NOTES ON LEPROSY IN THE TERRITORY OF PAPUA AND NEW GUINEA

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The Territory of Papua and New Guinea is an area which extends roughly between 140° and 155° E longitude, and 0° to 10° S latitude, and consists of several islands. The part of the main island comprised in this Territory is divided naturally into northern and southern sections by high central mountain ranges, the Highlands and the Owen Stanley Range. These ranges have helped to keep the tribes which occupy these two main divisions distinct and apart, and originally they were natural enemies.

In the Papuan or southern section we have a smaller group of islands to the extreme southeast, Samarai, the Trobriand Islands, and the D'Entrecasteaux Islands. In the New Guinea division we have the islands which go to form the Bismarck Archipelago, namely, the Admiralty Islands, New Hanover, New Britain, New Ireland, and Bougainville. There are in addition numerous smaller islands on the northeast coast of New Guinea, such as Nanam and Kabar.

The Territory has an extensive coast line which can be traveled right around the island until the highlands are reached, but in the Gulf and Western Districts of Papua and the Sepik District of New Guinea there are extensive swamps which are negotiable with difficulty, and are sparsely populated compared to other parts of the country.

According to a recent census (1957), the population of the Territory is distributed among the main ethnic groups as follows:

1.	Papuans	459,396
	New Guineans	1,297,174
2.	Europeans	17,679
3.	Chinese and other Asians	2,715
4.	Mixed races	2,164
	Total	1,779,128

Leprosy has been known and treated in the Territory for the past 25 years at least, but it was not until an ordinance was passed on June 7, 1954 that segregation became compulsory and all known cases, whether considered infectious or not, were placed in leprosaria for treatment and observation. During the past two years, however, compulsory segregation has been gradually replaced by selective isolation, whereby

as far as possible and practicable noninfectious cases are not sent to the leprosaria but are encouraged to receive treatment in their villages.

Previously, the policy of the administration was to isolate and treat all known cases in special colonies, now known as Hansenide Colonies, subsidized by the government but under the administrative care of various mission organizations. The administration subsidy varies, and may be total or partial as circumstances require. In the former case the administration meets the entire cost of all land, buildings, maintenance, staff salaries, and the food and drugs for the patients. In the latter case the administration supplies only the salaries of staff, and the food and drugs for the patients, the mission being responsible for buildings and all maintenance.

Under this system there are at present 11 such institutions, distributed and managed as follows:

1. *Gemo Island Hansenide Colony.*—Located on Gemo Island, one-half hour by launch from Port Moresby, Central District, Papua. Full subsidy. Under the London Missionary Society. Nursing sister in charge; no resident doctor; visited weekly by the specialist from Port Moresby. About 80 patients.

2. *Tari Methodist Hansenide Colony.*—Located at Tari, Southern Highlands District, Papua. Partial subsidy. Under the Overseas Methodist Mission. Nursing sister in charge; no resident physician; the government medical officer of the area is available when needed. This is a new institution, with as yet only about 25 patients (late 1958).

3. *Ubuia Island Methodist Hansenide Colony.*—Located on Ubuia Island, off Normandy Island of the D'Entrecasteaux group, Milne Bay District, Papua. Full subsidy. Under the Overseas Methodist Mission. Nursing sister in charge; no resident doctor, but visited by the government medical officer from Samarai, Milne Bay District. About 125 patients.

4. *Balimo Hansenide Colony.*—Located at Balimo, Western District, Papua. Partial subsidy. Under the Unevangelized Field Mission. Nursing sister in charge; the government medical officer from Daru in the Western District visits the colony (8 hours by launch). Approximately 100 patients. There is also an outpatient unit at this institution, which is located on a much-traveled river.

5. *Tógoba Hansenide Colony.*—Located at Tógoba in the Mount Hagen District, New Guinea. Full subsidy. Under the Seventh Day Adventists Mission. A medical officer in charge. Between 400 and 450 patients. This is a centrally-located institution in the highlands, and an outpatient scheme is being developed.

6. *Yampu Hansenide Colony.*—Located at Yampu, Wabag Sub-District, New Guinea, in the central highlands. Partial subsidy. Under the Roman Catholic Mission. A native medical practitioner in charge, visited by the government medical officer from the Wabag District Hospital. Approaching 500 patients. (There is also a leprosy ward in the Wabag Native Hospital, with at least 100 patients.)

7. *Dogomur Hansenide Colony.*—Located at Hatzfeldhaven, Madang District, New Guinea, on the coast north and east. Full subsidy. Under the Seventh Day Adventists Mission. A medical assistant in charge; visited by the medical officer from Tógoba. Approximately 200 patients; an outpatient scheme exists.

8. *Aitape Hansenide Colony.*—Located at Aitape, Sepik District, New Guinea, on the coast in the extreme northeast. Full subsidy. Under the Roman Catholic Mission. A medical officer (priest-doctor) in charge. Nearly 400 patients.

9. *Étap Hansenide Colony.*—Located at Étap, Morobe District, New Guinea, in a mountainous area on the east coast. Partial subsidy. Under the Lutheran Mission (American). Nursing sister in charge; no resident doctor. About 100 patients.

10. *Anelaua Hansenide Colony.*—Located at Anelaua, on New Ireland Island, New Ireland District, about two hours from Kavieng. Full subsidy. Under the Roman Catholic Mission. Nursing sister in charge; no resident doctor, but the Kavieng medical officer visits the colony. About 200 patients.

11. *Torokina Hansenide Colony.*—Located at Torokina, on Bougainville Island, Bougainville District. Partial subsidy. Under the Roman Catholic Mission. Nursing sister in charge; no resident doctor, but visited by the government medical officer from Kieta or Sakano (two hours by launch). About 50 patients.

Known cases of leprosy.—In a reply to a recent questionnaire from WHO, required for an Inter-Regional Conference to be held in Tokyo, it was stated that at the time (June 1958) there were 2,272 known cases of leprosy under treatment in the Territory, of which 269 had been found in surveys. In total, 2,036 were actually residents in leprosaria, and 236 were receiving outpatient treatment in their villages. With regard to "surveys," it is necessary to stress that these were of the nature of "preliminary investigations," to permit estimating the prevalence of the disease in given areas, rather than the more comprehensive "epidemiologic survey." True epidemiologic surveys have not been attempted hitherto in the Territory, because of lack of trained personnel and also of complete information relevant to such investigations. The distribution of known cases according to type in the population can be given only for the native people, for there are too few cases among the Chinese and other foreign peoples to permit their calculation. The figures are, per 100,000 population:

Type	*Rate*
Lepromatous	27
Tuberculoid	99
Borderline	0.84
Indeterminate	0.13

It is estimated that there may be between 6,000 and 8,000 cases in the Territory. Preliminary investigations done in sample areas suggest a fairly widespread distribution of the disease in most parts of the Territory, with marked foci in the Highlands (central); in the gulf around Ihu, Otokolu, and the Milne Bay District; along the Aitape coast in the Sepik District; and in the New Ireland District.

Treatment in the Territory.—The development of modern leprosy drugs saw the time-honored treatment with Moogrol (chaulmoogra) replaced by the sulfones. Both the parent substance and certain derivatives are used. At the present time patients receive Dapsone (DDS) orally as well as by injection, or Diamidin or Avlosulfone soluble in the case of those who show intolerance. Thiosemicarbazone is also used, either alone or in combination with DDS.

The results of treatment, on the whole, have been satisfactory, although there have been serious cases of drug intolerance and a

marked frequency and severity of lepra reaction. It is hoped that these conditions may be overcome with the help of some of the newer antileprosy drugs. Dosages per week have been varied from an average of 400 mgm. to 800-1,000 mgm. The Territory patient seems to tolerate a lower dosage of DDS better, hence the choice of 400 mgm. a week. Three cases of sulfone psychosis were reported during the past two years.

The treatment of the neural complications of leprosy with physiotherapy and reconstructive surgery is practically an unopened chapter, except for one or two initial experiments by one surgeon. This field will have to be developed seriously, however, if we are to help the large majority of patients who seem to be of the nonlepromatous kinds and subject to severe nerve involvement and crippling.

Future policy regarding antileprosy campaign.—It is hoped to: (1) Gradually stress more and more a policy of selective isolation of infectious cases both in the leprosaria and in leprosy village settlements in districts which show a localized but high incidence of leprosy.

(2) Develop a scheme of outpatient treatment for all noninfectious cases through the district hospitals and aid posts in the villages; also, to treat through this scheme, as many contacts as possible.

(3) Encourage the resettlement of handicapped neural cases in village settlements in their own villages and districts, with hospital facilities for the treatment of wounds and ulcers.

(4) Place a greater emphasis on orthopedic and reconstructive surgery, in order to aid the rehabilitation of handicapped patients.

(5) Develop facilities for the proper conduct of surveys.

Problems and difficulties.—Antileprosy work in the Territory has been well begun, and there is a good foundation on which to develop an effective campaign. Nevertheless, there are certain difficulties that still remain and that require solution if we are to be successful in our efforts.

First of all, we are faced with difficulties of terrain and communication, not to speak of the generally poor level of development of the people. Much work remains to be done in the fields of communication, education and propaganda, to reach the people and rouse them from their apathy to an active interest in cooperation with an antileprosy campaign.

Recent efforts in this direction have resulted in very gratifying responses, and the people in general are willing even though they appear to be slow in accepting instruction. Parents are still reluctant to part with their children when admitted to the colonies, or to practice any sort of home isolation when they remain in their villages, so that there is still the need for propaganda in this matter.

There now remains only to mention the greatest problem, namely, the lack of trained workers. Only three of the institutions listed above

have full-time medical officers. This situation will have to be remedied if we are to develop an adequate antileprosy campaign.

SUMMARY

In the Territory of Papua and New Guinea, the population of which is about 1,800,000, there were in mid-1958 2,272 known cases of leprosy, with an estimated total of 6,000-8,000. The tuberculoid type predominated nearly 4:1 over the lepromatous type.

Of the total known cases, 2,036 were resident in the 11 leprosaria ("Hansenide Colonies"), and 236 were being treated as outpatients. Existing regulations call for the segregation of all known cases, but at present there is a tendency to relax them in favor of selective isolation. The colonies, which are listed in detail, are all administered by missions, with full or partial subsidy; only 3 of the largest have resident physicians.

Sulfone treatment is used mainly, and, in spite of rather small weekly dosage, there is considerable drug intolerance and reactions are frequent.

Problems and future plans are discussed.

RESUMEN

En el Territorio de Papuasia y Nueva Guinea, cuya población es de unos 1,800,000 habitantes, había a mediados de 1958 2,272 casos conocidos de lepra, con un total calculado de 6,000-8,000. La forma tuberculoidea predominaba sobre la lepromatosa en una proporción casi de 4:1. Del total de casos conocidos, 2,036 residían en las 11 leproserías ("Colonias Hansenidas"), y a 226 se les trataba como enfermos externos. Los reglamentos vigentes exigen la segregación de todos los casos conocidos, pero actualmente la tendencia es en el sentido de aflojar la presión, en favor del aislamiento selectivo. Las colonias, que se enumeran con todo pormenor, son todas administradas por misiones religiosas, con subsidios completos o parciales; sólo 3 de las más grandes cuentan con médicos residentes. Se usa principalmente la sulfonoterapia, y a pesar de ser la dosificación bastante baja, existe considerable intolerancia a la droga y las reacciones son frecuentes. Se discuten los problemas pendientes y los futuros planes.