION OF INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1949.

Disease.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Cerebro-Spinal Meningitis .. ..	..	..	..	..	..	..	..	2	..	..	..	2	4
Chicken Pox (Varicella)	1	1	5	4	3	9	8	16	19	13	3	7	89
Amoebic Dysentery .. ..	..	4	..	3	..	..	..	3	..	1	1	..	12
Bacillary Dysentery	9	11	16	11	5	17	26	4	6	3	7	10	125
Unclassified Dysentery	28	17	41	44	38	186	33	34	16	9	16	18	530
Influenza	109	245	342	446	181	188	409	246	424	268	498	210	3,566
Measles (Morbilli) .. ..	..	..	..	..	1	..	..	1	2	54	51	43	152
Measles (German) .. ..	..	..	..	..	..	..	..	..	3	3	..	1	7
Mumps .. ..	..	..	..	1	..	..	..	..	..	..	..	..	1
Enteric Fever	6	7	19	36	19	39	19	18	10	8	9	12	202
Whooping Cough (Pertussis)	14	36	31	37	27	59	47	52	27	8	8	4	350
Para-Typhoid Fevers .. ..	..	..	..	..	..	..	..	6	7	2	2	4	21
Dengue Fever	9	37	23	19	17	23	28	19	29	25	16	29	274
Diphtheria	1	..	..	..	1	..	..	..	..	..	..	1	3
Erysipelas	1	1	..	..	1	..	1	..	1	2	1	1	10
Infantile Diarrhoea	34	100	107	79	60	47	54	42	40	48	92	95	798
Infective Hepatitis .. ..	..	..	..	..	..	5	2	1	2	1	2	..	13
Leprosy	4	10	4	..	5	2	4	1	5	5	1	5	46
Malaria .. ..	..	..	..	1	1	2	2	..	..	..	..	1	7
Puerperal Fever	8	7	4	2	2	5	5	2	11	6	4	4	60
Scarlet Fever .. ..	..	..	..	..	..	..	..	1	..	..	..	..	1
Tetanus .. ..	..	2	1	4	8	1	4	1	4	3	2	..	30
Trachoma	2	11	8	14	2	7	6	8	10	3	11	5	87
Tuberculosis Pulmonary	24	53	19	41	14	56	48	32	28	30	21	35	401
Tuberculosis Other Forms	2	2	5	6	2	1	3	5	6	4	5	6	47
Gonorrhoea	17	34	19	17	11	31	25	26	27	16	24	13	260
Ophthalmia Neonatorum .. ..	..	..	..	2	..	..	..	..	..	..	1	1	4
Soft Chancre	1	..	..	..	..	..	..	..	..	..	..	..	1
Syphilis	1	9	4	4	9	10	..	6	1	2	3	5	54
Total	271	637	649	771	407	688	724	526	678	514	778	512	7,155

APPENDIX III.

FIJI LEPROSY HOSPITAL, MAKOGAI.

FROM THE MEDICAL SUPERINTENDENT, MAKOGAI, TO THE DIRECTOR OF MEDICAL SERVICES, SUVA.
(ANNUAL REPORT FOR THE YEAR 1949.)

18th March, 1950.

I have the honour to forward the following Report for the year 1949 on the Fiji Leprosy Hospital, Makogai.

2. *Staff Changes.*—Dr. P. Glyn Griffiths, M.C., ably filled the position of Medical Superintendent during the ten months of my absence on leave, and the interest and enthusiasm he brought to the task ensured its successful execution as well as his popularity among both patients and staff.

3. I was privileged to attend the Seventh Pacific Science Congress in Auckland and Christchurch, New Zealand, and the reading of a paper on "Leprosy in the South Seas" revealed an unexpectedly widespread interest in the subject, as shown by the subsequent discussion. It was a great pleasure also to meet Mr. P. J. Twomey, M.B.E., Secretary of Lepers Trust Board, N.Z. Incorp. and the members of his Board, who have shown such a practical interest in Makogai throughout the years, and to have a personal opportunity of expressing to them on behalf of our patients as well as of the Fiji Government, our gratitude for all they have done and are continuing to do for the alleviation of the suffering due to Leprosy throughout the South Seas.

4. As representative also of the Fiji Branch to the Annual Meetings of the British Medical Association at Harrogate, England, I was enabled to convey the greetings of our small Branch to the parent Body, and to thank the members at home for their continued interest in our welfare, and for their efforts, in the midst of their own struggle for existence, to improve conditions of service in the Colonies.

5. Sister Mary Virginia was reluctantly obliged to resign for health reasons at the end of February.

6. Two new Sisters from the U.S.A. were appointed in April—Sister Mary Capistran, a qualified Pharmacist and Medical Technician, and Sister Mary Alberta, qualified Nurse and Medical Technician. They have already proved a valuable addition to the Staff, and in view of the increasing need for laboratory control of treatment, their assistance has been invaluable. A third Sister—Sister Mary Monica—arrived from New Zealand in May, so that until August, when Sister Mary Constance was sent to New Zealand for surgical treatment, we had for the first time a full staff of 18 Sisters on duty.

7. Early in the year, four Assistant Medical Practitioners—two Gilbert Islanders, one Samoan, and one Cook Islander—were sent in turn for a month's training in Leprosy work at Makogai. Although this training occupies a certain amount of the staff's time, this is more than compensated for by the assistance they themselves render in the work here, and the value of their services when they return to their own territories should be greatly enhanced. Provision has been made for improving the accommodation which is available to Assistant Medical Practitioners who will receive a one month intensive instruction in the detection of early leprosy as part of their general medical training.

8.

TABLE 1.
STATISTICS FOR THE YEAR 1949.

	Euro- pean		Euro- nean		Solomon Islander		Fijian		Indian		Chinese		Rotuman		Samoan		Niue Islander		Cook Islander		Tongan		Gilbert Islander		Totals	
In Hospital, 1st January, 1949 ..	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Admissions ..	2	..	12	7	16	5	82	50	208	63	6	..	3	4	33	20	4	4	39	18	19	13	50	26	474	210
Deaths ..	..	..	1	1	..	..	12	10	25	5	..	..	2	1	..	..	..	..	..	..	..	..	19	16	59	83
Conditional Discharges ..	..	..	..	..	4	..	6	5	6	2	..	..	..	..	..	..	1	1	1	..	..	1	10	3	28	12
Unconditional Discharges ..	..	..	..	..	1	..	4	2	25	8	1	..	..	..	..	..	..	..	1	2	..	2	1	1	33	15
In Hospital, 31st December, 1949 ..	2	..	13	8	11	5	84	53	200	58	5	..	5	5	33	20	3	3	37	16	19	10	58	35	470	213
Totals ..	2	..	21	8	16	5	137	53	238	58	5	..	10	5	53	20	6	3	53	16	29	10	93	35	683	683

9. *Statistics.*—The number of patients from overseas increased by ten during the year and that of the local patients decreased by 11, giving a total decrease of one—from 684–683. There were 92 admissions, including 35 from the Gilbert and Ellice Islands Colony. Five of the admissions—two male Indians and three female Gilbert Islanders—were at once re-discharged as the original diagnosis of Leprosy could not be confirmed. The 48 patients “conditionally” discharged included seven admitted from overseas—three Cook Islanders, two Tongans and two Gilbert Islanders. Forty deaths occurred.

10. The 683 remaining at the end of the year included 397 South Sea Islanders, 258 East Indians, five Chinese, and 23 part-Europeans or Europeans.

11.

TABLE OF ADMISSIONS.

	Tuberculoid 1		Tuberculoid 2		Lepromatous 1		Lepromatous 2		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Euronesian .. ..	..	..	..	..	..	..	1	1	1	1
Fijian	1	..	6	6	..	..	6	3	13	9
Indian	2	4	5	1	4	..	12	..	23	5
Rotuman .. ..	..	..	1	..	..	..	1	1	2	1
Gilbert	4	2	4	3	2	1	9	7	19	12
Totals	7	6	16	10	6	1	29	12	58	29
	13		26		7		41		87	

12. *Admissions*, omitting the five re-discharged, included 60 South Sea Islanders (35 Gilbert Islanders, 22 Fijians and three Rotumans), 38 Indians, and two Euronesians.

13. Of the 57 admitted from Fiji, only 26 were able to be classified as Tuberculoid (45.6 per cent) and of the 35 Gilbert Islanders only 13 (37.1 per cent). Twenty-five (43.7 per cent) of the local admissions, moreover, were in the fairly advanced Lepromatous-2 stage and 16 (45.7 per cent) of the Gilbert Islanders. The Gilbert Island figures are probably an improvement over those of their previous admissions, which have been commented on in previous Reports, but the Fiji admissions are certainly disappointing. A good deal of “seed” will have been left behind by the infective cases and it must be recalled that as yet less than 10 per cent of our “arrested” cases for discharge are Lepromatous cases.

14.

TABLE OF DISCHARGES.

	Tuberculoid 1		Tuberculoid 2		Lepromatous 2		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.
Fijian	1	1	3	1	..	..	4	2
Indian	5	3	17	5	3	..	25	8
Chinese .. ..	..	..	..	..	1	..	1	..
Solomon Islanders .. ..	..	..	1	..	..	..	1	..
Tongan .. ..	..	..	..	2	..	..	..	2
Cook Islanders	1	1	..	1	..	..	1	2
Gilbert Islanders	1	..	..	1	..	..	1	1
Totals	8	5	21	10	4	..	33	15
	13		31		4		48	

15. *Discharges.*—Thirty-three of the 48 patients discharged during the year were Indians—a far higher proportion (68.7 per cent) than their numbers represent to the total patient population. (37.7 per cent). The Indian proportion of Lepromatous cases, moreover, which have always (in pre-Sulphone days at least) been regarded as of poor prognosis, was 72.3 per cent as compared with 64.5 per cent in the general population here, so that there seems no doubt that our Indian patients, although showing a much higher Lepromatous rate than in their own land, develop a much greater resistance to the disease, and react better to treatment than South Sea Islanders. This is not an isolated observation—it has been noted here for years, but the explanation has hitherto eluded us. It can hardly be due to racial factors, for reports from India itself give the Lepromatous rate as very considerably lower. The general standard of living in Fiji is also probably a good deal higher on the whole than in India, so that it would seem justifiable to anticipate a milder rather than a more severe type of disease. The true explanation of this seeming paradox may lie in a theory of Muir’s—“The great majority of people are strongly resistant to infection and require repeated and close contact to induce the disease, which is then generally of the mild type. The minority remain anergic and may acquire Leprosy of severe type even with casual contact. Thus in endemic countries, the closer, more frequent and more prolonged the contacts with open cases—overcrowding, dirt and promiscuousness—the higher will be the total prevalence, and especially the prevalence of mild and abortive cases, and therefore the lower the type rate (proportion of severe compared with total cases).”

16. From this point he argues that “a rising type-rate is one of the signs that Leprosy is diminishing in a community,” so that according to this theory the higher proportion of the more severe Lepromatous type among Indians in Fiji as compared with those in India may indeed be due to the higher standard of living in Fiji, and we may hope that it carries with it the theoretical corollary of a lower total Leprosy rate. The theory does not of course explain the better results of treatment among Indians as compared with those among the Islanders, for which we must, for the time being at least, fall back on the theory of racial differences.

17. There were only four cases of Lepromatous Leprosy discharged during the year—three of whom were Indians and one Chinese. The 13 Tuberculoid-1, 31 Tuberculoid-2 and the four Lepromatous-2 cases composing the 48 patients discharged represent 23.6 per cent, 19.4 per cent and 1.5 per cent of the total of their respective types at Makogai and give some lead to prognosis.

18. It should be pointed out that none of the discharged patients had received Sulphone treatment, as, in accordance with the two-year probationary period required by the "Conditional Discharge" clause, they were already "Inactive" before the arrival of Sulphone supplies.

19. TABLE OF DEATHS.

	Tuberculous		Lepromatous		Lepromatous		Lepromatous		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fijian	2	1	..	..	1	2	3	2	6	5	11
Indian	2	1	..	..	4	..	..	1	6	2	8
Solomon Islanders ..	2	..	1	..	..	..	1	..	4	..	4
Niue Islanders ..	..	1	..	..	..	..	1	..	1	1	2
Cook Islanders ..	..	..	..	..	1	..	..	..	1	..	1
Tongan .. ..	..	1	..	..	..	..	..	..	..	1	1
Gilbert .. ..	..	1	..	..	4	..	6	2	10	3	13
Totals ..	6	5	1	..	10	2	11	5	28	12	40
	11		1		12		16		40		

20. Deaths numbered 40 during the year. The following are the certified causes of deaths:—

Leprosy	10
Renal failure	7
Amyloid degeneration	3
Septicæmia	2
Tuberculosis	9
Hepatic failure	2
Coronary Insufficiency	2
Subacute Infective Endocard	1
Cerebral thrombosis	1
Myeloid Leukæmia	1
Broncho-Pneumonia	1
Suicide	1

40

21. The three cases of Amyloid disease were associated with advanced Leprosy, as were also three of the five cases of Renal failure and the two Septicæmias, so that about 50 per cent of the deaths could reasonably be regarded as caused by Leprosy. The other causes do not appear to be associated with Leprosy and were such as might be met with in any section of the general community.

22. *X-Ray Department.*—The X-Ray machine had to be sent away for repairs during the year, so for about three months no examinations could be done. In this connexion, it should be pointed out that the present 15 MA Mobile X-Ray Unit, generously donated by the people of New Zealand through the Lepers Trust Board, has fully met the need, which was the main one envisaged at the time of the gift, of recording the bony changes in the extremities due to Leprosy and leading to trophic ulceration, etc. As I commented in my Report for 1946—"It was not till later that we realised the crying need for chest examinations for tuberculosis, etc. It was with a great deal of diffidence therefore that we made our first attempts in this direction, and with corresponding pleasure that we decided that the machine was satisfactory for the extended purpose. When this was confirmed by Dr. Taylor, Director of the Tuberculosis Division of the New Zealand Health Department, who was dubious until he saw our results, we were able to go forward with much more confidence." Dr. Taylor however, also pointed out the limitations of the machine, in that, though postero-anterior pictures of the chest were quite good, lateral and oblique positions were out of the question, owing to insufficient penetration. As time passes we are becoming increasingly conscious of these limitations, not only from the point of view of chest conditions, but also in that we have at present three spinal conditions which may be tuberculous, but which our present plant is quite inadequate to investigate. It is hoped, therefore, that it may be possible ere long to replace our unit by a more powerful machine.

23. Two hundred and eighty chest examinations were carried out during the year and 125 bone examinations. Refills for an Artificial Pneumothorax were also regularly controlled by fluorescent screening, but here again, our only screen for this and other cases was a quite inadequate one of 7" x 5", abstracted from a former Cryptoscope. A new and larger screen is now on order.

24. *Tuberculosis.*—There were 16 known cases of tuberculosis at Makogai at the beginning of 1949 and five additional cases were discovered during the year. The nine deaths from tuberculosis included two miliary cases, six pulmonary and one abdominal. Two patients with arrested leprosy and apparently quiescent pulmonary tuberculosis were discharged. Twelve known cases of pulmonary tuberculosis remained at the end of the year, of whom, however, only three showed active signs. Nine other patients with signs suggestive of tuberculosis are being kept under close observation, and three with a history of former pleural effusion are being carefully watched for tuberculosis development.

25. *Sulphone Treatment.*—Four hundred and forty-four patients were under Sulphetrone treatment during the year, and are classified from the points of views of Race and Type of disease in the Tables. They represent all patients with positive smears, except for a few who were unable to take the treatment, and with the addition of a few who had made payments (later refunded) for a year's treatment.

26. The most striking fact about the results of the year's treatment is that the hospital is emptied of all the chronic Lepromatous ulcerated patients to whom one had become accustomed, with arms and legs swathed in bandages, and for whom daily dressings were quite insufficient to render their close neighbourhood tolerable for any prolonged period. The only Lepromatous ulcerations now seen are the occasional acute ulceration associated with severe reactions. So much is this so that the general exodus of these formerly ulcerated patients from the Hospital proper has produced quite a housing problem in the villages, and illustrates the difficulty in drawing up "five-year plans." No less than 41 of the Sulphetrone treated patients who were surveyed for the purposes of this Report called forth the observation—"No ulceration"—which was used only when the previous notes indicated that ulcerations had been severe and prolonged, and therefore resistant to all previously known forms of treatment, including latterly Sulpha drugs and Penicillin.

27. Other criteria of improvement, until the hoped for stage of bacteriological negativity is reached, are less objective in nature, and therefore perhaps more open to criticism, but the fact of my absence for most of the year before undertaking this survey probably enabled me to assess progress more accurately than if I had been seeing the patients daily.

28. The 43 patients somewhat tamely described in the Table as "Much Improved," would, if I had expressed my feelings more freely, have been described as "Astoundingly Improved," and no case was classified as "Improved" without some very definite evidence of a change for the better.

29. The proportions of improved cases (including those classified as "Quiescent," "Much Improved" and "Improved" are 71.3 per cent, 65.0 per cent and 74.2 per cent respectively for Lepromatous-1, -2 and -3 cases, as compared with 57.4 per cent, 44.7 per cent and 20.2 per cent at the end of 1948.

30. Whereas previous Reports have always stressed the better prognosis in Tuberculoid cases, our 1949 figures, as the result of the treatment of Lepromatous cases by Sulphetrone, have reversed this tendency, 65.1 per cent of Lepromatous cases having been regarded as Improved (in the same sense as above) and only 62.2 per cent of Tuberculoid cases.

31. This at once raises the question of the use of the Sulphones in Tuberculoid cases, and as there appears to be a marked difference of opinion in published reports on the subject, it is proposed to extend the treatment to a selection of active Tuberculoid cases in 1950.

TABLE OF PATIENTS UNDER SULPHETRONE TREATMENT.

	Quiescent		Much Improved		Improved		Stationary		Worse		Died		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fijian .. .. .	..	..	3	3	23	6	8	4	7	3	2	..	43	16	59
Indian	41	4	16	4	64	20	21	10	14	1	3	..	159	39	198
Solomon Islanders .. .. .	..	..	1	..	3	3	..	..	1	1	1	..	6	4	10
Rotuman	1	..	2	1	1	1	..	1	..	2	..	..	4	5	9
Chinese .. .. .	..	..	..	..	3	..	..	..	..	..	..	..	3	..	3
Samoa .. .. .	..	1	3	2	15	11	3	2	4	2	..	..	25	18	43
Cook Islanders .. .. .	..	..	1	..	7	7	5	1	2	2	..	..	15	10	25
Niue Islanders .. .. .	..	..	1	..	1	1	..	1	..	..	..	..	2	2	4
Tongan	1	..	..	2	3	2	1	1	1	..	..	..	6	5	11
Gilbert Islanders .. .. .	..	1	1	..	20	6	8	11	6	3	4	..	39	21	60
Euronesian .. .. .	..	1	3	..	7	6	3	..	..	..	..	..	13	7	20
European .. .. .	..	..	..	..	2	..	..	..	..	..	..	..	2	..	2
Totals	43	7	31	12	149	63	49	31	35	14	10	..	317	127	444
	50		43		212		80		49		10		444		
	Tuber- culoid 1		Tuber- culoid 2		Tuber- culoid 3		Lepro- matous 1		Lepro- matous 2		Lepro- matous 3		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fijian .. .. .	..	..	1	..	..	..	6	1	25	14	11	1	43	16	59
Indian	13	..	5	3	..	..	58	2	59	29	24	5	159	39	198
Solomon Islanders .. .. .	..	..	..	..	..	..	3	2	2	1	1	1	6	4	10
Rotuman .. .. .	..	..	2	..	..	..	..	..	1	4	1	1	4	5	9
Chinese .. .. .	..	..	..	..	..	..	..	..	2	..	1	..	3	..	3
Samoa .. .. .	..	..	3	1	..	..	6	2	11	11	5	4	25	18	43
Cook Islanders .. .. .	..	..	..	..	..	..	2	1	9	8	4	1	15	10	25
Niue Islanders .. .. .	..	..	..	..	..	..	..	..	1	..	1	2	2	2	4
Tongan .. .. .	..	..	..	..	..	..	..	..	5	3	1	2	6	5	11
Gilbert Islanders .. .. .	..	..	1	..	..	..	1	2	22	16	15	3	39	21	60
Euronesian .. .. .	..	..	2	..	..	..	..	1	9	4	2	2	13	7	20
European .. .. .	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2
Totals	13	..	14	4	..	..	76	11	147	90	67	22	317	127	444
	13		18		....		87		237		89		444		
Quiescent	9	..	4	2	..	..	29	1	1	4	..	..	43	7	50
Much Improved .. .. .	..	..	2	..	..	..	..	1	8	8	21	3	31	12	43
Improved	1	..	5	..	..	..	24	7	88	45	31	11	149	63	212
Stationary	3	..	2	1	..	..	16	1	26	24	2	5	49	31	80
Worse .. .. .	..	..	1	1	..	..	5	1	22	9	7	3	35	14	49
Died .. .. .	..	..	..	..	..	..	2	..	2	..	6	..	10	..	10

PROGRESS TABLE OF ALL PATIENTS, 1949.

	Arrested		Quiescent		Much Improved		Improved		Stationary		Worse		Died		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fijian	11	7	11	5	3	3	28	10	22	16	8	5	6	5	89	51	140
Solomon Islanders ..	3	1	..	..	1	..	6	3	1	..	1	1	4	..	16	5	21
Rotuman .. ..	..	..	2	..	2	1	1	1	..	1	..	2	..	..	5	5	10
Samoa	1	..	..	1	3	2	15	13	8	2	5	2	..	..	32	20	52
Cook Islanders ..	3	2	8	2	1	..	11	8	12	4	3	2	1	..	39	18	57
Niue Islanders ..	..	..	..	..	1	..	1	1	1	2	..	..	1	1	4	4	8
Tongan	1	2	3	..	..	2	6	3	8	2	3	..	..	1	21	10	31
Gilbert Islanders ..	2	2	6	2	1	..	22	7	13	15	7	3	10	3	61	32	93
Chinese	1	..	1	..	..	..	3	..	1	..	..	..	..	..	6	..	6
Indian	27	10	51	9	16	4	70	23	32	16	19	2	6	2	221	66	287
Euronesian .. ..	..	..	1	2	3	..	7	6	3	1	..	..	..	..	14	9	23
European .. ..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	2	..	2
Totals	49	24	83	21	31	12	172	75	101	59	46	17	28	12	510	220	730
	73		104		43		247		160		63		40		730		
			Tuber- culoid 1		Tuber- culoid 2		Tuber- culoid 3		Lepro- matous 1		Lepro- matous 2		Lepro- matous 3		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fijian .. ..	..	..	7	4	34	25	4	2	6	1	26	16	12	3	89	51	140
Solomon Islanders ..	..	..	..	..	8	1	1	..	3	2	2	1	2	1	16	5	21
Rotuman .. ..	..	..	..	..	3	..	..	..	..	..	1	4	1	1	5	5	10
Samoa .. ..	..	..	2	..	8	2	..	..	6	2	11	12	5	4	32	20	52
Cook Islanders ..	..	..	12	3	10	5	1	..	2	1	10	8	4	1	39	18	57
Niue Islanders ..	..	..	1	..	..	2	..	..	..	..	1	..	2	2	4	4	8
Tongan .. ..	..	..	2	..	9	4	3	1	..	..	5	3	2	2	21	10	31
Gilbert Islanders ..	..	..	3	1	11	7	1	..	2	2	26	17	18	5	61	32	93
Chinese .. ..	..	..	..	..	2	..	..	..	..	..	3	..	1	..	6	..	6
Indian .. ..	..	..	21	10	53	16	..	2	57	2	67	29	23	7	221	66	287
Euronesian .. ..	..	..	1	1	2	..	..	1	..	1	9	4	2	2	14	9	23
European .. ..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2
Totals	49	19	140	62	10	6	78	11	164	94	79	28	510	220	730		
	68		202		16		89		258		107		730				
Arrested	9	5	32	16	4	3	..	..	4	..	..	..	49	24	73		
Quiescent	22	3	29	12	1	1	30	1	1	4	..	..	83	21	104		
Much Improved ..	..	..	2	..	..	..	..	1	8	8	21	3	31	12	43		
Improved	7	3	19	8	2	..	24	7	89	46	31	11	172	75	247		
Stationary	9	8	43	17	3	2	16	1	28	25	2	6	101	59	160		
Worse	2	..	9	4	..	..	5	1	22	9	8	3	46	17	63		
Died .. ..	..	..	6	5	..	..	1	..	10	2	11	5	28	12	40		

32. Turning to the other side of the picture, there is no doubt of the marked toxicity of Sulphetrone. Without careful and regular blood examinations it would be much too dangerous a drug for routine use. In spite of one week's rest in four, a number of patients have had to be taken off the drug from time to time, although in the great majority of cases, a simple iron mixture or iron combined with liver treatment has restored a normal blood picture and enabled the drug to be resumed. A few patients, however, have failed to react to this treatment combined with rest, and have had to forego the use of Sulphetrone.

33. In May Dr. P. E. C. Manson-Bahr as Physician Specialist arrived to investigate the anæmias produced by Sulphetrone, and he summarized his results as follows:—

"Examination of the figures for Hæmoglobin, mean corpuscular volume, mean hæmoglobin concentration, and red cell count revealed that the anæmia was mild and was microcytic and normochromic. Examination of the marrow smears showed no megaloblasts and no evidence of any maturation defect such as would be produced by a lack of the hæmopoietic liver factor. Only one case showed any evidence for hæmolysis with an Icteric Index of 20 and a serum bilirubin of 1.25 mgms; in this case there was no reticulocytosis. Only one case showed hookworm infestation."

34. Later in the year something in the nature of a cumulative effect began to be shown and although in most cases the anæmia remained mild, patients appeared to take longer to recover and a number required more prolonged iron treatment and longer periods of rest before it was felt safe to resume the drug, and even then only with concurrent iron therapy.

35. No less than 45 patients have been unable to stand full dosage of the drug owing to continual or frequently repeated and severe reactions. Some of these patients were already subject to frequent reactions before starting treatment, but in other cases the reactions appear to have been provoked by the sulphone. On the other hand a few cases who had been suffering from frequent reactions appear to have lost the tendency under the drug. A curious finding was that many of the patients stood the first six months of treatment without untoward incident, but then began to suffer from reactions from which they found it difficult to recover. These reactions are themselves productive of anæmia, and for this reason it has frequently proved impossible to follow the advice given, particularly by Cochrane, to continue treatment throughout the reaction.

36. A form of itchy desquamative dermatitis sufficiently severe in more than 20 cases to justify injection of Sodium Thiosulphate, and going on to a severe Generalized Exfoliative Dermatitis in one case, has provided a further cause for interruption and very careful and tentative resumption of treatment after a varying period of rest. The "Exfoliative" patient—a Fijian—after several times vainly trying to resume treatment, was given eight weeks freedom from the drug before it was felt safe to make another attempt. Within two hours of taking one 0.5G. tablet, he was covered with the usual irritating rash. It is proposed to make a later trial with this patient under cover of Benadryl.

37. A large proportion of the patients, particularly among the women, had to be given a more or less prolonged rest from treatment at the end of the year owing to marked losses of weight. When the drug was resumed for these patients, a lower maximum dose was aimed at—2.0 G. in the case of the less sturdy among the women—to give the weight, which had still in most cases not reached its former height, a further chance to recover.

38. The Indians not only show a higher improvement rate under treatment than the other races, but apparently find the drug less toxic. Although ten of them are reported as having suffered from Dermatitis during treatment, it has apparently been of a comparatively mild character, and has caused much less interruption to treatment than in the case of the Islanders. It is only their long-standing advanced cases, moreover, that have developed very marked anaemia, and in two cases jaundice.

39. Of the ten deaths in the Sulphetrone group, six occurred in Lepromatous-3 cases, two in L-2, and two in L-1. One of the latter two was due to Coronary Thrombosis, and the other to a Nephritis apparently unconnected with his leprosy. One of the Lepromatous-2 cases was due to Tuberculosis, and the second, due to Nephritis, had a clear history of severe Nephritis in childhood, prior to the development of his leprosy. One Lepromatous-3 case who died of Pulmonary Tuberculosis as a terminal cause had been an advanced ulcerated case for many years, and his ulceration had completely cleared under Sulphetrone. As another Lepromatous patient remarked in this connexion—"When I have got to die, I would rather die clean!" These Lepromatous cases had naturally been able to stand only minimal doses of the drug owing to general debility, anaemia, etc.

40. On balance there is no question that the introduction of the Sulphones represents a very real advance in the treatment of Lepromatous cases. The year's results with Sulphetrone, in spite of all the drawbacks set out above, have been highly gratifying, and as all workers with longer experience of the Sulphones emphasise that continued treatment produces steadily increasing improvement together with less evidence of toxicity, we are justified in hoping that our results for 1950 will be even more encouraging.

C. J. AUSTIN,
Medical Superintendent, Makogai.

SUMMARY OF STATISTICS, 1911-1949.

	Europeans.	Euro-nesians.	Solomon Islanders.	Fijians.	Indians.	Chinese.	Rotumans.	Samoans.	Niue Islanders.	Cook Islanders.	Tongans.	Gilbert Islanders.	Maoris.	Total.
Admissions ..	20	49	207	843	1,285	25	101	106	15	254	55	192	4	3,156
Repatriations ..	1	..	..	..	435	..	..	..	..	..	..	..	..	436
Discharges ..	5	13	65	330	298	5	56	24	2	132	10	33	1	964
Deaths ..	12	15	126	376	294	15	35	29	7	69	16	66	3	1,063
Totals ..	2	21	16	137	258	5	10	53	6	53	29	93	0	683

RAINFALL DURING THE YEAR 1949.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
7.17	6.14	16.01	9.33	12.44	1.61	6.64	7.57	5.72	5.52	3.48	3.76	65.39

1949

1949	INJECTIONS								Dressings	Patients Dressed.	Operations	Post-Mortem	X-Rays	Pneumothorax	LABORATORY EXAMINATIONS						Visitors
	Chaul. Oil	Salv.	Dil.	Fluor.	Vit. B. 1	Penic.	Various Injec.	Total of Injec.							Urine Anal.	Bact. Exam.	Helm.	H B. percent	Blood Count.	Total Lab. Exam.	
January ..	758	4	14	22	34	88	525	1,445	8,244	4,122	..	..	24	..	136	84	11	1,271	..	1,502	10
February ..	419	8	5	23	26	80	405	986	6,880	3,616	3	..	51	..	131	195	10	1,296	..	1,632	..
March ..	440	5	6	52	28	163	308	942	6,462	3,654	2	2	51	5	140	210	26	1,140	..	1,516	3
April ..	333	6	..	36	68	56	249	748	6,009	3,553	3	1	49	8	125	88	21	1,724	..	1,961	4
May ..	486	6	6	23	71	40	228	860	6,318	3,690	7	1	6	3	115	111	21	990	84	1,321	7
June ..	649	16	6	46	33	88	290	1,128	6,375	3,995	7	2	36	4	110	128	28	87	56	1,409	..
July ..	462	4	..	42	23	44	209	784	6,545	3,434	6	1	..	2	72	149	29	73	35	358	30
August ..	638	..	..	18	18	53	221	948	8,244	4,866	6	1	..	2	74	165	29	140	53	461	10
September ..	278	2	28	19	24	47	832	1,230	7,157	4,131	5	2	64	2	145	110	12	193	38	498	4
October ..	394	5	14	10	82	106	256	867	6,602	3,762	3	1	42	7	111	171	10	89	48	429	6
November ..	495	10	6	21	44	107	346	1,029	7,004	4,978	11	1	55	5	117	111	8	203	39	478	8
December ..	136	20	3	17	51	56	174	457	6,914	3,636	2	1	27	4	84	187	12	198	39	520	22
Totals ..	5,488	86	88	329	502	868	4,043	11,424	82,814	47,437	55	13	405	42	1,360	1,709	217	7,404	392	12,085	104

DAILY AVERAGE FOR THE DIFFERENT ADMINISTRATIONS FOR THE YEAR 1949.

New Zealand—					
Niue .. .. .	..	..	..	..	1-00
					1-00
Western Samoa—					
Euronesian . . .	..	..	..	..	9-00
Chinese .. .	..	..	..	..	1-00
Melanesian . . .	..	..	..	..	1-00
Samoan .. .	..	..	..	..	44-00
					55-00
American Samoa—					
Euronesian . . .	..	..	..	..	3-00
Samoan .. .	..	..	..	..	9-00
					12-00
Cook Islands—					
Euronesian . . .	..	..	..	..	1-00
Cook Islanders ..	..	..	..	..	54-39
Niue .. .	..	..	..	..	5-61
					61-00
Tonga—					
Tongan .. .	..	..	..	..	31-56
					31-56
Gilbert Islands—					
European .. .	..	..	..	..	1-00
Euronesian . . .	..	..	..	..	1-00
Chinese .. .	..	..	..	..	1-00
Banaban .. .	..	..	..	..	8-32
Banaban from Rabe	..	..	..	..	3-97
Gilbert Islanders .	..	..	..	..	72-05
					87-34
Fiji—					
European .. .	..	..	..	..	1-00
Euronesian . . .	..	..	..	..	5-72
Chinese .. .	..	..	..	..	3-57
Rotuman .. .	..	..	..	..	9-27
Melanesian . . .	..	..	..	..	16-76
Fijian .. .	..	..	..	..	133-74
Indian .. .	..	..	..	..	269-93
					439-99
					687-89

APPENDIX IV.

AN INVESTIGATION INTO ANAEMIA AT MAKOGAI
LEPROSARIUM.

Sulphetrone has been used at Makogai for the treatment of all cases of lepromatous leprosy for six months: up until six weeks ago all cases receiving sulphetrone have been given Ferri et Ammon Cit by mouth. No yeast has been administered. A mild anaemia was noticed and on May 21st, 1949, I proceeded to Makogai to investigate this anaemia.

Previous work on Sulphetrone therapy.—Brownlee (1948) found in rabbits that prolonged sulphetrone administration caused three types of anaemia—

- (1) a Haemolytic anaemia with a concurrent reticulocytosis;
- (2) a progressive anaemia due to lack of iron owing to competition for alimentary iron by sulphetrone which forms a non-absorbable iron compound. ;
- (3) an anaemia of slower development but precipitate onset which could be prevented by Brewers' yeast, probably caused as he thought by an alteration in the bacterial flora of the gut.

He investigated 11 tuberculous human patients who were receiving sulphetrone and found anaemia. The marrow of these patients showed an increase in primitive red cells but no megaloblasts were found.

Madigan (1948) found secondary anaemia in tuberculous patients receiving sulphetrone and recommended both iron and yeast for the prevention of this anaemia. However he stated that the tuberculous patients in general were poorly nourished.

Davey (1948) noted a hypochromic anaemia developing in 15 out of 17 cases of Leprosy under treatment with sulphetrone. The anaemia was not very severe, the haemoglobin remaining in the region of 60 per cent.

Wharton (1948) noted mild anaemia in all cases of leprosy he treated with sulphetrone and recommended ferrous sulphate 5 grs. three times daily.

Muir (1948) stated that the anaemia developing in leprosy under treatment with sulphetrone had not been fully investigated but recommended the administration of iron and injections of liver.

Present position at Makogai.—For the last six to seven months 450 lepromatous patients at Makogai have been treated with sulphetrone 3 grammes daily. For six weeks no iron has been administered and a few patients were noticed to be slightly anaemic as estimated by the Tallquist method. Twenty cases of lepromatous leprosy who were thought to be most affected were investigated fully as to the state of their blood and marrow. Fourteen of these cases were taking 3 grammes of sulphetrone daily, and six had been taking 3 grammes daily until one month before investigation when they were given 6 grammes daily. All had had iron and ammonium citrate up until six weeks before investigation. None had had any yeast or liver preparations. Eight cases of Tuberculoïd leprosy who had had no sulphetrone were examined in the same way as controls.

Results of the Investigation.—Examination of the figures for haemoglobin, mean corpuscular volume, mean haemoglobin concentration, and red cell count revealed that the anaemia was mild and was microcytic and normochromic. Examination of the marrow smears showed no megaloblasts and no evidence of any maturation defect such as would be produced by a lack of the haemopoietic liver factor. Only one case showed any evidence for haemolysis with an Icteric Index of 20 and a serum bilirubin of 1.25 mgms. per cent; in this case there was no reticulocytosis. Only one case showed hookworm infestation.

Further work being carried out at Makogai.—Full haematological studies on these patients are continuing in the laboratory on Makogai. All the 20 cases are being kept under observation and the result of administration of iron is being watched. All the 450 cases of leprosy under treatment with sulphetrone will receive 30 grains of ferrous sulphate daily until this dose can be reduced if observation of the above patients suggests that the dose can be reduced. No yeast will be administered. Sample blood studies of the rest of the 450 patients to see if any become anaemic are being undertaken.

Discussion.—The mild anaemia which has so far developed at Makogai would appear to be a microcytic normochromic anaemia. However some of the cases are hypochromic and if a larger series were studied no doubt the mean haemoglobin concentration would be less than in the controls. The absence of any evidence for liver deficiency could be due to the excellent diet and living conditions present on Makogai. Yeast has been recommended and found to be necessary in tuberculous patients who as Madigan (1948) states in general were poorly nourished; there is no evidence in any clinical work of the development of an anaemia with megaloblasts in the marrow as a result of sulphetrone administration. It would be unjustifiable at present therefore to give yeast daily to all the 450 patients at Makogai undergoing treatment with sulphetrone as this would be a very heavy expense. Future work as laid down above will show the necessity in future for any change in this policy.

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 Davey, T. F., April, 1948, *Leprosy Review*, pp. 55-61.
 Muir, E., March, 1948, *Transactions Roy. Soc. Trop. Med. & Hyg.* pp. 575-582.
 Wharton, L. H., April, 1948, *Leprosy Review*, pp. 71-75.
 Madigan, D. G., *Lancet*, July 31st, 1948, pp. 174-179.

RESULTS.

No.	V.I.	Hb.(gms.)	MCV	CV	McHbC	Ict	Sulphetrone	Wt. lb	R.B.C.	WBC.	Rets.	Marrow
1786	1.0	88 (12.3)	87	40	31	2	408 (7)	+ 4	4,600,000	12,000	occ	N
2707	0.9	70 (9.8)	80	32	30	2	30 (6)	+ 5	4,000,000	11,000	..	N
2509	0.9	49 (6.9)	79	22	31	2	141 (4)	0	2,800,000	6,900	0	N
2927	0.9	85 (11.9)	76	35	34	4	192 (6)	+ 5	4,600,000	23,000	..	N
2374	1.1	74 (10.4)	95	38	27	5	195 (4)	+ 8	4,000,000	10,000	0	N
2752	0.9	70 (9.8)	77	35	28	7	141 (3)	- 2	4,500,000	23,000	0	N
2936	1.0	69 (9.7)	84	36	27	1	12 (1)	- 6	4,300,000	11,000	..	N
2052	0.9	60 (8.4)	74	26	32	3	138 (4)	+ 9	3,500,000	10,000	..	N
1772	1.0	76 (10.6)	87	33	32	3	234 (5)	+14	3,800,000	9,200	..	N
1782	0.9	75 (10.5)	81	35	30	3	264 (7)	+ 1	4,300,000	28,000	..	N
3020	1.0	76 (10.6)	90	36	29	20	195 (4)	- 1	4,000,000	9,800	- 0	N
1974	1.0	90 (12.6)	90	38	33	6	210 (4)	- 1	4,000,000	15,000	0	N
2274	0.9	75 (10.5)	77	40	26	1.0	18 (2)	- 2	5,200,000	23,000	..	N
1977	0.9	66 (9.2)	82	37	26	1	267 (6)	- 1	4,500,000	14,000	..	N
2697	1.0	74 (10.4)	86	32	32	4	339 (7)†	+ 6	3,700,000	11,000	0	N*
2201	1.1	90 (12.6)	95	39	32	3	375 (7)†	0	4,100,000	12,000	2	N
2634	1.2	83 (11.6)	100	37	31	6	156 (5)†	+ 1	3,700,000	8,800	..	N
2284	1.1	80 (11.2)	97	38	29	4	368 (7)†	+ 8	3,900,000	7,700	..	N
2576	1.0	84 (11.7)	88	38	31	4	189 (4)†	+ 1	4,300,000	9,400	0	N
2971	1.1	80 (11.2)	94	33	34	5	282 (4)†	- 8	3,500,000	6,000	0	N

* Hookworm +

† 6 gms. daily for one month.

(gms. months).

CONTROLS TUBERCULOID LEPROSY NO SULPHETRONE.

2891	0.9	100 (14)	81	42	33	..	0	....	5,000,000	10,000	..	....
2935	1.1	96 (13.4)	92	45	30	..	0	....	4,900,000	8,700	..	....
2193	1.1	91 (12.7)	98	43	30	..	0	....	4,400,000	7,400	..	....
1968	1.0	98 (13.7)	90	43	32	..	0	....	4,800,000	9,200	..	....
2261	1.2	98 (13.7)	102	46	30	..	0	....	4,500,000	7,900	..	....
2038	1.2	105 (14.7)	100	52	28	..	0	....	5,200,000	8,000	..	....
3072	1.0	90 (12.6)	90	40	31	..	0	....	4,600,000	12,000	..	....
1788	1.1	98 (13.7)	93	44	31	..	0	....	4,700,000	....	..	....

V.I. = Volume Index.

Hb = Sahli 100 per cent = 14 gms Hb.

MCV = Mean corpuscular volume in cpl.

CV = Corpuscular Volume in ccs per 100 ccs.

McHbC = Mean Haemoglobin concentration per cent.

Ict In = Icteric Index.

Rets = reticulocytes.

Marrow N = normoblastic erythropoiesis.

APPENDIX V.

VITAL STATISTICS.

The estimated population at the end of 1948 and 1949 was:—

Race.	Males. 1949.	Females 1949.	Total 1949.	Total 1948.	Increase.	Increase per cent.	Decrease.	Decrease per cent.
Europeans	3,554	2,572	6,126	6,159	....	....	33	-54
Euronesians	3,475	3,237	6,712	6,530	182	2.79	....	....
Fijians	64,320	62,330	126,650	123,995	2,655	2.14	....	....
Rotumans	1,826	1,755	3,581	3,487	94	2.70	....	....
East Indians	71,826	62,415	133,941	129,761	4,180	3.22	....	....
Polynesians	2,432	1,722	4,154	4,010	144	3.59	....	....
Chinese	2,230	918	3,148	2,804	344	12.27	....	....
Others	348	295	643	626	17	2.71	....	....
Total	149,711	135,244	284,955	277,372	7,616	2.75	33	-01

The number of births recorded during the last four years was:—

Race.	1946.	1947.	1948.	1949.	Crude birth-rate per 1,000, 1949.
Europeans	89	79	117	106	17.30
Euronesians	236	242	234	237	35.31
Fijians	4,644	4,621	4,512	4,500	35.53
Rotumans	161	164	157	162	45.24
East Indians	5,181	5,248	6,012	5,606	41.85
Polynesians	110	118	144	124	29.85
Chinese	90	99	35	94	29.86
Others .. ..	....	4	102	18	28.00
Total	10,511	10,575	11,313	10,847	38.07

The crude birth rate in 1948 was 40.79.

The number of deaths recorded during the last four years was:—

Race.	1946.	1947.	1948.	1949.	Crude death-rate per 1,000, 1949.
Europeans	33	32	31	35	5.71
Euronesians	52	41	45	55	8.19
Fijians	2,016	1,828	1,798	1,894	14.95
Rotumans	50	76	73	68	18.99
East Indians	1,095	856	1,178	1,369	10.22
Polynesians	97	61	109	74	17.81
Chinese	19	11	19	11	3.49
Others .. .. .	....	1	5	5	7.77
Total ..	3,362	2,906	3,258	3,511	12.32

The crude death rate in 1948 was 11.75.

The marriages, births, deaths and natural increase for 1949 were:—

Race.	Marriages.	Births.	Deaths.	Increase.	Increase per 1,000.
Europeans	34	106	35	71	11.53
Euronesians	71	237	55	182	27.87
Fijians	896	4,500	1,894	2,606	21.02
Rotumans	41	162	68	94	27.00
East Indians	979	5,606	1,369	4,237	32.65
Polynesians	29	124	74	50	12.47
Chinese	26	94	11	83	29.60
Others .. .. .	....	18	5	13	20.77
Total ..	2,076	10,847	3,511	7,336	26.45

TABLE OF INFANT AND CHILD DEATHS, 1949.

Race.	Years					Total.
	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	
Fijians	315	205	62	36	15	633
Indians	314	26	29	12	14	395

INFANTILE MORTALITY.

Race.	No. of births.	No of deaths under 1 year.	Rate per 1,000 births.
Fijians	4,500	315	70.00
East Indians	5,606	314	56.01

APPENDIX VI.

OUT-PATIENTS, 1949.

Race.	Hospitals.				Dispensaries.	
	C.W.M.H.	Three District Hospitals.	Fourteen Rural Hospitals.	Tamavua.	Thirty-six Rural Dispensaries.	Totals 1949.
Europeans and P.M.E.N.D.	6,420	872	1,327	220	6,821	15,660
Fijians	29,863	10,836	64,596	2,144	100,780	208,219
Indians	27,802	20,505	34,622	1,350	24,653	108,932
Chinese and Others	5,085	3,669	1,824	19	2,382	12,979
Total	69,170	35,882	102,369	3,733	134,636	345,790

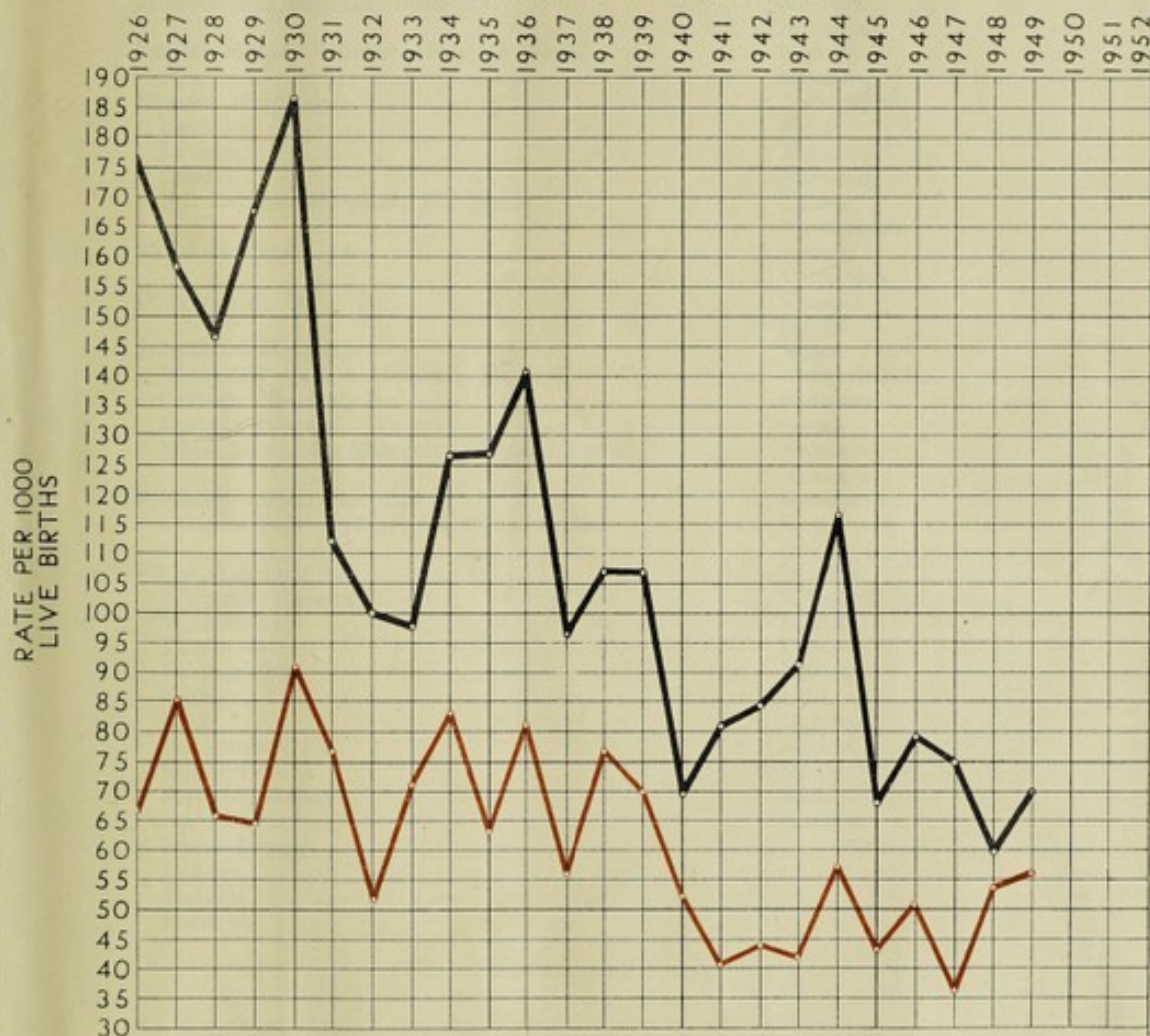
* Persons of Mixed European and Native Descent.

INFANT MORTALITY, CRUDE BIRTH & DEATH RATES. FIJIAN AND INDIAN

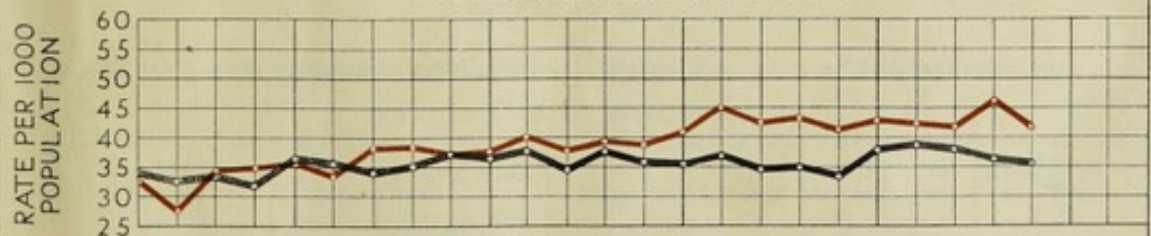
From 1926

Fijians — Indians —

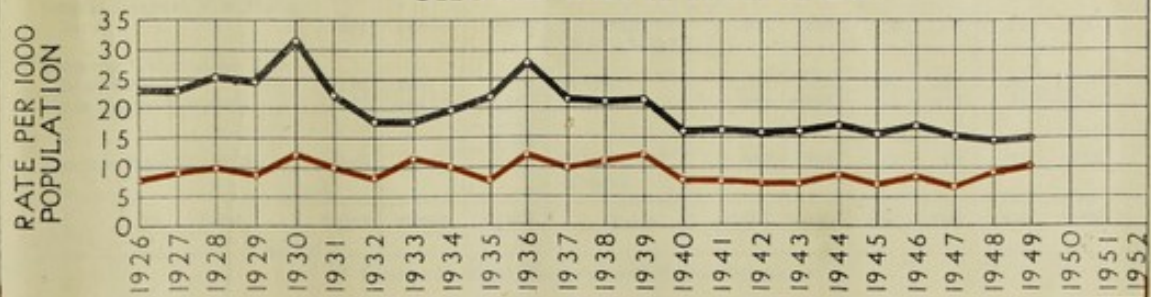
INFANT MORTALITY



CRUDE BIRTH RATES



CRUDE DEATH RATES



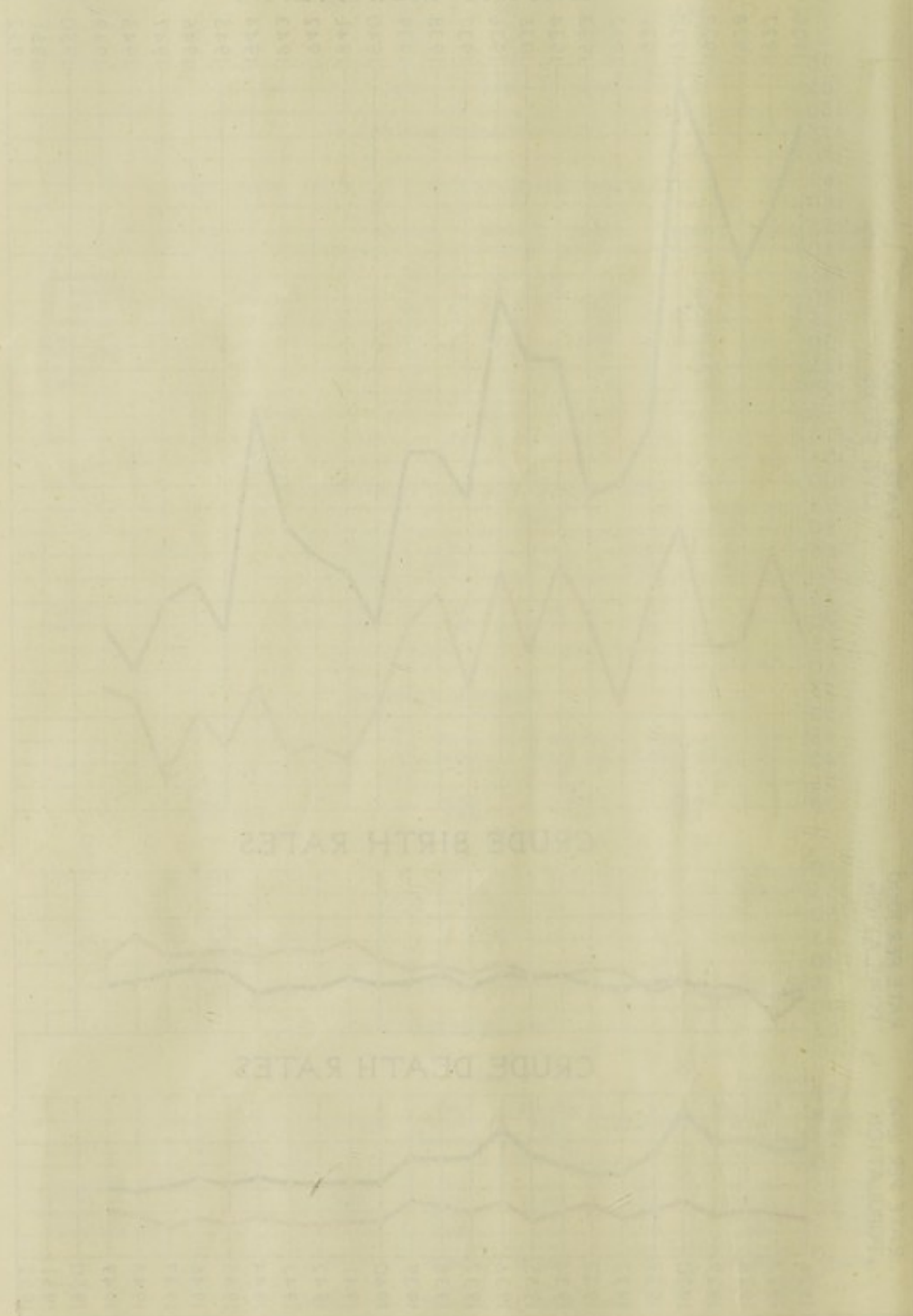
INFANT MORTALITY, CRUDE BIRTH & DEATH RATES

PHILIPINES AND INDIANS

from 1936

Indians

INFANT MORTALITY



APPENDIX VII.

DISPOSITION OF MEDICAL UNITS.

General Hospital—	Rural Dispensaries—
Colonial War Memorial Hospital, Suva.	Nanukuloa.
Tuberculosis Hospital, Tamavua.	Raralevu.
Forster House Obstetric Hospital, Suva.	Nausori.
District Hospitals—	Korovou.
Lautoka.	Lodoni.
Levuka.	Nayavu.
Labasa.	Lomanikoro.
Fiji Leprosy Hospital, Makogai.	Beqa.
Rural Hospitals, 14.	Viria.
Dispensaries, 36.	Namarai.
Subsidized Hospitals—	Tavua.
Methodist Mission Hospital, Ba.	Nadarivatu.
Cottage Hospital, Ba.	Nasau.
Cottage Hospital, Waiyevo.	Vatukoula.
Nurse Morrison's Maternity Hospital, Suva.	Vitogo.
Privately owned Hospital—	Naviti.
Colonial Sugar Refining Co., Rarawai, Ba.	Momi.
Rural Hospitals—	Natuatuacoko.
Waiyevo (Taveuni).	Korolevu.
Wainibokasi.	Serua.
Vunidawa.	Navua.
Penang, Ra.	Namosi.
Nailaga.	Nakasaleka.
Nadi.	Gau.
Koromumu.	Koro.
Nabouwalu.	Lekutu.
Vunisea, Kadavu.	Wainunu.
Savu Savu.	Naduri.
Loma Loma.	Dreketi.
Lakeba.	Visoqa.
Matuku.	Udu.
Rotuma.	Natewa.
	Saqani.
	Moala.
	Rabi.
	Kabara.

APPENDIX VIII.

HOSPITALS AND DISPENSARIES—BEDS, ADMISSIONS AND ATTENDANCES, 1949.

IN-PATIENTS—RACIAL DISTRIBUTION.

Hospital.	Beds.	Occupied beds, daily average.	Admis- sions, 1949.	Race.	C.W.M.H.	Lau- toka.	Le- vuka.	La- basa.	Tama- vua.	Total.
General Hospital, C.W.M.H., Suva	274	243.57	3,805	Europeans and P.M.E.N.D.*	406	235	9	33	13	696
Tamavua Tuberculosis Hos- pital, Suva	216	166	294	Fijians ..	1,109	688	490	337	182	2,806
Three District Hospitals ..	190	144.15	5,567	Indians ..	1,932	1,965	45	1,424	76	5,442
Fourteen Rural Hospitals ..	365	273.6	9,696 7,955	Chinese and Others.	358	215	73	53	23	722
Total ..	1,045	827.32	17,621	Total ..	3,805	3,103	617	1,847	294	9,666

* Persons of Mixed European and Native Descent.

APPENDIX IX.

Return of Diseases and Deaths for the year 1949, at the Colonial War Memorial Hospital, Labasa, Lautoka, Levuka and Tamavua Hospitals.

NOTE.—This classification is based on the International List of Causes of Death, 1929.

Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
I—INFECTIOUS AND PARASITIC DISEASES.						
Typhoid Fever	4	54	82	7	147	11
Paratyphoid Fever	1	14	18	..	33	..
Typhus .. .. .	..	..	..	..	..	..
Relapsing Fever .. .. .	..	..	..	..	..	..
Undulant Fever .. .. .	..	..	1	..	1	..
Smallpox (Variola) .. .. .	..	..	..	..	..	..
Measles .. .. .	..	2	..	1	3	..
Scarlet Fever .. .. .	..	..	..	..	..	..
Whooping Cough	1	7	6	1	15	..
Diphtheria .. .. .	..	..	..	..	..	..
Influenza	9	101	229	20	359	..
Cholera .. .. .	..	..	..	..	..	..
Dysentery—	..	..	..	..	..	..
(a) Amoebic	5	9	32	4	50	1
(b) Bacillary	4	26	129	2	161	4
(c) Mixed .. .. .	..	..	5	..	5	..
(d) Undefined or due to other causes .. .. .	..	5	5	..	10	1
Plague .. .. .	..	..	..	..	..	..
Erysipelas .. .. .	..	..	..	..	..	..
Acute Poliomyelitis or polioencephalitis .. .. .	..	..	..	..	..	..
Encephalitis Lethargica .. .. .	..	..	..	..	..	..
Cerebro-spinal Fever .. .. .	..	..	1	..	1	..
Glanders .. .. .	..	..	..	..	..	..
Anthrax .. .. .	..	..	..	..	..	..
Rabies .. .. .	..	..	..	..	..	..
Tetanus—	..	..	..	..	..	..
(a) Of the new born	1	..	1	..	2	1
(b) Other forms .. .. .	..	16	12	..	28	7
Tuberculosis of the Respiratory system	16	276	144	42	478	133
Tuberculosis of the Central Nervous system .. .. .	..	5	3	1	9	9
Tuberculosis of the Intestines or Peritoneum .. .. .	..	4	2	1	7	..
Tuberculosis of the Vertebral column .. .. .	..	16	2	2	20	2
Tuberculosis of other Bones and Joints .. .. .	..	14	8	..	22	..
Tuberculosis of the Skin or Subcutaneous tissue (Lupus) .. .. .	..	1	..	..	1	..
Tuberculosis of the Lymphatic system .. .. .	..	11	..	2	13	..
Tuberculosis of the Genito-urinary system .. .. .	..	2	..	1	3	..
Tuberculosis of other organs .. .. .	..	2	..	1	3	..
Tuberculosis disseminated .. .. .	..	10	3	1	14	10
Leprosy .. .. .	..	5	22	1	28	..
Syphilis—	..	..	..	..	..	..
(a) Primary	3	..	11	2	16	..
(b) Secondary .. .. .	..	..	2	..	2	..
(c) Tertiary .. .. .	..	..	4	1	5	..
(d) Congenital	1	..	3	..	4	..
Other Venereal Diseases—	..	..	..	..	..	..
(a) Soft Chancre .. .. .	..	..	..	..	..	..
(b) Gonorrhoea	4	22	33	3	62	..
(c) Gonorrhoeal Ophthalmia .. .. .	..	..	3	..	3	..
(d) Other Gonorrhoeal complications .. .. .	..	5	12	..	17	..
(e) Granuloma Venereum .. .. .	..	..	..	..	..	..
(f) Tropical bubo (Lymphogranuloma Inguinale) .. .. .	..	..	..	..	..	..
(g) Mixed Venereal infections .. .. .	..	..	..	..	..	..
Purulent Infection—	..	..	..	..	..	..
(a) Septicæmia	2	1	..	..	3	2
(b) Pyæmia	1	..	..	..	1	1
(c) Gas Gangrene	1	..	..	..	1	1
Yellow Fever .. .. .	..	..	..	..	..	..
Malaria—	..	..	..	..	..	..
(a) Benign Tertian	2	..	1	2	5	..
(b) Quartan .. .. .	..	..	..	..	..	..
(c) Sub-Tertian .. .. .	..	..	..	..	..	..
(d) Mixed	1	1	..	..	2	..
Carried forward	52	612	775	95	1534	183
Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
Brought forward	52	612	775	95	1534	183
Other Diseases due to Protozoa—	..	..	..	..	..	..
(a) Framboesia (Yaws)	1	54	..	4	59	..
(b) Spirochaetosis Ictero-hæmorrhagica .. .. .	..	..	..	..	..	..
Ankylostomiasis	1	10	24	..	35	..
Hydatid cysts .. .. .	..	..	..	..	..	..
Other diseases due to Helminths—	..	..	..	..	..	..
(a) Ascariasis .. .. .	..	..	8	..	8	..
(b) Filariasis .. .. .	..	16	3	2	21	..
(c) Teniasis .. .. .	..	1	1	..	2	..
(d) Oxyuris Vermicularis .. .. .	..	..	..	..	..	..
(e) Others	1	1	..	..	2	..
Mycoses (excluding purely dermal mycoses)—	..	..	..	..	..	..
(a) Actinomycosis .. .. .	..	..	..	..	..	..
(b) Others including sprue .. .. .	..	..	..	..	..	..
Other infectious or parasitic diseases—	..	..	..	..	..	..
(a) Vaccinia (Cowpox) .. .. .	..	..	..	..	..	..
(b) Other sequelae of vaccination .. .. .	..	..	..	..	..	..
(c) German measles (Rubella)	1	1	2	..	4	..
(d) Chicken-pox (Varicella) .. .. .	..	1	8	2	11	..
(e) Mumps and its complications .. .. .	..	1	1	..	2	..
(f) Dengue	14	3	4	1	22	..
(g) Glandular Fever .. .. .	..	..	..	..	..	..
(h) Others .. .. .	..	1	..	..	1	..
Total	70	701	826	104	1701	183
II—CANCER AND OTHER TUMOURS.						
Cancer or other malignant diseases of the buccal cavity, pharynx and œsophagus	2	3	..	1	6	2
Cancer or other malignant tumours of the digestive organs and peritoneum—	..	..	..	..	..	..
(a) Stomach .. .. .	..	..	6	1	7	4
(b) Liver and biliary passages .. .. .	..	3	3	..	6	2
(c) Rectum .. .. .	..	2	4	..	6	..
(d) Others .. .. .	..	1	3	..	4	1
Cancer or other malignant tumours of the respiratory organs	2	1	1	1	5	3
Cancer or other malignant tumours of the uterus	1	3	16	..	20	1
Cancer or other malignant tumours of other female genital organs	1	2	4	..	7	1
Cancer or other malignant tumours of the breast .. .. .	..	3	1	..	4	1
Cancer or other malignant tumours of the male genito-urinary organs	1	2	1	..	4	..
Cancer or other malignant tumours of the skin	10	2	4	3	19	1
Cancer or other malignant tumours of organs not specified	2	3	6	1	12	3
Non-malignant tumours—	..	..	..	..	..	..
(a) Female genital organs	1	8	9	2	20	..
(b) Other sites	2	3	11	..	16	..
Tumours of undetermined nature—	..	..	1	..	1	..
(a) Female genital organs .. .. .	..	1	2	..	3	..
(b) Other sites .. .. .	..	..	..	..	..	..
Total	22	37	72	9	140	19
III—RHEUMATISM, DISEASES OF NUTRITION AND OF ENDOCRINE GLANDS AND OTHER GENERAL DISEASES.						
Rheumatic Fever—	..	..	..	..	..	..
(a) With cardiac involvement .. .. .	..	5	21	2	28	3
(b) Without cardiac involvement .. .. .	..	4	17	2	23	..
(c) Subacute Rheumatism	1	5	23	1	30	..
Carried forward	1	14	61	5	81	3

APPENDIX IX—continued.

Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
Brought forward	1	14	61	5	81	3
Rheumatism and non-Suppurative arthritis—						
(a) Chronic Rheumatism	2	7	36	5	50	1
(b) Rheumatoid Arthritis .. ..	..	5	11	..	16	..
(c) Osteo-arthritis .. ..	..	4	2	..	6	..
Gout .. ..	..	..	..	..	..	..
Diabetes Mellitus	7	4	93	3	107	6
Scurvy .. ..	..	..	..	..	..	..
Beri-beri including epidemic dropsy .. ..	..	..	..	..	..	..
Pellagra .. ..	..	..	1	..	1	..
Rickets .. ..	..	1	..	..	1	..
Other diseases due to hypovitaminosis .. ..	..	2	5	..	7	..
Diseases of the pituitary gland .. ..	..	..	..	..	..	..
Diseases of the thyroid and parathyroid glands—						
(a) Simple goitre .. ..	..	3	6	..	9	..
(b) Exophthalmic goitre .. ..	..	..	1	..	1	..
(c) Myxoedema, cretinism .. ..	..	..	1	..	1	..
(d) Tetany .. ..	..	..	1	..	1	..
(e) Others .. ..	..	..	2	..	2	..
Diseases of the Thymus .. ..	..	..	..	..	..	..
Diseases of the adrenal glands excluding tuberculosis .. ..	..	..	..	..	..	..
Other general diseases	3	1	8	..	12	..
Total	13	41	228	13	295	10
IV—DISEASES OF BLOOD AND BLOOD-FORMING ORGANS.						
Hæmorrhagic conditions—						
(a) Purpura .. ..	..	..	1	1	2	1
(b) Hæmophilia .. ..	..	..	1	1	2	..
Anæmia—						
(a) Pernicious anæmia	1	..	22	3	26	2
(b) Splenic anæmia .. ..	..	1	..	..	1	..
(c) Chlorosis .. ..	..	..	2	..	2	..
(d) Secondary anæmia	1	6	116	2	125	12
(e) Others .. ..	..	3	28	..	31	3
Lukæmia, Aleukæmia—						
(a) Chronic myeloid leukæmia .. ..	..	..	1	..	1	..
(b) Chronic lymphatic leukæmia .. ..	..	1	..	..	1	..
(c) Acute leukæmia .. ..	..	..	..	1	1	..
(d) Multiple myeloma .. ..	..	..	..	..	..	..
(e) Aleukæmia (lymphadenoma or Hodgkin's Disease) .. ..	..	..	..	..	..	..
Diseases of the spleen not elsewhere mentioned .. ..	..	..	..	..	..	..
Other diseases of the blood and blood-forming organs .. ..	..	..	3	..	3	2
Total	2	11	174	8	195	20
V—CHRONIC POISONING.						
Alcoholism acute or chronic	4	..	1	..	5	..
Poisoning by other organic substances (not by violence)—						
(a) Opium habit .. ..	..	..	1	1	2	..
(b) Morphine habit .. ..	..	..	..	..	..	..
(c) Others .. ..	..	..	2	..	2	..
Poisoning by mineral substances (not by violence)—						
(a) Lead .. ..	..	..	..	..	..	..
(b) Others	1	1	1	..	3	..
Total	5	1	5	1	12	..
VI—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.						
Encephalitis (not including encephalitis lethargica)—						
(a) Cerebral abscess .. ..	..	..	..	..	..	..
(b) Others .. ..	..	2	4	1	7	3
Meningitis (not including tuberculosis or meningococcal) .. ..	..	8	9	1	18	9
Tabes Dorsalis (locomotor ataxia) .. ..	..	..	2	..	2	..
Carried forward .. ..	..	10	15	2	27	12
Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
Brought forward .. ..	..	10	15	2	27	12
Other Diseases of the Spinal Cord—						
(a) Progressive muscular atrophy	1	..	..	..	1	..
(b) Subacute combined sclerosis	1	..	..	..	1	..
(c) Myelitis of unstated organ .. ..	..	..	3	..	3	..
(d) Others .. ..	..	5	12	1	18	..
Cerebral hæmorrhage, Apoplexy, etc.—						
(a) Cerebral hæmorrhage	2	1	26	2	31	14
(b) Cerebral embolism & thrombosis .. ..	..	1	6	..	7	4
(c) Hemiplegia and other paralyses of unstated origin	1	2	18	1	22	..
General Paralysis of the Insane .. ..	..	..	..	1	1	..
Other forms of insanity—						
(a) Dementia Præcox .. ..	..	..	1	..	1	..
(b) Others	1	2	4	3	10	3
Epilepsy—						
(a) Major	2	1	7	2	12	1
(b) Minor .. ..	..	..	2	..	2	..
Infantile convulsions (under 5 yrs.)	1	1	..	1	3	1
Other diseases of the Nervous System—						
(a) Chorea .. ..	..	..	5	3	8	1
(b) Neuritis, neuralgia	4	11	13	3	31	..
(c) Paralysis Agitans .. ..	..	..	2	..	2	..
(d) Disseminated Sclerosis	1	..	..	..	1	..
(e) Neurasthenia	3	1	2	..	6	..
(f) Hysteria	2	6	18	1	27	..
(g) Others .. ..	..	5	6	2	13	..
Diseases of the eye—						
(a) Conjunctivitis .. ..	..	11	16	..	27	..
(b) Trachoma .. ..	..	4	3	1	8	..
(c) Corneal Ulcer .. ..	..	2	10	..	12	..
(d) Cataract .. ..	..	7	44	2	53	..
(e) Iritis .. ..	..	5	15	..	20	..
(f) Glaucoma .. ..	..	1	3	..	4	..
(g) Others	1	28	35	10	74	..
Diseases of the Ear and Mastoid Sinus—						
(a) Otitis externa	2	5	7	4	18	..
(b) Otitis media	2	5	12	4	23	1
(c) Mastoiditis .. ..	..	1	6	..	7	1
(d) Others .. ..	..	..	4	..	4	..
Total	23	116	295	43	477	38
VII—DISEASES OF THE CIRCULATORY SYSTEM.						
Pericarditis .. ..	..	1	3	..	4	3
Acute endocarditis—						
(a) Malignant	1	1	4	..	6	4
(b) Others not included elsewhere .. ..	..	..	2	..	2	..
Chronic endocarditis, valvular disease (except specific cause elsewhere stated)—						
(a) Aortic valve .. ..	..	..	2	..	2	..
(b) Mitral valve	1	7	34	7	49	8
(c) Aortic and mitral valve .. ..	..	..	5	1	6	2
(d) Endocarditis not returned as acute or chronic	1	2	5	..	8	5
(e) Other or unspecified valve disease .. ..	..	1	7	1	9	2
Diseases of the myocardium (except due to specified cause stated elsewhere)—						
(a) Acute myocarditis .. ..	..	..	5	..	5	5
(b) Myocardial Degeneration	9	11	50	3	73	41
Diseases of the coronary arteries—						
(a) Angina Pectoris .. ..	..	1	..	..	1	..
(b) Coronary sclerosis and thrombosis and embolism	2	3	19	1	25	10
Other diseases of the heart (except due to specified cause stated elsewhere)—						
(a) Auricular fibrillation	1	..	3	..	4	..
(b) Heart block .. ..	..	..	2	..	2	..
(c) Disordered action of the heart	2	4	23	1	30	..
(d) Others .. ..	..	1	18	..	19	4
Carried forward	17	32	182	14	245	84

APPENDIX IX—continued.

Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
Brought forward	17	32	182	14	245	84
Aneurysm (unless due to specified cause elsewhere stated)—						
(a) Aneurysm of aorta .. ..	..	..	2	..	2	1
(b) Of other arteries .. ..	..	..	..	..	..	..
Arteriosclerosis .. ..	..	5	11	1	17	9
Gangrene (other than gas gangrene)	1	1	19	2	23	4
Other diseases of the arteries ..	..	1	1	..	2	..
Diseases of the lymphatic system—						
(a) Lymphangitis	1	2	1	1	5	..
(b) Lymphadenitis	4	13	6	1	24	..
Diseases of the Veins—						
(a) Varicose veins .. ..	..	1	2	..	3	..
(b) Haemorrhoids .. ..	..	1	9	25	37	..
(c) Phlebitis .. ..	..	1	1	3	5	..
(d) Thrombosis .. ..	..	2	2	1	5	1
(e) Others .. ..	..	..	..	..	..	..
Abnormalities of blood pressure—						
(a) High blood pressure	6	4	27	3	40	9
(b) Low blood pressure .. ..	..	..	..	..	..	..
Other diseases of the Circulatory System—						
(a) Epistaxis	1	2	..	..	3	..
(b) Others (including unexplained hæmorrhages)	1	..	1	1	3	..
Total	35	73	281	25	414	108
VIII—DISEASES OF THE RESPIRATORY SYSTEM.						
Diseases of the nasal Fossæ and annexa—						
(a) Diseases of the nose	1	3	2	..	6	..
(b) Diseases of the accessory nasal sinuses	1	7	3	3	14	..
Diseases of the larynx—						
(a) Laryngismus Stridulus .. ..	..	..	1	..	1	..
(b) Laryngitis acute and chronic of non-specific aetiology	3	1	1	1	6	..
(c) Others .. ..	..	1	..	..	1	..
Bronchitis—						
(a) Acute	8	90	169	19	286	2
(b) Chronic	5	5	31	1	42	2
(c) Not defined as acute or chronic .. ..	..	..	1	..	1	..
Broncho-pneumonia	1	27	66	9	103	33
Lobar pneumonia	3	36	28	2	69	6
Pneumonia (not otherwise defined)	6	53	39	9	107	8
Pleurisy—						
(a) Empyema .. ..	..	4	7	2	13	3
(b) Other pleurisy	1	15	18	5	39	..
Congestion and hæmorrhagic infection of lung, etc.—						
(a) Hypostatic congestion of lung .. ..	..	..	..	..	..	..
(b) Massive collapse .. ..	..	..	..	..	..	..
(c) Pulmonary embolism .. ..	..	..	..	..	..	..
(d) Others .. ..	..	..	..	..	..	..
Asthma	5	12	86	7	110	1
Pulmonary Emphysema .. ..	..	..	2	..	2	2
Other diseases of the Respiratory System—						
(a) Chronic interstitial pneumonia (including occupational diseases of the lung) .. ..	..	..	3	..	3	..
(b) Gangrene of the lung .. ..	..	..	..	..	..	..
(c) Abscess of the lung .. ..	..	1	1	..	2	1
(d) Bronchiectasis	3	8	7	1	19	..
(e) Others	1	3	2	..	6	..
Total	38	266	467	59	830	58
IX—DISEASES OF THE DIGESTIVE SYSTEM.						
Diseases of the buccal cavity, pharynx, etc.—						
(a) Pyorrhœa and gingivitis .. ..	..	2	5	..	7	..
(b) Dental caries .. ..	..	6	28	2	36	..
(c) Stomatitis .. ..	..	2	1	1	4	..
(d) Vincent's Angina .. ..	..	..	..	..	..	..
(e) Ludwig's Angina .. ..	..	..	..	1	1	..
(f) Diseases of the tonsils	8	7	77	3	95	..
(g) Others including coryza, acute naso-pharyngitis, etc.	7	14	15	4	40	..
Diseases of the œsophagus .. ..	..	..	2	1	3	..
Ulcer of the stomach or duodenum—						
(a) Ulcer of the stomach	1	6	9	2	18	4
(b) Ulcer of the duodenum	3	1	11	..	15	1
Other diseases of the stomach—						
(a) Gastritis	5	6	52	2	65	..
(b) Others, e. g. functional dyspepsia	1	8	24	1	34	1
Diarrhoea and enteritis (under two years)	5	31	43	2	81	12
Diarrhoea and enteritis (two years and over)—						
(a) Colitis	6	19	40	7	72	..
(b) Otherwise defined including gastro-enteritis	18	37	81	6	142	5
Appendicitis	21	23	104	22	170	2
Hernia, Intestinal Obstruction—						
(a) Hernia	12	16	42	6	76	..
(b) Strangulated Hernia	1	2	8	..	11	1
(c) Intestinal obstruction including intussusception	3	3	4	..	10	5
Other diseases of the intestines—						
(a) Constipation, intestinal stasis	2	7	18	2	29	..
(b) Diverticulosis and diverticulitis	1	..	1	..	2	..
(c) Diseases of rectum or anus	4	3	21	3	31	..
(d) Others, e. g. intestinal colic	1	1	6	2	10	..
Cirrhosis of the liver (non-syphilitic)						
(a) Alcoholic .. ..	..	2	3	..	5	2
(b) Not returned as alcoholic .. ..	..	5	7	..	12	5
Other diseases of the liver—						
(a) Acute Yellow Atrophy .. ..	..	..	6	..	6	5
(b) Toxic Hepatitis	2	2	8	..	12	5
(c) Amoebic abscess & Hepatitis	5	1	3	1	10	1
(d) Others	3	1	3	1	8	1
Biliary calculi or biliary colic .. ..	..	..	2	..	2	..
Other diseases of the gall-bladder and ducts—						
(a) Cholecystitis without record of calculi	1	2	16	2	21	2
(b) Others, e. g. catarrhal jaundice	1	11	15	1	28	1
Diseases of the pancreas (excluding Diabetes Mellitus) .. ..	..	..	1	..	1	..
Peritonitis without stated cause—						
(a) Acute .. ..	..	..	3	..	3	1
(b) Chronic .. ..	..	2	1	..	3	..
Total	111	220	660	72	1063	54
X—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).						
Acute Nephritis	3	8	8	3	22	2
Chronic Nephritis	1	11	25	2	39	12
Nephritis (undefined as acute or chronic) .. ..	..	2	..	..	2	..
Other diseases of the Kidney and annexa—						
(a) Pyelitis	11	11	63	5	80	2
(b) Others .. ..	..	1	5	..	6	1
Calculi of the urinary passages—						
(a) Calculi of Kidney and ureter and renal colic	3	2	12	2	19	..
(b) Calculi of bladder and urethra .. ..	..	..	2	..	2	..
(c) Calculi of unstated site .. ..	..	..	..	1	1	..
Diseases of the Bladder—						
(a) Cystitis	4	1	13	..	18	..
(b) Others .. ..	..	..	4	..	4	..
Carried forward	22	36	132	13	203	17

APPENDIX IX—continued.

Diseases.	Europeans.	Fijians.	Indians.	Others.	Total.	Deaths.
Brought forward	22	36	132	13	203	17
Diseases of the urethra, urinary abscess, etc.—						
(a) Stricture .. ..	..	..	11	..	11	..
(b) Others	1	..	6	1	8	..
Diseases of the prostate	3	2	12	..	17	3
Diseases of the male genital organs—						
(a) Phimosis	1	2	8	1	12	..
(b) Epididymitis (excluding tuberculosis)	1	7	2	1	11	..
(c) Orchitis	1	4	4	2	11	..
(d) Hydrocele	7	18	24	6	55	..
(e) Elephantiasis of the scrotum ..	..	4	1	..	5	..
(f) Others .. ..	..	3	4	2	9	..
Diseases of the female genital organs—						
(a) Diseases of the ovary	2	7	17	3	29	..
(b) Diseases of the Fallopian tube ..	..	8	24	3	35	1
(c) Diseases of the parametrium ..	..	2	6	4	12	..
(d) Diseases of the uterus including menorrhagia and dysmenorrhoea	9	27	57	15	108	1
(e) Diseases of the breast .. ..	..	5	6	..	11	..
(f) Others, e.g. prolapse	5	4	30	5	44	..
Total	52	129	344	56	581	22
XI—DISEASES OF PREGNANCY, CHILDBIRTH AND THE PUERPERAL STATE.						
Post-abortive sepsis .. ..	..	1	3	..	4	1
Abortion not returned as septic ..	21	27	65	17	130	1
Ectopic gestation	1	4	6	2	13	..
Other accidents of pregnancy ..	4	7	28	3	42	..
Hæmorrhage connected with childbirth—						
(a) Placenta prævia	1	..	3	..	4	..
(b) Others	1	1	9	..	11	1
Puerperal Sepsis—						
(a) Puerperal septicaemia	1	1	3	..	5	2
(b) Puerperal sepsis not including septicaemia .. ..	..	4	22	1	27	..
Puerperal albuminuria and convulsions—						
(a) Eclampsia .. ..	..	..	12	..	12	3
(b) Albuminuria of pregnancy ..	..	..	5	..	5	..
(c) Pyelitis of pregnancy .. ..	..	..	2	..	2	..
(d) Others .. ..	..	1	4	..	5	..
Other Toxæmia of Pregnancy—						
(a) Hyperemesis Gravidarum ..	1	1	15	1	18	..
(b) Others .. ..	..	..	4	..	4	1
Puerperal phlegmasia, embolism and sudden death—						
(a) Puerperal phlegmasia alba dolens not returned as septic ..	..	..	..	..	..	..
(b) Puerperal embolism and sudden death .. ..	..	..	..	..	..	..
Conditions associated with labour—						
(a) Normal labour	36	64	250	24	374	..
(b) Abnormal labour, e.g. needing instrumental interference ..	1	4	12	1	18	..
(c) False labour	1	..	5	..	6	..
(d) Labour complicated by intercurrent disease .. ..	..	1	2	..	3	..
(e) Accidents of childbirth including still-births .. ..	..	7	11	1	19	2
Other or unspecified conditions of the puerperal state—						
(a) Puerperal insanity .. ..	..	..	1	..	1	..
(b) Puerperal diseases of the breast .. ..	..	1	2	2	5	..
(c) Not in labour	3	1	47	..	51	..
(d) Others	2	1	5	..	8	..
Total	73	126	516	52	767	11
XII—DISEASES OF THE SKIN AND CELLULAR TISSUES.						
Carbuncle, boil	9	15	19	6	49	..
Cellulitis, acute abscess (except due to cause given elsewhere)—						
(a) Cellulitis	9	66	86	17	178	3
(b) Acute abscess	10	106	129	21	266	2
Other diseases of the skin, hair and nails—						
(a) Ulcers	5	81	44	11	141	..
(b) Dermal mycoses	5	6	10	1	22	..
(c) Herpes including Zoster	3	5	6	1	15	..
(d) Scabies .. ..	..	8	9	2	19	..
(e) Others	8	16	46	9	79	1
Total	49	303	349	68	769	6
XIII—DISEASES OF THE BONES AND ORGANS OF LOCOMOTION.						
Acute or chronic infective osteomyelitis and periostitis except due to cause given elsewhere—						
(a) Acute Osteomyelitis .. ..	..	9	8	2	19	..
(b) Chronic Osteomyelitis	1	9	28	6	44	..
(c) Periostitis, acute or chronic ..	..	4	2	2	8	..
Other diseases of the bones .. ..	..	1	2	..	3	..
Diseases of the joints and other organs of locomotion—						
(a) Diseases of the joints (other than elsewhere stated) ..	1	10	17	2	30	..
(b) Diseases of the other organs of locomotion	1	3	3	..	7	..
Total	3	36	60	12	111	..
XIV—CONGENITAL MALFORMATIONS.						
Congenital malformations—						
(a) Congenital hydrocephalus ..	..	..	..	1	1	..
(b) Spina Bifida and Meningocele ..	1	3	6	1	11	3
(c) Congenital malformation of the heart .. ..	..	2	2	..	4	2
(d) Monstrosities .. ..	..	1	1	..	2	..
(e) Congenital hypertrophic pyloric stenosis .. ..	..	1	1	..	2	..
(f) Cleft palate, harelip .. ..	..	3	3	..	6	..
(g) Imperforate anus .. ..	..	..	1	..	1	..
(h) Other congenital malformations	1	7	4	..	12	2
Total	2	17	18	2	39	7
XV—DISEASES OF EARLY INFANCY.						
Congenital debility including marasmus of unknown cause .. ..	..	11	10	..	21	8
Premature birth	1	6	25	..	32	23
Injury at birth .. ..	..	..	1	..	1	1
Other diseases peculiar to early infancy—						
(a) Atelectasis Pulmonum .. ..	..	..	..	..	..	..
(b) Icterus neonatorum—						
(1) Mild .. ..	..	1	..	1	2	..
(2) Grave .. ..	..	..	..	..	..	..
(c) Affections of the umbilicus ..	..	1	2	..	3	1
(d) Pemphigus neonatorum .. ..	..	..	1	..	1	1
(e) Others	1	2	8	1	12	1
Total	2	21	47	2	72	35
XVI—CONDITIONS ASSOCIATED WITH OLD AGE.						
Old age—						
(a) Senile Dementia	2	..	2	..	4	3
(b) Other forms of senile decay ..	2	1	7	..	10	..
Total	4	1	9	..	14	3

APPENDIX IX—continued.

Diseases.	Europeans.	Fijians.	Indians.	Others.	Total	Deaths.	Diseases.	Europeans.	Fijians.	Indians.	Others.	Total	Deaths.
							Brought forward	55	281	431	77	844	13
XVII—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.							Cataclysm (Tidal waves, cyclones, volcanoes, etc.)				1	1	
Suicide or attempted suicide by poisoning (including corrosive poisoning)			3		3		Injury by animals (except bites or stings of venomous reptiles or insects)		7	21	2	30	1
Suicide or attempted suicide by hanging or strangulation							Hunger or thirst		5	1		6	1
Suicide or attempted suicide by drowning			4		4		Excessive cold						
Suicide or attempted suicide by firearms	1				1		Excessive heat		1	2		3	
Suicide or attempted suicide by cutting or piercing instruments		1	3		4		Lightning						
Suicide or attempted suicide by jumping from a height							Electricity			1	1	2	
Suicide or attempted suicide by crushing							Other unstated forms of violence—						
Suicide or attempted suicide by other means				1	1	1	(a) Inattention at birth			1		1	
Infanticide							(b) Others, e.g. foreign body swallowed			3		3	1
Assault or homicide by firearms							Violence of an unstated nature, i.e. suicidal, accidental homicidal by poisoning or other means						
Assault or homicide by cutting or piercing instruments		1	8		9	1	Wounds or other injuries of war						
Assault or homicide by other means	2	13	40	3	58	1	Execution of civilians by belligerent armies						
Attacks by venomous animals		1			1		Execution						
Food poisoning		2	2		4								
Accidental absorption of irrespirable or poisonous gases			1		1		Total	55	294	460	81	890	16
Other acute accidental poisoning	2	1	1	1	5	1							
Injuries due to conflagration							XVIII—ILL-DEFINED CONDITIONS.						
Accidental burns, conflagration excepted—							Sudden death, cause unknown						
(a) Burns by fire	1	6	14	5	26	5	Cause of illness unstated or ill-defined	7	12	35	5	59	
(b) Scalds		8	13	5	26		Diseases not included in this classification elsewhere	32	52	71	10	165	10
(c) Burns by corrosive substances, external or internal		2	1		3		Malingering		2			2	
(d) Dermatitis due to exposure to sun		1	2		3		Cases admitted to hospital for observation as to mental condition	4	6	14	5	29	
(e) Dermatitis due to exposure to other forms of radiation							Cases admitted for observation not mental	52	188	232	65	537	
Accidental mechanical suffocation							Persons accompanying patients	42	153	279	30	504	
Accidental immersion or drowning							Orphans						
Accidental injury by firearms		1			1		Total	137	413	631	115	1296	10
Accidental injury by cutting or piercing instruments	3	65	65	9	142								
Accidental injury by fall, crushing, etc.—							Grand Total	696	2806	5442	722	9666	600
(a) By falling	30	106	169	33	338	2							
(b) By machinery	3	9	9	7	28								
(c) By motor vehicles	6	24	30	1	61	1							
(d) By railway vehicles	1	3	19	1	24								
(e) By other means	6	37	47	11	101	1							
Carried forward	55	281	431	77	844	13							

APPENDIX X.

THE CENTRAL MEDICAL SCHOOL.

FROM THE PRINCIPAL, CENTRAL MEDICAL SCHOOL, TO THE DIRECTOR OF MEDICAL SERVICES, SUVA.

I have the honour to forward the following report for the year 1949 on the Central Medical School.

I—HISTORICAL.

The medical training of Fijians commenced in the year 1886 at the instigation of Dr. (afterwards Sir) William McGregor who was then Chief Medical Officer. In 1875, the year following the Cession of the Fijis to the British Crown, a devastating epidemic of measles had swept through the Colony, and killed 40,000 of the estimated 160,000 inhabitants. Three years later the first Indian immigrants had arrived in Fiji, and the dangers of small-pox and other epidemics became apparent. With few medical officers at his command, a large population to serve, and a wide stretch of island country to cover, Dr. McGregor decided to train selected Fijians. In the words of an official paper laid before members of the Legislative Council in 1883, these Fijians,

"... after completing a course of practical instruction in the hospital, including nursing, may be sent out to assist in healing the sick and arresting the progress of disease These students will also be taught to vaccinate and it is probable that those among them who evince any aptitude or inclination for it may be taught to dispense the simpler forms of medicines."

And thus was born the Fiji Medical School, the first Native Medical Practitioners being given their certificates in 1888.

Into Dr. B. Glanville Corney's capable hands was put the task of carrying Dr. McGregor's ideas into effect, and it is largely due to Dr. Corney's inspiration and direction during the next 18 years that the School became such a successful venture. In the 42 years following the inception of training, no fewer than 138 Native Medical Practitioners graduated from the School. Of these, 25 are still in practice, and a further ten are living in retirement.

In 1928 the School entered a new phase. Other island groups had become interested in the Fiji Medical School, and at the instigation of Dr. S. M. Lambert, Fijian representative of the Rockefeller Foundation, six other island administrations decided to join forces with Fiji in establishing a new Central Medical School. This they did, new buildings were erected, Dr. D. W. Hoodless was appointed as Principal, and the Central Medical School was officially opened by the Governor of Fiji, Sir Eyre Hutson, on 28th December, 1928.

The six groups which joined with Fiji were Tonga, Solomon Islands, New Hebrides, Gilbert and Ellice Islands, Western Samoa and Cook Islands. Australia later became interested, and sent students from Nauru, Papua-New Guinea and the United States sent students from American Samoa. Since the establishment of the Central Medical School in 1928, a further 183 students have graduated and have returned to their island homes, scattered over 6,000,000 square miles of the Pacific, to practise their profession.

The course of instruction, previously of three years, was increased to four in 1931, and it consists of six months of science (biology, chemistry and physics); 12 months of anatomy and physiology; and two and a half years of clinical work in the hospital wards, together with lectures in medicine, surgery, obstetrics and other medical subjects. The course is a comprehensive one, but naturally falls short of the full medical course of a University. For all practical purposes it meets the needs of the territories concerned.

In 1946 the name Native Medical Practitioner was changed to Assistant Medical Practitioner.

II—STUDENTS IN RESIDENCE.

	1st Year	2nd Year	3rd Year	4th Year	Dental	Pharmacy	Total
Fiji—Fijians	4	4	4	.	1	.	13
Rotumans .. ..	..	..	1	.	.	.	1
Indians	1	3	1	.	.	.	5
Western Samoa .. ..	..	3	3	1	.	.	7
Tonga	1	1	..	.	.	1	3
Cook Islands .. ..	..	..	1	.	.	.	1
Gilbert and Ellice Islands ..	2	..	2	.	.	.	4
British Solomon Islands ..	..	..	1	.	.	.	1
Niue Islands .. ..	..	..	2	.	.	.	2
New Hebrides .. ..	..	..	..	.	.	.	..
Papua-New Guinea	3	2	..	.	.	.	5
Nauru	2	..	..	.	.	.	2
	13	13	15	1	1	1	44

In addition to the above 44 students one Fijian and one Cook Islander were in residence for the first three months of the year while they completed a supplementary examination in Medicine, in which subject they had failed in the Finals of the previous December. The Indian student in the first year joined the School in July, having been excused his science course as a result of a credit in science in the Cambridge School Certificate. The Samoan student marked as fourth year year was repeating his final year in Medicine, and graduated successfully in September.

III—STAFF.

The School depends for much of its teaching on its honorary lecturers, and when there are many changes in the hospital staff the school suffers. This year, however, has been a comparatively good one in that respect, there having been a full regular staff for the whole time, and few changes amongst honorary lecturers.

Of the regular staff, the Principal continues to have certain beds in the medical wards of the Hospital, and he supervised the clinical work of the students. He also lectured in Physiology (in part), Medicine (in part), Materia Medica and Bacteriology. Mrs. Frater, B.A. Dip.Ed., continued as Temporary Assistant Principal until her resignation at the end of the year, and she taught Chemistry, Physics, Botany, Zoology and part of the Physiology. During the second half of the year Mrs. Frater was also appointed Honorary Librarian to the new Central Medical Research Library.

Assistant Medical Practitioner Ram Singh has lectured in Anatomy throughout the year, and assumed more responsibility with that subject. He has continued to take his share of hospital duties.

The School counts itself fortunate in having the following honorary lecturers; some of whom have also spent much time in the wards with the students in clinical instruction:—

Dr. P. E. C. Manson-Bahr, M.D., M.R.C.P.	..	..	..	Medicine.
Dr. T. A. Doran, M.D., CH.B.	..	..	..	Surgery.
Dr. D. J. Oldmeadow, M.B., B.S., D.G.O.	..	..	..	Obstetrics.
Dr. J. Taylor, M.B., CH.B., D.P.H. and Staff.	..	..	..	Public Health.
Dr. A. H. Sahu Khan, M.B., CH.B.	..	..	..	Ophthalmology.
Dr. G. T. Barnes, M.B., CH.B.	..	..	..	Pathology and Forensic Medicine.
Dr. L. G. Poole, M.B., CH.B.	..	..	..	Tuberculosis.
Ratu I. L. Vosalagi, B.D.S.	..	..	..	Dentistry.
A.M.P. Vilikesa Ramaqa.	..	..	..	Anæsthetics.

Dr. F. R. T. Hollins, B.A., M.B., CH.B., has conducted regular clinical instruction in the surgical wards.

As always, the thanks of the School are due to the Matron and Sisters for their important part in the training of students, and to those in charge of special departments, notably Miss M. Maslen, M.P.S., Dispensary; Mr. J. E. Pery-Johnston, Laboratory; Miss V. Taylor, Midwifery; Miss O'Keefe, Theatre; and Tomu Uluilakeba, Eye Department.

Mr. E. S. Dass has continued in office as Clerk, and has taken over much of the routine administrative work, including the management of accounts and stores. Mr. A. S. Martin, Steward and Clerk of the Hospital, kindly kept the Sports Fund Account.

IV—ADVISORY BOARD.

The Central Medical School Advisory Board consists of the Director of Medical Services as Chairman, the Deputy Director of Medical Services, the Secretary for Fijian Affairs, the Director of Education, The Chief Secretary, Western Pacific High Commission, The Medical Officer in Charge, Colonial War Memorial Hospital, and the Principal as Secretary.

Four meetings have been held during the year. Apart from the routine matters of discussion regarding the progress of students, the main items of policy have been four:—

- (i) It was recommended that all graduates should be given an adequate term as house-physicians and house-surgeons before being posted to district or other independent positions. It is recognized that the close supervision of a medical officer is invaluable to the Assistant Medical Practitioner in the first few months after graduation.
- (ii) It was decided that the pass-mark in all examinations should be reduced from 60 per cent to the more usual 50 per cent.
- (iii) To give the various Administrations an opportunity to augment their medical staffs, it was decided that a larger number of students should be accepted, and, without waiting for the new buildings, an intake of more than 50 new students is anticipated next year. Most of these will be medical, but a few will be for auxiliary courses—Assistant Health Inspectors, Assistant Pharmacists, and Assistant Laboratory Technicians.
- (iv) As the standard of education rises in the Fijian and Indian secondary schools, students with higher academic qualifications are available for selection, with a resulting tendency towards a higher standard in the Medical School. This conforms with the demand for better trained Assistant Medical Practitioners, and with the added responsibility which, with a dearth of fully qualified medical officers, is being given to the Assistant Medical Practitioners. Students from other territories are not all equipped to keep pace with this, however, and the Board has been exercised how best to deal with the varying levels of academic standard. It rejected a proposal to recognize two standards of graduation, and, until such time as all students can rise to a set standard for entry it recommended leniency in viewing the examination results of the more backward ones.

The Selection Committee appointed by the Board interviewed all Fijian and Indian candidates, and such candidates from other territories as were already in Fiji for schooling. The interviewing of prospective students is regarded as important, and should result in an even better type of students, with fewer falling by the way-side.

V—ACADEMIC BOARD.

The Academic Board consists of the Deputy Director of Medical Services as Chairman, the Principal as Deputy Chairman and Secretary, the Physician Specialist, the Pathologist, the Medical Officer of Health, and the Medical Officer in Charge, Colonial War Memorial Hospital.

Four meetings were held during the year. The course of lectures in most subjects has been revised and in some cases altered, this largely being a confirmation of the work undertaken last year. It is hoped that in the near future a revised "Syllabus of Instruction" will be printed. The latest one is dated 1930.

VI—LECTURES AND WARD WORK.

There are no outstanding incidents to report. The year has been a good one, work has been covered satisfactorily, and the bearing of the students in the class-rooms and in the hospital wards has on the whole been good. A system of quarterly reports from the various wards has been introduced, marks being allotted by the Sister-in-Charge to each student in her department for routine duties, attitude to work and to patients, conduct and bearing, and punctuality. The system appears to be successful.

VII—EXAMINATIONS.

Of the three students who failed in the final examination in Medicine in December of last year, two were successful in passing the supplementary examination in March. The third had to repeat the year, but graduated successfully in September. These new Assistant Medical Practitioners are—

Rupeni Tabilai	..	..	..	..	..	Fiji.
Tere Snowball	..	..	..	..	..	Cook Islands.
Josefa Maposua	..	..	..	..	..	Western Samoa.

The remaining students were divided between first, second and third years, there being no final year in 1949.

FIRST YEAR.

This class has a high proportion of students whose preliminary education was of low standard, with the result that average marks were lower than usual. The class worked well, however, and performances at the end of the year were a distinct improvement on the work of the early months.

SECOND YEAR.

This class fulfilled its promise of last year, and has continued its good record. Two or three of the class lower the average high mark. The Sir Henry Scott Gold Medal in Anatomy was won by Josefa Dobui of Fiji, and the newly-awarded Burns Philp Gold Medal for Physiology was won by an Indian student, Pardyumna Kuver.

THIRD YEAR.

There being no fourth year class during 1949, this was the senior class of the School, and as such its members acquitted themselves well. All have qualified in the various subjects of the first three years, and now have before them only the final hurdles in medicine, surgery and obstetrics.

VIII—HEALTH.

Three students (two Indians and a Solomon Islander) underwent operations for appendicitis, a Samoan had a pterygium removed, two others had prolonged treatment for eye conditions, and one suffered from a degree of consolidation of the lungs. Apart from these the general health of the students was excellent.

A much fuller diet was instituted last year, students now receiving two hot meals each day, and a well-balanced and suitably varied table. It is thought that this full diet contributes to the good health of the students.

Early in the year all students were inoculated against typhoid and most of them against tetanus.

IX—DISCIPLINE.

Towards the end of the year a Fijian second-year student was dismissed for immorality. In this case the student was a good lad who, it was considered, would have made a good Assistant Medical Practitioner, and it was with some reluctance that his dismissal was recommended. It was recognized by the Board, however, that to condone his offence would have been damaging to School discipline, and he was expelled.

Apart from this case the behaviour of the students has been very good, and all are co-operating well in maintaining the good name of the School. Minor infringements of regulations were dealt with by gating or by the imposition of small fines.

This is perhaps the appropriate place to mention that the harmony existing between the very varied types of Pacific Islanders at the Medical School is a frequent subject of comment. Racial distinctions are not made in any of the School arrangements, and they are not necessary. On the infrequent occasions when feelings are ruffled, the good sense of the senior students comes to the rescue.

Six of the senior students are prefects, and together they form a Students' Council. They are appointed by the Principal, and are responsible to him. They have done much to promote a healthy atmosphere amongst students, and they superintend behaviour in the dining-room, common-room, and about the quarters generally.

X—RECREATION.

Football has again been the main sporting event of the year, and our team acquitted itself with distinction. We entered, as usual, the Junior Grade Competition, and won the Shield for Best Defensive Play, and were runners-up in the main competition, the result being in doubt until the last match of the season.

The Athletic Sports Meeting, inaugurated last year, was held again, and proved very successful.

Quoit tennis and table-tennis are still popular as less arduous forms of exercise while the projector has given the students several picture nights. The Suva Clergy have continued their much-appreciated mid-week services during the two middle quarters.

XI—PRIZE-GIVING.

There being no final year class there was no formal graduation ceremony. On the last day of term prizes were presented by Mrs. Frater, who had just completed a term of two years as Acting Assistant Principal.

A. S. FRATER,
Principal, Central Medical School.

APPENDIX XI.

SUMMARY OF METEOROLOGICAL OBSERVATIONS
AT LAUCALA BAY FOR THE YEAR 1949

	MEAN AND EXTREME SCREEN TEMPERATURES F°.							RAINFALL.						WEATHER—No. of Days of						Bright Sunshine (Total hours.)	
	Mean pressure in mb. (24 hourly values). M.S.L.	At 8 a.m.	Maximum.	Minimum.	Mean $\frac{1}{2}$ (Max. plus Min.)	Highest maximum.	Date.	Lowest Minimum.	Date.	Mean Relative Humidity per cent (24 hourly values).	Mean Total cloud (24 hourly values) 0-8.	Total (inches)	Maximum in 24 hrs. ending 8 a.m.	Date	Rain 0.01" or more.	Hail.	Thunderstorms.	Lightning only.	Fog.		Dew.	Gales force 8 or more.
January	1007.4	79.7	85.8	74.5	80.1	92.8	14	71.0	10	86.8	5.9	21.38	8.87	17	22	0	9	6	0	2	0
February	1008.9	79.4	85.4	74.7	80.1	89.3	11	71.0	27	84.0	5.5	7.23	1.88	7	21	0	6	5	0	5	0
March	1008.4	78.3	84.9	74.1	79.5	90.1	28	71.8	31	87.1	6.4	21.37	2.83	30	23	0	6	3	0	0	0
April	1011.0	78.0	84.4	73.2	78.8	89.2	17	68.2	7	86.6	6.2	25.09	11.80	29	22	0	9	5	0	2	0
May	1013.1	76.4	80.8	72.7	76.8	86.8	10	69.3	27	87.3	6.8	36.13	7.99	28	26	0	7	2	0	0	0
June	1014.3	75.6	81.5	71.5	76.5	85.7	13	67.6	23	83.3	5.6	3.74	1.44	14	17	0	0	0	0	0	0
July	1014.8	73.5	78.2	69.5	73.9	86.1	3	64.2	24, 25	81.1	6.0	6.54	2.75	13	25	0	0	0	0	2	0
August	1014.1	73.4	78.1	68.8	73.5	84.0	6	63.2	14	80.4	6.0	7.74	1.51	9	17	0	1	1	0	5	0
September	1013.8	73.8	78.2	70.0	74.1	85.1	27	63.9	23	87.5	7.2	17.98	3.97	16	29	0	6	1	0	1	0
October	1013.8	75.5	79.7	70.6	75.1	83.1	10	65.4	9	82.2	5.7	8.12	3.59	3	21	0	1	2	0	3	0
November	1011.0	77.2	82.8	70.7	76.8	87.1	28	66.3	6	82.9	5.7	9.22	2.40	11	17	0	9	2	0	1	0
December	1007.3	79.2	84.4	74.2	79.3	89.9	12	70.8	9	85.7	6.5	15.00	3.63	9	24	0	7	3	0	0	0
Year	1011.5	76.7	82.0	72.0	77.0	92.8	14/1/49	63.2	14/8/49	84.6	6.11	79.54	11.80	29/4/49	209	0	54	30	0	21	0
																					1,758.7

WIND DIRECTION SUMMARY
(FORCE 2 OR MORE)
PERCENTAGE FREQUENCY

	N.	NE.	E.	SE.	S.	SW.	W.	NW.	Prevaling Direction.	Percentage of Calms (under 4 knots)	Maximum velocity m.p.h.	From	Date
January	5.8	10.8	35.3	35.3	4.8	4.5	1.9	1.6	E. & SE	57.5	35	SE.	17
February	7.4	12.7	25.1	48.2	3.9	0.5	1.7	0.5	SE.	35.9	39	ENE.	22
March	10.5	34.8	35.4	10.8	3.1	2.6	2.3	0.5	E.	34.0	37	ENE.	15
April	7.2	11.9	29.8	32.9	14.4	0.9	1.3	1.6	SE.	44.0	38	SE.	21
May	2.1	10.6	49.4	27.2	7.6	1.2	1.2	0.7	E.	19.8	41	SE.	22
June	1.1	9.3	56.4	28.9	3.0	1.1	0.2	..	E.	22.1	37	SE.	11
July	1.5	2.8	37.7	49.2	5.8	1.5	1.5	..	SE.	18.4	46	SE.	21
August	2.4	6.5	26.9	39.9	17.7	3.9	2.2	0.5	SE.	21.1	38	SE.	24
September	0.2	2.0	14.7	56.5	24.4	0.8	1.0	0.4	SE.	31.8	50	S.	3
October	1.1	0.6	14.5	67.7	15.6	..	0.2	0.3	SE.	11.0	35	SE.	1
November	1.0	6.4	35.5	45.5	10.3	0.8	0.5	..	SE.	45.9	20	SE.	24
December	4.1	12.7	37.9	26.0	15.6	2.1	1.2	0.4	E.	31.3	36	WNW.	12
Year	3.7	10.1	33.2	39.0	10.5	1.7	1.3	0.5	SE.	31.1	50	S.	3/9/49