

## REPORTS

### **Annual Report of the Rajah Sir Charles Brook Memorial Settlement, 1956.**

The Superintendent of this leprosarium at Kuching, Sarawak, is Mr. Hamish MacGregor, M.B.E., and Drs. Pillai, Finlayson, Glyn, Kraszewsky, and Murray visited weekly during the year. Hospital assistants and other staff number 9. The year began with 387 patients and ended with 372, and 68 were discharged symptom-free during the year. Sea-Dayak and Chinese are the most prominent in the racial classification of inpatients, though Land-Dayaks, Kayans, Malays, Melanaus, and Javanese are also represented. Children numbered 39. There were 8 children born in the settlement in the year; their care was arranged for outside the leprosarium, with family or friends for preference. The main form of treatment is oral DDS, and a few received injectable sulphones, and interest is being shown in hydrosulphone, a combination of sulphone and hydnocarpus, for patients who show intolerance or do not do well on oral sulphone. Cases of lepra reaction and longstanding trophic ulcers show some decline in number. Tuberculosis and cancer were the most important of the intercurrent diseases. There is a small laboratory which is aided by the Pathological Laboratory, Kuching. The internal activities of the settlement seem numerous, cheerful and co-operative, resulting in many improvements to the amenities. Besides the special care and interest of the Medical Department, the settlement has received advice and solid help from the Public Works Department and the Forestry Department and others, and the visits and interest of H.E. the Governor, as well as many visitors from overseas.

### **The Work of WHO, 1956.**

This annual report of the Director-General is full of interest, as it describes current and projected work in communicable diseases and public health in the world, and does not omit attention to such important sections as maternal and child health, nutrition, mental health, education and training, etc. Leprosy is given increasing attention by WHO, who aid many countries in their leprosy control schemes. For example, one reads in the project list of leprosy control schemes in Ceylon, the Caribbean, Iraq, Thailand, Indonesia, French Equatorial Africa, Nigeria, Gambia, Uganda. On page 54 of the Report there is interesting comment on some aspects of leprosy control schemes, in particular on the wide use in the French territories of fortnightly injections of oil suspensions of

DDS. It is commented that it seems very useful in the organisation of mass treatment under rural conditions, because it enables patients in remote foci to be reached and treated regularly, and cuts down the number of contacts between patients and treatment staff, and so enables the latter to cover a greater number of patients.

From the Report it is clear that WHO has become an enormous force for good in world health.

**International Digest of Health Legislation, WHO.** Vol. 8, No. 1, 1957.

The regulations of 23rd June, 1955, of Mexico on the control of leprosy appear on pages 68-71. They provide for the establishment of a National Leprosy Control Service which brings into harmonious co-operation the dispensaries, sanatoria, preventoria, and health units, as well as specialised physicians and staff. The leprosy dispensaries, giving due regard to Mexican conditions, are chosen as the basic and most important units of the Leprosy Control Service, and full staffing is apportioned to them, including a laboratory technician. Sanatoria and preventoria are by no means abolished, and are considered still to have important functions. The existence of private institutions is also welcomed. Statistics and records, education of the public, special training of physicians and staff, are also provided, and the whole is co-ordinated by a central technical office. It is clearly stated that any form of coercion of patients and relatives is to be avoided, and the first recourse must be to education and persuasion.

**The Leprosy Centre at Paramaribo, Surinam.**

A report on a visit to this centre has been issued by Sister A. French-Augustin, who apparently went there on a WHO Fellowship. She describes a fine piece of work, well staffed, well organised and equipped. The superintending leprologist is Dr. Bueno de Mesquita, assisted by Dr. Jacob and Dr. Pinas, Sister Markiet and 12 nurses, also a dentist and eye specialist. There are 3 leprosaria, and hospital care, housing, social welfare, schooling, gardens, and radio are all available. There are about 370 inpatients and 700 outpatients. There are 30 model cottages built for patients who have reached arrest of the disease, but have no home to which to go.

**The Chronicle of the World Health Organisation,** March, 1957, Vol. 11, No. 3, page 63.

A discussion is described of *leprosy in the Americas* at the meeting in September, 1956, of the WHO Regional Committee for

the Americas, at Antigua, Guatemala. A table is given of statistics of the prevalence of leprosy in the Americas, from which it is evident that (for the 18 countries given) Brazil has the heaviest burden, with Mexico next, then Argentina, Colombia, and Paraguay. It was agreed that there is a need for active measures in combating leprosy, and leprosy demands a higher priority under national public health programmes. The representatives of Brazil stated that the techniques used to date for leprosy control in Brazil had not produced the results expected, in spite of its 36 leprosaria, 31 preventoria, and 80 regional dispensaries in operation, and a revision of operating methods is in progress. In Venezuela, BCG vaccination had been applied for many years to the entire population in leprosy areas in one programme, and to the population under 15 in leprosy foci for 4 consecutive years, in another programme.

**R.C.M. Leprosy Colony, Ndanda, Tanganyika, 1956 Report.**

There were 464 inpatients under treatment, and 101 patients were discharged after  $2\frac{1}{2}$  to 3 years' treatment or more, and most were symptom-free or much improved. The treatment given included DDS, sulphethrone injections, conteben, INH and TB<sub>1</sub>, and hydnocarpus oil injections intradermally. There were 4 cases of drug intolerance to DDS in the shape of severe exfoliative dermatitis, and 2 cases of hepatitis, one severe, one mild. Only a few patients had reactions. Five patients had the complication of pulmonary tuberculosis, and are being treated with dihydrostreptomycin and INH, or INH and TB<sub>1</sub>. There was one infant who showed tuberculoid macules in 1955, 5 months after birth. She has been treated with oral DDS for 10 months now, and the macules are repigmented almost completely. All of the 17 patients who have been given Conteben make good progress: this drug is considered of value in those who have repeated reactions under the sulphones, or are drug sensitive to them, or do not respond satisfactorily to them. It is noted that 50 patients under the sulphones since February, 1951, and still under observation, show a disappointing persistence of positive skin smears, and in some, of still active skin lesions. There was 1 case of relapse in a patient discharged in 1954 after 3 years on DDS. The relapse occurred 9 months later, and after 12 months more of DDS has again had disappearance of his lesions; this was apparently a tuberculoid case.

**The Report of the Medical Services, Ministry of Health, Sudan Government,** for the year 1954-55, contains a brief reference to leprosy. There has been a change of method towards domiciliary

treatment of leprosy patients with sulphones, but 14 leprosy settlements continue to function as homes for the mutilated and incapacitated; of the inmates of these former leprosaria there were 2,098. It is reported that 77% of cases in the Ingasana Hills of the Blue Nile Province are of the tuberculoid type. During the year 1,106 new cases were diagnosed, of which 175 came from Equatoria, the known heavily endemic zone. The policy is to make supplies of sulphone available in all dispensaries, and special record cards.

**The Report for 1956 of the Mission to Lepers, Hong Kong Auxiliary,** which conducts the leprosy work at **Hay Ling Chau**, describes a very fruitful, well organised, and well-staffed work. In addition to an honorary consultant staff comprising a pathologist, a dental surgeon, a radiologist, and a plastic surgeon, the Superintendent (Dr. N. D. Fraser) has the aid of 3 Medical Officers, a nursing supervisor, a matron, and 2 nurses, 2 laboratory technicians, and many other staff and voluntary workers. The interest of H.E. the Governor, Sir Alexander Grantham, and Lady Grantham and their team of workers in the Auxiliary must be of greatest value. Maintenance and construction of the buildings and settlement also seems to be in very good hands. Patients treated at Sandy Bay and Hay Ling Chau between 1950 and 1956 numbered 785, and of these 187 were discharged "arrested." The transfer of patients to Hay Ling Chau was completed in August, 1952. For Hay Ling Chau the year 1956 ended with 388 patients, and 35 had been discharged "arrested." Good therapeutic results are obtained in the majority of patients treated. There is limited accommodation in the Shap Lung Centre for those discharged "arrested," but permanently crippled, so that many such have to remain on in Hay Ling Chau. Persistent lepra reaction in patients has been treated with considerable success by the method suggested by Dr. E. J. Currant, that of giving the sulphones in minimal doses with a view to desensitization. It was found that previously reactive patients actually responded to treatment with such doses, with a steady fall in bacillary index. The laboratory work is very active and full, and time has been given to research in pathology and immunology of leprosy. The teaching of medical students in leprology also goes on.

**Annual Report, 1956, The Victoria Leprosy Hospital, Dichpali, India.**

Dr. A. L. Furniss reports encouraging development in surgical work for the correction and prevention of deformities, and notes

the great psychological value of the cosmetic result of operations. There were 2,632 people who came for examination for leprosy. The average number of inpatients was 490. Patients discharged with the disease arrested numbered 69. Orthopaedic operations number 94, and rhinoplastics 24. The laboratory work flourishes, and X-ray examinations were 157. The report mentions that it is quite impossible to admit everyone who comes, because of the lack of resources.

**Report for 1956 of the Nigeria Leprosy Service Research Unit, Uzuakoli, Eastern Region, Nigeria.**

Dr. T. F. Davey, the Senior Specialist, describes a fruitful year. He points out that the Research Unit possesses all essential facilities for basic leprosy research, and adequate numbers of highly co-operative patients are available. The region is also one of great immunological interest. Therefore the research programme has been directed to pilot trials of new anti-leprosy drugs, biochemistry in especial relation to new leprosy drugs, immunological studies in the field, and some aspects of epidemiology. The therapeutic trials included diphenyl-thiourea (Ciba Compound 15095E), diamino-diphenyl sulphoxide, and pyrazinamide. All these have been assessed against the standard of DDS, and the first and second are promising, while the third seems of little value. As regards DDS itself, the remarkable fact is reported that there is still no evidence of the development of drug resistance. Early cases respond rapidly to it, but the treatment must be continued for a long period. The distressing complication of neuritis in the later stages seems to be less severe if a steady dosage of 100 mgm. daily is given, rather than 300 or 400 mgm. twice weekly. A minority of cases of relapse occur among macular cases, especially in atypical tuberculoid, but no case has been yet encountered of relapse in lepromatous cases who have had adequate treatment. In immunological studies, Dr. Davey draws attention to the decline in leprosy prevalence in the region, and raises the question of the possible influence of tuberculosis on this. Tuberculin testing among school children has been undertaken, and lepromin tests side by side with them. It is too early for definite conclusions. The effect of BCG on conversion of lepromin is also being studied. In biochemistry, careful study of the absorption, excretion, and metabolism of the new drugs has been made. There is yet no satisfactory means for estimating the concentration of diphenyl thiourea in the blood. In epidemiology, work continues of a special study of a group of villages which began in 1941. It is proposed to submit these

villages to tuberculin and lepromin testing. New equipment at the Unit includes an X-ray and a good camera. Training of workers goes on in the more technical aspects of leprosy.

**The Chronicle of the World Health Organization**, Vol. 11, No. 6-7, June-July, 1957, p. 179.

At the 10th World Health Assembly of May, 1957, the subject of leprosy was discussed among the many activities of WHO. The delegate of India expressed the hope that WHO would adopt a leprosy programme as broad in scope as those undertaken for malaria and tuberculosis. The problem in India was so large, with an estimated number of  $1\frac{1}{2}$  million leprosy cases, that help was needed. The Thailand delegate gave the estimated number for his country as 100,000. In the Philippines there are about 20,000 and much social ostracism of leprosy sufferers, and in rehabilitation it is hoped that plastic surgery will contribute to the patients being accepted back into civil life. In Egypt they have moved away from compulsory isolation, and when the patient is contagious his isolation is now optional, and in any case after becoming non-contagious he is treated through outpatient services. They now have 10 central and 40 branch clinics for leprosy treatment. In French Equatorial Africa the problem is large and has been met by mobile teams, which now treat 100,000 cases after 2 years of operation. Similarly 300,000 patients are expected to begin treatment this year in French West Africa, and the number may soon rise to 500,000. French Cameroons is preparing an attack on similar lines. In Nigeria a plan is in operation for the treatment of 200,000 patients, based on temporary isolation and treatment given from the permanent or mobile services. Also in the Belgian Congo 250,000 cases are being treated, and injection methods are used as well as oral administration of the drugs. Greece had modified the leprosy law to permit the treatment of patients at home.

**The Report for 1956 of the Medical Department of the Leonard Wood Memorial, Washington**, reprinted from Leprosy Briefs, has been issued by the Medical Director, Dr. James A. Doull. He refers to increasing interest in leprosy research in the U.S. and abroad, and in rehabilitation of leprosy patients. In connection with the latter, Dr. Doull has suggested a clinical conference on orthopaedics, physiotherapy, and plastic surgery in leprosy, which could possibly be held at Sungei Buloh in a year or two.

As regards the research work carried on in 1956, in *microbiology*

and *biochemistry*, Drs. Hanks, Gray, Brodie and Wallace have continued their studies at the Leonard Wood Memorial Bacteriological Laboratory, Harvard Medical School. The work of Dr. Hanks is directed to finding a practical method of distinguishing active from inactive *M. leprae*, by reducing tetrazolium in slide preparations under strict anaerobiosis, and microscopic observation of the reduced salt (formazan) in the mycobacteria. The formation of formazan artefacts has been troublesome, likewise contaminating micro-organisms have to be inactivated and distinguished. Dr. Wallace with Dr. Elek have studied the propagation of *M. leprae murium* in cell cultures on the lines of (a) protection of bacilli from extracellular environment and serum inhibitors; (b) stimulation of bacillary activity; (c) modification of host cell metabolism. Drs. Gray and Brodie continue their studies on the mechanism of coupled oxidative phosphorylation in mycobacteria. Active fractions have been obtained.

In *pathology*, at the Leonard Wood Memorial Pathological Laboratory, Cullion, Philippines, Dr. Wade's work continues on the improvement in staining of *M. leprae* in tissue sections, on the standardization of lepromin, and on the intradermal injection of *M. leprae* and *M. lepraemurium* in young monkeys. Dr. Wade is also editor of the International Journal of Leprosy.

In *epidemiology* Drs. Guinto and Mabalay in the Cebu unit, Philippines, studied the results obtained with different lepromins, and showed that patients who have been negative to ordinary lepromin will sometimes respond to a lepromin containing larger numbers of bacilli. They found that Wade's purified lepromin, a purified bacillary suspension, was suitable for practical use, as it was comparable with ordinary lepromin but gave fewer strong reactions. Dr. Kluth reported from the Unit at Corpus Christi, Texas, on the epidemiology of the disease in Texas. Though the known leprosy case, and particularly the lepromatous, seems to be the important source of infection, it does not account satisfactorily for about 70% of the leprosy that is occurring in Texas. The disease may spread from casual contacts with lepromatous cases in the non-recognized period of such, or with quite unrecognized cases. There may even be a self-limited type of missed infectious case. There was no evidence justifying the suspicion of healthy carriers. He postulates a dormant stage of leprosy, possibly of long duration. Dr. Doull and Miss Derrom pursued their enquiries in broad epidemiology and obtained remarkable and useful results which have been recorded in Leprosy Briefs. Field studies in Cebu are also being directed to investigating the apparent trend to a disease

of more benign type, and to investigating the reactivity in young children to lepromin and tuberculin, with relation to the effectiveness of BCG, the lepromin test, and unknown natural causes.

In *chemotherapy* Dr. Chang tested a number of compounds for effectiveness in murine leprosy, including cycloserine, paromomycin, cortisone, and a number of chemical compounds. He has newly developed a 3 weeks' screening technique, and is experimenting with slide culture preparations of monocytes in the hope of devising a quicker screening technique. Drs. Doull, Rodriguez, Davison and Tolentino continued their comparative study of DDS with DDS plus additions of nicotinamide or BCG vaccination (the Third Series of such trials). The fourth series will study intramuscular DDS and diphenylthiourea (SU 1906 Ciba), also Compound 377 of the Connaught Laboratories of the University of Toronto: this compound is the isonicotinyl hydrazone of 2-carboxymethoxybenzaldehyde. The results so far may be described as unexciting. Methods of evaluation are to be improved by attention to clinical points like the healing of ulcers, to bacteriological findings, and to serological and biochemical changes, such as the relative excess of gamma globulin in lepromatous leprosy.