World Health Organization
Expert Committee
on Leprosy

Third Report

The World Health Organization Expert Committee on Leprosy met in Geneva from 27 July to 2 August 1965. It had six members: Drs. J. Covit, Dharmendra, R. S. Guinot, J. H. Hanks, P. Laviron and R. J. W. Rees. Also present were two representatives of international societies, viz., Dr. J. Gay Prieto of the International League of Dermatological Societies and Dr. O. W. Hasselblad of the International Society for Rehabilitation of the Disabled. From the Secretariat Drs. L. M. Bechelli and V. Martinez-Dominguez attended.

The aim of the Expert Committee was to review existing knowledge on the epidemiology, immunology, therapy, control and prevention of leprosy and to advise on the WHO program of leprosy research.

The report is divided into two parts, one on leprosy control and the other on research.

In Part I, on leprosy control, several subjects were considered: epidemiology, diagnosis and classification for use in field projects, chemotherapy, control (medical measures, training, health education, rehabilitation, social measures, legislation and administration), and the role of voluntary bodies in national leprosy programs. Some of the more relevant points of these subjects are mentioned below.

With regard to classification for use in field projects, the Expert Committee agreed that "in spite of repeated efforts, it has not yet been possible to produce a single system for the classification of leprosy.

For practical purposes there are two systems to be considered: the Madrid and the Indian classifications. Although complete unanimity has not been achieved, there are no serious basic differences between these two systems. Efforts should be made to appreciate the two points of view and to concentrate on the areas of agreement rather than on those of disagreement. . . . It should be clearly recognized that the macular tuberculoid lesions of the Madrid classification and the maculo-anesthetic lesions of the Indian classification refer to the same form of the disease." It was also recommended that, for practical purposes, in the majority of field projects, the cases of borderline leprosy should be included in the lepromatosus type. Again, for practical purposes, pure neural cases with negative bacteriologic examination should be considered as tuberculoid, and those with positive findings as lepromatous. In field projects, therefore, cases should be classified as lepromatous, tuberculoid or indeterminate leprosy.

From the control point of view, the cases should be classified either as infectious (open) or noninfectious (closed) on the basis of bacteriologic results.

In chemotherapy the Expert Committee stated that sulfone administration continues to be the basic treatment, since, of the other chemotherapeutic agents tried, none has proved to be as effective as the sulfones; for field projects the parent sulfone (DDS) is the drug of choice. Thiamin-bisulfone (DPT) was recommended as the alternative drug when there is intolerance to sulfones.

With respect to control, the impossibility was recognized of overcoming all difficulties at the present time in many areas and therefore a system of priorities should be adopted, according to local conditions: priority must be given to the treatment and follow-up of open cases, and to the
surveillance of household contacts, under 15 years of age, of such infectious patients. Contacts of open cases should be examined annually for five years, excluding those who have already been exposed for five or more years.

Under medical measures the Expert Committee stated that "... up to now, the minimum proportion of open cases to be treated in order to obtain a significant reduction in incidence is not known. Long-term trials designed with this aim should be undertaken in pilot projects. As a tentative proposal, while awaiting the results of such studies, it is suggested that leprosy control projects should treat regularly at least 75 per cent of the estimated open or infectious cases, to whom first priority must be given. This objective should be reached in each operational area within a period that could tentatively be fixed at around five years."

The report stressed that outpatient care of leprosy patients should be conducted from health centers that also deal with the general health of the community. Mobile units are required, as an interim measure, until these health centers are able to give an adequate service.

The Committee agreed with the criterion established at the WHO Interregional Leprosy Conference, Tokyo, 1958, in that a patient taking at least 75 per cent of his prescribed medication is considered to be under "regular" treatment.

It was "strongly recommended [by the Committee] that the prevention and treatment of deformities should start in the field. Of prime importance is the systematic instruction of each patient on the protection of hands, feet, and eyes."

The Expert Committee stated that "... health education in leprosy should be conducted in conjunction with that of other diseases. The first consideration is to enlist the interest and assistance of public health educators. An adequate budgetary provision for health education should be made." The Committee endorsed the recommendation of the WHO First Western Pacific Regional Seminar on Leprosy Control (Manila, 1965) that: "... investigation into the causes of prejudice against leprosy should be conducted in different countries, with a view to developing better methodology for overcoming it."

With respect to rehabilitation, the Committee recommended that "... priority should be given to the prevention of disabilities by simple methods that can be applied in the field; doctors and paramedical personnel engaged in leprosy work should be given adequate training; principles of rehabilitation should be incorporated in leprosy control as routine work; simple forms of physiotherapy should be available to the patients in the field." The Committee agreed with the statement of the WHO First Western Pacific Regional Seminar on Leprosy Control (Manila, 1965) that "... funds for leprosy control should not be diverted for the provision of reconstructive surgery," and added that it should not be forgotten that the aim of leprosy control is to prevent disabilities by early diagnosis and treatment, rather than to have to correct them.

With regard to administrative measures, the Committee emphasized the recommendation of the Pan American Sanitary Bureau Seminar on Leprosy held in Cuernavaca, Mexico, 1963, that "... leprosy, being a public health problem, the general principles of public health administration regarding planning, programming and organization of health programs should also be applied to leprosy control."

In Part 2 of its Report, the Committee considered research and emphasized the need for intensified investigation in operational methods, field work, sociologic aspects, clinical problems and the basic sciences. The Report included this statement: "It is particularly important that, in order to attract the interest of experts in the basic sciences and allied disciplines, leprosy research be conducted in general centers of research throughout the world. It is no less important that both governments and international organizations should foster training and research in countries where leprosy is endemic."

Research on microbiology, immunology, pathology, epidemiology, diagnosis, chemotherapy and chemoprophylaxis was considered in detail.

In microbiology it was recognized that fundamental progress has been made in
It was noted that "... two large and well controlled trials are now under way. The first, in Uganda, was initiated in 1960 and is now being supported by the Medical Research Council of Great Britain. The second BCG trial, undertaken by WHO in Burma in 1964, is in an area with a higher proportion of lepromatous leprosy. These two trials, therefore, are complementary. It is hoped that the results may give a useful assessment of the value of BCG for the prevention of leprosy."

Concerning epidemiology, a number of puzzling features of leprosy require further epidemiologic investigation in different parts of the world. Some of these features were considered as subjects for research.

With regard to chemotherapy, therapeutic trials should be conducted, using the standards recommended by WHO for controlled clinical trials in leprosy. In chemoprophylaxis the Committee recognized that the preliminary results of the investigations in progress at the Central Leprosy Teaching and Research Institute, Chingleput, South India, were highly significant and suggested the value of chemoprophylaxis in the prevention of leprosy. The study should be continued so that a definite conclusion could be reached. If its effectiveness were established, it would be necessary to plan further studies to determine the optimum dose and the length of time for which preventive treatment would be required. In addition, practical methods of applying chemoprophylaxis in the field should be developed.

L. M. BECHELLI

February 3, 1966

Report of Vocational Rehabilitation Administration, U.S.A.

It is reported that the Vocational Rehabilitation Administration of the U.S. Department of Health, Education and Welfare is supporting four major research projects in the fight against leprosy, viz.: an investigation in surgery and rehabilitation, directed for the past four years by Dr. Paul W. Brand and centered at the Christian Medical College and Hospital at Vellore, South India; two investigations involving the J. J. Group of Hospitals in Bombay, one of which is aimed to determine the potentials for surgical rehabilitation in leprosy patients with differing types of deformities, and the other to bring about a better understanding of nerve trunk damage in arms and legs affected by leprosy; and, fourth, an investigation at the Hadassah University Hospital, Department of Physical Medicine and Rehabilitation in Jerusalem, Israel, concerned with facilitating early diagnosis of leprosy through electronics (see report by Magora, Sagher, Chaco and Adler, The Journal, 33 (1965) 829-861).

Numerous surgeons and experts in rehabilitation have been sent from the United States to assist in the projects in India and Israel and directors of overseas projects have been sent to American medical and rehabilitation facilities for exchange of ideas and techniques; these directors took part in panel discussions at the Third International Congress of Plastic Surgery in Washington, D.C. in 1963. Various governmental and nongovernmental organizations, including particularly American Leprosy Missions in New York, have given technical assistance in this program. [Condensed from Overseas Leprosy Research, Vocational Rehabilitation Record 6 (Nov.-Dec. 1965) 3] This issue of that journal carries also (pp. 1-4) a review article by Paul W. Brand on the history of campaigns against leprosy during the last 20 years, with emphasis on DDS therapy and organized and voluntary programs for leprosy research and medical care. A special tribute is paid to one particular program, that in
Nigeria: “The greatest progress toward eradication of leprosy has taken place in Nigeria, where, from the beginning, the Government Leprosy Service took over all the mission hospitals and sanatoria and welded them into a national antileprosy campaign. Thus, even though Nigeria had minimal surgical and rehabilitation facilities, the Leprosy Service was, to a large extent, organized by physicians who had a keen interest in the welfare of every individual. Much good rehabilitation work has been associated with this campaign.”

Dr. Brand called attention also to international cooperative work at Vellore, India, which has served as a training ground for physicians from several countries. He noted that Africa is the continent with the highest incidence of leprosy, and stressed the expected value in the development of the All-African Training Center in Addis Ababa, which has world-wide support [Tbm: Journal 33 (1965) 915; ibid 34 (1966) 75-76].

Rehabilitation Services for Disabled Persons

The annual report of the International Rehabilitation Review for 1965 (issued in April 1966) records that during the year 112 organizations in 61 countries, working through the International Society for Rehabilitation of the Disabled, expanded their combined services for disabled persons in all parts of the world. Exchange of personnel and provision of advisory services were accomplished for more than 80 countries. During the year several national and international organizations in half a dozen countries were approved for membership in the Society. The Tenth World Congress of the International Society for Rehabilitation of the Disabled, as noted previously in The Journal, will be held in Wiesbaden, Germany, 11-17 September 1966.

Members of the International Society’s Committee on Leprosy Rehabilitation met in Carville, Louisiana, in April 1965, during the Sixth Annual Seminar for Leprosy, for American Leprosy Missions, Inc. A two and one-half month course on Prevention of Deformities and Physical Rehabilitation of Leprosy Patients by nonsurgical methods was held in Caracas, Venezuela, May-July 1965. The International Society, through its Committee on Leprosy Rehabilitation, was responsible for planning the course curriculum, which was held under the auspices of the Pan American Health Organization, the Venezuelan Ministry of Health, American Leprosy Missions, Inc., and the World Rehabilitation Fund. Fifteen leprologists from Argentina, Colombia, Ecuador, Mexico and Paraguay attended. The course included a study of methods, intensive training in leprosy rehabilitation and field work. [From International Rehabilitation Review, April 1966.]

Leprosy in Costa Rica

The Department of Campaign against Leprosy in San José, Costa Rica, has recently issued a brochure entitled “Information on Hansen’s Disease in Costa Rica,” signed by Dr. Delphin Elizondo S., Director (Información sobre el mal de Hansen. Departamento de Lucha contra la Lepra, San José, Costa Rica, 1965). The brochure gives a short historical resume of leprosy in the country, and a summary of data on the prevalence of the disease in Costa Rica and its annual incidence of discovery of new cases from 1959-1964. The region now comprised by Costa Rica was sparsely inhabited when the Spanish conquistadores arrived, and there is no evidence that the disease existed in the land before that time. In 1784, 282 years after the discovery of Costa Rica, the governor of the province, Don Juan Flores, issued a report on leprosy in the country, which had been first observed in a servant of a Costa Rican family living in Cartago. Don Tomas de Acosta, governor from 1796-1810, inaugurated a census of the disease. A dozen foci were recognized in 1798. Larger numbers became apparent in subsequent years. Governor Acosta proposed a plan of isolation to meet the endemic, and a number
of lazarets were established under succeeding governors. In 1896 one of these was declared the Institución Nacional de Lazareto. A charitable citizen, Donna Mercedes de Cruz contributed a site for the national leprosarium, which was first named the Asilo Las Mercedes, and ultimately, in 1948, called the Sanatorio Nacional de las Mercedes. In the same year the Departamento de Lucha contra la Lepra was created. Use of sulfones in treatment began in 1945. The figures compiled indicate that 495 cases have been arrested since that time. At the present time regulations have been liberalized and modernized with respect to the isolation once rigidly practiced.

Leprosy is now considered "a disease like any other," to be attacked by medical science.

The Lucha Contra la Lepra is concerned with epidemiology, for which there is a special section, control of contacts, social service, maintenance of a dermatology dispensary, operation of the Sanatorio Nacional de las Mercedes and a correlated Preventorium, and health education of the public with respect to leprosy.

The known prevalence of the disease ranged from 575 cases (42.2/1,000) in 1960 to 607 cases (48.1/1,000) in 1964. The incidence of new cases during the period declined from 46 in 1960 (3.83/1,000) to 37 (2.66/1,000) in 1964. Some 48 per cent of cases in 1964 were of the lepromatous type, and 22 per cent tuberculoid. Other forms comprised the remainder. The lepromin test is widely practiced, and the Section on Epidemiology is engaged broadly in research.

Third Mexican Congress on Dermatology

The Mexican Society of Dermatology held its third congress in Monterrey, Nuevo Leon, October 13-16, 1965. One hundred and fifty-three dermatologists attended, coming from Mexico itself and the United States, Spain, Peru, the Dominican Republic, Czechoslovakia and Germany. There were six official themes, which were covered in 87 presentations. There was also a presentation of clinical cases.

The official theme of leprosy was represented by 13 papers, of which the following were particularly noteworthy:

- RUIZ GODOV, V. M. Histopathologic changes in the nerve twigs in different forms of leprosy.
- BARRA RENDÓN, J. and Pérez SÁNCHEZ, G. Rifampicin in leprosy. Study of two cases.
- GAY PÉREZ, J. Result of transmission of human leprosy to the chick embryo.
- AYALA, G. Some aspects of leprosy in Argentina.
- LATAPI, F. The campaign against leprosy in Mexico.
- VEGA NÚÑEZ, J. Invalids from leprosy.
- SÁNCHEZ, A. Dimorphous cases of leprosy. A stage in the evolution of a case.
- SALAZAR MILLER, M. Immunologic studies in human leprosy.
- LÓPEZ YÁNEZ, G. Leprosy in Durango.

Leprosy Research Unit, Uzuakoli, Eastern Nigeria

Annual Report—1964

In the introduction to this report, Dr. S. G. Browne sounds a note of warning against unwarranted optimism regarding the leprosy problem in Eastern Nigeria. After paying just tribute to the fine work already accomplished, he cites some of the factors that result in perpetuation of the endemic.

The major research projects undertaken in the Research Unit during the year 1964 concerned therapeutic trials of antileprosy drugs. The phenazine derivative B.663 (Geigy) has been further studied; provisional assessment indicates that it is of definite value in the treatment of lepromatous leprosy, and that it appears to suppress acute exacerbation. Further trials
are planned to investigate both aspects of its action in leprosy.

Further studies have been made on low dose oral dapsone. It is stated that the great majority of patients show clinical and bacteriologic progress similar to that of patients on standard dose regimens, and that reactional episodes are less frequent and less severe.

Trials have been inaugurated with a long-acting sulfonamide (Fansasil, Roche) on a small group of patients in an attempt to elucidate its effect on lepromatous disease. The recognized risk of skin sensitivity has to be borne in mind.

Various other investigations are referred to in the report, such as morphologic changes in M. leprae, and the emergence of morphologically normal forms after years of clinical and bacteriologic quiescence. Inquiries as to the occurrence of Heinz-body anemia and glucose 6-P.D. deficiency are mentioned.

Dr. Browne journeyed widely during the year, and lectured in several countries. The report concludes with a list of some 14 publications.

**Annual Report—1965**

This report, the last to come from the pen of Dr. S. G. Browne, who has been Director of the Uzuakoli Leprosy Research Unit since 1959, reviews the problems of control in a country where great progress was registered both just before and immediately after the introduction of mass treatment with the sulfones. The number of new cases diagnosed is now approaching the number of discharges. Early lepromatous leprosy is no longer recognized by the lati. It is evident that the threshold below which leprosy ceases to be a public health menace is not yet known.

Chemotherapeutic trials have again taken a prominent place in the activities of the Unit, thanks to the cooperation of leprosy settlements in Eastern Nigeria. The phenazine dye B.663 (Grizy) continues to hold promise of being a useful product, worthy of investigation on a larger scale. A series of patients on a lower daily dose (100 mgm.) have shown improvement at the same rate as those in the previous series of 300 mgm. daily. Once again, the virtual absence of episodes of acute exacerbation in patients with lepromatous leprosy has been noteworthy.

A small group of patients who had been subject to persistent and prolonged exacerbation, all improved when given B.663, and maintenance doses of corticosteroids could be reduced and eventually completely suppressed. So far, there have been no examples of sudden reappearance of morphologically normal forms of M. leprae in these recent series of patients taking B.663.

As regards low-dose dapsone, it is now evident that doses of the order of 50 or 100 mgm. weekly are effective, clinically and bacteriologically, in lepromatous leprosy. Resistant strains have not appeared on this regimen. Studies are proceeding with low doses of dapsone in other types of leprosy.

Groups of patients with lepromatous leprosy at Uzuakoli and at Oji River are receiving a long-acting sulfonamide (Fansasil, Roche), with good effect. No cutaneous sensitivity has been noticed, and no instance of paralysing sensitization has occurred.

Other investigations have been carried out in the Unit during the year, as evidenced by the 23 publications listed. Dr. Browne again traveled widely, presenting papers and giving lectures in four continents.

Since the report was compiled, it has been announced that Dr. A. McKelvie has been appointed to succeed Dr. Browne at Uzuakoli. He thus assumes direction of the Uzuakoli Leprosy Research Unit, a distinguished organization in which John Lowe and Frank Davey, as well as Stanley Browne, did outstanding work.

**NEWS ITEMS**

Cuba: Care and treatment of leprosy patients. A report by the late Dr. Miguel A. Gonzalez Príeides of the Hospital San Luis de Páona of the Ministry of Health of
Cuba, summarized in the July 1965 issue of *Leprosy Review* and the Carville Star for September-October 1965, describes the current state of facilities and measures for the treatment and care of leprosy patients in Cuba. Two hospitals, in Havana Province and Oriente Province respectively, provide 700 beds for leprosy patients, and ten dermatologic centers make provision for outpatient observation and treatment. Patients registered and under supervision number 4,020; the estimated number of cases in the country is 6,000. As of the time of the report, 320 patients were hospitalized, and 3,470 were receiving dispensary treatment. The average age of the patients was 28.5 years. Males exceeded females in the approximate proportion 60 to 40. All clinical forms were represented, including: 44.4% lepromatosus; 24.0% tuberculoid; and 19.3% indeterminate; other forms accounted for 12%. More than 37% of all cases were indicated as under medical control.

**Mexico:** *Mexican Association for Action Against Leprosy.—*During February and March 1965 the sessions of this association were devoted to statistical review of 118 cases of leprosy studied in the Centro Dermatológico Pascua of Mexico City during 1963. The sessions included the following considerations: general statistical data (S. Vargas and B. Hernández-Galicia); neurologic aspects (A. Sáiz and V. M. Ruiz-Godoy); cutaneous manifestations (C. Estrada and M. A. Acevedo); bacilloscopy and histopathology (M. Malacara and O. Rodríguez); epidemiology and control (E. Castro and P. Brava); social aspects (Sor. Catalina Montoya and F. Latapi).

**Venezuela:** *Leprosy training course.* The Second Training Course on Prevention of Defor- mities and Physical Rehabilitation of Leprosy Patients will be held in Caracas in 1967. Preparatory conferences by a Leprosy Training Committee, sponsored by the Pan American Health Organization of the WHO are being held for arrangements for the conference. (The Star, Carville, La. 25 (Jan.-Feb. 1966) 2.)

**United Kingdom:** *Change in name of Mission to Lepers.* As anticipated in previous notices, on 1 January 1966, the Mission to Lepers, with headquarters in London, changed its name to The Leprosy Mission. The alteration was made "in order to save sufferers from leprosy from the stigma so long associated with the disease," and presumably, in particular, that unfortunately associated with the designation "leper."

**United States:** *ALM-USPHS leprosy seminar.* The seventh annual leprosy seminar jointly sponsored by American Leprosy Missions, Inc., and the U. S. Public Health Service has been scheduled for April 14-20 at the Public Health Service Hospital (National Leprosarium) at Carville, Louisiana. Among the leaders assigned places in the seminar were Dr. Paul W. Brand, pioneer in leprosy rehabilitation, and his wife, Dr. Margaret E. Brand, ophthalmologist and specialist in eye problems in leprosy. The Brands are presently on the Carville staff. Other leading participants scheduled for the seminar were Dr. C. H. Binford, Medical Director; Leonard Wood Memorial, Dr. Paul Fasal, head of the leprosy outpatient clinic at the San Francisco PHS Hospital, and Dr. O. W. Hasselblad, president of American Leprosy Missions. Some 45 participants were expected to attend.

**Hawaii:** *Centennial ceremonies at Kalu­papa.* Patients of the leprosy settlement Kalu­papa on the island of Molokai celebrated the centennial of the founding of the settlement at ceremonies in August 1965. The settlement was originally established by King Kamehameha V early in 1865. Governor John A. Burns of the state of Hawaii, and health officers of the state, took part in the ceremonies. Tribute was paid to the services of the noted Father Joseph Damien, who lived in the settlement from 1873 until his death in 1889. Noteworthy improvements have been made in the condition of the settlement in recent years; it is now administered by the Communicable Disease Division of the State Department of Health. (Condensed from account in Carville Star 25 (Sept.-Oct. 1965) 4.)
PERSONALS

Dr. Carl D. Enna, surgeon from the USPHS Hospital, Carville, Louisiana, visited the Palo Seco Hospital for leprosy and the Corgas Hospital in Panama in August 1965.

Dr. Waldemar F. Kirchheimer, Chief of the Laboratory Branch of the U. S. Public Health Service Hospital at Carville, Louisiana, has spent a month (Jan.-Feb. 1966) in India conferring with officials and others concerned with proposed research projects in leprosy.

Dr. Etienne Montestruc, former Director and now Honorary Director of the Pasteur Institute of Martinique, conducts courses in leprology for students and candidates for a degree in tropical medicine, as a member of the Faculty of Medicine at Bordeaux, and carries out missions for the World Health Organization in the field of leprosy. In 1965 he made an extensive trip as adviser in leprosy prevention in Senegal, Mauritania, Upper Volta, the Ivory Coast, and Guinea. His address is Caslab (Py-Orient), France. Dr. Montestruc is a Contributing Editor of The Journal.

Dr. John H. S. Pettit of the Sungui Bullah Leprosarium Research Unit visited leprosy workers in the United States between 3 and 27 September 1965. In addition to visiting the laboratories of Dr. John H. Hanks in Baltimore and Dr. C. C. Shepard in Atlanta, Dr. Pettit stayed for several days in Carville, attended the leprosy clinics in San Francisco, and also visited the Leonard Wood Memorial Headquarters in Washington. Dr. Pettit is employed by the British Medical Research Council under whose auspices he makes annual visits to contact leprosy workers outside his own area.

Dr. Margaret Whang, long active in leprosy work in Korea, and a graduate of the Medical College of Seoul in 1947, died recently at the age of 40 years. She served on the staffs of internal medicine in several Korean hospitals, including the St. Maria Hospital in Kyungju during the Korean War. Service in a German Red Cross Hospital, sent to Korea by West Germany, stimulated her interest in leprosy, and she devoted much of the remainder of her life to the medical treatment and social care of patients with this disease. At her request, made shortly before her death from cancer, she was buried among patients deceased from leprosy in the center of the St. Lazarus Colony. (From information supplied by Colonel Y. B. Park of the Korean Marine Corps and forwarded to The Journal by Father Joseph A. Sweeney, member of the I.A.)

OBITUARIES

Dr. Kikuo Hamano
1897-1965

Dr. Kikuo Hamano, former Chairman of the Board of Directors of the Tohu Kyokai (Japanese Leprosy Foundation), died of cancer of the stomach at the age of 68 on January 5, 1966, in Tokyo. He remained strong and vigorous, though confined to a sick-bed for the last several months. His funeral was held on January 19 at the Aoyama Funeral Hall, Tokyo.

Dr. Hamano was born in Kokura, Kyushu, in 1897. He graduated from the Keio Gijuku University School of Medicine in