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MEDICAL DEPARTMENT

Report for the Year ended 1969



LEGISLATIVE COUNCIL OF FIJI
COUNCIL PAPER NO. 23 OF 1970



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MEDICAL DEPARTMENT

Report for the Year ended 1969

PART I - THE CIRCUMSTANCES

FILIAN SPELLING

Two systems of spelling Filian names and words were in use in the Colony. The "Filian" system was devised during the period 1812-17 by the missionaries who first reduced the Filian language to writing. This system of representing the various Filian sounds by single letters and the system that resulted has been used ever since by the Filian people and is in general use within the Colony. The letters concerned are "a", "e", "i", "o", "u", "y", "v", "w", "x", "z", and "g", and the following examples illustrate the system in which they are pronounced.

- (1) "a" is pronounced "MA" as in name, e.g. LABASA = LABASAMA.
- (2) "e" is pronounced "TH" as in that, e.g. CAUTATA = THAUTATA.
- (3) "i" is pronounced "ND" as in and, e.g. NADI = NANDI.
- (4) "o" is pronounced "NG" as in long, e.g. YAGARA = YAGARANG.
- (5) "u" is pronounced "NG" as in long, e.g. YAGARA = YAGARANG.

The "phonetic" system is a more recent attempt to render Filian words in English spelling. It is used in maps and in documents designed primarily for overseas reading, e.g. NADU (NADI), THAKOMBAU (CABOBAU), NADI (NADI), NADOMBAU (NADOMBAU), NADOMBAU (NADOMBAU).

PART II - THE CURATIVE SERVICES

20 - GENERAL HOSPITAL SERVICES

- Health Centre
- General Hospital
- Maternity Unit
- Specialist Services
- Emergency Services



LEGISLATIVE COUNCIL OF FIJI
COUNCIL PAPER NO. 23 OF 1970

FIJIAN SPELLING

Two systems of spelling Fijian names and words are in use in the Colony. The "Fijian" system was devised during the period 1835-37 by the Missionaries who first reduced the Fijian language to writing. They aimed at representing the various Fijian sounds by single letters and the system that resulted has been used ever since by the Fijian people and is in general use within the Colony. The letters concerned are "b", "c", "d", "g", and "q" and the following examples indicate the manner in which they are pronounced.

- (i) B is pronounced "MB" as in number, e.g. LABASA = LAMBASA.
- (ii) C is pronounced "TH" as in that, e.g. CAUTATA = THAUTATA.
- (iii) D is pronounced "ND" as in end, e.g. NADI = NANDI.
- (iv) G is pronounced "NG" as in sing, e.g. NASIGATOKA = NASINGATOKA.
- (v) Q is pronounced "NGG" as in finger, e.g. YAQARA = YANGGARA.

In practically all words in Fijian, the accent is on the penultimate syllable.

2. The "phonetic" system is a more recent attempt to render Fijian words in English spelling. It is used in maps and in documents designed primarily for overseas reading, e.g. MBAU (BAU), THAKOMBAU (CAKOMBAU), NANDI (NADI), NANDRONGA (NADROGA), MBENGGA (BEQA).

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MEDICAL DEPARTMENT

ANNUAL REPORT, 1969

PART A—PROLOGUE

I—GENERAL INTRODUCTION

THE Deed by which Fiji was ceded to Queen Victoria was signed on the 10th of October, 1874, was followed in 1875 by a disastrous measles epidemic as a result of which some 40,000 Fijians died in a matter of three months.

2. These two dissociated events each had a tremendous impact on the history of Fiji, the first on political and economic development and the second on medical progress.

3. This annual report represents an account of the Fiji medical scene in 1969 the last full year of the Colonial era, due to end on October 10th, 1970, the date set for Independence. This report therefore represents an inventory of medical progress to date and we hope it may be used as a bench mark against which past and future progress can be measured.

4. Fiji medical progress can be compared to a mountain climb, which was commenced at Cession and was followed soon after, in 1875, by the appointment of Dr. William McGregor, the first Government Medical Officer.

5. The decimation of the Fijian population by measles must have been one of the major factors in the decision to introduce Indian labour to Fiji and in consequence the possibility of the importation of smallpox which in turn undoubtedly resulted in the training of Fijian vaccinators, so initiating the long history of medical training in these islands.

6. As would be expected, the foothills of the developmental climb were covered rapidly. Training of medical personnel was commenced in 1886 at the Suva Medical School and nurse training was commenced in 1893 by Miss Frances Webberburn, a personal friend of Florence Nightingale. The development of an organisational structure proceeded apace and by the turn of the Century a chain of rural hospitals and dispensaries had been constructed, in addition to the Colony's main hospital which had been moved from Levuka to Suva in 1882.

7. The advent of the first world war interrupted medical development for the time being but with the peace came the construction of the Colonial War Memorial Hospital in Suva, which was officially opened in 1923, and the pioneering work of Dr. S. M. Lambert, the "Yankee doctor in paradise" resulted in the assistance of the Rockefeller Foundation towards the construction of the Central Medical School in the grounds of the Colonial War Memorial Hospital in Suva. The Central Medical School became the training centre for the islands of the South West Pacific.

8. The second world war once more interrupted the sequence of medical development but it was not without some benefit to medicine in the islands. Parts of a field hospital built by New Zealand troops in the Sabeto Valley near Nadi were transported to Lautoka and used to extend the hospital there, while the

American 142nd General Hospital, built by the New Zealanders at Tamavua near Suva was taken over lock, stock and barrel and has since given yeoman service as the Colony's Tuberculosis Hospital.

9. The years of war had uncovered the high incidence of Tuberculosis in the indigenous Fijians and a War Memorial Anti-Tuberculosis Trust Fund was set up as a most fitting memorial to the second world war. This Fund administered by a dedicated Board of Trustees has played a major role in the subsequent control of the disease.

10. Two important post-war landmarks on the climb towards the summit, were the opening by Her Majesty the Queen of the New Fiji School of Medicine in 1953 and the opening of a new Central Nursing School in 1954, both at Tamavua in Suva. These two events proved to be of the greatest importance and heralded the introduction of specialist post-graduate training for graduates of the Fiji School of Medicine who were previously regarded as mere auxiliaries. This development at home was followed by a steadily expanding programme of post-graduate training at first in Australia but subsequently and at ever increasing degree in New Zealand.

11. This programme of post-graduate education inevitably led to a gradual improvement in the status of the locally trained doctor, and has enabled the locally trained Medical Officer to assume positions of real importance in all the specialties, so that by the close of 1963, locally trained personnel occupied the majority of the Senior Medical Officer posts, all the Special Grade Medical Officer establishment and there were more Fiji School of Medicine than University graduates in the top half of the general Medical Officer scales. In addition, agreement had been reached to allow suitably qualified Fiji School of Medicine graduates to take any of the post-graduate medical diplomas offered by the New Zealand Universities as well as the examination for Membership of the Royal Australasian College of Physicians and Fellowship of the Royal College of Surgeons. Meanwhile, work proceeded to implement the medical sector of Government's 1966-70 Plan which set out to replace most of the older hospitals, as well as to completely reorganise the rural health service.

12. This Plan provided for the development of a comprehensive preventive service based on a series of new health centres to replace the old dispensaries, and on the urban health offices. The four primary administrative units or divisions, were each divided into four subdivisions and these in turn further divided into medical areas each with its own medical staff, while finally the areas were in turn divided into a series of nursing districts, each under the charge of a public health nurse. This organisation provides the largest possible area of interface between the department on the one hand and the people at the proverbial "GRASS ROOTS" on the other. To this organisation is entrusted the provision of comprehensive maternal and child health services, including a delivery

service which in 1969 together with the Ba Methodist Hospital catered for over 85 per cent. of all births, immunisation, family planning, tuberculosis and leprosy control, domiciliary visiting, etc.

13. The new organisation has provided considerable dividends and it is now clear that all our "preventive targets" whether interim or otherwise will be reached by the original 1970 deadline.

14. A considerable degree of control over Tuberculosis has been achieved and we can work with confidence towards the reduction of the problem within the near future to the extremely low levels enjoyed by developed countries. Likewise the aim to reduce the birth rate to 30/1,000 by 1970, which seemed so bold and "way out" at the time, was achieved in 1968, two years ahead of schedule, thus making the reduction of the birth rate to 25/1,000 by 1972 a practical possibility.

15. Meanwhile, the reduction in 1969 of infant mortality to 21.74/1,000 and toddler mortality to 2.10/1,000 bears witness to the efficacy of the standard of the maternal and child health and immunisation programmes. Perhaps the most startling result in this regard is the near elimination of tetanus neonatorum by means of the immunisation of expectant mothers. Certainly no case has been recorded in the nine months from July 1969 to the time of writing (April 1970).

16. Plans to improve environmental hygiene have been equally successful but a great deal remains to be done. A campaign to instal piped water supplies in villages has been carried out in conjunction with the water supplies division of the Public Works Department and United Nations Children's Fund and has resulted in the installation of 151 such piped supplies in the last five years. The water supply programme has also been accompanied by a drive to instal water-sealed latrines. So far very nearly 15,000 of these devices have been installed and the production of a plastic latrine bowl, now in an advanced state of development, could prove to be a further breakthrough in this direction.

17. Meanwhile the dental services of the Colony have been gradually developed with the main emphasis on providing a comprehensive system of public health dentistry for the benefit of the numerous school children of the Colony. The toothbrushing scheme for schools is, as far as it is known, a Fiji innovation and the building up of a small fleet of mobile dental clinics brings modern dentistry to the classroom. 1969 was auspicious in that fluoridation of a water supply was carried out for the first time in Fiji, at Suva.

18. All this, is not to say that the going has not been rough or that success has been uniform. Indeed the slowness in the rebuilding of Lautoka and Labasa Hospitals has posed serious problems for the Department, not only in terms of out-patient services but also in-patient accommodation. These problems however, are frankly discussed in the body of the report.

19. The summit is still a long way off and cannot yet be seen. However, this report surveys the scene from our present position and when one looks back down the way the Department has come, one can be quietly satisfied with the progress made. Certainly the going is getting steeper and more difficult and requires the deployment of more resources both

physical and human, but there need be no uncertainty that the long climb will go on to reach new heights and new successes.

20. This report has been written almost entirely by my Deputy, Dr. D. W. Beckett, and has been completed with the care and dedication of a skilled craftsman. It records the work of the staff of the Medical Department as a whole, who are collectively responsible for the successes recorded and to whom I wish to offer my sincere gratitude for their inspiring persistence and devotion to duty.

21. In addition, I would like to thank the other Government Departments, particularly the Public Works, the Marine and Printing Departments and the numerous others who have worked shoulder to shoulder with Medical Department staff in the operations described in this report.

22. Finally, it is my pleasant duty to thank the New Zealand Health Department, the many professional visitors from whom we have greatly benefited and the numerous statutory and private organisations who have rendered us invaluable assistance. It is invidious to mention names but it would be churlish not to mention in this regard, the Trustees of the New Zealand Lepers' Trust Board and of the War Memorial Anti-Tuberculosis Trust Fund, the World Health Organization, United Nations Children's Fund, the St. John Ambulance Brigade, the British Red Cross Society and the many Fiji service organisations who have made major contributions to the work recorded in this report.

PART B—THE CIRCUMSTANCES

II—THE BACKGROUND

"It may be we shall touch the Happy Isles"

—Tennyson.

23. Fiji is an archipelago of some 300 islands of which about 100 are permanently inhabited. These islands are mountainous, verdant and beautiful and are surrounded by encircling reefs, to such an extent indeed that Fiji's expanse of coral reef is second only to the Great Barrier Reef of Australia. The islands are scattered over 164,000 square miles of blue Pacific. They lie just inside the tropics between 15° and 22° South Latitude and straddle the 180th meridian being between 175° East and 177° West Longitude. The land area totals 7,055 square miles or 18,272 square kilometres. Fiji is thus almost the antipodes of the Canary Islands. It is about the same size as these islands but somewhat closer to the equator, although the greater coolness of the southern hemisphere gives it a very similar climate.

24. Fiji is also very akin in size, temperature, climate and population to the State of Hawaii. It is about the size of Wales in total land mass although it covers an area of sea about the size of that occupied by the British Isles.

25. During the period covered by this report, Fiji was still a Crown Colony. The country, had however, large amount of autonomy. Government was by a Council of Ministers with a Chief Minister. The Legislature was a unicameral Legislative Council. By the end of the year there was strong evidence that complete self-government would be conferred on Fiji during 1970.

26. The economy of Fiji is based mainly on agriculture, sugar being the predominant crop, but tourism and mining are also important sources of revenue. The total expenditure of Government has shown a steady increase over the years and, in 1969 it reached \$34.42 million. Government expenditure on health services in the same year amounted to \$3.15 million or 9.14 per cent. If the small revenue from medical services is taken into account and only net expenditure is considered, the figure drops to \$2.78 million and the proportion of Government wealth spent on health is seen to be only 8.07 per cent. The Fiji dollar is worth approximately the same as the Australian and New Zealand dollars, or \$1.12 in United States currency and 9s. 7d. in sterling.

27. The population of Fiji on 31st December, 1969 was estimated to be 526,765 giving an overall density of 74.67 to the square mile (28.83 per square kilometre) but, as in all countries, the population density varies enormously, being over 6,000 to the square mile in Suva and less than six to the square mile over large parts of the centres of both main islands. Fiji has a multi-racial society and this results in an ethnic variety of some epidemiological significance. The two largest racial groups are the original inhabitants, the Fijians, and the descendants of indentured labourers who came from India about the turn of the Century. The Fijian component of the population numbers 219,893 (41.7 per cent) and the Indian one 262,947 (49.9 per cent). The remaining 43,925 consist of a number of different races as may be seen in Table XVIII.

28. It is against this background that the Medical Department must be studied and its activities judged.

III—THE MEDICAL DEPARTMENT

"Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to rank with those poor spirits who neither enjoy much nor suffer much, because they live in the grey twilight that knows not victory nor defeat."

—Theodore Roosevelt.

History

29. The Medical Department of the Government of Fiji has met with failures and defeats, with hurricanes, floods, earthquakes and disasters, with misplaced enthusiasm and sluggish apathy, with shortages of staff, funds and supplies, with frightful epidemics and chronic ailments and with dirt, poverty and ignorance in the course of its history. It has overcome them all. As this report attempts to show, Fiji is now one of the healthiest countries in the world. It is not yet Utopia but it is a country looking forward to the future, on the brink of independence, full of hope and confidence, healthy, strong, vigorous and with a population which enjoys the good things of life. For this successive generations of the Medical Department, both from overseas and from within Fiji, can take much of the credit.

30. In most Colonial territories the history of the health services has undergone three stages of development. Western medicine was first introduced for the benefit of the European community and no concern was felt for the health of the original inhabitants. Then, either because it was realised that surrounding

ill health and lack of hygiene could affect the European community or because of the interest of the Medical staff, some attention began to be paid to the native population; but this was definitely allocated a lesser priority and the facilities were usually poor. It was only in the later stages of development that modern medical facilities were extended to the community at large and that the whole range of public health was spread throughout the country.

31. Fiji was an exception to this pattern.

32. The country was ceded to Great Britain in 1874 and the following year measles was introduced. This minor disease to Europeans struck the unprepared Fijian community with such deadliness that within months a third of the population had ceased to exist. Indeed it was only in recent times that the Fijian race really recovered from this appalling blow. The Medical Department was therefore established in Fiji shortly after Cession with this experience fresh in the minds of all and it commenced its work by tending for the "natives" as a matter of priority.

33. In the Century that has elapsed since then the Medical Department has grown steadily. Hospitals have been built and extended. Bush dispensaries set up and staffed by medical auxiliaries have given way to health centres with attendant doctors and nurses and the benefits of preventive medicine have percolated down to the smallest and most isolated communities.

Organisation

34. The Medical Department is one of four within the portfolio of the Minister for Social Services who is charged with the formulation of medical and health services throughout Fiji, the Director of Medical Services being responsible to the Minister for its execution and for professional advice. The Director is in turn assisted at headquarters by a small staff of medical, paramedical and lay personnel.

35. To provide medical care for the people of Fiji there were in 1969, 217 doctors or one for every 2,427 persons, 38 dentists or one for every 13,862 persons and 715 nurses or one for every 736 persons. The vast majority of these were in Government employ and almost all of them were citizens of Fiji. The ratio of doctors and dentists to the population decreased during the year whereas that of nurses improved slightly.

36. For the purposes of medical administration the Colony is divided into four medical divisions which correspond to the general administrative divisions of the country; each is under the control of a Divisional Medical Officer. The main island of Viti Levu comprises the Central and Western Divisions, the second large island of Vanua Levu and its off-shore islands make up the Northern Division and all the remaining smaller islands compose the Eastern Division. Each of the three mainland Divisions is subdivided into four subdivisions, one of which is under the direct control of the Divisional Medical Officer and the others of Subdivisional Medical Officers. The geographical difficulties of the Eastern Division have delayed its subdivision but by 1969, Subdivisional teams had been established in Kadavu and in Lakeba to cover Southern Lau. Each Subdivision is divided into several Areas, each in charge of an Area Medical Officer who, in turn, has his Area divided into Nursing

Districts. There is thus a chain of command from the Director of Medical Services at the top right down to the District Nurse at "grass roots" level.

37. For administrative simplicity the two main general hospitals—the Colonial War Memorial Hospital in Suva and the Lautoka Divisional Hospital—and the three specialised hospitals dealing respectively with tuberculosis, leprosy and mental disease are under the control of Medical Superintendents who answer direct to the Director of Medical Services.

38. This chain of command works very well and is designed so as to provide the closest possible integration between the curative and preventive aspects of medical service. This is particularly true at the Area level where the Area Medical Officer is general practitioner and public health advisor to the people for whom he is responsible. The Subdivisional Medical Officer welds his Area Medical Officers into a team, in which task he is assisted by a Health Sister and a public Health Inspector. Meetings of health workers at subdivisional level are held at monthly intervals in most centres and common problems are discussed. It has been found that this team spirit has burgeoned to such an extent that the level of medical and public health care available to the ordinary man in the street has increased greatly over the past few years without a corresponding growth in expense or personnel. There has been, too, a great increase in what can only be described as awareness and the Area Medical Officer and his District Nurses are now usually well acquainted with the epidemiology of their areas and can produce accurate statistics of what is happening therein.

Establishment

39. The establishment of the Medical Department is given at Table I of the Appendix. This shows an increase in personnel, excluding unestablished employees, of 7.9 per cent. over the establishment for 1968. It must, however, be appreciated that this table shows the officers for whom money is available to pay salaries. It is, in other words, the number of posts approved by Legislative Council in the budget debate: it certainly does not represent the number of officers actually at post. The increase, moreover, was largely in nursing establishment.

40. The policy of the Fiji Government is to localise Civil Service appointments wherever possible. The Medical Department has, however, had this policy for years with the not always appreciated result that very few posts remain for localisation. The analogy of the short sheet is apposite—if it is pulled up to cover the chest it exposes the feet. As a result of localisation of more senior posts it has been found necessary to place expatriate officers in country districts. Such expatriate doctors are usually very willing to serve in isolated places but problems of language and communication are inevitable and it is doubtful whether the health services provided to the community are enhanced by this expedient.

41. Nevertheless the position of the Medical Department with regard to localisation is worthy of regard. Of 14 Consultant posts, four were held by local doctors and five others were either studying or about to study for the necessary higher qualifications to fit them for

promotion to the grade. Of five Senior Medical Officer posts, three were held by local doctors. Of 53 posts in the Medical Officer Class I bracket, 40 were filled by Fiji doctors. Only three out of 31 Dental Officers were expatriate. Of the senior nursing posts only two out of the 97 posts of Sister and above were held by staff recruited from overseas. In other grades the proportion of expatriate staff was likewise very small but in some cases localisation was being impeded by the unattractiveness of the salaries paid in certain professional and technical grades. There were, for instance, no local officers employed as Pharmacists by the end of the year although there are many qualified pharmacists in Fiji.

42. The establishment shown in Table I is carefully calculated to provide the maximum coverage with the minimum of personnel. It is based, as must be inevitable in a health service, on the doctor and is intended to provide full consultant and medical teams in hospitals while at the same time providing rural health services. In large hospitals a consultant team requires its support of junior doctors, nurses, technicians and so on down to the cooks and ward maids. This can be calculated on a patient-day and bed occupancy basis and costs of personnel are constantly borne in mind in this way. In smaller hospitals the same system applies but on a more simple basis, the leader of the team usually being a general-duties Medical Officer.

43. In country areas the Area Medical Officer is based usually on a rural Health Centre. To provide an adequate level of medical care such medical stations should be distributed in accordance with population densities and should take cognizance of the means of transport available to that population. This is by no means easy to perform. Populations shift, roads replace rivers as lines of communication and some isolated places remain inaccessible. It therefore happens inevitably that some areas are under-doctored while others appear to have more than their share of medical coverage. Some islands require a doctor because of their isolation even though the population may not appear sufficient to justify it while some towns grow so rapidly that the supply of medical services cannot keep up with the pace. The Department is constantly reconsidering its distribution of medical stations but to move them is expensive and people do not take kindly to the removal of facilities to which they have always been accustomed. On the other hand, the constant proliferation of new stations would require an output of new medical graduates greater than is within the Department's present powers. For these reasons an ever-greater emphasis is being put on transport and the general mobility of doctors and nurses. Nevertheless the basic policy of the Medical Department is that in rural areas there should be one doctor for about every five thousand persons and one nurse for every two to three thousand persons. As Health Centres and Nursing Stations become due for renovation their siting is critically examined to ensure that, as far as possible this population ratio is maintained. A start was made in 1969, in addition, of dividing urban areas into nursing districts although in this case, because of the greater compactness of the population, each District Nurse was expected to care for about 10,000 persons.

44. It must be remembered that this establishment and its distribution is based on the presumption that all vacancies will be filled and that all officers are at post. The Medical Department was bedevilled during the year by vacancies in the Medical Officer grade. On 31st December there were three vacancies among the Consultants with two others out of the Colony, and 28 vacancies among the remaining Medical Officers. This did not take into account the relatively large number of local doctors who were either overseas on various courses or about to depart on such courses early in the New Year. This difficult situation is partly due to problems resulting from localisation but is mainly a consequence of Government's salary structure which has delayed an increase in income for many years and which has persistently refused to recognise the "market value" of professional officers *vis-a-vis* their colleagues in the administrative services. This has resulted in very few local university graduates in medicine returning to work in the Fiji national health service.

45. For many years the technical branches of the Department have been satisfactorily filled by the output of the Fiji School of Medicine but there are ominous signs that this may soon no longer apply. Resignations to enter business or to emigrate are becoming more frequent and there has been much grumbling among officers in these grades concerning the poor salary and prospects of promotion.

Legislation

46. All legislation relating to public health is designed to protect the individual from the hazards of the environment or from the misdeeds of the careless or unscrupulous. Much of it is necessarily very complicated: it is easy to say that a house shall be safe and hygienic but such a statement is an inadequate guide for the builder. Legislation designed to protect workers from occupational diseases or industrial hazards must perforce be highly technical as must that required to ensure that dangerous or habit-forming drugs may be used as required without being available for abuse. Legislation dealing with dangerous drugs must, in addition, comply with international requirements. The administration of much difficult and often unpopular legislation thus falls upon officers of the Medical Department.

47. During 1969 no major new public health legislation was enacted. An Ordinance to Protect Workers against Ionising Radiations was passed in December but had not come into force by the end of the year—the compilation of the necessary accompanying code of practice was being undertaken by the Medical Department. The Public Hospitals and Dispensaries Regulations were amended to simplify the schedule of various charges and fees and all restrictive legislation relating to leprosy was repealed at the end of the year: but of this, more anon.

48. Under the Dangerous Drugs Ordinance there is provision for the registration of drug addicts. The number so registered in 1969 was six, a decrease of three over the figure for 1968. This Ordinance and its attendant regulations gives close control over the importation and prescription of drugs of addiction and continued to function well during the year.

49. The Medical and Dental professions are controlled under the Medical and Dental Practitioners Ordinance which authorises the Medical and Dental Board to maintain a register. There were 40 registrations during the year, including provisional registration of newly qualified doctors, and two names were erased from the register for disciplinary reasons. Two dentists were also registered.

Supplies

50. Because it conducts a nation-wide health service the Medical Department is heavily engaged in procuring and distributing supplies of all kinds. For obvious reasons most equipment comes from the United Kingdom which means that the interval between placement of the order and delivery of the item may be anything up to twelve months and is seldom less than six. This delay has always to be borne in mind when preparing estimates.

51. Also to be considered is the financial aspect: everything must be obtained as cheaply as possible and there must be no waste. This involves searching for the cheapest market, bulk buying and as much standardisation as can be achieved. The Department is indebted to the Crown Agents for much assistance in this matter.

52. So far as items of common usage are concerned this purchasing is done by the Government Supplies Department but when it comes to drugs, dressings and medical equipment, the burden falls upon the Chief Pharmacist and Controller of Medical Stores. It is a tribute to his efficiency that, in 1969, three new hospitals were equipped with every normal requirement without panic, alarms or excursions and in spite of a shipping strike during part of the year. In addition the normal stream of medical supplies was kept moving.

Transport

53. As was stated previously, the Medical Department places great importance on mobility of doctors and nurses and transport plays a large part in its recurrent expenditure. All Area Medical Officers whose territory contains sufficient mileage of motorable road are now provided with a vehicle. During 1969 a start was made on providing motor cars for District Nurses. The type of vehicle used depends on the terrain and the purpose for which it has been obtained. In general subdivisional teams are provided with Land Rovers which can be used to tow trailer clinics for Maternal and Child Health purposes including Family Planning, and Area teams with Mini-mokes or Mini-vans. By 31st December 1969, the Department's fleet of vehicles numbered 105 including ambulances, trucks, buses, mobile clinics and X-ray machines as well as vehicles purely for the use of personnel.

54. It is obvious that in a country consisting of 300 islands much transport must be by sea. All Government vessels larger than punts are under the control of the Marine Department but the Officers of that Department have, as always, given of their utmost to provide the Medical Department with all the sea transport it required. Requests for vessels to be diverted or to put hurriedly to sea to collect patients have always been complied with promptly, efficiently and courteously and, as on previous occasions, the assistance of the Marine Department has been the means of saving several lives during the year under review.

55. Although all of the Marine Department's fleet has been put at the Medical Department's disposal when necessary, two vessels are worthy of special mention as they were on, as it were, permanent charter to the latter Department. These were the M.V. *Vuniwai* and the A.K. *Makogai*. The motor vessel *Vuniwai* (*Vuniwai* is Fijian for Doctor), of 112 tons gross register, was commissioned in 1965. The ship, in addition to carrying passengers and cargo, has clinic space on board and is fitted with X-ray facilities. She is thus fitted to bring dental, medical and diagnostic facilities to the most isolated communities in Fiji. During the year *Vuniwai* steamed 15,870 miles and responded to several emergency calls involving the collection of dangerously ill patients from outlying islands. The ship has proved so valuable that a somewhat larger and faster replacement for her is under construction. The second vessel is the A.K. *Makogai*. This auxiliary-engined ketch used to be the supply vessel for the Fiji Leprosy Hospital on the island of Makogai. She is one of the last sailing ships in Government's fleet and is an old friend of many in the Medical Department. Although she is no longer required at Makogai the Department's connection with her is not to be severed as she is to be stationed at Lakeba to be the subdivisional vessel for Southern Lau.

56. Just as mainland subdivisional teams are provided with Land Rover transport, so their maritime colleagues have to be supplied with sea transport. As already recounted, A.K. *Makogai* is to serve this purpose in Southern Lau. Three other maritime subdivisions have so far been set up—Kadavu, Cakaudrove and Northern Lau (the last to be established early in 1970). These are provided with 36 foot launches fitted out with stretcher accommodation for a patient, generating eight knots and capable of putting to sea in all but the worst weather. In addition smaller launches are stationed at Suva (for the Port Medical Officer) and at the Area Medical Officer stations of Beqa, Natewa and Kese; another is stationed at Labasa to serve the Macuata coast line. Finally punts with outboard engines have been provided for the Area Medical Officers at Yaro, Vunisea, Gau, Saqani and Wainibokasi.

Finance

57. It is sometimes forgotten by the man in the street that medical care is a service for which somebody has to pay—and the person who ultimately has to pay is the man in the street himself. He can either put his hand in his pocket and pay the doctor, chemist, ambulance driver and hospital on the spot or he can pay increased taxes and have these services paid for from public funds. But paid for they have to be and terms "National Health Service" and "Free Medical Attention" are glib misnomers. What is also frequently forgotten is that the standard of service obtained is that which has been bought. It is no use paying for a bicycle and then complaining when one does not receive a motor car.

58. Fiji's national health services are largely paid for out of public revenue. There is a small component of direct payment for services rendered but the policy of Government is to increase the number of exemptions granted from payment of these fees and in spite of the greatly increased numbers of patients seen in 1969, revenue from fees actually decreased during the year.

It can therefore be said that medical care—except for the very small private sector—is paid for by taxation. Table II of the Appendix shows the expenditure on medical services over the last decade and it will be seen that the money spent per annum has increased by some 65 per cent. in this time. However, it is extremely disturbing to note that the proportion of the total budget devoted to health has steadily declined over the decade, year after year, until it has now reached a level which is becoming perilously low. In 1969, expenditure amounted to \$3,145,737 which was 9.14 per cent. of the total budget.

59. Reference to Table III reveals that the cost per head of the population has been held remarkably steady over the past five years in spite of the increasing cost of all supplies and the depreciating value of money. Indeed the increase that has occurred has been almost entirely due to increased wages, the introduction of the national provident fund and expansion of staff. In other words, the increase in expenditure over the past five years has been almost entirely on people and costs of supplies have virtually been kept at their original level. It will be noted that the entire national health service of Fiji was provided in 1969 for \$5.27 per head of the population, which is about the expenditure on drugs alone in Australia and New Zealand. It is, in fact, a tribute to Fiji's services that when they are criticised—as they not infrequently are—it is because they do not come up to the standard of those to be found in New Zealand or Australia; in other words they are automatically compared with those provided in a wealthy developed country (New Zealand spent \$62.13 per capita on its health services in 1968) rather than with those provided by countries in a similar stage of development in Africa or Asia.

60. The cost of running the Colony's hospitals and health centres has again been calculated per occupied bed and per out-patient attendance respectively. Details are shown in Tables V and VI of the Appendix. As 1969 was the third year for which this exercise had been performed some very early and tentative deductions can be drawn. The average cost of supplies per occupied bed for a year has increased from \$2.44 in 1967 to \$2.66 in 1968 and \$3.40 in 1969. However the situation is not quite so straightforward as it might at first sight appear since the number of beds had varied slightly from year to year. The main cause of the increase is, however, the cost of outfitting new and upgraded hospitals as will be readily apparent from the Table and, in fact, the cost per bed is quite remarkably low. The cost per bed also bears a close relationship to the size of the hospital and, if the unusual circumstances of the main teaching hospitals are excluded, it will be noted that the smaller and less busy a hospital is the more expensive it becomes to maintain a bed in it.

61. The average cost of medical treatment to each out-patient has, on the other hand, shown a serial decline over the three years for which records have been kept and now amounts only to 4.2 cents. It is again obvious that the most busy departments are the cheapest. Some of the smaller and more isolated health centres again appear uneconomical in this regard but the smaller the quantity of drugs and dressings supplied the more expensive each item becomes.

62. The man in the street in Fiji is getting a motor car—it may not be a Rolls Royce but it is certainly a motor car. It is time he woke up to the fact that he can not continue for much longer to pay for a bicycle.

PART C—THE CURATIVE SERVICES

IV—GENERAL HOSPITAL SERVICES

"Man that is born of woman hath but a short time to live, and is full of misery."

—Book of Common Prayer.

63. The curative medical services in Fiji are provided almost entirely by the Medical Department. There are relatively few private practitioners and they reside in the main centres of population. There is only one private hospital and even it is subsidised by Government. The health service of Fiji is therefore truly a national one and it is necessary for the Department to provide curative services ranging from country general practice to advanced specialist services. As already stated, these services are financed almost entirely from public funds.

Health Centres

64. The basic unit in the structure of the Medical Department's curative service is the health centre. There were at the end of the year 43 of these available to the general public, one (Namarai) having been reduced to Nursing Station level during the year, partly because of the smallness of the population served by it and partly because of shortage of staff. One other, that at Lekutu, remained unmanned during the year because of a shortage of doctors and was operated on a twice-weekly basis by the Medical Officer from Dreketi.

65. Apart from the health centres open to the public, dispensaries are maintained, and daily visits paid by doctors, at Suva Gaol, Naboro Prison Farm, the Police Training Depot and at Army Headquarters.

66. The Department has been engaged for several years in an exercise to modernise these health centres. In many cases this has meant entirely rebuilding them. Owing to the amount of hospital building undertaken during 1969 (see below) only two health centres were completely rebuilt during the year. These were the ones at Keiyasi and Korolevu—the latter being staffed by a District Nurse and visited regularly by the doctor from Korovisilou. However considerable extensions were completed at Nausori and Ba Health Centres and those at Namosi, Laselevu, Nadarivatu and Nanukulua were extensively modernised.

67. The modern health centre has developed from the original "group of grass huts". In time this was replaced by a wooden, lean-to, twelve foot square, iron roofed, unceiled, hut. The present models are built of concrete and wood and are neat and functional. Three types have been evolved. The first is a small health centre with facilities for a doctor and district nurse; the second, for use in isolated areas, consists of the first type with the addition of a single-bedded resuscitation room for dealing with emergencies; and the third is a larger building which has accommodation for a medical officer, health sister, district nurses, and a dental officer and is provided with a simple operating room and in many cases X-ray facilities and a small

laboratory. The third type is usually a subdivisional headquarters. All these new health centres are accompanied by modern quarters for medical and nursing personnel.

Rural and District Hospitals

68. There are six district and eight rural hospitals in Fiji, the former being somewhat larger than the latter, serving larger populations and being equipped with X-ray and laboratory facilities. In all but one case (Ba) the district hospitals are staffed by two doctors whereas the rural hospitals, again with one exception (Lakeba), have only one.

69. These hospitals are placed, in most cases, in the smaller townships of Fiji or on islands with fairly large populations. Although they suffer from the disadvantages of all small hospitals in that they are expensive to maintain and are incapable of dealing with the more serious surgical cases or complicated medical conditions, they serve a most useful purpose and the Department is actively engaged in replacing and modernising them. Their advantages are that they relieve the pressure on their divisional hospital, that they act as a staging post both for emergencies on their way up the line and for the chronic case being eased back into the community, that they form a sanitary oasis in the neighbourhood and that they act as a centre on which the health services are based and towards which the surrounding health centres are orientated.

70. This being so, the policy of the Department is to retain their services and to improve the amenities they provide to the public. Until 1967 little had been done to alter them since their original erection some 50 to 60 years previously. In that year, however, Savusavu District Hospital was entirely rebuilt and Wainibokasi Rural Hospital was reduced in size (because of the opening of Nausori Maternity Unit) and modernised. In 1968 Nadi District Hospital was extensively modernised and a 15 bedded maternity wing was added to it. In the year under review Sigatoka District Hospital and Lakeba Rural Hospital were entirely rebuilt and work commenced on the rebuilding of Lomaloma Rural Hospital. In addition an X-ray plant was added to Vunisea Rural Hospital, and work commenced on a new Maternity Wing at Ra District Hospital to which a new out-patients department had been added in 1967.

Maternity Units

71. In some areas of Fiji there is insufficient demand for the provision of full hospital services but the distance from an existing hospital precludes the rapid transport to it of women in labour. In these areas the Department has commenced to erect small but fully equipped maternity units. These consist of fifteen beds, two labour wards, antenatal clinics and all ancillary services. Nurses' quarters are provided on the first floor.

72. In addition to the one already mentioned at Nadi District Hospital, similar Maternity Units exist at Tavua and Nausori. They have proved functional and efficient and are immensely popular with the people whom they serve. Their design, though simple, is modern and attractive and they have roused the admiration of all overseas visitors who have seen them.

73. Plans were being prepared at the end of the year for two further maternity units to be built at Navua and Korovou.

Divisional Hospitals

74. Each of the four Divisions has a divisional hospital. These are situated in Suva, Lautoka, Labasa, and Levuka. Their function is to provide out-patient services and in-patient accommodation for the people in their immediate vicinity and to provide more specialised medical care for patients referred from other centres within the division. The hospital for the central division, the Colonial War Memorial Hospital, Suva, provides in addition a more varied range of consultant advice and is a centre of referral for the other divisional hospitals and, indeed, for a large area of the South Pacific.

75. The Colonial War Memorial Hospital was opened in 1923. As its name implies, it constitutes the Colony's memorial to those who died in the first World War. There have only been two major additions since then. In the 1930's a wing was added giving an extra men's medical ward downstairs and a children's suite above. In 1965 another wing was built on to provide extra out-patients' accommodation on the ground floor with a Central Sterile Supplies Department, Intensive Care Unit and Operating Theatre suite on the first floor. Throughout 1969 work continued on a second floor to this wing so as to provide more surgical beds and a burns unit. Plans were also in preparation for a new maternity wing.

76. The ever increasing pressure of work on the Colonial War Memorial Hospital continued to worsen during 1969, both the number of out-patients seen and the number of admissions constituting new records. This can not increase for much longer without serious consequences. To quote the Medical Superintendent on the subject in his annual report—

"Although well supplied with interns during the year and with a total of 35-40 clinicians on the premises during any given working day, there are murmurings of overwork that cannot be ignored. This is a fairly world-wide phenomenon and it is quite futile to counter such murmuring with 'It was very much tougher in my day, etc. . .'. Like his colleague overseas, the younger doctor is keenly interested in standardised hours of work and it is clear to me that a growing number of older doctors share this modern attitude. I mention this only because one feels it could develop into a problem situation in the foreseeable future. Superficially morale seems fairly sound but if one is permitted a glimpse beneath the surface there appear ominous rumblings and one views this against a relentlessly increasing volume of medical business . . ."

77. The bed occupancy rate was kept level during the year but only by reducing the average length of stay from 8.4 to 7.9 days. When one considers the inevitable number of orthopaedic and other long-term patients this is seen to be an almost incredible achievement and one which must give rise to consideration of the possibility that some patients may be discharged because their bed is required for a more urgent case before it is in their best interests so to be discharged. The pressure on this and other hospitals is discussed below.

78. The second largest general hospital is the Lautoka Divisional Hospital. It has evolved rather than been planned and consists of a number of separate buildings, mainly wooden, in varying stages of antiquity and

delapidation, some of which were not even designed for their present use. These are linked together by sloping and slippery covered ways. The hospital is difficult and costly to operate and it speaks volumes for the staff that it is such a clean and cheerful place within while being so depressing from without. For many years Government has planned to replace it and detailed plans for a new hospital have been on paper for some time. Financial stringency has forced delay but a most welcome grant of Colonial Development and Welfare funds amounting to 90 per cent. of the estimated cost of \$4.4 million, was received from the United Kingdom towards the end of the year. In consequence it was hoped to be able to call for tenders for the building of the new hospital in 1970. In the meantime the old hospital continues to fulfil a most worthwhile purpose and out-patients and admissions both increased yet again in 1969.

79. Labasa Divisional Hospital once again had the highest bed occupancy rate of all Fiji's general hospitals during the year. Plans are almost complete for its replacement piece by piece on site which is a difficult operation. The existing hospital is, however, old, poorly designed, overcrowded and overworked and its replacement is now a matter of urgency.

80. The only divisional hospital that is not under severe pressure is that at Levuka. This is because it is easier to evacuate patients straight to Suva from many parts of the Eastern Division than to admit them to the Divisional Hospital. In spite of this, however, Levuka Hospital also saw yet another increase in both out-patients and admissions during the year. Nevertheless, although old-fashioned in design, the hospital is sufficiently large and in good repair to last for many years to come.

Hospital Utilisation

81. Reference to Tables VII and VIII of the Appendix will show how the Colony's hospital beds are distributed. The total number of beds available in 1969 was 1,472 a decrease of 148 from the previous year. The picture however is not quite as bad as it may seem since the number of beds required for tuberculosis and leprosy have been reduced by 105 and 67 respectively while the number of general beds has actually increased by 24 as a result of the opening of the new Sigatoka Hospital. Nevertheless, even this increase failed to keep pace with the increase in population and the overall ratio again fell slightly in 1969. Plans have been drawn up to deal with this serious situation and these are discussed below.

82. The bed/population ratios, based on the end of year population (because it was not until the end of the year that the new Leprosy and Sigatoka Hospitals came into operation), for the main broad classification of types of bed were as follows:—

	No. of beds	Beds/1,000
General	1,019	1.93
Tuberculosis	219	0.42
Psychiatry	98	0.19
Leprosy	136	0.26
Total	1,472	2.80

83. The number of beds available for the treatment of tuberculosis and leprosy are now sufficient without being extravagant. A further small decrease in the

former may be expected in years to come but the position with regard to leprosy beds has now been stabilised for the immediate future. These reductions in bed strength are of course welcome signs of the conquest of these two diseases.

84. The situation with regard to general and psychiatric beds is now one which must give rise to grave concern. The ratios in both have been declining for years and have now reached dangerous levels.

85. So far as general beds per thousand of the population are concerned, the ratio varies widely from 1.10 per thousand in Ghana to 17.3 in New Caledonia. Canada has 14.80 and Ireland, which is considered a developing country, has 13.15. The Seychelles which might fairly be compared with Fiji have 4.45 and even Guatemala has 1.81. With a figure of 1.93, therefore, Fiji comes very low on the list and ranks with those countries which do not pretend to be able to offer a comprehensive medical service to their populations. The only reason that Fiji can get by with this low number of beds is because of its young and healthy population and the excellence of its preventive health services but this can not continue for much longer. The pressing need to provide more hospital beds has exercised the minds of the Department and the problem is analysed below.

86. With regard to psychiatric beds the situation is even worse. Here, of course, much depends on the social milieu of the country in question. Less complex societies have less mental illness and what may require hospital care in one country may be regarded as mere eccentricity or even as normal behaviour in another. Nevertheless, among the figures at the Department's disposal, only Ghana with 0.08 per 1,000 has fewer psychiatric beds than Fiji. The Seychelles have 1.26, Canada 3.62 and Ireland 6.64. This problem is further discussed in the section on Psychiatric Services.

87. The figures quoted in the previous two paragraphs relate to 1966 for all countries except Fiji and are the most recent to be published by the World Health Organization.

88. The pressure on Fiji's hospitals is indicated by a study of Table I.

TABLE I

OUT-PATIENT ATTENDANCES AND IN-PATIENT ADMISSIONS 1960-1969

Year	Mid-Year population	Out-Patient attendances	Out-Patient attendances per 1,000 population	In-Patient admissions	Admission per 1,000 population
1960	394,332	700,738	1,777	28,359	71.9
1961	407,443	826,395	2,028	21,784	53.5
1962	420,869	697,412	1,657	27,399	65.1
1963	434,459	690,452	1,589	29,915	68.9
1964	449,176	808,630	1,800	31,388	69.9
1965	464,178	831,286	1,791	31,222	67.3
1966	466,518	822,337	1,722	31,772	66.5
1967	489,708	879,757	1,796	32,654	66.7
1968	507,509	956,107	1,884	33,948	66.9
1969	519,150	1,170,822	2,255	37,853	72.9

89. The rise in both out-patient attendances and in-patient admissions marches on inexorably. For the first time ever the number of out-patients seen exceeded a million. For every thousand people in Fiji there were 2,255 attendances at out-patient departments or health centres and this too is the highest figure ever recorded. Many of these patients presumably suffered from trivial illnesses or minor injuries but that a reasonable proportion of them were genuine is borne out by the fact that 37,853 required admission and this too is a record figure. Indeed the number of admissions per 1,000 of the population is also an "all-time high" in 1969. This may have been a freak year as were 1961 with regard to out-patients and 1960 with regard to in-patients or it may mean that the people of Fiji are becoming ever more doctor-conscious. Only time will tell but the ever-increasing number of out-patient attendances per head of the population would appear to indicate the latter.

90. The problem of out-patient attendances appears quite insoluble. The more that is provided the more the people demand. Attendances at Ba Health Centre totalled 42,054 in 1968. It was felt that this was too great a burden of work for one doctor so a second medical officer was appointed to the health centre in 1969. The attendances promptly increased to 82,345. In previous years medical attention to the gaol and prison farm was on a part-time basis and, in 1968, 42,321 patients were seen. Again it was felt that this was too much and a doctor was appointed to this task on a fulltime basis: the attendances promptly tripled. There would seem, therefore, to be no end to the problem.

91. Table IX shows the attendances at Health Centres. Comparison between this and the similar table in the annual report for 1968 shows that almost every station had an increase during the year. Table X indicates the out-patient attendances at hospitals: again every unit has had an increase, the only exception being Tamavua Hospital the reason for which will be seen in the reduced incidence of tuberculosis.

92. It will be readily appreciated from a study of these figures that the unfortunate doctors on out-patient duty in hospitals and at the larger health centres are so overburdened that the standard of their work must suffer. There can be few occupations more boring than seeing an endless stream of complaining human beings all of whom have very little wrong with them. It is not surprising that the occasional serious illness is missed—indeed it speaks well for Medical Officers on duty that such lapses are so few. The situation is not helped by the care-free manner in which Government demands medical examinations of civil servants on all sorts of occasions and by the requirement that a sick-sheet be required for all absences from work on the grounds of ill-health. In 1969 there were 8,977 attendances at the Colonial War Memorial Hospital's "Civil Servants' Clinic" and 2,478 at that at Lautoka.

93. The problem with out-patients can, if the worst comes to the worst, be dealt with by merely increasing the waiting time in the hopes that those who are not seriously ill will become fed up and go home. The same facile solution cannot, however, be applied to the matter of in-patients.

94. The attention of the reader is directed to Table XII which shows the degree to which hospitals are used, and to Table XIII which gives further detail concerning the four divisional hospitals. At the Colonial War Memorial Hospital the occupancy rate rose marginally from 0.82 to 0.86 but this was in spite of a fall in the average length of stay from 8.4 days to 7.9 days. The occupancy rates of medical (0.94), surgical (0.97) and paediatric (0.99) beds are dangerously high. The rates for gynaecology (0.89) and obstetrics (0.87) are artificially lowered by the unreasonably short time for which such patients are kept in hospital—4.1 and 4.2 days respectively.

95. At Lautoka and Labasa Hospitals the situation is, if anything worse. Table XII gives a misleading idea of the situation because both occupancy rate and length of stay at these institutions are weighted by the large tuberculosis wards. If these are excluded, it will be seen in Table XIII that the overall occupancy rate at Labasa is 0.98 with an average stay of only 7.7 days. That at Lautoka is 0.72 but the length of stay averages only 6.4 days which is dangerously short: regard the average stay of obstetric patients—2.7 days. Only at Levuka is the situation within reasonable limits but even here the occupancy rate is not uneconomically low and the average length of stay is only 7.7 days.

96. Of the smaller hospitals, Sigatoka and Lakeba cannot be considered in 1969 because their bed strengths were almost doubled near the end of the year. So far as the remainder are concerned, only three—Vunidawa, Lomaloma and Matuku—can be considered not to have been used economically during the year. The others have all been kept busy and have had a very rapid turn-over.

97. The occupancy rate in three hospitals exceeded one. This does not mean that there were more than one patient to a bed. So far as Tamavua and P. J. Twomey Memorial Hospital are concerned, the figure is an artificial one resulting from a major decrease in the number of beds during the year. With regard to St. Giles' Hospital, pressure of patients necessitated the setting up of many temporary beds on verandahs and in day-rooms. In the maternity section of Labasa Hospital it frequently occurred that a bed was vacated by a patient only to be occupied by another a few minutes later.

98. It is not often really appreciated that pressure of this nature on the services of a hospital does not mean merely that beds lie empty for a shorter time. A hospital is an industrial complex and a vast number of activities go on in it. An increased turn-over of the nature that is being forced on Fiji's hospitals means that a great many people are being overworked. Doctors have to take histories and make diagnoses in a hurry which is bad medicine. Treatment has to be hastened, pre-operative preparation hurried, convalescence cut short. Letters are not written to patients' doctors, relations are treated brusquely or brushed aside and proper explanations can not be given to the patient himself. Nurses are overworked and required to care for too many patients with all the short-temper and slackness that this may cause. Apart from the physical examination and care of patients, as their numbers increase more anaesthetics have to be given, more X-rays taken, more laboratory tests performed. Operating rooms have to be cleaned

and sterilised in a shorter time. More swabs have to be made and drums sterilised. More blood has to be taken and given and, inevitably, more post-mortems have to be performed. And on the more mundane side, more linen has to be laundered, food ordered, meals cooked, bread cut and tea made. More paper work devolves on to the clerical staff and more audit queries result. All these indices of activity increased yet again in 1969. One sometimes wonders which link of the chain will prove to be the weakest.

99. Black though the picture is, it must nevertheless be viewed rationally. A country in the stage of development of Fiji cannot attempt to provide such sophisticated services as plastic surgery, organ transplantation, renal dialysis, deep X-ray therapy or open heart and brain surgery and such patients must still be sent overseas. Furthermore geriatric care is still provided in Fiji by philanthropic organisations with financial aid from Government and the senile, the chronic case and the incurable are not retained in general hospitals. It must also be remembered that a large proportion of the population are children and that children's diseases are rare and mild. It is therefore obvious that Fiji does not require as many beds per thousand of the population as do some other countries. Hospitalisation for such conditions as rheumatic carditis, diabetes and obesity can be kept down by good out-patient facilities and the incidence of tuberculosis, filariasis and infectious diseases have all been reduced, resulting in a decreased demand for hospital beds.

100. That the need exists can not, however, be denied and plans are on foot to remedy the situation. It will have been noted that the pressure is limited to urban hospitals and this is at least partly a result of the drift to the towns. Rural hospital facilities are still adequate. It is a pity, in this connection, that the replacement of Lautoka Hospital moved so slowly as the delay caused a backlog of overdue development elsewhere: however this hospital will now soon be expanded by 50 per cent. to 300 beds and provision has been made for further expansion to 600 beds and this necessity may arise earlier than had been anticipated. Work should begin too in 1970 on the new Labasa Hospital to increase the number of general beds from 66 to 112 and plans are in preparation for a new maternity wing for the Colonial War Memorial Hospital and to extend the hospital to contain 450 beds in the next development plan period. Plans are also in an advanced stage for the provision of extra psychiatric beds as is indicated below. It will, however, be obvious that the situation is grave and that these plans and operations must be pushed forward with all speed if the main hospitals are not to break down under the burden.

V—PSYCHIATRIC SERVICES

*"Great wits are sure to madness near allied,
And thin partitions do their bounds divide."*

—Dryden.

101. The serious overcrowding of St. Giles' Hospital on which the psychiatric services of Fiji are based has already been discussed. Although the hospital was originally designed to hold 120 and was later modified to house 98 in greater comfort, it contained an average number of 196.3 patients during 1969. In November this figure actually rose to 239. The number of

in-patients has been rising for a number of years as the result of a variety of factors among which must be considered the rapid increase in the general population, the shift to the towns and the creation of social pressures and the improvement of education with a consequent increase in the number of people under stress. In addition, the Fijian communal system is breaking down and villages are increasingly reluctant to care for the mental patient in the community. Finally the realisation by the public that "madness" is just another disease which is often amenable to treatment is resulting in more patients presenting themselves or being brought to hospital.

102. Another way of viewing the problem is to assume that the population of Fiji is about half a million and to look at the number of mental patients per half million of the population in other countries. Table 2 shows the pattern.

TABLE 2

Country	In-patients at Mental Hospitals per 500,000 population
Australia (Victoria 1961) ..	3,690
United Kingdom (1960) ..	2,860
Israel ..	2,519
United States of America (1964) ..	2,509
Denmark (1962) ..	2,389
France (1961) ..	2,195
Poland (1959) ..	1,000
Fiji (1969) ..	196

103. Against this sort of background the true shortage of psychiatric beds in Fiji becomes more apparent. The small number of in-patients until now has, of course, been due to the simpleness of the environment and the youthfulness of the population and its lack of sophistication. But these factors are changing and changing rapidly. Plans are therefore in preparation for the provision of 330 psychiatric beds as soon as possible with arrangements for increasing the beds to 500 in the foreseeable future.

104. The number of admissions to hospital during 1969 was 307 of which 176 were re-admissions. As in the previous year, schizophrenic illnesses and the affective psychoses were responsible for the majority of new admissions (see Table XIV in the Appendix). For the first time in the history of the mental hospital there were, for a short period towards the end of the year, more female than male in-patients. The significance of this is not fully understood.

105. The number of out-patient attendances during 1969 was even greater than in 1968. Most were cases of neurosis reflecting the increasing stress which accompanies urbanisation and the changing way of life in a developing country. Though they do not yet constitute a great problem in Fiji, the treatment, and prevention of alcoholism, drug dependence, juvenile delinquency, gang-hooliganism, and so on, must occupy the minds of responsible people since these signs of disorder involve more disciplines than only those of social or community psychiatry and social welfare. As medical services and living standards improve geriatrics will become a problem and, despite good obstetric and paediatric services, a slowly growing incidence of mental retardation will demand custodial care and training facilities.

106. There has been no evidence during 1969 of an abatement in the practice of witchcraft; though it is easy enough to proclaim its illegality it is extremely hard to stamp out. Perhaps the best hope, though a long-term one, lies in better education throughout Fiji.

107. There were three attempts in the year by prisoners to simulate insanity presumably because they thought the mental hospital offered more freedom and more facilities than gaol. The successful simulation of madness demands considerable skill, imagination and tenacity and although the would-be lunatics failed badly in their efforts, that they attempted it at all argued a certain degree of sophistication.

108. Domiciliary care functioned satisfactorily throughout the year. In 1968 there were fewer re-admissions than in 1967 and in 1969 there were fewer re-admissions than in 1968. The distribution of a small booklet "A short guide to mental illness" early in 1970 to Area Medical Officers and District Nurses should help to stimulate interest in mental disorder, and a simple urine test for Chlorpromazine and allied drugs will provide a quick check on patients who should be taking regular medication but, for one reason or another, fail to do so.

109. Figures and statistics relating to utilisation of St. Giles' Hospital may be found in Table XII of the Appendix. It is pointed out that the figure of 234.1 representing the average length of stay in days is not considered realistic in so far as it takes no account of those patients already in hospital at the end of 1968. If these patients (164 at the end of 1968) are taken into account a truer picture of 152 days length of stay emerges. However, even this figure would be regarded with surprise and dismay by a visiting Psychiatrist. Any mental hospital housing both chronic and acute patients has inmates who have been many years in the hospital but the hospital should be, and usually is, judged by the length of stay of short-term patients. St. Giles' Hospital uses modern methods of treatment and short-term patients, as in most other mental hospitals, are admitted, treated and discharged within four to twelve weeks.

110. So far as mental illness is concerned, therefore, Fiji is at the crossroads. It is departing from the simple life when most illnesses were manic frenzies or were due to (or cured by) witchcraft. It is entering the urbanised industrial rat-race of modern western-type life with its neuroses and depressive illnesses. It is coping well but preparations must be made for an increasing incidence of mental trauma and these preparations are in hand.

VI—LABORATORY DIVISION

*"If thou couldst, doctor, cast
The water of my land, find her disease
And purge it to a sound and pristine health".*
—Shakespeare (*Macbeth*).

111. The Laboratory services of Fiji are under the control of the Consultant Pathologist and consist of the Central Laboratory which is situated in the grounds of the Colonial War Memorial Hospital in Suva and branch laboratories at Lautoka, Labasa and Tavua Hospitals. Small laboratories are also situated at P. J. Twomey Memorial Hospital in Suva and in most of the district hospitals and large health centres.

112. The Central Laboratory serves as the hospital laboratory for the Colonial War Memorial Hospital and as a reference laboratory for the branches within the Colony. It also provides services such as histological examinations for those other territories in the South Pacific region who do not have the facilities to supply these services for themselves. Apart from this clinical work the Consultant Pathologist is also responsible for the public health laboratory work of the country and also for all the forensic pathology, the latter taking up much of his time since it also involves frequent attendance in Court.

113. The work of the Central Laboratory continues inexorably to increase year after year, the figures for the last four years being as follows:—

1966	..	..	..	58,941
1967	..	..	..	70,666
1968	..	..	..	73,174
1969	..	..	..	80,248

The work performed in the various branch laboratories has increased in about the same proportion. This is, of course, an effect of the continually increasing pressure on the hospitals of which mention has already been made. It has the result of causing technicians to work overtime, to be called back at night and to begin to feel disgruntled and underpaid. This symptom of overwork is also beginning to become apparent among other technical and junior professional personal such as radiographers and pharmacists.

114. The training of nurse technicians continued during the year. These girls are staff nurses who are given six months training in each of the fields of simple laboratory technology and radiography. They are then posted to the smaller hospital and health centre laboratories. The experiment has proved a most successful one, the girls being keen on their work and accurate and efficient in its execution. Their services have proved a boon to busy medical officers and to the general public alike.

115. Besides the general laboratory service, mention must be made of the Wellcome Virus Research Laboratory.

116. The Wellcome Virus Research Laboratory was completed in 1965. It was built and equipped by funds provided by the Wellcome Trust and, until 1969, recurrent expenses were borne jointly by the Tropical Medicine Research Board, the University of Otago and the Fiji Government. In March 1969, the Government of Fiji assumed full responsibility for running expenses although the University of Otago still provides the Consultant Virologist (whose salary is paid by Fiji) and supervises the work done. Plans are in hand to train a local doctor in Virology in Dunedin during 1971 so that he can take over control of the laboratory.

117. The annual cost of running the Virus Research Laboratory amounts to about \$12,250.

118. Since the laboratory was established, much research has been conducted into the history of virus diseases in Fiji by the examination of large numbers of blood specimens for anti-bodies to these diseases. This knowledge provides a base-line on which the study of future epidemics can be based. For instance, it is now known that the last epidemic of German measles occurred on Vanua Levu about eight years ago and that very nearly 100 per cent. of the population was affected. It is also known that no dengue has occurred

in Fiji for 20 years although the insect vectors are common. Fiji's first proven case of Leptospirosis (Weil's disease) was diagnosed by the laboratory during 1969.

119. The laboratory has given invaluable assistance in the preliminary surveys for the current Filariasis Eradication Campaign in performing innumerable examinations of blood samples, in identifying mosquitoes and in preparing the initial data for electronic processing by computer. The liaison established by the laboratory with the Electronic Data Processing Centre at Otago University has been most helpful in this regard.

120. The Wellcome Virus Research Laboratory is an influenza monitoring station of the World Health Organization and much work was put into influenza surveillance during 1969. As a result it is known that an epidemic of Influenza, A2 Hong Kong strain, occurred in Fiji during the first three months of the year. This had virtually ceased by April but, at the end of May, Influenza B appears to have been introduced. The infection was clinically mild and the epidemic lasted about a month. Influenza A2 was again introduced in early July and occurred sporadically during the rest of the year. During the course of the epidemic of influenza at the beginning of the year, strains of para-influenza viruses 1 and 3 were isolated. It is of interest that these viruses and Influenza A2, Hong Kong, were also occurring together in Canada in a similar epidemic about a month previously.

121. Details of the work of the laboratory services will be found in Table XV and XVI of the Appendix.

VII—DENTAL DIVISION

*" Bid them wash their faces,
And keep their teeth clean."*

—Shakespeare (*Coriolanus*).

122. The public of Fiji in the main centres is well served by private dental practitioners. The efforts of the Medical Department in this regard are accordingly concentrated on preventive dentistry and this, needless to say, means an emphasis on the care of the teeth in youth. So far as adults are concerned, apart from the clinical material required for teaching purposes, the only treatment provided is "relief from pain" unless the patient is precluded from visiting a private dentist by reason of poverty or isolation. On the other hand much exertion is put into the care of children's teeth.

123. Preventive dentistry involves health education par excellence. Much of the work of the Dental Division is performed in schools by mobile units, each conducted by a dental officer who acts as his own driver. A total of 454 visits to schools was recorded. On each of these, besides conducting a clinic, the dentist gave a talk on dental hygiene and on the importance of diet in the maintenance of the teeth. Among the schools visited were those on Rotuma and Kadavu.

124. The toothbrush scheme whereby the Dental Division sells toothbrushes cheaply to schools which are prepared to conduct "toothbrush drill" after luncheon each day continued to expand during the year and 8,547 dozen brushes were purchased by 476 schools.

125. During the year the Dental Division continued to function within this framework of established policy and a further expansion of work was performed. Attendances rose to 156,444 of whom 125,211 required and were given treatment. Children accounted for 66.2 per cent. of attendances. If Suva, where more adults are seen for a variety of reasons, is set aside, the proportion of child patients rises to 71.7 per cent. of all attendances.

126. An expansion has also been possible in the coverage provided. A new dental clinic was opened at Tavua during the year and a new mobile clinic went into service at Nausori to cover the schools in Rewa province. In addition two trailer clinics were put into service at Suva and Lautoka to bring the number of mobile clinics up to seven.

127. A big advance in preventive dentistry was achieved in 1969 with the fluoridation of the Suva water supply. It was introduced with remarkably little opposition from the public: indeed, there are some grumbles from other communities that funds have not so far permitted their being similarly treated. Following the addition of fluoride, a base-line survey of school children aged from six to eleven years was conducted at schools supplied with Suva water. The results of the survey showed that at six years of age 29.8 per cent. of children had one or more D.M.F. (decayed, missing or filled) teeth. This rose to 63.5 per cent. at 11 years of age. It will be of interest to repeat the survey after several years of the beneficial of fluoridation.

128. As part of its dental health education programme the division was responsible for the Medical Department's entry in the Fiji Show in 1969. The exhibit attracted much interest.

129. The details of the work performed by the Dental Division are shown in Table XVII of the Appendix. The fact that much remains to be done is indicated by the fact that of, all the patients seen, 80 per cent. required treatment and, of the teeth needing attention, only 27.4 per cent. could be saved.

VIII—NURSING DIVISION

"To become a good nurse, a woman must possess considerable intelligence, a good education, healthy physique, good manners, an even temper, sympathetic temperament, and deft clever hands. To these she must add habits of observation, punctuality, obedience, cleanliness, a sense of proportion, and a capacity for and habit of accurate statement. Training can only strengthen these qualities and habits; it cannot produce them."

—W. T. Gordon Pugh.

130. The work of Fiji's nurses straddles the boundary between curative and preventive medicine and this section could have appeared equally appropriately in Part D of this Report. As, however, a larger number of nurses are engaged in hospital work than in public health it was decided to recount the activities of the Nursing Division under the Curative Services.

131. Fiji has not until now suffered from the same extent as have other countries from shortage of nursing staff. Nursing has always been, and continues to be, a popular career for girls of all races in the Colony. Since Government is almost entirely the only employer of nurses and controls the training establishments it is

able to tailor its output to its needs. Only one post—a teaching one—had to be filled by overseas recruitment during the year and there are now only two expatriate nurses in employment. Nevertheless, signs are appearing that this happy state will not continue much longer. More and more careers are opening to women and the arduous and poorly paid vocation of nursing is losing its allure. In addition the increasing population requires more nurses if the present allocation of one district nurse to every 2,500 people is to be maintained and nurses, who currently work a 5½ day week, will soon have to be granted a five-day working week which will necessitate a nine per cent. increase in nursing strength. The need for extra beds has already been made plain and these extra beds will require more nurses. In the meantime it is fortunate that an increasing proportion of nurses are returning to work after marriage.

Hospital Nurses

132. Fiji's nurses may not measure up to the paragon of virtues described in the quotation at the head of this section but many of them come near to it. The old hands—both medical and nursing—say that the quality of nursing has fallen off, that nurses are not what they used to be. Like Punch, nurses are never what they used to be. Nurses are young girls, not angels, and they have their faults: they forget to give medicines on time, they giggle, they drop things, they do not write up pulse records on the dot, they are slow to bring the bed pan, they wake one up too early and so on *ad infinitum*. It is, however, the recurring declaration of visitors to Fiji who have had to be admitted to hospital that never have they been looked after so well and that Fiji's nurses are wonderful. This is as it should be. So long as those responsible for supervision of nurses are dissatisfied and the patients are contented, then all is well; it is when matters are the other way round that there is cause for alarm.

133. Fiji's hospitals are staffed by local nurses of all races who are supervised and trained by local girls. The training aspect is discussed in Part E of this Report. Local young women now undertake the most complex tasks in modern nursing. They are responsible for intensive care units, operating theatre supervision, midwifery, and general nursing of all kinds. They have, indeed, very largely filled the gap left by the elevation of the old Assistant Medical Officer into the doctor of to-day. In consequence of the technical nature of modern nursing and the high degree of practical and theoretical training that is required for it, the modern nurse can no longer be expected to clean floors and scrub bedpans. Consideration is therefore being currently given to the inauguration of a training system for Nurse-Aides.

District Nurses

134. As already mentioned the nursing district is the last and smallest division of the Medical Department's administration. The district nurse is given an area of responsibility which she can come to know and which she can get round without difficulty once a month or so. The exact size depends on geographical problems but the policy is that in rural areas there should be one district nurse to every 2,000 to 3,000 people and, in towns, one to every 10,000 or so. The district nurse gets to know her people as no one else in the Department can. She knows who is pregnant and who is

practising family planning (and when her next supply of pills is due). She knows what children have been born and what immunisations are due. She visits patients who are having treatment at home for tuberculosis, leprosy, mental illness or acute rheumatism and sees that they take their therapy and attend the doctor when due. She delivers babies, dresses cuts, advises on baby care, visits schools, chides, comforts and observes. She works to her Area Medical Officer and keeps him informed of what is going on. The district nurse is the corner stone of the Medical Department's entire architecture.

135. Of all the many activities of the Department, the one which has shown the most improvement in recent years and reaped the most dramatic results is the work and status of the District Nurse. It is not so long ago that she languished forgotten in a *bure* in a village somewhere, not very sure of what she was supposed to do, never seeing a doctor, not reporting to anyone, supervised hastily and sketchily by an expatriate health sister and sinking slowly into a slough of despondency and apathy. Now she is a dynamic and important member of the area team. She operates from the area health centre or from a modern two-room nursing station which is strategically placed so as to enable her to cover her district as easily as possible (five of these stations were built in 1969) and she is supervised by her Medical Officer and advised and assisted by a local Health Sister to whom she can talk and with whom she feels rapport.

136. The next stage of development is to provide the district nurse with transport. This has already been done in Suva where they have been given two minivans which were donated by the Lepers' Trust Board and Labasa where the War Memorial Anti-Tuberculosis Trust Fund Board has given two mini-mokes. The facility will spread and many district nurses are being taught to drive in anticipation of the arrival of motor transport.

PART D—THE PREVENTIVE SERVICES

IX—STATISTICS

"All economical and practical wisdom is an extension or variation of the following arithmetical formula: $2 + 2 = 4$."

—Oliver Wendell Holmes.

137. Andrew Lang is reputed to have accused somebody of using statistics as a drunkard uses lampposts—for support rather than illumination. The same charge is occasionally levelled at Departments of Public Health, not without a suspicion of justification. It is, nevertheless, true that adequate and accurate statistics are essential to public health workers if they are to know the problems and to assess not only priorities but also their success in dealing with those problems. It is not too much to say that the concept of preventive medicine was born out of statistics—until the Bills of Mortality resulting from the awful conditions of the industrial revolution shocked a few humanitarians into action no one even tried to improve the health of the public.

138. The statistics quoted in Part D of this Report—and they will be many—and in the Appendix come from three sources. Vital Statistics are collected by the Registrar-General and those for 1969 will be found in Tables XVIII to XXI of the Appendix. Comment

on these figures will be reserved for later sections of this report but some remarks here concerning their accuracy would appear to be relevant.

139. The second source of statistics is the Government's Bureau of Statistics and most data concerning finance and economics have been obtained from the Bureau which is under the control of the Government Statistician. Now the Government Statistician produced in October, 1968 certain Life Expectancy Tables for Fijians and Indians and, since the validity of these depends entirely on the accuracy of the vital statistics on which they are based, he discussed the latter at some length in the preface to the tables in question. He came to the conclusion that, although there was some under-registration of deaths, it was almost confined to Fijian babies and was not a large element of error, that births tended to be registered after some months but were nearly all registered and that under-enumeration at censuses was not gross. In general it would appear that, for a developing country, the vital statistics of Fiji are of a high degree of accuracy.

140. A few extracts from the Life Expectancy Tables to which reference has been made may be of interest.

TABLE 3

AVERAGE YEARS OF LIFE REMAINING TO SURVIVORS AT SPECIFIC AGES (1966)

Age	Fijian		Indian	
	Male	Female	Male	Female
0	66.99	72.05	65.00	67.05
1	67.34	72.38	66.17	68.02
5-9	64.21	69.25	62.70	64.47
20-24	49.98	55.19	48.40	50.45
50-54	23.52	28.37	22.13	23.69
70-74	10.88	14.45	11.82	10.79
Over 100	6.00	7.67	2.40	1.64

141. The full tables may be obtained from the Bureau of Statistics but several interesting facts come to view even from these extracts. In the first place the expectation of life at birth increased in a decade by about six years for Fijians and by about three for Indians, reflecting the greater improvement that has been achieved in the Fijian infant mortality rate. Secondly the fact that Fijians live longer than Indians becomes apparent: this may be due to their larger physique and better standards of nutrition but is more likely merely to be a genetic accident. Finally the tremendous expectation of life at birth and at one year of age to both races attributes to the excellence of Fiji's health and to the high standard of its medical services.

142. The third source of statistics is from the Medical Department itself and these in turn come from three avenues. All doctors have a statutory obligation to report certain notifiable diseases. Private medical practitioners are neither better nor worse at performing this chore than are their colleagues overseas so Fiji's records from this source are of average accuracy. But for every private practitioner there are ten Government Medical Officers and they can be reprimanded for dilatory or inaccurate reporting. As a result reports of notifiable diseases are received promptly, fully, and at weekly intervals and it is felt that the Department's knowledge of this aspect of epidemiology is probably more extensive and up-to-date than is that of its counterpart in most developed countries.

FIGURE I.

TEN COMMONEST CAUSES OF DEATHS FROM MAJOR HOSPITALS

		1960 - 1961		1962 - 1963		1964 - 1965		1966 - 1967		1968 - 1969	
16%	C	I	R	C	U	L	A	T	O	R	Y
	INFECTIVE AND PARASITIC		21%		EARLY INFANCY	17%			21%		21%
16%	R	E	S	P	I	R	A	T	O	R	Y
	INFECTIVE AND PARASITIC		12%		EARLY INFANCY	15%			13%		13%
14%	D	I	G	E	T	I	V	E	EARLY INFANCY	9%	NERVOUS & SENSE ORGANS 9%
	NEOPLASMS		11%		INFECTIVE AND PARASITIC	10%			9%		9%
8%	EARLY INFANCY		8%		NERVOUS & SENSE ORGANS	9%			8%		8%
	NERVOUS & SENSE ORGANS		7%		NEOPLASMS	6%			8%		8%
5%	BLOOD ETC.		6%		ACCIDENTS & VIOLENCE	5%			6%		6%
	ACCIDENTS & VIOLENCE		4%		EARLY INFANCY	4%			6%		6%
3%	GENITO - URINARY		3%		GENITO - URINARY	4%			4%		4%
	ACCIDENTS & VIOLENCE		3%		GENITO - URINARY	4%			4%		4%
years	1960 - 1961	1962 - 1963	1964 - 1965	1966 - 1967	1968 - 1969						

143. The second internal source of health data is hospital statistics. Pressure of work prohibits Medical Officers from recording details of every out-patient seen but information regarding all in-patients are forwarded to the Medical Statistics Section. Admittedly this information applies only to a selected population but it is probably less biased on that account than it would be in more developed countries where a larger range of illnesses can be treated in the home than is the case in Fiji. Finally a very detailed epidemiological reporting system has been built up and refined over the years whereby all Medical Officers submit monthly reports concerning their areas. These reports consolidate the district nurses' reports too and give an invaluable picture of what is happening in the country at any moment. It is this stream of information coming up and advice and encouragement going down the line that welds the Medical Department into a unified team and one of the valuable side-effects is the compilation of a mass of useful and accurate data.

144. In sum, then, it is felt that reliance can be placed on the statistics quoted in this report and that the data are as accurate as are to be found in most developed countries if, indeed, they are not more so.

X—EPIDEMIOLOGY

"To avert or dissipate those attendant evils by the apprehension of which life is embittered and impaired is the duty of a good Government . . . and the most readily attainable means towards this end is the collection of complete information as to the circumstances under which sickness arises, together with accurate accounts of the deaths consequent upon such circumstances . . . Accounts of this description, which perhaps at present a Government alone has the power to obtain in the requisite degree of perfection, would form an invaluable acquisition to science, and would direct the public exertions in removing those circumstances which shorten life and in promoting those under which it is found to attain its greatest and most happy duration."

—Edwin Chadwick (1828).

145. What Edwin Chadwick meant in the passage quoted above could be expressed to-day in the words "a knowledge of epidemiology enables the Government to improve the public health". This appears so axiomatic that it is hard to appreciate that 140 years ago it was not only a new concept but that Chadwick, that great public health innovator, actually had no words with which to express it. The pattern of disease in Fiji is well known to its health workers.

146. It will be seen from Table XXII that the largest cause of morbidity are the degenerative diseases. This pattern has remained steady for some time and is typical of a developed metropolitan industrial nation. It may therefore appear unlikely to be true in the Pacific Islands. In fact, however, all indices point to its veracity. Infant and childhood morbidity are very low, the expectation of life is long and it is not until late middle age that the frailty of the flesh begins to make itself felt. Table XXIII shows the racial breakdown of hospital admissions and the different disease patterns of the various races become

apparent—Indians would seem to be more prone to illnesses such as diabetes, rheumatic fever and toxæmia of pregnancy whereas Fijians appear to be more susceptible to diseases of bacterial origin.

147. Malignant disease is rare but this is probably due to the youth of the population; the census of 1966 showed that about 60 per cent. of Indians and 55 per cent. of Fijians were aged less than 20 years. The cancer registry has now been in operation for four years but the total number of cases on record is still too small to provide meaningful trends. On present observations there would, however, seem to be developing some interesting racial differences which may, in the fullness of time, provide a field for useful research. For instance cancer of the thyroid gland is extremely common among Fijian women who are also much more susceptible to cancer of the breast than are Indians. On the other hand cancer of the cervix is twice as common among Indians as among Fijians. With regard to men, cancer of the liver is much more common among Fijians while bone cancer is more prevalent among Indians.

148. Road accidents are becoming ever more common in Fiji as elsewhere and will undoubtedly become more so as roads are improved and traffic increases. The wearing of crash helmets by motor cyclists was made compulsory during the year but the use of seat-belts is still optional and they are not popular. Accident surgery is occupying an increasing section of operating theatre time, particularly at Suva and Lautoka, and is causing lengthening of the waiting list for elective surgery. Accidents are also common in and around the home. Accidental poisoning, the result of keeping kerosene or weed-killer in a lemonade bottle occurs with distressing frequency. Burns and scalds due to cooking on an open fire or to children playing around one, falls out of mango or coconut trees and cuts with cane-knives are all common. Many of these accidents are preventable and the responsibility for their reduction lies mainly within the family and a good deal of health education is directed to this point.

Causes of Deaths

149. Figure 1 shows the ten principal causes of death in Fiji over the last five years. It is graphic and calls for little comment. It will be seen to bear out the remarks made above to the effect that the main causes of morbidity—and consequently of mortality—are the degenerative illnesses. It is of interest to note, too, the steadily declining importance of infectious and parasitic diseases as a cause of death while accidental deaths are steadily creeping up the scale. This again is the norm in countries with a much higher level of development than has Fiji.

150. It might be appropriate at this juncture to draw attention to the fact that the crude death rate in 1969 fell to the lowest figure on record—4.64 per thousand of the population. The Fijian rate was 4.67 and the Indian one 4.77 per thousand. With its very young population structure and its excellent state of general health Fiji can expect to enjoy an unusually low death rate but these figures are felt to be a little too good to be true and it is considered that there must have been some under-reporting of deaths in 1969.

Notifiable Diseases

151. Details of the diseases that are statutorily notifiable in Fiji are given in Tables XXIV, XXV and XXVI of the Appendix. Tuberculosis, leprosy, filariasis and rheumatic fever are considered of sufficient interest to merit discussion in separate sections of this report. Certain other diseases of lesser importance but of some interest are discussed briefly below. These are shown in Table 4 which shows trends over the last five years.

TABLE 4
INCIDENCE OF CERTAIN NOTIFIABLE DISEASES
OVER THE LAST FIVE YEARS

Disease	1965	1966	1967	1968	1969
Diphtheria ..	1	4	0	1	5
Dysentery ..	225	81	16	29	57
Infantile Diarrhoea	5,669	4,477	5,677	5,948	10,886
Infective Hepatitis	304	502	282	216	431
Influenza ..	33,476	42,937	24,459	42,288	63,208
Measles ..	34	49	3,856	676	40
Meningitis (except tuberculous) ..	30	58	53	61	73
Poliomyelitis ..	No	proven	case since 1962		
Tetanus ..	28	32	33	26	15
Trachoma ..	314	396	376	271	251
Typhoid Fever ..	0	5	3	5	1
Pertussis ..	189	97	227	244	41
Venereal Disease:					
Gonorrhoea ..	714	785	962	947	999
Syphilis ..	13	4	10	4	9
Yaws ..	11	16	3	1	0
Population on 31st December in tens of thousands ..	46.9	47.8	49.7	51.2	52.6

152. It will be seen that 1969 was an unfortunate year from the point of view of the incidence of many of these diseases. However, this picture has to be considered against the background of the increasing population and the fact that many of them have now been reduced to such a low level that only a few cases appears as a large increase. Also to be taken into account is the reduced death rate of most of the conditions listed.

153. *Diphtheria*—Of the five cases of diphtheria four occurred in the west. The first was a small girl from Nadi who developed a mild attack of the disease in February. She was aged eight and should have been immunised in the first year of the campaign. During this year, while the backlog was being tackled, coverage was not quite so complete as it later became. Her younger siblings had all been immunised and the disease did not spread. The second outbreak was in Lautoka in December. Three girls, all members of the one family group were affected. The source case was aged 18 and the youngest eight as in the Nadi case. The second two cases in this outbreak were found on contact swabbing and had only minimal lesions. The fifth case of diphtheria occurred in Nausori. The patient was also an Indian girl who was in this case aged eleven and had not been immunised: the disease type in this case was also *mitis* or mild. No case was reported in a child born since the immunisation policy of the Department was introduced.

154. *Dysentery*—Another increase in the incidence of dysentery occurred although the total still bears little relation to the several hundred reported each year a decade or so ago. Thirteen of the cases were

reported as amoebic dysentery, seven from the Colonial War Memorial Hospital and five from Lautoka Hospital. One was notified by a general practitioner. All the patients recovered. There was one death from the 44 cases of bacillary dysentery—a male Fijian of unspecified age who died in the Colonial War Memorial Hospital. No fewer than 15 of the cases were reported by the same General Practitioner who notified the case of amoebic dysentery and three others by another private practitioner. Minor outbreaks were reported from Visoko in Macuata (6 cases) and Rabe Island (5 cases). Three cases were reported from Namosi and the others were all sporadic which is not typical of bacillary dysentery. Suspicion must therefore remain that at least some of these cases were suffering merely from attacks of diarrhoea.

155. *Infantile Diarrhoea*—The fact that the incidence of infantile diarrhoea appears to have doubled is not so bad as it may seem. Much health education has been directed at this problem and all medical stations have been provided with the means to resuscitate dehydrated infants. A manual of diagnosis, treatment and management of the condition was prepared and distributed to all Medical Officers. Some of the increase is therefore believed to be due to more parents seeking medical advice but there is also definite evidence of a bigger epidemic than usual. Some 97 per cent. of the cases were reported to be mild. The number of deaths was only 29, seven fewer than in 1968 in spite of the vast increase in cases seen, and a rate of only 0.27 per cent.

156. *Infective Hepatitis*—The number of cases of infective hepatitis reported for the last twenty years has varied between two and five hundred so the figure for 1969 is within normal variations. As reported in the section of Laboratory Services, Fiji's first proven case of Leptospirosis jaundice was reported during the year. The incidence of hepatitis per capita in Fiji is not unduly high and the standard of sanitation is such that a major decrease in its prevalence is unlikely. Nevertheless, as is shown in Table XXIV, there were several small epidemics of the disease during the year, including ones at Rotuma (28 cases), Ovalau (33 cases) and Ra (36 cases). The most outstanding was that shown as occurring at Tavua where there were 99 cases. In fact this took place at the Vatukoula Gold Mines and it accounted for almost a quarter of the total cases. Indeed almost exactly half the cases occurred in the dry crescent of north and north-west Viti Levu.

157. *Influenza*—Influenza is discussed in Section VI of this Report. The total figure of notifications is the highest on record but 1969 was a year which saw a pandemic of influenza and it would have been surprising had Fiji escaped it.

158. *Measles*—No epidemic occurred during 1969 and so very few cases were reported. The next outbreak is expected in 1971 or 1972. The possibility of immunising children against measles was again considered during the year but the difficulties of getting children to re-attend clinics for yet another injection, the mild but definite toxicity of the vaccine and the not inconsiderable expense of the undertaking all combined to make the Department feel that the procedure was unjustified—particularly in view of the fact that measles in Fiji is a very mild disease with a negligible mortality.

159. *Meningitis*—The steadily rising number of cases of meningitis being reported must give cause for reflection. Much of the apparent increase is believed to be due to better reporting, better diagnosis, better training of doctors and nurses and more consultant physicians. Nevertheless it is not a matter about which to be complacent and the problem was exhaustively discussed during the year. It is mainly a disease of towns—29 of the cases occurred in Suva and 22 in Lautoka—of Fijians (51 of the cases) and of pre-school children (40 cases). The causative organisms were usually pneumococcus or *H. influenzae*. The only preventive measure appears to be the improvement of ventilation in bedrooms and the avoidance of overcrowding; much health education was directed to this end during the year.

160. *Poliomyelitis*—No case of acute anterior poliomyelitis has occurred since 1962. The complete eradication of this disease which used to be such a scourge in Fiji is a tribute to the effectiveness of Sabin vaccine and indicates the very considerable coverage attained by the pre-school immunisation programme.

161. *Tetanus*—The reduction in the incidence of tetanus is one of the more remarkable success stories in the field of public health in recent years. For many years the average number of cases reported annually was about 50 and this was slowly reduced by routine public health measures to between 30 and 40, half of which were cases of tetanus neonatorum. In 1967 the policy of routine immunisation against tetanus was introduced to antenatal clinics with a dramatic and somewhat unexpected result—cases of tetanus neonatorum were reduced by two-thirds in the next year. In 1968 a campaign was commenced among the remainder of the population. The figures are as follows, with numbers of deaths being shown in brackets:—

TABLE 5

INCIDENCE OF TETANUS, 1966–1969

Year	True Tetanus	Tetanus Neonatorum	Total (Deaths)
1966 ..	16 (9)	16 (11)	32 (20)
1967 ..	16 (8)	17 (14)	33 (22)
1968 ..	20 (9)	6 (6)	26 (15)
1969 ..	12 (3)	3 (3)	15 (6)

The three cases of tetanus neonatorum were all delivered by traditional birth attendants. Two of the mothers had never attended antenatal clinics and the third only in the later months of her pregnancy. Two of the patients who died of true tetanus had not been immunised and the third, who was pregnant, had been receiving immunisation at antenatal clinic but had not completed the course. It is believed that the new trend will continue and be accelerated in 1970.

162. *Trachoma*—The trachoma seen in Fiji is a very mild form of the disease causing little scarring and being readily amenable to treatment. It will be seen that the incidence is low and appears to be becoming still lower. Trachoma is a cause of blindness among some elderly people but blindness among the young, except as a result of trauma, is unknown and it appears that trachoma as a cause of blindness is ceasing to exist.

163. *Typhoid Fever*—The single case of typhoid fever reported in 1969 was in fact suffering from Paratyphoid A. This is the first case of paratyphoid

fever to have been reported in Fiji since 1960. The patient was an adult male Fijian living in a rural area and all attempts to trace the source of his infection were unavailing. The state of sanitation in rural Fiji is such that sporadic cases of typhoid must be expected and all the Medical Department can hope to do is to contain any epidemic.

164. *Pertussis*—The number of cases of whooping cough is the lowest ever recorded. The incidence has been dropping for several years from a pre-immunisation campaign level of about 3,500. It is considered that this reduction in what used to be a killing disease has been due to immunisation and that it has had a noticeable effect on the infant mortality rate. However, pertussis is an epidemic disease and the Colony's defences against it must not be relaxed.

165. *Venereal Diseases*—Syphilis continued to be reported very rarely and is not a public health problem. The incidence of gonorrhoea was held below 1,000 cases for the third year in succession, although there was a slight increase in the total number of cases. Health education has been widespread in this connection and there has been a gratifying increase in a general awareness of the problem and a public willingness to discuss it. The proportion of female patients notified increased from 17.3 per cent. in 1968 to 25.1 per cent. in 1969—an indication of better reporting of contacts. The condition is now looked for in maternity wards as a matter of routine and some clinics report an 80 per cent. success rate in tracing contacts. It must, however, never be forgotten that venereal disease is largely a sign of social malaise and is common in times of stress and upheaval: it is therefore a problem for social workers of all disciplines and can not be contained by clinical workers alone.

166. *Yaws*—For the first time in history no yaws was reported in Fiji. When one considers that twelve years previously one-third of the Fijian population had been affected with the disease, this is a dramatic change. The fact that the health of the people of Fiji is no longer manaced by yaws is one for which the country owes a debt of gratitude to the World Health Organization which organised the very successful eradication campaign of 1957–1958. It can now be said with apparent safety that the disease has been exterminated.

XI—TUBERCULOSIS

"This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."

—Winston Churchill.

167. For several years the Medical Department has been publishing in its annual reports optimistic prognostications about the control of tuberculosis without, however, being able to show much concrete evidence of progress in this regard. In 1969, at last, the picture changed. The culmination of long years of struggle followed by four or five years of intensive effort occurred and quite suddenly it seemed that the enemy was on the run. As so often happens in such cases, overnight every parameter altered: numbers of cases were reduced, those found were diagnosed earlier, the sputum positivity rate was lowered, the amount of non-pulmonary tuberculosis was less both in sum and as a proportion of the whole, treatment time was reduced

from 153.6 days to 147.2, wards were closed and the number of beds for treating the disease could be reduced from 328 to 219. At the time of writing this report sufficient evidence had accumulated in 1970 to indicate that the new declining trend in tuberculosis was a true one and no flash in the pan. How did this come about?

168. The prevalence of tuberculosis in Fiji reached its peak shortly after the second world war since when the epidemic has been on the wane. By 1955 the total rate had come down to 2.09 per thousand and in 1960 it was 1.62 per thousand of the population. When, by 1965, it had fallen to 1.10 per thousand, it was felt that the time had come to make an all-out attack on the disease to see if it could be brought under control. This attack is described below but Table 6 shows the annual incidence since that decision was taken.

TABLE 6

INCIDENCE OF TUBERCULOSIS, 1965-1969

Year	Population on 31st December	New Cases Registered	Rate per 1,000	No. Bacteriological Positive	Rate per 1,000
1965	469,934	516	1.10	199	0.42
1966	483,247	458	0.95	171	0.35
1967	497,023	469	0.94	197	0.40
1968	512,062	541	1.06	240	0.47
1969	526,765	358	0.68	158	0.30

169. It will be observed that the rate continued slowly to drop during 1966 and 1967 while the campaign was gathering momentum. There was then a check in 1968 while all the hitherto undiscovered cases were gathered into the net and this was followed by a dramatic drop in 1969. As already stated, indications are that this rapid decrease will continue into 1970. If the number of cases who are diagnosed on bacteriological grounds is considered—and in certain countries these are the only cases to be notified—it will be appreciated that the rate is now extremely low. Bacteriological diagnosis in Fiji involves culture of sputum and biopsy material as well as direct examination and is painstakingly performed.

170. It has always been known that tuberculosis in Fiji was primarily a disease of the indigenous Fijian population. The pattern of the disease in 1969 so far as racial background is concerned is shown in Table 7.

TABLE 7

INCIDENCE OF TUBERCULOSIS IN 1969 BY RACE

Race	Estimated Population on 31st December, 1969	Total Cases	Rate per 1,000 of Population	Bacteriologically Positive	Rate per 1,000 Population	Percentage Bacteriologically Positive
Fijian	219,893	280	1.27	116	0.53	41.4
Indian	262,947	52	0.20	31	0.12	59.6
European	14,365	0	..	0	..	..
Part-European	10,341	5	0.48	0	..	..
Chinese	5,431	5	0.92	3	0.55	60.0
Rotuman	6,312	7	1.11	5	0.79	71.0
Others	7,476	9	1.20	3	0.40	33.3

171. It will be observed that the disease is still predominantly one of Fijians. In fact, however, the rate among them has dropped very considerably. In 1964 it was 2.10 per thousand and by 1967 had come down to 1.75 per thousand. In 1968, as part of the general increase in the disease, it rose to 2.04 per thousand and the remarkable drop to 1.27 per thousand in 1969 has brought it to the lowest figure on record. The rate for all other races except the Chinese has also decreased and the total Chinese figures are so small that an increase is not significant.

172. Table 8 shows the same figures applied to the different age groups.

TABLE 8

INCIDENCE OF TUBERCULOSIS IN 1969 BY AGE
(Based on estimated mid-year population)

Age Group	Total Cases	Rate per 1,000 Population	Bacteriologically Positive Cases	Rate per 1,000 Population
0-4 years	7	0.1	3	0.03
5-14	12	0.1	2	0.03
15-24	67	0.6	39	0.37
25-34	72	1.0	31	0.43
35-44	74	1.5	32	0.66
45-59	73	1.7	28	0.63
Over 60	53	2.6	23	1.12

173. For several years the incidence has been very low in the pre-school and school child age groups. This and the very low rate of sputum positive cases among those that did contract the infection attest to the value of B.C.G. inoculation which had been practised among infants in a desultory manner since 1957 and intensively since 1964. In 1968 a decline was noticed in the incidence in the 15 to 24 year age-group and this decline was increased in 1969. It appears that the number of this cohort who had been given B.C.G. at school is now sufficiently large to produce an epidemiological effect quite apart from that produced by the B.C.G. given to the negative reactors among the older members of the cohort during the campaign. It is likely that this effect will continue into the older age-groups as the years pass but, in the meantime, it is among the more elderly section of the community that infection is most prevalent. Nevertheless it should be emphasised that the rate of tuberculosis fell per thousand of the population in every age-group in 1969—both in total cases and in those bacteriologically positive.

174. Non-pulmonary tuberculosis is frequently ignored because it is not a public health problem but it is a useful guide to the epidemiology of the disease in a population. A large incidence of tuberculous cervical glands—the scrofula of the old days—indicates that milk-borne bovine tuberculosis is common: it is very rare in Fiji. Tuberculosis of other organs is blood-borne and its decrease is a good pointer to a rising herd-resistance among the population. Table 9 shows the pattern in Fiji.

TABLE 9

NON-PULMONARY TUBERCULOSIS IN FIJI, 1965-1969

	1965	1966	1967	1968	1969
Total Tuberculosis	516	458	469	541	358
Non-pulmonary cases	78	53	51	47	28
Percentage of total	15.0	11.3	10.9	8.7	7.8
Sites:					
Meningitis	7	3	0	3	1
Bone	9	11	12	1	3
Cervical glands	44	29	31	37	16
Abdomen and elsewhere	18	10	8	6	8

175. It will be noted that the number of cases of tuberculosis of organs other than the lungs is steadily dropping both in sum and in proportion to the total number of cases. Tuberculous meningitis has almost disappeared, presumably as a result of B.C.G. Most of the cases were again suffering from cervical glands and, of these, the majority had concomitant pulmonary disease indicating that their adenitis was probably due to human *Mycobacterium tuberculosis* rather than to the bovine variety.

176. The campaign to control tuberculosis to which reference has been made began in 1966 and still continues. The object was to give B.C.G. to all pre-school children not already showing a scar, to Mantoux-test all school children, giving B.C.G. to the non-reactors and following up those few reactors who showed other signs of disease. At the same time all adult Fijians were Mantoux-tested, B.C.G. being given to the non-reactors and chest X-rays to the positive reactors. This was completed in late 1968 by which time 216,800 Mantoux-tests had been performed, 118,121 persons given B.C.G., 63,977 X-rays taken and 555 cases of tuberculosis discovered of which 28.1 per cent. were bacteriologically positive.

177. The second phase of the campaign was then initiated. In this mopping up stage, the policy of giving every baby B.C.G. at birth was continued as was that of giving it to every school entrant who did not show a scar of previous successful vaccination. All school-leavers were Mantoux-tested and given B.C.G. or an X-ray as was indicated by the result. Finally special sweeps were made with the mobile X-ray units of those areas where a high incidence of tuberculosis had been discovered and as many adults as possible were radiographed. During the period from September 1968 to September 1969, 24,811 persons were X-rayed and 97 further cases were discovered. The maintenance or consolidation stage is now in operation which involves the continuance of the previous phase together with a greatly intensified concentration on the tracing, registration and follow-up of contacts.

178. In conclusion, it is likely that future generations will look back on 1969 as the water-shed year in the battle against tuberculosis or, to change the metaphor, the year in which the big break-through came. If the present measures against the disease can be continued there is no reason why tuberculosis can not, in a very few years, become a minor public health problem in Fiji. This campaign has reached an exciting phase. A battle has undoubtedly been won but the war is by no means over. Now is not the time to relax. The Medical Department looks forward to

the future, so far as tuberculosis is concerned, with determination, with optimism, and now with a sense of excitement and enthusiasm. 1969 has indeed seen the end of the beginning.

XII—LEPROSY

"This, too the Lord said to Moses and Aaron. If there should appear on anyone's skin the change of colour or the scab or the shining patches that betoken the scourge of leprosy, he must be brought before the high priest, Aaron, or one of his sons . . . and when the priest so pronounces, the man must be segregated from his fellows."

—Leviticus 13 : 1-3.

179. The year 1969 saw in Fiji the final disappearance of the biblical injunction to treat leprosy as an unclean disease and a thing apart. This form of management of the disease had prevailed in Fiji since the early missionaries had persuaded the Fijian Chiefs to discontinue the former practice of clubbing to death those unfortunate enough to suffer from leprosy. The first direct administrative step taken by the Government concerning leprosy was the passage of the Lepers' Ordinance in 1899. This Ordinance forbade certain callings to "lepers" and gave the Governor power to establish "leper asylums" and to consign thereto any leper in the gaol or lunatic asylum or any leper found guilty on a second occasion of an offence against the Ordinance. This Ordinance was amended in 1907 to give Magistrates the power to commit lepers to hospital on medical evidence alone. The amendment also made it an offence to harbour or trade with lepers.

180. As a result of the Lepers' Ordinance, 1899, a leprosy station was established in 1900 on the island of Beqa but it gradually became obvious that complete isolation was impossible on this rather large island and in 1909 the island of Makogai was bought by the Government for the purpose of establishing a leprosarium and, after certain delays due to staffing problems and financial stringency, forty patients were transferred there from Beqa in 1911.

181. The following brief history and appreciation of Makogai appeared on the official programme on the occasion of the opening of the P. J. Twomey Memorial Hospital on 28th November 1969:

"The opening to-day of the P. J. Twomey Memorial Hospital marks a great step forward and must be an occasion of joy to all who work in the field of leprosy. There will, nevertheless, be many of us who will look back on the Fiji Leprosy Hospital at Makogai with nostalgia and a sense of regret that it has gone forever. It seems fitting, therefore, to use this programme to pay a brief tribute to that lovely island which has restored hope to so many and solaced the last days of thousands of sufferers.

The island of Makogai was purchased by Government for the purpose of establishing a leprosarium in 1909. The initial clearing and construction work was carried out under the supervision of Dr. de Boissiere but he left the island before the first patients arrived and the first Medical Superintendent was Dr. F. Hall who remained in the post until 1920.

When the idea of a leprosy hospital began to take shape the Government had extreme difficulty in recruiting nursing staff. Eventually the Catholic Bishop was approached and, as a result, the Missionary Sisters of the Society of Mary volunteered to staff the hospital. The motto of these Sisters is "Hidden and Unknown" but their work on Makogai has made them known and deeply loved throughout the South Pacific. There was no duty, however foul, that they did not willingly embrace, no task, however arduous, that was not cheerfully performed. They have become so associated with Makogai that it is impossible to imagine the island without them. They healed the sick, chastised the wrongdoer, solaced the lonely and comforted the dying. There can be no doubt that the success of Makogai as a hospital was very largely due to their efficiency, versatility and selfless devotion. It is a source of deep comfort to all concerned that the Sisters have agreed to continue to serve in the new surroundings of the P. J. Twomey Memorial Hospital.

By a strange coincidence the hospital at Makogai received its first patients exactly 58 years ago—on 29th November 1911. On that day 20 patients were carried ashore and the number rose steadily until, when Dr. Hall left, there were 352 patients on the island.

The next great name in Makogai's history was Dr. E. A. Neff who was Medical Superintendent from 1924 to 1930. It was during his administration that serious research work was first done and that the hospital began to develop its international character. In 1925, for example, ten patients were transferred to Makogai from the quarantine station on Quail Island in Lyttelton Harbour, New Zealand. Other neighbouring countries quickly followed suit.

"But the really great days of Makogai came during the superintendency of Dr. C. J. Austin. Dr. Austin was Medical Superintendent for a record period of 23 years, from 1930 to 1953. He saw leprosy change from a dread incurable disease to one which was being successfully attacked by modern drugs. He saw the attitude towards the disease change from revulsion to scientific interest. He played his part in producing these changes. Dr. Austin developed a world-wide reputation as a leprologist and during his time there Makogai became internationally famous. In these endeavours, Dr. Austin was ably assisted by his great partner, Mother Mary Agnes, who worked in Makogai from shortly after its foundation until the day of her death on 17th March, 1955.

During Dr. Austin's last years in office and after his retirement Makogai entered its final stage of progressive reduction in the number of patients as the effects of modern therapy began increasingly to make themselves felt. Dr. D. W. Beckett (1957-1961) was the last expatriate Medical Superintendent and he was followed by Ratu Dr. J. A. R. Dovi (1961-1963) and Dr. E. R. Karuru who served from 1963 until the closure of the hospital.

During the 58 years of its existence as a leprosarium, some 4,500 patients have landed on

Makogai's hospitable shores. All of these people, shocked and horrified to find they had leprosy or numbed and apathetic because of the shunning of their friends and relations, received the same warm welcome and were made to feel once more wanted and useful. About 2,500 of them have been restored to full health and returned home to their loved ones. Over 500 have been repatriated to their homelands and about 1,500 rest forever in the lovely cemetery on the hill behind the hospital. May they rest in peace for surely to one who is sundered from his family and segregated for years through no fault of his own, much must be forgiven in heaven.

The lovely island of Makogai is deserted now. It slumbers in the Koro Sea. No matter to what use it may be put in the future, it will never again see so much human suffering or so much love, kindness and simple happiness. Let us remember it then, not as an island of isolation and affliction, but as a place of healing, both of body and of mind, a source of hope and a repository of tender loving care in inexhaustible supply.

*'And may there be no sadness of farewell
When I embark'.*

182. From now on in Fiji leprosy will be treated as just another disease. The Leprosy Ordinance and its attendant Regulations were repealed at the end of the year and with them went the last of the legislative restrictions directed against the disease. Patients will be admitted to and discharged from the new hospital upon the advice of the Medical Superintendent and at their own request. Treatment will in general be conducted on a domiciliary basis with hospitalisation being only for short periods as and when necessary.

183. The P. J. Twomey Memorial Hospital was named in memory of Patrick Joseph Twomey who was responsible for the creation of the New Zealand Lepers' Trust Board which did so much to alleviate the lot of those suffering from leprosy throughout the South Pacific. The Board donated \$110,000 towards the cost of the hospital and to provide quarters for the Sisters. In addition the Board is paying for the provision of a swimming pool and tennis court. The hospital contains 81 beds—41 of them in a hospital proper and the remainder in single-bedded rooms in a hostel block for the more active patients. Refectory, recreation and treatment facilities are common to both. The hospital is extremely well equipped and very attractive in appearance and in its surroundings. It should greatly improve the active treatment of leprosy and facilitate the teaching of medical students and doctors about the disease.

184. Because of the isolation of Makogai it became necessary to build a staging post and out-patients' department in Suva. This also served as a rehabilitation unit for discharged patients. The resulting institution, which was built in 1949, became known as St. Elizabeth's Home. With the opening of the new hospital it became possible to put the Home under the management of the Medical Superintendent of the former institution and the two units are now run in close conjunction. The same Sisters staff both institutions and St. Elizabeth's Home is now used as a refuge for old disabled patients and as a rehabilitation unit pure and simple. It is hoped eventually to be able to close it and contract back into the P. J. Twomey Memorial Hospital.

185. The pattern of leprosy in Fiji continues to show evidence of slow decline with a concomitant build up of herd-resistance. The number of patients registered during the year was 35 which was within the range that has, over the last decade, varied from 47 to 29. Table 10 shows how the rate per 10,000 of the population has steadily decreased.

TABLE 10
LEPROSY IN FIJI, 1959 AND 1965-1969

Year	Number of Cases	Rate per 10,000
1959	42	1.08
1965	47	1.00
1966	34	0.70
1967	33	0.67
1968	39	0.76
1969	35	0.66

186. Of the cases registered in 1969, 20 were male and 15 female; 22 were Fijians, 10 Indians and 3 of other races. The disease is still mainly one of Fijians and reference to Table XXI of the Appendix will show that the biggest focus appears to be in Lau, followed by Ba, Kadavu and Savusavu. Ba is such an enormous province with a vast population that five cases coming from there means little but the other provinces mentioned may need further investigation if the disease is to be eradicated. The tuberculoid-lepromatous ratio in 1969 was 4.4: 1 whereas ten years or so ago it was 1:2. This ratio has been increasing steadily and recently more rapidly. As tuberculoid leprosy indicates resistance to the disease this trend is an encouraging one.

187. The year 1969 has, then, seen a complete change in the management of leprosy in Fiji. The new hospital will enable the domiciliary treatment of the disease to become the norm and for it to be more tightly and effectively supervised and controlled. It must be remembered that patients undergoing treatment are only non-infectious for so long as they take their tablets. This requires motivation and supervision. Education and support are the new methods of controlling leprosy and isolation and segregation have now taken their place among the ranks of out-moded public health techniques.

XIII—FILARIASIS

"Elephantiasis arabum is most common in tropical countries near the coast."

—Galen (130-210 A.D.).

188. That filariasis is common in Fiji has been known since Thorpe in 1895 examined blood slides for microfilaria and found one-quarter of them to be positive. Frequent small surveys and desultory attacks on the disease have been made from time to time since then but it was not until 1967 that the decision was made, since the more serious causes of morbidity had by then been brought under control, to mount a large-scale and properly planned attack on filariasis. As was reported in the Annual Report for 1968, a detailed survey of the area chosen was carried out during that year. Because of the close association between Filariasis and Dengue fever and because both conditions have the same vectors in Fiji and in order to search for other arboviruses, this survey was assisted in large part by the Wellcome Virus Research Laboratory.

189. A most interesting and detailed report on this survey was produced in due course by Drs. B. C. Dando, Programme Director, Filariasis, F. N. Macnamara, Consultant Virologist and J. U. Mataika, Medical Officer in charge, Field Team. This report well repays study but is too lengthy to reproduce. The concluding summary is, however, considered in itself to be of sufficient interest to quote in part:—

"A clinical and haematological survey of filariasis and a serological survey of dengue antibodies was conducted on Vanua Levu, Taveuni, Koro and neighbouring islands in 1968 and 1969. The prevalence of microfilaraemia was highest on Taveuni and Koro with decreasing prevalences in coastal Vanua Levu south of the mountain ranges, inland southern Vanua Levu and settlements and estates, followed by coastal areas and offshore islands of northern Vanua Levu. The prevalence was very low in inland northern Vanua Levu and negligible among young Indians from Labasa. The prevalence was less in scattered settlements than in the concentrated communities of villages. Women were less affected than men. This could be attributed to the different ways of life of the two sexes, and particularly in regard to clothing among Indians. Nevertheless sex physiology and a higher recovery rate among women must be considered since in regard to dengue Fijian women appeared to be bitten by infective mosquitoes of the same species as much as the menfolk.

Age specific prevalences of microfilaraemia can best be interpreted by assuming that infection and microfilaraemia may be followed by recovery with susceptibility to reinfection.

The examination of communities for prevalence of enlarged lymph glands cannot be recommended as a substitute for microfilarial surveys owing to a relatively low correlation coefficient between the prevalences of the two indices, and the variations in personal interpretation of the clinical examination. The numerical distribution of the sites of glandular enlargement indicate a reappraisal of the view that the enlargements are due to the local presence of adult filariae.

Under similar epidemiological conditions elephantiasis was found to be more prevalent among Indian males than Fijian males. Prevalences as high as 10 per cent. or more were observed in certain age groups.

An examination of the prevalence of microfilaraemia in households led to the conclusion that transmission of the disease in the area is not domestic. Nevertheless certain households may be more affected than others leading to a clustering of infections in what might otherwise appear a uniform environment.

Dengue has visited Fiji in the past in sharp epidemics at intervals of approximately 15 years, although it is now 27 years since the onset of the last epidemic. During those epidemics which probably were of short duration at any one place from 22 per cent. to 40 per cent. of susceptible persons were attacked on each occasion, the proportion depending largely on the exposure to the mosquitoes. The attack rates were highest in those areas where filariasis also is most prevalent.

Fijian women were attacked equally with men in contrast to the apparent situation with filariasis."

XIV—RHEUMATIC FEVER

*"Prevention is better than cure."**—English Proverb.*

190. The beginning of 1969 saw the final preparations being made for the commencement of the Filariasis Control Campaign: treatment lists and tablets were distributed to the village treatment committees that had been set up and publicity was intensified by word of mouth, pamphlets, press and radio. The treatment lists contained the names of every person for whom that committee was held responsible, arranged by household, together with his dose of pills and the dates on which they were to be taken. The first treatment day was Sunday, 26th January, and thereafter the pills were taken weekly for six weeks followed by the first Sunday in each month for a total of 28 doses. This is an extension of the original intention of giving only 18 doses and was decided upon as a result of experience in Samoa. The dose on each occasion of 5 mg. of diethylcarbamazine per kg. body weight.

191. Dosage continued smoothly throughout the year. Side-effects were noticed after the first dose in about 20 per cent. of the population but were mild in every case. They consisted of nausea, vomiting and diarrhoea in some and weakness, fever and joint-pains in others. No treatment other than aspirin was required. No person suffered side-effects for more than four doses and in most cases they were caused only by the first dose. The symptoms were almost certainly due to the demise of microfilariae. On the credit side was the fact that passage of round worms by young children was fairly common. During the next month or two there was an increase of about 50 per cent. in patients attending for abscess formation lymphangitis, lymphadenitis and filarial fever but this soon died down.

192. Morbidity subsequently showed a marked decrease in the treatment area. People claimed that they felt better, could work longer, rose earlier in the morning and felt renewed vigour. Cases of indigestion, arthritis and asthma have been relieved. The number of patient days recorded at hospitals within the treatment area have been reduced by 25 per cent. compared with the previous year. It would appear that much mild illness in certain parts of Fiji is due to filariasis.

193. It is necessary, of course, that the ground gained should not be lost and that the enthusiasm of the people be maintained; this is being done by continual publicity. It is also essential that surveillance be continuous and this is being done by the random checking of blood samples throughout the treatment area. By the end of the year some 4,000 samples had been examined with encouraging results—only 70 were positive, the microfilarial rate was 1.75 and the microfilarial density was 4.55.

194. It would seem from this experience that the control, and possibly the eradication, of filariasis in Fiji is a possibility. It was planned to extend the control area to cover the rest of Vanua Levu and Lau during 1970. Surveillance may have to be kept up for many years. But to free people of Fiji from the scourge of elephantiasis would be a reward which would make such an irksome procedure well worthwhile.

195. One of the reasons why diseases of the circulatory system have remained at the top of the table of causes of death (Figure 1) is the frequency with which rheumatic fever or acute rheumatism used to occur in Fiji. Now, however, the pattern is changing and the epidemiology of the disease is considered of sufficient importance to justify its inclusion in a separate section of this report.

196. It has always been known from hospital statistics that acute rheumatism was prevalent in Fiji and, furthermore, that it was more frequently seen among Indians. In 1958 for example, there were 162 admissions to hospitals classified as rheumatic fever of whom 134 (82.7 per cent.) were Indians. When, in 1964, the condition was made statutorily notifiable, the pattern became more apparent. In 1966 notifications of acute rheumatism numbered 288 and 87.7 per cent. of these were Indians. Why the disease should be so much more common in Indian children than Fijian ones has not been determined and there is room for further epidemiological research in this field.

197. From these figures it was obvious that there was developing among the children of Fiji a large reservoir of cardiac cripples. This was supported by the figures of admissions of patients suffering from chronic rheumatic heart disease which, in 1966, numbered 190. Since this pool of morbidity, chronic illness, financial and physical crippling and early death was eminently preventable, the Department decided in 1966 to tackle the problem with energy. Admittedly it is probably impossible to prevent the initial attack of acute rheumatism but the degree of cardiac damage increases greatly with each successive attack and the programme developed by the Department was designed particularly to prevent these recurrent attacks of the disease.

198. With effect from 1st January, 1967, it became compulsory for all medical officers diagnosing acute rheumatism to refer the patient to a Consultant Physician for assessment. Not until the diagnosis has been confirmed by the Consultant is the case notified as acute rheumatism. The patient is then put on a register and the central Medical Statistics Section is informed. When the patient is discharged from hospital, the Medical Statistics Section informs the nearest Subdivisional Medical Officer and this officer then becomes responsible for ensuring that the patient receives monthly injections of benzathine penicillin or whatever other prophylactic treatment the Consultant may have prescribed. He is also required to see that the patient receives regular visits from the District Nurse and returns to the Consultant's clinic on the required date.

199. As a result of the introduction of this policy the number of cases notified in 1967 dropped dramatically to 95. It was pointed out in the annual report of that year that this was presumably due to the weeding out of many false notifications but that hospital statistics indicated that the Consultants were omitting to notify all cases coming to their attention. This fact was drawn to their notice and, in 1968, the number of cases notified rose to 146. Of these, 129 (88.4 per cent.) were Indians and 101 (39.2 per cent.) were female.

200. In 1969 the number of cases of acute rheumatism that were notified dropped again to 87 of which 70 (80.46 per cent.) were Indians and 51 (58.62 per cent.) were female. Admissions to hospitals, however, amounted to 166 (132 or 79.52 per cent. of whom were Indians) revealing that the problem of under notification is again occurring. Even if some of these cases were re-admissions it is unlikely that all the excess can be accounted for in this way. The number of admissions in 1968 was 160 which gave a rate per thousand of 0.29 and the equivalent rate for 1969 is 0.31. The general pattern with regard to acute rheumatism would appear therefore not to have changed in the last few years although the incidence is considerably less than it used to be a decade ago.

201. There is, nevertheless, mounting evidence that the control programme to which reference has been made is having an effect in reducing cardiac damage due to rheumatic fever. Prior to 1966 the number of admissions to hospital of patients suffering from chronic rheumatic heart disease was in the neighbourhood of 200 each year. Since the current programme was introduced in 1966, the following pattern has been produced.

TABLE 11

CASES OF CHRONIC RHEUMATIC HEART DISEASE
ADMITTED TO HOSPITAL

Year	Fijian	Indian	Others	Total
1965	35	159	10	204
1966	41	142	7	190
1967	29	134	8	171
1968	19	80	8	107
1969	16	60	8	84

202. It will be noted that the incidence of rheumatic heart disease is steadily dropping and that the improvement is mainly among the Indians who are more likely to ensure that their children have their monthly prophylactic injections. It would seem that the control programme to prevent the crippling sequelae of rheumatic fever is producing results in spite of the fact that the improving standard of living in Fiji has not yet begun to exercise the effect on the incidence of first attacks that it has done elsewhere.

XV—MATERNAL AND CHILD HEALTH

"There is no finer investment for any community than putting milk into babies."

—Winston Churchill.

203. In Fiji the maternity, family planning, infant welfare, and school health services are fully integrated. The care of the infant commences in the womb at antenatal clinic, continues through the process of birth, infancy and childhood into school and ends only when he is handed over to the adult national health service. As an integral part of this service family planning advice and encouragement is offered for the sake of both mother and child. It is therefore difficult to deal with these services separately and in the following account a certain amount of repetition is unavoidable.

Family Planning

204. Because family planning is considered such an essential and integral part of maternal and child health there is only one clinic which is devoted only to the discipline and that is in the Colonial War Memorial Hospital where other clinics are somewhat more compartmentalised than they are elsewhere. The global and national arguments for a planned population growth are too well known to require repetition in this report—suffice it to say that any country with a birth rate of more than about 25 per 1,000 of the population will be ploughing so much of its income into ever-increasing schools and hospitals that it will have little chance of expanding its development and providing jobs for its increasing population. The Medical Department is naturally more interested in the improved health and increased happiness accruing to all the members of the wisely spaced and well planned family and it is mainly for this reason that the necessary services are so widely distributed.

205. It is the Department's objective to teach the public to look upon family limitation as a perfectly normal and routine part of the enjoyment of a full and healthy life. Thus an expectant mother is exposed to Family Planning philosophy at the antenatal clinic where she receives general advice on her pregnancy and where she receives immunisation aimed at preventing her baby from contracting tetanus neonatorum. She is attended in labour by staff who have a full appreciation of Family Planning and at the post-natal clinic the mother has another opportunity to obtain Family Planning advice. The infant is provided with a schedule of immunisation involving at least four separate visits to the public health clinic or nursing station where again Family Planning is built into the system. The public health nurse visits a home not only to give advice on immunisations, to supervise domiciliary treatment, to advise on infant feeding but also to discuss Family Planning.

206. The easy availability of contraceptives is equally important and contraceptive supplies are available at more than a hundred medical and nursing stations throughout Fiji. In addition to this, public health nurses carry supplies for distribution when they are on tour. In so far as contraceptive methods are concerned, the Lippes loop is available free of charge at all medical stations. In addition, oral contraceptives can be purchased through retail chemists at the Government's subsidised price of 10 cents for a month's course and the Family Planning Association have recently introduced a system whereby condoms can be purchased from small stores throughout Fiji at a subsidised price of one cent per unit.

207. That the concept of family planning is becoming ever more acceptable in Fiji is borne out by the number of attendances at various health centres and clinics for advice and materials. These figures are set out in Table 12 with the year 1963—the year in which the Family Planning Association was founded—being taken as the starting point. It must be appreciated that these attendances are only a guide to the number of women displaying an interest and do not indicate the total of women protected.

TABLE 12

FAMILY PLANNING ATTENDANCES

Year	Attendances
1963	2,732
1964	17,079
1965	22,817
1966	21,489
1967	28,359
1968	49,803
1969	55,661

Equally, the number of women protected by Family Planning methods is not an accurate statistical guide on which to base a forecast of the birth rate, first because of the varying biological effectiveness of the different contraceptive methods, secondly because we cannot be sure that condoms are used, loops are allowed to remain in place, or pills taken, and finally because these figures take no account of the number of couples using coitus interruptus, the safe period or abortion, as a means of family limitation. The best available figures of the number of women protected in December, 1969, are set out below in Table 13.

TABLE 13

AN ANALYSIS OF WOMEN PROTECTED BY VARIOUS METHODS—DECEMBER 1969

Contraceptive Method	Women Users
Contraceptive Pills	9,600
Loops in situ	10,000
Condoms	2,000
Sterilisation	2,500
Total	24,100

The figure of 24,100 represents 21 per cent. of the total number of women in the 15-44 age group—an increase of 4.5 per cent. on the previous year.

208. The only two really useful guides to the success of a family planning programme are the birth rate and the fertility rate. The crude birth rate will be influenced by the population structure and Fiji with its high proportion of young people is likely to have a naturally high birth rate. Nevertheless a trend in a birth rate, if discernible, is a useful indicator to the efficacy of population planning and, as is seen in Table 14, a definite trend is apparent in Fiji. The slight rise in the Indian birth rate in 1969 may be only a temporary phenomenon or it may mean that all willing acceptors of family planning have now been reached and that future progress will be more difficult. The Department is investigating this and next year's figure should be illuminating. The Fijian figures over the last three years appear to indicate that this component of the population has now definitely accepted planned families as a way of life.

TABLE 14

CRUDE BIRTH RATES IN FIJI, 1958-1969

Year	Indian	Fijian	Overall
1958	45.36	35.91	40.28
1959	47.36	36.90	41.78
1960	43.75	37.36	39.95
1961	45.54	37.43	40.88*
1962	42.64	37.84	39.55
1963	40.20	37.80	38.02
1964	39.84	37.40	37.82
1965	37.29	36.19	35.89
1966	34.64	36.93	34.87
1967	32.52	37.19	34.08
1968	29.76	32.11	30.23
1969	31.94	26.99	28.97

* There has been a serial fall in the Fiji birth rate since 1961.

209. The birth rates shown in Table 14 are of course only as accurate as the data from which they are calculated. Although the Medical Department hopes in 1970 to be able to obtain a direct estimate of the number of births occurring during the year, until now it has been forced to rely on the Registrar-General's figures of registrations of births. It had always been accepted that many of these referred to late registrations of births occurring in previous years and that likewise many births taking place during the year would not be registered until subsequent years if at all. Birth rates have therefore in the past always been offered with hesitancy and apology.

210. Early in 1970, however, an investigation was conducted by the Medical Department into these registrations of births and this demonstrated the surprising fact that 88.3 per cent. of Indian birth registrations refer to births occurring in the year in question, and if November and December of the preceding year are included, 97.8 per cent. of birth registrations belong to births occurring in this fourteen month period. The corresponding numbers for Fijian registrations are 87.9 per cent. and 95.1 per cent. The number of registrations in 1969, which referred to births in 1967 or before, was 0.5 per cent. for Indians and 1.0 per cent. for Fijians. These facts are dramatically illustrated in Figures 2 and 3. It can therefore be accepted that the birth rates shown are actually of a high degree of accuracy.

211. A breakdown of birth registrations for the years 1958 to 1969 are presented in Table 15.

212. The Indian figures show a decline from 9,117 registrations in 1961 to 7,526 in 1968, rising to 8,281 in 1969, while Fijian registrations rose serially from 5,587 in 1958 to 7,318 in 1966, followed by a decline to 6,798 in 1968 and to 5,854 in 1969.

FIGURE II.

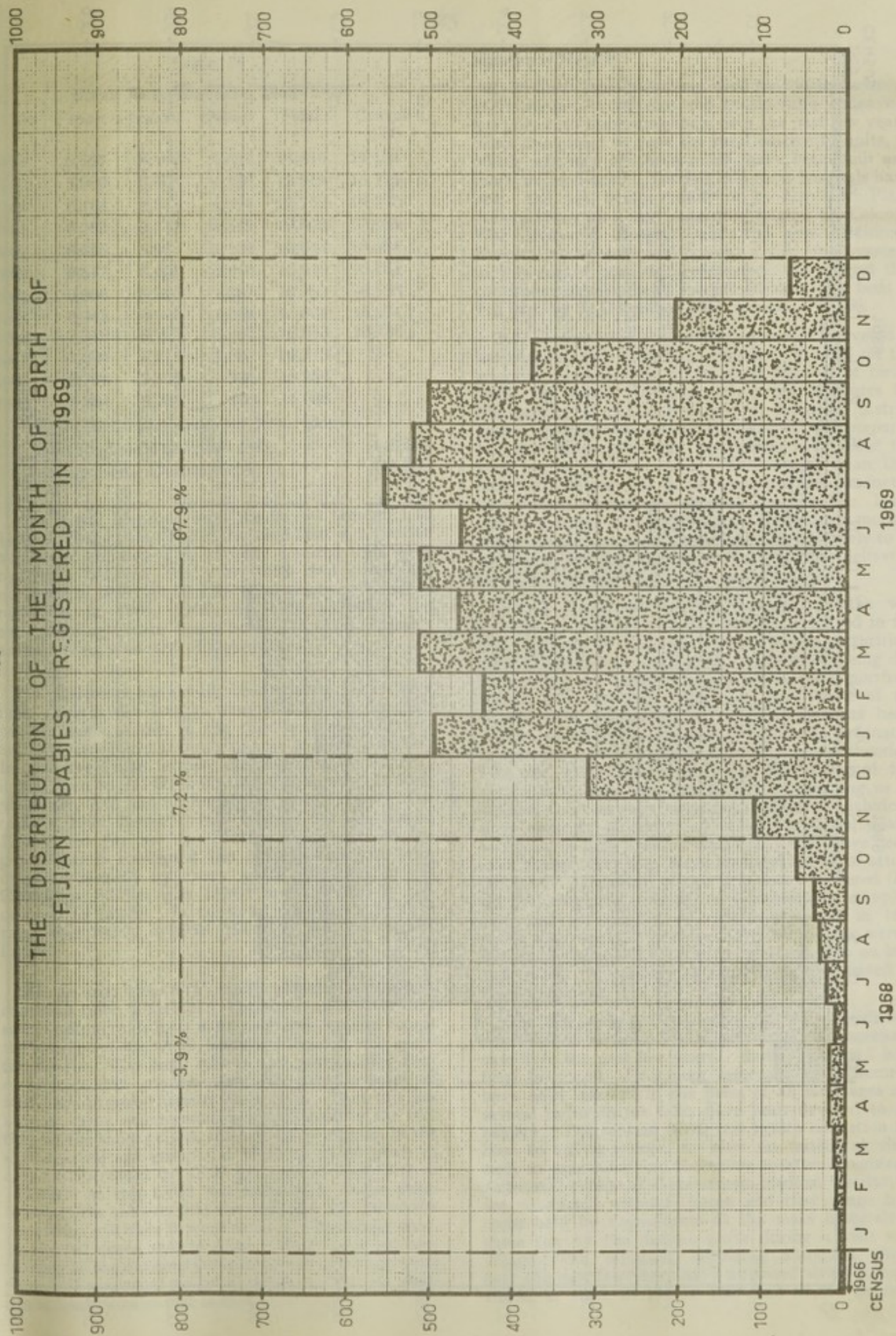


FIGURE III.

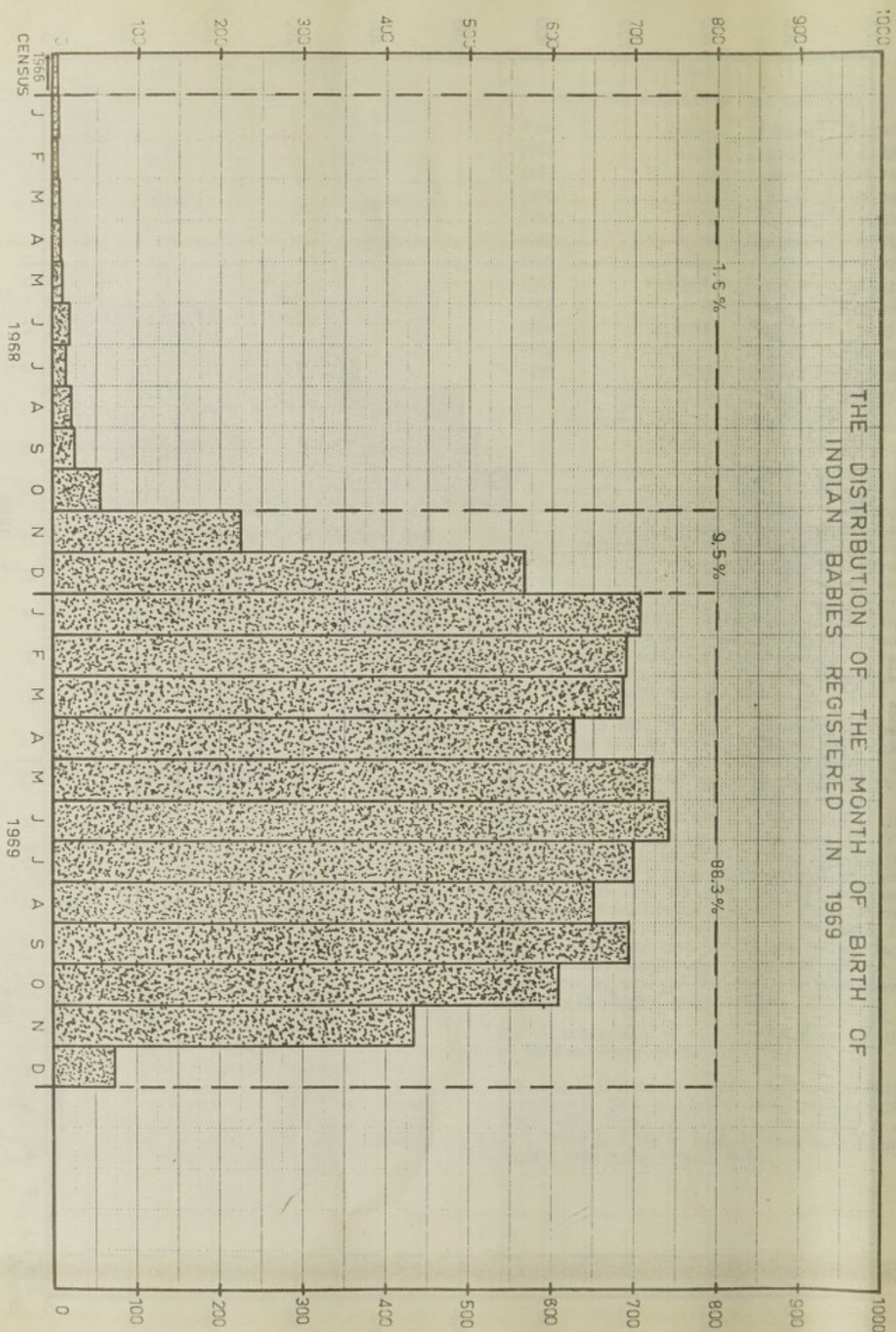


TABLE 15

BIRTH REGISTRATIONS, 1958-1969

Year	Fijian	Indian	Others	Total	Census 1966
1958	5,587	8,196	1,027	14,810	15,104
1959	5,909	8,890	1,120	15,919	15,175
1960	6,164	8,515	1,074	15,753	16,102
1961	6,362	9,117	1,117	16,596	17,065
1962	6,626	8,905	1,109	16,644	16,884
1963	6,817	8,692	1,010	16,519	16,753
1964	6,966	8,936	1,087	16,989	16,533
1965	6,943	8,660	1,058	16,661	15,474
1966	7,318	8,292	1,043	16,653	16,789
1967	7,604	8,019	1,090	16,713	..
1968	6,798	7,526	930	15,254	..
1969	5,854	8,281	903	15,038	..

*Shows digital preference for 0 year olds.

Total Registrations 1958-1966 .. 143,544

Corresponding Census Total .. 145,909

213. It will be noted from the figures presented in Table 15 that at the time of the 1966 Census, a greater number of children were actually counted than were registered between the year 1958-1963 (with the exception of 1959) whereas the total number of children registered in 1964, 1965 and 1966 exceeded the corresponding Census figure by 1,477. This indicates an improving standard of registration.

214. Reference has already been made to the fertility rate. This is the average number of births occurring per thousand women in the child-bearing age group and it gives a fairly accurate picture of social patterns. In 1958 the Fijian fertility rate was 164.94—by 1967 it had risen to 171.60 indicating that family planning philosophy had had no impact up to that time. The rate for 1969, however, had dropped dramatically to 125.26. So far as the Indian component of the population is concerned the fertility rate has been dropping steadily for many years. In 1958 it was 227.08, in 1967 it was 147.01 and by 1969 it had dropped to 142.98. In the total population, fertility rates were 192.97 in 1958, 154.86 in 1967 and 132.04 in 1969.

215. In brief, then, Fiji's family planning programme continues to be successful. The birth rate and fertility rate continue to drop as more and more families accept the concept of the small, healthy, educated, well cared for, family. The birth rate is now approaching that of metropolitan countries and the total number of births has dropped serially since 1964. That this has been no mean achievement is emphasised by the fact that, in the same period, the number of women in the child-bearing age group (i.e. from 15 to 44 years of age) has increased by 18.95 per cent. from 95,747 to 113,889. As this trend will continue for some years to come, it is obvious that the campaign to control the population will have to work at an ever increasing pace. As the red queen said to Alice, "Now, here, you see, it takes all the running you can do to stay in the same place. If you want to get somewhere else you must run at least twice as fast as that".

Maternal Health

216. Much importance is placed by the Department on its maternity services and considerable endeavour has gone into improving them over the past few years. With this object in view the rural maternity units, to which reference has been made, have been built and more are envisaged. District and rural hospitals have been and are being rebuilt or modernised. Plans are underway for a new maternity wing for the Colonial War Memorial Hospital and the new Divisional Hospital at Lautoka will present a vast improvement in this regard over its predecessor. As part of this continuing development, specialised maternity beds in Fiji had, by 31 December 1969, increased to 166.

217. During 1969, the number of women delivered in hospital totalled 10,948—an increase of 1,085 on the previous year in spite of the total number of births being 216 fewer. Unfortunately accurate figures for the number of babies delivered at home by district nurses were not available when this report was prepared but indications were that the number was about the same as in previous years. This would mean that more than 85 per cent. of deliveries are now conducted by trained personnel. Precise figures are being collected during 1970 and those for the first few months show that the calculation given above is not likely to be far wrong and that the proportion of babies delivered by skilled personnel is steadily increasing.

218. A small increase in maternal deaths was recorded in 1969, twenty deaths being reported in the last trimester of pregnancy or following parturition. Most of these were considered unavoidable being due to obstetric emergencies or post-partum haemorrhage occurring in isolated places. At least three of the deaths were from associated factors such as heart disease which had nothing to do with the pregnancy or delivery. The maternal mortality rate was therefore 1.33 per 1,000 live births. At least some of this apparent increase was due to better reporting as all Medical Officers were requested in 1969 to include in their monthly reports news of any maternal deaths occurring in their areas of which they may have heard even though they may have not been called to attend the case. As a result of this it is now considered that the Department's information is reasonably complete and that the number of maternal deaths in 1969 really was twenty. It would have been higher were it not for flying squad calls and mercy missions on land and by sea respectively as many lives were saved by these measures.

219. The medical Department has put considerable effort into advertising the importance of good antenatal care over the past few years. Radio "flashes" have been broadcast at frequent intervals, advertisements have been inserted in the press of all languages and several radio doctor talks have been devoted to the subject. The content of all this health education has been to advise women to visit an antenatal clinic early in pregnancy and thereafter to attend regularly. Antenatal clinics at Government medical institutions are conducted without charge and they range from those held by Consultants at the main hospitals to those run by the district nurse during a visit to a village. The numbers attending antenatal clinics over the past few years have increased steadily, being 40,732 in 1966, 57,191 in 1967 and 81,351 in 1968.

Some doubt was felt at the time concerning the validity of the last figure because the increase seemed so large. However the attendances at antenatal clinics during 1969 numbered 85,090, an increase of 4.6 per cent. over the suspect figure for 1968. It therefore appears that the count is accurate and it implies that the average pregnant woman now attends a clinic between five and six times during her pregnancy—a very good figure indeed.

220. Statistics show but the part of the ice-berg above water. Statistics reveal that this policy has reduced the infant mortality rate to one of the lowest in the world, that tetanus neonatorum has been almost wiped out, that the death-rate among low-weight babies is less than in many fully developed countries. Statistics show that women are being converted to family planning, that babies are being brought to childwelfare clinics and that, in spite of a slight increase in 1969, the maternal death rate is steadily being reduced. But what statistics do not show is the seven-eighths of the ice-berg below water—the reduction in difficult labours, the lessening of frequency of birth injuries to babies, the lack of severity of trauma to the mothers. Statistics do not show the number of carious teeth saved, the anaemias of pregnancy cured, the cases of venereal disease picked up, the intrauterine displacements corrected, the toxæmias of pregnancy averted, the early cases of diabetes got under control and the hundred and one other minor ailments treated. But, above all, what is not shown by statistics, is all the advice given, the education administered, the worry soothed and the simple anxiety removed by this increase in attendances at antenatal clinics.

Child Health

221. Of all the single measurements of the health of a community the Infant Mortality Rate is considered to give the best indication of the level of health services. The Infant Mortality Rate in Fiji dropped again in 1969 to reach a record figure of 21.74 per thousand live births. For reasons already discussed, this figure is believed to be accurate. This figure puts Fiji among the world leaders in child health.

222. In the World Health Organization's report on the world health situation published in 1968, figures are given for most countries up to the year 1966. So far as the infant mortality rate is concerned, there appear to be four main groups—many developing countries do not even attempt to estimate what the death rate is among infants and these constitute the first group and include such countries as Ghana, Congo and Laos. Then come the developing countries with mortality rates of about ten per cent. such as Peru (109.9 per thousand), Bolivia (108.2) and Chile (98.4). In third place come countries which are beginning to get their problems under control such as Mauritius (64.2), Nigeria (46.4) and Jamaica (35.4). Finally come the countries with infant mortality rates in the low twenties and these are almost all developed countries such as Canada whose rate is (23.1 per thousand), the United States of America (23.7 per thousand), the United Kingdom (18.3 per thousand) and the Scandinavian countries who lead the field with rates of 16.9 in the case of Denmark and 14.6 for Norway. All these figures relate to the year 1966 when Fiji's rate was 27.9.

223. Fiji likes to compare its morbidity statistics with those of New Zealand for several reasons: New Zealand is next door to Fiji and is a good friend, it has two racial components in its population which act as useful comparisons with Fiji and it sets a very high standard which gives Fiji an ambitious target at which to aim. The New Zealand figures for 1968 are compared with Fiji's for 1969 in Table 16.

TABLE 16
INFANT MORTALITY RATES OF FIJI AND NEW ZEALAND

Fiji		New Zealand	
Race	(1969)	Race	(1968)
Fijians ..	21.52	Europeans ..	17.4
Indians ..	22.34	Maoris ..	27.4
Total ..	21.74	Total ..	18.7

224. It will be seen that both racial groups in Fiji have now very similar rates and lie about mid-way between the Maori and European figures of New Zealand. The reduction in the overall infant mortality rate is due entirely to a fall in the Indian rate from 29.10 in 1968 to 22.34 in 1969. A slight rise in the Fijian rate, from 20.74 to 21.52 is probably due to better reporting of infant deaths and is still an excellent figure by world standards. The low infant death rate in Fiji is thought to be due to three factors—the very high proportion of women who attend antenatal clinics and have their babies in hospital, the almost complete eradication of whooping cough and the reduction of mortality among low-weight babies.

225. Prominence was given in the annual report of 1968 to the problem of low-weight babies among Indians. It was pointed out that the death rate among babies weighing less than 2,500 G. (5½ lb.) at birth was very high and that a large number of such babies were born to Indian women. The situation in 1969 is analysed in Tables XXVII and XXVIII. It will be seen that 1,561 babies of less than 2,500 G. were born in the main hospitals of whom 1,359 (87.07 per cent.) were Indian. This is almost precisely the same proportion as in 1968. In 1968, 9.28 per cent. of all low-weight babies died. In 1969 the mortality was 163 out of the 1,561 giving a rate of 10.44 per cent. which is also approximately the same. The interesting fact is that, although the death rate among Fijian low-weight babies was 25.29 and among other races 31.25 per cent., that among such babies born to Indians was reduced to 8.09 per cent. This would seem to indicate that premature babies born to non-Indian mothers usually suffer from some other defect which militates against survival whereas Indian babies are merely born small. At all events, the overall death rate continues to compare favourably with that pertaining among low-weight babies elsewhere.

226. The infant mortality rates of Fijians and Indians are further analysed in Table 17 and compared with New Zealand rates for Europeans and Maoris. The similarity between Fijians and Maoris will be noted: both have easy births with healthy babies with a low neonatal death rate while more babies die in the remainder of the first year of life. The Indian pattern is more like that of the European with a relatively high neonatal death rate and a low death rate thereafter.

TABLE 17

INFANT DEATH RATES IN FIJI COMPARED WITH
NEW ZEALAND

Racial Group	Neonatal Deaths (Deaths in first month)		Post-Neonatal Deaths		Infant Mortality	
	Total	Rate/ 1,000 Live Births	Total	Rate/ 1,000 Live Births	Total	Rate/ 1,000 Live Births
Fiji—						
Fijians ..	43	7.35	83	14.18	126	21.52
Indians ..	110	13.28	75	9.06	185	22.34
New Zealand— (1968)						
Maoris ..	..	12.2	..	16.2	..	27.4
Europeans ..	..	11.9	..	5.4	..	17.4

227. Once children have survived the first year of life in Fiji they do well—and let it not be forgotten that a tremendously high proportion (97.8 per cent. of them) do survive that first year. Toddler mortality is very low indeed. The toddler is the child aged more than one year but less than five years and the death rate among them in 1969 was 1.6 per thousand among Indians and 2.9 per thousand among Fijians. The equivalent rates in New Zealand in 1968 were 1.0 per thousand among Europeans and 1.9 per thousand among Maoris. When it is considered that New Zealand is justly renowned for the excellence of its child health services it will be appreciated that Fiji has reason to be proud of its record in this regard. The Fijian rate has declined more dramatically than the Indian one presumably because so many deaths in childhood among Fijians used to be due to the infectious diseases which have now largely been brought under control. There is, nevertheless, a little way to go yet before life to a Fijian child is as safe as it is to an Indian one. Indeed when one considers the Fijian toddler's greater propensity for climbing trees and getting up to mischief and the fact that he is liable to live in greater isolation than his Indian counterpart, the chances are that he will always live in slightly greater danger.

228. The Medical Department has always placed great importance on its programme of immunisation. The policy is to give every infant B.C.G. as soon as possible after birth. Three doses of triple antigen (D.T.P.) are given, at four, five and six months of age, the first and last being accompanied by a dose of Sabin trivalent oral poliomyelitis vaccine. A further dose of both is given when the child is 1½ months old and vaccination against smallpox is offered in the main centres at two years of age.

229. During 1969 the following immunisations were given to pre-school children:—

B.C.G.	..	..	17,686
Sabin (1)	..	..	16,427
Sabin (2)	..	..	11,401
Sabin (3)	..	..	6,895
D.T.P. (1)	..	..	21,222
D.T.P. (2)	..	..	17,030
D.T.P. (3)	..	..	14,380
D.T.P. (4)	..	..	9,155

230. Some of these doses will have been given to children who were missed earlier and there will have been some double reporting by the Area Medical

Officer and district nurse (this is not believed to be common and should be entirely excluded by a new system to be introduced in 1970) but it will still be obvious that, with just over 15,000 births, coverage is of a very high level indeed.

231. Fiji is a healthy place for children. The main childhood diseases have been discussed earlier in this report and it was pointed out that all are mild and few are common. There is little malnutrition and what does occur is usually due to ignorance of correct weaning techniques rather than to a lack of food. Constant effort is put into combatting this problem by both the Health Education Section of the Department and the Nutrition Department of the Fiji School of Medicine. There is evidence that the incidence of scabies and fungal skin diseases is rapidly decreasing as a result of the work of Health Sisters and District Nurses. Serious accidents, as already stated, are rare. Most children can swim as soon as they can walk. Rickets and avitaminosis are almost non-existent. Indeed, the physique and general health of all the people of Fiji, and particularly of the younger generations, attests to the healthy, happy and active childhood they have enjoyed.

School Health Service

232. In Fiji children enter primary school at six years of age and leave when about 14 years old. A minority then proceed to secondary school until they are aged 18. In Suva and its environs the school health service is conducted by a special School Health Sister with a team of nurses under the direct supervision of the Divisional Medical Officer, Central. Elsewhere each Medical Officer is responsible for the health of the schools in his area but routine inspections are normally made by the Subdivisional Health Sister with the assistance of one or more district nurses. Each school entrant and leaver is seen by the Health Sister and any abnormalities are reported to the Area Medical Officer. In some areas the doctor himself manages to visit every school for this purpose during the year.

233. On entering school, children are given a booster dose of Sabin vaccine and of tetanus toxoid unless they appear to have missed the pre-school immunisation schedule in which case they receive the full course. It is the duty of the Principal of the School to obtain the immunisation record card of each new pupil from its parents but, needless to say, this is frequently impossible. In this case the presence of a B.C.G. scar is taken as presumptive evidence that the child has already been immunised.

234. School leavers are given a Mantoux test and non-reactors receive yet another dose of B.C.G. to protect them when they enter the adult environment. Positive reactors are X-rayed and treated as seems appropriate.

235. The following immunisations were given to school children during 1969:—

Antigen	No. of Doses
Mantoux test	12,012
B.C.G.	8,745
Sabin	19,393
Tetanus Toxoid	31,286

236. The school dental service, being an entirely separate organisation, is discussed elsewhere in this report.

XVI—HEALTH EDUCATION

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity . . . Informed opinion and active co-operation on the part of the public are of the utmost importance in the improvement of the health of the people."

—*Constitution of the World Health Organization.*

237. The Medical Department places great importance on health education. It is considered the public health measure which produces the greatest return on the minimum investment. Unless people can be made to feel the want of improved public health it can never be enforced from above. If, on the other hand, people can be made to demand these improvements, then no central or local authority can long resist them. To generate this awareness that there are better ways of living, to create this demand for improvement, to convince Government that such requests must be met, this is the basic *raison d'être* of health education.

238. The Department has always felt that if health education is to have its maximum impact it should be practised by every health worker and not just by a cadre of mysterious strangers who turn up, preach a strange gospel briefly and then pass on. For this reason the most important function of the Health Education division of the Department is to train health educators. The division was, as usual, fully extended during the year.

239. With this policy in mind the Health Education Officer spent much of his time teaching. Classes at the Fiji School of Medicine included final year medical students, Health Inspectorate students, dietitians and post-graduate classes of nurses. Lectures were also given at the Fiji School of Agriculture, South Pacific Commission Community Education Training Centre, the Nasinu Teachers' Training College and at the annual seminar of the Fiji Medical Association. Until May the Health Education Officer was assisted by an adviser from the World Health Organization but in that month the latter departed upon completion of his assignment.

240. But, apart from teaching the teachers, the division also spent much time on indoctrinating the public. Health films were distributed and widely exhibited, a weekly bulletin on the state of Fiji's health and with comments on various diseases was distributed in all languages to both press and radio, advertisements and radio flashes were used to bring certain matters such as immunisation of babies to the public mind and a regular radio doctor programme was conducted, also in all main languages. A teaching flip-chart was produced in collaboration with the Nutrition Section of the South Pacific Health Service on the subject of "Preparing for your Baby", bringing to six the number of such charts which have been published. Posters were also produced on such diverse subjects as Infantile Diarrhoea and Mosquito Control.

241. The filariasis campaign to which reference has been made occupied much of the health education division's attention during the year and the Health Education Officer has plans for converting the treatment committees into village health committees at the end of the programme—a policy that could well pay rich dividends. Indeed the quite startling success of

the filariasis campaign, the readiness with which it was accepted and the willing participation of the entire population spoke volumes for the effectiveness of the health education that preceded it.

242. The Health Education Officer travelled widely throughout Fiji during the year meeting subdivisional medical personnel, discussing with them their problems and advising on how to deal with them. In collaboration with the Dental Health Education Officer the theme of the Medical Department's exhibit in the Fiji Show in 1969 was dental health and both divisions produced in harmony a most impressive display. The Health Education Officer of the Education Department also works in close collaboration with the Medical Department's expert in the discipline and between them much is planned and put into effect. The Health Education Officer is also a member of the Rural Extension Method Committee which has been set up to advise the Commissioner of Rural Development.

243. The Health Education division of the Department has, in short, proved yet again during the year under review that it is an invaluable weapon in the Department's armoury against disease.

XVII—ENVIRONMENTAL SANITATION

"Her (Florence Nightingale's) conception of God was certainly not orthodox. She felt towards Him as she might have felt towards a glorified sanitary engineer; and in some of her speculations she seems hardly to distinguish between the Deity and the Drains."

—*Lytton Strachey.*

244. It is a sad reflection on human beings that they can not live together in proximity for any length of time without so polluting and damaging their environment that they begin to destroy one another. The problem of environmental hygiene became apparent to thinking people only in the first half of the nineteenth century and to our Victorian ancestors it was, as our quotation indicates, all a simple matter of good drainage. To-day, however, as a result of the complexity of modern industrial civilisation and because of the sheer pressure of numbers, the problem has become much more complicated. People have to be prevented from polluting water supplies with sewage or rubbish, the air with factory smoke or emissions from motor vehicles and the neighbourhood with insecticides or industrial poisons. Epidemic diseases have to be prevented by vector control, inspection of food handlers and premises, and by sanitation. Houses must be ensured to be safe for the occupants and not to be a fire hazard to others. Even such matters as lodging houses, hairdressers, slaughter-houses and kava saloons are all part of the surroundings in which we live which can cause disease to spread and which must be controlled. This vast field of public health endeavour is known as environmental sanitation.

245. Medical workers have, of course, known of the importance of environmental sanitation for many years but it is only recently that the general public have come to appreciate it. Indeed, the situation changed quite dramatically all over the world during 1969 and it suddenly became the vogue to protest about pollution of the environment. However, these crusades pass and enthusiasm wanes but health personnel have to keep on at the vital but frequently

unpopular task of saving mankind from his own waste products and from his own improvidence. This duty falls upon the Health Inspectorate division of the Medical Department and of the Local Authorities.

246. In most developed countries responsibility for environmental sanitation is delegated to local government as these bodies know best the problems in their own neighbourhood. In under-developed countries however, where local government is lacking or is only rudimentary, the job has to be undertaken by central authority. Fiji is in a state of transition between the two systems. There are 26 Local Authorities in the country covering both urban and rural areas and, of these, the Suva City Council, the Lautoka Town Council and the Nadi Township Board employ their own health inspectorate and it is the policy of the Medical Department to encourage others to do so. Those Authorities which can not yet be autonomous in such matters are provided with the services of a Health Inspector employed by the Medical Department. Co-ordinating the activities of the Local Authorities and with the power to step in and override their activities when necessary is the Central Board of Health of which the Director of Medical Services is Chairman. This Board supervises and advises Local Authorities but its power of veto or of intervention is used exceedingly sparingly.

247. The comprehensive nature of this organisation is broken by the fact that it has no authority, except in regard to infectious diseases, within Fijian villages. The local government of the rural Fijian population is organised quite independently by the Fijian Affairs Board which makes Fijian Affairs Regulations to be administered by the fourteen elected Fijian Provincial Councils. These Councils are required to co-opt medical advisers to their Health Committees and these advisers shall be the appropriate Subdivisional or Area Medical Officers. Under this split system of local government the Fijian villages continue to lag behind the rest of the community in the steady improvement in Fiji's environmental sanitation. The Fijians have become more aware of their slower progress and are beginning to realise that disease does not halt at legal boundaries and that the misery of poor environmental sanitation can not readily be overcome by small parochial units. It is hoped that this will lead to an early abandonment of its ineffective public health functions by the Fijian Affairs Board to allow the whole country to have a uniform and effective public health system under the Public Health Ordinance.

248. Most of the environmental health hazards to which reference has been made are not yet serious problems in Fiji although there are early manifestations of many of them and, unless action is taken early, most could become serious problems in years to come. For example steps have already had to be taken to prevent air pollution by the smoke from a factory chimney and by the fumes from diesel-engined vehicles. Pollution of rivers and foreshores by refuse and sawdust has also caused action to be taken and measures have been required to abate pollution of a river by cyanide emanating from a large mining company.

249. In the main, however, the environmental problems of Fiji are still those of unsophisticated communities—water, sewerage and housing. So far

as water is concerned, the rural water supply scheme continued to operate successfully—indeed its popularity proved rather embarrassing. At the start of 1969, 32 villages had paid their share of the cost of a supply and were awaiting its installation. All available funds, \$50,000, were committed early in the year and another \$30,000 was allocated by Government. Due to shortages of staff and shipping only 45 supplies were completed during the year and by the end of it there were 53 fully paid up villages on the waiting list. To date 151 water supplies have been constructed under the scheme. Construction demands have now outstripped the ability of the present Public Works Department organisation to cope with them and consideration is being given by the Ministry of Communications, Works and Tourism to increasing the staff and resources of the hydraulics section of the Public Works Department to give it the capacity to cope with 100 water supplies a year.

250. So far as sewerage is concerned, it would appear that the people of Fiji have finally learned to appreciate the importance of the hygienic disposal of excreta. In spite of the worst drought in Fiji's history, during which fears of famine were at times very real, 2,794 water-seal latrines were installed to take the total to 14,938. This water-seal latrine programme has been active in rural areas for five years and, during 1969, the Department conceived the idea of replacing the concrete lavatory pans by plastic ones and plans were developing at the end of the year to have these prepared cheaply and in quantity by a commercial firm. In urban areas the provision of sewerage systems was limited only by cost, not by enthusiasm. There were, nevertheless, sewerage systems installed in Nabua low-cost housing estate at a cost of \$40,000 and at Raiwaqa (both suburbs of Suva) at a cost of \$150,000.

251. The main problem of housing continued to be cost and, so far as the Department was concerned, pressure of work. Much work has been done by various committees to reduce the cost of the low-income worker's residence. By virtue of producing standard plans, designing low-cost building devices and lowering standards of regulations, much has been achieved but the basic problem continues to be the high cost of local building materials. The work of supervising buildings and seeing that the work complies with the approved plan falls on the Department's already overburdened Public Health Inspectors. In certain peri-urban areas these buildings are now becoming so complex that this duty is getting beyond the competence of a Health Inspector. The Department is endeavouring to obtain permission to recruit a qualified Buildings Inspector for this work.

252. As already stated, the responsibility for environmental control falls on the Public Health Inspector. The work performed during 1969 by the members of the Health Inspectorate division of the Department is detailed in Table XXIX of the Appendix. Readers are sometimes daunted by the length and complexity of this table but it well repays perusal indicating, as it does, the volume and variety of tasks performed by these hard working men. Without the industry, enthusiasm and incorruptibility of the Health Inspector the environment of Fiji would be very much less salubrious than it is and the health of its inhabitants would be in considerable peril.

XVIII—QUARANTINE

"The maximum security against the international spread of diseases with the minimum interference with world traffic."

—*International Sanitary Regulations.*

253. Although the word quarantine originally meant isolation it is to-day used as a convenient synonym for the measures for the prevention and control of the spread of epidemic diseases by international transport which have been drawn up and accepted by practically every country in the world. These measures are contained in the International Sanitary Regulations published by the World Health Organization. In Fiji they are enforced by members of the Health Inspectorate who are appointed Quarantine Officers for the purpose.

254. The tourist industry continues to assume an ever-increasing importance in the economy of Fiji and each year the number of visitors to the country grows. During 1969, 292,737 people visited the country—more than half the resident population. Of these, 203,102 arrived by air and 89,635 by sea. Aircraft arrivals from overseas numbered 3,256 and 744 vessels, excluding fishing boats, called at Fiji's ports.

255. Quarantine services are based on three sea ports and two airports which are the only legal ports of entry into the Colony. The sea ports are Suva, Lautoka and Levuka and the airports are Nadi and Nausori. Laucala Bay, in Suva, is also listed as an airport of entry for seaplanes but seaplanes with an international range are now so rare that the port is manned only occasionally.

256. Each port is under the control of the local Divisional Medical Officer, acting as Port Medical Officer, assisted by a staff of Health and Assistant Health Inspectors. At Nadi International Airport a Medical Officer is in addition, stationed on the premises. All these doctors are statutory Medical Officers of Health and all are authorised to issue International Certificates of Vaccination against the various quarantinable diseases.

257. Fiji is free from anopheline mosquitoes and hence of malaria. The introduction of even one gravid female mosquito would consequently be a calamity since there is a reservoir of malaria parasites in the Colony due to frequent traffic between the group and territories where malaria is endemic. For this reason great importance is placed on the insecticidal spraying of all aircraft arriving from malarious areas and those ships which have visited such an area within 50 days. This procedure causes inconvenience to crew and passengers of the vessel or aircraft concerned and is sometimes the cause of complaint by the various companies involved but its object is so obviously vital to the public welfare of the people of Fiji that it is, in general, accepted cheerfully. The Medical Department has so far refused to accept certificates of in-flight spraying preferring to take the full responsibility for such mosquito control itself.

258. The staff of the Quarantine Section also have special responsibilities for the control in the various port areas of *Aedes aegypti* which is indigenous in Fiji. Fiji is therefore a yellow fever receptive area within the terms of the International Sanitary Regulations.

259. The Medical Department maintained a quarantine station on the island of Nukulau off Suva from the days of indentured labourers. This was always maintained in a state of near-readiness in case a vessel arrived with an outbreak of a quarantinable disease on board. In 1969 Nukulau quarantine station, which had not been used in living memory, was finally closed down. It was felt that the danger of needing it nowadays was remote and that, if such a catastrophe did occur it would be more in accord with modern practice to treat the victims ashore. So far as the other ports and airports are concerned, since none of them is more than 15 miles from a major hospital with modern diagnostic and laboratory facilities, no special quarantine hospitals exist.

260. Smallpox has not been reported in Fiji since the nineteenth century and even then it only occurred among indentured labourers and was successfully contained on the few occasions it happened. None of the other pestilential diseases has ever been seen. All the territories of the South Pacific area together with Australia and New Zealand agreed during the year to co-ordinate their vaccination requirements and not to demand certificates from travellers within the region. By thus throwing a *cordon sanitaire* around the whole region these countries eased considerably the task of busy quarantine officers who have to inspect so many vaccination certificates during the course of their duties.

PART E—TRAINING

XIX—FIJI SCHOOL OF MEDICINE

"The life so short, the craft so long to learn."

—*Hippocrates.*

261. Long before any other Department of Government thought of training staff, the Medical Department was quietly and efficiently teaching the mysteries of their professions to doctors, nurses, dentists, health inspectors and technicians of various kinds. Training is now considered by the Department to be a vital part of its activities and it maintains the Fiji School of Medicine and the Central Nursing School for this purpose as well as arranging (usually overseas) advanced post-graduate courses for its personnel.

262. The Fiji School of Medicine was established in 1878 to train young men as public vaccinators at a time when this was almost the only preventive measure known to medical science and when the recent measles epidemic had shown the appalling results of the introduction of new diseases to an unprepared population. So successful was this scheme and so resourceful did the vaccinators prove that it soon became obvious that they were being called upon to perform medical duties far beyond those for which they had been trained. In 1886, accordingly, the course was extended to a three-year one covering the basic principles of preventive and curative medicine and the school, founded for the purpose of preventing epidemics, has ever since been far more public health minded than most western medical schools with results which, as recounted in this Report, speak for themselves. Originally it was known as the Suva Medical School and the first graduates completed their training in 1888. The original three-year course was extended to four years in 1930 and to its present duration of five years in 1952. The dental course is 3½ years and most of the paramedical courses cover two or three years.

263. The first Fijian "Native Medical Practitioners" as they were known proved to be tremendously successful. As a consequence, Rotuman and Indian students were subsequently admitted to the School and in 1917 the first student from outside Fiji completed his training. In 1928, stimulated and assisted by the Rockefeller Foundation, mainly through the efforts of Dr. S. M. Lambert, the School was enlarged to admit routinely students from other Pacific Island territories and was renamed the Central Medical School. The name was again changed in 1951, this time to the Fiji School of Medicine.

264. The present main building of the School, situated at Tamavua, was opened by Her Majesty the Queen on 17th December 1953. It was intended for the teaching of pre-clinical subjects, and for students' residence. Other buildings have been added subsequently. A generous donation from the Nuffield Foundation allowed the Department of Social and Preventive Medicine to be opened in 1959; with the remainder of the gift the first part of the Department of Hygiene was built and opened in 1961. (This has been enlarged subsequently). A Department of Nutrition and Dietetics, provided by the Freedom from Hunger Campaign, was opened in mid-1966.

265. The Tamavua centre is adjacent to the Tamavua Chest Hospital and the Twomey Memorial Leprosy Hospital. Clinical training in clinical medicine, all branches of surgery, and obstetrics, is carried out at the Colonial War Memorial Hospital four miles away. Forty senior medical and dental students have residential quarters near the Colonial War Memorial Hospital. A new residential block, Hoodless House, includes lecture rooms, library etc. and was opened in January 1967. A dental pre-clinical teaching laboratory was added in 1969. Most men and two women students studying at the Hospital now reside at the Hospital, Tamavua residence being reserved for pre-clinical, women and ancillary students, together with some men who are members of the Medical III class for whom there is no accommodation available near the hospital. From 1968, students of first year Medical and Dental courses were accommodated at the newly opened University of the South Pacific. In addition, from 1970, students in the first year Dietetics course will receive most of their instruction, and live, at the University.

266. Medical graduates of the Fiji School of Medicine receive a Diploma in Surgery and Medicine (D.S.M. Fiji) and Dental graduates a Diploma in Surgical Dentistry (D.S.D. Fiji) while those qualifying in paramedical fields receive a Certificate in their particular discipline. Following graduation doctors and dentists from Fiji complete a compulsory year of internship before full registration as Medical or Dental Officers. Most other territories have a similar requirement. The ancillary courses conducted by the School consist of Physiotherapy (3 years), Radiography (2 years), Dietetics (3 years), Laboratory Technology (3 years), Dental Mechanics (2 years) and Dental Hygiene (2 years). In addition a Certificate in Theory of Public Health Inspection is issued after a single

academic year to Assistant Health Inspectors: this is followed by a year of practical apprentice-type training in the field before appointment. Selected Assistant Health Inspectors return after five years of service to undertake a 2-year course leading to the Diploma in Public Health Inspection for General Overseas Appointments of the Royal Society of Health.

267. The doctors produced by the School will, at some stage in their careers, and indeed in many cases for the greater part of their lives, be working in remote areas, often with difficult communications and far from the sophisticated aids of modern medicine. They therefore need to be well trained in the basic arts of clinical medicine and to be, in addition, orientated towards public health; they need to be self-reliant, trustworthy and diligent; and they need to be in a position where they are admired and respected by the people for whom they work. This requires an all-round training which may include such subjects as simple dentistry and maintenance of outboard engines which might appear strange to the European medical educator, but which does not lay undue emphasis on the more esoteric scientific minutiae of their profession. The training which is given in the Fiji School of Medicine is designed to produce men—and women—of this sort.

268. Trained in the local milieu, in a School which has thus tailored its curriculum to local requirements, the graduate of the Fiji School of Medicine has always been the backbone of the profession in the South Pacific in general and in Fiji in particular. As his basic training has developed, so it has been possible to extend the variety and sophistication of post-graduate training available to him and, consequently to increase the responsibility with which he is entrusted. At the present time the young local graduate has a planned career open to him.

269. Following the statutory year of internship, all young newly-appointed Medical Officers spend a period in the field to gain experience in general medical practice. Thereafter three avenues are open to them depending on their preferences and general aptitudes. Some will continue their career as generalists with periods of refresher training as the opportunity arises. Others will return to the general hospitals for further training in Fiji, and later overseas, in one of the clinical specialities and, in this connection, it should be indicated that several local graduates have now acted for various periods and with distinction as consultants. The third group, who make a career in public health and medical administration have the opportunity of studying for the Diploma in Public Health of the University of Otago and, among them, there has been a 100 per cent. success rate in obtaining this diploma; almost all the Subdivisional Medical Officer posts are now held by local graduates and during 1969 two of the Divisional Medical Officer posts were filled by local graduates who were the first products of the School to achieve the rank of Senior Medical Officer. A third Divisional Medical Officer post was held in an acting capacity by a local graduate throughout most of the year and his promotion to Senior Medical Officer was announced in December.

270. Details of Diplomas and Certificates awarded in 1969 are shown in Table XXX but the total number in the School during the year were as follows:—

Medical Course	111
Dental Course	18
Post-graduate Courses	4
Dental Mechanics	5
Dental Hygiene	11
Laboratory Technology	12
Radiography	8
Physiotherapy	7
Dietetics	7
Health Inspectorate	5
Assistant Health Inspectorate (Theory)	19
Visiting Medical Students	2
Total Enrolment	209

271. This figure is a decrease from the 216 listed in 1968 but the Preliminary Class of 37 in 1968 were taken over by the University of the South Pacific in 1969 so that there has actually been an increase in the "technical classes". The visiting students were Nuffield Scholars. This scheme, which has been in operation for seven years, is financed by the Nuffield Foundation. By it two final year Medical Students from the United Kingdom are enabled to spend three months in Fiji, and two from Fiji a similar period in Great Britain. The students in question are thus enabled to see medicine as it is practised in a country in a different stage of development to their own, while their student hosts gain a valuable insight into the lives of their overseas colleagues.

XX—CENTRAL NURSING SCHOOL

*"The nurse sleeps sweetly hired to watch the sick,
Whom, snoring, she disturbs."*

—William Cowper.

272. Before Florence Nightingale the nurse was either a figure of fun or of gothic horror—witness our quotation from the mid-eighteenth century or Charles Dickens' portrait, a century later, of Sairey Gamp, the local nurse and midwife, as an ignorant, dirty, drunken trollop. Florence Nightingale changed all this. Overglorified in her time she has subsequently suffered from over-denigration but of her, as of very few people, it can honestly be said that she left the world a better place than she found it. She changed nursing from a foul chore fit only for the dregs of humanity to a vocation to be eagerly embraced by young ladies. And she did this almost entirely by setting up a new system of training. She made nursing a profession, she pointed out that much arduous training was necessary and that intelligence, diligence and education were necessary to cope with it. Her principles were adopted by her pupils and Fiji is fortunate in that

one of these pupils of hers, Miss Frances Webberburn, was the person who established nursing in the Colony. The Central Nursing School, based on Florence Nightingale's teaching and curriculum was established in Suva in 1908.

273. The Central Nursing School was originally intended to train native women in simple midwifery but, like their colleagues from the Fiji School of Medicine, the first graduates proved so versatile and were called upon for so much help and advice that the curriculum was soon extended to cover the full range of nursing care. This expansion and development has continued to the present day until the stage has been reached where Fiji is self-sustaining so far as the nursing profession is concerned.

274. Two courses are conducted at the Central Nursing School. New entrants commence in Preliminary Training School where their aptitude and educational background are assessed. They are then streamed into two levels. The brighter girls undertake a three-year course leading to the New Zealand Registered Nurse qualification which, when obtained, qualifies them to become Junior Sisters and eventually to climb up the promotional ladder of Sister, Sister-in-Charge, Assistant Matron and Matron to Nursing Superintendent. The less well educationally endowed students enter a course leading to the qualification of Fiji Registered Nurse. This is a three-year, three month, course at a more practical level and those who pass the final examination become Staff Nurses. The Lautoka branch of the School trains nurses only at the Fiji level. There is also a small nursing school attached to the Ba Methodist Hospital which trains nurses to this local level. It is now felt that the Fiji course overlaps the New Zealand one to too great an extent and it is planned to introduce a new curriculum in 1970 which will make it a still more practical and less theoretical one. More girls will be channelled into the New Zealand course and those taking the Fiji one will be akin to State Enrolled Nurses in the United Kingdom.

275. Like the Fiji School of Medicine, the Central Nursing School has an international flavour. Many of the territories of the South Pacific train their own nurses but the standard to which they attain approximates that of the Fiji course and their graduates are not recognised outside their own countries. Through the courtesy of the New Zealand Department of Health, however, nationals of the South Pacific islands are permitted to sit for the New Zealand nursing qualification and it is obviously to the good if such students can obtain their training in a climate and environment that is not too foreign from their own. The course involves for many of them a great deal of hard work and mental strain which is difficult enough without the added burden of adjusting to the completely strange social milieu of New Zealand. As matters stand, there are sufficient cultural ties between all the Pacific Islands for these girls to integrate without undue difficulty into life in Suva and they are thus enabled to bend all their energies to their studies.

276. The combined rolls of the Suva and Lautoka branches of the School on 31 December 1969 were as follows:—

	New Zealand Course	Fiji Course	Total
Fiji—			
Fijians	14	98	112
Indians	15	37	52
Others	1	..	1
Western Samoa ..	1	..	1
Gilbert and Ellice Islands Colony	2	3	5
Cook Islands	2	..	2
New Hebrides Condomi- nium .. ..	..	1	1
Total	35	139	174

277. In addition to these standard nursing courses, the Central Nursing School also conducts post-graduate courses for nurses leading to the qualification of New Zealand Registered Midwife and to Fiji certificates in Public Health Nursing, Family Planning and Nurse Technicians.

XXI—POST-GRADUATE TRAINING

"Give instruction to a wise man and he will be yet wiser."

—Proverbs 9 : 9.

278. The object of post-graduate or in-service training is to fit officers for promotion in their chosen career, to give further training in their specialities to certain officers and to provide mental refreshment and updating of their knowledge to the remainder. Much of this can be and is done in Fiji but the greater part of it must be undertaken overseas. The arranging of in-service training and the selection of officers to undergo it forms an important factor of the Medical Department's activities.

279. The Fiji School of Medicine also provides facilities for training which are made use of, not only by Fiji, but also by other Governments. The Certificate in Public Health (C.P.H. Fiji) course has been abandoned as most doctors entering this field now prefer to go to New Zealand and take the course leading to the Diploma in Public Health (D.P.H. Otago). Apart from public health, however, general refresher courses, and special courses in Medicine, Surgery, Obstetrics, Gynaecology, Anaesthesia, Ophthalmology, Leprosy and Tuberculosis may be given by special arrangement. A year is usually required for a thorough grounding in each of these specialties although shorter courses can be arranged. General refresher courses (which cover Medicine, Surgery, Obstetrics and Gynaecology) are not customarily of less than one year. A course consists of

attachment to the specific Hospital department, and working therein under the supervision of the Specialist in charge.

280. It is, nevertheless, true that the more advanced training must be taken overseas and this necessitates much correspondence and the co-operation of many agencies. The assistance in this field of a multitude of organisations has been most generous and is acknowledged with gratitude. Too many are involved to name them all but particular thanks must go to the World Health Organization for its generous grants of Fellowships, the East-West Center of the University of Hawaii which has granted Fiji many free training courses and the South Pacific Commission which has been most helpful. The Department of Health of New Zealand has been particularly helpful in arranging many attachments to hospitals in the Dominion for locally qualified Fiji doctors. Finally tribute must be paid to the Department of Localisation and Training of the Fiji Government which has supplied funds for much valuable training overseas.

281. The year 1969 saw a remarkable breakthrough in the post-graduate training available to Fiji School of Medicine graduates in that the Royal Australasian Colleges of Physicians and Surgeons opened their examinations for Membership and Fellowship respectively to locally qualified doctors. Only the Royal College of Obstetricians and Gynaecologists now remains aloof. Immediate advantage was taken of this opening: a doctor is presently training in New Zealand for a Diploma in Diagnostic Radiology of the Australasian College of Radiologists and another is working in Dunedin, with the assistance of a scholarship generously granted by Messrs. Carreras of Fiji Limited, for his primary F.R.A.C.S. Yet another is in the United Kingdom working at the University of Wales for his Diploma in Tuberculosis and Diseases of the Chest. Arrangements are being made for local doctors to work for the M.R.A.C.P. and the F.F.A., R.A.C.S. Upon obtaining these qualifications graduates of the Fiji School of Medicine would, of course, be eligible for promotion to consultant. During 1969, one Medical Officer of the Department obtained the M.R.A.C.P., three the D.P.H. (Otago) and two the D.O. (Auckland).

282. In-service training is not, however, limited to doctors and, during the year, several nursing sisters underwent advanced courses in their specialities overseas. Hospital clerical officers, laboratory technicians, health inspectors, physiotherapists and, of course, dentists also underwent training courses during 1969. As stated earlier in this report, the Medical Department is built up on the team system and a team is as strong as its weakest member. It is therefore necessary to provide continuous education and training at his own level for every member of the team if the patient is to obtain the maximum benefit and this the Department endeavours to do.

PART F—EPILOGUE

XXII—SUMMARY AND CONCLUSION

"Look to your health; and if you have it, praise God, and value it next to a good conscience; for health is the second blessing that we mortals are capable of; a blessing that money cannot buy."

—Izaak Walton.

283. This annual report is more than an account of the activities of the Medical Department during the calendar year of 1969. It is a record of the state of health of Fiji at the end of its period of colonial rule. It is a rendering of account of the administration of successive generations of the Colonial Medical Service over ninety-six years.

284. This record is a proud one and one for which the Fiji of to-day may well be thankful. A century ago the population of Fiji consisted of a people still living in a stone age social pattern and economy, decimated by measles and devastated by successive epidemics of lethal influenza. It was, indeed, generally accepted by the sociologists of the time that as a race the Fijians were destined for extinction—that the impact with western civilisation had indeed been fatal and that the race was doomed to vanish like so many tribes of American Indians and like the indigenous people of Tasmania. To-day, by contrast, the Fijians are a thriving lusty people, taking their place as equal if not dominant partners in the *mélange* of races that comprises modern Fiji. They include doctors, lawyers, administrators, scientists, agriculturists and all the various occupations of modern civilisation.

285. As Fiji stands on the brink of independence, her people can look forward to an expectation of life equal to that of most western countries. They enjoy one of the lowest crude death rates on record, an infant and child mortality rate better than those of most developed countries, and a freedom from all the killing diseases of childhood or of the tropics. The population is well nourished and healthy and is increasing at a controlled rate to take possession of and to develop the tremendous potential of these islands.

286. The only problems are, paradoxically, those produced by the high standard of the medical services. Increasing confidence in the efficacy of western medicine has produced a demand on hospital facilities greater than the development of those facilities can manage. Health education is producing a demand for improved environmental sanitation, water supplies and sewerage, at a rate greater than the financial and manpower resources of the country can create. But these are minor problems and should not be beyond the wit of future administrators to overcome.

287. The Medical Department has reason to feel satisfaction with the fruit of its endeavours.

C. H. GURD,
Director of Medical Services.

ESTABLISHMENT 1969

1. MEDICAL AND ADMINISTRATIVE SECTION—		
Director of Medical Services	1	
Deputy Director of Medical Services	1	
Assistant Director of Medical Services (Health)	1	
Assistant Director of Medical Services (Dental)	1	
Secretary	1	
Consultants	15	
Senior Medical Officers	5	
Medical Officers (Special Grade)	5	
Medical Officers Class I	59	
Medical Officers Class II	100	
Medical Officers (Interns)	8	
Senior Dental Officer	1	
Dental Officers Class I	3	
Dental Officers Class II	24	
Dental Officer (Interns)	1	
Medical Statistics Officer	1	
Senior Physiotherapists	3	
Junior Physiotherapists	4	
		234
2. NURSING SECTION—		
Nursing Superintendent	1	
Matrons and Assistant Matrons	6	
Senior Sisters	7	
Sisters-in-Charge	6	
Nursing Sisters (60) and Junior Sisters (64)	124	
Senior Health Sisters (5), Health Sisters (12), and Junior Health Sisters (6)	23	
Nurses	548	
		715
3. NURSING SCHOOL SECTION—		
Principal	1	
Senior Tutor Sisters	2	
Tutor Sisters	8	
Housekeeper	1	
Head Seamstress	1	
		13
4. TECHNICAL SECTION—		
Laboratory Superintendent	1	
Chief Health Inspector (1), Senior Health Inspectors (4), and Health Inspectors (8)	13	
Assistant Inspectors (Health and Mosquito)	78	
Laboratory Technicians	22	
Chief Pharmacist and Controller of Medical Stores	1	
Pharmacists (4), Pharmacists Class II and Junior Pharmacists (8)	12	
Superintendent Radiographer (1), Radiographers (5) and Junior Radiographers (9)	15	
Supervising Dietitian	1	
Senior Dental Mechanic (1) and Dental Mechanics (2)	3	
Senior Dental Hygienists (3) and Dental Hygienists (15)	18	
		164
5. CLERICAL SECTION—		
Accountants (2) and Assistant Accountant (1)	3	
Higher Executive Officers (5) and Executive Officers (8)	13	
Clerical Officers	60	
Stenographer/Typists	25	
		101
6. SUPERVISORY SECTION—		
Head Attendant, St. Giles' Hospital	1	
Assistant Head Attendant (1) and Orderlies (46)	47	
Caretaker, Nukulau Island	1	
Housekeepers, Dietitians and Junior Dietitians	10	
Chief Cooks (5), Laundry Supervisors (5) and Head Seamstresses (4)	14	
Storekeepers and Storemen	13	
Receptionist	1	
Splintmaker	1	
		88

7. FIJI SCHOOL OF MEDICINE—

Principal	1	
Senior Clinical Tutors (2) and Clinical Tutors (4)	6	
Clinical Tutors (Dental)	2	
Senior Lecturer (1) and Lecturers (3)	4	
Medical Officers	2	
Senior Health Instructor (1) and Health Instructor (1)	2	
Higher Executive Officer (1), Clerical Officers (2) and Stenographer/Typist (1)	4	
Chief Cook (1), Housekeepers (2), Junior Dietitian (1) Part-Time Nutritionists (2)	6	
Laboratory Attendants	3	
	—	30

8. FIJI LEPROSY HOSPITAL—

Medical Officer	1	
Higher Executive Officer (1) and Clerical Officer (1)	2	
Overseer (1), Police (5) and School Teachers (2)	8	
Nursing Sisters (14) and Assistant Nursing Sisters (11)	25	
	—	36

9. CENTRAL MEDICAL RESEARCH LIBRARY—

Assistant Librarian	1	
	—	1

10. FAMILY PLANNING—

Medical Officer Class I	1	
Medical Officers Class II	3	
Sisters (3) and Nurses (22)	25	
Storeman	1	
	—	30

Total Establishment 1,412

TABLE II

ANALYSIS OF RECURRENT EXPENDITURE FOR THE YEARS 1960-1969

Year	Expenditure on Medical Services	Total Recurrent Budget	Medical Expenditure Expressed as Percentage of Total Budget
	\$	\$	
1969	3,145,737	34,422,917	9.14
1968	2,957,154	30,731,191	9.62
1967	2,774,752	29,065,388	9.55
1966	2,701,548	25,169,610	10.73
1965	2,454,854	23,311,126	10.53
1964	2,329,954	20,052,992	11.62
1963	2,139,698	17,223,226	12.42
1962	2,049,514	16,086,334	12.74
1961	1,951,106	14,825,388	13.15
1960	1,902,956	14,105,748	13.48

TABLE III

MEDICAL DEPARTMENT EXPENDITURE AND REVENUE

Year	Gross Medical Department Recurrent Expenditure	Total Medical Department Revenue	Net Medical Department Recurrent Expenditure	Revenue Expressed as % of gross Expenditure	Total Population	Net Expenditure per head
	\$	\$	\$			\$
1969	3,145,737	366,635	2,779,102	11.65	526,765	5.27
1968	2,957,154	336,975	2,590,179	12.41	512,062	5.06
1967	2,774,752	340,796	2,433,956	12.28	502,956	4.83
1966	2,701,548	308,080	2,393,468	11.13	483,247	4.95
1965	2,454,854	326,048	2,128,806	13.28	469,934	4.53
1964	2,329,954	315,558	2,014,396	13.54	456,390	4.42

TABLE IV

DETAILS OF MEDICAL DEPARTMENT REVENUE

Description	1965	1966	1967	1968	1969
	\$	\$	\$	\$	\$
Licences	1,827.98	1,361.00	1,169.75	717.75	1,012.00
Fumigation	7,143.69	8,433.23	12,481.58	11,742.23	14,573.00
Hire of Plant and Vehicles	26.00	.....	2.00	.....	26.00
Hospitals	193,448.05	200,370.34	205,399.74	209,953.99	245,237.00
Rest House and Quarantine Stations .. .. .	.....	.....	.....	.....	.....
Publications and Printing	53.33	20.82	.....	858.06	.....
Stores Allocated	2,704.44	2,432.48	2,990.09	2,269.07	3,230.00
Family Planning Materials	4,522.65	5,274.62	6,124.87	6,648.32	8,550.00
Unclaimed and Unserviceable Property	8.65	.....	188.05	.....	324.00
Fiji Leprosy Hospital	12,401.78	3,510.32	.....	5,274.45	3,040.00
Fiji School of Medicine	73,630.88	63,608.00	90,726.00	105,262.59	63,710.00
South Pacific Health Service	8,611.32	8,007.94	7,713.46	5,915.30	10,918.00
Medical Services—Nadi Airport	4,312.50	4,707.06	4,413.37	4,160.77	916.00
Gold Mining Company on account of Medical Services	400.00	400.00	400.00	400.00	405.00
Central Nursing School	5,440.07	4,533.33	2,972.00	5,984.00	3,367.00
Board and Lodging (Island Students)	55.50	501.08	806.01	.....	.....
Miscellaneous	833.82	562.17	1,038.58	2,107.40	2,416.00
Recoveries of Overpayment	675.78	86.83	214.95	1,029.32	2,477.00
Produce Makogai	3,208.46	3,150.25	3,167.38	2,657.98	2,776.00
Vessels and Punts Hire .. .. .	.....	20.00	.....	.....	.....
Payment on Account of Services of Government Officers .. .. .	.....	.....	.....	.....	.....
Meat Inspection	69.68	126.20	68.35	89.80	.....
British Empire Cancer Research	838.00	883.00	888.00	836.00	836.00
Income Tax	10.00	6.30	11,232.77	11,637.19	12,689.00
Fiji National Provident Fund .. .. .	.....	80.90	20,613.75	21,601.05	23,825.00
Land and Buildings .. .. .	.....	.....	33.50	69.00	52.00
Official Quarters .. .. .	.....	.....	.....	.....	975.00
Sundries .. .. .	.....	.....	.....	.....	4,195.00
Total	\$323,048.38	\$308,080.87	\$372,643.20	\$400,212.87	\$403,149.00
<i>Less : Fiji National Provident Fund and Income Tax</i> .. .. .	.....	.....	31,846.52	33,238.24	36,514.00
			\$340,796.68	\$366,974.63	\$366,635.00

TABLE V

HOSPITALS : COSTS OF MEDICAL SUPPLIES PER OCCUPIED BED

Hospital	Average Occupied Beds	Drugs and Dressings	X-Ray, Instruments and Appliances	Linen, Furniture and Equipment	Miscellaneous	1969 Total	1968 Total	1967 Total
	\$	\$	\$	\$	\$	\$	\$	\$
Colonial War Memorial	249.3	156.75	96.05	53.37	18.63	324.80	324.18	256.89
Lautoka	169.4	105.18	71.48	62.14	15.75	254.55	260.45	231.05
Labasa	93.9	98.51	48.21	33.69	7.51	187.92	164.07	213.69
Levuka	23.7	152.90	48.42	24.37	8.23	233.92	237.24	243.32
Tamavua	193.5	28.25	18.77	5.27	3.56	55.85	62.08	56.35
St. Giles'	196.3	28.72	0.59	25.20	8.57	63.08	102.22	88.37
P. J. Twomey Memorial	102.9	5.10	3.02	10.03	12.38	30.53	19.42	6.19
Sigatoka	23.1	62.70	15.31	72.59	9.08	159.68	82.73	112.36
Nadi	27.0	96.43	39.54	33.09	7.34	176.40	199.29	158.00
Ba	16.5	66.10	21.95	0.22	1.10	89.37	111.20	124.08
Ra	9.6	147.41	44.90	78.60	9.05	279.96	177.84	167.14
Savusavu	25.7	119.98	41.38	107.96	4.23	273.60	89.18	84.67
Taveuni	23.0	66.56	13.64	58.19	11.65	150.03	80.46	127.58
Nabouwalu	8.3	83.16	4.64	52.27	0.08	140.15	100.01	129.80
Wainibokasi	7.2	102.85	0.92	.....	0.16	103.93	95.28	100.15
Vunigawa	3.2	105.89	4.30	152.47	21.08	233.74	250.00	141.86
Lomaloma	6.3	81.60	3.06	14.08	0.15	93.89	100.77	96.78
Lakeba	2.8	161.00	43.53	125.09	7.86	337.48	170.00	182.90
Matuku	1.8	66.33	3.91	13.81	1.49	85.54	94.55	129.10
Vunisea	9.1	69.17	46.15	126.76	4.37	246.45	96.55	106.83
Rotuma	9.1	104.31	23.45	58.09	17.15	203.00	130.01	129.19
Nausori Maternity Unit	10.3	161.78	47.55	0.91	3.46	213.70	86.54	96.51
Tavua Maternity Unit	9.2	119.58	34.76	8.23	0.97	163.54	160.64	N.A.
Total	1,221.2					\$4,156.11	\$3,244.71	\$2,982.81
Average cost per occupied bed						3.40	2.66	2.44

TABLE VI

COST OF MEDICAL SUPPLIES PER OUT-PATIENT ATTENDANCE IN HEALTH CENTRES

Health Centres	In 1969 Attendances	Cost as Expressed in Cents		
		1969	1968	1967
Suva Gaol and Naboro Prison Farm	112,297	0.4	..	2.4
Ba	82,345	2.8	3.5	4.8
Nausori	64,179	1.4	2.3	2.3
Vatukoula	42,733	2.9	4.1	2.8
Tavua	28,364	2.2	3.3	5.8
Namaka	24,939	3.4	4.5	3.6
Navua	21,734	4.3	4.2	4.2
Samabula	20,055	1.4	1.9	2.1
Nuffield Clinic	15,823	4.9	6.2	3.7
Nanukuloa	11,299	4.1	6.7	4.0
Korovou	11,206	6.2	5.5	14.2
Wainikoro	9,414	4.1	..	..
Tau	9,139	3.9	4.1	4.1
Nayavu	6,293	7.9	5.1	7.3
Dreketi	6,604	8.6	6.8	6.3
Naduri	5,986	6.6	6.4	6.5
Nadi Airport	4,529	5.1	N.A.	N.A.
Lodoni	3,920	8.2	9.9	7.8
Moala	3,577	8.9	6.6	8.4
Rabe	3,564	11.4	9.6	10.3
Tukavesi	3,535	11.2	8.1	13.3
Police Barracks	3,381	2.1	2.5	3.0
Keiyasi	3,364	11.1	8.0	10.0
Koro	3,351	10.5	8.6	8.3
Lekutu	3,299	14.6	13.0	13.8
Mokani	3,228	5.0	4.7	5.3
Naqali	3,163	10.7	8.8	7.5
Korovisilou	2,974	12.1	7.8	7.4
Raiwaqa	2,686	12.6	11.7	..
Visoqo	2,376	8.9	7.4	6.4
Yaro	2,021	7.2	11.8	15.0
Nadarivatu	1,965	7.0	9.1	20.2
Gau	1,926	14.3	19.9	15.8
Saqani	1,855	11.4	11.3	16.7
Wainunu	1,833	12.6	11.5	13.5
Beqa	1,793	16.5	8.0	7.4
Kabara	1,738	8.3	21.8	20.5
Natewa	1,670	17.0	16.0	15.6
Korotasere	1,513	14.4	15.0	10.3
Namosi	1,493	14.3	14.4	9.4
Ono-i-Lau	1,453	8.7	11.6	5.2
Kese	1,428	24.4	11.8	9.3
Nasau	1,150	11.7	10.9	10.1
Nabua	1,115	27.1	17.4	N.A.
Laselevu	1,023	12.9	10.2	12.7
Lomanikoro (closed 1968) .. .. .	..	..	19.4	19.5
Namarai (closed 1969) .. .. .	..	..	12.5	9.8
Mean Attendances .. .. .	.. ..	11,810	8,583	8,173
Mean Cost .. .. .	.. ..	4.2c	4.8c	5.3c

Divisional Hospitals—

Beds

Colonial War Memorial Hospital	..	..	..	..	288
Lautoka	..	..	..	..	220
Labasa	..	..	..	..	99
Levuka	..	..	..	..	40

647

Tamavua Tuberculosis Hospital, Suva	145
St. Giles' Mental Hospital, Suva	98
P. J. Twomey Memorial Leprosy Hospital, Suva			..	83

326

Savusavu	54
Taveuni	51
Nadi	47
Sigatoka	56
Ba	27
Ra	15

250

Vunisea	20
Rotuma	20
Lomaloma	16
Nabouwalu	15
Vunidawa	12
Wainibokasi	12
Lakeba	12
Matuku	8

115

Ba Methodist	51
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51

Nausori	15
Tavua	15

30

St. Elizabeth's Home	53
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53

1,472

Central Division—

Beqa	Naqali
Korovisilou	Nausori
Korovou	Navua
Laselevu	Nayavu
Lodoni	Nuffield Clinic
Mokani	Police Barracks
Naboro Prison Farm	Raiwaqa
Nabua	Samabula
Namosi	Suva Gaol

18

Gau	Moala	
Kabara	Ono-i-Lau	
Koro	Yaro	6

Dreketi	Rabe
Korotasere	Saqani
Lekutu	Tukavesi
Naduri	Visoqo
Natewa	Wainunu
	Wainikoro

11

11

Western Division—

Ba	Nasau
Kese	Natuatuacoko
Nadarivatu	Tau
Nadi Airport	Tavua
Namaka	Vatukoula
Nanukulua	

11

Total Health Centres . . . 46

TABLE VIII

GOVERNMENT HOSPITAL BEDS AVAILABLE—BY TYPE

Type	Total	C.W.M. Hospital	Lautoka Hospital	Labasa Hospital	Levuka Hospital	Tamavua Hospital	St. Giles' Hospital	P. J. Twomey Memorial Hospital	6 District Hospitals	10 Rural Hospitals	St. Elizabeth's Home
Total	1,421	288	220	99	40	145	93	83	250	145	53
General	578	142	97	35	18	..	..	..	171*	115*	..
Private (General) ..	34	42	27	7	4	..	..	..	4	..	..
Obstetric	166	57	17	13	5	..	..	..	44	30	..
Paediatric	140	47	45	12	9	..	..	..	27	..	..
Tuberculosis	219	..	34	32	4	145	..	..	4	..	..
Leprosy	136	..	..	..	..	..	..	83	..	..	53
Psychiatric	93	..	..	..	..	..	98	..	..	..	..

Includes beds used for specialties but not individually designated as such

TABLE IX

HEALTH CENTRES—OUT PATIENTS 1969

	<i>Fijians</i>	<i>Indians</i>	<i>Others</i>	<i>Total</i>
Central—				
Nuffield Clinic	5,183	8,639	2,001	15,823
Laselevu	1,023	..	..	1,023
Korovou	6,557	4,137	512	11,206
Beqa	1,793	..	..	1,793
Lodoni	2,608	1,145	167	3,920
Mokani	2,143	1,069	16	3,228
Namosi	1,492	..	1	1,493
Nausori	18,526	44,514	1,139	64,179
Navua	6,949	14,188	597	21,734
Nayavu	6,011	254	28	6,293
Korovisilou	2,271	672	31	2,974
Naqali	2,052	1,068	43	3,163
Suva Gaol and Naboro ..	62,917	48,634	680	112,231
Nasova	2,956	314	111	3,381
Nabua	551	525	39	1,115
Samabula	9,260	9,601	1,194	20,055
Raiwaqa	804	1,575	307	2,686
Total	133,096	136,335	6,866	276,297
Western—				
Nadarivatu	1,937	19	9	1,965
Nadi Airport	1,249	696	2,584	4,529
Namaka	5,345	19,244	350	24,939
Nanukulua	5,604	5,695	..	11,299
Nasau	1,150	..	..	1,150
Keiyasi	2,724	637	4	3,365
Tau	1,692	7,417	30	9,139
Tavua	4,297	23,809	258	28,364
Vatukoula	26,362	8,744	7,627	42,733
Kese	1,428	..	..	1,428
Ba Health Centre	4,420	77,539	386	82,345
Total	56,208	143,800	11,248	211,256

Eastern—

Gau	1,925	1	..	1,926
Kabara	1,738	..	..	1,738
Koro	3,290	31	30	3,351
Moala	3,574	..	3	3,577
Ono-i-Lau	1,453	1,453
Yaro	2,021	2,021

Total	14,001	32	33	14,066
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Northern—

Naduri	3,164	2,755	67	5,986
Dreketi	1,826	4,679	99	6,604
Lekutu	1,016	2,268	15	3,299
Wainunu	1,302	195	336	1,833
Tukavesi	2,803	412	320	3,535
Natewa	1,630	18	22	1,670
Korotasere	1,155	277	81	1,513
Saqani	1,816	2	37	1,855
Visoqo	2,156	189	31	2,376
Rabe	125	3	3,436	3,564
Wainikoro	719	8,687	8	9,414

Total	17,712	19,485	4,452	41,649
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Grand Total	221,017	299,652	22,599	543,268
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TABLE X

OUT-PATIENT ATTENDANCES BY RACE

Race	Total	C.W.M. Hospital	Lautoka Hospital	Labasa Hospital	Levuka Hospital	St. Giles' Hospital	Tamavua Hospital	16 District and Rural Hospitals	47 Health Centres
Total	1,170,822	202,098	132,190	65,200	19,538	2,309	6,377	193,842	543,265
Fijian	425,935	75,960	26,925	6,986	11,893	553	4,914	77,687	221,017
Indian	639,013	113,344	101,171	56,935	3,408	1,258	940	112,310	239,652
Others	55,869	12,794	4,094	1,279	4,237	498	523	9,845	22,599

TABLE XI

HOSPITAL ADMISSIONS BY RACE

Race	Total	C.W.M. Hospital	Lautoka Hospital	Labasa Hospital	Levuka Hospital	St. Giles' Hospital	Tamavua Hospital	P. J. Twomey Memorial Hospital	16 District and Rural Hospitals
Total	37,853	11,532	7,675	3,114	1,089	307	480	52	13,604
Fijian	15,424	4,612	1,704	742	819	118	386	27	7,016
Indian	19,153	5,374	5,581	2,252	75	160	57	20	5,634
Others	3,276	1,546	390	120	195	29	37	5	954

TABLE XII
HOSPITAL UTILISATION

	Out-Patients	Admissions	Bed	Average Daily Bed State	Occupancy Index	Average Length of Stay (in days)
C.W.M. Hospital	202,098	11,532	288	249.3	0.86	7.9
Lautoka	132,190	7,675	220	169.4	0.74	7.8
Labasa	65,200	3,114	99	93.9	0.95	11.0
Levuka	19,538	1,089	40	23.7	0.59	7.9
Tamavua	6,377	480	145*	193.5	1.33	147.2
St. Giles'	2,309	307	98	196.3	2.00	234.1
P. J. Twomey Memorial (Formerly Makogai) .. .. .	..	52	83*	102.9	1.23	..
Sigatoka	20,654	1,588	56*	23.1	0.41	5.3
Nadi	53,042	2,053	47	27.0	0.57	4.8
Ba	16,742	872	27	16.5	0.61	6.9
Ra	24,534	768	15	9.6	0.64	4.6
Savusavu	15,307	1,203	54	25.7	0.48	7.8
Taveuni	17,174	1,374	51	23.0	0.45	6.1
Nabouwalu	5,936	532	15	8.3	0.55	5.7
Wainibokasi	13,537	902	12	7.2	0.60	2.9
Vunidawa	2,183	377	12	3.2	0.27	3.1
Lomaloma	5,334	324	16	6.3	0.39	7.1
Lakeba	3,622	165	12	2.8	0.23	7.4
Matuku	918	110	8	1.8	0.23	6.1
Vunisea	4,182	379	20	9.1	0.46	8.7
Rotuma	4,385	501	20	9.1	0.46	6.6
Nausori—						
Maternity Unit	7,953	1,407	15	10.3	0.69	2.7
Tavua—						
Maternity Unit	4,339	1,049	15	9.2	0.61	3.2

* (1) Tamavua beds reduced from 250 at the beginning to 145 at the end of the year.

(2) Makogai beds reduced from 150 at the beginning to 83 at the end of the year.

(3) Sigatoka beds changed from 32 at the beginning to 56 at the end of the year.

TABLE XIII
UTILISATION OF MAIN HOSPITALS BY TYPE OF BED

Type	C.W.M. Hospital		Lautoka		Labasa		Levuka	
	Occupancy Index	Average Length of Stay (days)	Occupancy Index	Average Length of Stay (days)	Occupancy Index	Average Length of Stay (days)	Occupancy Index	Average Length of Stay (days)
Medical	0.94	8.3	0.84	10.7	0.91	13.3	0.76	8.9
Surgical	0.97	7.8	0.90	7.7	0.81	9.8		
Gynaecological	0.89	4.1	0.76	3.5	..	5.8		
Obstetrics	0.78	4.2	0.95	2.7	1.45	5.0	0.54	6.0
Paediatric	0.99	11.0	0.51	7.9	0.78	11.7	0.67	7.1
Tuberculosis .. .. .	..	..	0.89	100.9	0.84	116.1	..	4.0
Ophthalmic	0.58	12.0	..	..	..	..	..	..
Paying	0.73	6.0	0.48	7.3	0.30	5.6	0.28	6.3
Recovery	0.70	..	0.47	..	..	..	..	..
Total	0.86	7.9	0.74	7.8	0.95	11.0	0.59	7.9
All Except Tuberculosis	0.86	7.9	0.72	6.4	0.98	7.7	0.65	7.7

TABLE XIV

ST. GILES' HOSPITAL—NEW ADMISSIONS, 1969

	Fijian		Indian		Others		Total
	Male	Female	Male	Female	Male	Female	
I—PSYCHOSES							
A. Schizophrenia—							
Hebephrenic	1	1	1	2	..	..	5
Catatonic	2	2	3	7	..	..	14
Paranoid	4	..	3	3	..	4	14
Acute Episodic	5	7	5	5	1	1	24
Schizo-Affective	2	1	3	1	..	2	9
Chronic Undifferentiated .. .. .	..	..	2	..	..	..	2
Unspecified	1	..	1	1	..	..	3
	15	11	18	19	1	7	71
B. Affective—							
Manic-Depressive—							
Manic type	1	2	..	..	..	..	3
Depressive type .. .. .	..	..	..	..	..	..	..
Circular type .. .. .	..	1	..	..	..	..	1
Involutional Melancholia .. .. .	..	..	..	1	..	..	1
Endogenous Depression .. .. .	..	..	..	1	..	..	1
	1	3	..	2	..	..	6
C. Organic—							
With Cerebral Arterio-sclerosis							
With Epilepsy	1	1	1	..	..	..	3
Degenerative	1	..	1	..	..	..	2
With Brain Trauma	1	..	..	..	..	..	2
Other Organic .. .. .	..	..	..	1	..	..	1
	4	1	3	1	..	..	9
D. Toxic and Metabolic							
.. .. .	..	1	1	1	1	..	4
E. Others—							
Reactive Depressive Psychosis							
Acute Paranoid Reaction	2	..	5	1	1	..	9
	1	..	..	1	..	..	2
	3	..	5	2	1	..	11
II—NEUROSES							
A. Reactive Depression							
.. .. .	1	..	2	1	..	1	5
B. Hysterical Neurosis							
.. .. .	..	..	..	1	..	..	1
	1	..	2	2	..	1	6
III—PERSONALITY DISORDERS							
A. Schizoid							
.. .. .	..	..	..	1	..	..	1
B. Hysterical							
.. .. .	1	..	..	1	..	..	2
C. Anti-Social							
.. .. .	4	1	3	1	..	..	9
D. Asthenic							
.. .. .	3	1	1	..	1	..	6
	8	2	4	3	1	..	18
IV—MENTAL RETARDATION							
A. Borderline Mental Retardation							
.. .. .	2	..	..	1	..	..	3
B. Mild Mental Retardation							
.. .. .	..	..	1	..	..	..	1
C. Profound Mental Retardation							
.. .. .	..	..	2	..	..	..	2
	2	..	3	1	..	..	6

TABLE XV

EXAMINATIONS PERFORMED BY LABORATORIES, 1969

<i>Examination</i>		<i>Central</i>	<i>Lautoka</i>	<i>Labasa</i>	<i>Total</i>
Histology—					
Material from biopsies etc		2,181	542	40	2,763
Papanicalou smear		151	..	..	151
Total		2,332	542	40	2,914
Haematology—					
Routine blood count		23,914	17,876	5,996	47,786
Blood grouping		8,324	2,930	1,558	12,812
Pre-transfusion cross-matching ..		3,601	1,232	651	5,484
Donors blood		2,657	817	447	3,921
Marrow Smear		93	..	..	93
Microfilaria and Malaria		184	..	36	220
Total		38,773	22,855	8,688	70,316
Seminal Fluids—					
Examination for fertility		162	..	29	191
Total		162	..	29	191
Parasitology—					
Faeces for ova etc.		7,385	876	626	8,887
Total		7,385	876	626	8,887
Bacteriology—					
Routine microscopic and culture ..		13,203	5,887	2,118	21,208
Drinking water supplies		954	..	..	954
Sea Water Baths		48	..	..	48
Ice Cream and other foodstuffs ..		79	..	..	79
Total		14,284	5,887	2,118	22,289
Serology—					
Kahn reactions		2,350	261	125	2,736
Agglutination test		60	..	..	60
Total		2,410	261	125	2,796
Biochemistry—					
Routine Examinations		12,442	2,313	686	15,441
Total		12,442	2,313	686	15,441
Toad Tests—					
For Pregnancy		242	..	4	246
Total		242	..	4	246
Vaccine—					
T.A.B. and P.P.D. bottles of 50 cc. and 23 prepared		1,302	..	..	1,302
Total		1,302	..	..	1,302
Post Mortem Examinations					
.. ..		271	48	..	319
Total		271	48	..	319
Forensic Examinations of Exhibits					
.. ..		645	..	..	645
Total		645	..	..	645
Grand Total		80,248	32,782	12,316	125,346

EXAMINATIONS PERFORMED BY THE WELLCOME VIRUS RESEARCH LABORATORY IN 1969

Virus—

15—							<i>No of Tests Totals</i>
Respiratory ..	..	..	..	..	..	..	1,094
Enteroviruses ..	..	..	..	..	..	..	99
Arboviruses ..	..	..	..	..	..	..	6
Miyagawanella ..	..	..	..	..	..	..	77
Mycoplasma ..	..	..	..	..	..	..	214
Rubella ..	..	..	..	..	..	..	4
							<hr/> 1,449

Number of tests

Number of tests	..	..	..	..	..	..	4,186
							<hr/> 4,186

Virus—

Respiratory	5,662
Mycoplasma	1,670
Miyagawanella	1,670
Rubella	503
Arbovirus (Otago University)	2,075
	<hr/> 11,580

Eggs

Eggs .. .. .	..	..	..	..	..	..	428
Suckling Mice .. .. .	..	..	..	..	..	..	2,552
							<hr/> 2 980

Tissue Culture

Tissue Culture	91
Mycoplasma media	71
	<hr/> 162

Mosquitoes—

Total Number of Males Captured	..	..	..	790	
Total Number of Females Captured	13,800	
				<hr/>	14,590
Mosquito lots inoculated in suckling mice		256	
				<hr/>	256

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<i>is Survey and Slides—</i>	2,577	
						<hr/> 2,577	

TABLE XVII

WORK PERFORMED IN 1969 BY THE DENTAL DIVISION

	Suva	Lautoka	Ba	Labasa	Savusavu	Tavua	Rakiraki	Sigatoka	Nadi	Levuka	Mobile	Tours Ex-Suva	Tamavua Hospital	Suva Gaol	Nausori Health Centre	Total
Adults	19 631	6,716	5,601	6,872	747	2,484	2,418	2,195	2,667	719	5	75	596	596	2,428	53,748
Children	15,896	12,313	4,556	8,832	9,668	6,043	3,647	5,702	10,430	6,094	5,001	3,047	25	..	11,442	102,696
Total	35,527	19,029	10,157	15,704	10,415	8,527	6,065	7,897	13,097	6,813	5,006	3,122	621	596	13,863	156,444
Extractions	22,044	13,894	8,675	12,975	6,426	5,372	4,958	6,624	14,239	3,906	6,108	2,674	535	390	10,912	119,792
Fillings	4,468	4,127	1,823	3,916	1,948	1,245	475	875	143	1,612	8,502	972	57	142	2,525	32,833
Scallings	866	426	171	233	308	335	213	204	415	60	381	30	27	40	57	3,768
Toothbrush Instructions	66	16	86	42	231	63	36	34	38	13	5,001	1,208	..	..	4	6,836
Surgical Extractions	51	16	22	4	..	..	4	..	..	..	..	..	..	1	..	98
Miscellaneous Surgery	213	68	17	17	21	30	11	28	2	2	..	..	3	11	6	429
General Anaesthetics	5	11	..	2	..	..	..	..	..	..	..	..	..	..	..	15
X-Rays	594	337	112	69	..	..	5	..	..	9	..	..	..	..	..	1,126
Fractured Mandible Fixations	64	35	..	4	5	..	1	..	..	..	..	..	..	..	..	109
Exam. Only	571	4,121	656	2,775	5,471	2,668	1,149	2,383	3,173	2,190	..	558	115	..	5,403	31,233
Schools visited and treated .. .. .	..	26	..	25	66	19	27	26	23	78	83	34	..	..	42	454
Revenue in Dollars	13,107.03	3,860.20	3,267.30	5,205.00	351.10	1,485.70	1,328.80	1,267.20	1,403.90	346.61	..	16.80	..	..	1,316.10	32,955.74

TABLE XVIII

ESTIMATED POPULATION AS AT 31ST DECEMBER, 1969

Race	Male	Female	Total	1968 Population	Difference	Percentage Increase	Persons per square mile
Fijians	111,856	103,037	219,893	214,948	+ 4,945	2.3	31.1
Indians	134,008	123,939	262,947	256,152	+ 6,795	2.7	37.2
Europeans	8,167	6,198	14,365	12,284	+ 2,081	16.9	2.0
Part-Europeans	5,256	5,085	10,341	10,128	+ 213	2.1	1.5
Other Islanders	3,817	3,283	7,100	6,643	+ 457	6.9	1.0
Rotumans	3,199	3,113	6,312	6,164	+ 148	2.4	0.9
Chinese	3,019	2,412	5,431	5,388	+ 43	0.8	0.8
Others	271	105	376	355	+ 21	5.9	0.1
Total	269,593	257,172	526,765	512,062	14,703	2.9	74.6

TABLE XIX

BIRTHS RECORDED DURING YEARS 1965-1969

Race	1965	1966	1967	1968	1969	Estimated Mid-year Population 1969	Crude Birth Rate per 1,000
Fijians	6,943	7,318	7,604	6,798	5,854	216,924	26.99
Indians	8,660	8,292	8,019	7,526	8,281	259,282	31.94
Europeans	190	151	116	165	185	13,655	13.55
Part-Europeans	281	265	270	227	251	10,246	24.50
Other Islanders	240	231	400	206	173	7,027	24.62
Rotumans	201	238	194	194	180	6,248	28.81
Chinese	146	158	110	138	114	5,400	21.11
Others .. .. .	..	..	..	..	..	368	..
Total	16,661	16,653	16,713	15,254	15,038	519,150	28.97

TABLE XX

DEATHS RECORDED DURING THE YEARS 1965-1969

Race	1965	1966	1967	1968	1969	Estimated Mid-year Population 1969	Crude Death Rate per 1,000
Fijians	1,054	998	1,072	1,172	1,011	216,924	4.66
Indians	1,182	1,294	1,220	1,283	1,236	259,282	4.77
Europeans	27	37	22	41	42	13,655	3.08
Part-Europeans	32	43	50	32	38	10,246	3.71
Other Islanders	34	53	29	39	21	7,027	2.99
Rotumans	29	22	40	33	32	6,248	5.12
Chinese	25	37	23	37	29	5,400	5.37
Others .. .. .	..	..	..	..	..	368	..
Total	2,383	2,484	2,456	2,637	2,409	519,150	4.64

TABLE XXI

INFANT AND CHILD MORTALITY

	Births	Deaths under five years					Total	Infant Mortality Rate per 1,000
		Under 1	1-2	2-3	3-4	4-5		
1969—								
Fijians	5,854	126	34	24	8	9	201	22
Indians	8,281	185	26	9	9	5	234	22
1968—								
Fijians	6,798	141	52	35	25	21	274	21
Indians	7,526	219	32	17	11	7	286	29
1967—								
Fijians	7,951	165	63	25	35	24	312	22
Indians	8,029	221	24	13	12	11	281	28
1966—								
Fijians	7,318	120	46	16	10	9	195	16
Indians	8,292	329	31	21	15	18	370	40
1965—								
Fijians	6,943	133	51	15	12	8	219	19
Indians	8,600	257	22	10	10	13	312	30

TABLE XXII
DISCHARGES FROM ALL HOSPITALS (EXCEPT ST. GILES*) CLASSIFIED BY WORLD HEALTH ORGANIZATION CAUSE LIST

Intermediate List Number	Cause Groups	1965		1966		1967		1968		1969	
		Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total
A 1-A 43	Infective and Parasitic Diseases	1,000	5.57	1,066	5.28	893	4.59	1,458	4.33	1,375	3.62
A 44-A 60	Neoplasms	306	1.71	353	1.75	342	1.75	575	1.71	613	1.61
A 61-A 66	Endocrine, Metabolic and Nutritional; and Diseases of Blood	861	4.80	892	4.42	901	4.63	1,461	4.34	1,484	3.91
A 67-A 69	Psychoses and Psychoneuroses, etc.	107	0.59	78	0.39	161	0.83	224	0.67	228	0.60
A 70-A 78	Diseases of Nervous System and Sense Organs	579	3.23	639	3.17	677	3.48	844	2.51	936	2.46
A 79-A 86	Diseases of the Circulatory System	839	4.79	1,009	5.00	991	5.09	1,614	4.80	1,695	4.46
A 87-A 97	Diseases of the Respiratory System	1,321	7.36	1,600	7.93	1,381	7.10	*3,262	9.70	3,863	10.17
A 98-A107	Diseases of the Digestive System	1,434	7.99	1,741	8.62	1,929	9.92	3,057	9.09	3,725	9.81
A108-A114	Diseases of the Genito-Urinary System	1,226	6.83	1,683	8.34	1,601	8.23	2,182	6.49	2,509	6.61
A115-A120	Deliveries and Complications of Pregnancy, Child-birth and Puerperium	6,655	37.09	6,886	34.11	6,656	34.23	11,339	33.71	13,334	35.12
A121-A126	Diseases of Skin, Cellular Tissue, Bones and Organs of Movement	829	4.62	930	4.61	938	4.82	1,946	5.79	1,906	5.02
A127-A129	Congenital Malformations	158	0.83	214	1.06	167	0.86	200	0.59	158	0.42
A130-A135	Diseases of Early Infancy	405	2.26	373	1.85	344	1.77	481	1.43	413	1.09
A136-A137	Symptoms, Senility and Ill-defined Conditions	1,304	7.27	1,598	7.92	1,274	6.55	2,356	7.00	3,014	7.94
AE138-AE150	Accidents and Violence (External Cause)	899	5.01	1,126	5.58	1,196	6.15	2,637	7.84	2,719	7.16
	Total	17,943	100.00	20,188	100.03	19,451	100.00	33,636	100.00	37,972	100.00

* Figures from major hospitals only

TABLE XXIII

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1969, FOR ALL HOSPITALS EXCEPT ST. GILES' HOSPITAL

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Totals	Deaths
I—INFECTIVE AND PARASITIC DISEASES								
A 1	001-008	Tuberculosis of respiratory system	1	485	77	51	614	22
A 2	010	Tuberculosis of meninges and central nervous system ..	..	2	2	..	4	..
A 3	011	Tuberculosis of intestines, peritoneum and mesenteric glands ..	..	7	..	..	7	2
A 4	012, 013	Tuberculosis of bones and joints .. .. .	..	33	4	..	37	..
A 5	014-019	Tuberculosis, all other forms .. .. .	..	13	6	1	20	..
A 6	020	Congenital syphilis .. .. .	..	..	..	..	..	..
A 7	021	Early syphilis .. .. .	..	..	..	..	..	..
A 8	024	Tabes dorsalis .. .. .	..	..	..	..	..	..
A 9	025	General paralysis of insane .. .. .	..	..	..	..	..	..
A 10	022, 023, 026-029	All other Syphilis .. .. .	..	..	..	4	4	..
A 11	030-035	Gonococcal infections .. .. .	..	27	5	4	36	..
A 12	040	Typhoid fever .. .. .	..	..	..	..	..	..
A 13	041, 042	Paratyphoid fever and other Salmonella infections ..	..	1	..	..	1	..
A 14	043	Cholera .. .. .	..	..	..	..	..	..
A 15	044	Brucellosis (undulant fever) .. .. .	..	..	..	..	..	..
A 16 (a)	045	Bacillary dysentery .. .. .	..	8	1	4	13	..
(b)	046	Amoebiasis	1	15	18	3	37	4
(c)	047, 048	Other unspecified forms of dysentery .. .. .	..	4	2	3	9	..
A 17	050	Scarlet fever .. .. .	..	..	..	..	..	..
A 18	051	Streptococcal sore throat .. .. .	..	..	..	..	..	..
A 19	052	Erysipelas .. .. .	..	2	1	..	3	..
A 20	053	Septicaemia and pyaemia .. .. .	..	8	..	..	8	1
A 21	055	Diphtheria .. .. .	..	..	7	..	7	..
A 22	056	Whooping Cough .. .. .	..	..	..	..	..	..
A 23	057	Meningococcal infections .. .. .	..	3	..	..	3	..
A 24	058	Plague .. .. .	..	..	..	..	..	..
A 25	060	Leprosy	1	64	27	7	99	6
A 26	061	Tetanus .. .. .	..	13	8	..	21	6
A 27	062	Anthrax .. .. .	..	..	..	..	..	..
A 28	080	Acute poliomyelitis .. .. .	..	..	..	..	..	..
A 29	082	Acute infectious encephalitis .. .. .	..	5	4	1	10	2
A 30	081, 083	Late effects of acute poliomyelitis and acute infectious encephalitis .. .. .	..	1	3	..	4	..
A 31	084	Smallpox .. .. .	..	..	..	..	..	..
A 32	085	Measles .. .. .	..	..	..	..	..	..
A 33	091	Yellow fever .. .. .	..	..	..	..	..	..
A 34	092	Infectious hepatitis	4	69	46	16	135	12
A 35	094	Rabies .. .. .	..	..	..	..	..	..
A 36 (a)	100	Louse-borne epidemic typhus .. .. .	..	..	..	..	..	..
(b)	101	Flea-borne endemic typhus (murine) .. .. .	..	..	..	..	..	..
(c)	104	Tick-borne epidemic typhus .. .. .	..	..	..	..	..	..
(d)	105	Mite-borne typhus .. .. .	..	..	..	..	..	..
(e)	102, 103, 106-108	Other and unspecified typhus .. .. .	..	..	..	..	..	..
A 37 (a)	110	Vivax malaria (benign tertian) .. .. .	..	..	..	..	..	..
(b)	111	Malariae malaria (quartan) .. .. .	..	..	..	..	..	..
(c)	112	Falciparum malaria (malignant tertian) .. .. .	..	..	..	..	..	..
(d)	115	Blackwater fever .. .. .	..	..	..	..	..	..
(e)	113, 114, 116, 117	Other and unspecified forms of malaria	3	2	..	1	6	..
A 38 (a)	123 0	Schistosomiasis vesical (S. haematobium) .. .. .	..	..	..	..	..	..
(b)	123-1	Schistosomiasis intestinal (S. mansoni) .. .. .	..	..	..	..	..	..
(c)	123-2	Schistosomiasis pulmonary (S. japonicum) .. .. .	..	..	..	..	..	..
(d)	123-3	Other and unspecified schistosomiasis .. .. .	..	..	..	..	..	..
A 39	125	Hydatid disease .. .. .	..	..	..	..	..	..
A 40 (a)	127	Onchocerciasis .. .. .	..	..	..	..	..	..
(b)	..	Loiasis .. .. .	..	..	..	..	..	..
(c)	..	Filariasis (bancrofti) .. .. .	..	64	2	22	88	1
(d)	..	Other filariasis .. .. .	..	..	..	..	..	..
A 41	129	Ankylostomiasis .. .. .	..	26	16	1	43	1
A 42 (a)	126	Tapeworm (infestation) and other cestode infestations ..	..	..	..	..	..	..
(b)	130-0	Ascariasis .. .. .	..	23	12	2	37	..
(c)	130-3	Guinea worm (dracunculosis) .. .. .	..	..	..	..	..	..
(d)	124, 128, 130-1, 130-2	Other diseases due to helminths .. .. .	..	1	1	1	3	..
A 43 (a)	037	Lymphogranuloma venereum .. .. .	..	..	..	..	..	..
(b)	038	Granuloma inguinale, venereal .. .. .	..	..	..	..	..	..
(c)	039	Other and unspecified venereal diseases .. .. .	..	..	..	..	..	..
(d)	049	Food poisoning infection and intoxication .. .. .	..	9	2	4	15	..
(e)	071	Relapsing fever .. .. .	..	..	..	..	..	..
(f)	072	Leptospirosis icterohaemorrhagica (Weil's disease) ..	..	..	..	..	..	..
(g)	073	Yaws .. .. .	..	1	..	..	1	..
(h)	087	Chickenpox .. .. .	..	8	4	1	13	..
(i)	090	Dengue .. .. .	..	..	..	..	..	..
(j)	095	Trachoma .. .. .	..	2	1	1	4	..
(k)	096-7	Sandfly fever .. .. .	..	..	..	..	..	..

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
A 43	(l) 120 (m) 121 (a) (b) (c) 131 (n) 135 (o) (p) 036, 054, 059, 063, 064, 070, 074, 086, 088, 089, 093, 096-1 -096-6, 096-8, 096-9, 122, 132 -134, 136-138	Leishmaniasis Trypanosomiasis gambiense Trypanosomiasis rhodesiense Other and unspecified Trypanosomiasis Dermatophytosis Scabies All other diseases classified as infective and parasitic .. .. .	.. .. .. .. .. 1 4	.. .. .. .. 5 13 28	.. .. .. .. 2 2 26	.. .. .. .. 1 .. 11	.. .. .. .. 8 16 69	.. .. .. .. .. .. 3
II—NEOPLASMS								
A 44	140-148	Malignant neoplasm of buccal cavity and pharynx	1	..	4	2	7	1
A 45	150	Malignant neoplasms of oesophagus .. .. .	..	3	8	..	11	1
A 46	151	Malignant neoplasm of stomach	1	10	13	3	27	4
A 47	152, 153	Malignant neoplasm of intestine, except rectum .. .. .	..	6	4	..	10	1
A 48	154	Malignant neoplasm of rectum .. .. .	..	1	7	..	8	..
A 49	161	Malignant neoplasm of larynx	3	..	8	1	12	..
A 50	162, 163	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary .. .. .	..	9	2	4	15	2
A 51	170	Malignant neoplasm of breast .. .. .	..	10	4	10	24	5
A 52	171	Malignant neoplasm of cervix uteri .. .. .	..	43	20	3	66	5
A 53	172-174	Malignant neoplasm of other and unspecified parts of uterus .. .. .	..	3	1	5	9	..
A 54	177	Malignant neoplasm of prostate .. .. .	..	7	2	..	9	2
A 55	190, 191	Malignant neoplasm of skin	1	5	3	4	13	..
A 56	196, 197	Malignant neoplasm of bone and connective tissue .. .. .	..	7	6	..	13	2
A 57	155, 160, 164, 165, 175, 176, 178-181, 192- 195, 198, 199	Other and unspecified sites	7	52	28	2	89	26
A 58	204	Leukaemia and aleukaemia .. .. .	..	13	14	..	27	9
A 59	200-203, 205	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system .. .. .	..	14	18	3	35	7
A 60	210-239	Benign neoplasms and neoplasms of unspecified nature	4	102	121	11	238	8
III—ALLERGIC, ENDOCRINE SYSTEM, METABOLIC AND NUTRITIONAL DISEASES								
IV—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS								
A 61	250, 251	Nontoxic goitre .. .. .	..	19	26	5	50	..
A 62	252	Thyrotoxicosis with or without goitre .. .. .	..	4	14	..	18	..
A 63	260	Diabetes mellitus	3	200	333	14	550	17
A 64	(a) 280 (b) 281 (c) 282 (d) 283-286	Beriberi Pellagra Scurvy Other deficiency states .. .. .	.. .. .. ..	1 20	.. .. .. 14	.. .. .. 1	1 35	.. .. .. 2
A 65	(a) 290 (b) 291 (c) 292, 293	Pernicious and other hyperchromic anaemias Iron deficiency anaemias (Hypochromic) Other specified and unspecified anaemias .. .. .	.. .. ..	1 23 30	7 76 86	.. 1 7	8 100 123	.. 1 11
A 66	(a) 241 (b) 240, 242-245, 253, 254, 270- 277, 287-289, 294-299	Asthma All other allergic disorders endocrine, metabolic and blood diseases	6 1	132 52	304 78	14 12	456 143	5 6
V—MENTAL, PSYCHONEUROTIC AND PERSONALITY DISORDERS								
A 67	300-309	Psychoses	2	40	41	11	94	1
A 68	310-324, 326	Psychoneuroses and disorders of personality	9	29	71	6	115	..
A 69	325	Mental deficiency .. .. .	..	7	10	2	19	2

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
VI—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS								
A 70	330-334	Vascular lesions affecting central nervous system	4	28	103	7	142	50
A 71	340	Nonmeningococcal meningitis .. ..	..	55	17	3	75	26
A 72	345	Multiple sclerosis .. ..	..	..	..	..	..	..
A 73	353	Epilepsy	4	41	33	2	80	1
A 74	370-379	Inflammatory diseases of eye .. ..	..	27	19	5	51	..
A 75	385	Cataract	3	38	155	12	208	1
A 76	387	G. aucoma .. ..	..	5	9	3	17	..
A 77 (a)	390	Otitis externa .. ..	..	7	9	..	16	..
(b)	391-393	Otitis media and mastoiditis	2	31	29	6	68	..
(c)	394	Other inflammatory diseases of ear .. ..	..	11	..	..	11	..
A 78 (a)	380-384, 386, 388, 389	All other diseases and conditions of eye	7	21	37	6	71	..
(b)	341, 344, 350-352, 360-369, 395-398	All other diseases of the nervous system and sense organs ..	8	72	107	10	197	12
VII—DISEASES OF THE CIRCULATORY SYSTEM								
A 79	400-402	Rheumatic fever .. ..	..	27	132	7	166	..
A 80	410-416	Chronic rheumatic heart disease	1	16	60	7	84	4
A 81	420-422	Arteriosclerotic and degenerative heart disease	19	34	303	6	362	62
A 82	430-434	Other diseases of heart	9	99	333	43	484	75
A 83	440-443	Hypertension with heart disease	3	16	63	5	87	6
A 84	444-447	Hypertension without mention of heart	4	42	133	14	193	12
A 85	450-456	Diseases of arteries	1	6	15	3	25	5
A 86	460-468	Other diseases of circulatory system	7	97	171	19	294	4
VIII—DISEASES OF THE RESPIRATORY SYSTEM								
A 87	470-475	Acute upper respiratory infections	8	135	210	9	362	..
A 88	480-483	Influenza	3	334	211	38	586	1
A 89	490	Lobar pneumonia	5	552	233	64	854	13
A 90	491	Bronchopneumonia	1	291	170	40	502	47
A 91	492, 493	Primary atypical, other and unspecified pneumonia	5	290	150	93	538	16
A 92	500	Acute bronchitis	2	123	62	63	250	2
A 93	501, 502	Bronchitis, chronic and unqualified	4	247	89	47	387	3
A 94	510	Hypertrophy of tonsils and adenoids	8	3	144	9	164	..
A 95	518, 521	Empyema and abscess of lung .. ..	..	9	8	1	18	..
A 96	519	Pleurisy .. ..	..	8	5	11	24	1
A 97 (a)	523	Pneumoconiosis .. ..	..	31	7	9	47	1
(b)	511-517, 520-522, 524-527	All other respiratory diseases	3	52	57	19	131	4
IX—DISEASES OF THE DIGESTIVE SYSTEM								
A 98 (a)	530	Dental Caries .. ..	..	2	2	..	4	..
(b)	531-535	All other diseases of teeth and supporting structures	2	24	22	1	49	..
A 99	540	Ulcer of stomach	4	72	96	25	197	7
A 100	541	Ulcer of duodenum	1	24	63	12	100	8
A 101	543	Gastritis and duodenitis	2	96	164	25	287	1
A 102	550-553	Appendicitis	28	189	568	59	844	4
A 103	560, 561, 570	Intestinal obstruction and hernia	16	193	187	27	423	12
A 104 (a)	571-0	Gastro-enteritis and colitis between 4 weeks and 2 years	1	247	249	58	555	23
(b)	571-1	Gastro-enteritis and colitis, ages 2 years and over	15	412	285	94	806	7
(c)	572	Chronic enteritis and ulcerative colitis .. ..	..	7	6	2	15	1
A 105	581	Cirrhosis of liver	1	27	10	2	40	10
A 106	584, 585	Cholelithiasis and cholecystitis	5	13	65	3	86	4
A 107	536-539 542, 544, 545, 573-580, 582, 583, 586, 587	Other diseases of digestive system	11	110	180	18	319	23

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
X—DISEASES OF THE GENITO-URINARY SYSTEM								
A 108	590	Acute nephritis	2	12	52	1	67	1
A 109	591-594	Chronic, other and unspecified nephritis	2	36	100	8	146	19
A 110	600	Infections of kidney	1	21	39	5	66	..
A 111	602, 604	Calculi of urinary system	3	4	97	5	109	..
A 112	610	Hyperplasia of prostate	1	16	26	5	48	3
A 113	620, 621	Diseases of breast	1	37	14	4	56	..
A 114 (a)	613	Hydrocele	4	163	36	21	224	..
(b)	634	Disorders of menstruation	27	111	256	29	423	1
(c)	601, 603 605-609 611, 612 614-617, 622-633 635-637	All other diseases of the genito-urinary system	40	435	817	78	1,370	5
XI—DELIVERIES AND COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUERPERIUM								
A 115	640-641, 681, 682, 684	Sepsis of pregnancy, childbirth and the puerperium .. .. .	..	19	54	1	74	..
A 116	642, 652, 685, 686	Toxaemias of pregnancy and the puerperium	1	132	391	16	540	..
A 117	643, 644, 670-672	Haemorrhage of pregnancy and childbirth	5	239	175	23	442	1
A 118	650	Abortion without mention of sepsis or toxæmia	19	321	614	63	1,017	1
A 119	651	Abortion with sepsis	2	9	33	2	46	1
A 120 (a)	645-649 673-680, 683, 687-689	Other complications of pregnancy, childbirth and the puerperium	17	674	1,733	91	2,515	1
(b)	660	Delivery without complications	102	3,519	4,584	495	3,700	..
XII—DISEASES OF THE SKIN AND CELLULAR TISSUE								
XIII—DISEASES OF THE BONES AND ORGANS OF MOVEMENT								
A 121	690-698	Infections of skin and subcutaneous tissue	12	665	196	93	966	3
A 122	720-725	Arthritis and spondylitis	1	130	166	12	309	1
A 123	726, 727	Muscular rheumatism and rheumatism unspecified	7	51	38	8	104	..
A 124	730	Osteomyelitis and periostitis .. .. .	..	55	30	8	93	..
A 125	737, 745-749	Ankylosis and acquired musculo-skeletal deformities	1	33	45	7	86	..
A 126 (a)	715	Chronic Ulcer of Skin (including tropical ulcer)	2	42	27	5	76	..
(b)	700-714, 716	All other diseases of skin	4	37	69	10	120	3
(c)	731-736 738-744	All other diseases of musculo-skeletal system	2	85	56	9	152	..
XIV—CONGENITAL MALFORMATIONS								
A 127	751	Spina bifida and meningocele .. .. .	..	..	4	1	5	..
A 128	754	Congenital malformations of circulatory system .. .. .	..	8	15	2	25	2
A 129	750, 752, 753, 755-759	All other congenital malformations	2	29	92	5	128	4
XV—CERTAIN DISEASES OF EARLY INFANCY								
A 130	760, 761	Birth injuries .. .. .	..	2	7	..	9	..
A 131	762	Postnatal asphyxia and atelectasis	1	2	7	1	11	2
A 132 (a)	764	Diarrhoea of newborn (under 4 weeks) .. .. .	..	8	8	3	19	1
(b)	765	Ophthalmia neonatorum .. .. .	..	1	1	..	2	..
(c)	763, 766-768	Other infections of newborn .. .. .	..	8	12	3	23	2
A 133	770	Haemolytic disease of newborn .. .. .	..	1	2	..	3	3
A 134	769, 771, 772	All other defined diseases of early infancy .. .. .	..	9	14	..	23	2
A 135	773, 776	Ill-defined diseases peculiar to early infancy, and immaturity unqualified	4	78	237	4	323	59

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
		XVI—SYMPTOMS, SENILITY AND ILL-DEFINED CONDITIONS						
A 136	794	Senility without mention of psychosis	2	1	5	..	8	3
A 137 (a)	788-8	Pyrexia of unknown origin	3	100	89	10	202	3
(b)	793	Observation, without need for further medical care	26	262	888	50	1,226	1
(c)	780-787 788-1 -788-7 788 9, 789-792, 795	All other ill-defined causes of morbidity	57	605	769	147	578	34

"E" CODE—ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (EXTERNAL CAUSE)

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
AE 138	E810-E835	Motor Vehicle accidents	9	71	118	26	224	11
AE 139	E800-E802 E840-E866	Other transport accidents .. .. .	..	15	21	..	36	..
AE 140	E870-E895	Accidental poisoning	8	54	101	9	172	4
AE 141	E900-E904	Accidental falls	17	158	199	37	411	5
AE 142	E912	Accident caused by machinery	1	2	7	..	10	2
AE 143	E916	Accident caused by fire and explosion of combustible material	1	17	17	1	36	1
AE 144	E917, E918	Accident caused by hot substance, corrosive liquid, steam and radiation	2	94	81	11	188	3
AE 145	E919	Accident caused by firearm .. .. .	..	1	..	..	1	..
AE 146	E929	Accidental drowning and submersion .. .. .	..	7	1	3	11	..
AE 147 (a)	E920	Foreign body entering eye and adnexa .. .. .	..	5	2	..	7	..
(b)	E923	Foreign body entering other orifice	1	19	32	2	54	2
(c)	E927	Accidents caused by bites and stings of venomous animals and insects .. .. .	..	9	4	..	13	..
(d)	E928	Other accidents caused by animals .. .. .	..	14	25	3	42	..
(e)	E910, E911 E913-E915 E921-E922 E924-E926 E930-E965	All other accidental causes	22	774	422	105	1,323	8
AE 148	E970-E979	Suicide and non-accidental self-inflicted injury	1	2	12	1	16	..
AE 149	E980-E985	Homicide and injury purposely inflicted by other persons (not in war)	3	96	69	6	174	1
AE 150	E990-E999	Injury resulting from operations of war .. .. .	..	..	1	..	1	..

"N"—ALTERNATIVE CLASSIFICATION OF ACCIDENTS, POISONINGS AND VIOLENCE (NATURE OF INJURY)

Intermediate List Number	Detailed List Numbers	Cause Groups	Euro.	Fijian	Ind.	Other	Total	Deaths
AN 138	N800-N804	Fracture of skull	3	98	61	10	172	9
AN 139	N805-N809	Fracture of spine and trunk	3	23	42	5	73	1
AN 140	N810-N829	Fracture of limbs	17	147	197	32	393	1
AN 141	N830-N839	Dislocation without fracture	1	18	11	5	35	..
AN 142	N840-N848	Sprains and strains of joints and adjacent muscle	2	12	9	6	29	..
AN 143	N850-N856	Head injury (excluding fracture)	12	143	103	31	289	5
AN 144	N860-N869	Internal injury of chest, abdomen and pelvis .. .. .	..	12	8	3	23	2
AN 145	N870-N908	Laceration and open wounds	4	489	244	59	796	2
AN 146	N910-N929	Superficial injury, contusion and crushing with intact skin surface	1	79	68	10	158	2
AN 147	N930-N936	Effects of foreign body entering through orifice	1	24	37	2	64	2
AN 148	N940-N949	Burns	3	110	109	12	234	4
AN 149	N960-N979	Effects of poisons	9	56	104	11	180	3
AN 150	N950-N959 N980-N999	All other and unspecified effects of external causes	9	127	119	18	273	6

TABLE XXIV

NOTIFIABLE DISEASES BY RACE AND SEX—1969

Name of Disease	Europeans	Part Europeans	Fijians	Indians	Others	Totals	SEX	
							Male	Female
1. Acute Poliomyelitis .. .. .	..	..	..	..	..	..	..	..
2. Anthrax .. .. .	..	..	..	..	..	..	..	..
3. Brucellosis (including Undulant Fever)	..	..	..	..	..	..	..	..
4. Chickenpox (Varicella)	2	11	319	147	32	511	305	206
5. Dengue Fever .. .. .	..	..	..	..	..	..	..	..
6. Diphtheria .. .. .	..	..	..	..	..	..	..	..
7. Dysentery—(a) Amoebic .. ..	..	..	..	..	..	..	..	..
.. .. (b) Bacillary .. .. .	..	..	..	..	..	..	..	..
8. Encephalitis .. .. .	..	..	..	..	..	..	..	..
9. Enteric Fever—(a) Typhoid ..	..	..	..	..	..	..	..	..
.. .. (b) Paratyphoid .. ..	..	..	..	..	..	..	..	..
10. Food Poisoning .. .. .	..	..	..	..	..	..	..	..
11. German Measles (Rubella) ..	1	..	..	..	..	..	..	..
12. Infantile Diarrhoea	11	23	4,651	5,732	469	10,886	6,143	4,743
13. Infective Hepatitis	14	18	208	136	55	431	297	134
14. Influenza	41	81	27,621	28,815	6,650	63,208	39,718	23,490
15. Leprosy .. .. .	..	..	..	..	..	..	..	..
16. Leptospirosis .. .. .	..	..	..	..	..	..	..	..
17. Malaria	1	..	..	..	..	..	..	..
18. Measles (Morbilli) .. .. .	..	..	..	..	..	..	..	..
19. Meningitis .. .. .	..	..	..	..	..	..	..	..
20. Puerperal Pyrexia (including Puerperal Fever)	..	..	..	..	..	..	..	..
21. Rheumatism (Acute)	2	4	78	122	7	213	..	213
22. Tetanus	1	2	13	70	1	87	36	51
23. Trachoma .. .. .	..	..	..	..	..	..	..	..
24. Tuberculosis—(a) Pulmonary ..	..	..	..	..	..	..	..	..
.. .. (b) Other than Pulmonary	..	..	..	..	..	..	..	..
25. Venereal Diseases—	..	..	..	..	..	..	..	..
.. (a) Gonorrhoea	13	34	679	246	27	999	743	256
.. (b) Granuloma Venereum .. ..	..	..	..	..	..	..	..	..
.. (c) Ophthalmia Neonatorum and Gon. Ophthalmia	..	..	..	..	..	..	..	..
.. (d) Lymphogranuloma Inguinale	..	..	..	..	..	..	..	..
.. (e) Soft Chancre .. .. .	..	..	..	..	..	..	..	..
.. (f) Syphilis .. .. .	..	..	..	..	..	..	..	..
.. (g) Venereal Warts .. .. .	..	..	..	..	..	..	..	..
26. Whooping Cough (Pertussis) ..	..	..	..	..	..	..	..	..
27. Yaws .. .. .	..	..	..	..	..	..	..	..
Total	87	188	34,125	35,530	7,316	77,246	47,721	29,525

TABLE XXV

NOTIFIABLE DISEASES BY MONTH (1969)

Name of Disease	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1. Acute Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Brucella (including Undulant Fever)	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Chickenpox (Varicella)	44	14	19	17	25	23	33	95	85	64	68	24	511
5. Dengue Fever	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Dysentery—(a) Amoebic	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Bacillary	5	5	6	4	10	3	1	1	3	1	2	3	5
8. Encephalitis	2	..	..	2	1	..	..	..	4	..	..	..	14
9. Enteric Fever—(a) Typhoid	..	..	..	..	..	..	..	..	..	..	..	..	43
(b) Paratyphoid	..	..	..	..	..	..	..	..	..	..	..	..	6
10. Food Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..
11. German Measles (Rubella)	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Infantile Diarrhoea	705	792	2,040	1,153	679	524	574	1,462	1,297	739	497	424	10,886
13. Infective Hepatitis	13	22	47	51	45	53	41	51	36	29	30	10	431
14. Influenza	2,360	5,619	15,129	8,759	4,630	3,886	3,835	4,223	3,356	4,461	5,178	1,772	63,208
15. Leprosy	1	1	10	4	2	3	2	5	..	2	..	5	35
16. Leptospirosis	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Measles (Morbilli)	2	3	7	1	5	5	..	3	..	..	2	1	3
19. Meningitis	4	3	7	14	7	4	..	6	..	4	9	1	40
20. Puerperal Pyrexia (including Puerperal Fever)	13	9	19	16	23	26	20	11	21	8	3	5	73
21. Rheumatism (Acute)	8	10	10	4	5	13	6	8	6	15	26	14	213
22. Tetanus	..	1	1	..	1	3	..	2	3	6	9	2	87
23. Trachoma	17	15	52	23	23	15	17	13	12	19	27	18	15
24. Tuberculosis—(a) Pulmonary	19	22	52	21	33	30	24	37	29	16	31	25	251
(b) Other than Pulmonary	1	2	1	2	2	5	3	1	4	..	3	4	330
25. Venereal Diseases—	..	..	..	..	..	..	..	..	..	..	..	..	28
(a) Gonorrhoea	72	61	82	114	85	81	91	84	38	96	121	74	999
(b) Granuloma Venereum	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) Ophthalmia Neonatorum and Gon.	1	..	4	1	..	1	1	1	..	3	2	..	11
(d) Ophthalmia	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Lymphogranuloma Inguinale	..	..	..	..	..	..	..	..	..	..	..	..	..
(f) Soft Chancre	..	..	..	..	..	..	..	..	..	..	..	..	..
(g) Syphilis	1	1	..	2	1	2	..	..	1	..	1	..	9
(h) Venereal Warts	..	..	..	..	..	..	..	..	..	..	..	..	..
(i) Whooping Cough (Pertussis)	5	4	11	3	3	2	1	4	1	3	3	1	41
26. Yaws	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	3,276	6,585	17,499	10,191	5,582	4,682	4,656	6,007	4,893	5,471	6,019	2,385	72,246

TABLE XXVI

RETURN OF NOTIFIABLE DISEASES BY PROVINCE FOR THE YEAR—1969

Name of Disease	Total	SUVA			CENTRAL			WESTERN							EASTERN			NORTHERN									
		Urban	Rural	Ships	Talevu	Kewa	Naitasiri	Serua	Nadroga	Nadi	Lautoka	Ba	Tavua	Nadavatu	Ra	Air-craft	Ships	Nadi Airport	Lomalivi	Kadavu	Lau	Rotuma	Macuata	Bua	Taveuni	Savusavu	Rabi
1. Acute Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Brucellosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. Chickenpox (Varicella)	511	72	4	..	72	3	13	20	18	23	33	18	47	2	45	..	..	50	14	3	..	..	16	6	1	5	13
5. Dengue Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Diphthiria	5	..	..	..	..	1	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Dysentery—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(a) Amoebic	14	7	..	..	..	..	..	..	..	2	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Bacillary	43	3	..	..	..	..	..	4	..	15	1	1	..	..	..	..	..	..	..	..	..	1	10	..	3	5	..
8. Encephalitis	6	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. Enteric Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(a) Typhoid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) Paratyphoid	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10. Food Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11. German Measles (Rubella)	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Infantile Diarrhoea	10,836	2,509	44	..	662	832	219	425	435	553	891	1,235	915	21	680	..	..	29	141	58	172	47	425	88	124	257	66
13. Infective Hepatitis	431	9	1	..	8	..	..	1	13	8	45	21	93	2	36	..	..	6	33	7	4	28	12	4	..	7	3
14. Influenza	63,203	17,108	443	..	4,781	3,759	571	2,341	4,30	896	1,734	3,583	6,638	54	1,731	..	1,181	497	428	1,551	3,348	6,020	848	694	1,197	475	..
15. Leprosy	35	2	..	..	..	2	2	3	2	..	1	5	..	..	..	..	..	..	..	4	8	1	..	1	..	4	..
16. Leptospirosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Malaria	3	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Measles (Morbilli)	40	10	..	..	..	..	1	..	2	1	1	1	5	..	1	..	..	..	..	..	2	..	2	..	2	..	..
19. Meningitis	73	23	..	..	..	..	..	..	..	..	22	..	1	..	3	..	..	..	1	..	2	..	7	1	1	3	3
20. Puerperal Pyrexia (including Puerperal Fever)	213	150	..	..	2	8	..	..	1	..	44	..	1	..	..	..	..	..	..	..	..	1	4	..	..	1	..
21. Rheumatism (Acute)	87	19	..	..	2	..	..	..	6	5	34	2	..	..	2	..	..	..	1	..	..	15	..	..	..	..	..
22. Tetanus	15	3	..	..	1	..	..	..	1	..	6	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..
23. Trachoma	251	70	..	..	9	..	..	..	22	7	7	4	25	2	2	..	..	..	..	..	3	15	..	1	1	1	..
24. Tuberculosis—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(a) Pulmonary	330	11	8	..	33	12	29	16	31	..	5	45	..	..	24	..	..	..	27	11	13	5	21	9	15	12	..
(b) Other than Pulmonary	23	2	1	..	9	..	..	2	2	..	..	..	5	..	2	..	..	..	..	..	2	..	..	..	..	3	..
25. Venereal Diseases—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(a) Gonorrhoea	999	567	1	..	33	23	3	8	20	14	133	34	20	..	9	..	..	39	47	6	1	..	14	1	15	11	..
(b) Granuloma Venereum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) Oph. Neon. Gon. Oph.	14	12	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(d) Lymphogranuloma Inguinale	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Soft Chancre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(f) Syphilis	9	7	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
(g) Venereal Warts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
26. Whooping Cough (Pertussis)	41	7	..	..	2	..	..	..	..	..	16	2	3	..	1	..	..	..	..	..	..	2	..	..	..	7	..
27. Yaws	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	77,245	20,882	502	..	4,915	4,671	858	2,820	4,586	1,524	2,993	5,014	7,789	81	2,516	..	1,401	762	515	1,762	3,446	6,551	959	851	1,513	565	..

TABLE XXVII
AN ANALYSIS OF AETIOLOGY OF LOW BIRTH WEIGHT IN 1,561 BABIES BORN DURING THE YEAR 1969 AT THE SIX MAIN MATERNITY UNIT IN FIJI

Associated Factors	Totals	INDIANS				FIJIANS				OTHERS			
		Less than 1000 G	—1500G	—2000G	—2500G	Less than 1000 G	—1500G	—2000G	—2500G	Less than 1000 G	—1500G	—2000G	—2500
Not known	891 (35)	3 (2)	23 (11)	107 (5)	667 (6)	..	8 (6)	11	53 (3)	1 (1)	2 (1)	3	8
Hypertension	129 (11)	3 (3)	18 (2)	25 (4)	63 (1)	1 (1)	..	3	12	..	..	..	4
Anaemia (7G or less)	90 (1)	..	3	15 (1)	71	..	..	1	..	..	..	..	..
Antepartum haemorrhage	52 (16)	4 (3)	4 (2)	12 (1)	16 (2)	2 (2)	4 (3)	1 (1)	6 (1)	..	1 (1)	..	2
Bad obstetrical history	34 (..)	..	1	1	31 (1)	..	..	..	1	..	..	..	..
Cardiac disease	6	..	..	1	5	..	..	..	..	..	..	..	..
Prolonged Pregnancy	17	..	..	..	15	..	..	..	1	..	..	..	1
Placental insufficiency	85 (6)	..	10 (4)	18	43	..	..	1	11 (1)	1 (1)	..	..	1
Premature rupture of membranes	71 (16)	4 (4)	13 (8)	18 (3)	29	..	..	3 (1)	4	..	..	..	..
Multiple pregnancy	222 (21)	9 (7)	7 (2)	29 (4)	35	..	12 (5)	10 (2)	14 (1)	..	..	3	3
Maternal death	3	..	..	3	..	..	..	..	..	..	..	..	..
Diabetes	3 (2)	..	..	1 (1)	2 (1)	..	..	..	..	..	..	..	..
Congenital malformations	22 (9)	1 (1)	1 (1)	5 (4)	12 (3)	..	..	..	3	..	..	..	..
Other causes—specify	36 (13)	..	5 (4)	7 (2)	14 (2)	..	3 (3)	2 (1)	3	1 (1)	1	..	..
Total	1,561 (131)	24 (23)	90 (34)	242 (25)	1,003 (16)	3 (3)	27 (17)	32 (5)	108 (6)	3 (3)	4 (2)	6	19
Death Rate/1,000	84	833	377	103	16	1,000	629	156	56	1,000	500	..	..

Figures in brackets indicate babies who died

TABLE XXVIII
LOW BIRTH WEIGHT BABIES, 1969

INDIANS

Station	Total L.B.W.	Deaths L.B.W.	Total Live Births	L.B.W. per cent.	Total N.N.D.	L.B.W. Deaths/ 1,000 Live Births	N.N.D./ 1,000
C.W.M. Hospital	374	22	1,359	28	27	16	20
Lautoka	333	23	1,394	24	33	20	24
Labasa	255	20	927	28	23	22	25
Nadi	145	6	509	28	6	12	12
Nausori	140	7	530	26	9	13	17
Tavua	112	12	408	27	12	29	29
Total	1,359	95	5,127	27	110	19	21

FIJIANS

Station	Total L.B.W.	Deaths L.B.W.	Total Live Births	L.B.W. per cent.	Total N.N.D.	L.B.W. Deaths/ 1,000 Live Births	N.N.D./ 1,000
C.W.M. Hospital	79	14	1,401	6	18	10	13
Lautoka	34	10	412	8	14	24	34
Labasa	10	13	152	7	5	20	33
Nadi	9	..	189	5	..	..	..
Nausori	32	3	473	7	4	6	8
Tavua	6	1	297	2	2	3	7
Total	170	31	2,924	6	43	11	15

OTHERS

Station	Total L.B.W.	Deaths L.B.W.	Total Live Births	L.B.W. per cent.	Total N.N.D.	L.B.W. Deaths/ 1,000 Live Births	N.N.D./ 1,000
C.W.M. Hospital	24	3	473	5	8	6	17
Lautoka	4	2	72	6	2	3	3
Labasa	1	..	21	5	..	..	..
Nadi .. .. .	..	..	10	..	..	..	..
Nausori	3	..	16	19	..	..	..
Tavua .. .. .	..	..	34	..	..	..	..
Total	32	5	626	5	10	8	16
All Births	1,561	131	8,677	18	163	15	19

TABLE XXIX

URBAN/TOWNSHIP/RURAL SANITARY DISTRICTS OF THE COLONY OF FIJI—REPORT OF HEALTH INSPECTORS FOR THE YEAR 1969

1. Summary of Inspections

<i>Type of Premises, etc.</i>	<i>Inspections</i>	<i>Reinspections</i>	<i>Total</i>
House-to-house Inspection of District	63,901	27,244	91,145
Investigation of Complaints, Nuisances, etc. ..	1,762	805	2,567
New Buildings Sites—before approval	3,329	237	3,566
New Buildings Works in Progress	3,580	1,648	5,228
Investigation of Infectious Disease and Disinfection .	3,505	360	3,865
Shipping and Aircraft Sanitary Surveys	3,592	69	3,661
Houses-let-as-Lodgings and Lodging Houses ..	712	206	918
Factories and Workshops	911	389	1,300
Cemeteries	242	174	416
Schools	1,106	451	1,557
Checking Sanitary Services (A/Cs, etc.)	2,709	801	3,510
Laundries	446	125	571
Hairdressers, Chiropodists, etc.	1,405	520	1,925
Foodshops, Foodstores, Markets, etc.	8,103	1,719	9,822
Eating Houses and Ice Cream Premises	2,698	1,004	3,702
Aerated Water and Ice Factories	195	92	287
Kava Saloons	258	111	369
Bakehouses	1,394	461	1,855
Slaughterhouses	150	57	207
Butchers Shops	365	190	555
Food Vehicles	868	392	1,260
Subdivision sites	24	8	32
Inspection of Premises for Rat Infestation	4,799	53	4,852
Unauthorised Building Erections	287	..	287
Miscellaneous	952	650	1,602
Total	107,293	37,766	145,059

2. Written Notices, etc., Issued

Intimation Notices Served	4,128
Statutory Notices Served	585
Buildings Surveyed for Closure or Demolition	317
Closing Orders Served	101
Demolition Orders Served	117
Buildings Demolished after service of Orders:	
By Owners	59
By Local Authority .. ..	..

3. A. Building Permits Issued

	<i>Number</i>	<i>Value</i> \$
New Commercial Buildings	205	3,843,241
New Dwellings	1,622	4,932,215
Alterations and Repairs	916	1,515,839
Miscellaneous Works—		
(a) Bulk Stores	410	186,051
(b) Industrial Buildings, Factories, etc.	92	1,006,430
(c) Schools, Churches, etc.	241	960,636
New Septic Tanks	94	30,430
Total	3,580	\$12,474,842

B. Completion Certificates Issued

	<i>Number</i>	<i>Value</i> \$
New Commercial Buildings	110	2,019,056
New Dwellings	706	2,132,834
Alterations and Repairs	388	474,609
Miscellaneous Works—		
(a) Bulk Stores	136	160,304
(b) Industrial Buildings, Factories, etc.	56	230,964
(c) Schools, Churches, etc.	105	471,298
New Septic Tanks	53	25,426
Total	1,554	\$5,514,491

4. Summary of Sanitary Improvements, etc.

(All Types of Premises)

Items	Ordered	Completed
Repairing of Buildings	934	350
Improvements to Lighting and Ventilation of Buildings ..	371	117
Removal of Unauthorized Erections	302	106
Abatement of Overcrowding	136	76
New Privies (all types)	3,877	2,056
Repairing, Cleansing or Flyproofing of Privies	3,425	1,801
Filling in of Insanitary Privies	842	541
New Bathrooms or Washing Places	316	115
Repairing or Cleansing of Bathrooms or Washing Places ..	650	325
New Kitchens	492	120
Repairing or Cleansing of Kitchens	1,133	449
Provision of New Drains	1,007	471
Repairing or Cleansing of existing Drains	3,523	2,134
New Wells	184	87
Repairing or Improvement of Wells	420	208
New Water Tanks	198	62
Repairing, Screening or Cleansing of Water Tanks	578	331
Removal of Accumulations of Refuse, etc.	6,685	4,394
Clearing of Overgrowth or Long Grass	4,703	3,104
Provision of Garbage Tins	2,795	1,604
Abatement of Nuisances for Animals or Poultry	1,804	1,003
Abatement of Mosquito Breeding	3,452	2,691
Cleansing of Food Premises	1,356	814
Structural Improvements to Food Premises	873	242
Cleansing of Food Vehicles	705	469
Improvements to Food Vehicles	217	166
Cleansing or Improvement of Hairdressers premises	383	233
Cleansing or Improvement of Laundries	168	111
Cleansing or Improvement of Schools	176	78
Cleansing or Improvement of Shipping	6	5
Impounding of Straying Cattle	23	23
Building Regulations—		
(a) To cease occupation of illegal buildings	80	26
(b) Stop-Work Notices—Unauthorised Structures	14	35
(c) Miscellaneous	295	133
Total	42,123	24,450

5. Mosquito Control

Premises Inspected for Mosquito Larvae	91,145
Premises at which larvae found	3,452
Larval Index	3.8 per cent.

6. Shipping Arrivals

	Number
(a) Pratique and boarded	131
(b) Radio pratique	358
(c) Pratique and Malarial inspection	201
d) Pratique and Malarial spraying	96
Total	786

Aircraft Arrivals

	Number
(a) Malarial spraying	1,495
(b) Not sprayed	1,759
Total	3,254

7. Disinfection, Disinfestation and Fumigation

<i>Types of Premises, Vessels or Aircraft</i>	<i>Method</i>	<i>Number</i>
Overseas Vessels	HCN	66
Local Vessels	HCN	45
Overseas Vessels	Insecticidal Aerosol (W.H.O. Standard)	96
Local Vessels	Diazinon, Dieldrin	39
Aircraft	Insecticidal Aerosol (W.H.O. Standard)	1,495
Buildings (Barracks, Hospitals, Offices, Dwellings, etc.) ..	Diazinon, Dieldrin, D.D.T., Formalin Tablets, etc.	249
Pit Latrines, Pan Privies and Public Convenience	Cylin	477
Wells and Water Storage Tanks ..	Chloride of Lime	4
Used Clothings (Imported)	Formaldehyde	182
Miscellaneous	Formalin	122
International Deratization Certificates Issued		60
International Deratization Exemption Certificates Issued		4
Local Vessels—Fumigation Certificates Issued		48
Local Vessels—Fumigation Extension Certificate Issued		23

8. Anti-Rat Measures

Traps Set	12,588				
Prival Baits Laid	5,547				
	<i>Rattus</i> <i>Rattus</i>				
	<i>Rattus</i> <i>Norvegicus</i> <i>Mice</i> <i>Polynesian</i> <i>Total</i>				
Rats Destroyed by Trapping and Poisoning	1,947	1,098	2,086	7	5,138
Rats Destroyed by Fumigation—Overseas Shipping	103	4	..	..	107
Rats Submitted for Laboratory Examination	37	27	..	..	64
Rats Found Infected	Nil	Nil			Nil

9. Supervision of Labour Gang, etc.

Number of Men Employed, Clearing and Drainage Work Done, Loads of Refuse Removed, etc.	
Number of Men Employed	66
Vacant Crown Land Cleared of Overgrowth	4,216 acres
Drains Cleared and graded	5,779 chains
Number of Loads of Refuse Removed	11,851 loads
Septic Tanks Emptied	1,874
Concrete Invert Drains Laid	61 chains
Construction of Earth Drains	61 chains 36 feet
Vacant Land filled in and levelled	47 square chains

10. Food Inspection and Sampling

Unsound Foodstuffs Condemned and Destroyed (General)	63,840 lb. 15 oz.
Unsound Foodstuffs Condemned and Destroyed (Canned and Bottled)	28 gal. 1 qt. 1 pt. 26 oz.
Food and Water Samples Taken:—	

<i>Article</i>	<i>Type</i>	<i>Number</i>
Fresh Water	Chemical	348
Fresh Water	Bacteriological	582
Milk	Chemical	39
Milk	Bacteriological	2
Kava	Chemical	35
Flour and Sharps	Chemical	61
Fish	Chemical	7
Ice Cream	Chemical	11
Ice Cream	Bacteriological	14
Ghee, Edible Oil, etc.	Chemical	22
Cereal—(Dhal)	Chemical	144
Other Foodstuffs	Chemical	42
Other Foodstuffs	Bacteriological	19
Total		1,326

11. Meat Inspection

<i>Meat Inspection</i>								<i>Number</i>
Cattle	..	..	..	..	..	..	..	140
Pigs	..	..	..	..	..	..	..	43
Total								183
Carcasses Condemned	..	..	..	..	..	..	..	6
Organs and Parts Condemned	..	..	..	..	..	..	..	36
Total								42

12. Legal Proceedings

				<i>Public Health Ordinance and Regulations</i>	<i>Pure Food Ordinance and Regulations</i>	<i>Town Planning Ordinance</i>
Number of Cases Taken	..	..	..	45	17	13
Convictions Obtained	..	..	..	27	11	12
Cases Acquitted	..	..	..	1	2	..
Cases Withdrawn	..	..	..	4	3	1
Revenue from Fines and Costs	..	..	..	\$287.70	\$167.90	\$328.80

13. Remarks and Details of any special works carried out during the year under review

Sanitation Campaign—

1. An Anti-Filariasis Campaign was carried out in the Northern Division.
2. 1,982 Food handlers were checked and subjected to X-ray examination.
3. 968 Dead animals (dogs and cats) were disposed of by Local Authorities.
4. A total of 2,794 water-seal latrines were installed within the Rural Areas during the year.

14. Seaport and Airport Health Quarantine

Ships given Pratique	..	..	..	..	..	..	786
Aircraft given Pratique	..	..	..	..	..	..	3,254
Overseas Vessels Fumigated	..	..	..	..	..	..	66
Local Vessels Fumigated	..	..	..	..	..	..	45
Aircraft and Vessels treated with Insecticidal Aerosols	..	..	..	..	..	..	1,591
International Deratization Certificates Issued	..	..	..	..	..	..	60
International Deratization Exemption Certificates Issued	..	..	..	..	..	..	4

Passenger Arrivals—

<i>Type</i>				<i>Air</i>	<i>Sea</i>	<i>Total</i>
Visitor	..	..	..	82,376	2,787	85,163
Through	..	..	..	110,088	85,773 (a)	195,861
Residents	..	..	..	10,638	1,075	11,713
Cruise Ship Passengers	..	..	..	..	41,506	41,506
Total				203,102	89,635	292,737

NOTE.—Passengers on cruise ships included in (a).

TABLE XXX

Fiji School of Medicine Students Completing Courses by Territory and Subjects, 1969

Territory	Medical	Dental	Dental Mechanics	Dental Hygienists	Certificate in Public Health	Laboratory Technology	Radio- graphy	Dietetics	Total
Fiji	6	1	2	4	2	1	..	2	18
British Solomon Islands Protectorate	..	..	1	..	..	..	..	..	1
Cook Islands	1	1	..	..	..	..	..	..	2
Western Samoa	1	..	..	..	..	..	..	..	1
American Samoa	..	1	..	..	..	..	..	..	1
Tonga	2	1	..	..	1	1	2	1	8
Total	10	4	3	4	3	2	2	3	31



