WORLD HEALTH ORGANIZATION

ORGANISATION MONDIALE DE LA SANTÉ

REGIONAL OFFICE FOR THE WESTERN PACIFIC
BUREAU RÉGIONAL DU PACIFIQUE OCCIDENTAL

REGIONAL COMMITTEE

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22 September 1969

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Provisional agenda item 9

BRIEF REPORTS RECEIVED FROM GOVERNMENTS ON THE PROGRESS OF HEALTH ACTIVITIES

Attached are brief reports received from governments on the progress of health activities in the following countries and territories:

Australia
Fiji
Hong Kong
Japan
Malaysia
New Zealand
Philippines
Timor

In addition, the Director of Medical and Health Services of the Government of Hong Kong has submitted a report on the outbreak of cholera in the Colony in July 1969. This is issued in English only.

The Deputy Director of Medical Services (Health) of the Government of Singapore has submitted a report on the national immunization programme in 1968. This is issued in English only.

ORIGINAL: ENGLISH

COMMONWEALTH OF AUSTRALIA
REPORT ON NATIONAL HEALTH ACTIVITIES 1968-69[1]

1. NATIONAL HEALTH SCHEME

The year 1968-69 has seen improvements in the national health scheme and achievements in the process of evaluating and reporting on the present health services.

Three important new benefits were introduced into the national health scheme. Special arrangements were made to pay full benefits for patients in approved hospitals who are suffering from chronic illnesses, for patients remaining for long terms in approved hospitals and for patients suffering from illnesses known to have been in existence before joining a health insurance fund; a supplementary nursing home benefit was introduced to assist patients needing and receiving intensive nursing home care and benefit payments were introduced for handicapped children under sixteen years accommodated and cared for in approved handicapped persons' homes. These benefits, announced in the 1968-69 Budget, took effect from January 1, 1969.

The effect of the introduction of the extended hospital benefits means that the Commonwealth Government now underwrites the full insured benefit entitlements of a patient for the whole period of hospitalization. The level of payment in these cases, however, is limited to the total hospital charge, including the normal additional charges such as theatre fees and drugs. This extension means that all people who are insured to an appropriate level need have no fear of the cost of hospitalization, no matter how long they receive hospital treatment. However, the extended benefits cover only insured patients accommodated in premises approved as hospitals under the National Health Act.

Progress was made during the year towards a comprehensive, co-ordinated programme of home care for people, particularly the aged, who may best be helped by services made available to them within their domestic environments. Legislation was passed providing Commonwealth financial assistance to the States for the provision of paramedical and supportive services to people in their own homes and for provision of nursing home beds for people of little means.

The Commonwealth offers to the States envisage Commonwealth expenditure of $1.25m a year, on a matching dollar for dollar basis, for home care services and of $5m over the next five years, also on a matching basis, towards the capital cost of providing State nursing homes.

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[1] Submitted by the Director-General of Health, 14 August 1969.

Apart from home nursing services, which the Commonwealth already subsidizes by grants, the major components of the home care programme which the Commonwealth is offering to subsidize under the new legislation are housekeepers and home help services, senior citizen centres and paramedical services.

The sharp rise in the cost of the Pharmaceutical Benefits Scheme in 1968-69 was accompanied by a significant increase in the number of prescriptions written per head of population. The addition of new drugs (particularly influenza vaccine and drugs for the treatment of asthma) and other preparations to the list of benefits, widespread outbreaks of influenza and associated respiratory ailments during the winter of 1968, together with the accelerated prescribing of relatively high cost drugs, all contributed to increased pharmaceutical expenditure.

Spending on national health benefits in 1968-69 amounted to $270.9m, the introduction of the additional hospital and nursing home benefits being a significant factor in the increased expenditure.

The effectiveness of the voluntary health insurance scheme in Australia, problems of costs of health services and questions of financial responsibility were reviewed in the Report of the Commonwealth Committee of Enquiry into Health Insurance. At the same time, a Select Committee of the Senate was continuing its investigations of medical and hospital costs.

2. MEASLES VACCINATION

During the year, a programme of measles vaccination was undertaken by the Commonwealth, based on procedures established in the United States and Britain. The Commonwealth Government decided to make measles vaccine available to the States for use in mass immunization campaigns for children aged one to nine years. The decision was considered to be a valuable public health measure to reduce the morbidity and permanent injury caused by measles. However, in March 1969, as immunization campaigns were commencing, the vaccine which had proved to be safe and effective in Britain was withdrawn.

This action followed reports of three cases of severe nervous system disorders occurring in association with measles vaccination within a short space of time. Studies on overseas work on measles are continuing so that a recommendation can be made as soon as possible on an alternative, safe and effective vaccine.

3. QUARANTINE CONTROL FOR CONTAINER CARGO

With the introduction of container cargo shipping to Australia in the first-half of 1969, new quarantine control procedures commenced in order to ensure protection of human, animal and plant health in Australia, and to allow shipping to proceed without undue interruption. Though the new procedures at present apply only to ships operated by British operators, it is hoped shortly to extend the new procedures to shipping of other countries.

4. CONTROL OF THERAPEUTIC GOODS

Significant progress was made during the year towards achieving uniform control over therapeutic goods throughout Australia. Since 1967 a working party has developed a uniform recall procedure for dangerous and sub-standard drugs and a code of good manufacturing practice for use by the pharmaceutical industry. The code is designed to be used as the basis of a licencing system for the manufacture and importation of therapeutic goods. Progress has also been made on developing a code of radiation sterilization of medical products, to be incorporated in the code of good manufacturing practice.

5. NORTHERN TERRITORY HEALTH SERVICES

In the Northern Territory the Commonwealth administers a comprehensive range of health services and these are continually being expanded in line with the development of the territory. Excellent work is being done in all areas of the health services but perhaps the most encouraging single feature during the past year was the further evidence of a decline in the infant mortality rate amongst aboriginals. The greatest problems in the Northern Territory are still those of personal and community health amongst the aboriginals and, in particular, of child health. A long-term campaign to improve the health of aboriginal children is now showing increasingly good results.

RAPPORT SUCCINCT SUR LES PROGRES REALISES DANS LE DOMAINE DE LA SANTE PUBLIQUE AU CAMBODGE

Pour le Comité Régional de l'OMS
(20ème session - Septembre 1969)

Grâce à une politique médico-sanitaire bien déterminée ,de nombreux progrès sont enregistrés dans le domaine de la Santé Publique; le développement se fait d'une façon bien coordonnée dans toutes les branches .

Dans le domaine de la médecine préventive , les programmes de santé publique en cours ont été renforcés , en particulier en ce qui concerne la lutte contre les maladies transmissibles , de la protection maternelle et infantile, de l'hygiène du milieu et de l'éducation sanitaire de la population.

Le problème de la protection des enfants et des mères a pu être en grande partie résolu grâce à l'accroissement du nombre de sages-femmes et d'accoucheuses rurales d'une part et du nombre des services de consultations pré-post-natales d'autre part .

ANNEE	1967	1968	1969
Centres de Consultation pré et post-natale	48	53	64
Postes d'accoucheuses rurales	677	819	819

A côté de ces centres fixes , il y a lieu de signaler les activités de nos accoucheuses rurales , réparties dans tous les coins du Royaume . Leur rôle est de pratiquer les accouchements à domicile . Elles suivent et donnent des conseils d'hygiène aux femmes enceintes et aux accouchées .

.....2

Depuis 1958 , aucun cas de peste et de variole n'a été signalé .

Des cas isolés de choléra ont apparus vers le mois d'avril 1968. Cependant ,grâce à une lutte aussi rapide qu'efficace ,l'épidémie a pu être évitée.

En vue d'améliorer la qualité des soins prodigués aux malades ,nous avons procédé au renforcement et à la modernisation de l'infrastructure médicale du pays . De nombreux aménagements et de nouvelles constructions et installations ont rendu meilleures les conditions dans lesquelles sont soignés les malades . Le nombre de lits a passé de 6.433 en 1967 à 6.925 en 1968 et à 7.286 en 1969 .

ANNEE	1967	1968	1969
Hôpitaux et Centre de Santé	86	92	95
Dispensaires , infirmeries	470	500	576
Pharmacies et dépots de Pharmacies	345	358	373

En ce qui concerne la politique de personnel , tous nos efforts vers l'amélioration constante de la qualité de l'enseignement dans nos facultés comme dans nos écoles de formation paramédicales . Des enseignants enseignants et professeurs ont été envoyés à l'étranger pour parfaire leurs connaissances. Le tableau ci-après montre l'accroissement de l'effectif de personnel .

ANNEE	1967	1968	1969
Médecins	360	403	448
Pharmaciens	64	77	[illegible]
Dentistes	35	40	[illegible]
Infirmiers et infirmières	2330	2380	2684
Sages-Femmes	246	286	332
Accoucheuses rurales	677	819	821
Agents Sanitaires	409	442	[illegible]

ORIGINAL: ENGLISH

FIJI
BRIEF REPORT ON PUBLIC HEALTH ACTIVITIES[1]

In Fiji the Medical Department of the Government conducts what is virtually a national health service, the private sector of medical practice being very small. The curative and preventive aspects of public health can therefore be fully integrated and, indeed, it is difficult to separate the two sides of the public health service for the purposes of this report. Nevertheless, the various main divisions of preventive medicine are hereunder reported upon briefly. Wherever possible figures are given as on 30 June 1969 but in most cases the latest available are those as at 31 December 1968.

1. NOTIFIABLE DISEASES

There was a general decrease in all the diseases of childhood in 1969. One case of diphtheria was, however, reported - the first in a child for two years. On the credit side, however, there was a marked drop in the incidence of tetanus, only 6 cases having been notified. The increasing prevalence of gonorrhoea which has been apparent for several years was held in 1968 to 947 which was approximately the same number of cases as had been reported in 1967 and the rate again remained steady in the first-half of 1969. The level of infantile diarrhoea increased to 5893 cases for the first-half of 1969 compared with 3820 for the same period in 1968. At least some of this apparent increase, however, is believed to be due to better reporting as the number of deaths from the disease which was 30 in the first-half of 1968 fell to 20 in the same period of 1969. In general, then, it can be said that the incidence of all the commonly notifiable diseases is low. None of the great scourges of the tropics such as malaria exist in Fiji. Yaws has been eliminated and the pattern of infectious disease is, in general, that of a developed country in a temperate climate.

2. MATERNAL AND CHILD HEALTH

In Fiji, family planning has always been regarded as an integral part of maternal and child health and consequently advice and facilities are available at all clinics. More and more mothers are appreciating the benefits of family limitation and as a result the birth rate has been steadily reduced year by year from 41.91 per 1000 of the population in 1957 to 30.23 in 1968. The total number of births has also declined each year for several years in spite of a steadily increasing number of women in the child-bearing age-group. The result of all this has been that better maternity services can be provided since the demand no longer swamps the facilities available.

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[1] Submitted by the Director of Medical Services, 28 July 1969.

The number of attendances at antenatal clinics has doubled in three years and numbered 81 351 in 1968. This means that each pregnant woman attended about five times. Maternal deaths in 1968 numbered eight giving a maternal mortality rate of 0.52 per 1000 live births. The policy of providing tetanus immunization at antenatal clinics has been strikingly successful, cases of tetanus neonatorum having been reduced from a yearly average of about 17 to 6 in 1968.

The infant mortality rate in 1968 was 24.78. That of Fijians was 20.74 per 1000 live births but among Indians the rate was 29.09. This higher figure was almost entirely due to the very much larger number of low-weight babies born to Indian women. Much effort is currently being put into combatting this problem and improving the nursing care of low-weight babies. Once children in Fiji pass the first year of life they do well and the toddler mortality rate of Fijians compares with that of Maoris in New Zealand while the death rate among Indian pre-school children is almost the same as that among New Zealand Europeans.

Much emphasis is placed on immunization both among pre school children and in the active school health service and almost complete coverage is obtained. The Department is currently engaged in planning a campaign with the assistance of UNICEF to improve the sanitation of rural schools in Fiji.

3. CONTROL PROGRAMMES

Special control programmes are in operation in relation to tuberculosis, leprosy, rheumatic fever and filariasis. Space does not permit a description of these but there is evidence that all are beginning to exert an effect.

Tuberculosis is still the most serious public health problem and the intensive case-finding campaign over the last few years produced a temporary apparent increase in its prevalence but the number of cases reported in the first-half of 1969 has shown a considerable decrease. In leprosy, Fiji is switching over to a completely new policy of control based on domiciliary care and voluntary short-term hospitalization when necessary instead of the old concept of compulsory isolation in a leprosarium. Rheumatic fever is common in Fiji but, as a result of the programme of ensuring that all sufferers have regular chemoprophylaxis there has been a noticeable reduction in hospital admissions due to rheumatic carditis. The filariasis programme only got under way in January 1969 following a survey of the situation in 1968 but has already shown indications of being successful.

4. ENVIRONMENTAL SANITATION

As in so many developing countries, the improvement of environmental sanitation is one of the most difficult problems facing the Medical Department. Serious difficulties exist in providing acceptable standards of housing, sewerage, water supplies and general all-round cleanliness. Much of this work falls on the Health Inspectorate Division of the Department but a great deal also depends on health

Education and much importance has been attached to the latter by the Department. Perhaps as a result there is apparent a growing awareness among the public of the problems to be faced and new housing estates now frequently include sewage treatment plants. The Medical Department has produced a booklet showing how to build a satisfactory low-cost house. The demand for rural water supplies continues to grow and 80 have been installed with UNICEF assistance in the last four years. Some 15 000 water seal latrines have also been manufactured and installed in rural areas.

Nevertheless, in spite of these slight successes, it must be admitted that much remains to be achieved in the field of environmental sanitation.

5. QUARANTINE

There are three ports of entry into Fiji and two airports. At all of them the usual quarantine services are maintained. The increasing importance of the tourist industry in the economy of Fiji has thrown a considerable burden on the quarantine services and, in addition, the unique position of Fiji in being malaria-free in a region where the disease could easily become established means that great care must be taken to prevent the importation of anopheline mosquitoes. None of the quarantinable or pestilential diseases has ever been reported in Fiji.

6. VITAL STATISTICS

The following statistical information for 1968 may be of interest:

Mid-year population	:	512 062
Crude birth rate	:	30.23
Crude death rate	:	5.23
Natural increase	:	25.0
Infant mortality rate	:	24.78
Toddler (1-4 years) death rate	:	3.45
Maternal death rate	:	0.52

7. CONCLUSION

In general, therefore, it can be said that Fiji is a healthy country. Deaths are due mainly to the degenerative diseases or accidents. There is little or no malnutrition. The country is a most fortunate one. It is the ambition of the Medical Department to keep it that way.

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GILBERT & ELLICE ISLANDS COLONY

MEDICAL DEPARTMENT ANNUAL REPORT

FOR THE YEAR ENDED

31 DECEMBER 1968

TARAWA

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GILBERT AND ELLICE ISLANDS COLONY

MEDICAL DEPARTMENT ANNUAL REPORT 1968

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SECTION 1

GENERAL REVIEW

1. An expansion of general medical and maternity and child health services in outer islands has occurred during the year. This has included the posting to outer islands of additional staff - largely Colony Nurses, and the completion of more Maternity Units, Medical Officers' and Dressers' quarters.

2. At the Central Colony Hospital at Bikenibeu, Tarawa, the new children's ward was opened on 2nd January, and has proved to be of very great value. Mothers can frequently now be admitted with their children which is of very great advantage in cases of malnutrition where education in infant feeding is a prime need.

3. The improvements to the Central Colony Hospital that commenced in 1967 are now almost complete. Among the buildings that have been improved during the year are the Private Ward, the Obstetrical Ward and the Kitchen. A fifty thousand gallons water cistern to collect rain water from roof catchments was completed during the year to augment emergency water storage.

4. A drought of moderately severe proportions has been experienced in the Colony - particularly in the Central and Southern Gilberts. In no instance have water supplies at Medical Department establishments completely failed. Strict rationing at main centres on Tarawa became necessary and were still in force at the end of the year.

5. The training of Colony Nurses and Dressers has continued at the Central Hospital Nursing Training School, and a formal fourth year programme commenced during the year for the first time. Thirty three trainees, thirty nurses and three dressers were in training during the year.

6. The World Health Organisation Senior Nurse Educator left the Colony in August, and a World Health Organisation Public Health Nurse Educator is expected in the near future.

7. The training of Maternity and Child Health Aides continued throughout the year, and new schools at Nanumea (Ellice Islands) and Nikunau (Gilbert Islands) were commenced in addition to the original school at Tearinibai (N. Tarawa - Gilbert Islands).

8. A follow-up visit of the SPC/WHO/MCH team took place in January; it covered a period of three months and the report of this visit put forward recommendations most of which have never been implemented in whole or in part.

9. The WHO Public Health Nursing adviser visited the Colony to advise on the curriculum for the public health nursing programme. In particular, the need for specific instructions to fit Colony Nurses and Dressers for outer island situations was stressed. A return visit early in 1969 is expected.

10. The WHO/UNICEF - assisted Water and Sanitation project on Nikunau commenced under the direction of the Chairman of the Districts' Development Team. The Medical Department supplies staff and other assistance to the project. Further similar projects are currently being planned in consultation with a WHO Sanitary Engineer.

11. The Colony/WHO - assisted Diarrhoeal Diseases project, planned to start this year, was delayed by difficulties in securing suitable international staff. A WHO Bacteriologist arrived in December, however, and the project commenced. An extension of the Central Hospital Laboratory, to accommodate the additional equipment required in the project, has been completed; it provides a room for the collection of blood from donors for transfusion.

12. There has been a considerable expansion in the number of blood transfusions during the year. The Red Cross Association is giving valuable assistance in the building-up of a Blood Donors Register in South Tarawa.

13. The Red Cross and other voluntary organisations have given considerable help during the year. Apart from regular hospital visiting, the Red Cross has aided a limbless child - paying for artificial legs etc. The same organisation has paid for an electro-cautery apparatus for the Central Hospital Operating Theatre. The Save the Children Fund (NZ) has donated three tons of powdered skimmed milk, and the Lepers' Trust Fund Board, Incorporated, N.Z., has made several valuable contributions.

14. Eight students in training overseas during the year have been in the Medical Officer Course, one in the Dental Officer Course, five in the ancillary courses, all at the Fiji School of Medicine. Five students have been training as Nursing Students at the Central Nursing School, Suva. Of the Medical Officer Course students, five have been students at the University of the South Pacific in Preliminary Year I or II.

15. International agencies have contributed towards the cost of courses, seminars, etc.; these have included a Rodent Control Techniques training course at the East-West Centre, Honolulu (S.P.C. assisted), a Filariasis Seminar in Western Samoa (SPC assisted), and WHO Fellowships and Seminars in Tuberculosis Control, post graduate medical studies, and in cardiovascular disease (of infectious origin). One Medical Officer Class I is taking a D.P.H. Course in England with Technical Assistance Funds through the Ministry of Overseas Development.

16. The United Nations technical agency, UNICEF, has continued to contribute valuable amounts of drugs, equipment and transport for the MCH, Nursing Education, TB control and water/sanitation projects.

17. Of the three special campaigns in the Colony, the Maternity and Child Health programme has achieved considerable expansion. In many areas the service is becoming popular with the mothers, and very large increases in attendances have been noticed. The TB Control programme continued to extend the Colony wide coverage of BCG vaccination, and by the end of the year about 90% of the population had been tested, and where appropriate, vaccinated.

18. With the employment of a female medical officer for Family Planning and MCH work there has been a considerable increase in the numbers of women now known to be using contraceptives. Despite this increase, it cannot be said that the project is in any way a success as the target figure for acceptors is still far from being achieved. Additional staff are expected for this project in 1969 to boost the health education and propaganda aspects of family planning. A Colony census was carried out in December, and its results are looked forward to with great interest.

19. Readers not already familiar with the Colony are invited to study the General Section of Appendix I which gives a brief account of its geography, climate and population.

SECTION II

20. ESTABLISHMENT

Medical Administrative

Chief Medical Officer	1

Medical and Nursing

Medical Officers Class I	3 (includes 1 supernumerary)
Medical Officer Class II	1
Medical Officers Class III	23 (includes 1 on contract)
Matron	1

Sister Tutor	1
Nursing Sisters	2
Female Nursing Staff	71 (includes 30 trainees)
Senior Dressers	2
Dressers	45 (includes 3 trainees)

Dental

Dental Officers Class III	2
Dental Mechanic	1

Public Health Inspectorate

Assistant Health Inspectors	3

Pharmacy and Stores

Pharmacist and Medical Storekeeper	1
Assistant Pharmacist	1
Dispensary Attendants	2

X-ray Technicians

Assistant Radiographers	2

Laboratory Technician

Laboratory Attendant	1

Executive and Clerical

Secretary	1
Executive Officer	1
Clerical Officers	5

Subordinate (unestablished staff)

Orderlies	20	Seamstresses	2
Hospital Cleaners	3	Laundresses	7
Labour Overseer	1	Assistant Cooks	2
Labourers	9	Toddy Cutter	1

21. PERSONNEL (Senior Posts only)

E.P. Hamblett	M.B. Ch.B.(Bristol), D.C.H. (London), D.T.M. & H. (Liverpool), D.P.H. (Bristol): Chief Medical Officer
P.D. Matthews	L.R.C.P. (London), M.R.C.S. (England): Medical Officer Class I.
R.J.M. Crawford	M.B., Ch.B. (Edinburgh): Medical Officer Class I.
J.C. Crawford	M.B., Ch.B. (Edinburgh): Medical Officer Class I (Supernumorary).
J.A. Hopkinson	S.R.N., S.C.M., R.M.N.: Matron.
E.G. Blake	S.R.N., S.C.M., S.T.D.: Sister Tutor.
S. Selema*	R.N., R.M.: Nursing Sister (to February).
M. McPherson	S.R.N., S.C.M.: Nursing Sister

J. H. Wood	M.P.S.: Pharmacist and Medical Storekeeper.
Ieiera Tira	L.H.A. (Sydney): Secretary.
Terua Iuliano	Executive Officer

Medical Officer Class II

Teimone Flood	D.S.M. (Fiji) : Medical Officer Class II.

Medical Officer Class III

Simeona Peni	D.S.M. (Fiji):
Teleke Kofe	D.S.M. (Fiji):
Faanoa Pine	D.S.M. (Fiji):
Puta Tofinga	D.S.M. (Fiji), C.P.H. (Fiji):
Iupasi Kaisala	D.S.M. (Fiji):
Neete O'Connor	D.S.M. (Fiji):
Tilinga Pulusi	D.S.M. (Fiji):
Tamaika Kofe	D.S.M. (Fiji):
Bwebwentekai Tekanene	D.S.M. (Fiji), C.P.H. (Phillipines):
Kalaaki Laupepa	D.S.M. (Fiji):
Teinamati Mereki	D.S.M. (Fiji):
Alesana Seluka	D.S.M. (Fiji):
Malaefou Elisaia	D.S.M. (Fiji):
Tawita Tira	D.S.M. (Fiji):
Taketiau Beriki	D.S.M. (Fiji):
Elia Koau	D.S.M. (Fiji):
Tomasi Puapua	D.S.M. (Fiji):
Eritane Kamatie	D.S.M. (Fiji):
Felix Yee Ting	D.S.M. (Fiji):
Falesene Salesa	D.S.M. (Fiji):
Alolae T. Cati	D.S.M. (Fiji):
Iete Kea	D.S.M. (Fiji), (on contract terms):
Herbert Elliot *	D.S.M. (Fiji), (till March).

(* seconded from Medical Department, Fiji).

Dental Officers Class III

Tihala Malaki
Takeimoa Korina

21. INTERNATIONAL STAFF (World Health Organisation)

Miss E. A. Will	R.N., R.M.(N.Z.),D.N.S.A. (N.Z.): W.H.O. Senior Nurse Educator.

SECTION III

22. LEGISLATION

Registration of Nurses and Midwives Ordinance 1968

This ordinance provides for the registration of nurses and midwives through a Nurses and Midwives Board.

Provision is also made for the setting up of standard for the training of Nurses and Midwives.

Births, Marriages and Deaths Registration Ordinance, 1966

This Ordinance came into force on 1st October, 1968 and provides for the registration of all births, Marriages and deaths in the Colony.

Water Supply Ordinance 1967

Two areas in South Tarawa have been set aside for water reserves under this Ordinance.

SECTION IV

TRANSPORT

23. Sea Transport

The diesel launch "Kamaiaki" continues to serve the Medical Department's (and others) needs in the Tarawa Lagoon. It is used for the carriage of staff, patients and cargoes, and is an important link with North Tarawa and with Betio, the former for staff of medical projects and the latter for freight carrying.

24. The "Tarawa Twomey" jet launch, donated by the New Zealand Leper Trust Fund Board, Incorporated, continues to provide speedy transportation of patients, and staff within the Tarawa lagoon. Its most important use is in keeping in touch with follow-up patients in theTB and Leprosy Control, and the MCH programmes.

25. A set of seven small dinghies have been purchased this year from Fiji for use with UNICEF-donated outboard motors. At the end of the year these vessels, each 7'6" in length, are just being brought into use.

26. Motor Transport

The Department's transport consists of the following:-

1 Ambulance (Land Rover converted)
3 Volkswagens
3 Trimobiles
16 Motor cycles (donated by UNICEF), and UNICEF bicycles for use in the MCH programme.

27. Air Transport

The fortnightly scheduled passenger service of Fiji Airways Hawker Siddeley 748 has continued throughout the year. (Nandi-Funafuti-Tarawa-Naurau and return). This service has been used for air freighting urgent medical supplies, perishable items (vaccines, etc.), and for the carriage of patients proceeding for treatment overseas, or from Funafuti to Tarawa.

Airfields for the proposed internal air service were in the course of construction at Abemama and Tabiteuea.

SECTION V
OFFICIAL VISITORS

29.

4 January	Professor McCreary	Victoria University, Wellington (NZ)
11 January	Mr. R. Bedford	Auckland University (NZ)
28 January	Dr. R. de Wilde Miss D. Pittock	SPC/WHO/MCH Team (3 months visit)
30 January	Mr. Skinner	Staff localisation review
10 March	Dr. J. N. Liston, C.M.G.	Secretary of States's Medical Adviser.
28 March	Mr. R. Riddell	University of Newcastle - Physical Planner.
7 May	Mr. M. Macoun, C.M.G.	Inspector-General of Colonial Police
20 May	Miss O Manning	WHO Public Health Nursing Adviser
28 September	Miss J. Willmott	South Pacific Health Service Nutritionist
4 October	Three members of BSIP Legislative Council	
4 November	Mr. A. Besa	WHO Sanitary Engineer
21 November	Miss R. Curtis	Foundation of the People of the South Pacific, Inc., U.S.A.

20 December	Sir J. Field, K.B.E.	Staff Liason Officer for H.M. Overseas Civil Service.

SECTION VI

FINANCE

30. The subheads of Expenditure in the Colony Estimates (1968) are as follows:- (amounts in Australian dollars).

Personal Emoluments	$ 128,110
Other Charges	$ 127,200
Special Expenditure	$ 11,920
Total	$ 267,230

(increase over the previous year $51,761)

31. The following Colonial Development and Welfare (C.D. & W) grants for medical projects also appear in the 1968 estimates:-

D. 6520.	Tuberculosis Control	$1,350
D. 6524.	Training of Colony Nurses	$1,890
D. 6529.	Medical Training Overseas	$7,500
D. 6547.	Extra Nursing Assistance	$ 450
D. 6563.	Medical buildings - outer islands	$5,400
D. 6737.	Improvements to Central Hospital	$9,700
	Medical Buildings	$19,000
		$45,300

32. The overall Medical Department estimated expenditure during the year was 7.43% of the total estimated Colony expenditure. Estimated C.D. & W. expenditure on Medical projects was 6.04% of the total.

Table 1. Medical Department Expenditure

Year	% of total Colony expenditure	Actual Medical Dept. Expenditure ($.A.)
1964	8.84	170,296
1965	7.60	156,034
1966	6.55	178,803
1967	5.87	215,469 *
1968	7.43 *	267,761 *

(* = Estimated only)

SECTION VII

STAFF TRAINING

33. Local Staff Training

Basic Training The Colony Central Hospital Nursing Training School gives a comprehensive training in Nursing and Midwifery to about 35 trainees (mostly female, but including a few males). The trainees undertake a three year course and a Colony Certificate is granted following a qualifying examination in the final (3rd) year.

34. The Nursing Training School was set up under a GEIC Government/WHO agreement in 1964, and the WHO has supplied an International Staff member, a Senior Nurse Educator (until August 1968). A Government counterpart is a full-time Sister Tutor. From time to time a locally qualified Colony Nurse has assisted in the Nursing Training School.

35. At the beginning of the year the following students were in training:-

Table 2. Nurses and Dressers in Training

Year of Course	Trainee Nurses	Trainee Dressers	Total
1st	13	3	16
2nd	6	-	6
3rd	9*	2*	11*
Total	28	5	33

*2 nurses and one dresser were resits.

Table 3. Nursing Examination

Year		Trainee Nurses	Trainee Dressers
1st year	Sitting Examination	9	1
	Passed Examination	8*	0*
2nd year	Sitting Examination	6	0
	Passed Examination	4	0
3rd year	Sitting Examination	7	1
	Passed Examination	7	1

* Failed Candidates resitting in March 1969. 2 nurses and 1 dresser resat Final in June 1968, and passed.

Trainee dressers do a course almost identical to that of trainee nurses (but with less actual midfery experience).

Post Basic Training During the year a formal fourth year programme was commenced for all trainees who qualified in final examinations at the end of 1967. This course is to widen their experience and to give other instruction not able to be included in the three years general training. This post basic training is specifically to assist nurses and dressers to take over posts on the outer islands.

37. M.C.H. - aide training. This has continued during the year with schools in action at Tearinibai (N. Tarawa): Nanumea (Ellice Islands), and Nikunau (Gilbert Islands).

These aides are village girls trained for six months to assist Colony Nurses in Minor Ailment Clinics, in infant welfare and antenatal care and with some emergency midwifery.

The schools have been built by the Island Councils and the teaching staff are selected Colony Nurses and Staff Nurses under the supervision of the MCH Officer and Senior Nursing Staff.

The MCH-aides receive a UNICEF stipend during training, but afterwards are paid by the Local Government Council of the area in which they work.

38. Overseas Training

Training in Medicine, Dentistry and medical ancillary courses are held at the Fiji School of Medicine (FSM), Suva, Fiji. The Courses of training which Colony students attend this year are:-

Medical Course: Preliminary 3 years at the University of the South Pacific followed by four years at F.S.M.

Dentistry Course: Preliminary year/s at the University of the South Pacific followed by 2-3 years at F.S.M.

Radiography: 3 years at F.S.M.

Laboratory: 3 years at F.S.M.

Sanitation: Theoretical 1 year and practical 1 year.

Nursing Courses are held at the Central Nursing School, Suva, Fiji, and are of two levels: firstly of three years duration to Fiji Colony level, and secondly of 3¼ years to New Zealand level.

Entrance qualifications have risen at both F.S.M. and the Central Nursing Schools (for New Zealand level course) this year.

39. Students in training in 1968 were as follows:-

Courses	Number in training January 1968	Number qualified and returned in 1968
Medical	8 (5 at U.S.P.)	0
Dental	2 (1 at U.S.P.)	1 (Dec. '68)
Radiography	0	-
Laboratory	2	2 (Dec.'68)
Sanitation	3	2 (Dec.'68)
Nursing (Fiji)	2	-
Nursing (N.Z.)	4	1(Apl.'68)

40. A second local nurse qualified at the New Zealand level in Fiji during the year and was expected to return to the Colony in April 1969.

FELLOWSHIPS

41. The following awards were taken up during the year.

South Pacific Commission-assisted training, etc.

A Colony Nurse attended a Family Planning Course of six months at the Medical Department, Fiji.

An X-ray technician had a four months refresher course at the Central War Memorial Hospital, Suva, Fiji.

A Medical Officer, Class III, attended an S.P.C. Seminar on Filariasis in Western Samoa.

An Assistant Health Inspector attended a Course on Rodent Control Techniques at the E.W. Centre, Honolulu.

World Health Organisation-assisted Fellowships:

A Senior Dresser was awarded a WHO Fellowship for four months in TB control in the New Hebrides and Western Samoa.

A Medical Officer, Class III, was awarded a WHO Fellowship in post-graduate Medicine at the East-West Centre for Cultural Interchange, University of Hawaii, Honolulu.

A Colony Nurse is being placed on a years WHO Fellowship in Nursing Education this year (the Fellowship will be taken up in 1969).

At the East-West Centre, Honolulu

In addition to the SPC-assisted training at the East-West Centre, a Drogoer attended a four months course in operating room techniques in Honolulu.

United Kingdom Technical Assistance:

A Medical Officer, Class I, started a 1 year Public Health Diploma Course at the University of Bristol in October.

A Colony Nurse commenced a one year Course in Teaching Methods at the Royal College of Nursing, London, in October.

42. Other Training

The British Phosphate Commissioners have continued the Nursing Training Programme at their Ocean Island and Nauru Hospitals. A second group of trainee nurses was recruited during the year for both Ocean Island and Nauru.

SECTION VIII

MEDICAL FACILITIES ON TARAWA

43. The Central Colony Hospital at Bikenibeu is a general hospital of 126 beds, consisting of 27 general medical and surgical (six in a private ward), 6 obstetrical, 32 for tuberculosis, 18 paediatric, 19 mental and 24 leprosy beds.

44. It consists of single storey blocks arranged symmetrically around a main covered way. Most of the buildings are of concrete-block construction and many have metal (aluminium) roofs - the roofs of the remainder are of pandanus thatch. The leprosarium consists of houses built in local materials.

45. The hospital, beside the wards, etc., already mentioned, has the following:-

A separate out-patients block with a dental clinic
A kitchen/laundry and sewing room block
An X-ray Department and small laboratory.

46. The laboratory has been enlarged during the year to accomodate extra staff and equipment in connection with a WHO-assisted diarrhoeal diseases project that started at the end of the previous year. The laboratory has a blood donors'room and air-conditioned separate laboratory for cultural bacteriology, and increased space for records, office accommodation and for general laboratory work.

47. The X-ray department received (November) a new X-ray plant and dark room new film processing equipment.

48. The Bulk Medical Store and Hospital Pharmacy is adjacent to the Hospital; it received all supplies for the department, and despatches drugs, and equipment to all government Colony Hospitals and dispensaries.

49. The Nursing Training School has accommodation for about 40 students and consists of a classroom, demonstration room and library.

50. The headquarters of the Colony Medical Department and the administrative centre of the Hospital, in a double storey block, is also adjacent to the Hospital.

51. There is a numbers of cisterns and tanks for the storage of rainwater in the Hospital area to a total of 150,000 gallons already in use, and cisterns for and additional 150,000 gallons are under construction.

52. Water is reticulated to the Hospital wards and other blocks by two separate systems - one being rainwater for drinking and medical use, and the other being underground water for toilet flushing etc. The Hospital wards, toilets, sluices, etc. are served by a waterborne sewage system; it is simple and consists of a holding tank from which sewage (untreated) is pumped into the sea on a receding tide; it is ver effective.

53. Hospital staff, whilst in training, are accommodated in the Nurses' and Dressers' quarters which are in the Hospital Compound. These quarters are being replaced by ones of improved quality and will also serve as accommodation for trained Nurses.

54. Trained Dressers occupy Government quarters in the Hospital Housing Area; most are married men.

55. Other Hospital staff have houses (graded according to post), that are standard Government quarters, in the Hospital Housing Area.

56. The staff of the Central Hospital at 31st December, was as follows:-

Medical Officer Class I	I
Medical Officer Class II	I
Medical Officer Class III	4
Matron	1
Nursing Sisters	1
Sister Tutors	1
Staff Nurses	3
Colony Nurses	19
Senior Dressers	1
Dressers	5

57. The headquarters of the Maternity and Child Health, Tuberculosis Control and Health Education Projects are situated within the Hospital Area at Bikenibeu.

58. The Health Inspectorate Staff have a temporary office and store in the Hospital area - funds are available for a permanent office and store, but at the end of the year, the building had not been commenced.

OTHER MEDICAL FACILITIES ON TARAWA

59. Betio Hospital is predominately an out-patient centre, but it serves as a holding Hospital for patients who require transfer to the Central Hospital, Bikenibeu.

An increasing number of patients is present at Betio Hospital for delivery and provision is made in the year's C.D. & W. allocation for a separate Maternity Unit to be built adjacent to Betio Hospital. In addition, finance is also available for a rebuilding of the out-patients block.

60. The new Maternity Unit and the new out-patient block will make a very welcome addition to the medical facilities at Betio - one of the most densely populated areas in the Colony. The present buildings are, however, being currently renovated as an interim measure to improve existing facilities.

61. There are Disponsaries at Bairiki and Abaokoro (N. Tarawa), and in several villages there are Maternity and Child Welfare clinics staffed by MCH aides (and in some cases Colony Nurses) and supervised by the MCH Officer.

62. The Betio Town Council has had seconded to it, an Assistant Health Inspector from the Medical Department. The Medical Staff at Betio consists of:-

Medical Officer Class III	1
Colony Nurses	2
Dressers	1

SECTION IX

MEDICAL FACILITIES OUTSIDE TARAWA

63. FUNAFUTI Hospital (16 beds)

The reconstructed Hospital has 16 beds. The rebuilding of the operating theatre and sterilising room has been delayed until 1969. The improvement of shipping has already been reflected in more use being made of Funafuti as a centre for the Ellice Islands Medical Services.

Medical Staff consists of:-

Medical Officer	Class III	1
Colony Nurses		2
Dressers		1

64. OCEAN ISLAND Hospital (60 beds)

This is a privately-owned Hospital of the British Phosphate Commissioners, and is a general Hospital dealing with most types of general medical and surgical work and obstetrics.

The staff in the middle of the year consisted of a Senior Medical Officer (expatriate), a Medical Officer (expatriate), and a seconded Government Medical Officer, Class III, with three nursing sisters and subordinate staff. The B.P.C. Medical Officers are retained as part-time Government Medical Officers.

Nursing training programme is in its second year of operation.

65. OUTER ISLAND Hospitals

There are, beside the hospitals already described, nine islands each with a Hospital in the charge of the Resident Medical Officer, Class III. The total bed space is about 300 beds; the standards of accommodation and facilities for in-patients are those of dispensaries.

Most Medical Officer stations also have a Dresser and a Colony Nurse.

Maternity Units and Staff Quarters for Medical Officers and Dressers have been added to a number of outer islands to date and more are planned.

66. OUTER ISLANDS Dispensaries:

There are 16 dispensaries on outer islands staffed by a Dresser only, and each one has facilities for the holding of in-patients for treatment or awaiting transfer elsewhere.

These islands staffed only by a dresser, have populations served of the following order:-

Gilbert Islands	(8)	1,500
Ellice Islands	(6)	600
Line Islands	(1)	700

67. The following table shows the inhabited islands of the Colony with their populations and the Medical Department staff stationed on each of them at the end of the year:-
(The list does not include Tarawa, 12,641, Ocean Island 2,192 and Funafuti 826, as these have been described above).

Island	Population 1968 Census (provisional figures)	M.O.	C.N.	Dresser
MAKIN	1,387	-	-	1
BUTARITARI	2,714	1	2	-
MARAKEI	2,180	1	1	1
ABAIANG	3,271	-	1	1
MAIANA	1,710	-	-	1
KURIA	958	-	-	1
ARANUKA	738	-	-	1
ABEMAMA	2,126	1	1	-
NONOUTI	2,408	1	1	1
TABITEUEA	4,419	1	2	2
BERU	2,412	1	1	1
NIKUNAU	2,029	1	1	1
ONOTOA	1,960	1	2	-
TAMANA	1,422	-	-	1
ARORAE	1,830	-	-	1
NANUMEA	1,076	1	1	1
NANUMANGA	585	-	-	1
NUITAO	796	-	-	1
NUI	561	-	-	1
VAITUPU	876	-	-	1
NUKUFETAU	646	-	-	1
NUKULAELAE	353	-	-	1
FANNING	376	-	-	1
XMAS	367	1	-	-
CANTON	(evacuated 1968)			

(M.O. = Medical Officer Class III)
(C/N. = Colony Nurse)

A Medical Officer Class I, a touring Medical Officer when at post, supervises the work of island medical and nursing staff. No officer has been at this post since June. Medical and Nursing staff tour outer islands as opportunity offers.

SECTION X

PHILANTHROPIC ORGANISATIONS

68. The New Zealand Leper Trust Fund Board has continued valuable gifts for lepers and others in the Colony. These have included cine-projector parts, books and other equipment for children, etc. The jet boat "Tarawa Twomey" continues in the work of transporting staff to follow-up Leprosy and TB patients etc.

69. The Save the Children Fund (N.Z.) has continued to give supplies of skimmed milk. Two tons have been donated this year and more is promised. The milk donated is distributed by Dispensaries and MCH Clinics, and is a useful augmentation to diet especially in those areas where protein malnuitrition is becoming a serious problem.

70. The British Red Cross Society. Hospital visiting and sundry donations have continued this year and provision is being made to equip two persons with artificial limbs at Red Cross expense. The electro-cautery unit donated in 1967 has been of considerable use in Surgery.

SECTION XI

PUBLIC HEALTH

71. The Public Health Inspectorate consisted of three Assistant Health Inspectors (AHI) of whom one retired in October. They were trained at the Fiji School of Medicine (one year theoretical and one year practical work).

72. One AHI is seconded to the Betio Town Council, another is stationed at Bikenibeu, and the third was stationed, from November till the end of the year, at Nikunau assisting in the WHO/UNICEF assisted environmental water supplies and sanitation project now in progress.

73. The duties of the Inspectorate includes the general supervison of environmental sanitation in their area of employment, and the searching for an elimination of fly, mosquito and other pests. They have four subordinate staff to assist them.

74. The AHI at Nikunau, with a subordinate sprayman, is assisting the District Development Teams staff in the Nikunau water/sanitation project with the aim of completing a piped water supply to every household in the main villages, and the provision of a water seal latrine to each household. The water supply derived from water galleries and wells, is reticulated after pumping into holding tanks by windmill power. This project, under the control of the District Commissioner as Chairman of the Districts' Development Team, is assisted by WHO and UNICEF, the former supplying technical assistance and the latter material supplies.

75. The pilot environmental sanitation project at Bonriki, Tarawa, has not been proved an unqualified success, but its deficiences are such that minor maintenance and additions to the windmills' height could make it work properly.

76. Water Supplies

The majority of the population obtains water from inadequately protected wells and from rain catchment.

The water supply of the three headquarter islets of Betio, Bairiki and Bikenibeu is largely by water tanker from wells. Many higher grade government quarters have rain water tanks for individual collection and storage.

77. Water has been rationed in South Tarawa (since March) owing to very low rainfall on the atoll during the year.

78. Under legislation providing for water reserves, two areas at Tarawa, one at Temaiku (near Bikenibeu) and another between Antebuka and Teaoraereke, have been set aside as areas where habitations are prohibited and where the land is available for the making of water galleries eventually to supply Bairiki, Betio and Bikenibeu.

79. The work of clearing a water reserve area at Temaiku to supply to Bikenibeu community was almost complete at the end of the year.

During the extended drought (March-Sept) many wells in South Tarawa became extremely saline, but to the end of the year, no area was without a potable supply. Some sources remained with relatively low chloride levels - 300 parts per million, whereas others had levels in excess of 1,500 parts per million.

C. Sewage Disposal.

80. Latrines, where they exist, are of the reef "oversea" type and are satisfactory if constructed as to be always over water at all states of the tide; few are satisfactory.

81. Pit latrines are discouraged where water for drinking is taken from shallow wells close by.

82. Junior grade quarters occupied by Government houses of the D grade are now being built with latrine facilities (aqua-privy or water seal type.)

83. It is hoped to extend this provision to lower grade quarters, and two blocks of "communal" latrines will be stdrted by the end of the year associated with E and F grade quarters.

84. The provision of latrines flushed by sea water is being examined, and if practicable such a system may be introduced in South Tarawa at the lower grade government staff quarters.

Garbage Disposal

85. There is organised disposal at headquarters islets only - by controlled tipping. In other places, dumping in the sea, burial or burning is practised. In the interests of soil improvements it is important to preserve as much garbage as possible for composting.

86. The Public Works Department controls garbage disposal at the headquarters islets of Bairiki and Bikenibeu, and the Betio Town Council has this responsibility at Betio.

Garbage bins are a source of fly breeding and the dog nuisance aggravates this.

Port Health:

87. Ports of entry are:- Tarawa (Betio), Funafuti, Ocean Island and Christmas Island. No quarantinable diseases occurred during the year.

88. Rabies is known to exist in Guam in the Trust Territories to the west of the Colony, and concern is felt over the large numbers of uncared for dogs in the Colony; the Colony has direct shipping connections with the U.S. controlled Trust Territory of the Pacific Islands. Efforts are being made to reduce the numbers of dogs under legislation in existence.

SECTION XII

EPIDEMIC AND ENDEMIC DISEASES

89. EPIDEMIC DISEASES

A sudden outbreak of Influenza (presumed to be Influenza type A, Hong Kong 1968, reported from neighbouring countries) occurred in July and continued to spread throughout the Colony until October. In August there were nearly 12,000 cases reported from Colony Medical Centres.

No other serious outbreaks of epidemic diseases occurred in the year.

ENDEMIC DISEASES

Tuberculosis: The most important single major public health problem of the Colony. (see Section XIII).

Diarrhoeal Diseases: The WHO assisted project was commencing at the end of the year. There has been no large scale epidemic outbreak this year of diarrhoeal diseases.

Leprosy: More cases were found during this year than in the two previous years.

Filariasis: A re-survey of the Ellice Islands has shown filariasis to be an important cause of ill-health in the Ellice Islands.

Yaws No case has been reported during the year.

SECTION XIII (SPECIAL PROJECTS)

Tuberculosis Control Project:

The WHO and UNICEF-assisted project is in charge of a TB control Officer (a Medical Officer, Class III) and from time to time, has had a second Medical Officer, Class III, working in it. In addition, the project employs 2 Dressers and 2 clerical staff.

The clerical staff are responsible for maintaining the records of the Central TB Register (as well as general Hospital case records).

The Mantoux testing and BCG vaccination of the whole Colony was just completed by the end of the year.

During the year, 123 cases of tuberculosis have been added to the Central Tuberculosis Register; this includes 102 Gilbertese and 16 Ellice Islanders. This comprised 48 cases of tuberculous glands and 64 cases of pulmonary tuberculosis (32 with positive sputum - the remainder either sputum negative or not known) and 11 other forms of tuberculosis.

In view of the fact that sputum conversion rates are relatively low (63% in cases presenting with large chest cavities) a new treatment regime was commenced during November. Laboratory investigations of persistently positive sputum cases have indicated some degree of resistance to streptomycin and INH in a very small number of cases.

Maternity and Child Health Programme:

This has continued to expand as staff and other resources permitted. UNICEF assistance continued during the year and an agreement has just been concluded with WHO and UNICEF for assistance to continue through 1969.

As mentioned previously, there are now three MCH-aides training schools in operation - one at Tearinibai (N. Tarawa), a second at Nanumea (Ellice Islands) and a third at Nikunau (Gilbert Islands). A second visit of the SPC/WHO/MCH team of a paediatrician and a public health nurse was made for three months during the year and was much appreciated.

Health Education and Family Planning

The Health Education Officer, a Medical Officer, Class III, has been fully employed within the Family Planning Programme.

A temporary female Medical Officer was employed for the first quarter of the year, and this has provided a boost as many women, particularly in the Gilbert Islands, refused to be examined by a male Doctor. Despite this boost the campaign is well below its target even for the first year of the programme.

Provision has been made for a substantial increase in Health Education (non-medical) staff specially for the non-medical aspects of propoganda and instruction in connection with the needs for population control.

APPENDIX I

A GENERAL ACCOUNT OF THE COLONY

1. Geography and Climate

The Colony includes the Gilbert Islands, the Ellice Islands, the Phoenix and Northern Line Islands and Ocean Islands.

They occupy an area of over 2,000,000 square miles of the Pacific Ocean about the point where the International Date Line crosses the Equator. The land area is only 369 square miles.

The capital of the Colony is Bairiki on Tarawa Island which is 2,500 miles distant from Sydney, Australia and 1,365 miles from Suva, Fiji.

The islands are all atolls or coral reef islands and are usually only a few feet above sea level. The highest point is on Ocean Island and is 265 feet above the sea.

The islands, especially the Gilberts, have a poor sandy soil of little depth, and the indigenous flora is sparse. With difficulty a few introduced plants will grow. The most widespread species are coconut palms, pandanus, breadfruit, pawpaw and babai, but sweet potatoe, taro and banana are also grown.

No native fauna exists, except the Polynesian rat but pigs and poultry have been introduced. The avifauna is composed almost exclusively of oceanic, sea or wading birds.

Fish abounds in the lagoons and surrounding seas.

The only economic crop in the Colony is coconut from which Copra is made; and commercial plantations occur in the Line Islands. Phosphate rock is mined from Ocean Islands (about 450,000 tons per year).

The climate is maritime equatorial in type with a mean average annual temperature of 80°F; there is little annual or diurnal variation. At the Equator the rainfall is about 40inches a year but increases as the Equator is left North and South to reach 120 inches a year in the Northern Gilberts. Generally speaking the Ellice Islands are more favourably situated than the Gilberts as regards rainfall. The wettest months are usually December to February and the driest August to October.

2. Population

The Census of the population of the Colony in 1968 showed a total of about 55,184 persons, of which the majority were Micronesians (Gilbertese) but some 7,000 were Polynesians (Ellice Islanders).

The population is expected to be increasing by about 3% per annum.

3. Communications

A regular weekly air aircraft service between Nadi (Fiji) and Bonriki (Tarawa) calling at Funafuti (Ellice Islands) by a Hawker Siddley 748 aircraft.

There are regular shipping services between the Colony and Fiji (at 6 weekly intervals) and also services from Australia and the United Kingdom.

5. Administration

The Colony is one of the territories under the jurisdiction of the Western Pacific High Commissioner whose Headquarters is at Honiara in the British Solomon Islands Protectorate.

The Resident Commissioner of the Colony is the High Commissioner's representative in the Colony.

The Colony has five administrative districts:-

Ocean Island District	Headquarters at Ocean Island.
Gilbert Island District	Headquarters at Betio, Tarawa.
Ellice Islands District	Headquarters at Funafuti, Ellice Islands.
Phoenix Islands District	Controlled from Gilbert Island H.Q. at Betio except for Canton Island and Enderbury Island which come under the joint (U.S.) Agreement.
Line Islands District	Headquarters at Christmas Island.

APPENDIX 2

HOSPITAL BED STATES

Name or Location of Hospital.	Number and category of beds				
	General	Obstetric	Tuberculosis	Mental	Leprosy
Central Colony Hospital (Tarawa)	45	6	32	19	24
District Hospital (Funafuti)	20	4	(as occasion demands)		
B.P.C. Hospital (Ocean Island)	60	(as occasion demands)			
Outer Island Hospitals	300	(as occasion demands)			

APPENDIX 3

MAJOR CAUSES OF MORBIDITY AND MORTALITY

(a) Central Colony Hospital, Bikenibeu, Tarawa.

Intermediate List Number	Cause Groups	Cases	Deaths
A.1.	Tuberculosis of the Respiratory System	54	2
A.3.	Tuberculosis of intestine, peritoneum and mesenteric glands	5	
A.4.	Tuberculosis of bones and joints	10	
A.5.	Tuberculosis all other forms	11	
A.15 (a)	Bacillary dysentery	1	
(c)	Other unspecified forms of dysentery	21	1
A.20	Septicaemia and pyaemia	1	1
A.25	Leprosy	10	1
A.26	Tetanus	1	1
A.32	Measles	3	
A.34	Infective Hepatitis	11	1
A.40(d)	Other filiariasis	2	
A.41	Ankylostomiasis	1	
A.42 (a)	Tapeworm (infestation) and other cestode infestations	3	
(d)	Other diseases due to helminths	2	
A.43 (h)	Chickenpox	2	1
(p)	All other diseases classified as infective and parasitic	1	
A.44	Malignant neoplasm of buccal cavity and pharynx	3	2
A.47	Malignant neoplasm of intestine, except rectum	1	1
A.49	Malignant neoplasm of larynx	2	
A.50	Malignant neoplasm of trachea, and of bronchus and lung not specified as secondary	1	1
A.51	Malignant neoplasm of breast	1	
A.52	Malignant neoplasm of cervix uteri	6	1
A.53	Malignant neoplasm of other and unspecified parts of uterus	2	1
A.55	Malignant neoplasm of the skin	3	
A.56	Malignant neoplasm of bone and connective tissue	2	
A.57	Other and unspecified sites	7	4
A.58	Leukaemia and Aleukaemia	1	1
A.59	Lymphosarcoma and other neoplasms of the haematopoietic system	5	
A.60	Benign neoplasms and neoplasms of an unspecified nature	15	1
A.62	Thyrotoxicosis with or without goitre	1	
A.63	Diabetes Mellitus	19	
A.64	Berberi	1	
A.65 (a)	Pernicious and other hyperchromic anaemias	1	
(b)	Iron deficiency anaemias (hypochromic)	3	
(c)	Other specified and unspecified anaemias	1	
A.66 (a)	Asthma	13	1
A.66 (b)	All other allergic disorders, endocrine, metabolic and blood diseases	5	
A.67	Psychoses	25	
A.68	Psychoneuroses and disorders of personality	8	1
A.69	Mental deficiency	5	
A.70	Vascular lesions affecting the central nervous system	4	11
A.71	nonmeningococcal meningitis	5	3
A.72	Multiple Sclerosis	1	
A.73	Epilepsy	11	
A.74	Inflammatory diseases of the eye	6	1
A.77 (b)	Otitis media and mastoiditis	11	1
A.78	All other diseases and conditions of the eye	9	
(b)	All other diseases of the nervous system and sense organs	6	1

(a) continued.

Intermediate List	Cause Groups	Cases	Deaths
A.79	Rheumatic Fever	3	
A.80	Chronic rheumatic heart disease	12	
A.82	Other disorders of the heart	8	2
A.83	Hypertension with heart disease	3	
A.84	Hypertension without mention of heart	6	
A.85	Diseases of arteries	1	
A.86	Other diseases of circulatory system	9	
A.87	Acute upper respiratory infections	9	
A.88	Influenza	8	
A.89	Lobar pneumonia	60	1
A.90	Bronchopneumonia	104	11
A.92	Acute bronchitis	29	
A.93	Bronchitis, chronic and unqualified	8	
A.94	Hypertrophy of tonsils and adenoids	1	
A.95	Empyema and abscess of lung	2	
A.96	Pleurisy	2	
A.97 (b)	All other respiratory diseases	17	2
A.98 (b)	All other diseases of teeth and supporting structures	1	
A.99	Ulcer of stomach	1	
A.100	Ulcer of duodenum	4	
A.101	Gastritis and duodenitis	2	
A.102	Appendicitis	23	
A.103	Intestinal obstruction and hernia	21	
A.104 (a)	Gastro-enteritis and colitis between 4 weeks and 2 years	82	4
(b)	Gastro-enteritis and colitis, ages 2 years and over	21	
A.104(c)	Chronic enteritis and ulcerative colitis	1	
A.105	Cirrhosis of Liver	19	4
A.107	Other diseases of digestive system	27	2
A.108	Acute nephritis	1	
A.109	Chronic, other and unspecified nephritis	2	1
A.110	Infections of kidney	2	
A.111	Calculi of urinary system	1	
A.112	Hyperplasia of prostate	3	
A.113	Diseases of breast	4	
A.114 (a)	Hydrocoele	14	
(b)	Disorders of menstruation	8	
(c)	All other diseases of the genito-urinary system	14	
A.115	Sepsis of pregnancy, childbirth and the puerperium	3	
A.116	Toxaemia of pregnancy and the puerperium	1	
A.117	Haemorrhage of pregnancy and childbirth	7	1
A.118	Abortion without mention of sepsis or toxaemia	20	
A.120 (a)	Other complications of pregnancy, childbirth and the puerperium	42	
(b)	Delivery without complications	65	
A.121	Infections of skin and subcutaneous tissue	52	
A.122	Arthritis and spondylitis	7	
A.123	Muscular rheumatism and rheumatism unspecified	1	
A.124	Osteomyelitis and periostitis	2	
A.126 (a)	Chronic ulcer of skin, including tropical ulcer	6	
(b)	All other diseases of the skin	5	
(c)	All other dieseases of musculo-skeletal system	5	
~~A.128~~	~~Congenital malformation of circulatory system~~	~~1~~	
A.129	All other congenital malformations	9	
A.131	Postnatal asphyxia and atelectasis	2	
A.132 (a)	Diarrhoea of newborn (under 4 weeks)	1	
(c)	Other infections of newborn	1	1

(a) continued.

Intermediate List Number	Cause Groups	Cases	Deaths
A.134	All other defined diseases of early infancy	31	4
A.135	Ill-defined dieases peculiar to early infancy and immaturity unqualified	4	1
A.137 (a)	Pyrexia of unknown origin	11	
(b)	Observation, without need for further medical care	40	
(c)	All other ill-defined causes of morbidity	24	
AE.138	Motor vehicle accidents	27	1
AE.140	Accidental poisoning	3	
AE.141	Accidental falls	6	
AE.142	Accident cuased by machinery	1	
AE.144	Accident caused by hot substance, corrosive liquid, steam and radiation	3	
AE.147 (a)	Foreign body entering eye and adnexa	1	
(c)	All other accidental causes	3	
AE.148	Suicide and self-inflicted injury	3	
AE.149	Homicide and injury purposely inflicted by other persons (not in war)	10	

APPENDIX 4

Central Colony Hospital Tarawa

(a) Outpatients, in-patients and deliveries

Year	Out Patient * Attendances	Admissions	Deliveries in Hospital	Deaths in Hospital
1968	14,377	1,225	95	52
1967	16,324	921	99	51
1966	10,693	975	94	46
1965	12,073	867	97	52
1964	14,198	833	74	46

* Does not include Ante natal attendances.

(b) Monthly figures of Out-patients and In-patients

Month	Out-patient		Admissions	
	1968	1967	1968	1967
Jan:	992	1174	91	88
Feb:	1218	1067	79m	81
Mar:	1007	1259	94	95
Apl:	1351	1320	105	65
May	1142	1423	93	71
June	1324	1540	97	74
July	1402	3055M	103	96
Aug:	1767M	1391	170M	99M
Sept:	804m	1079	90	78
Oct:	1177	1126	102	90
Nov:	1084	1083	91	75
Dec:	1109	827m	110	63m

(M. = Maximum m = minimum)

APPENDIX (4) (continued)

(a) DENTAL STATISTICS	1968	1967
Total patients treated	2668	2573
Extractions	3338	2587
Dental Fillings	662	811
Scaling and Polishing	102	94
Full Dentures	31	40
Partial Dentures	9	8
Repairs to dentures	3	3

(d) Radiological Examinations	1968	1967
Chest Films	1586	1484
Skull films	56	26
Extremities - Upper	60	15
Lower	95	na
Abdominal Films	66	63
Spinal Films	61	91
Intravenous pyelograms	8	9
Barium studies - Meal	5	13
Enema	4	-
Cholecystograms	1	4
Screening	4	12

(e) Pathological Examinations

1. Haematological

	1968	1967
Hb	2277	1955
B.S.R.	1319	1444
Total white cell count	733	932
Total Red cell count	5	-
White cell differential count	486	-
Group "A"	201	-
Group "B"	89	-
Group "O"	76	339
Group "AB"	39	-
Donors donated blood	129	-
Recipient	44	-
	5398	4670

2. Bacteriological

	1968	1967
Positive Leprosy Smears	195	234
Negative Leprosy Smears	932	-
Vaginal Smears) 2 smears were Gram negative	7	-
Cervical Smears) intracellular Diplocci	4	-
Urethral Smears)	1	-
Spinal Fluid	9	4
Ascitis Fluids	1	-
Other smears -(not positive myco. tuberculosis smears)	47	36
Positive sputum smears	85	
Negative sputum smears	752	1684
Negative Gastric juice smears	176	
	2209	1958

3. Urological

	1968	1967
Chemical Tests	161	161
Microscopical	224	180
	385	341

APPENDIX (4) (continued)

4. Parasitological	1968	1967
Microfiliara Blood smears - All negative	9	8
Positive Entamoeba Histolytica	6	
Trichuris trichuira	42	
Necator Americanus	4	
Positive occult blood smears	14	
Negative occult blood smears	6	
Negative stool specimens	334	
	415	261
Total Laboratory Examinations	8407	6741

(f) Operations performed at C.C.H. operating theatre

	1968	1967
Appendicectomy	22	14
Amputation	1	6
Anal fistulectomy	7	2
Anal dilatation	3	n.a.
Perianal sinus - excision	6	n.a.
Bowel resection	1	4
Cataract Extraction	16	nil
Caesarian Section	1	1
Dilatation and curretage	28	7
Enucleatian of eye	-	1
Fractures	4	1
Grafting and Plastic Repair	7	5
Hydrocelectomy	17	n.a.
Haemorrhoidectomy	5	3
Hernia	13	11
Hystdrectomy	4	1
Laparotomy	7	9
Mastoidectomy	2	nil
Mastectomy	1	2
Ovarian cystectomy	2	2
Orthopaedic-manipulations	3	4
Parotidectomy (partial)	1	nil
Placenta - manual removal	1	1
Signoidoscopy	4	n.a.
Tendon repair	2	nil
Tracheotomy	-	1
All others	138	91
TOTAL	296	166

(g) Leprosarium Statistics

Year	1968	1967	1966	1965	1964
Admissions: New Cases	8	5	4	6	7
Readmissions	3	9	1	1	9
Total	11	14	5	7	16
Discharges - conditional	4	1	8	5	11
Transfers	3	1	2	3	4
Discharged - not leprosy	0	0	0	0	0
Total	7	2	10	8	15

APPENDIX (4) (continued)

In addition 6 deaths were recorded amongst leper patients, from unrelated cuases. One leprosarium patient died from encephalitis during the influenza epidemic of July-August. The total number of leper patients remaining under treatment is 191 and the number under surveillance only in their own homes, is 75. There were 28 discharges from liability under the leper Ordinance.

(h) Maternity Ward Statistics

		1968	1967
Normal	Liveborn	74	85
Breech	Liveborn	4	3
Twins	Liveborn	3	-
Premature	Liveborn	1	1
Caesarian Section	Liveborn	1	1
Deliveries		88	
Stillborn - Breech		2	6
Post partum haemorrhage		6	
Maternal Death		1	(due to Placenta previa
Manual removal of placenta		3	3

(i) Mental Hospital Statistics

	1968		1967	
	Male	Female	Male	Female
Admissions (new cases)	11	4	10	3
Readmissions	14	1	10	-
Total	25	5	20	3
Discharges	18	5	17	3
Deaths	Nil	Nil	2	Nil
Number of Patients in Mental Hospital December 31st.	9	Nil	7	1

APPENDIX 5

Outer Island Hospital and Dispensaries *

(* Excludes CCH, Tarawa and Ocean Island Hospitals)

(a) Out Patient Attendances, admissions, deaths and normal deliveries

Year	Out Patient Attendances	Admissions	Deaths	Normal deliveries
1968	219,779	2,546	163	396 (*)
1967	217,404	2,254	112	568 (*)
1966	267,627	3,797	189	750
1965	194,782	2,699	121	734
1964	165,692	2,304	91	360

(*) In addition to these deliveries in Hospital, 471 deliveries were done at home attended by Colony Nursing Staff and 277 deliveries were attended by Maternal and Child Health Aides at home.

(b) 10 commonest causes of deaths reported from Outer Islands

CONDITION	Deaths 1968	% of Total Reported Deaths 1968	1967	1966
Meningitis	16	9.5%	12.6%	7.6%
Gastroenteritis	14	8.3%	27.0%	9.5%
Bronchopneumonia *	11	6.6%	-	-
Lobar pneumonia	10	5.9%	11.7%	9.0%
Malnuitrition	9	5.3%	3.6%	3.2%
Cirrhosis	7	4.2%	3.6%	7.6%
Infective Hepatitis	6	3.6%	4.5%	2.6%
Pulmonary T.B.	5	3.0%	2.7%	4.3%
Congestive Heart Failure	4	2.6%	-	-
Stillbirth	4	2.6%	-	-

* The criteria for diagnosis not standardised.

APPENDIX 6

SPECIAL CAMPAIGNS

(a) Tuberculosis Control Programme

(i) Central Colony Hospital

Cases of Tuberculosis	1964	1965	1966	1967	1968
Admissions	122	85	66	31	78
Deaths	8	5	3	2	2
Discharges	83	76	52	34	67
Relapse after discharge	25	15	15	13	11
Investigation (DP + IP)	474	397	609	N.a.	359

(ii) Colony T.B. Register

All Forms of T.B.	1964	1965	1966	1967	1968
New Cases registered	217	140	128	154	123
Diagnosed by +ve sputum	42	27	36	17	32
Diagnosed by X-ray	36	29	47	8	9
Diagnosed clinically	139	84	42	129	82
Discharged as cured	69	280	104	202	87
Discharged from prophylaxis	0	0	7	0	65
Total deaths (all causes)	18	20	19	13	20

(iii) Colony TB rates * (of registered cases only)

Registered cases of TB	1964	1965	1966	1967	1968
Incidence Rate/1,000 pop./year	4.34	2.69	2.43	2.85	2.23
Death rate/1,000 pop./year	0.37	0.41	0.39	0.24	0.34

(* rates calculated on 1963 Census figures plus 3% annual increase)

APPENDIX 6 continued.

(iv) Tuberculin Testing * and BCG Vaccination (1968)
(* Mantoux Test used)

Year	Numbers Tested and Read	Negative Reactions BCG vaccinated	%BCG vaccinated
1968	11,323	6,633	58.5
1967	11,845	5,154	43.6
1966	14,283	5,731	41.2

(b) Maternity and Child Health Programme

(i) Colony Nurses

Service by Colony Nurses	1964	1965	1966	1967	1968
A/N and P/N Attendances	758	1815	2788	3418	4580
Confinement	174	233	301	339	471
Child Welfare Attendances	2083	3939	8627	18994	30753

(ii) M.C.H. Aides

Service by M.C.H. Aides	1966	1967	1968
A/N Examination	1329	2247	1821
Assistance at Deliveries	129	368	277
Child Welfare Attendances	6567	14216	14890

(iii) Immunisations, Vaccinations, etc.

Type	1966	1967	1968
Smallpox vaccinations	3767	6914	4190
Oral Polio Vaccinations	191	-	629
Triple Vaccination 3 doses completed	-	1749	7318

(iv) Family Planning

Method Used	1966	1967	1968
Lippe's loops (I.U.D.)	97	101	422
Oral Methods	66	60	306
Condoms	-	-	33
Surgical Sterilisation	-	-	4
TOTAL	163	161	765

APPENDIX 7

Ocean Island 1968

British Phosphate Commission Hospital

Annual Report 1968

1. Staff.

A. Hospital

3 Medical Officers
1 Pharmacist (Expatriate)
2 Sisters (Expatriate)
1 Dental Nurse (Part time expatriate)
1 Orderly. (Chinese)
12 Orderlies.
16 Nurses.
1 Chaperon.
1 Typiest.

B. Infant Welfare Clinic.

1 Sister. (Expatriate)
1 Orderly.
2 Domestic Science Teachers.

2. Hospital Accomodation.

Senior Staff	5	
Chinese and G.& E.	Men	50
"	Women	30
"	Children	14
"	Maternity	12
"	Tuberculosis	2
"	Isolation	12

3. Nursing School.

Fourteen Nurses and Orderlies will have completed the First Year by April 1969 and will be eligible to take Colony First Year Examinations. Eleven Nurses and Orderlies will commence their first year studies in May 1969 and at the same time those successful in their first year examinations will proceed to second year studies.

The nurses teaching programme proceeds satisfactorily. The academic standard is average, the main problem being that of poor expression and poor English grammar. In practical work, however, some nurses and orderlies have reached a reasonable standard.

Lectures are given four times a week by the Medical Officers and Sisters and practical instruction is given in the hospital wards. In addition to this, instruction is provided by visits, films and anatomy demonstration models. It is anticipated that the Colony Trained nurse who is now available to Ocean Island will assist in the Training School.

4. Health.

A. Infectious Diseases.

During the year there have been ten new cases of tuberculosis diagnosed. A tuberculosis Committee was formed during the year to supervise the work of the T.B. campaign. The incidence of dysentery and gastro-enteritis remains high. There were oubreaks of gastro-enteritis in January and May although these did not reach epidemic proportions. The main reason for these outbreaks appears to be poor personal hygiene.

APPENDIX 7 (Continued)

An epidemic of influenza was introduced to Ocean Island from Hong Kong in August. Other outbreaks of upper respiratory infections occurred in January and May. During the year there were occassional cases of infective hepatitis, measles, mumps and chicken pox, none of these reaching epidemic proportions.

B. General health and Nutrition.

The general health in the island this year has been good. However, there has been an increase of threadworm infestation and a few cases of hookworm infestation were diagnosed and treated. During the recruit examinations many children were found to be suffering from an iron-deficient anaemia.

More surgical operations were performed in the year than previously. Two anterior gastro-enterostomies were performed for duodenal ulcers with excellent results. This operation was thought to be preferable to a partial gastrectomy mainly because of the native diet. A child returned from Australia early in the year following a successful operation for a congenital heart disease.

C. Maternal and Infant Welfare

There were 102 live births during the year including two Caesarian Sections. Many difficulties encountered during child birth occur in women who do not appear at the ante-natal clinics. However, more women are becoming increasingly aware of the necessity for ante-natal care and the facilities provided and attendances are increasing. There has also been a sharp increase in attendance at the Family Planning Clinic.

The incidence of infantile gastro-enteritis remains high and can be attributed to poor hygiene in the home. It is anticipated that in the near future a measles vaccine will become available and be incorporated in the vaccination programm.

APPENDIX 7 (Continued)

B.P.C. HOSPITAL OCEAN ISLAND

MONTH	INPATIENTS	OUTPATIENTS	BIRTHS	STILLBORN	DEATHS
JANUARY	186	1,643	6	0	0
FEBRUARY	82	984	8	0	0
MARCH	74	1,498	7	0	0
APRIL	74	1,632	8	0	0
MAY	83	1,721	8	0	1
JUNE	76	1,646	11	1	0
JULY	71	1,456	5	0	1
AUGUST	111	1,294	9	0	0
SEPTEMBER	63	1,486	16	0	0
OCTOBER	57	744	8	1	0
NOVEMBER	85	607	3	0	0
DECEMBER	82	559	13	0	0
TOTAL	1,044	15,270	102	2	2

APPENDIX 7 (Continued)

MAJOR CAUSES OF MORBIDITY AND MORTALITY
B.P.C. HOSPITAL OCEAN ISLAND 1968

INTERMEDIATE LIST NUMBER.	CAUSE GROUPS	CASES	DEATHS
A.1	Tuberculosis of respiratory system	7	0
A.2-5	Tuberculosis, all other forms.	3	0
A.16	Dysentery, all forms	10	0
A.32	Measles	8	0
A.34	Infectious hepatitis	3	0
A.40	Filariasis	2	0
A.42	Other diseases due to helminths.	9	0
A.43 (1)-(p)	All other diseases classified as infective and parasitic.	10	0
A.59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	1	1
A.60	Benign neoplasms and neoplasms of of unspecified nature.	1	0
A.63	Diabetes mellitus	3	0
A.65	Anaemias	8	0
A.66	Allergic disorders; all other endocrine, metabolic and blood diseases.	2	-
A.67	Payschoses.	8	0
A.68	Psychoneouroses and disorders of personality	5	0
A.73	Epilepsy	4	0
A.74	Inflammatory diseases of eye	22	0
A.77	Otitis media and mastoiditis	26	0
A.84	Hypertension without mention of heart.	1	0
A.86	Other diseases of circulatory system	6	0
A.87	Acute upper respiratory infections	89	0
A.88	Influenza	46	0
A.89	Lobar pneumonia	7	0
A.90	Bronchopneumonia	9	0
A.92	Acute bronchitis	12	0
A.93	Bronchitis, Chronic and Unqualified.	61	0
A.97	All other respiratory diseases.	48	0
A.98	Diseases of teeth and supporting structures	1	0
A.99	Ulcer of stomach	4	0
A.101	Gastritis and duodenitis	22	0
A.102	Appendicitis	11	0
A.103	Intestinal obstruction and hernia	2	0
A.104	Gastro-enteritis and colitis, except diarrhoea of the Newborn	47	0
A.107	Other diseases of digestive system	44	1
A.110	Infections of kidney	4	0
A.114	Other diseases of Genito-Urinary System	22	0
A.116	Toxaemias of Pregnancy and the Puerperium	5	0
A.117	Haemorrhage of Pregnancy and Childbirth	1	0
A.118	Abortion without mention of Sepsis of Toxaemia	7	0
A.120 (a)	Other complication of Pregnancy childbirth and the Puerperium.	2	0
A.120 (b)	Normal deliveries	102	0
A.121	Infections of skin and subcutaneous tissue	91	0
A.122	Arthritis and spondylitis	13	0
A.123	Muscular Rheumatism and Rheumatism Unspecified	17	0
A.124	Osteomyelitis and Periostitis	1	0
A.126	All other diseases of skin and musculo skeletal system	20	0
A.129	All other congenital malformations	2	0
A.135	Ill-defined diseases peculiar to early and Immaturity Unqualified	2	2

APPENDIX 7 (Continued)

INTERMEDIATE LIST NUMBER.	CAUSE GROUPS	CASES	DEATHS
A.137	Ill-defined and unknown causes of Morbidity and Mortality	103	0
AE.138	Motor vehicle accidents	3	0
AN.140	Fracture of limbs	11	0
AN.141	Dislocation without fracture	4	0
AN.142	Sprians and Strains of Joints and Adjacent Muscle	11	0
AN.143	Head injury (excluding fracture)	3	0
AN.145	Laceration and open wounds.	49	0
AN.146	Superficial injury, contusion and crushing with intactakin surface	7	0
AN.148	Burns	7	0
AN.149	Effects of Poisons	15	0

ORIGINAL: ENGLISH

HONG KONG
BRIEF REPORT ON HEALTH ACTIVITIES DURING 1968[1]

1. GENERAL HEALTH

The general health of the population in Hong Kong is good. There have been great advances in infectious disease control and diphtheria and poliomyelitis no longer constitute serious problems. An anti-measles vaccination drive has been in operation since December 1967. This averted the measles epidemic which otherwise would probably have occurred in the winter months of 1968 and 1969. Tuberculosis remains the major community health problem. The Colony is facing increasing problems due to the diseases of later life, e.g., cancer, diseases of the heart and cerebro-vascular lesions.

2. VITAL STATISTICS

In 1968, the estimated mid-year population was 3 926 500 of whom approximately 85 % are concentrated in the urban area of Hong Kong Island and Kowloon. Approximately 40 % of the population are under the age of fifteen. The general state of health of the population is satisfactorily reflected by the Colony's vital statistics. The crude death rate at 4.9 per thousand of the population is extremely low. The birth pattern is continuing its downward trend and the crude birth rate is now 21.1 per thousand of population.

Infant mortality is steadily declining and is now 23.0 per thousand live births. Maternal mortality continued to show a reduction and the rate in 1968 was 0.14 per thousand total births.

3. COMMUNICABLE DISEASES

3.1 Cholera

Since the last isolated case of cholera in November 1966 there were no further cases of the disease for two and a half years. Six cases caused by Vibro cholerae El Tor, Inaba type, occurred in July 1969 (5-14 July). Vigorous efforts have contained this infection and prevented spread.

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[1] Submitted by the Director of Medical and Health Services, 13 August 1969.

3.2 Diphtheria

As a result of annual immunization drives which have been in progress since 1959, the incidence of the disease is now 2.9 per hundred thousand of the population. The disease affects largely children aged under ten years.

3.3 Measles

Measles in Hong Kong shows a distinct biennial pattern with epidemics occurring every second winter and spring. The last epidemic was in the winter months of 1966 and 1967. Since the end of December 1967 measles vaccine has been available at all Government Maternal and Child Health Centres to children aged between six and forty-eight months. This age group is predominantly affected by measles in Hong Kong. The use of the vaccine prevented the epidemic of measles which would otherwise have been likely to occur in the winter of 1968 and 1969.

3.4 Tuberculosis

Tuberculosis is still the major health problem in Hong Kong, although the mortality rate from tuberculosis has fallen markedly in recent years and most deaths are now among elderly men who die of the sequelae of the disease rather than from active tuberculosis. Notifications are falling sharply and the present notification rate of 249.4 per hundred thousand of the population is one of the lowest on record.

Increasing emphasis is being placed on contact tracing, home visiting and health education in regard to tuberculosis. There are over 1 300 000 attendances per year at clinics of the Government Chest Service. Over 94 % of newborns are now being given BCG at birth.

3.5 Venereal diseases

The incidence of early infectious syphilis is now extremely low, and the incidence of gonorrhoea is also low. It is encouraging to note that the incidence of venereal diseases in the teenage group of the population has not risen in the manner experienced in many other parts of the world.

Other infectious diseases are at a low level and do not constitute a major public health problem.

4. MATERNAL AND CHILD HEALTH SERVICES

There is an increasing public appreciation of the value of these services in the maintenance of health among infants and expectant and nursing mothers. 84.4 % of all children born now attend at a maternal

and child health centre and there is increasingly better appreciation by expectant mothers of the need for regular antenatal care. Over 99 % of births take place in institutions, either hospitals or maternity homes. Owing to the difficulties of domiciliary delivery under existing housing conditions, it is the department's policy to provide maternity beds in health centres.

5. HOSPITALS AND OUTPATIENT SERVICES

At the end of 1968 there was a total of 14 899 beds available in the Colony, i.e., 3.8 beds per thousand of the population. The bed position at the end of 1968 represented an increase of 93 % over the bed provision in 1959.

The Development Programme of the Medical and Health Department is making steady progress. At the end of March 1969, thirty-one projects were being planned or built for the improvement and expansion of the health and medical services in the urban and rural areas. These include a new 1360-bed general hospital at Lai Chi Kok to be completed by 1972, a new mental hospital of 1300 beds also at Lai Chi Kok to be completed by 1974, and a new 600-bed convalescent block at Kowloon Hospital which is expected to be furnished by mid-1970.

Attendance at hospitals and general outpatient and specialist out-patient clinics continue to increase, and reached a total of 7 648 366 in 1968. The Government now maintains forty-three out-patient clinics as well as mobile dispensaries, floating clinics and a flying doctor service. In addition, Government also provides evening and public holiday out-patient sessions at nine clinics in the more densely-populated areas.

Out-patients are charged $1.00 for each attendance, while hospital maintenance fees for private patients vary from $2.00 per day for third class wards to $45.00 for first class wards. Patients suffering from or suspected to be suffering from one of the quarantinable diseases admitted to a government hospital are not charged for medical treatment or maintenance. No charge is made for any investigation or treatment carried out on patients at tuberculosis, social hygiene, or leprosy clinics.

6. FINANCE

The actual expenditure of the Medical and Health Department for the financial year ended 31 March 1969 was $133 582 644 to which should be added a further $52 457 856 disbursed in the form of subventions. Capital expenditure on medical projects under the Public Works

Non-Recurrent head totalled $8 420 115. These amounts represent 10.38 % of the Colony's total expenditure during the year. These do not include expenditure on environmental sanitation by the Urban Services Department and the District Administration of the New Territories.

ENGLISH ONLY

HONG KONG
REPORT ON THE OUTBREAK OF CHOLERA, JULY 1969

Prior to the outbreak of cholera which made its first appearance on 5 July 1969, Hong Kong had been free of the disease for over two and a half years, the last case being reported in November 1966.

2. The first indication of cholera vibrio this year was a report on 14 May 1969, of the presence of Vibrio cholerae, biotype El Tor, serotype Inaba, in a specimen collected from a nightsoil route in the western area of Hong Kong Island, as a result of all-the-year-round routine nightly sampling of nightsoil for bacteriological examination for cholera vibrio. This occurred 52 days before the notification of the first clinical case in Kowloon. Between 14 May and 23 July, 6148 nightsoil specimens from Hong Kong Island were tested from which 51 positive isolates were detected, giving a positive rate of 0.83 %. There were no positive isolates in Kowloon or the New Territories until after the confirmation of the first clinical case of cholera in Queen Elizabeth Hospital on 5 July 1969. From 6 to 23 July, a total of 1398 nightsoil specimens from Kowloon were tested in the Kowloon Institute of Pathology. From these tests 3 positive isolates of El Tor vibrio were obtained, yielding a positive rate of 0.22 %.

3. Following the confirmation of the first case of cholera on the evening of 5 July 1969, the Director of Medical and Health Services called a departmental meeting the next morning to ascertain the facts of the case and to decide on necessary action to control the situation. The main lines of action adopted were the treatment of cases in infectious diseases hospitals, the tracing and isolation of contacts, the swabbing for bacteriological examination and disinfection of the premises in which a case occurred, the opening of Chatham Road Quarantine Centre as and when required, the intensification of an inoculation drive which, in accordance with an annual programme, had been in progress since 22 April, particularly in the vicinity of affected premises and among the floating population, the stepping-up of nightsoil sampling, the taking of rectal swabs from nightsoil labourers, remand prisoners and illegal immigrants, an increased dosage of chlorine to the public water supply so as to give 1.2 parts per million of residual chlorine in service reservoirs, the daily chlorination of wells in certain rural areas in Hong Kong Island and Kowloon, and in the New Territories, and a crackdown on illegal hawkers selling unhygienically prepared food.

4. A telegram declaring Hong Kong to be a cholera infected port was despatched on 6 July to the World Health Organization, Geneva, the WHO Western Pacific Regional Office, and neighbouring health administrations. The health administration of Macao was notified by telephone of the situation and asked temporarily to waive the requirement that travellers from Hong Kong should be in possession

of International Certificates of Vaccination against cholera, and in lieu to accept, for a period of one week, International Certificates which were not yet valid. To this it readily agreed. It also undertook to give immediate notification of any confirmed case of cholera in Macao.

5. The general public was duly informed of the cholera situation that day through the press, radio and television.

6. Thereafter and until 26 July 1969, five further staff meetings were held. They were attended also by the Senior Information Officer handling press enquiries during the period of emergency, and occasionally by an Assistant Secretary, Social Services Branch, Colonial Secretariat, whose function was to facilitate inter-departmental co-ordination.

7. From 5 to 14 July, a total of six cases of cholera were notified. With the application of vigorous sanitary and environmental health measures the outbreak was contained and to date no fresh cases have occurred following the last notification on 14 July. Weekly reports on the cholera situation were sent to the World Health Organization and to other neighbouring national health administrations for their information. Hong Kong was declared free of cholera on 26 July 1969.

COURSE OF THE OUTBREAK

8. The first case of cholera was confirmed on the evening of 5 July 1969, and up to 14 July a further five cases were reported. With one exception from Yuen Long, New Territories, all originated from Kowloon (Table 1 and Fig. 1). No cases appeared on Hong Kong Island. Details of the cases are given below.

Case No. 1: This patient was a man of 64 years, a broker by occupation, living in a small self-contained flat in a multi-storey building in Tai Kok Tsui, Kowloon. He was admitted to Queen Elizabeth Hospital at 3 a.m. on 5 July with six-hour history of vomiting, abdominal pain and diarrhoea, laboratory examination confirmed the diagnosis of cholera. He was transferred to Lai Chi Kok Infectious Diseases Hospital for isolation. Prior to his illness, the patient used to eat at home and from various cooked food stalls. He recovered from cholera infection but was found to suffer from hypertension and uraemia and was transferred back to Queen Elizabeth Hospital on 15 July for treatment of his renal condition.

Case No. 2: This was a school-boy, aged 8 years, who became ill with vomiting, abdominal pain and diarrhoea with watery stools at about noon on 8 July. He was admitted to Queen Elizabeth Hospital at 8 p.m. the same day. The diagnosis of cholera was bacteriologically confirmed on the morning of 9 July and the patient was transferred to Lai Chi Kok Hospital for isolation. He was reported to have eaten jelly bean curd

on the morning of his illness, and, two days earlier, fish ball noodles and bivalve molluscs purchased from unlicensed food hawkers near Shek Kip Mei Resettlement Estate where he lived.

Case No. 3: This case occurred in a man aged 70 years living on a junk anchored at Yau Ma Tei Typhoon Shelter. He consumed some noodles obtained from a hawker on a sampan at about 1.30 p.m. on 10 July, and started to pass watery stools at about 8 a.m. the following morning. His condition became worse and vomiting developed some five hours later. He was rushed to Queen Elizabeth Hospital at 3 p.m. the same day in a state of shock and marked dehydration. Cholera was subsequently confirmed and he was transferred to Lai Chi Kok Hospital the next morning.

Case No. 4: This patient was a boy aged 4 years living in a hut above a fish pond in Nam Sang Wai, Yuen Long, New Territories. The boy gave a history of frequently drinking unboiled well water. He developed diarrhoea and dehydration between 4 and 8 a.m. on 11 July. He attended Yuen Long Jockey Club Clinic later in the morning and was referred and admitted to Lai Chi Kok Hospital for treatment at 1.10 p.m. the same day. The diagnosis was confirmed the next morning.

Case No. 5: The patient was a married man aged 25 years who first noticed general malaise and then developed vomiting and diarrhoea at 11 a.m. on 12 July. He was seen by a herbalist that afternoon, and by 7.30 p.m. his general condition was deteriorated with cramp and sweating. He was admitted to Lai Chi Kok Hospital at 9.30 p.m. on the same day. The diagnosis was confirmed at 1.00 a.m. on 14 July. He and his family lived in a wooden hut near Ngau Tau Kok, Kowloon.

Case No. 6: This was a married woman aged about 25 years living with her husband and five children in a cubicle in a tenement in Shanghai Street, Yau Ma Tei. She developed diarrhoea and vomiting at about 5 a.m. on 13 July and was admitted to Queen Elizabeth Hospital at 9.00 p.m. the same evening. She was transferred to Lai Chi Kok Hospital when the diagnosis of cholera was confirmed at 10 a.m. on 14 July. Before her illness, the patient on several occasions took food from hawkers and from a nearby restaurant, and on the day before she became ill, while peeling fresh shrimps, she bought a bun from a passing hawker and consumed it with unwashed hands.

CASES BY SEX AND AGE

9. Males were affected in five of the six cases, only one being female. See Table 2.

10. Two cases were in male children, one aged 4 and the other 8 years. One man and one woman, both aged 25 years, were involved. The remaining two patients were males aged 64 and 70 years respectively.

GEOGRAPHICAL DISTRIBUTION OF CASES

11. Of the 6 cases, Case No. 1 originated from Tai Kok Tsui, Case No. 2 from Shamshuipo, Cases No. 3 and 6 from Yau Ma Tei, and Case No. 5 from Ngau Tau Kok, all these areas being in Kowloon. Case No. 4 was notified from Yuen Long, New Territories. No case was reported from Hong Kong Island.

12. The geographical distribution of the cases is shown on Map 1 and in Table 3.

TYPES OF ACCOMMODATION

13. Types of accommodation occupied by the patients are stated below:

(a) Tenement Building

(i) Case No. 1 lived with his wife and four children in a self-contained flat with kitchen, flush toilet and mains water, in a multi-storey tenement.

(ii) Case No. 6, with her husband and five children, occupied a cubicle on the seventh floor of a tenement building. The general state of the building could only be described as filthy. The floor was sub-divided into 14 cubicles with an estimated occupancy of 52 persons. There was one common water closet, bath and sink. Mains water was supplied from a single tap.

(b) Resettlement Estate

Case No. 2 lived with his parents and siblings in a room in Shek Kip Mei Resettlement Estate. His family shared a common kitchen with a neighbouring family. Communal bathrooms and latrines were provided. The water supply was from the public mains.

(c) Junk

Case No. 3 lived on a junk anchored at Yau Ma Tei Typhoon Shelter. Mains water was obtained from small water-barges.

(d) Wooden Hut

(i) Case No. 4 lived with his parents, two sisters and one brother in an isolated unnumbered hut overhanging a fish pond at Lin Hing Wai, Nam Sang Wai, Yuen Long,

New Territories. Sanitation was poor. The family obtained water from a shallow well about a quarter of a mile away. There was a squatting hole latrine discharging into the pond below the hut.

(ii) Case No. 5 lived with his wife, their infant daughter and his younger sister and brother in a wooden hut with no private latrine; a communal latrine with conservancy service was used. Drinking water came from the public mains.

INOCULATION STATUS

14. None of the six cases had received anti-cholera inoculation within the previous six months.

MOVEMENT OF PATIENTS BEFORE OUTSET OF ILLNESS

15. No patient had made a visit to Mainland China prior to his illness. None had had any contact with relatives or friends coming or returning from China.

RESULTS OF BACTERIOLOGICAL EXAMINATION OF SPECIMENS TAKEN FROM PATIENTS' PREMISES

16. Bacteriological investigation of the environments of the cholera cases was carried out, a total of 380 specimens being taken from the premises concerned. From these specimens, only six positive isolates were obtained. Two positive isolates were obtained from premises connected with Case No. 1 and these were taken from the water closets in his place of residence and also where he worked. The remaining four positive isolates were samples taken from the premises of Case No. 6. El Tor vibrios were isolated from a spittoon, the water closet, the floor of the lavatory and from water in a bucket in the kitchen.

SEVERITY OF CASES

17. Among the six confirmed cholera cases, two were considered to be clinically severe at the time of admission, one of them required six and a half litres of replacement solution given intravenously within the first 24 hours. Two cases were regarded as moderately severe and the remaining two as mild.

18. All responded well to antibiotic therapy. Diarrhoea was controlled with negative stool culture within 24 hours in five cases, and within 48 hours in the sixth, of commencement of treatment.

TREATMENT OF PATIENTS

19. The treatment of the cholera patients was based on the method of the Pakistan-Seato Cholera Research Laboratory. As soon as the patient was admitted, the severity of his dehydration was estimated by checking the specific gravity of his plasma, and the rehydration regimen instituted at once. The patient was rehydrated by using 5:4:1 replacement solution intravenously. This solution is made up of 5 Gms. of sodium chloride, 4 Gms. of sodium bicarbonate and 1 Gm. of potassium chloride per litre of pyrogen-free distilled water.

20. Antibiotic therapy was started soon after admission during the period of rehydration. Tetracycline was given orally with dosage of 2 Gms. daily in four equally divided doses for the adults for 72 hours. The dosage for children was proportionally reduced according to their body weight.

21. Three consecutive daily stool specimens were sent to the laboratory for culture on the completion of three days' antibiotic therapy. Patients were discharged from hospital when three stool cultures negative for cholera vibrios were obtained during the convalescent period.

INOCULATION CAMPAIGN

22. The annual anti-cholera drive was launched on 22 April 1969. Prior to 5 July when the first case of cholera appeared, 1 274 448 persons had already been inoculated. With the outbreak of cholera, pressure on all inoculation centres markedly increased, and in order to meet the demand and to give facilities for the issue of international certificates, Port Health Inoculation Centres and the temporary inoculation posts set up at the Star Ferry Pier on Hong Kong Island and at the Jordan Road Ferry Pier in Kowloon were kept open throughout the week including Saturday afternoons and Sundays. Extra staff were employed; and inoculation activities were intensified generally, and in particular within a half-mile radius of cholera patients' premises, among the floating population, in resettlement estates and in the areas from which positive nightsoil samples had been found. When required, inoculation teams visited factories and business firms with 30 workers or more. Two army mobile inoculation teams equipped with broadcasting facilities rendered assistance.

23. Supplies of cholera vaccine were made available free of charge to private medical practitioners and to clinics through the area health offices and medical headquarters which remained open during week-ends.

24. For the three-week period from 6 to 26 July, 1 094 271 persons were inoculated at various government centres and by mobile teams. Thus the total number of inoculations done since the beginning of this year came to 2 368 719. These figures do not include those inoculated by private medical practitioners and various organizations providing medical facilities.

VACCINE PRODUCTION

25. The strains used for vaccine production were obtained from the National Collection of Type Cultures in London. The two strains of classical V. cholerae, NCTC 8021 Ogawa and NCTC 7254 were first used on 11 August 1961. Since then these strains have been propagated and used for the production of cholera vaccine. One ml. of the vaccine contains 8000 million, heat-killed cholera vibrios (4000 million each of Ogawa and Inaba) preserved in 0.5 % phenol.

26. Table 7 indicates recent vaccine production.

HEALTH MEASURES INSTITUTED

27. Close family contacts and contacts living or working in the same premises as the patients were isolated either at Lai Chi Kok Hospital or Chatham Road Quarantine Centre. The co-operation of city district officers in the urban area and of the district officers in the New Territories was enlisted in the enforcement of all public health measures, especially in connexion with the tracing and segregation of patients' contacts.

28. Rectal swabs were taken from contacts at place of business, restaurants, schools and food stalls. These were all found to be negative.

29. Swabs were taken for bacteriological examination from premises of cholera patients. The premises were then disinfected. Perishable food remnants and water stored were disposed of. All clothing and bedding were sent for disinfection. After the completion of disinfection, the premises were locked and guarded by police.

30. On the environmental hygiene side, all measures to prevent the spread of infection, e.g., routine inspection of restaurants and cooked food stalls, routine food sampling, daily chlorination of wells

in rural areas, removal of refuse and elimination of fly breeding places, were intensified. Particular attention was paid to illegal hawkers selling unclean foodstuffs like Leung Fan, Man Tau Lo, cut fruits, frozen confections, non-bottled drinks, etc.

31. Special clean-up exercise were carried out in Yau Ma Tei, Mong Kok, Yuen Long, Sai Kung and part of the western district of Hong Kong Island.

32. During the emergency period, the Director of Water Supplies was requested to increase chlorination of public water supplies to 1.2 p.p.m. at service reservoir and to take measures to avoid contamination of the water delivered to water-barges at supply points.

33. All these measures required close liaison with various government departments concerned, e.g., the Urban Services Department, the New Territories Administration, the Royal Hong Kong Police Force, the City District Officers, the Public Works Department and organizations such as the Heung Yee Kuk and the Kai Fong Associations.

ROUTINE NIGHTSOIL INVESTIGATION

34. Regular sampling of nightsoil every night from ten nightsoil routes on Hong Kong Island (Eastern 3 routes, Central 3 routes and Western 4 routes), and nine nightsoil routes in Kowloon (Kowloon East 4 routes and Kowloon West 5 routes) is carried out throughout the year, two loads being sampled from each route. The percentage of population using the conservancy system on Hong Kong Island is 22.7 % and in Kowloon 9.1 %. (Figure 3)

35. The first indication of the possible existence of asymptomatic carriers in the community was a report of the presence of Vibrio cholerae, biotype El Tor, serotype Inaba, in the first load of nightsoil collected from Western I nightsoil route on 14.5.69. This was followed by further positive results scattered almost throughout all routes in Hong Kong Island except Districts W4 and EI and 2. The positive results were traced to the individual bucket or pail serving a flat. Residents of the flats and the premises were swabbed. On 1 June one asymptomatic carrier was found, a boy aged 12 years living in Western District, (Sai Woo Lane). He was treated at Sai Ying Pun Hospital until his stool was negative for V. cholerae.

36. Throughout June all nightsoil sampling proved to be negative with the exception of one positive culture on 24 June. Since 1 July, there were intermittent reports of positive culture from loads on Western 1 and 2, Central 2 and Eastern 1 nightsoil routes. All subsequent follow-up cultures at nightsoil from hoppers of the affected

loads had been negative, with the exception of a single positive culture from Hopper No. 11 (Stop No. 5) fron route Western 1 (2nd load). Subsequent sampling of individual pails or buckets emptied into that particular affected hopper produced negative results.

37. In the absence of clinical cases on the Island, the greater part of the work there was concentrated on an attempt to trace carriers through the nightsoil, but with the exception of the boy to whom reference is made in paragraph 35 above, entirely without success.

38. There were no positive isolates from route nightsoil samples in Kowloon and the New Territories before the occurrence of cholera cases. Three positive isolates were obtained, two on 13 July, and one on 15 July.

39. Following the report of the first case of cholera in Kowloon on 5 July, the tempo of nightsoil sampling was stepped up. Samplings from dry pail public latrines, flush type public latrines, dry pails in licensed food premises, nightsoil labourers, illegal immigrants and remand prisoners were done. Samples were taken from toilets in trains coming from Lo Wu on the Sino-British frontier. None of these produced positive results.

CONTACTS AND CARRIERS

40. From the 6 cholera cases, a total of 87 contacts were isolated. Forty-four were males, and 43 females. Forty-seven were under 15 years of age.

41. None, with the exception of the four children of Case No. 1, and the father and older brother of Case No. 2, had received anti-cholera inoculations (Tables 4 and 5).

42. The 5 contacts of Case No. 1 were admitted into Lai Chi Kok Hospital for observation on 6 July and were discharged on 11 July, having had three negative stool cultures for V. cholerae during their stay in hospital.

43. The remaining 82 contacts were admitted to Chatham Road Quarantine Centre for observation. Of these 42 were males and 40 females. As soon as they were admitted stool specimens or rectal swabs were sent to the Kowloon Institute of Pathology for culture of V. cholerae on three consecutive days. All contacts were given a course of tetracycline orally for 3 days, the dosage being 250 mgm. q.i.d. for adults, 250 mgm. t.i.d. for children aged 8 to 12 years, 125 mgm. q.i.d. for children aged from 3 to 7 years, and 62.5 mgm. q.i.d. for children aged under 3 years.

44. Three hundred and thirty-eight specimens of faeces of contacts were examined and among these 22 were found to harbour El Tor vibrios on primary isolation. One was a man aged 44 years, 5 were females and 16 were children (Table 6). None of the carriers had received anti-cholera immunization.

45. All of the contacts were isolated in the Quarantine Centre for five full days and were discharged after this period if the stool cultures were negative for V. cholerae for three consecutive days. The carriers were discharged from isolation when they had 3 negative stool cultures on consecutive days after a course of antibiotic treatment.

46. Eight contacts of Case No. 6 could not be traced even after repeated surprise visits to the premises subsequent to the release of all of the other contacts on 26 July.

CHATHAM ROAD QUARANTINE CENTRE

47. On 11 July 1969, the Auxiliary Medical Service was instructed to commence the preparation for the opening of the Chatham Road Quarantine Centre. By noon on 12 July, 14 cholera contacts were accommodated there. A total of 82 were admitted, 22 of whom were found to be carriers of Vibrio cholerae. Five family contacts of Case No. 1, none of whom was a carrier, were isolated in Lai Chi Kok Hospital. In all 87 contacts were isolated.

48. The usual hospital diet consisting of 3 meals and late tea was provided for both inmates and staff at the Centre.

49. Television and radio were provided for the entertainment of the inmates. An adequate supply of toys and children's books was arranged. Film shows were organized.

50. The Centre operated peacefully except on one occasion when minor trouble was encountered. Three contacts of Case No. 5 refused to co-operate on admission. They were eventually persuaded to co-operate.

51. The Director of Medical and Health Services personally visited the Centre on 13 July. He made arrangements, with the help of the Deputy Colonial Secretary, for City District Officers from Kwun Tong and Kowloon City to visit the Centre regularly.

52. The Centre was cleared of contacts on the afternoon of 26 July.

ASSISTANCE TO CHOLERA CONTACTS

53. During the time that the Chatham Road Quarantine Centre was open, medical social workers were in attendance. The purposes of their presence were:

(a) to help the contacts to accept compulsory isolation;

(b) to provide an outlet for them to air their grievances and anxieties about their temporary loss of freedom;

(c) to study their social problems;

(d) to find solutions of their social needs.

54. Noteworthy work done was the arrangement for compassionate resettlement of Case No. 6 and her family. Direct financial assistance was given to 31 contacts on discharge from the centre. The following figures show the type of work dealt with:

Counselling		31 cases
Compassionate resettlement		1 case
Employer informed of contact's admission	1 by letter 3 by admission certificates 1 by admission certificate and telephone	5 cases
School informed of contact's admission	1 by letter 1 by telephone	2 cases
Financial assistance on discharge	27 from Medical and Health Department, $1100.00 2 from Samaritan Fund, $35.00 1 from Social Welfare Department, $500.00 1 from C.D.O., Kowloon, $200.00	31 cases
Clothing from the Hong Kong Red Cross Society on discharge	1 family consisting of 2 adults and 5 children	

55. In working with the above cases, help was enlisted from the following Government Departments and voluntary welfare agencies:

Contacts made with Government Departments	a) Social Welfare Department b) Resettlement Department c) Labour Department d) Commerce and Industry Department e) Royal Hong Kong Police Force f) Government Information Service g) City District Offices
Contacts made with voluntary agencies	a) Hong Kong Red Cross b) Lutheran World Service c) Hong Kong Christian Council d) Caritas e) Hong Kong Society for Prevention of Cruelty to Animals
Material assistance received for adults	Chinese magazines and story books from a group of students
Material assistance received for children	Candy from Caritas. Breakfast drinks and biscuits from Hong Kong Christian Council. Biscuits from Lutheran World Service

PUBLIC INFORMATION

56. The importance of public information was recognised as soon as the outbreak occurred. The public was given the assurance that the Health Authorities were taking all precautionary measures and that there was no reason for panic. An officer from the Information Services Department was seconded to the Medical and Health Department to handle press enquiries during the period of emergency. All enquiries relating to the cholera situation were directed to the Director of Information Services who was kept informed of all developments. The public was given a clear view of the position in regard to the outbreak through the press, and radio and television announcements. Radio and television interviews were given daily. Special press releases, e.g., exhorting the public to come forward for inoculation and to observe the rules of personal and food hygiene, etc. were issued. Other forms of publicity such as posters, handbills, etc., on the prevention of cholera were used as fully as possible. In the New Territories, health education exhibitions were held in Yuen Long and Sai Kung. The exhibits dealt with subjects such as the transmission and the prevention of cholera and other intestinal diseases, food hygiene, and personal and environmental hygiene. Health talks and film shows were also held at Yuen Long and Sheung Shui. Preventive measures against cholera and other intestinal diseases were stressed during the talks.

57. Hong Kong saw its first case of cholera on 5 July 1969 since the appearance of the last case in November 1966. Altogether 6 cases were notified within a period of 10 days, the last being on 14 July. From epidemiological investigations, all the cases encountered were sporadic. None could be traced to a common source of infection. It is interesting to note that out of a total of 87 contacts of the six clinical cases who were traceable, 22 were found to be carriers. The contact carriers were all directly related to the clinical cases, being either members of the family or co-tenants.

58. For 52 days before the outbreak, V. cholerae, biotype El Tor, serotype Inaba, were detected in the course of routine nightsoil examinations in Hong Kong, and have persisted, though intermittently, since 14 May 1969. The outbreak has been contained by vigorous public health measures and an energetic inoculation drive. The public are reminded that there is no room for complacency, and that vigilance should continue to be exercised, particularly in regard to personal, household and food hygiene.

ACKNOWLEDGEMENTS

59. As in previous outbreaks of cholera, the co-operation of other Government Departments and outside agencies was immediately and unstintingly given. The Urban Services Department, the Royal Hong Kong Police Force, the Public Works Department, the Secretariat for Home Affairs and the Information Services Department worked as a team with the Medical and Health Department in dealing with the many varied aspects of the campaign.

60. With the opening of the Chatham Road Quarantine Centre, clothing and toiletries were provided by the Hong Kong Red Cross Society. Television Broadcasts Ltd., supplied two television sets for the entertainment of the contacts. A third was provided by the Royal Corps of Signals. Other gifts were sent to the Centre by societies and individuals to whom letters of thanks have been sent.

61. A special word of praise is due to the members of the Auxiliary Medical Service who provided the majority of the staff at the Quarantine Centre and who made up inoculation teams during the intensified drive to encourage the public to receive anti-cholera inoculations. Thanks is also due to the officers and men of Her Majesty's Army who provided mobile vans which toured different areas urging people to come forward for inoculations and who gave much valuable assistance.

62. The public was kept fully informed of the progress of events through the Government Information Services Department, Radio Hong Kong, Commercial Radio, Rediffusion, Television Broadcasts, Ltd. and the press. Throughout the period the outbreak, the dissemination of information had a wide coverage through these media which helped to allay rumours and speculation about the actual situation.

63. In conclusion, I wish to pay tribute to the efforts of the staff of the Medical and Health Department who took part in the inoculation drive and in other anti-epidemic measures. All those concerned worked long hours cheerfully and ungrudgingly, and the shortness of the duration of the outbreak is in itself testimony of the efficiency of their labours.

Sgd.(P. H. Teng)
Director of Medical and Health Services,
Hong Kong

8 August 1969

ANNEX 1

THE BACTERIOLOGY OF CHOLERA, 1969

by

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Routine bacteriological examinations of nightsoil specimens are carried out all through the year as part of the surveillance programme for detection of cholera. As a result of these tests the first isolate of Vibrio cholerae was confirmed on 14 May 1969. The strain was identified as V. cholerae, El Tor biotype, Inaba. Since then in Hong Kong Island from 14 May to 23 July 1969, 6148 nightsoil specimens were tested. Among these there were 51 positive isolates, i.e. 0.83%.

2. There were no positive isolates in Kowloon and New Territories until after the first confirmation of a clinical case of cholera in Queen Elizabeth Hospital on 5 July 1969. Following this the number of routine nightsoil samples sent for bacteriological examination was stepped up in Kowloon. From 6 to 23 July 1969 a total of 1398 nightsoil specimens were tested in the Kowloon Institute of Pathology. From these tests 3 positive isolates of El Tor vibrios were obtained, i.e. 0.22%.

3. Following the first confirmed case of cholera further five cases were diagnosed. The direct contacts of these 6 cases were isolated in the Chatham Road Camp. From this camp 338 specimens of faeces were examined and among these 22 were found to harbour El Tor vibrios on primary isolation. Other bacteriological investigations of the environment and people closely related to these clinical cases living in Kowloon are shown in the table below.

	No. of Specimens	No. of positive isolates
Food handlers in Kowloon	127	0
Premises of cholera patients	380	6

4. From the above table there were six positive isolates from samples taken from premises of cholera patients. Two positive isolates were derived from premises connected with the first case and the samples were taken from the water closet of the male toilet and the basin of the toilet. The remaining 4 positive isolates were samples taken from the premises of the last case. El Tor vibrios were isolated from the spitton, water closet, floor of lavatory and water in the bucket in the kitchen.

5. Other routine public health bacteriological tests included during the recent epidemic are as follows, see table below.

		Hong Kong No. of specimens (14.5.69 - 23.7.69)	Kowloon No. of specimens (6.7.69 - 23.7.69)
(a)	From food handlers and suspected carriers	689	344
(b)	Sea water	43	13
(c)	Fresh water	240	73
(d)	Foods	80	92
(e)	Other suspected clinical cases	988	397

None of the above was positive for El Tor vibrios.

6. Strains studied

Thorough bacteriological examination was conducted on 87 strains recently isolated. All belonged to V. cholerae, El Tor biotype, Inaba serotype and showed sugar fermentation reactions of Heiberg Group I. The 87 strains were resistant to polymyxin B and Mukerjee phage IV. Biochemical tests were quite uniform except for one strain which produce a negative Voges-Proskauer reaction. Hemolysin tests using 1 per cent sheep cells in 0.85 per cent solution of sodium chloride revealed that 82 strains were non-haemolytic. The non-haemolytic strains included all those isolated from 6 clinical cases.

7. Vaccine production

The strains used for vaccine production were obtained from the National Collection of Type Cultures in London. The 2 strains of classical V. cholerae, NCTC 8021 Ogawa and NCTC 7254 were first used on 11 August 1961. Since then these strains were propagated and used for production of cholera vaccine. One ml. of the vaccine contains 8000 million heat-killed cholera vibrios (4000 million each of Ogawa and Inaba) preserved on 0.5% phenol.

8. The table below indicated the recent work of vaccine production in the Vaccine Laboratory.

CHOLERA VACCINE

1969	Bottling	Concentrate equivalent to	Issue
January	19 350 ml.	261 550 ml.	-
February	-	296 550 ml.	-
March	-	277 300 ml.	2 500 ml.
April	163 850 ml.	294 900 ml.	540 000 ml.
May	257 350 ml.	287 000 ml.	360 000 ml.
June	202 150 ml.	200 000 ml.	200 000 ml.
July up to 26	1 484 250 ml.	640 000 ml.	1 643 200 ml.
TOTAL :	2 126 950 ml.	2 257 300 ml.	2 745 700 ml.
	Stock ready for issue -	1 094 700 ml.	

9. In order to have at least 2-1/2 million doses ready in stock stepping up of cholera vaccine production was being done.

10. Experimental study of survival of El Tor Vibrios Serotype Inaba in sea water

Two samples of sea water from the western district were obtained and stored in plastic buckets. The salinity of the sea water was estimated as 10 300 parts per million. Two concentrations of El Tor vibrios were inoculated into each sample and bacterial counts were followed each day for 8 days. The results are given in the table below.

Days after inoculation	Bacterial counts/ml.	
	A	B
0	138 000	69 000
1	1 125 000	23 500
2	10 000	1 950
3	700	400
4	180	115
5	120	70
6	26	20
7	22	10
8	4	0

FIGURE 1

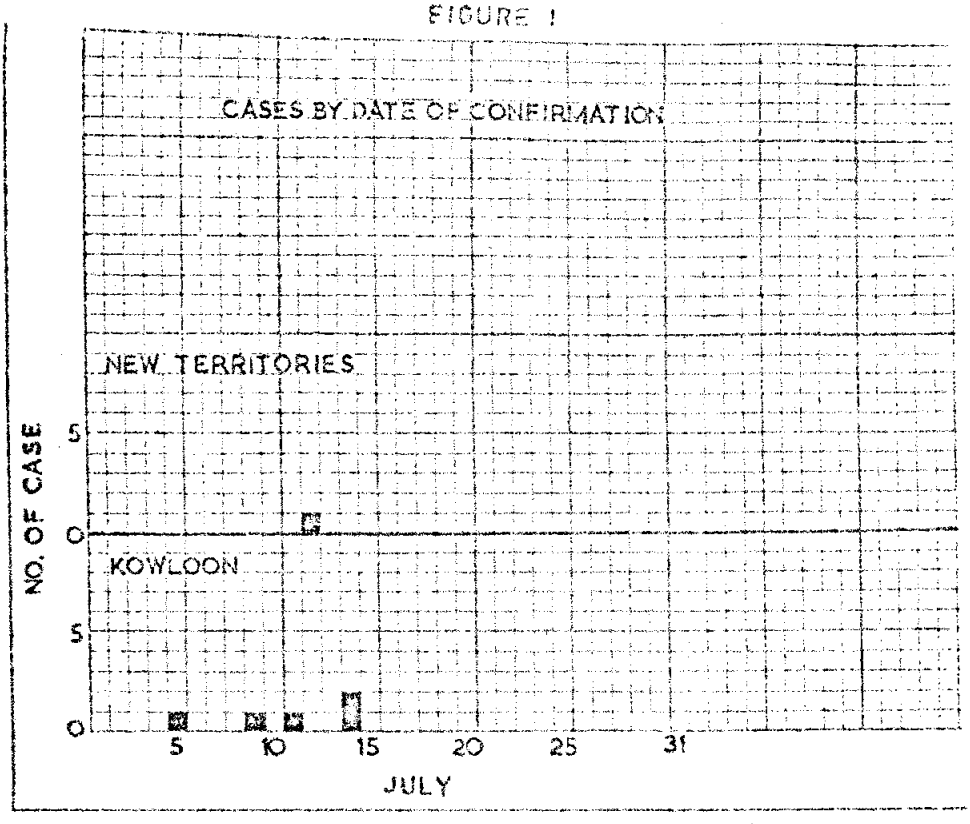

CASES BY DATE OF CONFIRMATION
NEW TERRITORIES
KOWLOON
NO. OF CASE
5
0
5
0
5
10
15
20
25
31
JULY

FIGURE 2

ANTI-CHOLERA INOCULATION, JANUARY 1969 -

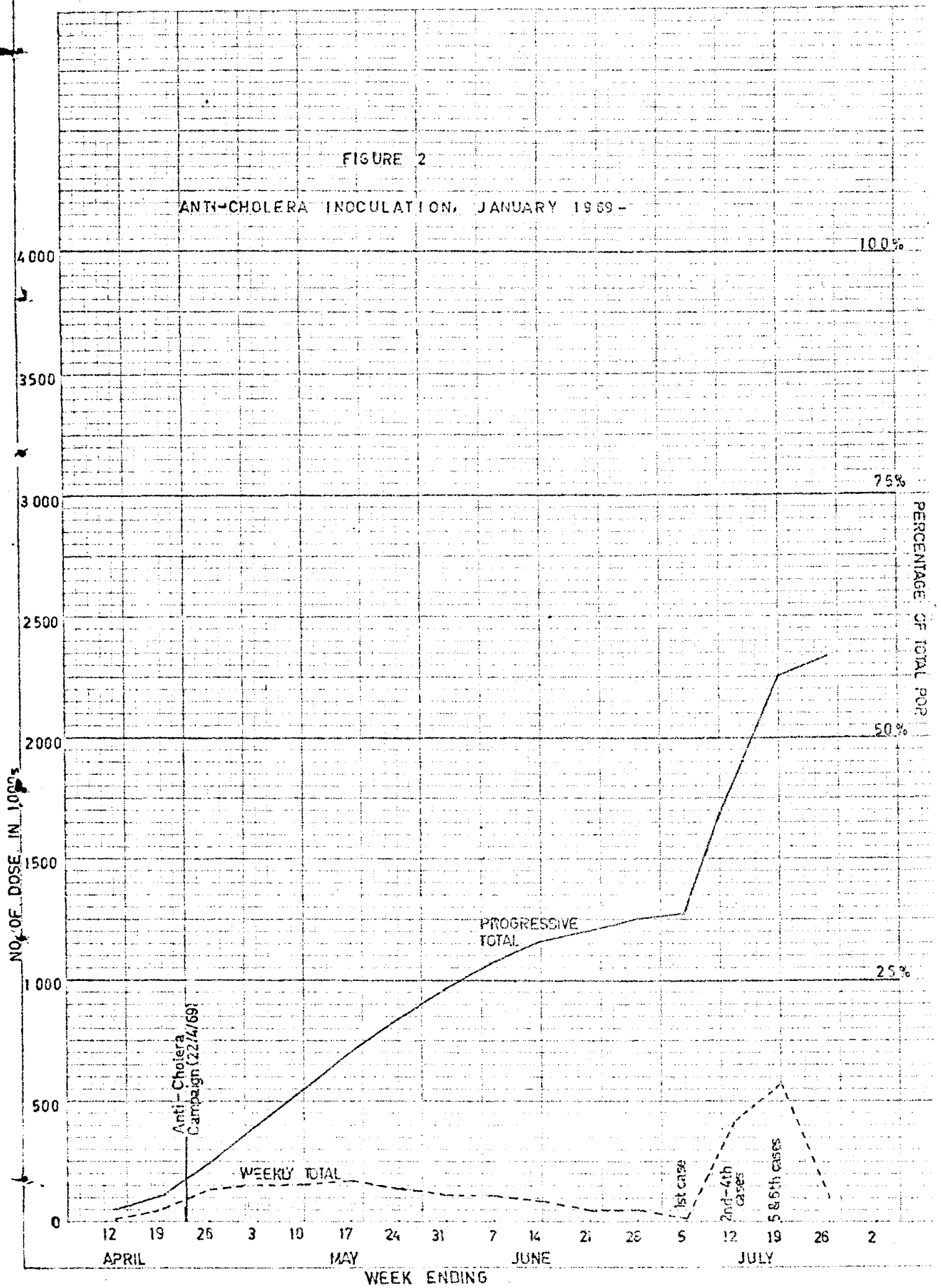
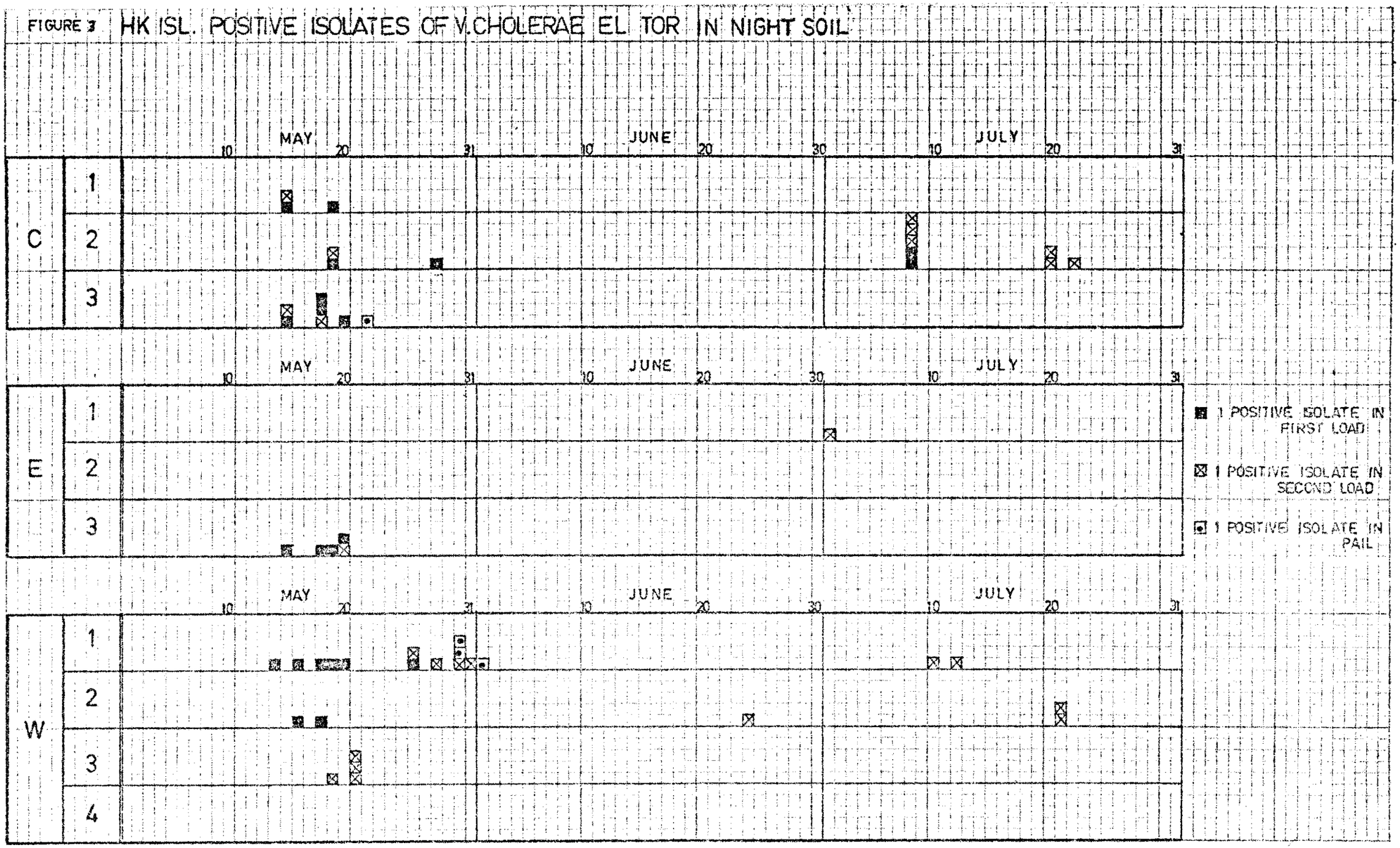


FIGURE 3 HK ISL. POSITIVE ISOLATES OF V.CHOLERAE EL TOR IN NIGHT SOIL



MAP 1: DISTRIBUTION OF CHOLERA CASES

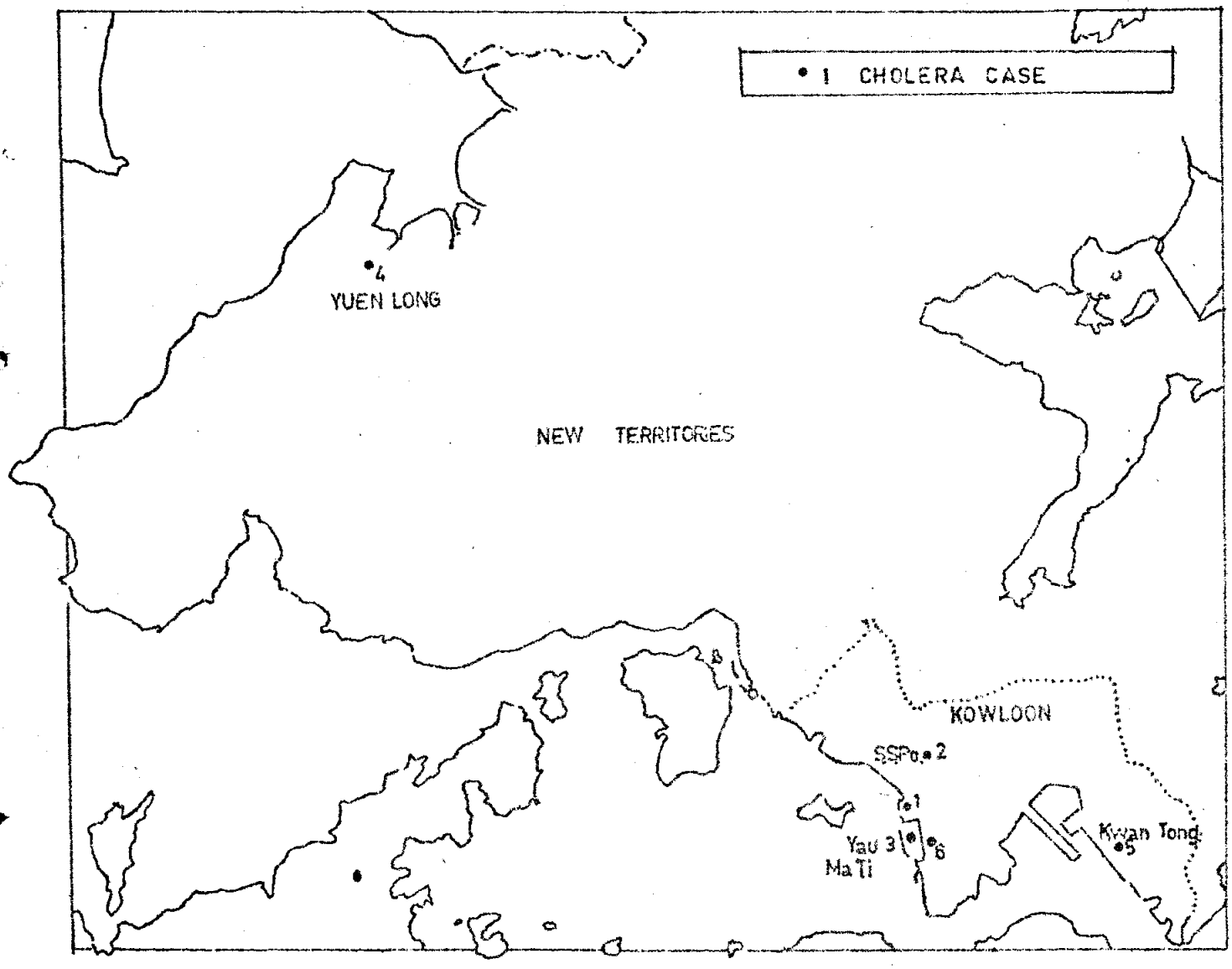


TABLE 1. PARTICULARS OF THE SIX CONFIRMED CHOLERA CASES

Case No.	Age	Sex	Residential District	Date of Admission	Number of Contacts	Severity of Cases on Admission	Replacement solution Given by I.V. in First 24 Hours	Time Taken for Stool to be Negative after Treatment	Date of Discharge	Remarks
1	64	M	TAI KOK TSUI	5 July 69	5 (0) +	Severe	3 1/2 litre	24 hours	15 July 69	Referred to Medical Unit QEH for further treatment of uraemia
2	8	M	SHEK KIP MEI	9 July	14 (1) +	Mild	0 litre	24 hours	18 July	Discharged from hospital condition well
3	70	M	YAUMATI TYPHOON SHELTER	12 July	13 (0) +	Severe	6 1/2 litre	24 hours	21 July	-DO-
4	4	M	NAM SANG WAI, N.T.	11 July	5 (2) +	Mod. Severe	1/2 litre	24 hours	21 July	-DO-
5	25	M	KWUN TONG	12 July	6 (1) +	Mod. Severe	3 1/2 litre	48 hours	22 July	-DO-
6	25	F	YAUMATI	14 July	44 (18) +	Mild	1 litre	24 hours	24 July	-DO-

+ Figure in brackets denote the number of "Cholera Carriers" detected and isolated from among the patients' contacts

TABLE 2
AGE AND SEX DISTRIBUTION

AGE GROUP	MALE	FEMALE	TOTAL
0 - 14	2		2
15 - 29	1	1	2
30 - 44			
45 - 59			
60 & Over	2		2
ALL AGES	5	1	6

TABLE 3
GEOGRAPHICAL DISTRIBUTION OF CASES

HONG KONG	KOWLOON			NEW TERRITORY	TOTAL
	S.S.PO	YAUMATI	KWUN TONG		
0	1	3	1	1	6

TABLE 4
ANALYSIS OF CHOLERA CONTACTS 1969

AGE GROUP	MALE	FEMALE	TOTAL
0 - 14	21	26	47
15 - 29	9	8	17
30 - 44	11	7	18
45 - 59	2	1	3
60 & Over	1	1	2
ALL AGES	44	43	87

TABLE 5
IMMUNIZATION STATE, CONTACTS

	MALE	FEMALE	TOTAL
Inoculated	4	2	6
Not "	40	41	81
	44	43	87

TABLE 6
CHOLERA CARRIERS

AGE GROUP	MALE	FEMALE	TOTAL
0 - 14	8	8	16
15 - 29		3	3
30 - 44	1	2	3
45 - 59			
60 & Over			
ALL AGES	9	13	22

TABLE 7. CHOLERA VACCINE

MONTH	BOTTLING	CONCENTRATE EQUIVALENT TO	ISSUE
JAN. '69	19 350 ml.	261 550 ml.	-
FEB.	-	296 550 ml.	-
MAR.	-	277 300 ml.	2 500 ml.
APR.	163 850 ml.	294 900 ml.	540 000 ml.
MAY	257 350 ml.	287 000 ml.	360 000 ml.
JUNE	202 150 ml.	200 000 ml.	200 000 ml.
JULY (up to 26)	1 484 250 ml.	640 000 ml.	1 643 200 ml.
TOTAL	2 126 950 ml.	2 257 300 ml.	2 745 700 ml.

Stock ready for issue: - 1 094 700 ml.

ORIGINAL: ENGLISH

JAPAN

REPORT ON THE PROGRESS OF HEALTH ACTIVITIES FOR THE FISCAL YEAR 1968 (April 1968 - March 1969)[1]

1. ORGANIZATION OF NATIONAL AND LOCAL HEALTH ADMINISTRATION

There were no changes in the organization of the Ministry of Health and Welfare during the period under review as far as the health service is concerned. The prefectural and municipal health centers, of which there are 832, continued to carry out their routine functions as local community health service agencies.

2. HEALTH BUDGET

The total national health budget including a subsidy to the local governments for the fiscal year 1968 was ¥113 493 million, whereas it was ¥116 853 million for the fiscal year 1967. (The decrease for 1968 is due to the transfer of national sanatoria budget from the general account to the special account for national hospitals,)

3. VITAL STATISTICS

The estimated population as of 1 October 1968 was 101 408 000. The following table gives some of the vital statistics data for the calendar year 1968 and a comparison with 1967.

	1968	1967
Births:		
Number	1 870 505	1 934 958
Rate (per 1000 population)	18.4	19.3
Deaths:		
Number	685 455	674 909
Rate (per 1000 population)	6.8	6.7
Still-births:		
Number	143 170	149 304
Rate (per 1000 total live-births)	71.0	71.6

[1] Submitted by the Second Secretary, Embassy of Japan, Manila, 26 August 1969.

The average life expectancy at birth for the Japanese people, prepared on the basis of the 1967 data, indicates 68.91 years for males and 74.15 years for females; the comparable figures for the previous year were 68.35 years for males and 73.61 years for females.

4. MATERNAL AND CHILD HEALTH

During the calendar year 1968, 1 165 876 visits were made to the clinics by mothers, and 5 385 085 by children. Public health nurses paid 296 793 home visits on mothers and 816 212 on children. At the end of March 1969, there were 536 maternal and child health centers in the rural areas (501 centers in 1968). During the calendar year 1968, 71 269 low weight babies were reported, indicating a decrease of 1847 from that of 1967.

5. TUBERCULOSIS CONTROL

In the calendar year 1967, the number of deaths from tuberculosis decreased further, there being only 17 708, a rate of 17.8 per 100 000 population (20 064 deaths, a rate of 20.2 for 1966). (The data for the calendar year 1968 are not yet statistically available.) During 1968, 44 712 000 persons (42 555 000 persons for 1967) received health examinations for case-finding purposes. Among them, 38 584 000 (37 229 000 for 1967) were examined by photofluorography. The case-finding rate for 1968 was 0.11% (0.12% for 1967). Among those tuberculin negative, 5 215 000 were vaccinated with BCG.

The total number of registered tuberculosis patients as of the end of 1968 was 1 249 509 (1 339 460 for 1967); 62.9% of which were active cases; 21.0% of the active cases were hospitalized, 63.4% were under domiciliary treatment, 14.2% did not receive complete medical treatment and the remaining 1.4% could not be traced. During the same period, 228 216 cases were newly registered. For 1966, the total expenditure on tuberculosis treatment was estimated to be 112 billion yen (111 billion yen for 1965). This is equivalent to 8.6% (9.4 for 1965) of the total expenditure on medical care for all kinds of illness. At the end of calendar year 1968, there were 195 710 beds allocated to tuberculosis patients and the bed occupancy rate was 70.1% (204 945 beds and 72.0% for 1967).

6. LEPROSY CONTROL

The number of newly reported cases of leprosy has been decreasing yearly. During the calendar year 1968, 89 were reported (120 for 1967). The total number of reported leprosy patients at the end of 1968 was

9993 (10 220 for 1967) with a prevalence rate of 1,0 per 10 000 population (same for 1967); 9354 patients (9537 patients for 1967) were institutionalized at 11 national and 3 private leprosaria. The total number of beds available in those leprosaria were 12 950 and 280, respectively.

7. COMMUNICABLE DISEASES CONTROL

The total number of persons who received immunization during the calendar year 1968 was as follows: 3 151 000 for smallpox; 11 821 000 for typhoid-paratyphoid combined; 1 900 000 for diphtheria; 3 590 000 for diphtheria-whooping cough combined, and 2 711 000 for poliomyelitis (attenuated vaccine).

In 1968, there was a marked decrease in most of the acute communicable diseases. The incidence of poliomyelitis was dramatically reduced after the successful oral administration of Sabin-type poliomyelitis vaccine. In 1968, only 20 cases were reported. The decrease in poliomyelitis cases during the past several years is as follows: 5606 for the year 1960, 2436 for 1961, 289 for 1962, 131 for 1963, 86 for 1964, 76 for 1965, 38 for 1966, and 24 for 1967.

The number of Japanese encephalitis cases greatly decreased compared with 1967, and only 292 cases including 238 deaths were reported; (for 1967, 1028 cases and 659 deaths). The number of persons who received voluntary immunization for Japanese encephalitis during 1968 is estimated to be about 40 million. The number of cases of dysentery has yearly decreased since 1960 except for a small increase in 1966, and 17 792 cases were reported in 1968.

8. FOREIGN QUARANTINE SERVICES

During the calendar year 1968, 32 574 vessels (1 293 313 persons) and 21 597 aircrafts (1 357 879 persons) received health inspection at the time of arrival from abroad; 165 777 persons were vaccinated against quarantinable diseases before going abroad (this number excluded those vaccinated at places other than the quarantine stations): 1104 ships were granted deratting certificates and 6233 ships received deratting exemption certificates. No case of quarantinable diseases was introduced during the year 1968.

9. ENVIRONMENTAL SANITATION

As of the end of March 1968, a population of 74 900 662 (about 74.7% of the total population) was covered by some kind of public water supply system. At the end of March 1968, there were 231 cities operating sewage

treatment plants and a population of 15 711 000 was benefitted from these services. At the end of March 1968, there were 1302 nightsoil disposal plants. At the end of March 1968, a population of 71 292 000 was covered by the garbage disposal programme, either by incineration or composting methods.

The insect and rodent control programme, supported by the community organizations, has been continued, and routine sanitary inspections have been carried out continuously.

Due to the concentration of people into urban areas and heavy industrialization, the environmental pollution problems of Japan are very serious at present. To cope with this situation, the Basic Law for Environmental Pollution Control was enacted in 1967, and various kinds of countermeasures are being taken. For example, the air quality standard for sulfur oxides was established in 1969, and so far 27 large urban or industrialized areas have been designated as specific smoke control areas under the Air Pollution Control Law. And also 30 water bodies were designated to be controlled by the Water Pollution Control Law. Studies on the various kinds of effects of environmental pollution are also being conducted.

The administrative responsibility for sewage disposal and its facilities has been on the hand of the Ministry of Construction since 21 June 1967. However, that Ministry still requires to obtain the consent of the Minister of Health and Welfare when approving the construction of new sewerage facilities and their extension.

10. FOOD SANITATION

During the year 1968, 5253 food inspectors were stationed in 832 health centers to deal with 2 771 222 food-handling establishments. For the same year, the total number of food poisoning cases reported was 1093, involving 33 043 patients and resulting in 94 deaths. Chemical synthetics to be used as food additives are fully controlled under an authorization system by the Government. At the end of 1968, 353 chemical synthetic food additives were authorized. At the end of 1968, there were 753 slaughter-houses, and 10 538 376 animals were slaughtered and inspected, during the year.

11. NUTRITION

During the calendar year 1968, 1 464 020 cases of individual nutrition guidance and 91 499 group sessions, including demonstrations by kitchen cars, were given by the nutrition staff of the health centers.

As of the end of March 1969, there were 248 authorized dietitian training schools and 130 126 licensed dietitians.

12. DENTAL HEALTH

One hundred and twenty-two health centers were equipped with dental facilities and dentists, and continued to play an important role in the preventive dental health programme. During the year 1968, 163 960 dental health guidance consultations were given to pregnant women and 1 449 399 to children.

13. MENTAL HEALTH

Continuous efforts were made to improve the mental health programme during the year 1968, including care of the mental cases. The number of mental hospitals, mental beds, etc., at the end of December 1968 as compared with the same date in 1965, 1966 and 1967 is shown below:

	1965	1966	1967	1968
Mental hospitals	725	769	818	853
Units in general hospitals	363	399	429	446
Mental beds	164 027	181 759	201 823	217 015

There are many governmental facilities carrying out the programme for the promotion of mental health guidance for the public as well as for the mentally retarded children and adults.

The services for counselling and home visit guidance on mental patients are being given at 832 health centers, under the auspices and technical guidance of 20 local mental health centers.

14. MEDICAL SERVICES

At the end of the calendar year 1968, there were 7703 hospitals (7505 for 1967) with a total bed capacity of 1 003 638 (963 113 for 1967), showing an increase of 198 hospitals and 40 525 beds against those available in 1967. At the end of the calendar year 1967, there were 66 869 general clinics (65 679 for 1966) and 29 153 dental clinics (28 893 for 1966), showing an increase of 1190 general clinics and 260 dental clinics. (Data for 1968 are not yet available.)

At the end of the calendar year 1967, there were 111 657 physicians (11.1 per 10 000 population), 36 524 dentists (3.6 per 10 000 population), 72 101 pharmacists (7.2 per 10 000 population) and 253 075 nurses (25.2 per 10 000 population). This means an increase of 898 physicians, 502 dentists, 1291 pharmacists and 6822 nurses. (Data for 1968 are not yet available.)

In order to cope with the increase in traffic and other accidents, the accident and emergency medical care system was revised in February 1964. As a result, a network of the accident and emergency medical care has been established throughout the country; at the end of March 1969, the number of such facilities, either public or private, reached 4138.

15. MEDICAL REHABILITATION

As of April 1969, there are 7 physical therapist training schools and 3 occupational therapist training schools. There are now a total of 888 physical therapists and 220 occupational therapists who have passed the national examination for their respective professions under the Law for Physical Therapists and Occupational Therapists.

16. PHARMACEUTICAL CONTROL

During the calendar year 1968, 2026 pharmaceutical inspectors visited 213 778 pharmaceutical facilities (out of a total of 259 842 such facilities), such as drug and medical supply manufacturers, pharmacies and blood banks. The control of amphetamine preparations and narcotics was also maintained, and the measures for narcotic addicts were also carried out.

The blood supply service had in the past depended chiefly on the so-called "professional blood donors". This practice had caused not only social evils but had also increased the risk of serum hepatitis among the population. The Government, recognizing the seriousness of the above situation, made a decision in August 1964 to develop voluntary blood donations further to normalize the blood supply service programme. Under the nation-wide campaign for voluntary blood donation, the ratio of voluntary donation to the total donations increased to 80.0% during the year 1968, while it was 68.7% in 1967 (in 1964, only 7.7%).

The first edition of the Official Book on Japanese Standard of Cosmetic Ingredient was published in August 1967.

The monitoring system for adverse drug reaction established in March 1967 continued its activities in order to ensure the safety of drugs. During the fiscal year 1968, approximately 600 information cards on drug adverse reactions have been collected from the doctors of those hospitals designated for drug monitoring service. Although this information was not identical to the adverse reactions defined by WHO but merely the so-called side-effects, appropriate precautions on the use of every antibiotic preparation were drawn up in December 1968.

FRANCAIS SEULEMENT

LAOS
RAPPORT SUCCINCT SUR LES ACTIVITES SANITAIRES

CHOLERA[1]

Presque tous les ans, dans presque toutes les provinces du Laos, au commencement de la saison des pluies, correspondant à la saison des mangues, nous avons l'habitude d'observer la recrudescence des maladies diarrhéiques que nous appelons "les diarrhées de mangues vertes".

Cette année, la recrudescence de ces maladies diarrhéiques à Savannakhet prend une allure particulière avec un caractère plus sérieux et plus grave. Les cas mortels surviennent dès le début de la saison. Ce qui attire l'attention des autorités sanitaires à Vientiane, car sur la rive opposée du Mékong, du côté de la Thaïlande, une épidémie de choléra El Tor sévissait depuis quelques semaines.

Comme j'étais retenu par la réunion technique sur le paludisme des pays riverains du bassin inférieur du Mékong tenue du 16 au 19 juin 1969 à Vientiane, le Dr Parmentier, Conseiller de l'OMS dans le domaine des laboratoires de la santé publique, ainsi qu'un officier de santé du Gouvernement, se sont rendus le 20 juin 1969, sur le lieu pour constater sur place ces cas suspects de diarrhée profuse.

D'après les renseignements recueillis, le premier cas mortel de diarrhée serait observé chez un laotien paramilitaire, attaché à une équipe mobile américaine de renseignement. De par sa carrière, cet individu faisait la navette entre les deux rives du Mékong. Quand il fut admis à l'hôpital de Savannakhet pour diarrhée profuse le 10 juin 1969, son état de déshydratation était déjà très grave. Il y succomba peu après son admission malgré les soins appropriés de l'hôpital. Aucun prélèvement n'avait pu être fait.

A partir de cette date, l'hôpital mixte de Savannakhet continuait à recevoir une affluence de malades diarrhéiques. Le Dr Parmentier, à son arrivée, procédait à des prélèvements de selles aux fins d'examens bactériologiques. D'après lui, parmi une vingtaine d'échantillons examinés, treize seraient positifs de Vibrio cholerae, type El Tor.

Sans tarder, le Gouvernement a pris des mesures adéquates contre le choléra : mesures de quarantaine tant intérieures qu'internationales; vaccination de masse; éducation sanitaire par affiches, journaux et radiodiffusion; déclaration et hospitalisation obligatoires de tous les cas de diarrhée; surveillance des produits consommables; contrôle des eaux potables, de la

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[1] Soumis par le Dr T. Phetsiriseng, Directeur du Service d'hygiène et de médecine préventive, Laos, 23 septembre 1969.

glace, des eaux gazeuses, des eaux de boisson et de rafraîchissements; surveillance des restaurants et cabarets; contrôle des marchés et des abattoirs; contrôle des produits alimentaires et des produits de mer; contrôle des aliments cuits et des friandises vendus par les marchands ambulants et les colporteurs.

Une équipe sanitaire a été envoyée de Vientiane pour aider les autorités civiles et militaires à combattre le fléau à Savannakhet. Cette équipe aidait à mener la campagne de masse de vaccination anticholérique, à désinfecter les maisons, à détruire les îlots insalubres, à épurer les eaux des puits, à assainir les marchés et les endroits susceptibles de garder et de multiplier les vibrions.

Depuis le 25 juin 1969, aucun autre cas de choléra, n'a été signalé. L'épidémie de choléra a été donc considérée comme complètement enrayée de Savannakhet à partir de cette date.

D'après le rapport de l'équipe sanitaire, 113 cas de choléra dont 31 hommes, 30 femmes et 52 enfants auraient été admis à l'Hôpital civil. Parmi eux, 6 cas de décès ont été observés.

A l'Hôpital militaire, on a enregistré 51 cas, dont 24 hommes, 14 femmes et 13 enfants; parmi eux, 14 cas de décès ont été signalés.

Au total, l'Hôpital mixte de Savannakhet a reçu 164 cholériques avec 20 cas de décès. Aux villages nous ne pouvons pas avoir des chiffres exacts dans la situation actuelle d'insécurité.

Les enquêtes épidémiologiques ont montré que le choléra serait importé de la rive opposée du Mékong, du côté de la Thaïlande où il sévissait depuis de longues semaines des épidémies de choléra, du type El Tor.

Il n'y avait pas de preuves bien convaincantes, mais le premier cas du paramilitaire décédé à l'Hôpital le 10 juin 1969 pouvait laisser supposer cette importation. En plus de cela, on pourrait citer les passages réguliers des populations entre les deux rives du Mékong. Cette communication fréquente se faisait en temps normal, soit pour la visite des parents et amis car les liens de parenté étaient souvent très proches entre les populations des deux rives, soit pour le commerce car les produits maraîchers de la rive thaïlandaise étaient souvent déversés sur les marchés de la rive laotienne.

Tous ces passages réguliers et communications fréquentes indiquent qu'il y a facilement transmission de la maladie.

CAMPAGNE ANTIVARIOLIQUE [1]

Le Gouvernement royal du Laos a signé le plan d'opérations pour l'éradication de la variole avec l'OMS en 1967, par lequel le Gouvernement s'engage à supporter toutes les dépenses locales (y compris celles pour le personnel), et l'OMS, à donner toute aide et assistance en vaccin, matériel et équipement.

Le Gouvernement a reçu de l'OMS :

12 voitures "Land Rover" à cinq portes,avec pièces de rechanges
4 moteurs hors-bord
3 frigidaires électriques de grand modèle
6 frigidaires électriques de moyen modèle
22 frigidaires à pétrole de moyen modèle
1 000 000 doses de vaccin antivariolique lyophilisé.

Pour l'exécution du programme, le Ministère de la Santé publique a confié le travail au Service national d'hygiène publique et de médecine préventive dont le Directeur lui-même est le Directeur du projet.

Après avoir distribué le matériel et l'équipement dans onze provinces du Royaume, à savoir : les provinces de Houakhong, Luang Prabang, Xayaboury, Vientiane, Borikhanh, Khammouane, Savannakhet, Vapikhamthong, Sédone, Champassak et Sithandone (les provinces de Sam-Neua, Phongsaly, Xieng-khouang, Saravane et Attopeu étant encore en trouble), la campagne vaccinale a débuté effectivement à partir du mois d'octobre 1968, par douze équipes mobiles composées chacune de :

3 vaccinateurs
1 enregistreur
1 chauffeur.

Chacune des provinces possède son équipe qui travaille sous la responsabilité du médecin-chef de province. Dans les zones contrôlées par le Gouvernement, l'équipe reconnaît une collaboration étroite de la population. Mais dans les fins fonds des campagnes où il existe une certaine influence de la partie adverse, l'équipe rencontre des difficultés. Des fois les

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[1] Soumis par le Dr T. Phetsiriseng

habitants refusent la vaccination sous prétexte que la variole n'avait jamais été observée dans leurs villages. De pareils incidents ont été signalés aux chaokhouèngs, chefs de province, pour remédier aux circonstances. Du mois d'octobre 1968 jusqu'à la fin du mois de juin 1969, la campagne de vaccination antivariolique a obtenu un résultat assez satisfaisant comme le montre le tableau ci-joint.

En bref, malgré les difficultés rencontrées dans les régions éloignées des zones contrôlées par le Gouvernement, la campagne antivariolique au Laos, ne peut être effectuée avec fruit que pendant certaines saisons favorables. Pendant la saison pluviale qui correspond à la saison de repiquage de riz, les habitants dont la plupart sont riziculteurs, quittent leur village pour aller s'occuper, dans les champs de riz, des travaux de rizière. De décembre à mars, ils s'absentent de nouveaux des villages pour aller s'occuper de la moisson et de la cueillette du paddy. Pendant ces mois de travail de riziculture, nos vaccinateurs risquent de ne pouvoir trouver au complet les membres des familles des cultivateurs dans leurs villages. C'est pour cela qu'il y a une grande différence entre la population visitée et le nombre des vaccinés, bien que la vaccination se pratique de porte à porte.

Pour cette année, nous avons pu visiter 697 472 habitants dont 574 687 seulement ont été vaccinés, soit un pourcentage de couverture de 82,39% de la population visitée.

En résumé, pendant neuf mois, ou à peu près 270 jours, nos 60 vaccinateurs ont utilisé 576 600 doses de vaccin antivariolique lyophilisé pour vacciner 574 687 habitants. Un vaccinateur aurait pu faire un peu plus de 40 vaccinations antivarioliques par jour. Cette moyenne générale journalière de vaccination paraît un peu basse, mais en rapport avec les caractères accidentés de certaines régions et avec les difficultés de voies de communication, sans compter les risques d'insécurité, ce chiffre paraît se justifier. Dans les régions de plaines, comme à Vientiane par exemple, cette moyenne peut s'élever jusqu'à 55 vaccinations par jour. Par contre, dans la région de Vapikhamthong où la communication se fait pour la plupart à la marche et où règnent des troubles, cette moyenne tombe à 12 vaccinations par jour.

En temps normal, j'espère que nos vaccinateurs donneront un rendement meilleur, malgré les accidents de terrain.

RAPPORT DE CAMPAGNE ANTIVARIOLIQUE
NOMBRE D'HABITANTS DES DIFFERENTES PROVINCES DU LAOS
VACCINES JUSQU'AU DERNIER JUIN 1969

PROVINCE	Nombre d'habitants visités	AGE DE 0 A 4 ANS								AGE DE 5 A 14 ANS								AGE DE 15 ANS ET PLUS			
		Primo-vaccination				Revaccination				Primo-vaccination				Revaccination				Primo-vaccination		Revaccination	
		F	Prise	M	Prise	F	Prise	M	Prise	F	Prise	M	Prise	F	Prise	M	Prise	Nombre	Prise	Nombre	Prise
Vientiane	171 945	18747	17894	19620	18532	2555	2357	2524	2320	13595	12742	12869	11970	17499	15314	17486	15123	6 454	5 913	36 092	30 448
Houakhong	57 529	5762	5037	4721	4262	1671	1288	1636	1270	9440	7691	7720	6895	2004	1855	2367	1859	14 315	11 948	6 044	3 890
Sayaboury	23 680	1356	1327	1357	1326	334	322	324	311	1000	917	1139	1004	1818	1566	3008	2375	46	44	3 544	3 082
Luang Prabang	63 207	4882	3998	4519	3625	2934	2329	2838	2265	4400	3860	5778	4735	4939	3281	4714	3815	3 996	3 114	11 608	9 184
Xiengkhouang	25 198	1789	1729	1961	1874	501	397	675	544	2865	2532	2563	2293	1981	1549	2259	1766	1 974	1 779	3 946	3 284
Borikhane	32 857	2819	2744	2300	2244	2302	2216	2193	2093	806	708	719	642	4239	3924	4966	4619	543	454	10 435	9 853
Khammouane	66 315	5083	4918	5332	5185	4127	3604	3452	3021	1751	1593	1659	1535	5460	4525	5990	5042	244	206	25 583	21 762
Savannakhet	80 271	6718	6335	6636	6060	3663	2818	3749	2823	2109	1822	2271	1861	6077	4400	7108	5181	806	580	24 585	17 026
Vapikhamthong	24 202	2154	1748	2120	1733	533	428	484	384	963	791	901	597	1813	1384	1130	912	887	721	5 541	4 615
Sedone	45 614	2593	2224	2810	2295	2968	2541	3153	2681	55	44	59	47	5689	4715	6843	5505	21	20	17 684	15 287
Champassak	69 783	6413	5680	6539	5675	803	713	901	820	3474	3004	3927	3342	4600	4127	4337	3763	4 909	3 756	7 628	6 603
Sithandone	36 871	2448	2292	2441	2198	1812	1456	1701	1356	2170	1879	1918	1691	4188	3205	4669	3732	251	211	9 263	6 867
TOTAL	697 472	60764	55926	60356	55009	24203	20469	23630	19888	42628	37583	41523	36612	60307	49845	64877	53692	34 446	28 746	161 593	131 901

Population visitée : 697 472
Total de vaccinés : 574 687
Pourcentage de couverture parmi la population visitée : 82, 39%
Vaccin antivariolique utilisé : 576 600
Vaccinateurs employés : 60

Total primo-vaccination : 239 717 Prise 213 876 = 89, 22%
Total revaccination : 334 970 Prise 275 795 = 82, 33%
Total vaccinés : 574 687 Prise 489 671 = 85, 20%

SERVICE ANTIPALUDIQUE[1]

INTRODUCTION

Par suite de l'insécurité, les activités du Service national antipaludique ont été suspendues depuis l'année 1960. A partir de cette date le service est resté en veilleuse. Le personnel dirigeant était éparpillé dans les provinces pour assurer les fonctions de médecin-chef de province. Une partie du personnel auxiliaire et subalterne était affectée dans les villages pour le programme du développement rural, patronné par l'USAID. Le personnel restant procédait à la surveillance du programme antipaludique déjà exécuté depuis 1956 dans les dix provinces suivantes du Royaume :

Houakhong
Luang Prabang
Sayaboury
Vientiane
Borikhane
Khammouane
Savannakhet
Vapikhamthong
Sédone et
Champassak.

Le principal but de cette surveillance, pratiquée sous forme de visites et de distribution de médicaments antipaludiques, était de :

- protéger les populations pratiquement accessibles contre le ravage du paludisme, contre sa recrudescence ou contre son épidémie éventuelle;
- demander la collaboration et le support de tous les services nationaux de la santé publique pour participer au maintien du même programme afin de pouvoir se relancer tout de suite à l'éradication du paludisme dès que la situation financière, sociale, politique et militaire le permettra.

Depuis la suspension de nos activités, le paludisme, maladie redoutable et meurtrière, malgré nos travaux de surveillance, a repris avec férocité dans la plupart des régions du Laos, causant d'innombrables mortalités. Le peuple lao souhaite vivement la reprise des activités de notre service aussitôt que possible pour enrayer complètement du Laos le paludisme dont il se plaint actuellement.

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[1] Soumis par le Dr T. Phetsiriseng

GENERALITES

Heureusement, grâce aux efforts du Gouvernement, l'Organisation mondiale de la Santé a envoyé au Laos à la fin de l'année 1968, des consultants paludologues à court terme, pour reprendre les études nécessaires afin de pouvoir relancer de nouveau le programme du contrôle du paludisme dans la plaine de Vientiane, en concordance avec l'exécution du plan de développement économique de cette plaine.

Un consultant en entomologie est arrivé au Laos en octobre 1968 pour un séjour de six semaines. Sa mission est de former nos techniciens pour faire des enquêtes entomologiques dans les différents villages de la plaine de Vientiane. Une équipe de cinq techniciens, formée à cet effet, continue actuellement les travaux dans les différents villages de la plaine.

Pour la reconnaissance géographique, nous avons reçu deux fois la visite d'un autre consultant en topographie, la première fois en novembre 1968 pour un séjour de quatre semaines, la deuxième fois en mars 1969, pour un séjour de six semaines. Sa mission est de former nos techniciens pour faire des levers topographiques des villages. Deux équipes de trois techniciens ont été formées pour les travaux de reconnaissance géographique.

Un consultant paludologue est arrivé en décembre 1968. Sa mission est de superviser et de diriger le programme du contrôle du paludisme dans la plaine de Vientiane, parallèlement à l'exécution du plan de développement économique de cette plaine. En attendant l'arrivée du matériel et de l'équipement technique, il continue actuellement les travaux de ses prédécesseurs.

Depuis l'arrivée des consultants de l'OMS, le service antipaludique mis en veilleuse depuis près de dix ans est quelque peu ranimé à Vientiane. Sous la conduite d'un Chef de la Division antipaludique et de son conseiller technique, le Dr Di-Io-Rio, plus de trente techniciens et employés travaillent actuellement pour le contrôle du paludisme dans la plaine de Vientiane.

ETAT ACTUEL DU PROGRAMME

En ce qui concerne les activités, depuis le commencement de l'année 1969, le service antipaludique a procédé à de nombreuses enquêtes entomologiques dans les différentes régions de la plaine de Vientiane.

Aux environs de la capitale, nous avons trouvé treize espèces d'anophèles. Ce sont A. aconitus, A. annularis, A. argyropus, A. hyrcanus, A. indiensis, A. maculatus, A. nigerrimus, A. peditaeniatus, A. philippinensis, A. ramsayi, A. sinensis, A. vagus et A. subpictus.

Dans le casier sud de la plaine de Vientiane, l'enquête a été entreprise au district de Saïfong où neuf espèces d'anophèles ont été identifiées. Ce sont A. aconitus, A. annularis, A. barbirostris, A. maculatus, A. philippinensis, A. sinensis, A. vagus, A. culicifacies (larve) et A. hyrcanus.

Dans le casier nord, l'enquête a été menée dans le district de Phone-Hong, juste dans la région du barrage de la Nam-Ngum, où vingt espèces d'anophèles ont été capturées. Ce sont A. minimus, A. balabacensis, A. aconitus, A. annularis, A. barbirostris, A. barbumrosis, A. culicifacies, A. jeyporensis, A. hyrcanus, A. indiensis, A. karwaris, A. kochi, A. maculatus, A. nigerrimus, A. philippinensis, A. ramsayi, A. sinensis, A. splendidus, A. tessellatus et A. vagus.

L'enquête a été poussée plus loin dans les régions montagneuses du Muong de Vangvieng où nous avons pu capturer huit espèces d'anophèles. Ce sont A. minimus, A. aconitus, A. kochi, A. peditaeniatus, A. sinensis, A. vagus, A. culicifacies et A. pallidus.

Jusqu'ici, au Laos rien que dans la plaine de Vientiane nous avons trouvé 24 espèces d'anophèles dont les A. minimus et A. balabacensis seulement sont accusés de la transmission du paludisme.

En reconnaissance géographique nos techniciens ont procédé au lever topographique des différents villages où des enquêtes entomologiques ont été faites. Plus de 50 cartes schématiques des villages ont été dressées jusqu'à présent.

Dans la région du barrage de la Nam-Ngum, où au mois de mai dernier, une pulvérisation au DDT a été faite dans les camps des travailleurs et dans les villages environnants, dans un rayon de 5 km du barrage, nous avons procédé à un prélèvement des échantillons de sang au mois de juillet, c'est-à-dire, un mois après la pulvérisation au DDT. Parmi les 389 lames de sang prélevé chez les travailleurs et leurs familles, nous avons trouvé 40 échantillons positifs de P. falciparum et 19 positifs de P. vivax. Le tout fait un pourcentage positif de 15,16% des échantillons de sang examinés.

Parmi les 1126 échantillons de sang prélevés chez les habitants des villages environnants, il y a 138 échantillons positifs de P. falciparum, 170 positifs de P. vivax, 1 positif mixte de P. falciparum et de P. vivax et 12 positifs de P. malariae. Le tout fait un pourcentage positif de 28,50%, beaucoup plus élevé que chez les travailleurs logés dans les camps construits dans les terrains nouvellement défrichés, près du barrage.

Au cours des mois à venir, nous envisageons des enquêtes dans les districts de Thourakhom, Phanthaboun et Naxaythong du casier nord, dans les districts de Xaythany et Thadeua du casier sud.

ORTHOPEDIE[1]

Le centre d'orthopédie est un centre qui est destiné à la réadaptation des diminués physiques.

Au Laos, ce centre était créé en 1964 et n'était doté uniquement de la section d'appareillage qui était dirigée par un personnel local assisté d'un expert de l'assistance technique des Nations Unies.

Ce n'était que vers le deuxième semestre de 1967 que d'autres services étaient mis sur pied, à savoir :le service de physiothérapie et le service poliomyélitique pour lesquels était affecté un expert de l'OMS pour la kinésithérapie.

En somme, pour le centre d'orthopédie, nous avons deux programmes : le programme d'assistance technique des Nations Unies pour l'appareillage des invalides et le projet Laos 0018 de l'OMS pour la réadaptation des diminués physiques proprement dite.

I. Activité au cours de l'année budgétaire 1968-1969

1. Service d'appareillage

- 362 invalides appareillés au cours de l'année
- création d'un cours de formation de prothésistes-orthésistes avec 14 élèves dont six sont diplômés des collèges techniques.

2. Service de physiothérapie

- 202 traumatisés ont été traités dans le centre au cours de l'année,
- création d'un cours de formation de kinésithérapeutes avec 15 élèves (entrés en première année).

3. Service de poliomyélitiques

- 117 enfants polios en traitements dont cinq seulement ont été appareillés,
- création d'une salle de classe pour l'enseignement primaire aux enfants qui sont en traitement au centre.

II. Besoins

Ces besoins ont été transmis par la lettre N° 344/cab/ACOVIG du 10 mars 1969 par Monsieur le Secrétaire d'Etat aux Anciens Combattants et Victimes de la Guerre, à savoir :

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[1] Soumis par le Dr Khamsay

- une allocation de fonds pour deux bourses d'études de douze mois en 1972 dans le but d'élever la capacité professionnelle des étudiants en kinésithérapie,

- une allocation de fonds pour une bourse d'études de trois ans pour un technicien d'appareil orthopédique également pour 1972,

- un véhicule microbus pour le transport des enfants poliomyélitiques et pour l'usage du personnel du projet. Ce besoin en véhicule est immédiat.

A ceci il faudrait encore ajouter la demande d'un autre expert en appareil d'orthèse pour être professeur au cours de formation de prothésistes-orthésistes et pour appareiller les 117 enfants polios qui sont actuellement en traitement au centre.

Pour la réalisation de ces projets il est absolument nécessaire que tous les postes d'expert soient maintenus jusqu'à la fin de 1972.

PHTISIOLOGIE[1]

I. Consultation des malades externes

La consultation des malades externes fonctionne jusqu'à 10 heures du matin. Nous n'avons pas ici une politique définie à l'image de celle d'un service de médecine générale, alors qu'elle devrait jouer le rôle d'un dispensaire antituberculeux. C'est pourquoi il n'y a seulement 20 consultants en moyenne par mois. Il faut dire d'autre part que le service est très peu connu.

II. Soins donnés aux malades hospitalisés

Le service a actuellement 30 lits.

Ici aussi, devrions-nous hospitaliser seulement les tuberculeux ou devrions-nous également hospitaliser les patients d'autres pneumopaties? C'est la dernière ligne de conduite que nous avons adoptée jusqu'à présent. C'est ainsi que nous avons hospitalisé du 1er juillet 1968 au 30 juillet 1969, 145 malades dont 97 tuberculeux seulement.

III. Activités du "follow-up"

a) Distribution des médicaments : la distribution des médicaments est faite pour les malades traités ambulatoirement et pour les post-hospitalisés seulement.

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[1] Soumis par le Dr K. Souvannavong

b) Visite à domicile : la visite à domicile est faite uniquement pour les malades qui ne viennent pas chercher leurs médicaments après un délai de 20 jours. Elle est faite par deux infirmières non spécialisées car elles participent activement aux activités habituelles et quotidiennes du service. Ces infirmières sont dotées d'une mobilette Suzuki 50-dame chacune. La moitié des patients visités sont introuvables, soit parce qu'ils ont changé d'adresse sans le signaler, soit parce qu'ils ont donné une fausse adresse. Un tiers des malades retrouvés revient à la consultation.

IV. Médecine préventive

La vaccination par le BCG est pratiquée par notre service le 15 de chaque mois. L'affluence reste la plupart du temps faible.

Une de nos infirmières participe de temps à autre aux séances de médecine préventive avec le dispensaire mobile de la PMI, dans les faubourgs de la ville. La vaccination par le BCG sur une plus grande échelle, partiquée sur les enfants d'âge préscolaire et scolaire, est faite uniquement par la PMI. Nous n'avons aucune participation active.

V. Projets et suggestions

Ils sont bien connus et dépassent le cadre du service de phtisiologie de l'Hôpital Mahosot (voir projet pour le plan cadre 1969-1970 et projet présenté en 1968 à l'occasion de la visite du Dr Tao, expert de l'OMS).

Comme la tuberculose est une maladie sociale à l'incidence économique importante et certaine, elle doit être combattue sur un plan plus vaste, à l'échelon national.

STATISTIQUES HOSPITALIERES[1]

Un service des archives médicales a été créé à l'Hôpital Mahosot (272 lits) dans le but de l'utiliser comme centre de démonstration et de formation pour le personnel des archives hospitalières. Il est prévu de créer un service analogue dans chacun des hôpitaux des chefs-lieux de province, après formation préalable du personnel nécessaire. Des fiches et formulaires ont été imprimés et les méthodes mises au point. Un recensement quotidien est obtenu et des statistiques mensuelles de morbidité et d'activité sont fournies. Trois personnes ont été formées pour le codage des diagnostics d'après la huitième révision de la classification internationale des maladies. Il est envisagé de les former également pour le codage des interventions chirurgicales suivant la classification internationale des opérations. Il est maintenant possible de retirer instantanément l'ancien dossier d'un malade quelconque classé au bureau du service.

En étroite coopération avec le projet OMS de développement des services de santé, des formulaires ont été dessinés, et des méthodes d'enregistrement étudiées pour le centre de santé de Sikhay qui servira de centre de démonstration et de formation du personnel sanitaire. Il est prévu d'étendre progressivement ces méthodes aux centres de santé et dispensaires de la plaine de Vientiane. Une assistance a été fournie au même projet à l'échantillonnage pour une enquête sur l'assainissement du milieu.

Demandes et suggestions

1. Le service des archives médicales de l'Hôpital Mahosot n'est pas en mesure de s'acquitter de ses fonctions. Comme il n'y a que deux employés qui y travaillent, ils ne peuvent pas faire face à l'énorme volume de travail qui s'y impose. Il est donc indispensable d'affecter trois autres fonctionnaires supplémentaires au bureau pour répondre aux besoins. Ceci a été instamment recommandé par le Dr Quo, expert de l'OMS, consultant du service.

2. Il convient de fournir une machine à écrire à grand chariot en vue de permettre de taper les tableaux statistiques et les rapports journaliers, mensuels et annuels.

3. Comme le Dr Phoxay partira pour la France à la fin de septembre 1969 comme boursier de l'OMS pour une période de un an, il y a lieu de désigner un remplaçant afin d'assurer la continuité de l'activité du projet.

4. Le Dr Quo qui a harmonieusement collaboré avec nous, partira également au mois de septembre 1969 à la fin de son affectation au Laos. Il est donc nécessaire de demander auprès de l'OMS une prolongation de sa mission pour que nous puissions continuer de profiter de ses expériences.

PROTECTION MATERNELLE ET INFANTILE[1]

I. Réalisation du projet 1969

1.1 Création des deux centres provinciaux : un à Houei-sai et un à Khongsédone (en cours de réalisation).

1.2 Aménagement du sous-centre de Sikhay (Vientiane) en centre de santé pilote.

1.3 Renforcement du service de supervision du personnel afin d'améliorer la qualité de leur travail de routine.

2. Formation du personnel :

2.1 Dans le pays : - cours de formation des élèves sages-femmes auxiliaires (deuxième année au nombre total de 52 dans les quatre centres de formation)

[1] Soumis par le Dr Khamsone

- cours de perfectionnement des infirmières de PMI à Vientiane (12 stagiaires)

- cours de perfectionnement des infirmières en chef et des infirmières surveillantes (durée : trois mois pour 12 stagiaires), à Vientiane.

A l'étranger : NEANT

II. Projet restant à réaliser (1969-1970)

1.1 Développement des activités de PMI

- Création des deux centres provinciaux (Sayaboury et Paksane)

- Développer d'autres centres de santé dans les différentes provinces

- Continuer à améliorer des activités de routine de PMI

1.2 Formation de personnel

- Cours de sages-femmes auxiliaires (première année)

- Cours de perfectionnement de PMI

- Perfectionnement du personnel à l'étranger

III. Observations et suggestions sur le projet

Près du terme de son programme d'assistance au projet PMI (1969) l'OMS nous a permis de mettre en marche des activités de PMI dans l'ensemble du pays d'une façon appréciable. Il nous a formé les responsables de l'administration et de l'organisation des centres de PMI et des monitrices nécessaires du personnel. Notre personnel, en particulier les homologues nationaux ont beaucoup profité des connaissances techniques et pratiques au cours de la réalisation du programme. Mais il nous reste encore beaucoup à faire pour le développement ultérieur de notre service. Ainsi, il sera nécessaire de retenir les recommandations suivantes :

1. Après la fin de l'assistance de l'OMS au projet de PMI (1970), demander à un médecin ou une infirmière de santé publique d'assister le personnel national pour continuer la bonne marche du programme.

2. Demander périodiquement des conseils techniques pour le développement du programme de PMI intégré dans d'autres projets de santé publique.

3. Demander des bourses d'études pour le perfectionnement des responsables du service de PMI à l'étranger.

4. Demander au FISE, avec l'appui de l'OMS, de poursuivre son aide au projet de PMI, car notre service dépend beaucoup de l'assistance du FISE pour son développement ultérieur.

ORIGINAL: ENGLISH

MALAYSIA
BRIEF REPORT ON THE PROGRESS OF HEALTH ACTIVITIES[1]

I. WEST MALAYSIA

1. INTRODUCTION

West Malaysia comprises the eleven States of the former Federation of Malaya. It is 51 000 square miles and the temperature ranges from 70°F to 90°F. The relative humidity is generally high. The average annual rainfall is between 120 inches and 160 inches. In 1967 the estimated mid-year population was 8 787 103 of which, about 44% is under 14 years old.

2. PUBLIC HEALTH ADMINISTRATION

At the turn of the century, almost all the medical and health services were provided by Government. This accidental monopoly was, however, diluted by the setting up of estates and mines hospitals by the rubber and mining industries. In recent years a few private hospitals were established by missionary bodies and other organizations.

Until 1932, the Government Health Services were divided into two departments, one being maintained by the Federated Malay States (Perak, Selangor, Negri Sembilan, Pahang) and the Unfederated Malay States (Johore, Kedah, Perlis, Kelantan, Trengganu), and the other by the Straits Settlements (Penang, Malacca). In 1932 the two services merged with a common professional head acting executively as "Director" in the Straits Settlements and in an advisory capacity as "Adviser" to the various Federated and Unfederated Malay States. In 1948, the Federation of Malaya Agreement decentralised control to an extent where, excepting for some federal institutions such as mental hospitals and leprosaria, the executive control over the service became fundamentally a State matter. In 1957, with the declaration of Independence, health became a Federal matter, except for certain preventive measures in the Municipalities and other Local Authority Areas. On the formation of Malaysia in 1963, health in Sarawak became a Federal matter whilst in the State of Sabah it remained a State matter. (Annex I - Organization Chart).

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[1] Submitted by the Ministry of Health, Malaysia, 20 August 1969.

3. GENERAL HEALTH SITUATION

The general health of the population continues to improve and except for outbreaks of Cholera (El Tor) in 1968 and in April 1969, the country has been free from other quarantinable diseases.

4. POPULATION AND VITAL STATISTICS

The rate of natural increase is gradually declining. Crude mortality and other mortality rates are steadily declining and the figures for 1967 show an all-time low rate.

TABLE 1 - POPULATION, RATE OF NATURAL INCREASE, CRUDE BIRTH RATE, CRUDE DEATH RATE AND CRUDE MORTALITY RATES

Year	Population (mid-year)	Rate of Natural Increase	Crude Birth Rate	Crude Death Rate	Crude Mortality Rate			
					Neo-Natal	Infant	Toddler	Maternal
1957	6 278 758(C)	33.7	46.2	12.4	30	76	11	3.2
1958	6 498 758	32.3	43.3	11.0	32	80	9	2.8
1959	6 697 827	32.4	42.2	9.7	29	66	8	2.1
1960	6 909 009	31.4	40.9	9.5	30	69	8	2.4
1961	7 136 804	32.7	41.9	9.2	29	60	8	2.0
1962	7 377 280	31.0	40.4	9.4	31	60	8	2.3
1963	7 610 843	30.5	39.4	9.0	29	57	7	2.2
1964	7 813 769	31.1	39.1	8.1	25	48	6	2.1
1965	8 039 030	28.8	36.7	7.9	26	50	6	2.03
1966	8 297 849	29.7	37.3	7.6	25	48	5	1.79
1967	8 787 003	27.8	35.2	7.5	N.A.	N.A.	N.A.	N.A.

(C) = Census. N.A. = Not available.

5. DEVELOPMENT PLANS

The First Five-Year Development Plan (1956-1960), was framed before Independence. It provided for modest expansions to be made to the medical, health and dental services. In the Second Five-Year Development Plan (1961-1965), however, expansions on an unprecedented scale were made to these services and every emphasis was placed on the

health needs of the rural population. This emphasis has been continued in the First Malaysia Development Plan (1966-1970). By the end of 1968, the cost of expansion of the services amounted to M$198.88 million. In 1969 a sum of M$35 million has been allocated for further development and improvement of the medical, health and dental services.

6. PUBLIC HEALTH

6.1 Rural health service

About 60% of the population live in the rural areas of the country. On Independence more than 70% of the medical and health services were concentrated in the urban or semi-urban areas. It was therefore obvious that many attempts to improve the health of the nation would depend on drastic improvements of the health services in the rural areas where most of the health problems exist. The main programme in the promotion of health and sanitation in the rural areas was through the Rural Health Service, which involved the building of an effective net-work of health centres, sub-centres and midwives clinics. These facilities provide both preventive and curative services, including dental care and maternal and child health care. The following table shows the progress made in the implementation of the Rural Health Service:

TABLE 2 - PROGRESS IN THE BUILDING PROGRAMME OF MAIN HEALTH CENTRES, SUB-CENTRES AND MIDWIVES CLINICS

Category	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969 (June)	Total
Main Health Centre	8	-	-	-	1	12	15	2	1	-	-	-	2	41
Health Sub-Centre	-	1	-	7	3	39	52	5	15	13	4	12	8	159
Midwives Clinic	-	-	-	26	29	318	67	122	81	21	39	78	52	833

More than 3.5 million rural people now enjoy the benefit of a basic preventive and curative service. In addition there are 194 mobile dispensaries operating in areas not yet covered by this scheme.

Increased care for the rural people is reflected by the increasing work-load of those units as shown below:

TABLE 3 - ATTENDANCES AT HEALTH CENTRES, ETC., HOME VISITS AND HOME DELIVERIES

	1960	1961	1962	1963	1964	1965	1966	1967	1968
Total Attendances at Health Centres	5136336	5114419	5682426	6661069	6721261	6969894	6768719	7011587	7554085
Home Visits	843073	941819	961360	1137037	1292164	1484767	1480360	1630781	1819650
Home Deliveries	44759	50119	53246	59436	62561	64555	68105	68009	71658

6.2 Public health programmes

6.2.1 Quarantinable diseases

In 1968 sporadic outbreaks of Cholera El Tor occurred in the States of Perlis, Kedah, Penang, Selangor and Johore and the number of cases totaled 15. In 1969 cases of Cholera El Tor were reported in the State of Kelantan and up-to-date a total of 62 cases including 5 deaths were recorded. The outbreak has been contained and well under control and if no further cases are reported the whole State of Kelantan is soon expected to be declared free from cholera.

6.2.2 Tuberculosis

The National Tuberculosis Control Programme which commenced in 1961 is now fully operational. Sixty Chest Clinics with ward facilities have been established throughout the country.

The components of the Control Programme are -

a) The Training Programme to train different categories of technical personnel sufficient in numbers for the country-wide control campaign has progressed satisfactorily and some 1940 personnel have been trained;

b) The BCG Vaccination Programme to protect the susceptible members of the population against tuberculosis has reached the 2.4 million mark by May 1969;

c) The Case-finding Drive using mass miniature X-ray units followed by bacteriological examination of sputum has yielded a case-load of some 13 040 active cases in 1968. In all some 2 million persons have been X-rayed.

Since the launching of the campaign, there are definite indications that the incidence of tuberculosis is on a downward trend.

6.2.3 Malaria

The National Malaria Eradication Programme has been approved by Government and in the 4th Quarter of 1967, the preparatory phase in Zone I, comprising of the north-western States of Perlis, Kedah and Penang had been completed and it is now in the attack phase. In the meantime, work on the preparatory phase in Zone II is proceeding and before the year is out, it is hoped that about 25% of the population will come under the attack phase.

6.2.4 Yaws

Satisfactory progress is being made in this programme and systematic surveys to eliminate the disease continues.

6.2.5 Filariasis

Regular evaluation of the control campaign has reduced many of the weaknesses in the programme which is now proceeding satisfactorily. It is hoped that the population at risk, now living in all known endemic areas will be covered by this programme.

6.2.6 Leprosy control

Planning for a National Control Programme has been completed and the programme was launched in 1968. In the control programme, emphasis will be placed on early ambulatory treatment of the disease through an active case-finding scheme. Institutional treatment will be restricted to admission of infectious cases for a limited period to render the cases non-infectious and those requiring re-constructive surgery. The Central Leprosy Registry has been established and four skin clinics have started in priority areas where the incidence of the disease is high. More skin clinics with adequately trained staff will be opened as the programme gathers momentum.

6.2.7 Other communicable diseases

The incidence of communicable diseases which are endemic in the country does not pose a serious public health problem. (See Annex II).

6.3 Immunisation programme

Immunisation against smallpox, diphtheria, tetanus and pertussis is routinely performed by every health centre and clinic. A total of 216 011 primary vaccinations were performed in 1968. Some 133 059 children completed their course of Triple Antigen or Double Antigen out of a total of 206 605 children who had their first dose of the inoculation.

6.4 Environmental sanitation

The eleven sanitation pilot projects, one in each State, are progressing satisfactorily. Active community participation has been most encouraging and the radiating influence around these project areas is progressively enlarging. Safe and permanent water supplies through tube wells are being installed in these areas. Sanitary disposals of human and domestic wastes are being encouraged. These areas are used for demonstration as well as training areas for public health workers and interested members of the community. Every assistance and encouragement are being given to the setting-up of privately-owned workshops for the manufacture and sale of latrine bowls and superstructure and concrete rings for well construction.

6.5 School health

A joint School Health Committee with the Ministry of Education has been set up to look into the health problems of school children which number no less than 1.5 million. Base-line data is being collected before the School Health Programme is launched.

6.6 Health planning

Serious consideration is being given to the setting-up of a Health Planning Unit in the Ministry Headquarters and assistance is being sought from WHO to provide a consultant to advise on its establishment. In the meantime, an Operation Research Team comprising of two Medical Officers of Health, a Dental Officer, a Public Health Sister and a Public Health Inspector with the assistance of two WHO advisers are making an assessment of the Rural Health Service in relation to planning in three selected pilot areas.

7. MEDICAL CARE

Every existing hospitals in the country have been renovated and expanded and ancillary departments have been enlarged to cope with the ever-increasing demand for medical care. This demand is increasing not only because of the increasing population but also due to more and more people taking to modern medical treatment.

The overall bed capacity of Government hospitals has increased from 20 337 in 1957 to 28 016 by the end of 1968.

Demand for medical attention is still on the increase and has almost doubled since 1957 as shown in Table 4.

TABLE 4 - HOSPITAL ADMISSION AND ATTENDANCES AT OUT-PATIENTS DEPARTMENTS

	1957	1967	1968
Hospital admissions	271 490	450 873	491 653
Hospital out-patient treatment	3 281 966	5 461 471	5 915 757

Besides Government hospitals, there are industrial and private hospitals and maternity homes with a total bed-complement of 5797 which handled 110 396 in-patients and 1.08 million out-patients during 1967.

8. DENTAL SERVICE

Like the medical and health service, the dental services are being expanded primarily into the rural areas. Of the 450 dental clinics 60 per cent is in the rural areas. Consequent to the increase in the number of dental clinics, attendances have also increased as follows -

TABLE 5 - NUMBER OF DENTAL CLINICS AND CLINIC ATTENDANCES

	1960	1961	1962	1963	1964	1965	1966	1967	1968
No. of Clinics	146	230	267	269	287	322	395	427	450
Total Attendances	655140	754896	851168	849670	928118	1032040	1131683	1169608	1425443

9. TRAINING PROGRAMME

Training programmes have been expanded pari pasu with the expansion of the medical and health service. The staffing position of auxiliary medical and health workers has improved considerably but the country still faces an acute shortage of doctors, dental surgeons and pharmaceutical chemists.

The Faculty of Medicine which was established in 1963 produced its first batch of 61 doctors this year. Active consideration is being given to the early establishment of a dental school so that a permanent solution will be found for the acute shortage of dental surgeons.

10. ACKNOWLEDGEMENT

The Government of Malaysia wishes to place on record its appreciation of the many and varied technical assistance by way of consultants, equipment and scholarships made available by WHO, UNICEF and friendly foreign governments for the various public health programmes and in the training of local officers.

II - SARAWAK (EAST MALAYSIA)

1. During 1968, the development of medical and health facilities continued in the State of Sarawak, within the General Estimates of Expenditure and also as part of the Development Estimates in the First Malaysia Plan.

1.1 Building programme

This caters for new buildings including hospitals, dispensaries, clinics, medical stores and a variety of other medical buildings and institutions. All such buildings are constructed under the First Malaysia Plan.

1.2 Public health projects

Briefly these are the Sarawak Malaria Eradication Project, Tuberculosis Control Project, Rural Health Improvement Scheme and School Dental Service. The latter two projects are covered by funds provided under the First Malaysia Plan.

1.3 Training

In order to keep pace with the extension of medical and health facilities in the State, the training of different categories of staff has been continued within Malaysia and also overseas.

2. BUILDING PROGRAMME

2.1 State hospital

This forms the main item in the First Malaysia Plan and a sum of 20.1 million dollars has been approved for the construction of the first and second phases of the hospital before the end of 1970. This new hospital will contain 567 beds when completed and it will serve as a base hospital with specialist facilities for the whole State. Unfortunately, the construction of the hospital has been slower than anticipated and it is now expected that the first phase will be completed during mid-1970.

This hospital has been designed by a firm of Australian hospital architects whose services were provided partly as Colombo Plan Aid by the Australian Government. The same firm has been retained as consultants to supervise the construction of phase one of the building.

2.2 Local hospitals

One new 25-bed local hospital was opened at Bintulu in the Fourth Division during the year. Work continued on another 25-bed local hospital at Lawas in the Fifth Division while tenders were being called for the construction of a third local hospital at Mukah in the Third Division. These hospitals are being built to serve the needs of the people living in the rural areas, where access to a divisional hospital is difficult.

2.3 Dispensaries

During 1968 three replacement static dispensaries were completed at Bau in the First Division, Nanga Budu in the Second Division, and Nanga Entebai in the Third Division. In addition a sub-dispensary was completed at Nanga Jagau, and a travelling dispensary established in Mukah District, both in the Third Division.

2.4 Miscellaneous building

Nineteen rural health sub-centres were completed for the Rural Health Improvement Scheme during the year, in the various divisions as follows: I (3), II (5), III (7), IV (2), V (2). The tender for the medical store and salt iodisation plan was accepted before the end of the year, while the plan for the mental health unit was being finalised. Plans for the nurses hostel and training school were also under scrutiny at the end of 1968.

3. PUBLIC HEALTH PROJECTS

3.1 Malaria eradication

With regard to the public health projects, the main one is still the Sarawak Malaria Eradication Project which commenced as a control project in 1954, and was converted to an eradication project in 1960/1961. By 1968, the project had reached the stage where malaria had been eradicated completely from areas containing about 50% of the population in the State, while another 38% of the population were living in areas where malaria was no longer a common disease. The remaining 12% of the population were living in areas situated along the land border of Sarawak mainly in the first and second divisions where the risk of infection is still high. The project has had a remarkable effect on the economy of the State, having reduced the overall incidence of the disease from the previous figure of 10 to 15% to the present figure of 0.3 to 0.4%. Malaria is a disease which is now seldom seen in any hospital ward in Sarawak. The project receives assistance from the World Health Organization and from UNICEF.

3.2 Tuberculosis control

The Tuberculosis Control Project is a more recent programme than the malaria programme, having started in 1960 with Colombo Plan Aid from Australia. At first it operated only in the urban areas in Kuching and Sibu. However between 1964 and 1966 the project was extended to cover all five divisions in the State, and since 1966 the work has been extended more into the rural areas of the State. During 1968 a mass BCG campaign commenced in all five divisions of the State, so as to ensure that the maximum number of persons up to

the age of 18 years was protected against tuberculosis. This programme was expected to continue as part of the Tuberculosis Control project into 1969. It is due to be completed during the latter half of 1969.

3.3 Rural health improvement

The Rural Health Improvement Scheme commenced in 1963 and has undergone considerable expansion. The main object of the scheme is to train suitable personnel to carry out environmental sanitation work and health education in the rural areas of Sarawak. Such personnel also work in areas closely associated with land development and resettlement schemes. During 1968 a further batch of 5 rural health supervisors were under training. A total of 39 are working in all five divisions in the State. During the year greater emphasis was placed on the provision of rural water supplies in villages. The scheme receives assistance from the World Health Organization and from UNICEF.

3.4 School dental service

The School Dental Service continued to expand in the State during the year, following the return of 10 school dental nurses who completed their training in Penang. The total number of school dental clinics in Sarawak is now 27, manned by 37 school dental nurses. Aid is received from UNICEF.

3.5 Maternal and child health service

This service is run by the various local authorities in the State, though the training of midwives is carried out by the Medical Department in Sibu. The department is also responsible for supervising the work of the midwives and advising the respective councils as and when necessary. This service continues to receive assistance from UNICEF through the Medical Department.

4. TRAINING

All medical development projects need to be staffed by trained personnel of various categories. This aspect of development has not been neglected in Sarawak, and every effort has been made to ensure that the training of all categories of medical staff keeps pace with the general expansion of medical and health facilities in the urban and rural areas of the State.

Training of nurses in the Kuching General Hospital is recognised by the General Nursing Council of England and Wales. During 1968 it was therefore decided that student nurses should receive all their training in this hospital. As already stated, the training in rural midwives is carried out in Sibu while the training of student nurse-midwives takes place in the General Hospital, Kuching, the training

periods being two years and one year respectively. A total of 16 pupil midwives and 21 student nurse-midwives completed their training during the year. In addition 23 nurses, 7 hospital assistants and 8 psychiatric nurses/hospital assistants completed their training during the year.

The department has also arranged training courses during 1968 for the following categories of staff:

(a) Laboratory Technician - three years

(b) X-ray Technician - three years

(c) Hospital Dispenser - three years

(d) Health Inspector - two years in-service training (arranged in conjunction with the Health Department of the Kuching Municipal Council) followed by a one-year course at the Public Health Institute, Kuala Lumpur.

(e) Assistant Health Visitor - two months

(f) Malaria Microscopist - six months

(g) Rural Health Supervisor - nine months

(h) Other categories of malaria project staff - two weeks to two months.

III - SABAH (EAST MALAYSIA)

1. GENERAL INTRODUCTION

Medical and health activities are a State matter under the control of the State Minister of Health who is responsible to the State Cabinet on policy matters and administered by the Director of Medical Services.

For administrative purposes the State is divided into 8 medical areas corresponding in area to the residencies and main districts. In the 3 main residencies in Kota Kinabalu, Sandakan and Tawau, major hospitals offering specialist facilities are available while in the remaining 5 medical areas Cottage Hospitals exist providing facilities for routine hospital treatment and emergency treatment. A gradual move towards the integration of all aspects of preventive and curative medicine in all these areas is under way.

The annual budget for the Medical Department is approximately $14 million. The total establishment numbers over 3000. However, it has not been possible to fill all vacancies in the establishment due to a lack of suitably qualified personnel and in the higher echelons of the service it has been necessary to depend heavily upon recruitment from abroad.

2. DEVELOPMENT AND TRAINING

In 1966 the State entered into a major development programme, incorporated into the First Malaysia Plan, costing over M$20 million. In 1968/69 sees the State half way through this programme with major developments in the rural health services. The Plan aims at the provision of 1 Cottage Hospital for every 20 000 population, 1 Dispensary for 12 000 and 1 Village Group Sub-Centre for every 2000 of population.

A training programme was also drawn up to cope with the increased staff required by the increased pace of development. Certain categories of staff, namely, Medical Officers, Sister Tutors and Nurse Tutors, Public Health Inspectors (Sanitarians), Radiographers and Dispensers receive their training outside the State while within the State, Nursing Schools have been established to train nurses to the level of State Registered Nurse recognised by the General Medical Council of Great Britain. The number of nurses qualifying from the Queen Elizabeth Hospital School of Nursing is 50 per year. A two-year training school for the training of Assistant Nurses (State Enrolled Nurses) is conducted at the Duchess of Kent Hospital, Sandakan. The annual number of nurses trained by this school is 30. In addition another 30 nurses are trained at the Rural Health Nurses Training School in Papar for the rural health in maternal and child health services. Training of Laboratory Technicians is also undertaken in the State.

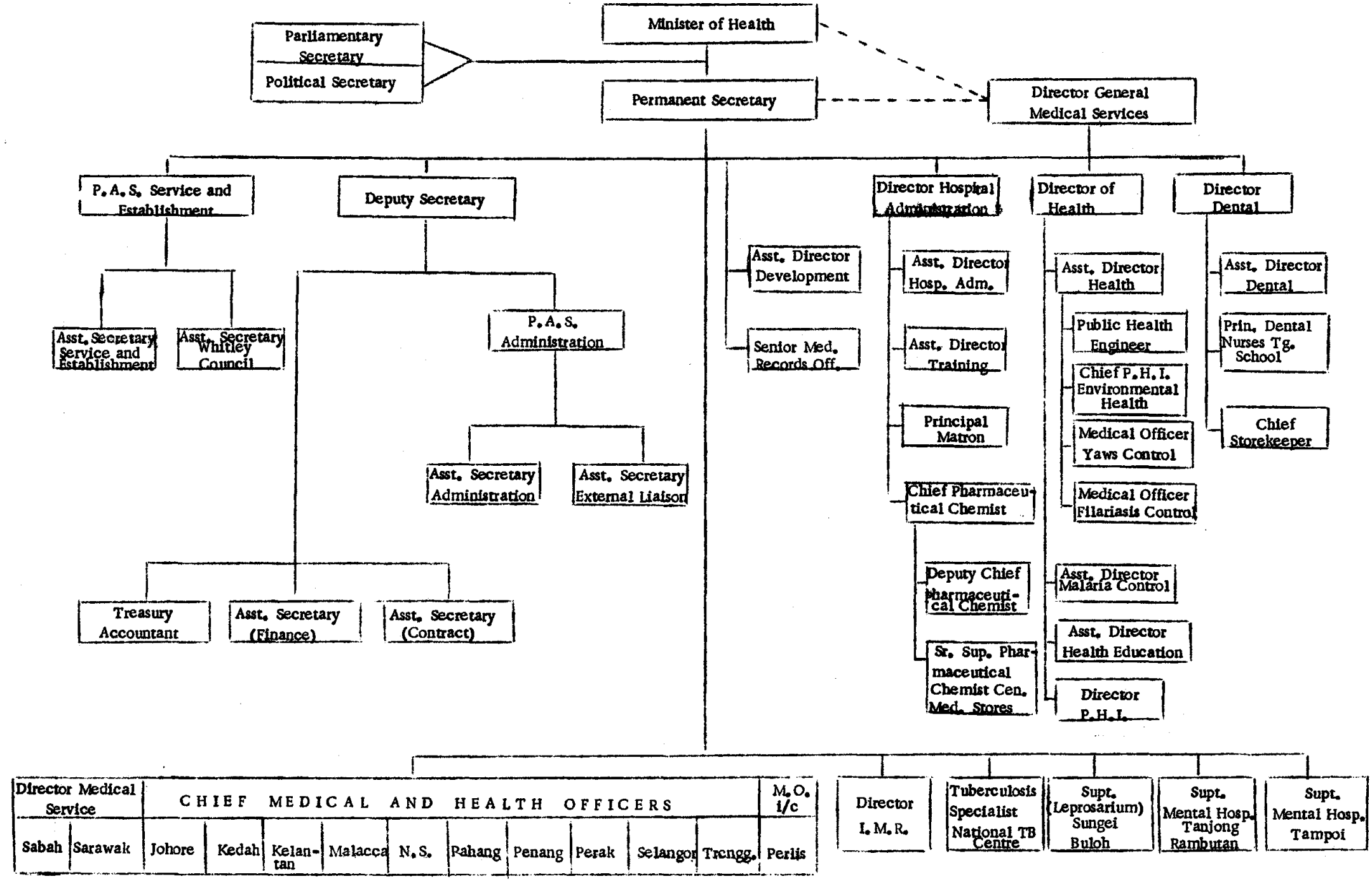
3. CURATIVE AND PREVENTIVE HEALTH SERVICES

The curative services in the State in 1968 provided a total of 1238 hospital beds throughout the State for a population of 600 000. The most common causes of mortality in the State are pulmonary tuberculosis, gastro-enteritis followed by carcinoma.

At the present moment there are two important mass campaigns under way in the State. These are the Malaria Eradication Programme and the Tuberculosis Control Programme. The Malaria Eradication Programme now covers the entire State and has succeeded in reducing considerably the incidence of malaria. There remain, however, certain areas in the State where the interruption of malaria transmission has not been successful due to poor communications and resistance of the local population to further spraying. The Tuberculosis Control Programme also covers the entire State and in the remote areas greater emphasis is now being placed on detection of cases by sputum examination and by immunisation of children without prior Mantoux testing. There has been a noticeable decrease in the incidence of tuberculosis in the more populated areas of the West Coast and tuberculosis meningitis which was relatively common is now seldom seen.

ANNEX I

ORGANIZATION CHART - MINISTRY OF HEALTH



In the field of maternal and child welfare attendances at clinics continue to grow. An extensive immunisation programme of pre-school and school children is carried out by the staff of this service. It has not as yet been possible due to lack of staff to introduce a well organized school health service but the rudiments of school health service in the presence of a school visiting programme do exist in the State.

As mentioned earlier it is the policy to integrate the preventive and curative services and this is gradually being brought about but the main obstacle to this is again a lack of suitably qualified and experienced staff.

4. DENTAL SERVICES

The general dental services staffed by dental officers try to provide treatment to all members of the community. Relief of pain and control of infection and treatment of any other emergency cases are provided to anybody who attends the clinics. Because of the shortage of staff, and very high prevalence of dental caries and periodontal diseases comprehensive dental treatment is given to only a section of the population.

A survey of dental and periodontal diseases was conducted by members of the Dental Department among the primary and secondary school children in Kota Kinabalu. The statistics so far showed a very high incidence of caries and periodontal diseases among the school children. Preventive measures such as flouridation of water supply and proper dental health education are under consideration by the State.

Two new school clinics were established in 1968, one in Sung Siew Primary School, Sandakan, the other in the Rural Health Nurses Training Centre, Papar. These are run by school dental nurses. Two modern dental clinics are being built in Kudat and Keningau, and are expected to be in operation by the end of 1969. Two new units are installed in the Sandakan Dental Clinics. These are completed with the latest equipment and appliances.

There are 14 school dental nurses (including the dental nurse inspector) in the State. They are stationed in clinics in primary schools, except 6 of them who are stationed in health centres. The nurses in the school provide treatment to the primary school children of the respective schools. Those nurses in the health centres provide treatment to pre-school children as well.

Although there is no direct supervision by the dental officers (again the shortage of staff), these nurses generally maintain a very high standard in their conservative treatment. Under proper organization and control these nurses will contribute a great deal to the improvement of the dental health of the children in the State.

ANNEX II

INCIDENCE OF COMMON COMMUNICABLE DISEASES IN WEST MALAYSIA
1961 - 1968

YEAR / DISEASES	1961		1962		1963		1964		1965		1966		1967		1968	
	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.	Cases	Incidence per 100000 pop.
Cholera	-	-	-	-	153	2.01	512	6.56	1	0.01	-	-	-	-	15	N.A.
Cerebro-Spinal Fever	12	0.17	9	0.12	4	0.05	4	0.05	4	0.05	1	0.01	1	0.01	6	N.A.
Chickenpox	4027	56.43	4270	57.89	4780	62.96	3647	46.70	5696	70.89	1765	21.27	3180	37.24	3740	N.A.
Diphtheria	1683	23.58	1335	18.10	1160	15.25	1139	14.58	1439	17.91	968	11.27	1065	12.47	803	N.A.
Dysentery (All forms)	3121	43.73	2850	38.64	2838	37.98	2922	37.41	2427	30.20	2011	24.24	1660	19.44	1538	N.A.
Enteric Fever	877	12.29	942	12.77	854	11.23	874	11.19	1216	15.13	950	11.45	971	11.37	1024	N.A.
Erysipelas	-	-	-	-	1	0.01	8	0.10	2	0.02	5	0.06	1	0.01	4	N.A.
Leprosy	314	4.40	243	3.29	256	3.37	632	8.09	331	4.12	216	2.60	234	2.74	332	N.A.
Paratyphoid	61	0.85	34	0.46	37	0.49	33	0.42	72	0.90	42	0.51	35	0.41	27	N.A.
Poliomyelitis	160	2.24	56	0.76	89	1.17	175	2.24	399	4.97	97	1.17	36	0.42	267	N.A.
P. Tuberculosis	9889	138.56	10322	139.94	10706	140.79	11463	146.77	11089	138.10	9467	114.09	8706	101.94	8574	N.A.
Pueperal Fever	-	-	-	-	29	0.38	145	1.86	150	1.87	146	1.75	70	0.82	69	N.A.
Scrub Typhus	111	1.56	70	0.95	52	0.68	111	1.42	114	1.42	120	1.45	53	0.62	85	N.A.
Urban Typhus	16	0.22	12	0.16	22	0.29	20	0.26	29	0.36	15	0.18	16	0.19	15	N.A.
Yaws	3523	49.36	2043	27.70	1455	19.13	825	10.56	560	6.97	420	5.06	401	4.70	335	N.A.

Source of Information: Monthly Return of Communicable Diseases.

N.A. = Not available - estimated mid-year population for 1968 has not yet been published by the Department of Statistics.

ANNEX III

SUMMARY OF MEDICAL FACILITIES IN SARAWAK, AS AT 31 DECEMBER 1968

Type of Service	As at 31 December 1968					
	1963	1964	1965	1966	1967	1968
FACILITIES						
Hospitals	8	8	10	10	10	11
Hospital Beds - Obstetrics	95	95	95	109	121	125
Total	1332	1664	1704	1804	1823	1848
Dispensaries -						
Fixed	32	35	40	42	43	43
Travelling	11	13	11	11	14	14
Maternity and Child Health Centres	60	56	72	72	73	85
PERSONNEL (Public and Private)						
Registered Doctors	63	57	59	67	66	83
Registered Dentists	143	142	143	139	137	130
Registered Midwives	440	435	449	489	512	532
Trained Nurses	115	135	158	163	223	240
Assistant Nurses	140	142	151	151	153	164
Hospital Assistants	147	148	150	154	148	160

FRANCAIS SEULEMENT

NOUVELLE-CALEDONIE ET DEPENDANCES
RAPPORT SUCCINCT SUR LES ACTIVITES SANITAIRES 1968-1969[1]

1. Population

En 1965 : 90 229 habitants
En 1967 : 92 085 habitants
En 1968 : 94 300 habitants
En 1969 : 100 572 habitants

2. Activité du Service de Santé

Années	Consultants	Consultations	Hospitalisés	Journées d'hospitalisation
1967	85 065	188 794	13 428	277 383
1968	94 087	213 190	11 355	276 639
Différence	+ 9 022	+ 24 346	- 2 073	- 744

3. Dépenses pour la santé

Les dépenses pour la santé sont financées par deux sources différentes de crédits : le budget du Territoire et les fonds d'Etat français.

La ventilation pour l'exercice 1969 est donnée ci-après :

a) Budget du Territoire (en dollars des Etats-Unis)

Exercices	Budget du Territoire	Dépenses pour la Santé	Pourcentage
1968	31 074 514	3 822 239	12,30%
1969	46 848 392	4 727 718	10,09%
Différence	+ 15 773 878	+ 905 479	-
%	+ 33,67%	+ 19,15%	- 2,21%

[1] Soumis par le Directeur de la Santé et de l'Hygiène publique, 23 septembre 1969

b) Budget d'Etat français

Fonds d'Investissement et de Développement économique et social (FIDES).

Tranche 1969 : 232 815 dollars des Etats-Unis

c) Total des dépenses pour la santé

		$US
Exercice 1968	Budget ordinaire :	3 822 239
	FIDES :	321 507
	Total	4 143 746
Exercice 1969	Budget ordinaire :	4 727 718
	FIDES	232 815
	Total	4 960 533
Progression des crédits 1968/1969		+ 816 787
Dépenses par habitant	1968	43,94
	1969	49,32

4. Personnel

a) du Service de Santé

Personnel	Effectif au 1/8/1968	Effectif au 1/8/1969
Docteurs en médecine	35	36
Pharmaciens-Chimistes	2	2
Chirugien- Dentiste	1	1
Assistantes sociales	3	2
Sages-femmes diplômées d'Etat	4	4
Assistants de la Santé	16	25
Infirmiers (ères)	179	207
Employés de bureau	40	45
Personnel d'exploitation	240	241
Personnel des transports	9	9
Total	529	572

b) Nombre de médecins relevant d'une administration autre que le Service de Santé : trois (Service de la Jeunesse et des Sports - Médecin Inspecteur du Travail et Médecin Conseil auprès de la Caisse d'Allocations familiales et d'Accidents du Travail).

c) Le nombre de médecins du secteur privé était de 26 au 1er janvier 1969.

5. Organisation

Les travaux en cours concernant la nouvelle maternité de 65 lits sont en bonne voie. Les plans du pavillon des spécialités chirurgicales ont été achevés et la mise en chantier doit avoir lieu avant la fin de l'année.

Il en est de même pour le centre de protection maternelle et infantile.

Le sanatorium du Col de la Pirogue a vu sa capacité hospitalière augmenter par la création de deux nouveaux pavillons de huit lits chacun.

L'Ecole d'infirmiers/ères du Territoire a commencé à fonctionner en mars 1969. Son effectif est actuellement de dix élèves. La durée des études est de deux ans.

Un dispensaire d'hygiène mentale avec un médecin psychologue à plein temps a été mis en service en septembre 1968.

6. Lutte contre les fléaux sociaux

Lèpre

Il y avait 888 malades recensés au 1er janvier 1969.

Trente-deux nouveaux malades ont été dépistés au cours de l'année 1968, contre dix-neuf en 1967.

La situation reste toujours préoccupante en ce qui concerne cette affection.

Tuberculose

Les vaccinations par le BCG se sont poursuivies en 1968. Il a été effectué en tout 4755 vaccinations dont 3532 primo-vaccinations et 1223 re-vaccinations.

Cinquante-huit nouveaux cas ont été constatés.

Des radiophotographies de dépistage ont été effectuées au nombre de 7010 en 1968.

Deux et demi pour cent des sujets examinés présentaient des images anormales.

Maladies mentales

Le service de l'hospice psychiatrique de Nouville a été mis en service en 1969, ce qui permet l'hospitalisation sans formalités administratives de certains malades.

Le dispensaire d'hygiène mentale a été mis en service en septembre 1968. Au cours des trois derniers mois de l'année, il a assuré 224 consultations.

7. Situation sanitaire

Une épidémie d'oreillons et une épidémie de varicelle ont sévi pendant les six premiers mois de 1969.

Au cours du premier trimestre de l'année en cours, une grippe à virus du type A2 Hong Kong a fait son apparition et a touché une grande partie de la population. Les cas graves étaient rares.

Il n'y a pas eu d'autres affections endémo-épidémiques au cours de l'année. La tuberculose et surtout la lèpre demeurent au premier plan des préoccupations du Service de Santé du Territoire.

8. Relations internationales

Le Territoire a participé à un séminaire sur la tuberculose et la lèpre, organisé par la Commission du Pacifique Sud à Nouméa.

9. Conclusions

Comme pour les années précédentes, l'effort du Service de Santé du Territoire s'est poursuivi en accordant une importance primordiale à la médecine préventive. L'accent a été mis, plus que par le passé, sur les dépistages systématiques de la lèpre et de la tuberculose par l'équipe mobile et son appareil de radiophotographie.

Un effort a été décidé par l'Assemblée territoriale dans le domaine social et la gratuité des soins et des consultations a été instaurée dans tous les dispensaires de l'Intérieur et des îles ainsi qu'à l'Hôpital de Nouméa pour les malades admis en troisième classe.

ORIGINAL: ENGLISH

NEW ZEALAND
REPORT ON PROGRESS OF HEALTH ACTIVITIES[1]

1. INTRODUCTION

The subject of the World Health Assembly Technical Discussions "The Application of Evolving Technology to Meet the Health Needs of People" reinforced the need to study the requirements of the future and the provisions which should be made to take advantage of technology in the field of health.

Undoubtedly there will need to be a modification of the traditional forms of health administration with the introduction of new techniques and facilities. The groundwork for the application of this technology is proceeding steadily.

2. COMPUTERS AND COMMUNICATIONS SCIENCE IN MEDICINE AND HEALTH ADMINISTRATION

A WHO fellowship recently enabled the Director of the Research and Planning Unit to study this subject and considerable benefits are expected.

A list of possible computer applications within the department over the next five years has been prepared and already the computer is being used for the collation of statistical data, processing of nursing examinations, and the issue of registration and practising certificates. Sophisticated techniques are currently being studied involving the application of optical mark reading to food premises evaluation, with the relevant forms being completed in the field. A feasibility study to cover computer pricing of pharmaceutical scripts, using similar principles, is well under way and is expected to lead to a pilot exercise, necessary to determine the efficiency and economy of the proposals.

3. POLLUTION

The pollution of the environment which is of such great concern in many industrialized countries has not yet reached serious proportions in New Zealand. Our endeavour is to anticipate pollution and control

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[1] Submitted by the Secretary of External Affairs, 18 August 1969.

it from the start. To this end new industry in New Zealand is required to meet standards as rigorous as any in the world. The further steps necessary to ensure clean air in New Zealand are being examined by a Board of Health Committee under the chairmanship of a former Director-General of Health.

Progress in the classification of rivers for water pollution purposes has been steady.

4. RADIATION

With the pending establishment in this country of a nuclear reactor for the generation of electricity, preparations are in hand to provide for the safety supervision of this and associated installations.

It is also interesting to note that the monitoring of radiation exposure films by the National Radiation Laboratory is now undertaken from nine countries or territories in the South Pacific and South East Asian areas.

5. DRUG DEPENDENCY

The Board of Health has set up a Drug Dependency and Drug Abuse Committee, the terms of reference being "to inquire into and report on drug dependency and drug abuse and matters relating thereto and to make recommendations to the Board".

The Committee's report is expected shortly.

6. MEASLES VACCINE

The Department had initiated steps to encourage widespread vaccination of infants against measles. However, adverse reactions to the vaccine in Britain resulted in its being withdrawn by the suppliers from the New Zealand market.

7. MATERNAL MORTALITY RESEARCH ACT 1968

The point had been reached in this country where further improvement in lowering the rate of maternal mortality required provision for the investigation of all the causes associated with each death. The Maternal Mortality Research Act enacted in 1968 made this provision.

8. HEALTH ADMINISTRATION

Changing circumstances warrant a continuous review of health administration. Action taken or planned in 1968 to improve administration included:

- a beginning in the reduction in the number of elected hospital boards in order to group hospitals into larger and more economic units

- the introduction of legislation to provide for the transfer of the control of mental hospitals from Health Department to hospital boards

- reconstitution of the Medical Council of New Zealand with provision for the establishment under its jurisdiction of an education committee with the primary function of tendering advice on medical education.

ORIGINAL: ENGLISH

PHILIPPINES
BRIEF REPORT ON HEALTH ACTIVITIES[1]

RURAL HEALTH SERVICES

This basic program of the Health Department has been strengthened and now operates 1459 Rural Health Units. Budgetary Appropriation for Rural Health Services alone has increased to 57 million pesos. Per capita expenditure for medicine has increased from ₱.52 in 1968 to ₱.72 in 1969. All positions in the health service are now fully nationalized.

HOSPITAL SERVICES

Government hospitals number 198; Private hospitals, 478. Combined bed capacity totals 48 838 providing bed population ratio of 1.717 which is still inadequate to cover total needs. Steps are now being taken for revision and updating of the 5-year hospital development program which plans a progressive scheme of funding and financing. Priority will be devoted to upgrading existing provincial, city and emergency hospitals. Hospital Licensure Law is now in full implementation to ensure better quality of hospital services and patient care.

DENTAL HEALTH SERVICES

Presently there are in operation 292 dental health units servicing a total of 1399 municipalities (average of 4.8 municipality per dental unit). A Five-Year Program has been drawn supported by a pending Congressional legislation which will increase gradually the number of units to eventually provide one dental unit for each municipality in the country.

DISEASE INVESTIGATION PREVENTION AND CONTROL

Mass immunization campaign against certain preventable diseases with the objective of protecting at least 80% of the susceptible population especially those in high risk areas were intensified with special reference to Cholera, Smallpox, Tuberculosis, and Poliomyelitis. The production of vaccine and sera for immunization have been intensified and improved.

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[1] Submitted by the Secretary of Health, 5 September 1969.

MALARIA ERADICATION SERVICE

During the year a total of 36 439 localities have been protected against the disease through the spraying of 1 345 695 houses; and 316 860 individuals were administered with antimalaria treatment. The operation activities to attain the objectives in the shortest possible time are being reviewed and strengthened especially with emphasis on the priority for highly endemic areas.

TUBERCULOSIS CONTROL

During the past year, a total of 517 877 children were given BCG vaccination; a total of 476 000 persons examined for tuberculosis of whom 124 100 were actually treated. There is need to provide more chest clinics at the rate of 5 new clinics per year for the next 5 years. BCG immunization program will be intensified to reach the goal of at least 1 million vaccination per year.

SCHISTOSOMIASIS CONTROL

The control program is now being coordinated by the National Schistosomiasis Control Commission. The recommended programs include selection of priority areas where vigorous control activities will be concentrated, release of funds for flood control, drainage and water-works project, drilling of artesian wells and development of springs. Pending legislation in Congress authorizes one Sweepstakes draw for the benefit of the National Schistosomiasis Control Commission.

CHRONIC DISEASE CONTROL

The specific programs for the control of such diseases as leprosy, mental illness, cancer, have been updated and further strengthened. The recent approach being developed is to incorporate mental health in the control program for chronic diseases.

MATERNAL AND CHILD HEALTH

A new project on Maternal and Child Health (with AID assistance) has been organized with the objective of arousing public interest and awareness to the problems caused by rapid population growth and focus public attention on personal and national consequences of high birth rates. The present stage of the project directs efforts towards

education of the population, training program for health and para-health personnel, responsible citizens and clergy on population control.

NATIONAL NUTRITION PROJECT

Recognizing the urgency of protecting the health of infants and pre-school children during the critical years of growth and development, a comprehensive program of national nutrition has been launched. The program gives emphasis on practical instruction of mothers, supported by a coordinate and intensified food production and research endeavour, drawing the compiled resources of the community, the government and international agencies to overcome the existing problems of malnutrition. Twelve Nutrition demonstration centers will be established in 3 provinces and as many secondary centers within the next 4 years.

RESEARCH

1. Cholera Research Studies

The WHO/JAPAN/PHILIPPINES Research Studies continue. New vaccine field trials done in Negros Occidental have clarified the relative efficacy of the cholera vaccine.

2. Hemorrhagic Fever

Vector survey and studies on transmission, treatment and control are being conducted.

3. Capillariasis

This is the previously reported "mystery" disease in certain areas in Ilocos Sur and La Union which has been identified as a parasitic disease, and the cases have been successfully treated.

4. Viral Diseases

A continuous laboratory investigation is being undertaken to identify the specific viral agents prevailing as well as their immunological patterns. Recently, Chikungunya disease has been discovered in Negros Oriental.

ENGLISH ONLY

REPUBLIC OF CHINA
COUNTRY REPORT FOR 1969 WPRO/RC

1. FAMILY PLANNING PROGRAM

"The Regulations Governing the Implementation of Family Planning in Taiwan" was promulgated by the Cabinet on May 17, 1968. To meet this new situation, preparation for reorganizing the programs began in December 1968. The Taiwan Population Studies Center and the Committee on Family Planning were incorporated into the Institute of Family Planning under the Provincial Health Department on February 1, 1969. Through this incorporation, the coordination between research and action program is strengthened.

By the end of August 1969 more than 583 000 women or about 34 per cent of the approximately 1.7 million wives 20-44 had tried the loop. In addition, almost 85 000 had begun to use oral pill which was introduced in January 1967. On the average, there are about 10 000 loop acceptors monthly and 3000 women trying the pill for first time every month. The number of current loop users is estimated at about 290 000 women and number of pill cycles being distributed is about 25 000. In other words, about 315 000 women or 19 per cent of 1.7 million wives 20-44 are practicing contraceptive methods through the Island-wide program.

The speed of fertility decline was accelerated after initiation of the organized program in 1964 with the birth rate decreasing from 36.3 in 1963 to 32.7 in 1965, and in 1968 to 29.3. The rate of natural increase also decreased from 30.2 in 1963 to 27.2 in 1965, and in 1968 to 23.8. The target of bringing natural increase rate to 18.7 by 1973 has been half achieved.

The recognition by international organization of our family planning work is reflected in the increase of visitors to our program. More than 1500 international visitors came to Taiwan to see our Family Planning Program in past few years. In 1968 alone there were 513 foreign visitors. In May 1969 the East-West Center of the Department of State, U.S.A., sent a group of 10 participants to receive two weeks orientation and training in family planning. The group was composed of medical officers or senior nurse-midwives from the South Pacific Islands: Fiji, Tonga, American Samoa, US Trust Territory, Gilbert and Ellice Islands Colony, Papua and New Guinea, Guam, Western Samoa and Hawaii. A group of 17 WHO Senior staff from the Geneva headquarters and from various regional offices also visited Taiwan to have one week's case study on family planning.

2. ENVIRONMENTAL SANITATION PROGRAMS

As the importance of this program has been generally recognized by all governmental agencies and the community, more efforts were taken to improve environmental sanitation in this island during this period. To strengthen this program "a revised 5 years environmental sanitation program" has been established and put into action from July 1969. The major achievements for this program in 1968 are as follows:

a) Simple water works construction

With the UNICEF and WHO assistance, the construction of simple waterworks in rural areas has been going well. In 1968, 60 new simple waterworks were constructed throughout the province. This brought the total figure to 300 since the program started in 1962.

b) Community development program

Project operations started on June 16, 1967. Since then 5418 deep wells, 6162 shallow wells, 285 public toilets, 14 114 private latrines, 511 415 meters of drainage, 699 030 m^2 of road pavement and 1243 public baths were constructed requiring 2 498 047 man/days, in 330 communities.

c) Refuse and nightsoil disposal

Our efforts still made to mechanize transport for garbage collection got under way in 1968 with a loan NT$23 707 000.00 from the Council for International Economic Cooperation and Development. With this loan Taichung, Tainan, Kaohsiung, Changhua Cities and Taipei County purchased 55 garbage trucks, 7 Nightsoil trucks. To solve the problem of garbage disposal, a new composting plant with a capacity of composting 40 tons garbage a day in Chiayi City was constructed.

d) Air pollution control

Air pollution survey has been continued. A total of 1438 samples were analyzed.

The Executive Yuan promulgated an order to prohibit to use soft-coal as fuel in Taipei, Kaohsiung and Keelung Cities. The National Clean Air Act was drafted by the Environmental Sanitation Association and submitted to the Executive Yuan for approval.

3. INDUSTRIAL HEALTH

Due to the rapid growth of industries in Taiwan, there has been an enormous increase both in plants and workers during recent years.

The number of registered factories has reached near 30 000 and workers working at the factories have also been calculated roughly as 100 000. Thus the problems of safety and industrial health became more and more serious due to the ineffective control of public hazards from air and stream pollution, occupational disease and accidents in the factories. Though concentrated efforts and high priority has been given by the government to industrial health and safety during these one or two years through the Industrial Health Division of Taiwan Provincial Health Department and its attached three industrial health centers, the progress has not been so ideal as expected. Shortage of qualified personnel in industrial health and safety has been recognized as the top obstacle in this field.

To attack this problem technical staff have been sent abroad for advanced training and experts on industrial health have been invited to help us under WHO and OTCA assistance. Having the recommendations made by Dr. Sakabe, a WHO short-term consultant, we have done the following activities during this reporting period:

a) Three hundred factory supervisors have been trained to enable them taking the responsibilities on industrial health.

b) Strengthening of health education for the plant owners and the laborers in the factories.

c) Strengthening of factory inspection by senior industrial health personnel in order to improve working conditions and health examination at the factories.

d) To accelerate the activities on prevention of occupational diseases, workers in some special plants were examined with emphasis on some particular part of the body with regard to the nature of the plants.

4. HOSPITAL PROJECT

Due to existing red tape in the procedure of selling the landed property of the government hospitals and rebuilding of them, the project for rehabilitation of the government hospitals has not been carried out as fast as planned. During 1968 we completed only a new building of the Changhua Hospital which started its medical care services in December of the same year, and the extension of hospital building in Taichung Hospital. The rebuilding of Tainan Hospital is still on the way, up to date it progressed to building the ninth floor, and its completion is expected in spring of 1970. The original plan to build a big new Women's and Children's Hospital in Taipei City has been modified to build a nine-storey general hospital in Hsin-chuan, Taipei County due to the raising of Taipei City to a Special Municipality under the jurisdiction of Executive Yuan. The official bidding for constructing this general hospital was completed in August 1969 and the construction work is to be started soon.

5. POLIO CONTROL

This program was carried out continuously under the 5-year plan with the assistance of UNICEF and WHO. For FY1969 (July 1968 - June 1969) a total of 304 309 children from 3 months to 15 months of age completed the 2 doses of Sabin vaccine immunization, reaching 94.1% of the total 313 262 children at risk. For FY1970, the fourth year campaign, started in July 1969 and completed 192 029 children from 3 months to 8 month of age, reaching 83.4% of the total 230 126 children at risk for the first dose of Sabin vaccine immunization. This campaign is still under the way.

The number of polio case and death in 1967 were 53 and 26 respectively, but in 1968 there appeared a trend of increase in polio case and death, i.e. 168 and 90 respectively. To look into this problem surveys were undertaken by related agencies. The result of the survey proved that polio case and death occurred among the children who did not receive the vaccination.

To improve this defect of the campaign, it is decided and put into practice from FY1970 campaign to divide the immunization into two parts, July to September for the first part and January to March for the second part.

It is envisaged that through this measure less children will escape from the immunization and decrease of polio case and death will be expected from this year.

6. JAPANESE B ENCEPHALITIS CONTROL

Japanese B Encephalitis is still one of the most important killing diseases for children in Taiwan with the trend of increase in cases in recent years. In 1968, 566 cases and 128 deaths were reported, the majority of which was confirmed by the laboratory. As two doses of mouse-brain vaccine will provide 81% effectiveness from our 1965 field survey, a policy to eradicate JE with home-made mouse-brain vaccine has been established. According to this policy 425 000 cc mouse-brain vaccine were produced by the Taiwan Provincial Serum and Vaccine Laboratory in 1968 and 195 940 children at risk in the previously infected areas were immunized with two doses of the vaccine. Thanks to WHO assistance in providing vaccine production facilities and technical experts enabling us to start local production of vaccine and the vaccination campaign.

7. SOME IMPORTANT PROGRAM

a) TB Control

The main efforts of the Taiwan TB Control program during January - August 1969 were still concentrated on: 1) BCG vaccination to all infants and younger children, and 2) discovery of as many infectious cases as possible and domiciliary treatment of cases discovered. In addition, the first trial on a large scale BCG assessment was carried out this spring which proved to be useful in the quality control of vaccine.

The accomplishments of various TB activities in 1969 were remarkable as shown in the following:

i) The total number of BCG vaccination was 503 021.

ii) Four hundred forty-three thousand one hundred eight X-ray ray examinations were performed and 17 803 TB suspects were discovered.

iii) A total of 84 828 sputum examinations were made and 6735 infectious cases were found.

iv) During the period from January - August 1969 a total number of 4906 open cases were registered and 19 700 patients were still under treatment.

The third TB prevalence survey was completed in June 1968, and the results showed a continous decrease of prevalence rate of TB in Taiwan.

b) Malaria Eradication

During the past three years, from November 1965 to December 1968, the maintenance phase of malaria eradication program in Taiwan has been satisfactory in general. However, a total of 17 indigenous P.vivax cases occurred sporadically in the northern part of the island during that period. Presently, the named area is under an intensified malaria vigilance, and efforts are being made to dispel the mistaken optimism that malaria works are no longer necessary.

The occurrence of malaria cases in Taiwan during recent three years are shown in the following:

Year	1967	1968	1969 (Up to the End of June)
No. smears exam.	267 661	285 009	159 184
No. cases	10	14	4
Indigenous	1	1	0
Relapsing	2	1	0
Induced	2	2	1
Imported	5	10	3

c) Trachoma Control

For the primary school sector, 2.3 million school children were examined and 231 000 children were treated during 1968 school year. The prevalence rate of active trachoma in school children has been brought down from 7.4% to 4.8% it is expected to become less than 4.0% in 1969 school year. For the community sector, 3.9 million people were treated during the period from September 1963 to July 1968. The two year treatment program of trachoma patients living in the contrast area (with one tenths of the total population) has started since August 1969. 1.5 million people in 44 townships were covered.

The six years' trachoma community mass campaign has come to the end, and the final evaluation was carried out by WHO consultants during September 1968 to February 1969. The result of the examination for 24 567 random population proved that the average trachoma prevalence rate has decreased to 3.4% from 17.8% reported in 1960 by the WHO interim assessment team.

d) The other health programs

Some improvements were made in our VD control program. In order to extend VD control, 3 VD control centers were newly established in 3 big cities in 1968. The treatment rate for syphilis increased to more than 85% from 75% in previous years.

MCH program has progressed quite well. A new five-year plan to extend MCH services to previously uncovered pregnant women, babies and preschool children was put into practice. The integration of MCH services to day nursery children also started under the cooperation with the Department of Social Welfare Services.

Request for assistance against parasitic diseases control from the Japanese Oversears Technical Cooperation Association was submitted. A big campaign for ascaris control is expected to start later in 1969.

8. EXCHANGE PROGRAM WITH EAST-WEST CENTER

Since US AID was withdrawn in 1965, there was only WHO to support our public health training in abroad. Starting from 1966, the East-West Center of Hawaii, has been assisting us for short term training to gain practical experiences in the various field of public health service. The training includes 9 months continuing education for non-degree study, short courses with field practice for 3-6 months, and seminars in Taiwan to follow up the training program. Since 1966 up to the present, there are 14 nurses both in clinical and public health, 11 in health education, 2 in administration and training, 5 in hospital management, and others who received training under this program.

As a total, 56 fellowships were granted and three seminars (hospital management, sanitation, and public health nursing supervision) were conducted having 450 participants.

As an exchange, 10 South Pacific Islanders have received training in Taiwan on the subject of population and family planning. This was also arranged through East-West Center.

ENGLISH ONLY

REPUBLIC OF KOREA
BRIEF REPORT ON HEALTH SITUATION IN 1968

1. GENERAL SITUATION

The 2nd Five-Year Economic Development Plan (1967-1971) of the government is on the policies to increase the productivity in the industrial, agricultural and fishery sectors, thus the basic strategy of the health plan was directed towards contributing to the achievement of these goals by concentrating health projects, mainly on the expansion of local health network, education and training for health workers, prevention for major communicable diseases, quality control of foods and drugs, environmental sanitation and maternal and child health services in link with the family planning programme.

1.1 Health Personnel and Medical Education

The number of registered medical and health manpower was as follows:

Physicians	12 450	Dentists	1997
Nurses	11 925	Midwives	6017
Pharmacists	11 119	Herb Med. Drs	2892
Medical aides	3 805		

The medical education and annual graduates were as follows:

Medical schools	12		650 (annual graduates)
Dental schools	3		100
Pharmaceutical schools	14		1118
Nursing schools	43		950
Herb medical school	1		100
Public health school	1		50

1.2 Medical and Health Facilities

The medical and health facilities were as follows:

Facilities	No.	Facilities	Beds
Hospitals	221	General hospitals	20 344
Clinics	5 012	Mental hospital	1 174
Dental clinics	1 129	TB hospitals	2 146
Herb Dr's clinics	2 316	Epidemic diseases	364
Health centers	192		
Health sub-centers	1 341		
Total	10 229	Total	24 028

2. MAJOR HEALTH PROBLEMS

2.1 Acute Communicable Disease Control

The following number of cases and deaths of acute communicable diseases were reported:

	Typhoid fever	Diphtheria	J.B. Encephalitis
Cases	3931	534	1206
Deaths	38	39	396

The following vaccination programmes were carried out:

Typhoid fever	18 000 000	Smallpox	2 700 000
D.P.T.....	600 000	Diphtheria	1 100 000
Encephalitis	40 000	Cholera	6 000 000
Plague	15 000	Poliomyelitis	1 000 000

2.2 Chronic Communicable Disease Control

a) Tuberculosis Control

Tuberculosis control programmes were carried out as follows:

Number of tuberculin tested	1 018 599
Number of BCG vaccinated	2 981 439
Number of X-ray examined	1 708 502
Number of sputum examined	1 016 634
Number of cases or X-ray suspects discovered	98 325
Number of patients newly registered	88 494
Number of patients discharged	16 714
Number of patients under treatment	167 018

b) Parasite Control

The plan to eradicate parasitic diseases were set up to:

1) interrupt the route parasitic infestation by the limitation or prohibition of the use of nightsoil and the extension of nightsoil treatment facilities;

2) accelerate the supply of parasite-free vegetables;

3) extend treatment of carriers.

2.3 Environmental Sanitation

Merely 23 per cent of the total population in this country were benefiting from the piped-water. As a means to help provide sanitary drinkable water, the government planned to set up, by 1972, simple

water supply system for 1700 primary schools and 540 villages where typhoid fever was most rampant in 1966 and at 107 hospitals and health centers without water facilities, besides setting up community wells in 3750 rural areas.

Public nuisance problem was in control of exhaust fumes, dust, odour, gas, noises and industrial wastes as the rapidly developing heavy industries and concentration of population in urban areas.

There were 54 557 enterprises concerned with food: 15 299 manufacturing factories and 39 258 hotels and restaurants. Compared to 1964 they had increased by 117 per cent and 101 per cent respectively.

2.4 Health Network

Only 16.4 per cent of myon (rural districts) and private practicing doctors, 588 eup (towns) and myons were supplied with doctors paid by the government, and 673 eups and myons were still without doctors. Thus the government had undertaken to form a public health network by interlocking city/provincial hospitals, health centers and health sub-centers.

2.5 Training Programmes for Medical and Health Workers

To meet the demand of manpower requirement for health and medical services, the government has strengthened the training programmes for health workers at the National Institute of Health in cooperation with the medical schools such as the School of Public Health, Seoul National University and the Medical College of Woosuk University.

2.6 Quality Control of Drug

Until 5 years ago, the pharmaceutical industry was no more than the packing of imported bulk from foreign countries. However, raw materials had been produced domestically and the process had changed integrated work, producing finished drugs from crude drugs. The factories producing cultured antibiotics were a good example. The government was paying more attention to the toxicity or side-effects and misuses of drugs than to their quality.

Number of drug factories	294
Kinds of drugs	6259

2.7 Family Planning Programmes

According to the population control programme the natural increase was scheduled to fall to 22.4 per 1000 in 1968. Rough survey data in 1968 suggested that the birth rate might be as low as 29.9 which was higher than what had been hoped and the estimated death rate was lower than expected.

Loop	263 235	persons
Vasectomy	16 003	
Oral Pill	75 192	
Condom	150 000	
Delivery attendants	20 000	

REPUBLIC OF SINGAPORE
REPORT OF THE IMMUNISATION PROGRAMME IN 1968[1]

PROGRESS OF THE REPORT

1. VACCINATION AGAINST SMALLPOX

1.1 Introduction

Smallpox is still absent in this country.

1.2 Plan of Action

There has been no change in legislation, participating established static units, mobile units or the schedule of immunisation since 1963. This report should be read in conjunction with the report for 1963.

1.3 Evaluation

Table 1 shows the vaccination returns and the percentage of infants (children under one year) for 1968, and Table II shows the number of infants vaccinated and the percentage vaccinated against smallpox, compared with live-births, from 1963 to 1968. The percentages of children vaccinated in 1965, 1966, 1967 and 1968 are the highest on records, namely 95% and over.

TABLE I

SMALLPOX VACCINATION RETURNS FOR INFANTS IN SINGAPORE
JANUARY TO DECEMBER 1968

City Clinics & Kampongs	Rural Clinics & Kampongs	Private Practitioners	Total No. Vaccinated	Total No. of Live-Births	Percentage Vaccinated
20 493	16 526	8609	45 628	47 167	96.8%

TABLE II

NUMBER OF INFANTS VACCINATED IN SINGAPORE AGAINST SMALLPOX COMPARED WITH LIVE-BIRTHS 1963 TO 1968

Year	1963	1964	1965	1966	1967	1968
Total Live-Births	59 530	58 217	55 725	54 680	50 560	47 167
Total Vaccinated	53 080	54 371	53 273	51 912	50 224	45 628
% Vaccinated	89.1%	93.4%	95.6%	95.0%	99.3%	96.8%

[1] Submitted by the Deputy Director of Medical Services (Health), Ministry of Health, Singapore, 5 September 1969.

The total new entrants, all children at the age of 6 years, in schools for 1968 is 56 352 of whom only 54 647 were visited by the Immunisation Teams and 41 417 vaccinated, giving a coverage of 73.5% of the total new entrants, or 75.8% of new entrants visited by the teams. Simultaneously, of 4298 Primary I students who were missed last year and were promoted to Primary II this year, 2101 students were visited and 1574 were vaccinated, giving a coverage of 74.9% of Primary II children visited and 36.6% of children missed last year. The number of children re-vaccinated by their own doctors was not recorded but could not have been much if this experience was not very different from the previous year's. Since primary education is free in Singapore, the new entrant enrolment in schools should very nearly represent the entire 6+ years population in the Republic.

2. IMMUNISATION AGAINST DIPHTHERIA (AND WHOOPING COUGH AND TETANUS WHEREVER APPLICABLE) AND POLIOMYELITIS

2.1 Introduction

The 1968 coverage of infants is the highest to date. Prosecution of parents of non-immunised children has not been resorted to still. The investigation of cases of infectious diseases continues to include the full immunisation history of all children in the family, and cases of incomplete immunisation are followed up. It is hoped, by this action, that no case of Diphtheria and Poliomyelitis (or Tetanus) would occur in children at any home which has been investigated once.

2.2 Plan of Action

There has been no change in legislation, participating units and courses of immunisation.

2.3 Evaluation

Table III (a) shows the number of infants who completed their immunisation against diphtheria and tetanus, with or without whooping cough, and their relation to total live-births from 1963 to 1968.

In addition to these, the immunisation coverage of children over one year is shown in Table III (b) for 1967 and 1968.

TABLE III (a)

NUMBER OF INFANTS IMMUNISED IN SINGAPORE AGAINST DIPHTHERIA COMPARED WITH LIVE-BIRTHS 1963 - 1968

Year	1963	1964	1965	1966	1967	1968
Total Live-Births	59 530	58 217	55 725	54 680	50 560	47 167
Total Immunised	26 549	26 781	29 008	27 416	28 872	31 025
% Immunised	44.6%	46.0%	52.1%	50.2%	57.1%	65.8%

TABLE III (b)

NUMBER OF CHILDREN, OVER ONE YEAR OF AGE, IMMUNISED IN SINGAPORE, AGAINST DIPHTHERIA IN 1967 and 1968

Age (Years)	Number		Remarks
	1967	1968	
1 +	(16 478 (9 198	(14 244 (11 183	Complete Course Booster Dose
2 to 5	(17 257 (36 716	(14 368 (35 712	Complete Course Booster Dose
6 +	(19 650 (15 990	(9 311 (18 481	Complete Course Booster Dose
7 +	(3 043 (1 276	(1 093 (926	Complete Course Booster Dose

It has been shown in the reports of 1964, 1965, 1966 and 1967 that the immunisation coverage of 1963, 1964, 1965 and 1966 infants over the space of two successive years was 76.2%, 70.4%, 77.6% and 80.3% respectively. Similarly, since 14 244 one year olds completed their immunisation in 1968, and because these one year olds were the infants of 1967, the coverage of 1967 infants over the space of two years is 28 872 + 14 244 or 85.3% of 1967 births.

Table IV shows the numbers of Diphtheria cases and deaths for the past ten years (1959 to 1968) with case and death rates. There have been 60 cases and 4 deaths this year, which are the lowest on record.

TABLE IV

DIPHTHERIA CASES AND DEATHS IN SINGAPORE 1959 TO 1968 WITH CASE AND DEATH RATES

Year	1959	1960	1961	1962	1963
Cases	524	645	606	353	400
Deaths	32	38	32	16	24
Case Fatality	6.11%	5.89%	5.28%	4.53%	6%
Population	1 579 600	1 634 100	1 687 000	1 732 800	1 775 200
Cases/100 000	33.17	39.66	36.75	20.39	20.53
Deaths/100 000	2.03	2.33	1.90	0.92	1.35

Year	1964	1965	1966	1967	1968
Cases	206	230	216	220	60
Deaths	17	6	8	5	4
Case Fatality	8.25%	2.6%	3.7%	2.27%	6.66%
Population	1 820 000	1 864 900	1 913 500	1 955 600	1 987 900
Cases/100 000	11.32	12.33	11.29	11.25	3.02
Deaths/100 000	0.98	0.32	0.42	0.25	0.2

It was recorded in last year's report that 4298 new entrants were not visited. Of these 2101 children were visited in Primary II this year when 1093 received a course of two injections and 926 received their booster doses so that 2019 children were protected. It follows therefore that, of the 58 925 new entrants of 1967, 35 640 were immunised in 1967 and 2019 in 1968, giving a coverage of 37 659 or 63.9% in two years.

Of the 56 352 new entrants in 1968, only 54 647 were visited by the team, giving a course of two injections to 9311 children and booster doses to 18 481 children, thereby protecting 27 792 children. Therefore 49.3% of total new entrants and 50.9% of new entrants visited were protected against diphtheria. The 2705 children not visited in 1968 will be visited in 1969.

School children immunised this year total 27 792 in contrast to 39 959 in 1967 and 45 069 in 1966.

Table V gives the numbers of Poliomyelitis cases and deaths for the past ten years (1959 to 1968) with case and death rates, and Table VI shows the Sabin feeding returns for children from infancy to 7 years for 1968. The 38 074 fed with the first dose of vaccine in schools would constitute 67.1% of the 54 647 Primary I (6+ years) children and 2101 Primary II (7+ years) children, visited by the Immunisation Teams this year.

TABLE V

POLIOMYELITIS CASES AND DEATHS IN SINGAPORE
(1959 - 1968) WITH CASE AND DEATH RATES

Year	1959	1960	1961	1962	1963
Cases	64	197	57	14	68
Deaths	4	6	5	1	2
Case Fatality	6.3%	3.1%	8.8%	7.1%	2.9%
Population	1 579 600	1 634 100	1 687 300	1 732 800	1 775 200
Cases/100 000	4.05	12.06	3.38	0.81	3.83
Deaths/100 000	0.25	0.37	0.30	0.06	0.11

Year	1964	1965	1966	1967	1968
Cases	17	40	10	3	4
Deaths	-	-	-	-	-
Case Fatality	-	-	-	-	-
Population	1 820 000	1 864 900	1 913 500	1 955 600	1 987 900
Cases/100 000	1.4	2.14	0.52	0.15	0.2
Deaths/100 000	-	-	-	-	-

TABLE VI

SABIN FEEDING RETURNS OF CHILDREN IN SINGAPORE
UP TO SEVEN PLUS YEARS FOR 1968

Sabin	City Clinics & Kampongs	Rural Clinics & Kampongs	Schools*	Total
1st Dose	31 333	22 166	38 074	91 573
2nd Dose	32 574	22 006	31 700	86 280
3rd Dose	33 997	22 586	-	56 583
3rd Dose for 1962	226	32	-	258
4th Dose	23 515	19 731	-	43 246
5th Dose	2 728	7 252	-	9 980

*Children at Schools may or may not have had previous doses of Sabin vaccine in earlier years.

The vaccination status of the 4 Poliomyelitis cases (one imported), occurring this year, is as follows:

No Sabin ..... 3 cases (one imported)
One dose of Sabin .. 1 case

4 cases

As in 1965, 1966 and 1967 our policy is to offer Sabin as many times as a child arrives for diphtheria vaccination (T.A. or D.T.) and then twice at Primary I in school. Children therefore have an opportunity to have Sabin Vaccine seven times before they are 7 years old if they follow our schedule of immunisations.

The control of poliomyelitis and diphtheria appears to be progressing satisfactorily, while smallpox has been kept off our shores for yet another year. Even the nasal and aural cases of diphtheria appear to be diminishing. The speed of re-housing and slum-clearing is probably playing its part in reducing air-borne infections, and the effort required to conquer diphtheria should certainly be less than otherwise.

ORIGINAL: ENGLISH

BRIEF REPORT ON THE PUBLIC HEALTH SERVICES PORTUGAL - PROVINCE OF TIMOR, 1968[1]

1. ASSISTANCE PROVIDED DURING THE LAST THREE YEARS

Assistance provided	1966	1967	1968
Patients under ambulatory treatment	264 735	270 515	281 164
Hospitalized patients	5 515	6 058	7 796
Treatments	958 064	1 016 019	1 023 785
Injections	630 258	600 945	570 523
Surgical operations	4 524	5 075	6 457
Laboratory examinations	13 570	15 564	23 014
Vaccinations	86 449	161 534	125 800
Radiographic examinations	1 837	1 601	1 786

2. VITAL STATISTICS

Births, Deaths and Physiological Balance during the last 3 years

	1966	1967	1968
Total population	565 912	576 829	583 873
Number of live births	10 717	10 917	12 793
Birth rate per 1000 of population	18.9	18.9	21.6
Number of deaths	7 035	6 052	6 249
Death rate per 1000 of population	12.7	10.4	10.7
Physiological balance	3 682	4 865	6 344

3. RURAL HEALTH SERVICES

3.1 An efficiently working radiological unit has been set up at the Dr. Carvalho Central Hospital in Dili. At the same hospital a "KULA" sterilization device has been installed.

3.2 A rural health unit is to be completed at Ossú, Municipality of Viqueque, and the Baucau Sub-Regional Hospital is being renovated and expanded so as to accommodate about 100 beds. The present hospital index in the Province is 1 bed per 700 inhabitants. The doctor/population ratio is 1 doctor per 23 000 inhabitants.

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[1] Submitted by the Chief of the Health Services, 10 May 1969.

4. PUBLIC HEALTH

4.1 School health service

A total of 21 705 students were assisted; 15 257 children were vaccinated against smallpox and 3407 were given triple-vaccine (diphtheria, whooping cough and tetanus). Tuberculin tests were performed. The average positivity rate was 17.4%.

A total of 160 000 tablets of pyrimetamine daraprim were distributed as a prophylactic against malaria, to the different schools.

Social welfare - Inspections were made of different schools with the purpose of studying the relationship between exchange students and teachers with respect to both educational and social experiences.

4.2 Educational health service

Weekly educational health programmes are still being broadcast. These are arranged in collaboration with the National School of Public Health and Tropical Medicine of Lisbon.

We have requested the WHO Regional Office for the Western Pacific to provide some films on health education.

4.3 Nutritional departments

In the campaign against endemic goitre in Fatu-Berliu, the Division for Endemic Diseases has carried out nutritional research work. The results are still being collected for study.

A "Table of Diets for the Hospitals of Timor" will be published shortly. This was prepared by the Services of Nutrition of the National School of Public Health and Tropical Medicine of Lisbon, under the direction of Professor Janz.

4.4 Public health campaigns

Prophylactic campaigns and treatment against blindness and otorhino-laryngological diseases were carried out in 1968, for the first time in Timor. The results were:

Ophthalmological Field

Total observations	 580
Proposed interventions	 36
Prescribed spectacles	 196

Patients who were unable to purchase spectacles received these free of charge from the Social Welfare Service. Surgery was also done free of charge.

Otorhino-laryngological Field

Patients observed	508
Schoolchildren observed	1587
Proposed tonsillectomies and adenoidectomies	120
Proposed otorhino-laryngological surgery	25

All surgery was free of charge.

5. FIGHT AGAINST COMMUNICABLE DISEASES

5.1 Venereal diseases

At Fohorém, Municipality of Cova Lima, a focus of gonorrhoea was detected in 200 individuals of both sexes. These individuals and others were treated with Penadur and Metoxidon (slow-acting sulfamides). The remaining population of Fohorém, amounting to 4500 inhabitants, received injections of long-acting penicillin.

5.2 Filariasis

The finding of the adult worm of the supposed Brugia Timor was the outstanding work done in filariasis by Dr. Rui Pinhão, first Assistant of the National School of Public Health and Tropical Medicine of Lisbon. In his paper, which was presented at the Congress of Teheran, it was classified as Brugia malayi.

5.3 Malaria

Clinico-epidemiological research work is being carried out. Up to the present, the highest parasite rates were found in the area of Oé-Cusse (43.95% splenic rate); and among the pupils of the Baucau School (48.01% splenic rate) and Oé-Cusse (21.68% splenic rate).

Anti-malarial drugs were distributed free of charge. The Province spent $214 000 (US$7100) in 1968 against US$6500 in 1967.

5.4 Tinea Imbracata (Tokelau or "Cascado")

The campaign against this disease is progressing. We have under treatment 760 patients. For better orientation we were assisted by a

mycologist, Professor Dr. Cruz Sobral from the National School of Public Health and Tropical Medicine of Lisbon.

Its treatment, still in the experimental stage, consists of a daily bath, using soap containing pumice-stone for the removal of the scales and the local application of a cream of salycilic acid and or iodine (1%) once a week. In addition, tablets of griseofulvine are given in the morning and four in the evening for a period of three to four months.

6. NUTRITIONAL DEFICIENCIES

6.1 Endemic goitre

As mentioned before, a campaign has been carried out against endemic goitre; 8366 individuals were observed. About 8 tons of iodised salt at 1:100.000, in plastic bags of 450 grs., were distributed. Nutritional research work was carried out among 1135 people and 4308 tests were made. Food, soil and water showed a complete absence of iodine. The values of water hardness are inferior to 20°. The remaining data such as cutaneous fold determination, blood pressure, clinical types of goitre related to sex and age groups are still being collected and studied.

U-2

APPORT SUCCINCT DES RÉSULTATS OBTENUS DANS LE DOMAINE DE LA SANTÉ DE LA RÉPUBLIQUE DU VIET-NAM EN 1968

Les activités sanitaires de la République du Viet-Nam durant l'année 1968 sont marquées d'une part par le développement progressif des programmes de santé existants vers les zones rurales, d'autre part par la mise en application des projets nouveaux aussi bien dans le domaine de la médecine curative que dans celui de la santé publique.

x

x x

I.- SOINS MÉDICAUX

1/- L'augmentation du nombre de lits d'hôpitaux continue à se faire marquer progressivement: par l'achèvement de la construction de 7 hôpitaux de moyenne importance (de 100 lits chacun) dans les provinces qui ne sont pas encore dotées d'établissements hospitaliers, par la construction et la rénovation d'un certain nombre de bâtiments dans les anciens hôpitaux nationaux et provinciaux.

Le nombre total de lits d'hôpitaux, en 1968, s'élève à 17.476, soit une proportion de plus d'un lit par 1000 habitants, proportion encore assez faible par rapport aux besoins de la population.

2/- La réorganisation de l'administration des hôpitaux est concrétisée par la mise en application d'un projet - pilote dans une maternité de 400 lits qui jouit d'un statut de semi-autonomie au point de vue gestion financière.

3/- Le programme de soins infirmiers continue à se développer dans tous les hôpitaux. Un système de supervision technique du travail des infirmières aux différents niveaux (local, régional et central) a été mis en exécution. De même la publication d'un livre traitant sur l'art infirmier à l'usage des infirmières en service contribue pour une grande part à la

standardisation

des techniques de soins dans les différents établissements hospitaliers du pays.

4/- Le programme de réorganisation des laboratoires médicaux des hôpitaux, déjà mis au point, entrera en vigueur au début de 1969 car l'année 1968 a été consacrée à la formation du personnel.

5/- Le système d'approvisionnement des hôpitaux en matériel et en produits pharmaceutiques de plus en plus amélioré, constitue un soutien solide et d'une très grande efficacité pour les hôpitaux dans la dotation des moyens de traitement des malades et des blessés.

6/- Il est en outre important de noter dans le cadre de la médecine curative, qu'une étude sur l'établissement d'un système unifié de soins médicaux au niveau provincial par la coordination des ressources militaires et civiles en personnel, en matériel et en administration, a abouti à un projet qui sera appliqué en 1969 : ceci a été conçu dans le but d'améliorer les conditions de traitement des malades et des blessés par l'utilisation rationnelle des ressources disponibles du pays.

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II.- SANTÉ PUBLIQUE

Les programmes de santé publique continuent leur expansion dans les régions rurales. Toutefois, vues les difficultés provenant de l'état de guerre du pays, certains d'entre - eux sont restés dans la même situation que l'année précédente.

1/- Programme de lutte contre le paludisme

Malgré les difficultés résultant de l'état d'insécurité de certaines régions, le programme a pu obtenir des résultats suivants durant l'année 1968 :

Nombre total de frottis de sang collectés :

315.310

Pourcentage de lames positives : 2,37%

Nombre d'habitations ayant reçu des pulpérisations de DDT :326.133

Nombre d'habitants protégés : 1.602.186

Quantité de DDT à 75% utilisée durant l'année : 208.022kg.

2/- Programme de Protection Maternelle et Infantile

Le programme de PMI poursuit son extension dans les zones rurales avec un rythme régulier s'appuyant sur la création de nouvelles maternités au niveau des villages et des hameaux. De nouveaux services de consultations prénatales et d'enfants sains ainsi que des visites à domicile ont été ainsi organisés dans les coins les plus reculés du pays. En voici les résultats des réalisations en 1968 :

- Nombre de maternités créées : 181
- Nombre de services de consultations prénatales : 217
- Nombre de services de consultations post-natales : 75
- Nombre de services de consultations d'enfants sains :68

D'autre part, il est aussi important de noter que des efforts ont été apportés dans la formation du personnel surtout en ce qui concerne les accoucheuses rurales qui doivent être formées en nombre suffisant et ayant la qualité requise pour pouvoir venir travailler dans les villages et hameaux. On a pu enregistrer 357 accoucheuses rurales formées en 1968.

De même dans le cadre de ce programme, un noyau d'étude sur la dynamique des populations a été créé au niveau central avec la mise sur pied de 8 centres pilotes dans différentes régions du pays. Des résultats encourageants ont été notés durant l'année 1968, ce qui permettra aux autorités médicales d'arriver à des conclusions importantes dans les années à venir.

3/- Lutte contre la lèpre

Le programme de lutte contre la lèpre continue à poursuivre son objectif qui consiste à dépister la maladie dans différents groupes de la population, en particulier parmi les écoliers et les ouvriers des entreprises industrielles, à traiter les malades aigus, à organiser des centres de réhabilisation fonctionnelle et professionnelle pour les malades blanchis. Pour mener à bien cette oeuvre difficile, le programme s'appuie en grande partie sur l'éducation sanitaire et concentre ses efforts sur la formation du personnel.

En voici quelques chiffres relevés des activités du programme durant 1968.

- Nombre de personnes examinées par l'équique mobile du programme : 17.512
- Nombre de cas positifs décelés : 24
- Nombre de nouveaux cas dépistés par les dispensaires et léproseries : 1.238

(Ceci porte le nombre total de malades à 27.625 dont 24.491 malades externes, 3.134 hospitalisés)

4/- Lutte contre la tuberculose

En 1968, le programme de lutte contre la tuberculose est marqué par le développement des activités dans le domaine du dépistage et du traitement des malades, de la vaccination du BCG aux nouveaux - nés dans les maternités, aux enfants d'âge préscolaire et d'âge scolaire.

Par la création d'un certain nombre de centres anti-tuberculeux nouveaux aussi bien dans la capitale que dans les provinces, le programme dispose actuellement de 4 centres à Saigon et de trois centres dans les provinces . Le programme envisage la création d'autres centres antituberculeux dans d'autres provinces dans l'avenir .

5/- Lutte contre les maladies vénériennes

Les activités de lutte contre les maladies vénériennes se résument par une étude sérologique de la syphilis parmi certains groupes de la population en commençant par les ouvriers; les écoliers et les soldats afin de déterminer les critères sur lesquels se base la mise en application du programme de lutte antivénérienne de grande envergure dans le pays. Les premiers résultats de cette étude ont montré un pourcentage relativement élevé de cas positifs parmi les groupes étudiés (2,8%), ce qui amène les responsables du programme d'entrepredre aussitôt des préparatifs en vue de la mise sur pied rapide des moyens de lutte dans l'année qui vient.

6/- Lutte contre les maladies transmissibles

Le Programme de lutte contre les maladies transmissibles s'est axé sur les maladies suivantes: la peste, le choléra, la poliomyélite et la variole. Les trois premières maladies existent encore à l'état endémique dans le pays, par contre aucun cas de variole n'a été relevé.

En ce qui concerne la peste, une campagne nationale de lutte contre cette maladie s'est déclenchée depuis le début de l'année et va se poursuivre dans les années à venir. Elle vise à déployer des efforts afin d'enrayer la maladie le plus tôt possible par la destruction des puces par les insecticides, la vaccination préventive et l'éducation sanitaire.

Le choléra a été aussi l'objet d'une campagne de lutte intensive. La vaccination anticholérique ainsi que la promulgation des mesures d'hygiène publique et l'éducation sanitaire constituent les principaux points des activités de prévention contre cette maladie.

La vaccination contre la variole reste toujours l'un des principaux soucis des autorités sanitaires bien que la maladie est inconnue du pays depuis longtemps. En effet la population est toujours incitée à se faire vacciner et tous les ans une campagne de vaccination de masse est organisée dans tout le pays.

Le programme d'immunisation contre la poliomyélite chez les enfants de 6 mois à 6 ans par le vaccin oral est en train de s'étendre dans les provinces. Il en est de même pour la vaccination des enfants contre le tétanos, la diphtérie et la coqueluche par le vaccin triple DTC.

D'autre part, des progrès ont été notés dans la réoganisation du système de quarentaine des ports, des aéroports et des zones avoisinantes. Spécialement pour le port de Saigon, un comité de quarentaine concernant la peste a été crée. L'index pucidique y a été étudié périodiquement et la pulvérisation d'insecticides des bateaux a été effectuée gratuitement. Durant l'année 1968, on a pu noter que 253 paquebots qui ont monillé au port de Saigon ont été soumis à une pulvérisation au DDT.

7/- Santé rurale

L'implantation d'un certain nombre de dispensaires-maternités au niveau des districts, des villages et des hameaux a pu être notée.

On peut relever en 1968 les réalisations suivantes:

5 Infirmeries - Maternités nouvellement construites au niveau des districts.

5 Dispensaires - maternités nouvellement construites au niveau des villages.

120 Dispensaires - maternités nouvellement construites au niveau des hameaux.

De même il est important de signaler qu'une réorganisation du système de santé rurale est en train de s'effectuer . L'unité de base sera le centre de santé de district avec renforcement des moyens de supervision technique et administrative destinés à rayonner vers les villages et les hameaux . La coordination et l'intégration des services de santé de base à ces niveaux seront plus poussées afin de rendre plus efficaces les activités de santé publique pour la population rurale.

8/- Statistiques sanitaires

Le service de statistiques sanitaires du Ministère de la santé a été réorganisé en grande partie : l'exploitation des données statistiques de morbidité et de mortalité provenant des hopitaux a été effectuéé avec des moyens mécaniques modernes. Cependant il reste beaucoup à faire dans ce domaine surtout en ce qui concerne la formation du personnel spécialisé.

9/- Institut de Santé Publique

Des préparatif en vue de la mise sur pied au VietNam d'un Institut de Santé Publique ont été poursuivis avec beaucoup d'intérêt. Vers la fin de 1968, un accord a été signé entre le Ministère de la Santé de la République du Vietnam et le Directeur Régional de l'OMS pour le Pacifique Occidental concernant un plan d'opérations pour la mise en marche du futur Institut.

Dans la réalisation de ce projet, il est important de mentionner ici l'assistance précieuse de l'OMS, en particulier du Dr Francisco Dy, Directeur Régional de l'OMS pour le Pacifique occidental et de ses collaborateurs, qui, par leur haute compétence et leur esprit de compréhension ainsi que leur connaissance approfondie de la situation sanitaire de notre pays, ont apporté leur aide d'une très haute valeur dans la création d'un organe dont le rôle fondamental dans le domaine de santé publique est incontestable .

Profitant de cette occasion, nous tenons à leur adresser nos remerciements les plus chaleureux.

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III.- FORMATION DU PERSONNEL

La formation du personnel continue son rythme régulier. Toutefois ou peut noter une certaine augmentation du personnel formé par rapport à l'année précédente, ceci est ~~dû~~ obtenu grâce à la création de nouvelles écoles d'infirmiers dans certaines provinces.

De même des études ont été effectuées dans le but de parvenir à une simplification des cadres techniques afin de pouvoir arriver à une standardisation des programmes d'entrainement dans le futur.

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IV.- CONCLUSIONS

La situation sanitaire du Vietnam durant l'année 1968 a été maintenue au même niveau par rapport à l'année précédente - Toutefois des traits saillants ont pu être ~~notés concernant~~ relevés parmi les réalisations dans le domaine des soins médicaux et de santé publique. Par contre l'état d'insécurité de certaines régions, le manque de personnel, l'insuffisance des moyens sont autant des difficultés provenant de la situation de guerre du pays, difficultés qui ont une influence des fois néfaste entravant le ~~avancement de~~ développement des programmes de santé.

TERRITORY OF PAPUA AND NEW GUINEA

ANNUAL REPORT
1968-69

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TERRITORY OF PAPUA AND NEW GUINEA

ANNUAL REPORT

1968-69

DEPARTMENT OF PUBLIC HEALTH

PORT MORESBY

Department of Public Health Annual Report 1968/69.

CORRIGENDA

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Page 13 line 12 : for "Inpatients rose from 808,650 in 1967/68 to 918,435 in 1968/69" read "Inpatients rose from 131,400 in 1967/68 to 140,500 in 1968/69".

Pages 16-17: Table - Statistical Data. For "Purchasing Indents raised $1,900 $2,022 $1,754" read "Purchasing Indents raised 1,900 2,022 1,754. For "Requisitions purchased $18,930 $19,393 $20,144" read "18,930 19,393 20,144".

Page 47 : Caption under picture. For "Landos" read "Landor".

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Foreword

I am pleased to present again to you the Annual Report of the Department of Public Health. This report for 1968/69 outlines the achievements of the Department during the past year. The Department has provided increased services in all districts of the Territory, and it has done this through the effective use of the many Papuan and New Guinean graduates.

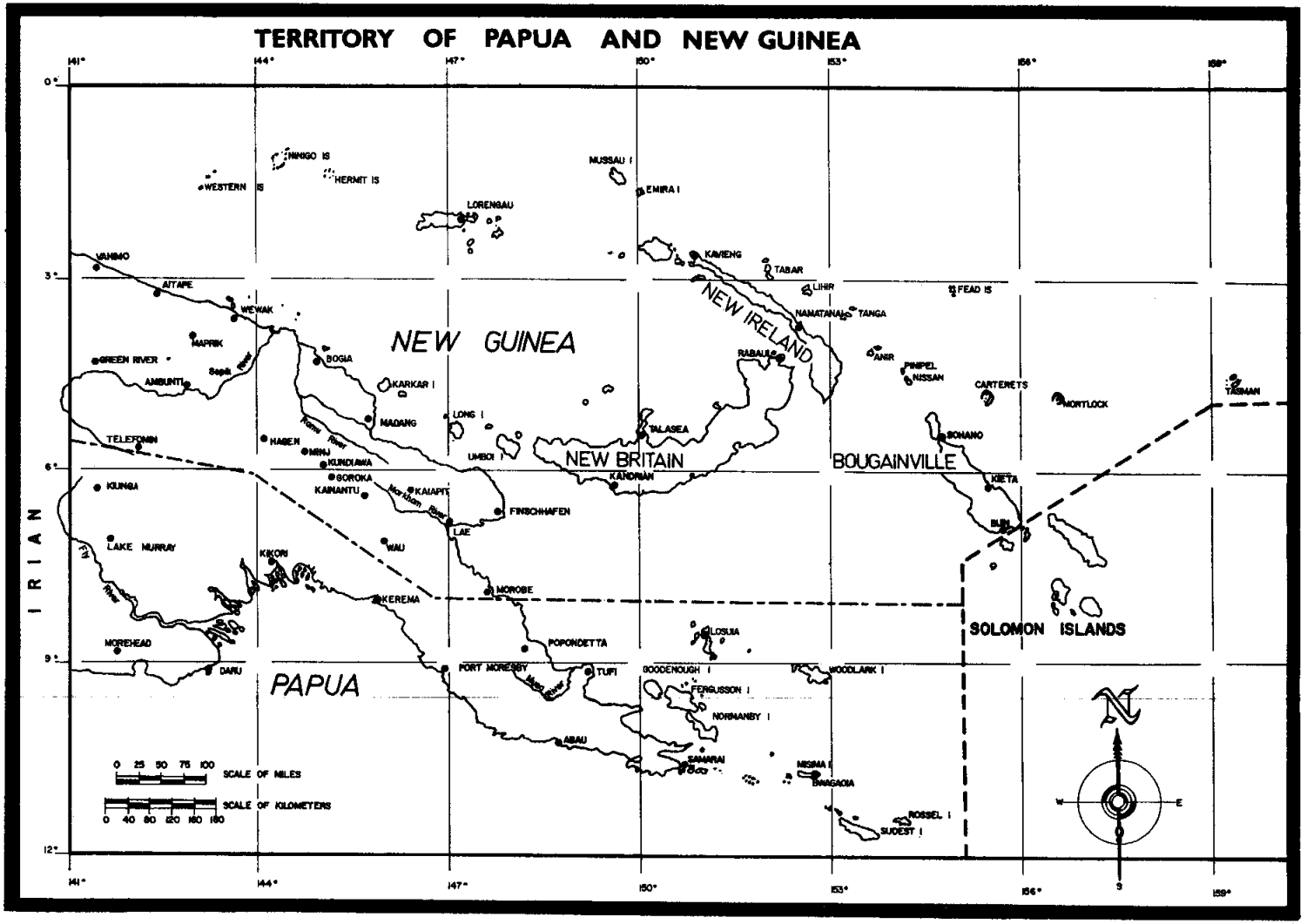
As the Director points out, health can only come to people who want to be healthy, and who are therefore willing to take part in making themselves healthy. The aims and objectives of the Department are thus the aims and objectives of the people themselves.

I would like to express my appreciation of the assistance given by thousands of people, either directly or indirectly through their councils and other groups; by the Christian missions for their assistance to the people, and on behalf of the missions for the help given to them by the people. Working together, this country can be healthy, and if it is healthy it can be strong in every way. Our great plan for economic and social development will fail, if the individual on which these plans are based does not have good health.

Finally, I would thank all members of the Department for the work they have done for this country, and look forward to continued co-operation in future years. This report is presented for the information of the members of the House of Assembly, the people of the Territory and those in other countries, who are interested in the development of good health for the people of my country.

Tore Loko

T. Lokoloko,
Ministerial Member for Public Health.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MOREHEAD
DARU
POPONDETTA
PORT MORESBY
Musa River
TUFI
LOSUIA
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DIRECTOR'S REVIEW

Dr. R. F. R. Scragg, M.D., D.T.M. & H., F.A.C.M.A.

> "The people's health is the concern of the people themselves. They must want health. They must struggle for it and plan for it.". *

The good health of this country is every day less a central government responsibility, becoming more community dependent and related to community needs as interpreted by individuals and various committees and organisations. Personal and family health is being accepted as the responsibility of individuals. The influence of the Department as a central authority bringing health to the country was necessary to establish the structure in which good health for all could develop, and the community foundations of good health. The Department only provides part of the health service each community receives today. In the 1950's it provided everything.

There are many instances of community assistance, from help given to malaria personnel to ambitious schemes, such as the complete reconstruction of the Kerowagi Hospital, and the provision by service organisations of mobile dental clinics. This devolution or internalisation of health services is continuing with the development of hospital advisory boards, the increasing participation of the University in medical education, the first nursing examinations conducted by the Nursing Council, and the establishment of the Institute of Human Biology to undertake and guide medical research in the Territory.

The acceptance of community responsibility has been in part triggered by the rapid increase in population. Over the last 20 years most coastal villages have doubled in size. Population density for the Territory is now 12.9 persons per square mile. Areas of high population density now exist in most Districts, with densities of up to 60 per square mile as in the Chimbu, Wosera and Gazelle Peninsula areas. These densities are small when compared with countries in South East Asia, but they are the kind of densities that existed there before the population explosion of the last century.

Better child survival has increased family size, and with the removal of cultural restraints, births are closer together and the birth rate is rising rapidly. In response to community demand, family planning activities have expanded, and this service is now available for those seeking assistance in all District and some Sub-district centres. The rate of population expansion in rural areas is now greater than the physical ability of families to clear and plant new land. The traditional pat-

* Henry E. Sigerist, "Medicine and Human Welfare", Ch.I, 1941.

terns of agriculture will no longer adequately support much more than present levels of population, and this is one factor in the rapid urbanisation seen today.

Only a healthy community, free from malaria, can cope with the rapid increase in population, but new spraying in the past year has been limited. Locked houses and other kinds of resistance to spraying operations hurt those who take part in the resistance by allowing malaria to increase in their village. The continued assistance of the people in the Malaria Programme is part of a successful attack on the disease. The best anti-malarial, chloroquine, is cheap and available in all stores and should be bought for the medicine chest of every home in every village.

The increasing number of graduates from all training courses is just meeting the needs of the urban communities with their expanding squatter settlements. The Territory has one doctor for about 12,000 persons scattered over 53 stations. 37 of these are staffed by a doctor on his own, and 16 by two or more doctors. Of our near large neighbours, Fiji has one doctor for every 2,500 persons, and one nurse for every 836, while we have one working nurse for about 2,500 persons. Under these circumstances, the doctor cannot be the person of first contact. This contact must be made by the aid post orderly, the nurse, and the medical assistant.

The continuing assistance of overseas institutions and professional bodies in providing invitations and places for officers of the Department has again been greatly appreciated. No less than 24 local officers of all categories received training or experience from these sources during the year.

In the fields of Leprosy and Tuberculosis, domiciliary care, earlier case finding and preventive programmes have reduced the need for hospitalisation. Domiciliary care represents a form of treatment welcomed by patients, and reduces costs for these two large disease programmes. Steps are underway to close two Administration hospitals operated by missions. These hospitals will be converted into institutions for the good of the community, such as high schools and technical schools.

The successful completion of the Regional Hospital at Goroka provides a comprehensive base medical service for almost 900,000 people in the Highlands Region. This hospital represents the final completion of four major medical centres serving the main natural geographical regions of the Territory.

The public hospital charges system was extended to the new Goroka Base Hospital and 14 District Hospitals. Although the present public charges are nominal and in no sense cover the cost of hospitalisation, they are encouraging active community interest in the management of the

hospitals concerned. The Head of the School of Hospital Administration, University of New South Wales, Professor J. Griffith, completed a study of hospital administration in the Territory, and will report on the feasibility of handing over executive functions to independent hospital boards.

Interesting pointers to the future are present in statistics from time to time. For many years pneumonia, malaria and bowel diseases have been the main causes of death in Territory hospitals. The figures for 1968/69 show that cancer, mainly of the mouth and lower leg, has become the most important cause of death in the Islands Region. This is, in part, due to ageing of the population and in part due to the greater level of contact between the people and the Department in this Region, with most sufferers from these diseases admitted and cared for until death.

Pneumonia is as important as ever, and staff of the Papuan Medical College, the Port Moresby General Hospital and the Anguganak Mission Hospital are investigating this disease in an endeavour to determine better methods of prevention, either through vaccination or personal habit change and to improve methods of treatment. Regardless of the results of these investigations, an important factor in pneumonia deaths is the delay between the onset of the disease and the commencement of treatment,

Other research in the Department has shown that full physical development does not occur, as many children receive too little protein. This slowing of growth may also affect mental development of children, and has always adversely affected the physical potential of most of the people. While village diet is poor compared with the ideal, it is, in most cases, better than the diet given in large boarding schools. Investigations are under way to define the levels of feeding that should occur in boarding schools.

The quality of research undertaken by members of the Department was recognised by Australian universities in the granting of the degree of Doctor of Medicine to Dr. A.P. Vines by the University of Sydney for a thesis entitled "An Epidemiological Sample Survey of the Highlands, Mainlands and Islands Regions of the Territory of Papua and New Guinea", and to Dr. B.G. Burton-Bradley by the University of New South Wales for a thesis entitled "Psychiatry in Papua and New Guinea".

The highlights of the education programme of the Department were the graduation of the first health inspectors and pre-school teachers, and the graduation of 81 nurses. On the industrial side, the improvement in salaries for health extension officers and nurses should go a long way toward providing satisfied workers in direct contact with the community. The extra salary for nurses should encourage more women to remain in a career rather than seek early marriage.

An important aspect of our health services is the integration of the preventive and curative fields. The change of title of the District head to District Health Officer, and the increased responsibility being given to these officers, are designed to balance the emphasis on each aspect and improve administration. The Administration is spending almost $7.00 per capita on health services. This is similar to the amount being spent in Fiji, but under 10% of that spent in developed countries. On the other hand it is many times the amount spent in some Asian and African countries. The public may well ask - "Are we getting the return that we should get from this expenditure?" or, "Are our services no better than those now existing in places where less is spent?". In this the effective movement of the services into the rural community is important.

The level at which the community participates in planning as well as in finance, measures the effectiveness of the health dollar in the improvement of the good health of the community, the family and the individual. $60.00 per head with no community participation would not be as effective as $6.00 per head with full community participation. It is not, however, just money that is needed, but rather, interest in and acceptance of health centres and hospitals as community institutions rather than central government institutions, and positive criticism, with the individual or community saying - "There is a defect - there are many answers - the best answer is the one in which I participate with others to correct the deficiency.".

The administration of relatively tightening resources to give the most effective health coverage to all areas and especially to dispersed rural areas, where some 90% of the population lives, remains the major task of the Ministerial Member for Health and the Department. Not only have all staff devotedly applied themselves to this aim, but once again the Department has been greatly assisted by the efforts of the many religious missionaries engaged in health work.

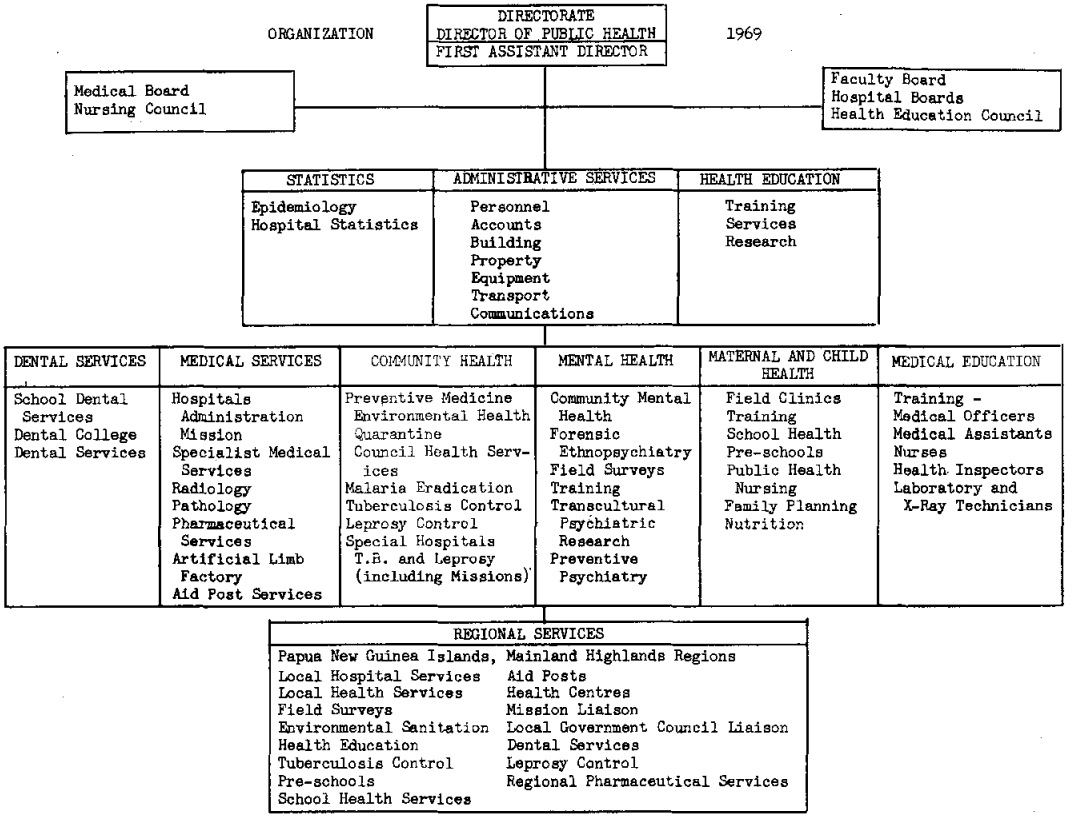
ORGANIZATION

There are seven organizational divisions of the Department, each headed by an Assistant Director who is responsible to the Director of Public Health. These divisions are:

- Medical Services
- Preventive Medicine
- Maternal and Child Health
- Medical Training
- Health Education
- Mental Health
- Administration

To facilitate administration and co-ordination of the field services of the Department, four geographical regions operate under a Regional Medical Officer, responsible to the Directorate, comprising the Director of Public Health and the First Assistant Director. These are:

- The Papua Region with headquarters at Port Moresby.
- The Highlands Region with headquarters at Goroka.
- The Mainland Region with headquarters at Lae.
- The Islands Region with headquarters at Rabaul.



ADMINISTRATIVE SERVICES

Assistant Director—Mr. K. A. Adair, A.A.S.A. (Snr) A.C.I.S.

STAFF:

At the close of the year the total strength of the Department was 6,874 (which includes 298 staff of mission-staffed Administration special hospitals), compared with a total of 6,771 at the end of the previous year. The following tables give analyses of the staffing organisation:

Category	30.6.68	30.6.69
Local Officers and employees	3,060	3,111
Administration servants (including students and trainees)	930*	967*
Labourers	517	517
Aid Post Orderlies	1,182	1,170
Nursing Aides	224	264
Overseas - Permanent Officers	228	201
Contract Officers	194	220
Temporary employees	403	393
Part-time employees	33	31
Total	6,771	6,874

* Includes 298 staff of mission-staffed Administration hospitals.

STAFF BY REGIONS AS AT 30th JUNE, 1969.

	Highlands Region	Mainland Region	Islands Region	H.Q. and Papuan Region	P.M.G.H. and Papuan Med. College
Medical Practitioners	26	29	20	21	39
Dental Officers and Dental Assistants	16	17	15	11	2
Nurses - Registered or Enrolled	84	184	171	45	79
Health Extension Officers	38	39	37	32	12
Health Inspectors	5	6	6	7	-
Pharmacists	2	4	2	7	1
Pre-school Teachers	3	14	10	16	-
Other classified Medical Staff	1,057	1,002	882	704	655
Admin. Servants	60	133	27	-	-
Labourers	130	221	68	52	89
Total	1,421	1,649	1,238	895	877

The overseas staff in the Department decreased by 15, there was a rise of 51 in the number of Local Officer Public Servants.

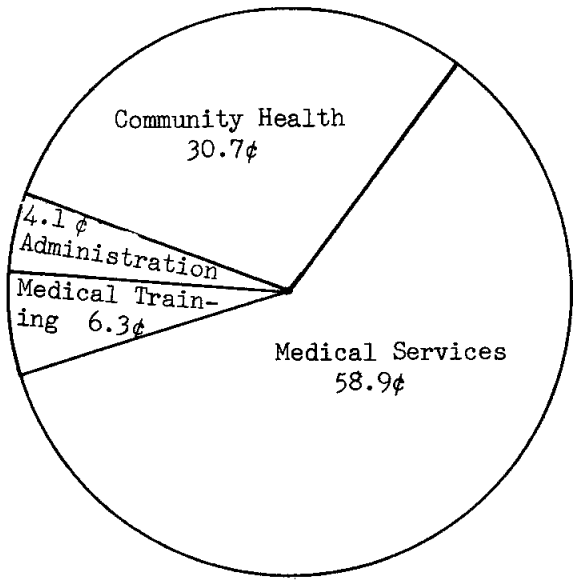
Six hundred and forty-six students are undergoing training in various courses in Departmental training institutions, including 69 medical students.

Four medical graduates from Australian universities commenced their year of residency in Territory hospitals.

ACCOUNTS.

The Public Health Dollar:

The diagram below shows a functional analysis of how each $1 of current expenditure was distributed between the various departmental activites.



The total Administration expenditure on health and allied services increased in 1968/69 by $1,045,929 an increase of 6.9% from 1967/68. The revenue raised by the Department increased by $35,165 an 11.1% increase. This was a result of the charging in public sections of hospitals.

In conjunction with the proposed transfer of medical officer training to the University of Papua and New Guinea, a costing of the Medical Training Division was undertaken. As a result some costs were re-allocated which have caused a relative decrease in the Community Health and Administration apportionment and increase for Medical Training. The handing over of research to the Institute of Human Biology explains the removal of the medical research portion.

TABLE I. COMPARISON AND ANALYSIS OF EXPENDITURE
(Based on Department of the Treasury figures)

ITEM	1967/68	1968/69	% CHANGE
Salaries: Wages and Overtime	7,426,202	8,126,366	+ 9.4
Administrative Expenses: Travel, Patrolling, Library, Office Equipment, and General Administrative Expenses.	1,339,929	1,498,994	+11.9
Hospital and Medical Services: Drugs, stores, training and education materials, dental supplies, hospital and medical equipment.	1,199,929 167,471(a) 1,367,400	1,545,243	+13.0
Mission Medical Services: (i) Grants to Mission General Hospital Medical Staff (ii) Subsidies to Leprosy and Tuberculosis Hospitals	447,592	486,606	+ 8.7
Hygiene and Malaria Control: Malaria eradication, assistance to local government council health services, environmental sanitation.	361,484	375,830	+ 4.0
General Services: Disease surveys, Consultants, Maternal and Child Health, Pre-schools, blood transfusion.	181,630	184,140	+ 1.4
TOTAL DEPARTMENTAL EXPENDITURE:	11,124,237	12,217,179	
EXPENDITURE BY OTHER DEPARTMENTS AND AGENCIES ON BEHALF OF PUBLIC HEALTH.			
General stores, issues and rations	1,040,450	1,011,616	- 2.8
Capital Works buildings, water supplies and sewerage.	2,268,969	2,221,213	- 2.1
Maintenance of water supplies, sewerage, hospital engineering.	798,068	843,945	+ 5.7
New motor vehicles	16,300	-(b)	-
TOTAL ADMINISTRATION EXPENDITURE ON HEALTH SERVICES. (c)	15,248,024	16,293,953	+ 6.9

(a) This item, hospital and medical (capital) equipment previously shown as a separate item, is now included in the Department expenditure.

(b) No new motor vehicles were purchased for the Department during 1968/69. Ambulances were purchased as hospital and medical (capital) equipment.

(c) A grant of $85,000 was made by the Administration to the Institute of Human Biology.

TABLE II.

FUNCTIONAL ANALYSIS OF DEPARTMENTAL EXPENDITURE

(also includes General Stores items (a))

	Medical Services	Community Health	Medical Training	Administration	Total
Expenditure	7,789,720	4,061,183	837,119	540,773	13,228,795
% of Total	58.9	30.7	6.3	4.1	100.0

(a) Departmental expenditure for 1968/69 includes capital purchases and for 1969/70 will include the general stores component.

TABLE III.

REVENUE RAISED BY DEPARTMENT OF PUBLIC HEALTH

	1965/66	1966/67	1967/68	1968/69
Hospital and Medical	248,471	281,624	295,707	332,528
Sale of Medical Stores	6,326	6,411	6,656	6,254
Dental	8,002	12,346	14,487	13,233
TOTAL REVENUE	262,799	300,381	316,850	352,015

HOSPITAL BUILDING PROGRAMME:

A total of $918,000 was spent on construction of permanent Departmental hospital buildings. $715,000 was spent on the new Goroka Hospital and $187,000 on the Basic Medical Science Building at the Papuan Medical College, both of which were completed during the year. Work commenced on the new Psychiatric Ward at the Port Moresby General Hospital, and to date $6,000 has been expended on this project. In addition, maintenance on existing buildings has amounted to $138,500 and a further amount of $33,500 was spent on hospital engineering services.

During the year a total of $119,000 was spent at a number of centres on improvements to hospitals. This money was supplemented by community contributions, in most cases equalling the Administration grant. Hospital improvements were carried out at the following centres (41) under this vote.

Papuan Region

Alotau
Balimo
Gemo Island
Kerema
Kupiano
Kwikila
Laloki Psychiatric Centre
Popondetta
Port Moresby
Sogeri

Mainland Region

Dreikikir
Garaina
Josephstaal
Kabwum
Lumi
Madang
Maprik
Raihu
Telefomin
Vanimo

Highlands Region

Gumine
Ialibu
Kainantu
Kandep
Kerowagi
Kundiawa
Laiagam
Mendi
Mt. Hagen
Tari
Togoba Hansenide Colony
Wabag

Island Region

Anelaua
Buin
Kavieng
Kieta
Nahavio
Namatanai
Rabaul

STATISTICS:

This section deals with special surveys, statistical assistance and advice and preparation of statistics for hospital reports. It is staffed by a Senior Research Officer, two Statistics Clerks and five Coding Clerks. As a result of processing by electronic computer, more detailed analysis of hospital statistics is now available, and hospital disease statistics have been updated. The most recent publication is for the years 1964-67.

The following tables are extractions from the 1968 computer print-out.

LEADING CAUSES OF DEATH IN ADMINISTRATION HOSPITALS
for year ended 31st March, 1968

Underlying Cause of Death	Deaths	
	Number	%
All causes	2,864	100.00
Pneumonia	558	19.5
Diarrhoeal Disease	341	11.9
Immaturity	140	4.9
Malignant Neoplasms	136	4.7
Meningitis	129	4.5
Malaria	128	4.5
Accidents, Poisonings and Violence	120	4.2
Tuberculosis, all forms	108	3.8
Diseases of Heart	94	3.3
Malnutrition	94	3.3
Other causes	1,016	35.5

LEADING CONDITIONS TREATED IN ADMINISTRATION HOSPITALS
for year ended 31st March, 1968

Principal Condition Treated	Number	%
All new conditions	125,727	100.00
Pneumonia	14,193	11.3
Malaria	11,167	8.9
Diarrhoeal Disease	10,732	8.5
Normal Delivery	8,295	6.6
Bronchitis	6,650	5.3
Skin Infections	5,588	4.4
Lacerations and Open Wounds	4,645	3.7
Tuberculosis	3,313	2.6
Fractures of Limbs	2,616	2.1
Chronic Ulcer of Skin	2,328	1.9
Other conditions	56,200	44.7

AVERAGE NUMBER OF BEDS OCCUPIED IN ADMINISTRATION HOSPITALS FOR TEN LEADING CONDITIONS
for year ended 31st March, 1968.

Principal Condition Treated	Number	% of all Beds	% of beds other than T.B. or Leprosy
All conditions	6,868	100.00	-
Tuberculosis	1,766	25.7	-
Leprosy	1,044	15.2	-
Pneumonia	362	5.3	8.9
Normal Delivery	228	3.3	5.6
Malnutrition	223	3.2	5.4
Diarrhoeal Disease	211	3.1	5.1
Fracture of Limbs	175	2.6	4.3
Skin Infections	175	2.6	4.3
Lacerations and Open Wounds	173	2.5	4.2
Chronic Ulcer of Skin	152	2.2	3.7
Other Conditions	2,359	34.4	

DIVISION OF MEDICAL SERVICES

Assistant Director—Dr. D. J. Foley,
M.B., Ch.B., D.A.

The Medical Services Division is responsible primarily for the general hospitals of the Territory. It also works in liaison with mission hospitals and supervises generally the work of aid posts.

The year has been one of continued increase, as the number of patients admitted to the larger hospitals continues to rise. In smaller hospitals the picture is varied. In some areas better access by patients, increasing confidence, and improvement in the quality of the service offered are reflected in an increase in the number of patients seeking attention. In other places a general improvement in health and the long term effects of maternal and child health clinics, aid post services and malaria eradication, is shown by a diminishing number of patients seeking treatment. Inpatients rose from 808,650 in 1967/68 to 918,435 in 1968/69.

There is a diminution in the number of patients with chronic disorders requiring long term hospitalisation, but some increase in the treatment of acute diseases. There are more neonatal patients presenting with congenital deformities, indicating increasing medical awareness of the value of early treatment.

A number of developments deserve special mention.

The Goroka Regional Hospital was completed in December, 1968, and the first patients moved in in January. This hospital has been planned for several years and its construction sets a new standard of hospital design and building for the Territory. The surgical, obstetric, paediatric, medical and psychiatric wards provide a total of 245 beds. Modern facilities incorporating many modern concepts of hospital planning include three air-conditioned operating theatres, three delivery suites, two dental surgeries, X-Ray and pathology departments, physiotherapy services, a Red Cross blood transfusion service, a dispensary and a central sterile supply department of the latest design. The hospital will be a suitable setting for the development of the specialist services for which patients will be referred from the whole Highlands Region. The psychiatric unit is the first in the Highlands, and will not only relieve pressure on Laloki Hospital, but more important, provide treatment closer to home for psychiatrically ill patients.

Also in the Highlands, the Chimbu District has seen considerable developments in hospital building, in association with local government councils at Kundiawa, and more strikingly at Kerowagi.

The planning associated with the proposed development of copper mining in Bougainville has focussed attention on that district. The Dist-

rict Health Office has transferred from Sohano to the more limited facilities of Kieta. Urgent planning is going forward for a new hospital, but in the meantime immediate needs are being met by temporary measures.

There have been several visits of thoracic surgical teams over the years. Recently, visiting surgeons have commented on the diminishing amount of pulmonary surgery - usually for tuberculosis - and the increase in the number of cases referred because of heart disease. In co-operation with the National Heart Foundation, a Brisbane consultant was invited to the Territory to carry out a survey of heart disease and make recommendations about future surgical team visits.

Following adoption of this report, smaller teams combining teaching and therapeutic programmes will visit the Territory. The first team under the revised policy arrived in Lae in March from St. Vincents Hospital, Melbourne.

In November, the Port Moresby Hospital Advisory Board ended its first year of office. In its report the Board commented on the need for alterations in its constitution to make it more representative of the community, and more effective, and on problems of overcrowding and of maintenance in the Port Moresby General Hospital. Following this report a consultant from the School of Health Administration, University of New South Wales, was appointed to investigate and advise on the feasibility of providing Hospital Boards in the Territory with executive powers, with particular reference to the Port Moresby General Hospital.

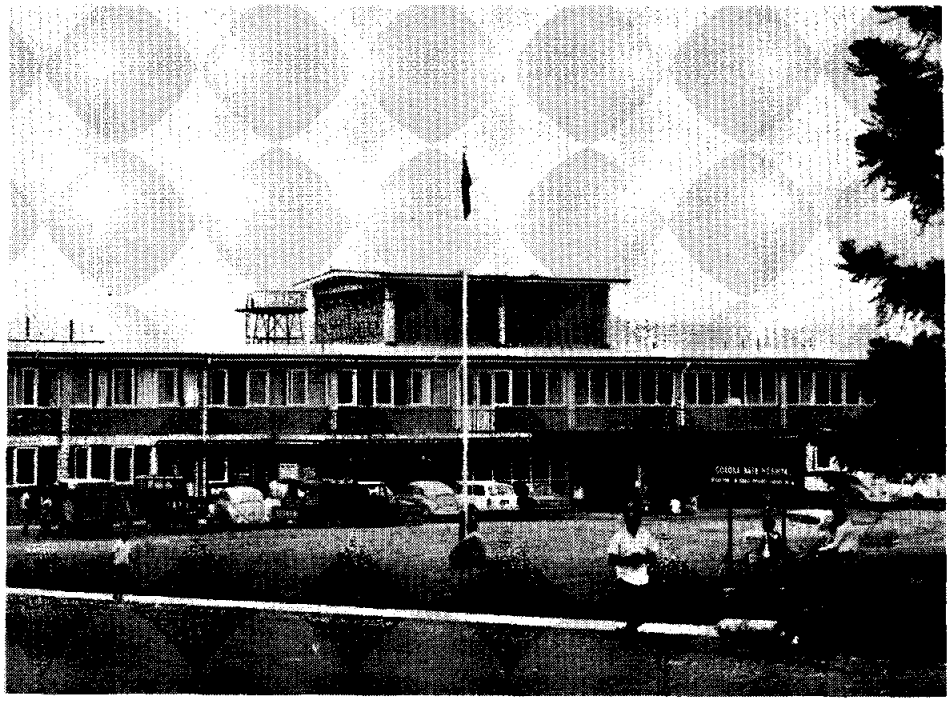
The Department assists various Christian Missions providing hospital and health services in the Territory by giving subsidies, drugs and specialist advice.

In March, the system of charging fees for public outpatient and inpatient services was extended to the new Goroka Base Hospital and also to all District Hospitals with the exception of West New Britain. Charges are nominal only, and in line with those introduced in December, 1967, at Port Moresby, Lae, and Rabaul. The outpatient fee is 20 cents per visit and inpatients are charged $2.00, irrespective of duration of admission. Children under 14 years and indigent patients are not charged. These charges are seen as an educational step towards community participation in the provision of health services. This policy of self help was also evident in increased co-operation from local government councils in the running of aid posts and health centres, in the provision of ambulance services, and in the development of Community Health Committees.

The Department is glad to note that local nurses who have resigned to get married are now beginning to return to work in hospitals, as family ties permit. It is hoped that this trend will continue.

The Department of Public Health has undertaken a number of training courses for Medical Aides during the year. The aim of this training is to establish first-aid and referral services in plantations and other sections of industry.

The Department again appreciated the co-operation of organisations such as Red Cross, St. John Ambulance and Civil Defence.



Goroka Base Hospital.

PHARMACEUTICAL SERVICES SECTION

Superintendent Pharmaceutical Service—Mr. V. Holna, Ph. M. (Prague)

The Section provides a complete medical supply service to all departmental and mission hospitals throughout the Territory. The preparation of specifications, setting of standards and ordering of supplies is handled by the headquarters office, which also provides in-service training for local storemen. The Superintendent of Pharmaceutical Services is a member of the Pharmaceutical Advisory Committee, which conducts a continuing revision of the departmental Medical Stores Catalogue and evaluates trends in drug usage for planning and budgeting purposes. Pharmacists of the section carry out inspection duties under relevant drug legislation.

The storage and distribution of medical supplies, which include surgical instruments, major medical apparatus, scientific and laboratory equipment and dental supplies, is handled by six medical depots situated at Port Moresby, Lae, Rabaul, Wewak, Madang and Mount Hagen.

X-Ray and electro-medical apparatus maintenance service is provided by a well-equipped modern workshop at Port Moresby. Technical officers from the workshop travel extensively on repair and maintenance assignments. A modern artificial limb factory is established at Lae, and in addition to limb prostheses provides protective footware for leprosy patients following reconstructive surgery.

Hospital pharmacies are established at the four main hospitals at Port Moresby, Lae, Rabaul and Goroka, whilst pharmacies in the smaller hospitals at Wewak, Madang and Mount Hagen are supervised by Supply Officers, whose primary function is the management of medical depots in those centres.

The Pharmaceutical Section comprises a total of 101 positions, of which 94 were filled at the end of the year.

The Third Edition of the Medical Stores Catalogue was published listing some 2,400 items. Other achievements included the finalisation of deliveries of all major equipment worth some $50,000 purchased for the new Goroka General Hospital, and the installation of air-conditioning in the District Medical Store at Wewak. All coastal medical depots are now air-conditioned.

Statistical Data

	1966-67	1967-68	1968-69
Purchasing Indents raised	$1,900	$2,022	$1,754
Value of Purchases	$1,220,500	$1,260,000	$1,440,000

Statistical Data (Cont.)

	1966-67	1967-68	1968-69
Requisitions Processed	$18,930	$19,393	$20,144
Issues by ship (in c. tons)	782	827	1,116
Issues by air (in lbs.)	305,258	322,763	282,507
Issues by road (in lbs.)	349,450	433,421	717,405

DENTAL SERVICES

Chief of Dental Services—Mr. D. A. Anderson, B.D.Sc. (Sydney)

Dental services in the Territory are divided into two categories, and these comprise:

THE SCHOOL DENTAL HEALTH SERVICE - treatment under this category is free and is carried out primarily by Territory trained operating dental auxiliaries - the Dental Nurse/Assistant. These auxiliaries devote 90% of their duty hours to the School Dental Health programme, the remainder of their time being spent on a relief-of-pain service for adults. It is the long term aim of the School Dental Health Service to provide complete cover for all Territory Primary School children. At the present rate the primary school population is increasing, it is unlikely that the service will be able to achieve its aim without considerably expanding existing training facilities.

THE GENERAL SERVICE - treatment under this category covers all sections of the community not eligible for registration in the School Dental Health Service and who are unable to obtain treatment from private or mission practitioners.

There are a total of 43 fixed dental clinics and 3 mobile clinics located throughout the Territory. These clinics are staffed by 12 Dental Officers, 49 Dental Nurses/Assistants and 12 Technicians.

One Dental Officer obtained the Diploma of Public Health (Dentistry). A Dental Assistant Tutor was awarded a W.H.O. Fellowship of 4 months to study teaching techniques in New Zealand. A Dental Assistant completed the one-year Diploma course at the Institute of Health Education in Port Moresby.

The Dean of the Faculty of Dentistry, University of Sydney, visited the Port Moresby Dental College as its first visiting consultant in December, 1968. His report and recommendations are being closely studied with a view to the future development of this training institution.

The College also received a visit from the Senior Lecturer and Head of the Department of Periodontics, Faculty of Dentistry, University of Sydney. He provided a concentrated course of one month and gave clinical demonstrations in Periodontics to Dental Officer students.

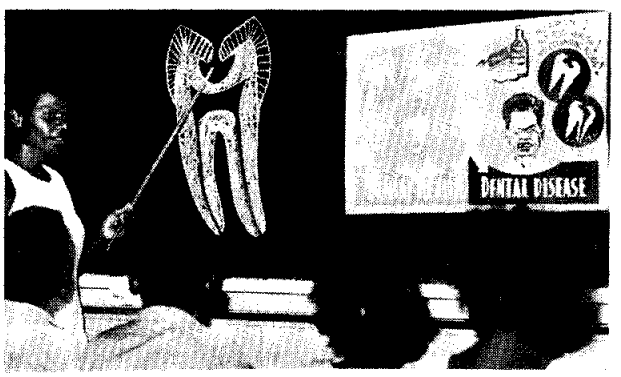
The year has been mainly one of consolidation with only five fixed new clinics being established. Australian and Territory Apex and Rotary Clubs donated three mobile dental clinics. Their purpose is to serve relatively widely separated smaller schools.

Graduates from the Port Moresby Dental College totalled nine Dental Nurses/Assistants and four Dental Technicians. Students currently undertaking courses at the Port Moresby Dental College are as follows:

	Preliminary Year at the University of Papua New Guinea	1st Year	2nd Year	3rd Year	4th Year
Dental Officers	9	0	4	3	4
Dental Nurses/Assistants	N/A	10	8	N/A	N/A
Dental Technicians	N/A	4	3	2	N/A

Dental Statistics ('00s)

	School Service		General Service		Total	
	67/68	68/69	67/68	68/69	67/68	68/69
Initial Examinations	431	389	-	334	431	723
Revision Examinations	345	423	-	-	345	423
Total Attendances	795	856	338	382	1133	1238
Extractions	89	99	248	295	337	394
Restorations	330	416	130	168	460	584
Periodontal Treatment	302	338	52	39	354	377
Prosthetics/ Orthodontics	-	1	-	20	-	21



School Dental Health Education.

COMMUNITY HEALTH

Assistant Director—Dr. J. L. Jameson,
M.B., B.S., D.T.M. & H., M.P.H.

The Community Health Division is composed of the Sections of Preventive Medicine, Malaria Eradication, Leprosy Control, and Tuberculosis Control.

The Division of Preventive Medicine is primarily concerned with environmental health, quarantine and communicable disease control other than malaria, leprosy and tuberculosis. A new section, Local Government Council Health Services has been added during the year.

ENVIRONMENTAL HEALTH: Activities in this area are for the most part directed by the Health Inspectors. Industrial hazards are mainly related to the use of pesticides in agriculture and chemicals in the timber industry. Reticulated water supplies in urban areas are being expanded to meet the increasing population growth. Satisfactory refuse disposal is becoming a minor but expensive problem in many urban areas, as rapid growth produces considerably increased quantities of refuse. Disposal is generally by sanitary landfill. In rural areas, efforts are concentrated upon improved water supplies and sanitary disposal of all wastes.

QUARANTINE: No cases of quarantinable diseases were detected. All shipping and aircraft arriving from countries other than Australia, New Zealand and British Solomon Islands are subject to quarantine inspection. The Territories policy of requiring all people from Asian countries to have a valid International Certificate for Cholera is justified by the continued presence of cholera in many of these countries. All arrivals other than those from Australia, New Zealand and B.S.I.P. are also required to possess a valid International Certificate of Vaccination against smallpox.

COMMUNICABLE DISEASE CONTROL: Communicable disease control continues, and while enteric and respiratory diseases still continue to be a major public health problem, there has been a considerable decrease in sporadic localized epidemics of pertussis, no doubt due to the increased vaccination coverage. Localized epidemics of measles during April, May and June were experienced, while mumps and infective hepatitis showed a slight increase. There were no major epidemics of communicable diseases during 1968-69.

COUNCIL HEALTH SERVICES: This section was created to correlate all matters on Local Government Councils, and their Health Services activities, and to co-ordinate the Department's assistance to Council Health Services. This scheme provides for the involvement of local government councils in the payment of health workers' salaries, environmental sanitation projects, health building projects and land-sea transport for

health work, all of which are subsidized according to what stage the council has been graded by the Director of District Administration. There are 3 Stage "2", 35 Stage "1" and 104 Stage "0" Councils, making 142 local government councils covered by the Health Assistance Scheme in the Territory. During the past year the control of subsidized water projects was taken over by the District Co-ordinating Committees as part of the Territory's Rural Development Programme.

LEGISLATION: The Public Health (General Sanitation) Regulations were amended to permit the use of reduced flush cisterns in areas where the water supply is limited and to permit the use of fibre glass septic tanks. An Ordinance to license second-hand dealers including retailers was passed by the House of Assembly.

HEALTH INSPECTION: Health Inspector training continues at the Para-Medical Training College at Madang, and the first three local officer Health Inspectors from the College graduated this year. In addition to passing the school examinations all were successful in obtaining the Diploma for Public Health Inspectors, issued by the Royal Society for Health, London.

GOITRE PROPHYLAXIS: The programme for control of endemic goitre by injection of iodised oil continued. Since the programme commenced, 59,155 injections have been given throughout the Territory by field staff in conjunction with their other duties.

VENEREAL DISEASE CONTROL: The small unit established in Port Moresby to develop methods for improved diagnosis treatment and contact tracing is functioning at Taurama Hospital. It is staffed by a Health Extension Officer and Orderlies with the District Health Officer providing the medical direction.

The following table gives a summary of cases treated at the Taurama Hospital Clinic:

	Donovanosis	Gonorrhoea	Syphilis	Other Conditions
Male	220	305	5	36
Female	23	26	2	1

Hospital statistics show that 1,300 people have received treatment for Gonorrhoea at other Administration Hospitals.

MALARIA SERVICE

Senior Specialist (Malariology)—Dr. J. J. Saave, M.D., D.P.H., D.T.M. & H.

Malaria remains the major health problem in the Territory. Endeavours to eradicate Malaria are still proceeding despite difficulties in obtaining all resources necessary for full implementation of progressive eradication. In all 9.5% of the health budget is applied to the malaria programme, which is estimated to cost $1.10 per head of population protected. This expenditure constitutes 1.02% of the National Budget. It has not been possible to expand coverage this year, although preliminary surveys in the Bogia and Kairuku Sub-district have been instituted.

DDT remains the insecticide of choice, water dispersable powder being used on native material buildings, and emulsion concentrate on permanent buildings.

Continuous effort is made to offset insect damage to roofs and rafters and also other side effects associated with the long term application of DDT. Entomological studies of life cycles of pests causing property damage are being undertaken. Health education is directed to explaining these temporary drawbacks in spraying to the people, along with the long term advantages of the campaign.

Within the Malaria Branch two new sections, Epidemiology Assessment and Field Operations, have been formed, each section being directed by a Medical Malariologist. The assessment of the Territory programme is a constant process and endeavours are continuously made to ensure that evaluation provides up-to-date and accurate information on the progress of the campaign.

At present there are 971 employees engaged on the Malaria work in this country; 923 are Papuans and New Guineans and 48 are overseas employees. The following table shows the distribution between Sections of the Branch:

	Administration	Operations	Epidemiology	Training	Total
Local	35	671	151	66	923
Overseas	12	30	4	2	48
Total	47	701	155	68	971

The Malaria School at Kundiawa, together with the Field Training Centre at Kainantu, trained 29 Squad Leaders, 17 Team Leaders, 5 Laboratory Technicians and 9 Area Supervisors during the year. Selected pro-

ject areas in the Chimbu District, Eastern Highlands and Morobe Districts are utilized to give field training and experience to malaria campaign workers. The headquarters for field training is situated at Kainantu in the Eastern Highlands District.

The administration of the malaria programme is continually under examination in an endeavour to ensure the maximum simplicity compatible with efficiency in this Territory-wide undertaking. Progress was made in simplification of forms and procedures.

Four Senior Public Health administrators representing Regional, District and Sub-district levels attended a W.H.O. seminar on malaria in Manila during the year. The knowledge gained by the participants at this seminar has been usefully applied.

The Fourth Inter-Territorial Conference on Malaria was held at Kundiawa in the Chimbu District from 10th to 21st May, 1969. Countries participating were Australia, Territory of Papua and New Guinea, British Solomon Islands Protectorate and Indonesia. The World Health Organization also sent representatives. This conference dealt with problems associated with eradication of malaria and progress reports from attending countries were tabled. A full report of the conference is being provided by the World Health Organization.

Microscopists in Laboratory,
Port Moresby.

TUBERCULOSIS CONTROL SECTION

Senior Consultant—Dr. S. C. Wigley,
M.B., B.S., M.R.C.P. (Lond.)

In the past year the Section was active in all Regions. Work was done in the Central and Milne Bay Districts of Papua, and in all Highland Districts, in East and West New Britain, and in the New Ireland, Bougainville, Morobe, and West Sepik Districts.

72,917 Mantoux skin-tests were done, and 293,246 vaccinations with B.C.G. vaccine were performed. 72,055 X-ray examinations were done on 70 mms. microfilm. The vaccination figures include only a small number of those done for the Section by the Maternal and Child Health units.

The following table compares the work done in the past two years:

	1967/68	1968/69
Mantoux tests	66,965	72,917
B.C.G. vaccinations	159,733	293,246
Micro-films	84,932	72,055

Despite a marked increase in the number of B.C.G. vaccinations given the figure fell short of the target for the year. Attention has again been directed to the schools and the newborn in the vaccination programme.

X-Ray examinations were restricted by difficulties in keeping units in continuous operation.

Approximately 3,267 patients received treatment for tuberculosis and roughly half of these were managed as out-patients. The out-patient treatment programmes are providing a fully supervised, intermittent (three times weekly), treatment service for patients, and in general terms they are performing satisfactorily. The present policy ensures that initiatives in treatment are retained by the control service, and not by the patients. Efficient functioning of these out-patient programmes demands, however, that they should be supervised constantly and frequently, and it is in this area of activity that some deficiencies are manifest at this time.

It is apparent that tuberculosis is becoming increasingly an urban problem from the point of view of the Section. Port Moresby, with roughly one fiftieth of the T.P.N.G. population, is providing a service for approximately one eighth of the tuberculosis population. This trend is also making itself evident in such towns as Lae, Rabaul, and Madang, as the urban drift continues.

The most important change in the year was the further development of the Central Laboratory in Lae. The National Association for the Prevention of Tuberculosis in Australia (N.A.P.T.A.) has agreed to sponsor the Laboratory for an initial period of three years, and to this end has provided money for the conversion of a small section of Angau Memorial Hospital into a mycobacterial laboratory. In addition, the Association has arranged for the training of a local medical technologist in mycobacteriology techniques at the Public Health Laboratory in Brisbane.

The Lae laboratory will serve the Territory as a central unit and will provide diagnostic facilities and eventually a drug sensitivity service. During the year 4,630 culture media were prepared at Lae, 4,219 sputum smears were examined and 3,070 cultures prepared.

The experimental work at Karimui continues. This has been reported elsewhere (see Appendix II). At Laiagam examination of post-vaccination conversion reactions following B.C.G. vaccination (at 36 months), confirms the substantial reversion to a tuberculin negative state, which was indicated at previous examinations.

Field training of Hospital Assistants, and Health Extension Officers has continued and a local Medical Officer was appointed as Regional Tuberculosis Officer to the Highlands Region.

LEPROSY SECTION

Senior Specialist (Leprology)—Dr. D. A. Russell, M.B., B.S., D.P.H.

During the past year the Leprosy Section has been actively engaged in case detection, health education on all aspects of leprosy, and the promotion of domiciliary treatment.

This work has been conducted by the Regional Leprosy Control Units at Port Moresby, Mount Hagen and Rabaul, and the Leprosy Control Units at Madang and Lumi.

210,330 persons were examined and a total of 1,810 (1,413 old known, and 397 new) cases of leprosy were recorded by survey units.

A notable feature has been the active case detection field work by missions engaged in leprosy treatment. This has been done both in association with Administration leprosy control units and independently. Missions have conducted case detection surveys in the Southern and Western Highlands, in the Central, Western and Gulf Districts of Papua and in the Madang District.

Greater emphasis has been placed on domiciliary treatment but the isolation of infectious cases at leprosy colonies is still necessary. Patients are also admitted to general Administration and mission hospitals.

For the year, the number of patients in the various colonies and hospitals totalled 1,602. There were 1,391 admissions and 1,297 discharges from these institutions. There are 5,658 patients receiving regular domiciliary treatment in various areas of the Territory.

Active propaganda and health education in leprosy have been undertaken in all parts of the Territory. A special work shop in health education in leprosy was conducted by the Health Education Institute in Port Moresby, and mission medical personnel working in leprosy attended. The Regional Leprosy Control Unit, Mount Hagen also conducted leprosy seminars for Health Extension Officers at Kundiawa, for Aid Post Orderlies and Nursing Aide trainees at the Aid Post Training School, Mount Hagen and for Hospital Orderlies working at the Baiyer River Mission Hospital, also the leprosy colony at Yampu. Special clinical demonstrations and lectures have been conducted for the medical students and nurses of the Papuan Medical College.

A local Medical Officer was awarded a three month World Health Organization Fellowship in leprosy and undertook observation study tours in the Philippines, India, Burma and Thailand.

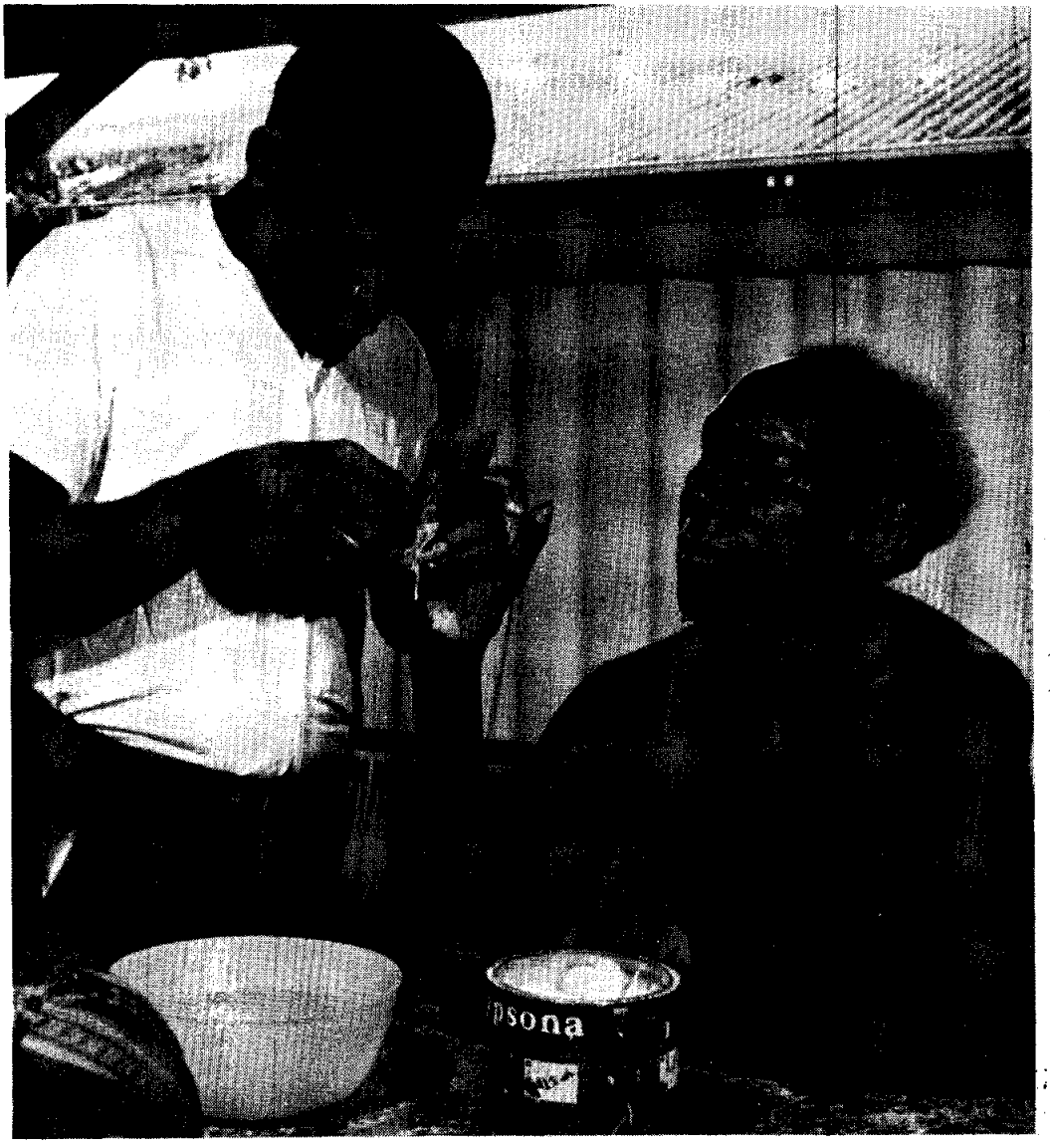
The Specialist Surgeon of the Leprosy Reconstructive Surgery Unit, Madang made several surgical visits to many centres. He was also actively engaged in the leprosy training of Health Extension Officers at the Para-Medical Training College at Madang. One Mission Sister and the Physiotherapist received specialist instruction in ulcer care. The Leprosy Reconstructive Surgery Unit also carried out general leprosy treatment and control work in the Madang District. During the year, 168 operations (hand 84, foot 67 and others 17) were performed on leprosy patients and 257 pairs of shoes were provided for patients by this Unit.

The third Surgeon in the Territory trained in Leprosy Reconstructive Surgery joined the Administration colony at Togoba, Western Highlands District. In addition to the surgical programme at this colony, he will assist the general leprosy control programme in the Highlands. 62 operations (30 hand, 27 foot and 5 others) were performed and 150 pairs of shoes supplied to patients over a nine month period.

The Leprosy Mission Control Unit at Tari, Southern Highlands District was active in case detection and follow-up of leprosy patients. The staff are now engaged in a re-survey of the Tari Sub-district, having completed initial surveys of the Margarima and Nipa areas. During the year this Unit provided 400 pairs of shoes for patients. Earlier in the year, the Unit's Reconstructive Surgeon completed the Mission's immediate surgery programme before transferring to the Administration Leprosy Unit at Mendi.

The following is a summary of Leprosy Control Unit statistics:

	New Cases Detected 1968-69	Total Cases Registered to 31.3.69
Highlands	627	7,910
Port Moresby	255	1,415
Rabaul	128	1,553
Madang	168	1,354
Leprosy Mission, Tari	80	625



Hospital Orderly, Leprosy Reconstructive Surgery Unit, applying plaster cylinders to straighten contracture of the fingers.

HEALTH EDUCATION SECTION

Assistant Director—Dr. E. J. Wright,
M.B., B.S. (Syd.), D.P.H. (Lond.), D.T.M. & H. (Syd.)

There has a considerable expansion of health education activities in e Territory during the year and it is considered that the most import- t work has been in studies aimed at providing a sound professional bas- for the development of clinical, community and school health education.

The organisation and development of health education services in pua and New Guinea has continued to attract international attention. e Health Education Section was host to a South Pacific Commission sem- ar on health education. The seminar was attended by representatives om the South Pacific area and by all health educators working in Papua d New Guinea. At the seminar it was indicated that facilities estab- shed in Papua and New Guinea could assist in the development of health ucation activities in other Pacific Island Territories.

Health education forms a part of the education and training of all alth workers and is also part of the basic health services. To assist the training of workers in health education, student work-books and acher hand-books in health education were prepared during the year.

Several conferences and seminars on health education were conducted r health, education and welfare workers.

A Health Educator from the Department of Public Health has continued work with the Department of Education, and considerable progress has en made in preparing detailed syllabi for a health curriculum for all rritory schools.

There are now three professional Health Educators engaged in central ministrative activities and a further 13 working as District Health ucators. District Health Educators work in urban and rural communities d develop health education resources in the Districts by means of train- g courses for health workers. They are also responsible for the estab- shment of a system of village health teachers in the villages.

In addition to professional workers, 85 orderlies are engaged in alth education activities. These workers, usually attached to health ams in the rural areas, carry out communication or publicity work.

There has been an increase in the output of the health education rkshop, following a heavy demand for teaching materials from within the rritory and from overseas.

Health broadcasts from Administration and Australian Broadcasting mmission stations continue to be a feature of health education activi- es.

17 students attended the second annual course for the Diploma of Health Education, conducted at the Institute of Health Education, Port Moresby. The course provides health educators for work in special heal programmes such as Maternal and Child Health, Malaria, Dental and Lepro Services, and for church, education and welfare organisations.

Participants of 1968/69 Diploma in Health Education Course of Studies, Institute of Health Education, Port Moresby.

QUEEN ELIZABETH II MATERNAL AND CHILD HEALTH SERVICES

Assistant Director—Dr. D. P. Bowler, M.D. (Lond.), M.R.C.P., D.T.M. & H.

This Division of the Department of Public Health provides a comprehensive health service for mothers and children throughout the Territory, embracing educative, curative, and preventive medicine.

There are 37 main centres, and eight rural health centres which hold 757 clinics, The clinics are staffed by 123 Papuan and New Guinean nurses and 50 expatriate nurses.

During the year there were 147,277 attendances of children under one year, 307,311 attendances between one and five years, and 24,389 attendances of children over five years. There were 32,459 antenatal attendances, and maternal and child health staff delivered 1683 babies.

School health is an essential part of the maternal and child health service, and although there are separate school health teams in Port Moresby, Rabaul, Lae, Mount Hagen and Goroka, the mobile maternal and child health teams regularly visit schools in their areas. Other health workers - such as health extension officers - conduct school health examinations.

During the year 77,240 were enrolled, 49,552 examinations made, and 39,469 treatments given. The problem of children with hearing and sight defects is not inconsiderable, and during the year in one urban area (Port Moresby), 92 children were found whose hearing or sight was considered to be below normal.

The development of the maternal and child health service towards a full community health programme continued. Family visiting increased more than five fold. All urban centres, and some rural centres, both mission and Administration now undertake family visiting. During the year 5,459 homes were visited for the first time, and there were 4332 revisits. 749 children were seen who were referred from hospital, and a total of 14446 children and 11022 adults were seen.

Full time family planning staff were appointed at Headquarters during the year, and an inservice training programme for maternal and child health staff was established in Port Moresby. During the year 1,328 women sought advice on family planning, and 1,034 were offered a form of contraception, either the Lippes Loop (971 acceptances), or an oral contraceptive (63 acceptances). Initial surveys were carried out in some of the communities round Port Moresby to determine attitudes and beliefs of women towards contraception and family planning.

The work of the area Child Health Specialists (Goroka, Mount Hagen, Wewak, Madang and Rabaul), provided a valuable link between hospital and field work. During the year specific child health problems in relation to endemic cretinism (Western Highlands), and growth rates amongst Chimbu children (Eastern Highlands) were investigated.

An important aspect of the work of this Division is the close liaison maintained with religious missions undertaking maternal and child health work. There are 209 mission centres subsidised by the Administration for this work, and nearly all undertake village clinic work in addition to work at the mission station.

In many instances maternal and child health work is undertaken by trained nurses who have graduated from their own mission training schools. There are 130 trained Papuan and New Guinean nurses, and 160 expatriate nurses working with the missions.

Mission training in maternal and child health continued and the importance of community health continued to receive emphasis. During the year there were 225 maternal and child health trainees at mission training schools, and 60 graduated with both child health and midwifery certificates. 73 passed the child health, and 48 the midwifery examination.

There were 293550 attendances of children under one year, and 806,144 of children between one and five years at the mission stations undertaking maternal and child health work.

In the school health field 38838 children were enrolled, 28909 examined, and 94556 treatments given.

Pre-school services:

There are 46 Pre-school centres in Papua and New Guinea attended by 1,741 children between the ages of three and six years.

Of these centres, 17 are known as "A" type, offering an Australian type of programme for English speaking children. 704 children attended these centres during the year. There are 19 "T" type Centres, providing a Territory orientated programme for children speaking English as a second language. These centres which are mainly staffed by locally trained Papuan and New Guinean pre-school teachers, were attended by 772 children.

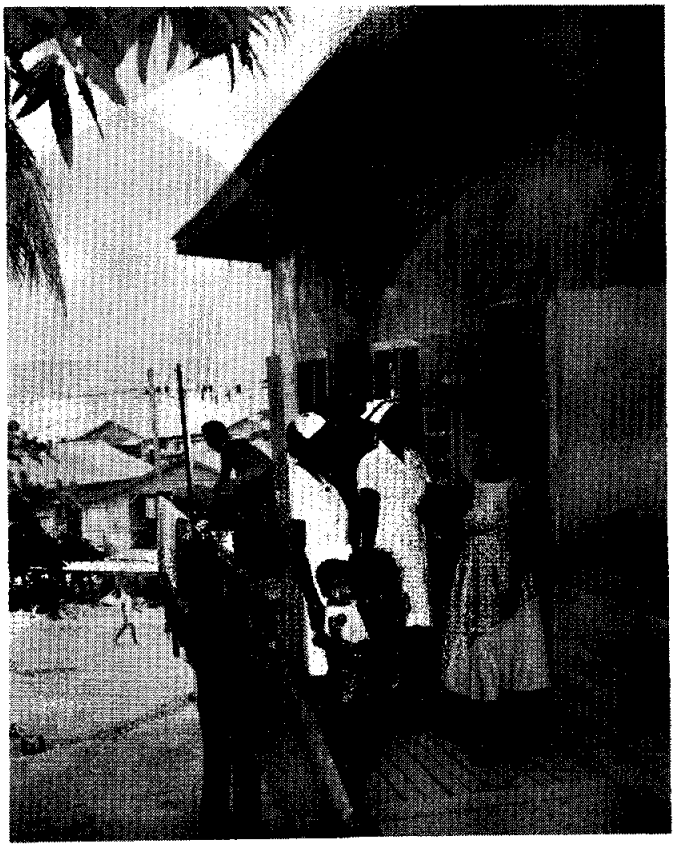
There are 10 "S" type Centres, which are smaller units staffed by approved, but untrained supervisors. Children of all races attend these centres, and 265 children are enrolled.

The pre-school section is staffed by 22 expatriate and 20 locally trained pre-school teachers.

"Pre-school of the Air" continues to be broadcast over radio stations at Goroka, Daru and Kerema, but broadcasts over other stations have been discontinued owing to lack of trained staff for programme preparation.

The mail box scheme provides a pre-school service for families on outstations by providing parcels of books and ideas for activities that can be carried out in the home. An enrolment fee was recently introduced for this scheme.

There are 20 students undergoing training, nine in first year, nine in second year, and two in third year. This course is designed to train local girls as pre-school teachers, capable of managing centres throughout the Territory. Under the scheme of Commonwealth Co-operation in Education, one Fijian is participating in the course.



Family Visiting - Hanuabada.

DIVISION OF MEDICAL EDUCATION

First Assistant Director—Dr. W. D. Symes,
O.ST.J., M.B., B.S., D.P.H., D.T.M. & H., F.A.C.M.A.

The most important developments affecting health training programmes during the year, have been the conduct of the final examinations in general nursing by the Nursing Council for Papua and New Guinea and the review of nursing education initiated by the Council, the completion of the Medical Sciences Building at the Papuan Medical College and the introduction of a Paramedical Course, and consultant advice on the training of health inspectors, and nursing education.

In March, 1969, the Medical Sciences Building was opened at the Papuan Medical College. Built at a cost of $442,000, this building provides modern facilities for the teaching of physiology, biochemistry, pathology, anatomy and other subjects. Although designed to meet the needs of the Medical Course, student nurses and other trainees use the lecture and tutorial rooms and the laboratories.

The Preliminary Year of the University of Papua and New Guinea is the minimum educational level for entry to the Medical Course. Medical students study biology, chemistry, mathematics and physics at the University during the first year of the Medical Course which follows the Preliminary Year. A continuing curriculum review ensures the best possible medical education for doctors who will be working in the Territory and certain subjects are given a greater emphasis than occurs in Australian medical schools - sociology, anthropology, social and preventive medicine and child health. The Department of Public Health and University authorities continued negotiations during the year for the establishment of a Faculty of Medicine.

The Papuan Medical College began the Medical Course in 1958, the first doctors graduated in 1964, and a total of 27 graduates are working in the Territory. Seven medical students graduated this year. There are at present 69 medical students, including those taking the Preliminary Year at the University.

The Nursing Council for Papua and New Guinea conducted the Final Examinations in General Nursing for the first time this year. In previous years this assessment has been carried out by the Department of Public Health. The results of the 1968 and 1969 final examinations are set out in the following table. Assessment procedures for final year student nurses are being reviewed by the Council.

1968-1969 Final Examinations in General Nursing

School of Nursing	1968 [1]			1969 [2]		
	Pass	Supplementary	Fail	Pass	Supplementary	Fail
Lae	9	4	1	17	3	1
Wewak	-	-	-	4	2	-
Rabaul	16	3	8	24	6	2
Port Moresby [5]	51	20	6	33	15	11
Vunapope	12	-	-	3	-	-
Total	88	27 [3]	15	81	26 [4]	14

[1] Conducted by Department of Public Health.

[2] Conducted by Nursing Council for Papua and New Guinea.

[3] Of 27 student nurses given a supplementary examination, 24 passed the final examinations.

[4] Results not known at the time of preparing this report.

[5] Includes finalists from Territorial Nursing Course and the Group 'B' Nursing Course.

During the year a School of Nursing was established at the recently completed Goroka Base Hospital. Mr. B. Morlin, Principal of the Rabaul School of Nursing, commenced studies leading to a Diploma in Nursing Education at the N.S.W. College of Nursing. Four in-service training seminars were held at the Papuan Medical College, one on the Group 'B' Nursing Course, and the remaining three on the roles of the clinical instructor, ward sister, and tutor in nursing education. Miss O.T. Manning, W.H.O. Public Health Educator, came to the Territory for three months to advise on the integration of public health nursing subjects in the general nursing course and on other matters relating to the training and utilization of nurses in this country.

Nurse Aides are trained at Lae, Goroka, Rabaul, Mount Hagen, Mendi, Kavieng, Kieta, Wewak, Madang and Lorengau. Thirty-one girls passed the examinations at the end of the one-year course.

This year a para-medical course was conducted at the Papuan Medical College for new entrants to the Dental Nurse, Medical Technologist, Radiographer, and Group 'B' Nursing Courses. The aim of this course is to improve general education and to provide the understanding of science necessary to help students with their future studies. Subjects taught in the six month course were English, mathematics, chemistry and human biology.

Four medical technologists and three radiographers graduated from the three-year courses conducted in the Pathology and Radiology Departments of the Port Moresby General Hospital.

The training of aid post orderlies ceased in 1967, but a special course was conducted at Mount Hagen to provide aid post orderlies for the Southern Highlands District. 26 students graduated and 8 were required to undertake further training. Although various missions will continue the training of aid post orderlies, the Department of Public Health will conduct courses only if a definite need can be established.

The Para-medical Training College, Madang, trains Health Extension Officers and Health Inspectors. Dr. E.J. Watson, Principal, visited similar training institutions in Africa, India and Asia as a W.H.O. Fellow. Mr. C. Nathan, Lecturer in Health Inspection is studying Health Inspector Training overseas under the sponsorship of the World Health Organization. Mr. W.T. Keys, W.H.O. Adviser in Health Inspection Training, visited the Territory for 6 weeks to advise on the training and utilization of Health Inspectors.

Health Extension Officers (formerly Medical Assistants) spend the first and third year of the course at Madang and the second year at the Community Health Practice Institute, Kainantu. These second year students obtain practical experience under the guidance of their teachers of clinical and preventive medicine in a rural hospital and in the villages. Medical students also study at Kainantu during their fourth year, and resident medical officers are posted to Kainantu for three months of their compulsory two-year rotating internships before registration.

The Royal Society of Health, London, recognised the Health Inspector Course and an Examination Board was established in the Territory. Trainee Health Inspectors work for six months with a selected Health Inspector to gain practical experience.

Fifteen Health Extension Officers and three Health Inspectors graduated from Madang during the year. The Health Inspectors received the Diploma of the Royal Society of Health. Three Health Extension Officers successfully completed correspondence courses leading to the Certificate of Tropical Health. Forty correspondence lessons must be completed before students are accepted for a short period of full-time study and allowed to sit for the examinations.

Nursing courses have a service component. An intake of 155 student nurses is not sufficient to provide adequate nursing services in those hospitals with associated schools of nursing. Too few student nurses can lead to the erosion of teaching by service demands. There are many reasons why more school leavers are not attracted to nursing; some concern things which Health is taking action on, while others relate to educative and socio-economic factors and the attitude of many parents to allowing

their daughters to leave the village to study nursing in a large town. Planning is underway to improve recruitment next year. If an advertising campaign is successful, a group of girls will enter the nursing course in August - the first time that there will have been two intakes in one year.

Graduates from Administration Health Courses and 1969 Student Intake

Course	No. of Graduates 1969	Student Intake 1969
Territorial Nurse	72	143
Group 'B' Nurse	9	12
Health Extension Officer	15	21
Health Inspector	3	7
Medical Technologist	3	10
Radiographer	3	3
Pre-school Teacher	4	8
Dental Officer	-	9
Dental Technician	3	4
Dental Nurse	9	10
Medical Officer	7	27

26 student nurses are sitting for supplementary examinations.

DIVISION OF MENTAL HEALTH

Assistant Director—Dr. B. G. Burton-Bradley,
M.B., B.S., F.A.C.M.A., M.A.N.Z.C.P., D.T.M. & H., Dip. Anthrop.

The Division continued to develop a wide range of activities directed towards the mental health of all Territory peoples.

A psychiatric ward has been included in the newly opened general hospital at Goroka, and is now a fully functioning unit. Plans are in hand for the building of a new ward at Laloki and another at Taurama. The Laloki Psychiatric Centre provides a comprehensive range of patient treatments including psychotherapy, occupational, social and recreational therapies, as well as drug treatments and electrotherapy. Psychiatric treatments differ from those in developed countries in that greater attention is paid by the psychiatrist, clincial psychologist, and psychiatric social worker to custom, language, and social organisation, to ensure a model of therapy more appropriate to local needs. For this purpose the Centre is divided into a main hospital and a rehabilitation annexe, and at least half of all patients treated are managed in the community. Families are incorporated into patient treatment situations in the psychiatric centre, where they have free access to their relatives at all times. This is in keeping with indigenous beliefs that emotional solidarity of the kinship group is a normal component of the healing process. In line with community psychiatry concepts abroad, a half-way house has been constructed on the banks of the Laloki River, and a recreation hall (a gift from Rotary) is under construction. Art therapy has become the most successful form of occupational therapy, with the patients' approach marked by enthusiasm and spontaneity. An exhibition of the patients' paintings was held at the University of Papua and New Guinea. It was the first of its kind in the Territory and was an attempt to illustrate transposition of the graphic art of non-literate peoples into meaningful forms of art therapy.

Distinguished visitors to the Division included a Professor of Sociology from Hawaii whose main interest is in mixed-race marginality and inter-ethnic marriages, a Senior Psychiatrist from New Zealand interested in ethnopsychiatry, and an anthropologist from New Caledonia.

The training programme continues. Medical Officers receive in-service training in ethnopsychiatry at the Laloki Psychiatric Centres. The psychiatric nurse training tutor conducted a post basic training course for psychiatric nurse trainees, six of whom graduated, and another course for orderlies. The first locally trained psychiatric nurse in the Territory received a fellowship in Mental Health and is receiving a post graduate course of training in Hawaii and in Australia. Two psychiatric social worker trainees from the University of New South Wales completed their practical training with the Division during the year. The second post graduate course in mental nursing began in November. It is hoped

that eight trainees will graduate. The Assistant Director (Mental Health) read a paper entitled "Anxiety in New Guinea" at the World Psychiatric Association Symposium in Melbourne.

Decentralisation of Mental Health Services is now represented by psychiatric wards in Lae and Goroka, as well as smaller annexes attached to Madang, Nonga, Wewak and Taurama Hospitals. Positions for psychiatrists are established in both the Mainland and Islands Region; the Islands position is at present vacant. All senior officers undertake tours of duty throughout the Territory and conduct case finding surveys. The Assistant Director (Mental Health) and the Senior Health Extension Officer conducted a mental health survey among a group of acculturating Goilalas in the Central District. Locally trained qualified psychiatric nurses have now been posted to Lae, Rabaul and Goroka, and Health Extension Officers with overseas psychiatric nurse qualifications hold general medical posts in various District Centres throughout the Territory.

Art Therapy at Laloki.

Regional Health Officer—Dr. R. Taureka,
Dip. C.M.S. (Suva)

The Regional Headquarters located at Goroka serves an area of approximately 23,000 square miles, with a total population of approximately 900,000. The three main centres, Kundiawa, Mount Hagen and Mendi can be easily reached from Goroka by the Highlands Highway. Communication is often difficult, but with the upgrading of roads, many areas which were previously inaccessible can now be reached by motor vehicle.

The thirty-six local government councils in the Region have taken an increasing interest in the work of the Department. This is reflected by the number of environmental and community development projects and by the increased subsidy allocations made under the Departmental Council Health Assistance scheme.

Specialist medical services for the Region, including those of a physician, surgeon, obstetrician-gynaecologist and paediatrician, are provided at Goroka and Mount Hagen Hospitals. Throughout the year specialists visit selected centres.

The Maternal and Child Health Service continued to operate and expand in a number of areas. Both Administration and mission workers have extended their operational areas and a number of new clinics have been set up. Some clinics however, were temporarily closed owing to staff shortages and transfers, but were re-opened when personnel became available. Family planning programmes have been commenced in a number of centres in the Region.

There are 31 mission health establishments receiving subsidies for general and maternal and child health work in the Region.

School health services continue to function successfully, and several additional schools have been visited. Health education is a main feature of the work of school teams.

Pre-schools in Goroka, Kainantu and Mount Hagen increased their enrolments this year. A new school is planned for West Goroka, where land has already been purchased.

Malaria case detection and eradication continued. A number of preliminary surveys in new areas have been carried out.

Between April, 1968 and March, 1969, 12,000 children were examined and some 11,000 treatments completed by the Highlands Dental Service.

Training of nursing aides continues in all main centres of the Region. It is planned to increase intake in a number of schools, chiefly at the request of local government councils. The training of Territorial nurses in Goroka commenced during the year with an intake of 26 girls.

The Tuberculosis Control Micro-film Unit continues to operate despite several breakdowns. Between March last year and February of this year the Unit covered Nondugl, Banz, Mount Hagen and Wapenamanda. Mass B.C.G. vaccinations completed during the year in the four Districts were as follows:

Eastern Highlands	150,000
Chimbu	50,000
Western Highlands	13,000
Southern Highlands	25,000

181 routine health patrols were conducted in the Region by field teams and field supervisory personnel.

Research in Goitre, Kuru, Malaria, Leprosy and Tuberculosis continues.

Eastern Highlands District

Regional Health Officer—Dr. R. Taureka
Dip. C.M.S. (Suva)

The Eastern Highlands District extends over an area of 5,000 square miles and has a population of 221,239. The District is rugged and mountainous, but well served by the system of feeder roads. District Headquarters is situated at Goroka, which also serves as Regional Headquarters.

The new permanent 250 bed base hospital at Goroka costing M$2.2 was officially opened in May by the Minister for External Territories. Besides this major hospital there are five rural hospitals, and two rural health centres. Christian Mission hospitals and aid posts and council aid posts also provide medical care. In addition to providing general medical services, the Administration and missions conduct extensive maternal and child health work.

An increasing effectiveness in preventive programmes is reflected in the changing patterns of disease noted in hospital admissions. As treatments become more efficient with increasing specialisation, hospital turnover has risen and daily averages have fallen, resulting in more economical utilisation of bed capacity. The statistics of main hospitals within the District show a total increase of 41% in the number of in and outpatients. A public inpatient and outpatient system of charges was introduced at Goroka hospital in February, 1969.

Three Pre-schools operate in the District, two in Goroka and one in Kainantu, providing two integrated sessions daily. The Kainantu preschool was officially opened in May.

School health services were extended during the year to cover more schools. Health education talks and demonstrations were introduced together with mothercraft courses for older primary "T" school girls.

The Maternal and Child Health District Headquarters have been moved to a larger building. Increased attendances were noted during the year in a number of clinic centres. Immunisation work in the Ungai Census Division was undertaken by tuberculosis units and medical orderlies on patrols. Maternal and child health activities have expanded into new areas through the combined efforts of Administration and mission workers during the year. Henganofi Health Centre, formerly staffed by the Salvation Army was returned to the Administration for training purposes.

The Tuberculosis Control Unit carried out Mantoux tests and B.C.G. mass vaccinations in the area during the year. Eleven patrols were conducted and 150,000 vaccinations given.

Malaria eradication and case detection continues to operate in a number of areas in the District. Several preliminary surveys have been made this year.

School dental services covered an increased number of schools within the District.

There is a growing interest shown by several councils to send girls to the Nursing Aide School and the school is unable to accommodate all applicants offering.

During the year a School of Nursing was established at the new Goroka Hospital with an initial intake of 26 students from various Highland areas.

The Goroka Hospital Interim Committee representing major community interests continued to meet at regular intervals. One of its most recent activities was the establishment of a vigorous Hospital Auxilliary.

Chimbu District

District Health Officer—Dr. Jay Morton, M.B., B.S.

This is one of the most rugged Districts in T.P.N.G., with Mt. Wilhelm the highest mountain at 14,762 feet. Communications are by air, primarily, and the airstrips are often difficult with poor visibility. The road networks are extensive, but the roads are unreliable and tortuous.

The Administration Headquarters is at Kundiawa, which is on the Highlands Highway, and controls four outstation Administration hospitals. The total population of the District is 187,000, 70% of which is centred in the Kundiawa area. The population density averages 62 per square mile, but varies from 1 to 530 per square mile. The rural population is served by 94 aid posts - 87 Administration and 7 mission.

With the increased traffic along the Highlands Highway, and the wonderlust of the Chimbus, it is felt that the most pressing health problems will come from introduced diseases from coastal areas. The most important of these are tuberculosis and malaria. To this end, considerable effort has been concentrated over the last twelve months in a mass B.C.G. programme for the District. This has been combined with routine census division patrols. Malaria control has been active, and it has been found that the majority of cases reported are people returning from the coast.

The rapid rise in the birth rate, plus increasing longevity, combined with a lack of arable land has led to a family planning programme being launched in response to community demand.

The Chimbu councils are very "health-minded", and although not all councils are spending as much as the Kerowagi Council ($10,000 per year for the next 3 years on their hospital, and $4,000 on a rural health centre) new replacement wards or improvements have been added to all outstation hospitals. The Elimbari Local Government Council has donated $1,000 over a two year period to the Malaria Service, to assist with payment of carriers. The Kundiawa Local Government Council has seconded one councillor to the Department to help with hospital management problems, and community liaison.

The Malaria Eradication Campaign has now covered an area of approximately 2,000 square miles with spraying, and it is estimated that 160,000 people are protected against the disease.

131 new cases of leprosy were detected this year, bringing the total in the District to 1,069. There were 15 new cases of tuberculosis bringing the total to 34. The entire District has been covered by a triple antigen campaign over the past two years. The Dental Service recorded 2,000 new enrolments during the year, and 3,000 revision examinations or treatments were given.

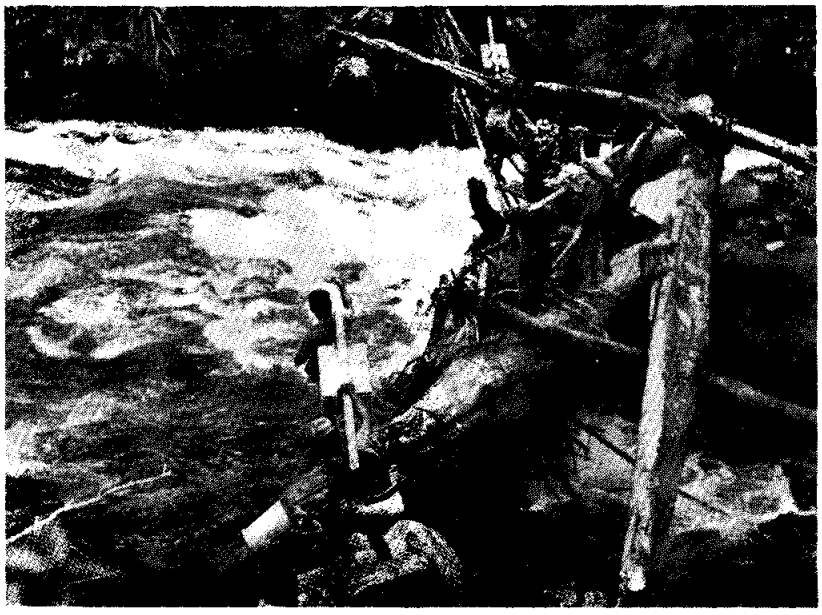
Considerable extensions have been completed or are nearing completion at the Kundiawa Hospital, including new wards, and a new theatre and lecture room.

Administration blocks have been completed at Kerowagi and Gumine Hospitals, and new wards have been built at Gumine and Gembogl Hospitals.

Within the next financial year it is anticipated that all old wards will be replaced by new cement floored wards. From this stage onwards money will be spent on lining wards internally and improving existing facilities throughout the District.

With improved housing, staff and transport we hope to extend preventive patrols further in the next financial year. This especially applies to leprosy control.

Two training seminars were held at Kundiawa, one in leprosy and the other on tuberculosis. Health Education was a major topic at both seminars. Participants ranged from Aid Post Supervisors and Health Education Orderlies to Health Extension Officers from all sections of the District. Mission personnel were also invited.



Medical Patrol Crossing River.

Western Highlands District

District Health Officer—Dr. I. D. Welch,
M.B., B.S., D.P.H.

With an area of 9,200 square miles, of which Mount Hagen is the District Medical Headquarters, and a population of 312,000, this is the largest Administrative District in Papua and New Guinea. The majority of the dense population depends on subsistence farming, but cash crops are increasing. The diet, which is mainly sweet-potato, contains little protein, and pigs are killed and eaten only on ceremonial occasions. Because of the high rainfall most of the road system is suitable only for four-wheel-drive vehicles, and communications often depend on air-transport.

This year the bush-material hospital at Wabag was replaced by a permanent hospital, at a cost of $15,000 to the Administration, and $15,000 in cash and "self-help" supplied by the Local Government Council at Wabag.

At Minj the Local Government Council has made further permanent additions to the health centre, to cater for outpatient and dental treatments.

The Jimmi River Local Government Council contributed $5,000 for Administration blocks at Tabibuga and Kol Hospitals, plus $7,500 for five new aid posts.

Following official policy, public hospital charges have been successfully introduced at the main Administration hospital at Mount Hagen. This hospital of 200 beds has a staff of four Medical Officers, including specialists in medicine and paediatrics. In the first month of hospital charges 67% of public inpatients paid for treatment.

The Christian Missions have general hospitals staffed by medical officers at Wapenamanda, Baiyer River, Kudjip and Sopas, and a leprosy hospital with a specialist surgeon at Togoba. A new clinic was put into operation by the Roman Catholic Mission at Landos.

District Health Services include malaria, tuberculosis, and leprosy control programmes, goitre research, dental services, maternal and child health services, a base medical store at Mount Hagen, a nursing-aide school and pre-school centres.

Malaria control spraying operations have been carried out together with drug distribution in the Wahgi, Nebilyer and Baiyer Valleys. A preparatory survey has been completed in the Jimmi River area.

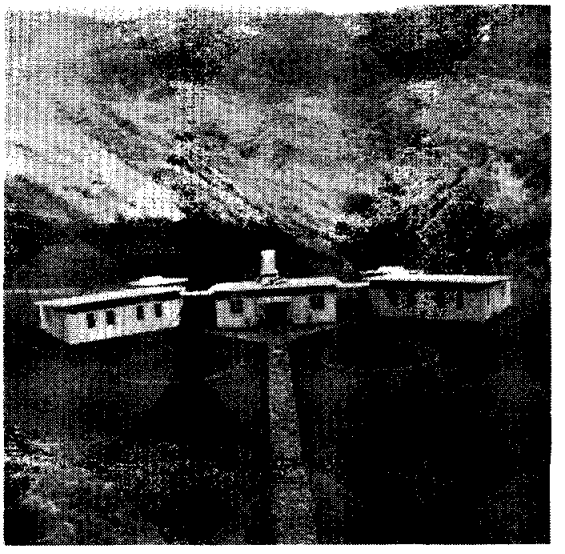
A tuberculosis control unit was established this year at Mount Hagen and a three yearly B.C.G. immunisation campaign introduced. A Mantoux conversion rate trial continues at Laiagam. A micro-film unit covering the main town schools and missions completed 15,978 X-Rays this year.

Leprosy case finding, supervision of treatment and reconstructive surgery has continued at the Mission leprosy colony of Yampu and the Administration mission-operated colony at Togoba.

Triple Antigen patrols presently cover 80% of the infant population.

Dental services continued with corrective treatment and dental education among school children.

Nursing-Aide training is carried out at the Mount Hagen Hospital, and nursing training at the mission hospitals at Kudjip, Sopas and Baiyer River.



New Clinic at Landos,
Western Highlands District.

Southern Highlands District

District Health Officer—Dr. C. G. Mills,
M.B., B.S., D.P.H.

The Southern Highlands District, situated in Papua, has an area of 6,800 square miles, and a population recently estimated at 205,000. It is a rugged, mountainous area, with slow developing road communications and general economy. Mendi, the District Headquarters is centrally situated, with a road system of 900 miles radiating from it.

The Southern Highlands District aims to develop a district hospital of suitable standard to cater for the surrounding people, and to meet the demand resulting from the development of tea-blocks and chinchona and pyrethrum industries. The supporting preventive medicine services of infant welfare, tuberculosis control, and malaria control are also being improved. Encouragement has been given to pre-schools, one of which has been built in Mendi this year. Permanent clinics are being built in the main population centres, with the idea of conversion to health clinics as the people become educated to the concept of health.

Public hospital charges at the Mendi District Hospital have resulted not in a lack of co-operation, so much as a demand for a better institution and facilities. There has not been any fall in numbers, but rather

the reverse. This increase may in part be due to the Leprosy Reconstructive Surgeon operating in this hospital.

There are 18 missions with medical services, 13 of which have a maternal and child health programme. Two of these missions have sophisticated obstetric services.

Councils are giving labour for road building that has resulted in easier communications and an opportunity for expansion in maternal and child health services.

Tuberculosis control has seen an improvement this year, with patrols giving 7,485 Mantoux tests (2,568 positive and 4,917 negative) and 25,207 B.C.G. vaccinations. A true picture of the incidence of tuberculosis will not be available until a complete micro-X-ray survey is done. All known tuberculosis patients are treated at the Erave Hospital, rather than being transferred to coastal hospitals.

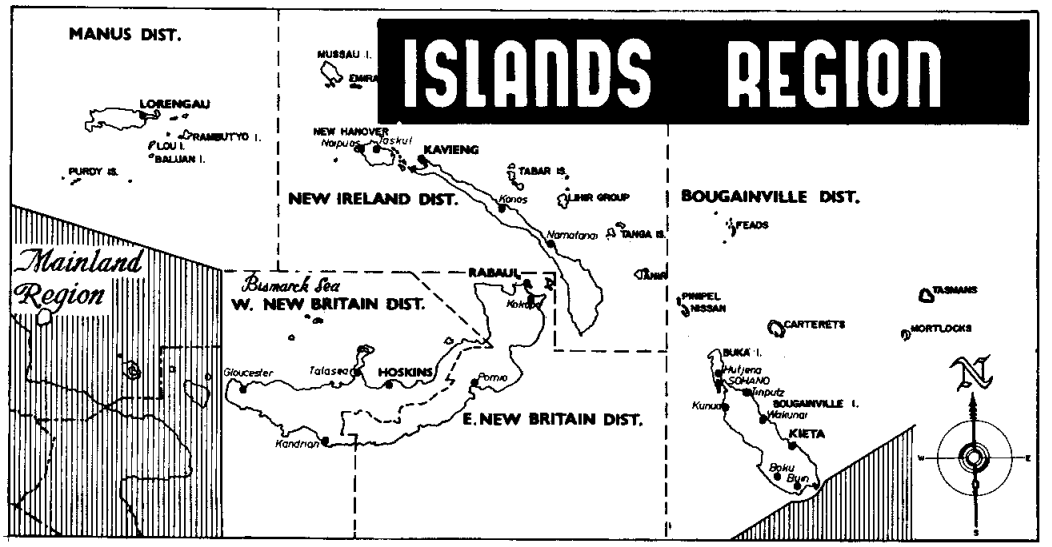
The leprosy programme in the District has progressed steadily. The Leprosy Mission Control Unit has extended the area under control to include the Nipa and Poroma areas, with total population surveys, and a careful outpatient system instituted as in the Tari Koroba area. The mission reconstructive surgeon has completed the surgical programme, and has joined the Department of Public Health at Mendi. Mendi Hospital, with recently completed extra ward accommodation, now houses leprosy patients. A rehabilitation programme, including physiotherapy, reconstructive surgery and foot-care is being developed.

The Malaria Service of the Southern Highlands is providing an entomological and case-detecting service. Little change is expected in the programme for some time yet, although preliminary surveys have been made for a control area in the Erave Sub-district, this being the most heavily infested area, and also the gate-way from the Gulf District.

Staff shortages have prevented any significant expansion of child health services.

Local Government Council environmental sanitation projects have remained static this year owing to financial limitations. However, planning has been completed for 43 projects.

The Koroba Council has built one clinic this year, and the Administration has built clinic and office blocks in four centres.



Regional Health Officer—Dr. P. S. Enders,
M.D. (Innsbruck), F.A.C.M.A.

The Islands Region covers some 200,000 square miles and has a population of close to 300,000. It is divided into 5 Districts, i.e. East and West New Britain, New Ireland, Manus and Bougainville. Of the 5 District Health Officers, three are Expatriate and two Local Officers. The Region is administered from Rabaul where Regional Headquarters is located.

Rabaul is also the location of the Base Hospital at Nonga which maintains a Specialist and Consultant service for the region. Patients from the Region are also referred to Nonga to be seen by Consultants who visit at regular intervals.

The staff of the region includes 17 Medical Officers. Six are local officers including one Specialist. Excluding the above, there are 1,267 other staff of whom 1,131 carry out medical duties and the remainder are non medical and labourers.

No new hospitals have been opened during this period but a constant programme of new building has taken place, chiefly on a self help basis, supplemented with central and district Administration funds. Altogether 14 hospitals are maintained, 7 rural health centres and 241 aid posts.

Papuan and New Guinean officers have continued to assume higher responsibility. These include 6 local Health Extension Officers in charge of hospitals, and one local District Health Officer. All rural health centres are also in charge of local Health Extension Officers.

The Missions continue to staff and maintain 2 Hansenide Hospitals and 1 Tuberculosis Hospital on behalf of the Administration and at the same time conduct 63 of their own hospitals as well as many small aid posts and other treatment centres.

Regional activities have continued to concentrate chiefly on all aspects of preventive medicine, including Malaria, Maternal and Child Health, Tuberculosis and Leprosy programmes. A goitre control campaign with iodised oil has been operating in the Pomio and Gazelle areas and parts of the Bougainville District.

The overall picture in the field of tuberculosis shows a decrease in active cases from last year. The following table summarises activities:

	Micro X-Rays	B.C.G.	Patients Admit.	Disch.	Remaining
New Ireland	18,767	2,782	49	58	74
East New Britain	7,101	6,888	339	459	307
West New Britain	11,223	1,571	71	36	105
Bougainville	3,073	2,273	131	76	283
Manus	-	1,051	20	23	50

There was a 25% increase in X-Rays and innoculations.

In the field of Leprosy, 62% of all known cases are receiving treatment on a domiciliary basis. 163 days were spent on surveys and another 122 days following up these cases. Altogether 23,191 people were examined and a total of 1,553 cases detected. The estimated incidence in the region is 7.10% per 1,000.

Maternal and child health services have continued to maintain their work in all districts. A total of 228 Administration and 680 Mission clinics were held, with a combined total of 47,553 enrolments. The school health services have kept pace with this work and during the year 17,813 of the total enrolment of 29,241 children were examined. The following immunisations were given during this period:

	T.A.	CDT	T.T.	SABIN	BCG
Administration	10,224	2,137	3,336	9,002	2,295
Mission	27,262	7,245	27,262	5,083	10,500
Total	37,486	9,382	30,598	14,085	12,795

The Department has made every effort to give assistance to Local Government Council Health projects and the amount of subsidies given this year amounted to $14,000. Health committees have been established in all councils and the Regional Council Health Officer has given valuable assistance in the formation as well as organising courses for these councillors.

Due to several staff shortages within this region, patrolling has not beensso extensive this year but 44 patrols have been completed with 438 days spent in the field. Apart from this our Officers have spent 2,924 days in the field during which time 276,081 people were seen.

The Dental Services have been active in the region and the School Dental Services are working to a full time schedule. During the period a total of 31,282 treatments were carried out in the school and general services.

Health Education now has two full time local officers who have graduated from Port Moresby, one in Rabaul, the second in New Ireland. Radio programmes continue to be prepared and lectures and demonstrations are continually being given at village and institutional level.

Malaria eradication has been continued in the Districts, but some difficulties have been encountered owing to the refusal of many house owners to allow spraying. There is a need for more trained staff and for greater emphasis on health education activities.

Pre-school centres are now operating in three districts, East New Britain, New Ireland and Manus, and there are 4 "A" type, 6 "T" type and 2 "S" type in Manus. There is a total enrolment of 222, 340 and 80 respectively. A kindergarten is being run at Kerevat under the supervision of the Pre-school Officer.

East New Britain District

District Health Officer—Dr. P. S. Enders,
M.D. (Innsbruck), F.A.C.M.A.

East New Britain consists of the Pomio, Kokopo and Rabaul Sub-districts, and has an overall population of 105,664. The Gazelle Peninsula is extensively cultivated and is a wealthy and sophisticated area, whilst the inland remainder is mountainous and rugged and exists on subsistence farming.

The Department maintains a Base Hospital at Nonga, Rabaul, which provides specialist and consultant services not only for the District, but

for the Region as well. There is a total of 432 beds and cots in the Public and Intermediate sections.

	Admis-sions	Births	Deaths	Outpat.	Operations
Intermediate	941	139	9	655	260
Public	7,203	1,037	154	31,570	1,623
Total	8,144	1,176	163	32,225	1,883

Apart from Nonga, there are two Sub-district hospitals, one at Pomio and the other at Butuwin (Kokopo Sub-district). They have an average daily bed state of 25 and 27 respectively. There are two fully staffed rural health centres, Tapipipi and Vanupaka, and an extended aid post located at Kerevat. A further aid post at Lassul Bay is at present being converted into a rural health centre for the coast and inland Bainings. There are 42 fully staffed aid posts in the District. The tuberculosis hospital at Bitapaka is run on behalf of the Administration by the Roman Catholic Mission.

Full quarantine services have been operating, and 92 ships have been quarantined. Two Health Inspectors and their staff have maintained an efficient hygiene and sanitation service in the town, and have assisted with the councils' environmental health services. During the year all sources of drinking water have been tested.

Maternal and child health workers have continued to be active, and a heavy programme of village clinics and school inspections has been carried out. Emphasis has been placed on the "home visit" services this year. Of major importance has been the opening of the Maternal and Child Health section of the community health centre, which has provided much improved facilities. 69 schools out of a total of 103 have been visited, and 8.019 children examined out of a total enrolment of 16,732. 96 clinics were held each month, which gave cover to 140 villages. There was an enrolment of 8,042. The total number of births, excluding Nonga, was 721 in hsopital and 280 in villages. New Maternal and Child Health centres have been opened at Murunga and Utung.

The School of Nursing at Nonga has 162 students at various stages of training. 19 students graduated during the last year.

The town clinic continues to give a 5½ day service. 51,518 patients were seen during this period. Hospital charges now operate at this clinic and a decrease in attendance figures has been noted.

The Tuberculosis and Leprosy Sections have continued to maintain their field work, and the Tuberculosis Unit gave 6,888 B.C.G inoculations

during the year. The number of patients in hospital is down by 104 from last year, and the number of new tuberculosis cases is down by 40.

There is a total of 217 known cases of Leprosy in this District, and some 3,000 people have been examined.

The Dental Service, which has one Dental Officer and four Dental Assistants has continued its work as follows:

	General	School
Patients treated	2,813	11,332
Extractions	2,729	404
Fillings	812	809
Prophylaxis	743	10,528
Dentures	322	-

Total school enrolments are 5,822.

Health Education continues to prepare and produce radio broadcasts and lectures. Film evenings and demonstrations continue to be given in villages and at schools in the District.

The Malaria Section has continued its programme, and all spray rounds are up-to-date in the District. The marine team operating from Rabaul is also up to schedule. Some opposition is being met to spraying, and the teams are finding numbers of houses locked on their visits. Health Education is endeavouring to overcome this problem. Entomological Section continues with field trials in the Vudal area.

Three "A" type pre-schools and 5 "T" type are operating and have good enrolments and very active committees.

West New Britain District

District Health Officer—Dr. D. R. Johns,
Dip. C.M.S. (Suva)

The West New Britain District covers an area of approximately 8,000 square miles, with a population of about 46,000. Mountains run from North to South in the inland of the main island and around the coastal plains there are numerous rivers and swamp areas, which complicate communications. No formal roads exist in these areas, and all travel is accomplished by sea and air transport at present.

Health services have been considerably extended in the Hoskins area, where the Oil Palm Resettlement is established. The Administration has

provided three aid posts and one maternal and child health clinic. A malaria field assistant has been posted to the area. He administers drugs, sprays houses and conducts blood surveys on new arrivals.

The Regional Tuberculosis Control Unit has conducted a mass X-Ray survey in the northern coastal area. Suspected cases are sent in from Mission and Administration hospitals to Talasea Hospital for examination.

The Regional Leprosy Control Unit continued its field activities of mass population surveys during the year. About one third of the population in the West New Britain District has been medically examined. Case detection has been intensified by field staff on medical and health patrols.

Village sanitation and hygiene work was continued through medical and health patrols conducted by field staff and hospital staff. The Health Education Orderly accompanied the patrols giving talks and demonstrations on health.

Maternal and child health activities have continued through the combined efforts of the Administration and missions. Clinics are held at villages, rural health centres and hospitals throughout the District. In the inland areas of the Kandrian Sub-district a Triple Antigen campaign was continued, and 607 children under the age of six months were immunised against diphtheria, tetanus and whooping cough. In this area all maternal and child health work is carried out by the Administration, as the missions are unable to gain access.

The Dental Service has given 3,744 treatments to school children and 823 treatments to the general public.

Because of the high incidence of twin births in the Bola Census Division of the Talasea Sub-district, the Director of Public Health and the Professor of Genetics at Sydney University carried out a survey on twin births.

A new ward, financed by the Department of Public Works, is under construction at Kandrian. A new malaria single men's dormitory has been built at Kandrian to accommodate ten men. The new health centre has been built at Nahavio, Hoskins Oil Palm area, to serve the settlers of the area.

Bougainville District

District Health Officer—Dr. M. J. Lewis,
M.B., B.S.

The District of Bougainville, with headquarters at Kieta, has an area of 4,000 square miles, consisting of Bougainville and Buka Islands, and many smaller off-shore and outlying islands. The population is between 75,000 and 80,000. Roads on Bougainville and Buka make these areas relatively accessible, except on the west coast, which like the outlying islands can only be reached by ship. Primary industry is developing in the District. This has increased both contact with the people and their demands for a higher standard of health services.

Hospital charges were introduced in March this year at Kieta. After the first month there appeared to be a slight reduction in outpatient numbers. Generally, however, hospital charges have been accepted.

The Nursing-Aide Training School has continued to function with reasonable success. 4 Aides passed their final examinations.

The school medical and dental services have been active all year. 49 schools were visited by the medical services and 3,124 children examined. 5,284 school dental treatments were given.

The District headquarters hospital has recently been up-graded to a two medical officer station. This was necessary because of the rapidly increasing demands associated with the Bougainville Copper project in the area. There are two other Administration Medical Officers, one each at Buin and Sohano. The hospital at Wakunai is run by a Health Extension Officer, as is the rural health centre at Konga. The Roman Catholic Mission has two Medical Officers in the District - one at Tearouki, where there is a maternal and child health nurse training school, and the other at Morotona, which is still under construction. In addition to these mission establishments, there are 19 other hospitals run by registered nurses,who also carry out maternal and child health work.

There are seven local government councils in the District serving a total of 56,000 people. One of these councils recently up-graded itself to stage 1, and several more have been considering this. It is hoped that the local government councils will increase their interest in community health. A Community Health and a Council Health Committeemen's Conference is planned for the future to foster this interest.

A tuberculosis survey was commenced in the Buin Sub-district.

A leprosy survey was carried out on Nissan Island. 2,293 people were examined and two new cases were found. There have been about 6 - 8 cases admitted to the mission-run, government financed hansenide hospital at Torokina.

The Malaria Eradication Programme apparently markedly reduced the incidence of malaria several years ago. Prior to the current year of reporting, some difficulties were encountered, but over the last six to nine months steps have been taken and reasonable progress made to re-establish the programme.

The Goitre Campaign has been commenced in two of the three pockets of goitre in the District. 151 treatment injections and 84 prophylactic injections of iodized oil have been given.

A long overdue permanent wing of average quality was recently completed at Kieta Hospital. This is divided into maternity, labour wards, theatre and X-Ray. A new dental clinic is nearing completion at Buin.

Manus District

District Health Officer—Dr. H. Brigdon, M.B., B.S.

The Manus District is a tract of land generally low-lying, with some mountainous areas, and many small islands. The population of approximately 23,000 is spread over an area of 800 square miles. Transport difficulties represent one of the major constraints on health development in this district. The physical character of the inland is frequently rugged, and there are few roads. This and the expanse of sea make transport both difficult and expensive.

The year 1968/9 has seen continual improvement, particularly in the maternal and child health services. Positive steps have been taken to increase the health-awareness of the community, and to ensure that measures to improve the standard of health and preventive medicine are accepted.

The basic aim of the District health programme has been the satisfactory development of preventive medicine, community health education, environmental sanitation and the eradication of endemic diseases. At the same time the programme was designed to maintain a high standard of general medical services in the District.

The commencement of public hospital charges at the Lorengau hospital in March was a notable feature of this year.

Medical services are provided by one Administration, one Royal Australian Navy and three mission hospitals. Additional services are provided by one rural health centre and twenty-nine aid posts.

The nursing-aide training course continued during the year with an enrolment of seven trainees.

Pre-school services operate through two multi-racial centres at Lombrum and Lorengau. The present Pre-school building at Lorengau is being improved with money from community sources. The willingness of the parents to work and improve playgrounds has made a big impression on facilities for the children.

Preventive and promotive medicine activities have been extended through maternal and child health clinics, hygiene and health education patrols, immunisation programmes and school and dental examinations. 25 schools were visited and 1,591 children examined by the school medical service. The Dental Service carried out 1,876 school treatments.

Domiciliary treatment of 70 tuberculosis and 222 leprosy patients was continued at aid posts and mission hospitals. Twenty new tuberculosis and twelve leprosy cases were detected during the year.

Malaria eradication operations in the form of spraying residences with residual insecticides, treatment of mosquito breeding areas, and the conducting of parasite surveys provide a 100% coverage of the population in this District.

With the help of Christian Missions, maternal and child health services were extended to almost the whole of the Islands District. Following completion of an extensive council road works programme, clinics will be extended to further areas.

A limited reticulated water supply is available at Lorengau. The scheme is being extended at present. Other centres depend on stored rainwater or wells. Rural water supplies consist mainly of wells, cement and galvanized iron water tanks, creeks and rivers.

One bush material aid post was replaced by the council with a permanent building of locally made cement bricks. Construction has commenced on replacing another aid post with the same materials. The Local Government Council for the Manus District was active in promoting health projects and made a valuable contribution to the promotion of health in the area.

New Ireland District

District Health Officer—Dr. I. Ring,
M.B., B.S.

The New Ireland District consists of the main island of New Ireland, and many smaller off-shore islands. Of the total, approximately half the population lives on the main island, where road communications are good. Communications with the people of the off-shore islands are hampered by a lack of shipping.

The District Hospital is at Kavieng, and the Administration maintains two further hospitals at Taskul and Manatanai, and also 61 aid posts throughout the District. Religious Missions staff the Anelaua Leprosy Colony, and in addition conduct six major and three minor hospitals, all of which receive Administration subsidy for infant-welfare work.

During the past year particular attention was directed towards increasing the interaction between the Department and local government councils, and to extending and rebuilding Administration hospitals. Two more of the five councils are now actively involved in the financing and supervision of aid posts. Health committees were set up in all five councils, and their work was consolidated by a district health committee conference. The aim of the conference was to explain the powers and responsibilities of Health Committee Councillors. It also provided a suitable forum for discussion of public health problems, and of the Department's aims and activities in the District.

A Health Education Officer commenced duty, working mainly through local government councils, schools and women's clubs. and where appropriate, provides assistance to the individual organisation programmes.

The fourth mass tuberculosis control survey was commenced. 74 patients are receiving treatment at the hospital and at aid posts. During the year 49 new patients were admitted and 58 discharged.

Malaria eradication activities have been hampered by locked houses in some areas, and also by shipping and staff shortages.

At present 149 patients are undergoing treatment for leprosy at Anelaua. 35 new cases of leprosy were detected and 69 patients were discharged.

For nine months of the past year Kavieng has had a full-time Health Inspector, and he has played an active part in local government health committees. Emphasis has been put on the supervision of environmental sanitation projects in villages throughout the District, and a general clean-up within the towns of Kavieng and Namatanai, including frequent

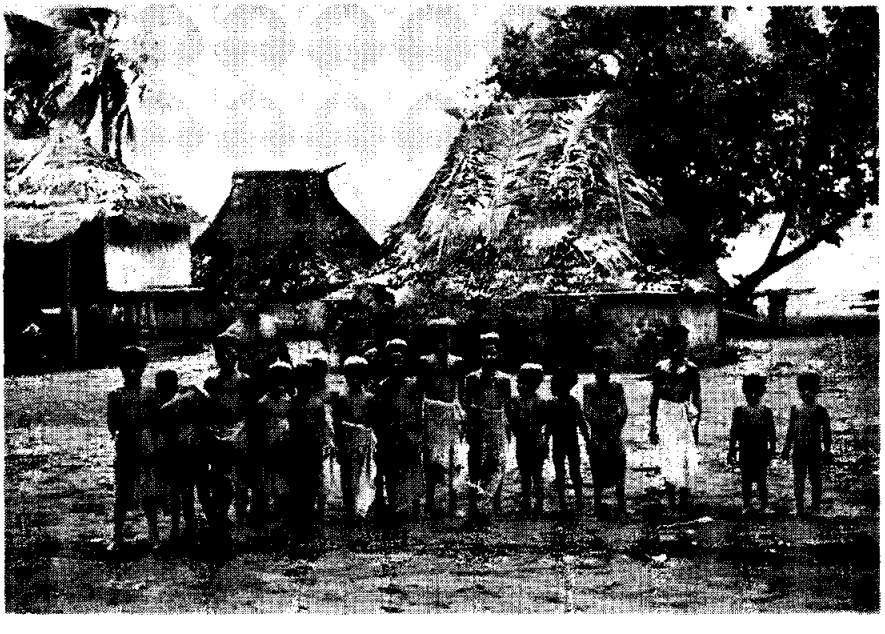
inspections of all food premises and checks of the town area in an attempt to eradicate mosquito breeding grounds.

School dental examinations were extended to cover the Namatanai Sub-district. A total of 3,372 treatments were carried out throughout the District.

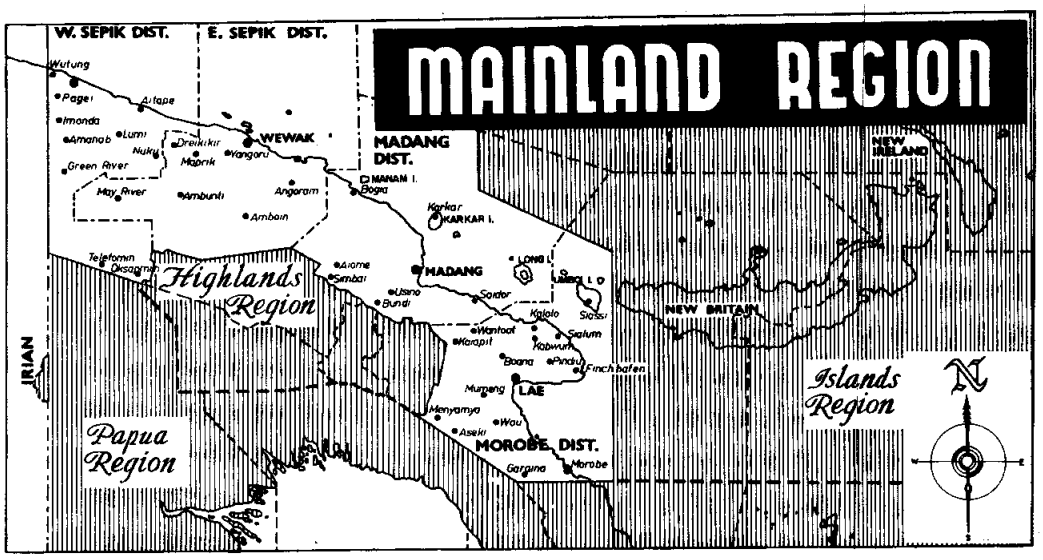
Kavieng Pre-school has an enrolment of 39 pupils, 22 attending an "A" class in the mornings,and 17 a "T" class in the afternoons.

The educational standard of nursing aide entrants has improved, and their supervision increased by the provision of a further two Territorial nurses.

A new office block and an air-conditioned theatre have been opened at Kavieng, and a tuberculosis ward and nursing aide dormitory are under construction. Work on replacement of unsatisfactory staff houses is to commence shortly. Two new wards have been opened at Namatanai.



A Village in West New Britain District.



Regional Health Officer—Dr. L. A. Malcolm,
M.B., Ch.B., M.R.C.P. (Edin.), D.T.M. & H.

The Mainland Region includes four districts covering 53,700 square miles and a population of 664,000.

The Region consists of the northern coastline of New Guinea from West Irian to the border of the Northern District of Papua. The terrain is mostly mountainous and is divided into three great river valleys, Markham, Ramu and Sepik. Poor road communications limit the effective outreach of health services in all districts and consequently reliance must be placed on the aid post as the basic infrastructure of the health service. Short annual training courses have been held to emphasise to the aid post orderly his important role in improving village health standards. With increasing community advancement and the management of local affairs by Councils, regional policy is being directed towards community involvement in health through Council health committees, and Councils' responsibility for aid posts and the eventual takeover of health centres and all aid posts by Councils.

Base hospitals are located at Lae, Madang and Wewak. Specialist services available at Lae include a physician, surgeon, opthalmologist and tuberculosis specialist; at Madang, a leprosy reconstructive surgeon and child health specialist, and at Wewak a surgeon and child health specialist.

In addition 30 Administration hospitals and health centres provide both curative and preventive services and a total of 412 Administration, 111 council, and 69 mission aidposts supplement these services.

The artificial limb factory for the Territory, attached to Angau Hospital, Lae, produced 102 new limbs during the year, repaired 61 limbs, manufactured 3,280 crutches and 320 pairs of protective footwear for leprosy patients. The factory also repaired 140 items of hospital equipment and serviced 340 miscellaneous hospital instruments.

There has been a further decline in the number of tuberculosis patients being treated throughout the region with a noticeable shift in the source of patients from rural to urban areas. A Territory mycobacteriological laboratory has been established in Lae under a Brisbane-trained local technician.

Statistics for the region are as follows:

	1967/68	1968/69
Patients under treatment - Outpatients	542	503
Inpatients	637	565
After treatment reviews	5,624	5,975
Mantoux tests		42,095
B.C.G. vaccinations		23,089
Micro X-Rays		7,255

The Base Medical Stores at Lae is responsible for medical supplies to Morobe, Northern, Eastern Highlands and Chimbu Districts as well as receiving bulk supplies from overseas for the remainder of the Highlands.

Maternal and child health services operated regularly from 8 Administration and 55 mission centres and enrolments now total 61,433.

Malaria control is continuing in areas of the East and West Sepik, Islands of Madang, and the Markham Valley and Kaiapit area of the Morobe District. However, increasing concern is felt regarding the rising level of the malaria incidence shown by parasitological parameters from some Sepik areas.

Medical research during the year focussed on the establishment of the Institute of Human Biology at Madang, and initial work on the International Biological Programme project commenced on Karkar Island.

Growth and development and nutritional studies continued throughout the region and research was completed into anaemia and splenomegaly in the Watut Valley of the Morobe District.

The school dental service treated a total school enrolment of 30,448 from 11 clinics and 198 schools.

Morobe District

Regional Health Officer—Dr. L. A. Malcolm,
M.B., Ch.B., M.R.C.P. (Edin.), D.T.M. & H.

The Morobe District with a population of 230,026 and covering 12,700 square miles is divided into two mountainous areas by the flat Markham Valley plain. District headquarters are situated at Lae, a rapidly expanding town of about 3,500 non-indigenous and 20,000 indigenous people. Good road communications provide access to the Markham Valley and to Bulolo and Wau, but the mountainous nature of the remainder of the district makes communication as difficult as any other district in the Territory. For this reason health services are based on aid posts, and aid post supervisors located at small health centres. Health policy in this district is directed towards community participation in health management through local government councils and it is planned that all existing Departmental health centres will be eventually handed over to councils.

Angau Memorial Hospital, situated at Lae, provides specialist service to the District and the Region. Statistics for this hospital are:

	Public	Intermediate
Admissions	6,598	1,118
Daily Average	281	17
Outpatients	66,403	2,451

Health services are also provided by 14 Administration hospitals and health centres and four mission hospitals, total admission for all institutions being 19,244. Aid posts are maintained by the Administration, councils and missions, (see Regional Report for details).

The first graduation from the Angau School of Nursing took place during the year with 13 graduates, and enrolment increased to 100. Nurse Aides in training totalled 40 with 14 graduations during the year.

The Health Inspector's section is responsible for both urban and rural hygiene and the advising of councils on water supply projects. Councils were assisted with completion of 36 wells and 148 project inspections were made.

Tuberculosis surveys covered 24,730 people in Leiwompa, Kaiapit and Wantoat during the year.

Malaria operations expanded to include the whole of the Markham Valley, Lae town and the coastal strip from Salamaua to Bukawa, covering a total population of 47,000 people.

Leprosy remains a minor problem in this district with 69 inpatients and 148 outpatients being treated at Etap Hansenide Colony.

Maternal and child health services continue to operate from 3 Administration and mission centres with an enrolment of 13,833 children. As in the past a feature of this service has been the monthly visits by air to small health centres.

Three 'A' type and three 'T' type pre-schools at Lae, Bulolo and Wau had 263 children enrolled.

Health Education within the Morobe District has expanded during the year and motivational courses have been held in several villages.

The school dental service with two dental officers and 4 dental assistants treated a total of 8.816 enrolled children in 71 schools.

Madang District

District Health Officer—Dr. M. V. Dunjey,
M.B., B.S., D.P.H.

The District of 10,800 square miles has a population of 160,000. It is divided by the Ramu River into an inland mountainous area and the coastal ranges of the Adelbert and Finisterre Mountains. It includes several islands, including Kar Kar and Manam. A road is under construction along the north coast from Madang, which is the district headquarters, to Bogia. Work is also progressing on the Lae/Madang road. When completed these roads will do much to open up areas for health activities.

The district hospital of 240 beds is situated at Madang. Specialist surgical and paediatric services are provided. The Lutheran Mission conducts a 400 bed hospital at Yagaum with specialist surgical facilities. The Seventh Day Adventist Mission conducts a tuberculosis and leprosy hospital for the Administration at Hatzfeldhaven. The Lutheran Mission conducts a general hospital on the volcanic island of Kar Kar.

There are eleven local government councils in the district and three of these conduct a total of 30 aid posts. A further 71 aid posts are run by the Administration, and 19 by missions.

Hospital charges were introduced during the year at Madang General Hospital and the change-over occurred without complaints from the public, following a good publicity campaign.

The work of the Tuberculosis Control Branch continued. Patients are treated in seven main centres. A survey covering all of Manam Island is planned.

A leprosy reconstructive surgery unit is based at Madang and also conducts the leprosy control programme. There are a total of 1,500 cases under treatment. The unit also performs operations at different centres throughout the Territory. Special footwear is manufactured in an annex at Madang Hospital.

Malaria control continues both on the islands and mainland. A large pre-operational survey is currently being performed in the Bogia Sub-district.

Fifteen standard design wells were completed in seven different council areas.

The Institute of Human Biology in association with the International Biological Programme, is conducting a research project on Kar Kar Island.

At Madang the Nursing Aide School graduated 15 students and currently 36 girls are enrolled. The Para-Medical College graduated 15 Health Extension Officers and 3 Health Inspectors in 1968 and currently a total of 59 students are enrolled for their first and third years of training. The second year is covered at Kainantu.

East Sepik District

District Health Officer—Dr. P. O. D. Pharaoh,
M.B., B.S., L.R.C.P., M.R.C.S., B.Sc.

The East Sepik District, with Wewak its main centre, has an area of approximately 10,500 square miles and a population of 172,000 people. Geographically the district consists of the relatively heavily populated mountainous coastal strip, while inland there are large expanses of swamp and grassland, with the Sepik River running through them. Inland this river and its tributaries provide the main route of communication, while roads assume greater importance near the coast.

An increasing involvement of the local people in the health services of the District has been the major aim of the Department. The raising of hospital charges has involved the individual, while at the community level, local government councils have assisted in the financing of wells for safe water supplies, and new buildings for rural health centres and aid posts.

The hospital at Wewak with its specialist facilities serves both the East and West Sepik Districts as a base hospital. Hospitals at Maprik and Angoram and five rural health centres complete the major medical services for the District. Dental services are available at Wewak and Map-

rik, and late in the year a new clinic was opened at Angoram. In addition to the usual dental services provided, dental staff accompanied patrols on the Sepik and May rivers, and to the Schouten Islands.

Tuberculosis control for both Sepik Districts is carried out from Wewak, and the objective of a total survey of the area is near attainment with the completion of the Wewak Sub-district survey last year.

Leprosy control work was concentrated in the Wewak and Maprik areas with patrols also being done along the Keram and May Rivers. However, progress in the latter half of the year was not maintained owing to absence of an officer to supervise the programme.

A recent mass blood survey in this District has revealed an increase in the overall malaria parasite rate, and difficulties have been encountered in enlisting the co-operation of the local people for the Malaria Eradication Programme. Investigations are underway to determine the causes of this increase, and health education activities are being increased.

In the Hygiene and Sanitation Section the provision of safe water supplies has been the main object. The installation of wells in many villages has been carried out with the assistance of various local government councils, the Health Department and the Rotary Club. A total of eight wells were installed, and some of these installations were used to train council teams.

A recent innovation in the health education field has been the publication of a monthly School Health Bulletin aimed at all Standard 6 and Form I pupils. Also a project was carried out to assess the effect of health education on the incidence of periodontal disease and dental caries on two island groups of people. These activities were in addition to the routine radio broadcasts, the urban health education programme and health education associated with the various preventive medicine fields.

Almost the whole of the East Sepik is covered by maternal and child health services, conducted mainly by mission workers. The Dreikikir area is the exception to this, and here routine patrolling and Triple Antigen immunisations are regularly carried out by officers of the Department. Maternal and child health services conducted entirely by the missions have an enrolment of 11,267 and cover nearly 90% of the District.

Both "A" and "T" type pre-schools operate in Wewak, and the building of a new "T" type pre-school will commence in the coming year.

The medical seminars held quarterly in Wewak have gained in impetus and interest. They continue to attract medical workers from both Sepik Districts and occasionally from further afield.

West Sepik District

District Health Officer—Dr. J. L. Foote, M.B., B.S.

The West Sepik District covers an area of 19,700 square miles and has a population of 100,000 people. The District borders West Irian and is mostly rugged, thickly forested country. The population is sparse and scattered except for the Lumi Sub-district which contains approximately half the population. There are few roads and communication is almost entirely by air.

Seven Administration hospitals, one leprosy colony at Raihu, staffed by the Catholic Mission, and a mission hospital at Anguganak treated the following patients:

Total admissions	8,067
Total outpatients	34,926
Daily average	520

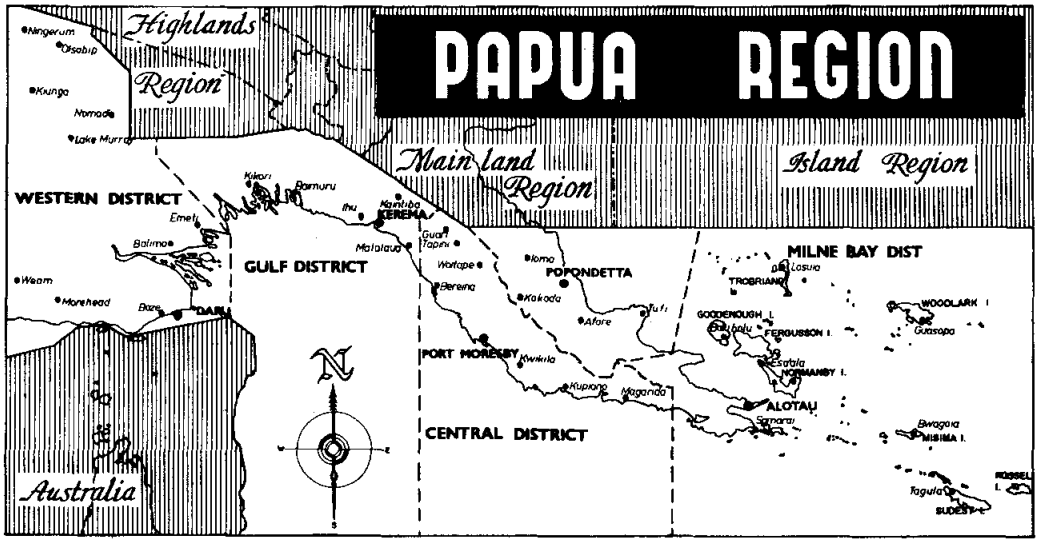
Arrangements have recently been completed for the transfer of tuberculosis patients from Aitape to Raihu. Leprosy patients treated at Raihu averaged 209 during the year with 493 outpatients. Leprosy remained an important problem in the District and a local Health Extension Officer who gained experience and underwent training in India during the year, has been posted to Lumi to supervise leprosy control in this area.

The Malaria Service continued spraying activities in the whole of the coastal strip and inland to Imonda but increasing community resistance manifested by refusal to have houses sprayed, and washing of sprayed surfaces caused some concern.

A dental clinic was opened at Lumi during the year. The Dental Service expanded to an enrolment of 4,230 in 29 schools.

Maternal and child health services conducted entirely by the mission centres covered nearly 90% of the District. Malnutrition remains a serious problem in the Nuku-Lumi area and research into this problem is being carried on at Lumi.

Increasing border crossings have caused concern and although there have been no reports of communicable diseases through unauthorised entry a close watch is being maintained on the health situation.



The Papuan Region consists of five districts, namely the Western, Gulf, Central, Milne Bay and Northern Districts, covering an area of approximately 83,800 square miles with a population of approximately 453,350.

Preventive medicine campaigns continued with limited immunisation programmes carried out in all districts giving an increase in coverage over previous years.

Religious missions engaged in health work have increased their activities whether participating in association with the Administration or independently.

The Leprosy Control Unit, in conjunction with the missions, completed case detection surveys in the Central, Gulf and Western Districts.

The Tuberculosis Control Section was active in both Central and Milne Bay Districts, providing a total of 27,995 B.C.G. immunisations. Town and rural mobile clinics continued domiciliary treatments.

The Malaria Control Section continued its programme and increased its protection of the population in the Northern and Milne Bay Districts.

Health Inspectors have extended their activities in the Port Moresby area, working in close conjunction with the Town Manager. Quarantine services for international flights through Port Moresby, which doubled

during the year, have increased accordingly. Services are maintained by departmental officers, specially appointed, thus allowing Health Inspectors to continue their normal programme without interruption.

There are 41 local government councils in the region, 24 Stage "0", 15 Stage "1" and 2 Stage "2". The Local Government Health Adviser returned from a World Health Organization Fellowship in Environmental Health.

Subsidies previously paid to councils by the Department for construction of water supplies have now been replaced with subsidies paid under the Rural Development Programme.

Water supply construction has been concentrated on resettlement blocks. Six bores were completed at the Bamguina resettlement block.

Maternal and child health activities continued to progress and the Family Planning programme was extended to include all Districts.

The Port Moresby Ambulance Service is operated under the supervision of a local officer, who returned from Australia after six months advanced training. Two new radio ambulances were made available this year, increasing the efficiency of the service.

The Dental services in Port Moresby have become mobile with the introduction of three caravan type clinics donated by Apex and Rotary Clubs. Several new dental clinics have also been opened within the Region.

Dental Statistics - Papuan Region ('00s)

	School Service		General Service		Total	
	67/68	68/69	67/68	68/69	67/68	68/69
Initial Examinations	89	86	78	74	167	160
Revision Examinations	72	46	-	-	72	46
Total Attendances	223	167	112	89	335	256
Extractions	32	26	88	62	120	88
Restorations	154	119	45	44	199	163
Periodontal Treatment	54	60	10	7	64	67
Prosthetics/ Orthodontics	-	1	-	6	-	7

A District Hospital is being constructed at Alotau, Milne Bay District, and many other hospitals, rural health centres, and aid posts have been maintained or enlarged.

Port Moresby General Hospital: The number of patients treated maintains an upward trend. There has been an increase of 10.7% in admissions and 11.0% in the total number treated.

Lions International Club renovated an old building and converted it into an Intensive Care Ward, which was opened on 15th July, 1968. During the following nine months, 244 patients were treated in the ward.

Cash collections from public patients totalled $13.368.80, showing an overall increase of 72.6%.

The voluntary Hospital Auxiliary Service formed last year to help with the needs of patients continued its activities and its services have been much in demand.

A Hospital Administration Consultant from the University of New South Wales, completed an investigation into the administration of the hospital and the future functions of the hospital advisory board.

Mobile Dental Clinic Donated by Rotary Club.

Central District

District Health Officer—Dr. D. S. Beavis,
M.B., B.S.

The Central District consists of an area of 11,560 square miles, and a population of approximately 150,000, of which a little over 30% live in Port Moresby. The population of Port Moresby is rapidly increasing at an estimated approximate of 5,000 per year. Economic conditions, and accordingly, health facilities are reasonably good, except in some of the mountainous areas, where the population is very sparse. The administrative headquarters is located at Boroko.

The District is served by six Administration and two mission hospitals, one Administration rural health centre and 80 aid posts.

The general policy and aim of the Central District is to provide a comprehensive medical service within reasonable reach of the population, to continue the emphasis on preventive medicine, especially outside Port Moresby, and to co-operate with other agencies in raising the general standard of health.

The main fields of activity in the last year have been in the areas of leprosy, malaria and venereal disease control. Malaria eradication in the Central District was started in 1967, and during 1968 was consolidated and extended as far west as the Kairuku Sub-district. This activity has resulted in a sharp fall in the number of recorded cases of malaria.

The Leprosy Control Unit was fortunate in having the assistance of the United Church Mission's medical officer, who surveyed villages and schools in most rural areas of the Central District, as well as schools in the town area. At the combined Administration Leprosy and Tuberculosis hospital on Gemo Island, new wards and a new kitchen block were completed. This hospital, which is staffed by the Papua Ekalesia Mission, is now used as a teaching unit for the Papuan Medical College.

A venereal disease clinic was opened early in 1968. The number of new cases seen monthly built up quickly to about 50, and has stayed at this level. A clinic has been under the joint supervision of the Division of Preventive Medicine, the Papuan Medical College and the District Health Officer. A vehicle has been acquired for the tracing of contacts - this has proved to be a difficult and slow task. The severity of cases of Donovanosis has decreased during the year.

In Port Moresby itself the General Hospital handles the majority of inpatients and many outpatients; however, at least an equivalent number of outpatients are treated at urban clinics, i.e. about 400 per day.

Sub-district hospitals are at Bereina, Kwikila, Tapini, Woitape and Abau. Mission hospitals are situated at Beipa'a and Iruna. Missions and local government councils play a big part in the running of aid posts.

Thanks to the generosity and help of the Rotary and Apex Clubs of Port Moresby, three mobile dental clinics have been donated to the Health Department, and are in wide use in the school dental service. At Sogeri the Lions Club has also been active in building an extension to the Janousek Clinic. In Hohola, a suburb of Port Moresby, a new general and maternal and child health clinic built by the Department is attracting large numbers of patients.

There were six new bores sunk at Bamguina in the Cape Rodney resettlement area.

Konedobu reclamation area has been completely filled, and is rapidly being refashioned into a modern sports arena and playing fields for the South Pacific Games.

The year for the Tuberculosis Control Unit has been one of consolidation with emphasis on the de-centralisation of services.

The main achievement in the field of maternal and child health has been the establishment of a training school at the Roman Catholic hospital at Beipa'a.

A new pre-school has been erected at Bomana, staffed by two married local women. The pre-school centre at the Port Moresby General Hospital grounds has been improved with the help of the Contact Club.

In the field of health education there has been wide coverage in the urban and rural areas.

There have been a considerable number of visits by overseas specialists to the Central District. Among these was the visit of the W.H.O. Regional Adviser for Communicable Diseases.

Gulf District

District Health Officer—Dr. R. I. Reid,
M.B., B.S., Dip. Obst.

This District covers an area of approximately 15,000 square miles extending from swampy coastal plains to the hills of the Central Range. Communications difficulties are a major problem to the health service in this District. However, roads are under construction and arrangements

for the installation of vastly improved radio communications are underway. These developments will greatly improve the preventive and clinical services in the District. At present radio contact with other stations is inadequate, and the District relies almost entirely on the M.V. Toarai for patient transport and general travel.

The basic health policy is to offer adequate preventive and clinical services to a population scattered through a district which is virtually without roads. Preventive programmes are well advanced in the settled coastal strip, and the aim is to extend these to the more isolated areas. The provision of adequate medical services requires the maintenance of widespread aid posts, with the added facility for speedy patient transfer to Kerema hospital. In view of the proposed hinterland road developments, a great deal of this year's activity has been towards the improvement of Kerema Hospital. A new system of public hospital charges has recently been introduced at the hospital.

The Administration conducts a district hospital at Kerema and field hospitals in the Malalaua, Ihu and Kikori Sub-districts. The Baimuru Subdistrict is served by a mission hospital at Kapuna, where the two doctors also train maternal and child health nurses, hospital and aid post orderlies. Several Christian missions and the local government councils play a significant role in the maintenance of aid post services. Maternal and child health clinics are shared by the Department and the missions.

A new Mono Mutrator sanitation scheme is now under construction in Kerema and will greatly improve methods of night-soil disposal.

A new family planning clinic was established this year.

During the last year a number of special campaigns have been conducted. A new brick maternity ward is now in the last stages of completion, and a maternal and child health conference to mark this opening will aim at providing relatively advanced obstetric and paediatric instruction for senior district health workers. This was a joint Council and Public Health venture.

In January and February an extensive patrol made the first medical assessment of the large Kukukuku population in the North-East of the District. As a result of this it has been recommended that a new field hospital at Kaintiba and seven aid posts be constructed. A combined Health and Agriculture patrol is now being assembled to improve immunisation programmes for this area as part of the joint project.

A survey of the pattern of patient attendance is presently being conducted in the Kerema Bay area.

Milne Bay District

District Health Officer—Dr. M. Powell,
M.B., B.S., D.T.M. & H.

The Milne Bay District lies at the eastern tip of Papua. It contains a land area of 7,820 square miles and has a population of 104,915, living on the mainland, on 160 named islands and on more than 500 islets and atolls.

The District hospital is on the island of Samarai. There are 5 Administration hospitals and 13 mission hospitals. Two rural health centres have been established by local government councils. A new district hospital is now under construction at Alotau. There are 129 aid posts - 55 are run by the Department, 17 by the missions and 47 by the local government councils. A tuberculosis unit on Kwato Island is staffed by mission personnel. The District Hansenide Colony at Ubuia on Normanby Island is another Administration unit conducted by mission medical staff.

Maternal and child health work throughout the District is carried out by mission and Administration sisters who patrol extensively on foot and by boat and during the current year held 2,259 clinics. They performed 4,276 ante-natal examinations and examined 58,093 infants. Fees for medical services were introduced at the District hospital and at some mission establishments during this year. These charges have in the main been well accepted.

Progress was made in the field of preventive medicine with the appointment of a District Health Inspector, a District Health Educator and a District Tuberculosis Control Officer, who have already improved these services significantly.

The malaria eradication programme has continued to maintain effective control throughout the District and was aided by the provision of a second deep sea trawler. The local government councils have continued to concentrate on providing healthy village water supplies to these scattered population groups. A goitre programme was completed in the Daga area of the Raba Raba Sub-district.

The anti tuberculosis mass X-Ray unit visited the D'Entrecasteaux Islands and X-Rayed 5,630 people. Dental units established at Samarai, Dogura and Losuia, carried out 2,378 treatments.

The prevalence of leprosy in the District is 0.1%. Isolated cases of advanced disease continue to be found by patrolling health workers. All infectious cases are referred to Ubuia for treatment. A surgeon from the Leprosy Reconstructive Surgery Unit at Madang has made three visits to Ubuia this year and more are planned.

Northern District

District Health Officer—Dr. F. M. Aisi,
Dip. C.M.S. (Suva)

The Northern District has a population of 59,000 and covers an area of 9,000 square miles. It has common borders with the Milne Bay, Central and Morobe Districts. Many parts of the District are not easily accessible owing to mountainous and swampy areas, and to a lack of roads.

There are five Administration hospitals and six mission hospitals in the District. In addition a tuberculosis hospital financed by the Administration is staffed and administered by the Anglican Mission. Saiho, originally the main hospital, was reduced to about twenty beds, on the completion of a new hospital at Popondetta, and now deals only with maternity cases.

During the year the old hospital at Ioma was replaced by a more modern and better equipped building. A new hospital was also erected at Oro Bay by the Anglican Mission.

The new semi-complete hospital at Popondetta with forty beds, was opened in July, 1968.

The introduction of hospital charges early this year brought about a decrease in outpatients of about 30%, and inpatients decreased in number by about 40%. The number of inpatients appears to be increasing again, but outpatient attendances have remained at the lower level.

Despite problems with X-Ray units, routine tuberculosis checks were carried out in the Collingwood Bay, Cape Nelson and Popondetta areas. During the year 51 new cases of tuberculosis were admitted to hospital.

There was no leprosy survey this year, but four new cases were admitted during the period.

The malaria eradication programme has been successful in the Northern District. Total protection has been achieved through spraying, and a sharp decline in the malaria parasite rate has been noted.

Nine Health Education Orderlies are active in this District. All are now attached to the Malaria Section, and give talks to the community prior to spraying activities.

There are six local government councils in the District, and all are extending health activities in their areas. The Cape Nelson/Collingwood Bay Council constructed four water wells and one dam, and the Kokoda Council opened an aid post at Alola. The other councils have projects planned.

In all areas except Kokoda and Ioma, infant-welfare activities have undergone expansion. During the year 8,712 vaccinations were given at the Administration Centre at Saiho, and a further 5,251 by missions.

A well equipped Pre-school provides for a maximum of thirty pupils. At present there are twenty Europeans and five Papuans enrolled.

The Infant, Maternal and Child Health Training Centre at Saiho takes student nurses from the Papuan Medical College, who are in their second year of training in midwifery and child health. Missions also run several training schemes in the District.

A seminar was held in November attended by both Administration and mission health workers. Work within the District was reviewed and planning carried out.

St. Margaret's Anglican Mission Hospital,
Oro Bay, Northern District.

Western District

District Health Officer—Dr. J. J. Bolger,
M.B., B.S. (Qld.)

The scattered population, and the nature of the 37,000 square miles of terrain (mainly swamps, mud, rivers and lakes) present substantial communication difficulties in the Western District. However, with the co-operation of the various missions more people receive medical care every year. Among the total population of approximately 65,000 there are an estimated 5,000 people under only partial control in the Nomad area. These people are very gradually becoming health-minded. Constant patrols are carried out to this area, and for this purpose the Nomad Patrol Post has a staff of three medical orderlies.

The economy of the people is very poor, and except at the centres of fishing and crocodile hunting, the nutritional standards are low. This is reflected in the poor standard of health among the populace. The general policy is one of gradual expansion in the fields of curative and preventive medicine.

The administrative centre for the Western District is at Daru, an island situated about two miles from the mainland. The Administration has sub-district hospitals at Balimo, Morehead and Ningerum. There is an Unevangelised Field Mission hansenide hospital at Mapoda in the Balimo Sub-district. The Dr. Vernon Memorial Hospital has been rebuilt and enlarged by the Bamu Mission. The Montfort Catholic Mission has a hospital at Kiunga, and the Unevangelised Field Mission has a hospital at Rumginae. In the District there are 54 aid posts, 43 of which are staffed by the Administration, and 11 by various missions. There are four doctors including the District Health Officer at Daru.

Two new wards are being constructed at the Balimo Sub-district Hospital. These wards will be used for child-care and maternity cases.

The Western District has a common border with West Irian for its entire length on the western side. Access roads into the Western District are protected by quarantine sites at Wando, Weam, Bosset, Atkamba and Baboa.

During the year 1968/69, an intensive smallpox vaccination campaign was launched. Achievements were initially disappointing, but we are attempting, with the aid of the missions, to complete the campaign in the very near future.

Infant welfare work is being increased by expansion into new areas by the missions. Daru Hospital provides staff for local clinics and daily ante-natal and post-natal clinics.

A B.C.G. campaign was carried out in the Oriomo and Bituri areas, to protect the population against tuberculosis, and triple antigen vaccination patrols have been active throughout the District. Health Education Orderlies accompanied all patrols.

Health boradcasts were made twice weekly over Radio Western District.

There is a Pre-school operating on Daru, with an attendance of 25 children.

APPENDIX I

STUDY LEAVE:

Diploma of Public Health, Sydney - Dr. C.O. Bell.
Diploma of Nursing Education, Melbourne - Miss N.A. Deakin.
Diploma of Nursing Education, Sydney - Mr. B. Morlin.
Diploma of Public Health, New Zealand - Drs. A. Toua and J. de la Cruz.

POST-GRADUATE TRAINING AND OVERSEAS STUDY:

Pathology Training at Royal Brisbane Hospital, Brisbane - Mr. J. Lavett.
Pathology Training at Prince Henry Hospital, Sydney - Mr. D. Arua-Boko.

COURSES, SEMINARS, CONFERENCES AND MEETINGS:

Third Australian Medical Congress, Sydney - Drs. J. Onno and H. Mulas.
12th General Assembly of the World Medical Association, Canberra - Dr. H. Mulas.
Australian and British Medical Association Council Meeting, Canberra - Dr. H. Mulas.
Course in Operating Room Nursing, Hawaii - Mr. Tom Langai.
Course in Family Planning, Singapore - Miss E.J. Dawson.
Course in General Medicine and Speciality, Hawaii - Dr. K. Sugoho.
Course in Family Planning, Hawaii - Dr. M. Clunies-Ross.
Course in Mental Health, Hawaii - Mr. P. Kororo.
Medical Editors' Conference, Sydney - Dr. I Maddocks.
Australian National University Seminar on Demography of Papua and New Guinea, Canberra - Drs. D.P. Bowler, J.M. Stanhope, A. Tarutia and A.J. Radford.
Nursing Registration Board Representatives' Conference - Mr. B. Morlin.
N.H.M.R.C. Public Health Advisory Committee Meeting, Canberra - Drs. W. D. Symes, and R.F.R. Scragg.
National Health and Medical Research Council Annual Meeting, Canberra - Dr. W.D. Symes.
General Scientific Meeting of the Royal Australian College of Surgeons, Auckland,- Mr. F.G. Smyth.
14th Quadrennial Congress of International Councils of Nurses, Canada - Miss M. Moses.
Educational Tour of Mental Health Institutions in Victoria - Mr. Paulus Kororo.
Educational visit Department of External Territories and Australian Universities Committee - Dr. I. Maddocks.
Educational Visit Physiology Department of Queensland University, Brisbane - Mr. B.G. Stevens.
12th National Conference of the Australian Pre-School Association, Adelaide - Miss J. Brownbill.
Australian Paediatrics Association Meeting, Canberra - Dr. D.P. Bowler.
World Psychiatric Association Symposium, Melbourne - Drs. B. Burton-Bradley and W. Moi.

Conference of Anatomical Society of Australia, Melbourne - Dr. W.B. Wood.
Institute of Dental Research Course at United Dental Hospital, Sydney - Mr. D.A. Anderson.
International Planned Parenthood Federation Conference, Indonesia - Dr. D.P. Bowler.
Royal Australian College of Physicians, Brisbane - Dr. R.M. Douglas.

WORLD HEALTH ORGANIZATION COURSES, SEMINARS AND MEETINGS:

Joint WHO/SPC Course in Tuberculosis and Leprosy, Noumea - Drs. D.A. Russell, S.C. Wigley, D. Johns and L. Sialis.
Malaria Course for Public Health Administrators, Manila - Drs. M. Powell, A. Toua, D. Johns and J. Tuvi.
Travelling Seminar in Medical Education, Philippines, Sydney, Perth, Singapore - Dr. I. Maddocks.
Course for Coding Instructions in the International Classification of Diseases, New Delhi - Mr. A. Dudley.
Combined Course in Entomology and Parasitology, Philippines - Mr. O. Rarua, T. Tumu and J. Iravela.

WORLD HEALTH ORGANIZATION FELLOWSHIPS:

Fellowship in Maternal and Child Health, South-East Asia - Miss M.A. Westbrook.
Fellowship in Environmental Health, Malaysia, Philippines, Thailand and India - Mr. I. Lightfoot.
Fellowship in Environmental Sanitation, Malaysia, Thailand and Philippines - Mr. C.J. Nathan.
Fellowship in Public Health Nursing, Malaysia - Miss M. Kora and Miss D. Tamekus.
Fellowship in Tuberculosis Control, Kenya, Uganda, Ethiopia, Libya, Nigeria, Ghana and Malawi - Dr. S.C. Wigley.
Fellowship in Dental Health, New Zealand - Mr. M. Paul.
Fellowship in Medical Auxiliary Training, Iran, Sudan, Ethiopia, Kenya, Tanzania, Uganda, Congo, Nigeria, Libya, Nepal and Burma - Dr. E.J. Watson.
Fellowship in Public Health Nursing, Calcutta - Sister Leah Mark.
Fellowship to study Dental Public Health Services in Singapore, Malaysia and New Zealand - Mr. G. Gris.
Fellowship in Leprosy, Burma, Thailand, Philippines and India - Dr. T. Gaunede.
Fellowship course in Maternal and Child Health, Malaysia, Thailand, Hong Kong and Philippines - Miss B. Elenisi.
Short Term Consultant, Republic of China (Taiwan) - Dr. D.A. Russell.
Sponsored tour of Health Departments, Malaysia and Philippines - Mr. Tore Lokoloko, M.H.A., Ministerial Member for Health, and Dr. R.F.R. Scragg.
Fellowship in Malaria, Philippines, Malaysia - Mr. E. Kelebi.

APPENDIX II

BOOTH, K., DOERY, H., AND LLOYD, A.
Haemoglobin serum iron and folate levels in a group of ante-natal patients in Port Moresby. P.N.G. Med. J. 11:11-52.

BOOTH, P.B., and MacGREGOR, A.
Indications for blood transfusions in the Tropics. Surveys from Port Moresby. Med. J. Aust. 2:310.

BIDDULPH, J.
Mothers in the children's ward. Mat. & Child Care. 4:105., 1968.

BIDDULPH, J.
Purulent meningitis in Papuan children. P.N.G. Med. J. 11:23., 1968.

BURTON BRADLEY, B.G.
Mixed-Race Society in Port Moresby. N.G. Research Bull. Monogram No. 23.

BURTON-BRADLEY, B.G.
Problems of Mental Health in Papua and New Guinea. International Mental Health Research, Spring Issue.

CLEZY, J.K.A.
An Itinerant Surgical Service for Leprosy. Paper presented at 9th International Leprosy Congress, Sept. 16-21, 1968. London.

MALCOLM, L.A.
Growth and Development of the New Guinea Child. P.N.G. Med. J. 12:23-32.

MALCOLM, L.A.
Recent Changes in Mortality and Disease Pattern in New Guinea. P.N.G. Med. J. 12:13-17.

MYLIUS, R.E.
New Zealand Scene. P.N.G. Med. J. 12:26-28, 1969.

MYLIUS, R.E.
The Right to Medical Care. P.N.G. Med. J. 12:20-23, 1969.

POWELL, K.C., AND BOOTH, K.
Anaemia in the Sepik District of New Guinea. P.N.G. Med. J. 12:3-6.

PULSFORD, R.L.
The Teaching of Behavioural Sciences at the Papuan Medical College. P.N.G. Med. J. 11:67-68, 1969.

PULSFORD, R.L.
Papua. Lancet (April 27th, 1968), p.915.

PULSFORD, R.L., and VAGI HENI.
The Story of Taurama Village. J. of P.N.G. Soc. Vol. 2, No.2, 1969.

RADFORD, A.J., and BASSETT, H.
Enteritis Necroticans in North Papua. P.N.G. Med. J. 11:3-6, 1968.

REID, S.E.
Sarcoma Botzyoides of the Cervix. Aust. N.Z. J. Obstet. Gynaec. 8:119.

REID, S.E.
Aminoscopy or Aminocentosis. Aust. N.Z. J. Obstet. Gynaec. 1969.

RUSSELL, D.A., SCOTT, G.C., and WIGLEY, S.C.
B.C.G. and Prophylaxis - The Karimui Trial. Paper presented at the 9th International Leprosy Congress, Sept. 16-21, 1968. London.

RUSSELL, D.A.
Leprosy (including Administration) in the Territory of Papua and New Guinea. Paper presented at 9th International Leprosy Congress, Sept. 16-21, 1968. London.

SAINT YVES, I.F.M.
The Principles of Malaria Eradication. P.N.G. Med. J. 11:99-100, 1968.

SCOTT, G.C., WIGLEY, S.C., and RUSSELL, D.A.
The Epidemiology of Leprosy - the Karimui Trial. Paper presented at 9th International Leprosy Congress, Sept. 16-21, 1968. London.

SCRAGG, R.F.R.
Specialists and Spraymen. P.N.G. Med. J. 11:43-48, 1968.

SWEENEY, A.W.
Variations in density of anopheles farauti laveran in the Carteret Islands. P.N.G. Med. J. 11:11-18, 1968.

VINCIN, D.R.
Leprosy Control and its associated problems in the Highlands Region of the Territory of Papua and New Guinea. Paper presented to the 9th International Leprosy Congress, Sept. 16-21, 1968. London.

ZIGAS, V.
Epidemiology of Kuru. Paper presented at the Teheran International Congress of Tropical Medicine. Sept., 1968.