

## LEPROSY CONTROL IN THE NORTHERN REGION OF NIGERIA

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Since January, 1952, the following factors have been investigated in this region:—

1. Data concerning the incidence and public opinion of leprosy, and the reaction of the general population to treatment.
2. A scheme within the resources of the country whereby sulphone treatment could be made available to all leprosy cases.
3. The development of a leprosy control service which would be of a permanent nature and be a part of the general medical and health services of the country.

Considerable interest has been aroused generally in the successful leprosy control methods of the Eastern Region of Nigeria, which are described by Davey *et al*, 1956, and Garret, 1956. During the first part of this period reviewed from 1940 to 1950, little was known generally in the Northern Region concerning the incidence of leprosy and what would be the response to a leprosy control scheme; the success, however, achieved in the Eastern Region stimulated a desire for organized leprosy work in the North and work was commenced in 1952.

There were many problems to consider, and of these the main ones could be grouped under three heads:—

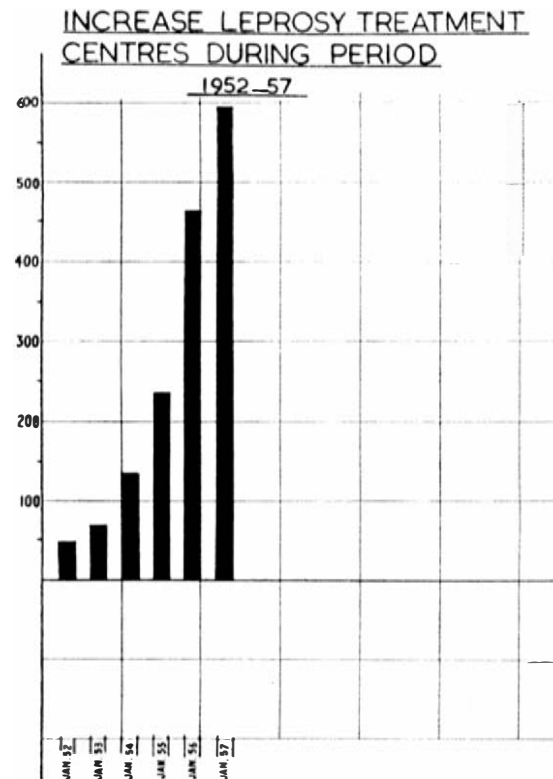
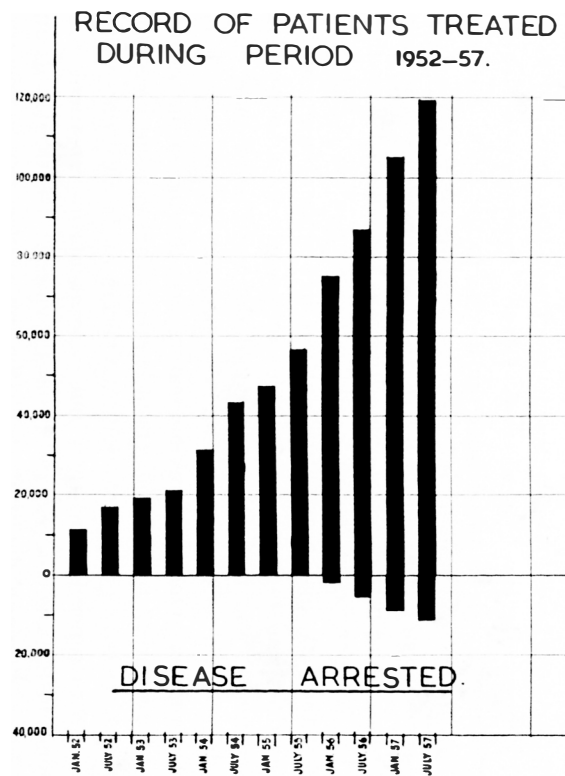
1. The size of the territory and the scatter of the population.
2. The climatic and social conditions associated with a large territory, a diversity of people and variety of country.
3. The financial resources of the region.

Nigeria has within its boundaries approximately one-sixth of the total African population of the Continent, the Northern Region is three-quarters of its total size and it contains more than half the population: the most sparsely populated areas of Nigeria are found in the North. The 1952 Census revealed a population of almost 17 millions and it is estimated that the figure now stands at more than 18,000,000. The overall density of the population is 60 per square mile and again this density varies exceedingly: the most densely populated provinces of Kano and Katsina show a density of 304 and 157 per square mile as compared with Niger Province which has a density of 25. Great variation in climatic and social conditions can be expected in a region which has rain forest for its southern boundary and the sands and vegetation of the Southern Sahara as its northern boundary. In northern districts, with a rainfall of less than 20 inches, a leprosy control scheme based on

specialised leprosy clinics and segregation villages is unpractical. The long dry season, scarcity of water, the type of staple foods and the possibility of a poor harvest makes living apart from an organised community difficult. The staple crop of this district is sorghum which requires the participation of male and female to farm and to prepare as food. This fact does not allow the complete segregation of the individual infective case but rather the segregation of families who have one or more members stricken with the disease. In the Southern area this situation does not arise: there is a constant rainfall and the land is well watered, grain and root crops and vegetables are abundant and farming can be an all-season occupation. Consequently segregation villages have been successful in those areas where the people are leprosy conscious. There is also in the Northern Region the problem of a constantly moving population in search for cattle fodder and to conserve food.

The third problem, that of finance, presents the greatest difficulties. It has been found that the majority of leprosy cases in highly organized Provincial Settlements and segregation villages require subsistence. Partial subsistence may be required throughout the whole year and complete subsistence may be necessary for some time preceding the harvest, and a failure of a staple crop may call for yet more subsistence. If to this expenditure there is added the provision of special buildings, the training and payment of the staff of a specialized leprosy service, with leprosy medical officers whose sole duty is to administer the service, the problem of finance is insurmountable.

Leprosy is endemic in the Region. Surveys of sample areas have yielded varying incidences. Among the Fulani and Hausa people, who with the Kanuri people comprise the main group of the population, survey work in Kano and Katsina indicated a general incidence of 35 per thousand. Higher incidences, varying from 50 to 100 per thousand have been found among the tribal or pagan groups, and in these groups the general pattern of the disease differs from that of the main group. In the main group there is evidence that leprosy is an old and accepted disease: it is not feared as the newer sickness of tuberculosis, and leprosy camps and compounds are a part of the community. It is possible that the disease pattern may be related to the habits of the people, e.g. the lack of clothing and crowded compounds of the tribal groups with a consequent higher incidence and with a high rate of the milder types of the disease. One significant feature is the extraordinary high incidence and the relative absence of burnt out cases found in a single tribe which recently left the hills to farm the fertile foot hills and plains, and the fact that this incidence seems



to be repeating itself in other districts of the Region. A further indication of the prevalence of the disease is seen in the examination of the school children of ten schools in the Niger Province, where an incidence of 64 per thousand was recorded. It is possible that there are 500,000 leprosy cases in the Region.

A Government Medical Officer was posted to the Region in January, 1952. The work of this officer was to co-ordinate existing leprosy work and organize a leprosy control scheme for the Region. Leprosy work, with the exception of a few leper camps and clinics administered by the local authorities was entirely that of the Missionary Societies. About 10,000 patients were registered at 51 treatment centres, 9 of which were leprosy settlements. It was soon evident, however, that a scheme based on Provincial Settlements, administered by Voluntary Agencies, with surrounding treatment and segregation centres staffed by national personnel specifically recruited and trained for leprosy work was unpractical. Details of leprosy incidence made it soon apparent that to treat leprosy effectively, and as a separate entity, would require a financial allocation, buildings and staff almost equal to the needs of the curative medical services and far beyond the resources available for leprosy control. Furthermore, full-time medical officers were not forthcoming to administer and supervise a separate scheme of this nature.

Following successful experiments in outpatient treatment during 1952 and 1953, one such experiment was described in the "Leprosy Review," April 1956 (Ross); the policy of making treatment available throughout the Region in the Local Authority and Government dispensaries by DDS administered by the existing dispensary staff, was considered practical and possible. During this experimental period active opposition was encountered from those already engaged in leprosy work in the Region on the grounds that the L.A. dispensary attendant was incapable of administering the drug and that the treatment of infective cases who were not segregated was ineffective and could do more harm than good. There was a lack of interest and co-operation among many Local Authorities. One encouraging feature was the increasing interest of Government medical officers in leprosy treatment and its results, and especially of several Medical Officers of Health who volunteered to supervise and carry out experiments in outpatient treatment in Katsina, Sokoto and Kano Provinces. District Heads and Chiefs, although doubtful at the beginning, became co-operative and helpful when they realised the object of the experiment and saw the results of treatment. Special mention must be made of the Emir of Katsina, who from the beginning actively encouraged and sponsored the experiment in his Emirate, and also the District

Head of Riga Chikun, Zaria Province, whose assistance was vital to the establishment of experimental clinics in his district.

A gradual commencement of the scheme was made by the introduction of leprosy instruction into the curriculum of the Medical Auxiliaries Training Schools of the Region: local courses of instruction were also conducted at the central hospitals of medical areas for the dispensary attendants who staffed the dispensaries of the area, and this was followed by the opening of leprosy clinics at these dispensaries. In two years' time the majority of the patients treated in the Northern Region were treated at Local Authority dispensaries or at branch clinics attached to a central dispensary or rural health centre with DDS supplied by UNICEF at little or no extra cost to the Region. In Katsina Province Dr. Butler, Rural Medical Officer, commenced a scheme of treatment through the rural health staff and dispensary attendants in which the patients who regularly received treatment arose from nil in 1952 to about 13,000 in 1956. Valuable information was discovered in this experiment in Katsina and in other experiments. Regular attendance was ensured by having treatment given on market days. It was unreasonable to expect regular attendance from patients who lived more than seven miles from the clinic. Good results were seen in reducing the infectivity of the severe lepromatous cases and patients who had been unable to farm for several years were made able to farm and help to support themselves and their families.

A very important finding was that patients unwilling to seek treatment at the Provincial Settlement or local segregation village, were willing and eager to attend weekly for treatment over a period of years; also it was found that the most regular attenders were lepromatous cases and that about 30% of the registered patients were in many districts lepromatous cases. Toxic effects were negligible and reaction was extraordinarily rare.

The object of this scheme of mass treatment is to treat all leprosy cases in the Region, to reduce the infectivity of all open cases and to prevent early cases by early treatment from progressive disability and from reaching an infective stage. There is some evidence that in districts where treatment has been carried on from 4 to 5 years, a beginning of leprosy control is apparent. There is a gradually increasing number of discharged resolved tuberculoid cases; no lepromatous cases or those of the intermediate groups have been discharged. The percentage rate of lepromatous cases showing marked resolution in the clinics is increasing as the clinics decrease in size. There is a steady intake of patients with early tuberculoid and indeterminate early lesions, with few, if any, new lepromatous cases. The clinics in such districts are becoming

smaller and are well attended by the lepromatous cases who are most appreciative of the benefits of treatment. It seems reasonable to suppose that in such districts the treatment of all leprosy cases with an effective drug is more effective in leprosy control than the segregation and treatment of a very small proportion of the highly infective cases.

Segregation is encouraged but is purely voluntary. Settlement and segregation villages have failed to attract the lepromatous cases, who live within easy reach of them in the Northern Provinces of the Region. In Provinces where 200 to 500 cases were treated at great or considerable expense for some years in settlement and segregation villages, 10,000 to 15,000 are being treated in a province at a fraction of the cost and with good results. Government policy lays down that the lepromatous case, who is unable or unwilling to segregate, must not be refused treatment at an outpatient clinic. There are many excellent segregation villages, especially in the Southern Provinces of the Region, which are administered by Missionary Societies, and as leprosy control increases and staff are trained as leprosy inspectors and assistants, it is hoped that segregation centres will increase. The segregation village for a group of leprosy clinics at dispensaries in a medical area and which is supervised by the Government medical officer of that area, with an assistant leprosy inspector constantly touring the area and visiting the clinics, has been proved successful and is envisaged for the future.

The importance of the Provincial Settlement is fully realised. In each Province there is at least one settlement, administered by a Missionary Society acting as a Voluntary Agency, which receives Local Authority or Government grants for the erection of hospital buildings, treatment and laboratory buildings, and for a piped water supply. Recurrent grants are also given for the maintenance of the settlement. The function of the settlement is that of a leprosy hospital for the Province and as a centre for laboratory work. It is fully realized and emphasized that a settlement working in close co-operation with the Local Authorities and Government is necessary to the efficient working of the scheme.

The leprosy staff, apart from the considerable numbers of staff supplied by Voluntary Agencies in Provincial Settlements, Segregation Villages and Mission Dispensaries, is drawn from Government and the Local Authorities. While the giving of treatment is the work of the L.A. dispensary attendant at the dispensary and the leprosy assistant at the branch clinics, the general supervision is given by the Government medical officer of the area or the medical officer in charge of the Provincial Settlement. The examination of patients and estimation of their progress, the

necessary leprosy instruction and the correct and adequate compilation of returns of patients treated and DDS stock, is the responsibility of the Central Government staff. The establishment of the Central Government staff is as follows:—A Leprosy Specialist and Leprosy Medical Officer; a Senior Rural Health Superintendent and six Rural Health Superintendents, and twelve Provincial Leprosy Inspectors. At present there are two Medical Officers as Specialist and Leprosy Medical Officer, one Senior Rural Health Superintendent (Leprosy), three Rural Health Superintendents (Leprosy) and three Assistant Rural Health Superintendents (Leprosy). There are also several staff in training for Provincial Leprosy Inspectors. The Local Authorities provide the posts of Assistant Leprosy Inspectors and also Leprosy Assistants to visit branch clinics set up to provide treatment in districts where medical facilities are few. A Leprosy Assistant, based on a Local Authority Dispensary, can visit 3—4 branch clinics and give treatment there each week. There are about 10 fully trained Assistant Leprosy inspectors at present in the Region, and there are 24 Dispensary Attendants, who showed themselves capable in giving treatment and worthy of promotion to supervise leprosy clinics in training as Assistant Leprosy Inspectors. A leprosy unit consisting of a lecture hall, a laboratory and store has been built and is attached to the Medical Auxiliaries Training School at Kaduna.

The training of staff is a major part of the scheme. There is an annual leprosy course for Medical Officers, and also courses as necessary for Rural Health Superintendents and Health Sisters. The Dispensary Attendants are taught to diagnose and distinguish the different types of leprosy. They are instructed to treat each patient according to their type, age and physical condition, and to recognise toxic signs, Reaction and Lepra Fever. The institution of treatment is slow and cautious, and suited to each individual patient and consequently toxic signs and reactions are rare. The attendant is limited in the giving dosage of DDS, and doses of more than 4 tablets weekly are prescribed by the supervising staff. The Assistant Leprosy Inspector is employed by a Local Authority to visit their dispensary clinics regularly and ensure that a good attendance is maintained; his training extends over a course of several months at the Medical Auxiliaries Training School and Leprosy Units, Kaduna, and includes instruction in epidemiology, diagnosis, classification, treatment and bacteriology necessary for his work. His work is not confined to the Leprosy Clinic and supervision of treatment, but is directed towards the visiting of all absentees from treatment and lepromatous cases in their compounds and to examine contacts. As the service develops the Provincial Leprosy Inspector will be directed to stimulate interest and leprosy

consciousness in the Province, and to seek and examine contacts, and do survey work in villages and schools.

The Rural Health Superintendent is in charge of a Medical Division and is chiefly engaged in instruction and refresher courses to the Dispensary Attendants. He will work in close co-operation with the Local Authority and the Medical Officer of the area he is visiting. The Specialist and Leprosy Medical Officer will advise the Local Authority, administer the scheme and determine its progress in the examination and discharge of patients.

#### REFERENCES

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#### Summary

There is put forward a scheme for mass leprosy treatment, which is an integral part of the general medical and health services and not distinct and separate from it. It follows successful experimental outpatient treatment based on the social habits and economy of the country.

The scheme was quickly evolved by making use of the existing medical and health staff at a comparatively small cost.

The importance of training national staff in the classification of leprosy and treatment and of a safe dosage for each type is emphasized.

The general supervision of the scheme, while the normal duty of the Medical Officer of the area, is augmented by specialized staff which is partly Local Authority and Government

An Epidemiological study in different tribes is suggested in (a) the habits of the people related to the incidence and types of leprosy, (b) the pattern of the disease in people who may have contracted leprosy for the first time.

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