

LEPROSY REVIEW

The Quarterly Publication of
THE BRITISH EMPIRE LEPROSY RELIEF ASSOCIATION.

VOL. XIII. No. 2.

APRIL—JULY, 1942.

Principal Contents:

Report of Leprosy in
British Guiana

Leprosy Control in the
Owerri Province,
Southern Nigeria

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Edited for the British Empire Leprosy Relief Association, 25 Kidderpore Avenue, London, N.W.3, by Sir Leonard Rogers, K.C.S.I., C.I.E., M.D., F.R.S., Hon. Medical Adviser, to whom all communications may be sent. The Association does not accept responsibility for views expressed by the writers.

Price 4/-

LEPROSY

Diagnosis, Treatment & Prevention

(SIXTH EDITION)

By E. MUIR, C.I.E., M.D.

Published by the Indian Council of the British Empire Leprosy Association. (see Review in Oct. 1938 issue of "Leprosy Review")

This book has been re-written and now contains 192 pages and 86 illustrations. The book is issued primarily for the use of doctors in India who wish to be put in touch with practical means of dealing with leprosy from both the therapeutic and public health points of view. It is hoped that it will also prove useful in the British Colonies and in other countries where leprosy is endemic. Much of the teaching found in standard text books has been omitted in order to make it possible to condense within a few pages knowledge that is absolutely essential for understanding the nature of the disease, and the lines along which it may be dealt with successfully.

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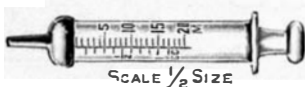
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EDITORIAL

The two reports published in this issue afford remarkable testimony to the success of the policy of B.E.L.R.A. in two British Colonies presenting very diverse conditions. British Guiana was the first of our colonies to follow our advice to alter their compulsory segregation law so as to permit early uninfected cases of leprosy to be treated as out-patients at clinics. The first three of these were built with funds we provided; they now number nine and are successfully treating 500 patients, half the estimated number of lepers in the Colony. That success has in its turn led to the majority of the more advanced and infectious cases voluntarily entering the Mahaica Leper Institution for the sake of obtaining efficient treatment; with the result that Dr. E. Muir is able to report that the former yearly notification rate of from 40 to 100 has now fallen to 39, and that there is good reason to believe that there is now an actual decrease of the disease in British Guiana. He also pays a well deserved tribute to the able and devoted services of the special leprosy officer of the Colony, Dr. F. G. Rose, during the past fifteen years. It is much to be hoped that Dr. Muir's present series of visits to our West Indian Colonies will result in similar successful efforts being made in them, without delay, to emulate the good example of British Guiana.

The very different problem of dealing with the immense amount of leprosy in Nigeria is illustrated by the encouraging report of Dr. T. F. Davey on The Control of Leprosy in the Owerri Province from the Uzuakoli Leper Settlement. Surveys in a number of villages show the terribly high incidence in many of them of 5 to 10 or even 15 per cent, with at least a total of 50,000 in the province. The Indian system of Survey-Propaganda-Treatment has here been modified by first opening clinics so as to obtain the confidence of the people before surveys are made. The co-operation of the Chiefs is then enlisted in getting free grants of land for building model leper villages to which the advanced infected cases flock and are self-supporting, while both they and the early out-patient cases are treated at the clinics. Five such villages already segregate 2,000 cases and over 7,000 cases are being regularly treated at 29 clinics, including that at Uzuakoli, with the help of native male nurses and inspectors who have received elementary education and been trained at headquarters, where over 70 male nurses are being instructed. In five areas with the model villages and clinics full control of the leprosy situation has been

already obtained at very low cost, and such is the clamour and local support for extension of the system that only staff and moderate funds are required to spread it over the whole province. Yet only about two decades ago a French attempt at compulsory segregation in West Africa failed even to find any appreciable number of cases, which were nearly all hidden.

REPORT OF LEPROSY IN BRITISH GUIANA

E. MUIR

As Medical Secretary of the British Empire Leprosy Relief Association and at the invitation of the Government and Medical Department of the Colony, I paid a visit to British Guiana, spending the last two weeks of August 1941 in the Colony. I was accompanied by Mrs. Muir and we were met by Dr. and Mrs. Rose of the Mahaica Leper Institution as we landed from the ship, and later taken to Mahaica where we remained as their guests.

British Guiana has had the benefit of the continuous services of Dr. Rose for the last fifteen years, not only as Medical Superintendent of the Institution, but also as one who has studied the leprosy problem as a whole and systematically and continuously put the results of his study into effect.

NUMBERS

Dr. Rose considers that there are still in the Colony something less than 1,000 sufferers from the disease. Rather less than 400 of these are in the Institution at Mahaica, about 500 are under treatment at nine clinics scattered through the Colony, and it is calculated that there may be under 100 who have not yet been detected or come forward for treatment.

LEPER STATUTE

In 1932 the Leper Statute was altered, making segregation compulsory only in 'open' cases, that is to say those in whom the ordinary bacteriological examinations are positive. This made it possible for non-infectious cases to remain at home and be treated at out-patient clinics. Even in infectious cases however compulsion has now seldom to be resorted to, as the Mahaica Leprosarium has been made considerably more attractive, and patients enter voluntarily in the hope of recovery.

THE LEPROSARIUM

This is situated on the coast at Mahaica some twenty-three miles south-east of Georgetown.

Site and Buildings.

The site occupies some 62 acres of land lying in the angle between the sea and the mouth of the Mahaica River.

Adjacent to the Institution, as we approach it from Georgetown, we find "Lancaster" with a number of houses erected by ex-patients who cultivate their gardens or earn their living by employment in various capacities within the Settlement.

The Institution itself is rectangular in shape. The eastern half is occupied by the men's northern and southern cottages, between which lie the administration buildings. The south-western section of the rectangle is occupied by the quarters for the female patients; while to the north-west lies a large recreation field which separates the Sisters' quarters and the Galton Children's Home from the main part of the Institution. The whole is surrounded by a corrugated iron fence and is entered by a single gate, while the female quarters are again cut off by a similar fence.

To the west, the Institution is separated by the quarters of the Medical Superintendent, the Assistant Physician, and the Catholic Chaplain from the Lady Denham Home in which the healthy children of the patients are housed.

Most of the male patients live in twelve-bed cottages the majority of which are of an old type, insufficiently raised from the ground and tending on this account to be damp. These are gradually being replaced as funds are available with a more modern and healthier type of building.

For male patients who are permanently disabled and require special help or nursing there are three infirmary wards. Two of these are in one building, and one in another. The former has a room for operations, and makes shift to accommodate patients who require hospitalization, these being placed in any beds that are empty between and mixed up with the disabled patients.

The female patients are lodged in seven buildings neatly arranged in a row within the female compound; one of these is reserved for paying patients and two of them for those who are disabled; but there is, as in the male section, no proper accommodation for those requiring temporary hospitalization. These buildings are on high pillars and provide bright and cheery rooms each holding about 20 or 24 beds.

Hospital.

The Institution as a whole is known as "Mahaica Hospital,"

This name is in my opinion unsuitable. As in tuberculosis, so in leprosy, the average patient does not require hospitalization. He requires a sanatorium in which he can carry on year after year a healthy normal existence with the hope of ultimate recovery. He needs employment in some suitable trade or industry. He requires an active life and exercise which will gradually get him into, and keep him in, training. Prolonged unnecessary confinement in a hospital bed is one of the surest ways to prevent recovery. It is better therefore to call the Institution a Sanatorium or to use a word adopted in many places, "Leprosarium." It is then possible to reserve the word "Hospital" for what is generally meant by that word, for a hospital is badly needed within the Leprosarium for the temporary treatment for a few days or weeks of certain cases:

- (1) those requiring operations.
- (2) those suffering from leprosy fever which needs very careful treatment and nursing,
- (3) those who need careful examination and treatment for complicating diseases which impede recovery from leprosy.

In the Chacachacare Settlement we have an up-to-date hospital with two wards, male and female, with 20 beds each, and it is found there to be indispensable. I find in former reports of the Mahaica Institution repeated requests for such a hospital, and I consider that its provision is of great and urgent importance. I understand that the Public Works estimate for a new hospital is about \$12,000.00.

Food.

Most of the able-bodied female patients cook for themselves in a long building with a row of cooking places and accommodation for each to keep her food stores. A few of the men get raw rations which the women cook for them; but except for these all the men receive cooked rations prepared in the main kitchen.

There is a dining shed for the men lying to the west of the main administrative buildings and to the south of the main road which runs through the Institution from west to east. This is again referred to later.

Bread is supplied from the bakery of the jail. The patients dislike this bread, and I found it of a quality inferior to that prepared at the Chacachacare Leprosarium. I believe it would be both cheaper and much more satisfactory to follow the example of that Institution and have a bakery erected where bread suited to the patients' requirements could be prepared under local supervision.

The amount allowed per day for the food of each patient is 16 cents. Rations are supplemented by fresh vegetables raised on the spot. Recently a fishing boat has been obtained and the fish caught is bought. This affords employment and improves the diet of the patients. On the whole nutrition seems to be good, but the Medical Superintendent is constantly trying to improve it.

Industries and Employment.

In addition to horticulture and fishing, many of the patients are taught and employed in carpentry, tailoring, shoe-making, plumbing and other industries under qualified attendants. Much of the work such as sanitation, dressing, repair of buildings, etc., is done by the patients themselves. I consider it important that all work which they can do safely and satisfactorily should be reserved for the patients and that outside labour should as far as possible be restricted to the erection and maintenance of buildings and plant used by the healthy staff.

Treatment.

The general atmosphere of the Institution is one of cheerful and healthy activity and co-operation. This is the all-essential foundation of the effective treatment of leprosy. It is on this account that all labour which they are capable of doing efficiently should be entrusted to patients, provided that thereby the healthy staff is not endangered.

The site of the settlement is a healthy one, especially since the sinking of the new artesian well which supplies abundant water from a depth of some 800 feet. This is the second great essential as no recovery from leprosy can be made unless accompanying malaria, bowel diseases and other conditions caused by an unhealthy site can be eliminated.

Special treatment is similar to that used in other institutions, the main stand-by being injections of chaulmoogra oil.

The results obtained by Dr. Rose compare favourably with those in the best leprosaria throughout the world. Leaving aside the early neural case which, in the great majority, can be expected to recover quickly under well-regulated treatment, I have seen many of Dr. Rose's ex-patients who formerly suffered from advanced lepromatous types and have now been free from infection and other active signs for many years, some of them recovering with little or no noticeable deformity.

Such results have been found to have a cumulative effect, as the rising hope of cure encourages patients to come early and submit themselves conscientiously and energetically to treatment.

I found many of the patients at Mahaica suffering from dental

troubles: decaying stumps and septic gums are frequent. At the Chacachacare Leprosarium the appointment of an honorary dentist was followed by the training by him of two of the sisters in the simpler work of a dentist, such as extractions under local anaesthesia, scaling and temporary stoppings. The work of these sisters is very popular among the patients and is of immense benefit in improving their general health. I suggest that similar arrangements be adopted at Mahaica. Careful attention to teeth, always important, is of special importance in a leprosarium, as dental sepsis tends to aggravate leprosy and prevent recovery.

Staff.

Until last December, when an assistant medical officer was appointed, Dr. Rose was for fifteen years the only physician on the staff. He was able to organise the work so efficiently however that it was possible for him to be frequently absent, organising and conducting clinics and other anti-leprosy activities throughout the Colony.

Nursing is in the hands of ten Sisters belonging to a Catholic order from the U.S.A. They are assisted in this, especially for night work, by two male and two female attendants. The two latter are trained as midwives. There are a dispenser and two laboratory assistants. The business side of the Institution is under a Steward assisted by two issuers and two store-porters.

There are 3 carpenters, 2 tailors, 1 shoemaker, 1 blacksmith, 1 electrician assisted by two mechanics, 3 gardeners and one groundsman, 2 gate-attendants, 2 male cooks. There are also 8 female attendants, acting as cooks, laundresses, etc.

The rest of the work is done by the patients, who are paid for their work approximately \$600.00 a month.

An important post is held by the Warden, who controls the work of the attendants and the patients, looks after the property, supervises the distribution of equipment, and organises sports and entertainments. Each department has its log book in which the Sister or Attendant in charge enters requirements, defects or delinquencies, and these according to their nature are either dealt with direct by the Warden or submitted for the consideration of the Medical Superintendent.

The Children.

The work done for the children at Mahaica is outstanding, and in some ways unique. The Bishop Galton Home, where the children still suffering from the disease are housed, consists of two cottages, one for the boys and one for the girls, under the immediate care of a Sister.

Under these buildings, which are raised on high pillars, there are school rooms. The boys are taught various industries, and the girls needlework and housework. A daily feature is the special drill planned to counter deformities of the face, hands and feet. Experience has shown that they can be prevented if treated early with suitable exercises. It has been found that the boys improve more readily under treatment than the girls; this is probably due to the former getting more open-air exercise.

The Lady Denham Home is situated just outside the boundaries of the Institution and lodges in their two respective cottages non-leprous boys and girls, who are either children of lepers or have themselves recovered from the disease. This is one of the brightest features connected with the Institution. I understand that at its inception much opposition was given by the public to the Lady Denham Home and to the idea for which it stands. People were repelled by the thought that those who had once suffered from leprosy should find their way back into society, even though it was certified by a leprosy expert that they had recovered, and thought they were examined periodically so as to guard against any possible relapse. While a prejudice of this nature is pardonable in the case of employment as house servants and in other occupations which involve close contact with employers, only ignorance and superstition would withhold from ex-lepers such employments as those of the gardener, blacksmith or carpenter. Moreover the withholding of such facilities to those under expert medical supervision tends to promulgate concealed employment of lepers without supervision by driving them to hide the disease; they fear that once they have come forward for treatment they may be thereby banished from the outside world for life. The hope of recovery and restoration to society is the strongest incentive to early isolation and early treatment, and those who seek to remove that hope only increase the difficulty of controlling leprosy.

I understand however that some who at first opposed the Denham Home and what it stands for now realise its importance and give it their support.

After-care.

Outside the Institution and bordering on the Lady Denham Home is the village of Lancaster where ex-patients have built cottages for themselves. They carry on various trades, many of them are still employed inside the leprosarium, while others are partly dependent on a special Government dole given to indigent ex-lepers. The standard of cleanliness, tidiness and sanitation is

above the average in other villages, but I understand that malaria is more common than in the settlement.

About \$200.00 a month is distributed in doles to ex-lepers whether they live in "Lancaster" or in their own homes in other parts of the colony, but only to those who are unable fully to support themselves or their dependents.

Religious, Social and Recreational.

There are three churches: Roman Catholic, Anglican and one which is shared by other denominations. The two latter were erected by patient labour. The resident Chaplain of the Convent acts also as religious adviser to the Catholic patients. An Anglican clergyman visits twice a week. I was present at a religious concert organised by the Seventh Day Adventists, a body which has a strong following in the Institution; musical talent was shown especially in the choruses sung.

The success of treatment in leprosy depends largely on the efforts of the patient himself. He has to be trained to follow out for years a strict and almost ascetic mode of life. This is impossible without the right mental attitude and equipment and these must be based on a solid cultural or religious foundation. Mahaica is fortunate in this respect. The atmosphere is one of cheerful activity and the results are accordingly favourable.

An ancient barrack of the former Dutch fort which is within the Leprosarium was transformed into a Cinema and Recreational Centre. This has now been condemned as unsafe and a new building is badly needed, the more so as the funds have recently been raised for the purchase of a new cinema apparatus. At present the only centre for social activities is the men's dining hall. This is inadequate even for its present usual purpose, and for social meetings will not, even when packed, hold more than half the patients. It is proposed to erect a cinema-recreation hall on tall pillars with a dining room on the ground floor.

I understand that the Public Works estimate for such a building is \$8,000.00 or with additional war expense about \$10,000.00. The Medical Superintendent estimates that he could, with the \$12,000.00 mentioned above as the approximate Public Works estimate for a new hospital, erect by means of patient labour both a hospital and combined cinema-dining room. Nor are such buildings likely to be of inferior quality, judging from the excellent workmanship and aesthetic appearance of the two churches already erected by patient labour.

No one with a knowledge of leprosy can spend a few days of intensive study of conditions at Mahaica without realising the urgent need of both the hospital and the recreational centre, or fail to see

the serious handicap under which their absence places a devoted worker like the present Medical Superintendent.

Mahaica possesses one feature which should create the envy of any institution, viz., the cricket field. This, I am informed, is the second best in the colony and it is of immense value in the promotion of outdoor sports, so important in the treatment of leprosy.

The Institution possesses an excellent patients' band. I have heard it perform on several occasions and can testify to its high quality. But with more practical support from the public in the form of musical instruments it could be further developed.

Under the British Guiana Branch of the British Empire Leprosy Relief Association there is an Entertainment Committee which does much to promote the social welfare of the patients. This is worthy of full support.

OUT-PATIENT CLINICS

Early cases of the non-infective neural type are suitable for treatment at out-patient clinics. There is less of the stigma that so often attaches to a leprosarium, the patient can continue at home carrying on his ordinary vocation and only attending periodically at the clinic. Many cases recover in a comparatively short time, but if the disease does get worse the patient can be drafted later into the Leprosarium. There are nine of these clinics, which in 1940 were attended by 894 patients, some 500 of which were suffering from leprosy.

The clinics are also useful in keeping in touch with ex-patients of the leprosarium who have returned to their homes and are required to appear periodically for inspection on clinic days.

By this means also the doctor is brought into touch with new cases and a survey of the whole population is gradually carried out.

BRITISH GUIANA BRANCH OF THE BRITISH EMPIRE LEPROSY RELIEF ASSOCIATION

This is one of the most active branches of the British Empire Leprosy Relief Association. It was begun in 1932 and has taken a very active part for the last nine years in the campaign against leprosy.

The Lady Denham Appeal Sub-Committee raised money for the foundation of the Children's Home. Three of the out-patient clinics were built at the expense of the Association. The Entertainment Sub-Committee raised funds for the hospital cinema, wireless sets and a general sports fund. Public meetings have been arranged under its auspices and much has been done to educate the public with regard to leprosy. I had the honour of addressing the annual

meeting when His Excellency the Governor who is president of the association was present in the chair.

LEPROSY CONTROL

Figures given in the 1940 Report of the British Guiana Branch of the British Empire Leprosy Relief Association show that since fourteen years ago when the new system of leprosy control came into effect there was at first a rise in the number of cases notified from 40 up to 109 per year. Since then the notification rate has declined year by year till it was only 39 last year. There is good reason to believe that this decline in notifications is the result of actual decrease of leprosy in the colony.

The present decline is largely the result of the increased attractiveness of the leprosarium leading patients to seek treatment and segregation early. It is also partly due to the treatment of early cases at the clinics and the active educational campaign which has been carried out.

There is however no cause for complacency or for slacking off the effort. Every support should be given to the Medical Superintendent who is chiefly responsible for these improvements. The leprosarium should be still further improved and ample provision should be made for continuity of staff and of effort both inside and outside the leprosarium. British Guiana is surrounded by countries in which leprosy is rife, and only continuous effort and watchfulness can prevent a relapse into the former high incidence of the disease.

Training of Doctors.

Few medical practitioners have an opportunity of acquiring a useful working knowledge of leprosy. In Trinidad the six Medical Officers of Health are being trained by spending in succession a period of three months each making an intensive study of leprosy under the Medical Superintendent at the Chacachacare Leprosarium. Two courses on leprosy have been given, one in the north and one in the south of Trinidad, which have been attended by the great majority of doctors in the colony. Health Nurses have also received a course of training and similar arrangements are being made for the benefit of Sanitary Inspectors. It is suggested that similar arrangements might be made as far as possible in British Guiana.

It is only by spreading knowledge of leprosy to the public, and especially through the medical profession, that leprosy can finally be controlled and eliminated.

ACKNOWLEDGMENTS

I wish to express my gratitude to His Excellency Sir Wilfrid Jackson and to the Medical Department for hospitality and help received during my visit. My wife and I are particularly grateful to Dr. and Mrs. Rose for their kindness and hospitality and for the opportunity for intensive study of the Mahaica Leprosarium and the Anti-leprosy Campaign throughout the Colony.

LEPROSY CONTROL IN THE OWERRI
PROVINCE, SOUTHERN NIGERIA

T. F. DAVEY

A. AIMS AND POLICY

The aim of the Uzuakoli Leprosy Settlement may be stated in few words. It is the eradication of leprosy from the Owerri Province of Nigeria. The realisation of this aim lies in the distant future, and before it is reached immense problems have to be solved. All the same, a start has been made, general principles have been laid down, methods of policy have been tested and proved, and the attack on leprosy which began as an experiment in 1939 has gathered ever increasing impetus and in some parts of the Province is piercing to the very roots of the problem. This report describes the progress made up to the end of 1941.

The principles of leprosy control with which there is general agreement are now becoming well defined. They are embodied in the scheme of control which we have elaborated for the Owerri Province, but are adapted to meet the conditions peculiar to the area concerned.

The features of our programme are as follows:

1. The provision of Leprosy Clinics where patients may receive the best possible treatment and care free of charge.
2. Intensive Leprosy Surveys of clans where the people are anxious to co-operate, and where clinics already exist.
3. Voluntary segregation of infectious cases of leprosy in Model Villages attached to clinics with Resident Nurses (male), leading to full leprosy control.

4. Oversight of clinics and control schemes by trained Leprosy Inspectors.
5. Propaganda of all types.

Within these broad outlines there is ample room for adaptation to local conditions. No rigid scheme will meet the situation. Each District has its own peculiar problems, and it is necessary to suit the type of work proposed to the thought and needs of the people in the locality.

Each of these five lines of attack will be discussed in the following pages, and a review will be given of the situation in the four Divisions of the Province where work is being carried out at present.

PRELIMINARY NOTES

The Owerri Province is one of the largest and most densely populated among the Southern Provinces of Nigeria. Extending from the coast inland for about 150 miles, and having a width of about 60 miles, it may be divided geographically into three belts.

(a) In the South, a large area of swamp and creek composing part of the Niger Delta, and including Degema and part of Ahoada Divisions. The population is sparse, communications difficult, and the area is untouched by our work.

(b) A low lying plain occupying the central parts of the Province, and supporting a dense rural population rising in places to 1,000 to the square mile. Here the incidence of leprosy is variable, but increases towards the North.

(c) In the North, there is a range of hills with deeply eroded valleys, partly forest, partly savannah. Here conditions of life are harder, and the leprosy incidence reaches its maximum, figures as high as 10 per cent of the population not being exceptional. It is in this area that the greater part of our work is concentrated, in the Bende and Okigwi Divisions.

MAP I. is a sketch map of the Province, showing the Divisions and the centres where leprosy work is being carried out.

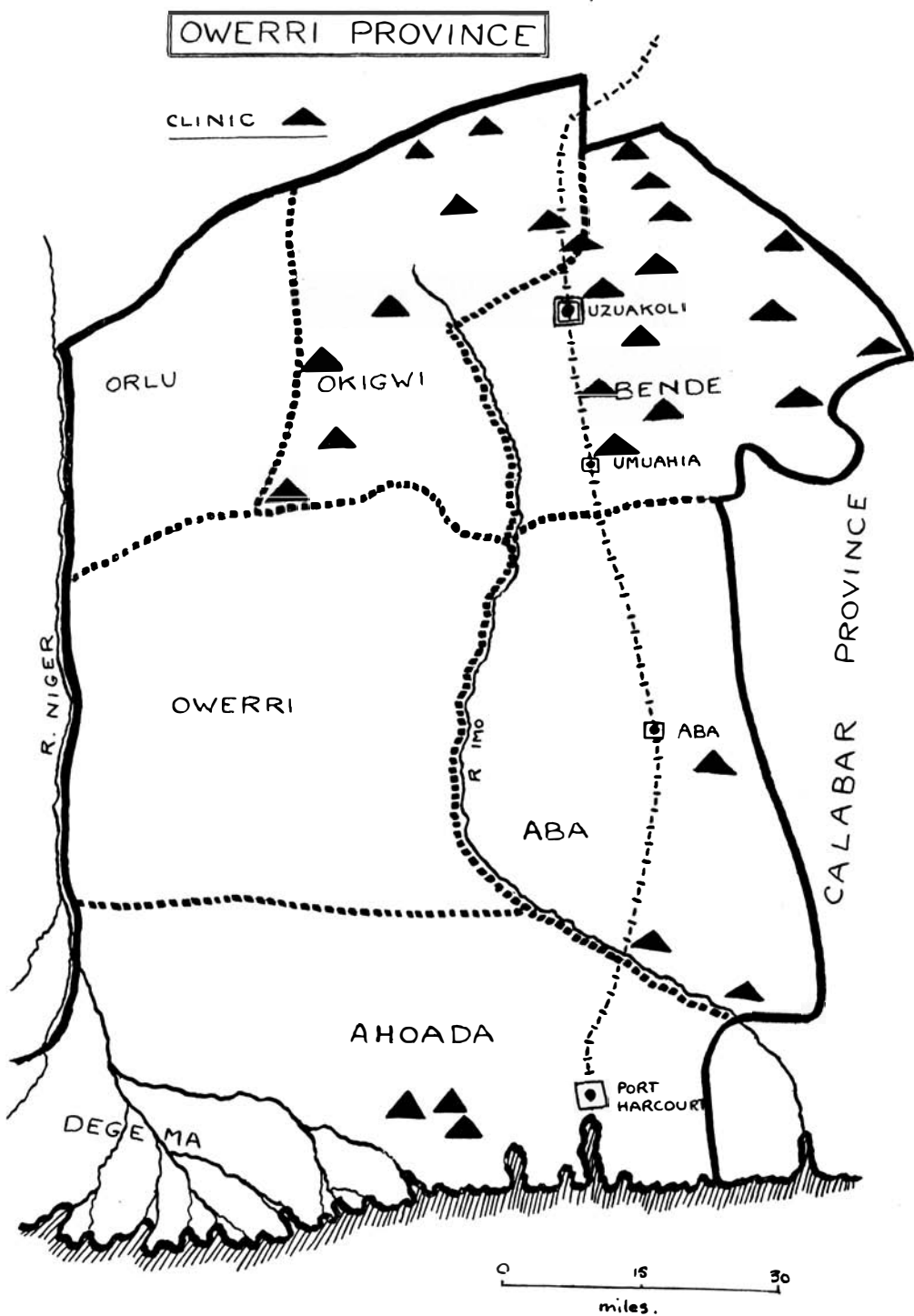
B. LINES OF ATTACK

(1) LEPROSY CLINICS

The first line of attack against leprosy in the Owerri Province is found in the provision of Clinics for the treatment of leprosy.

There are now no less than 29 of these, distributed as follows:—

Bende Division	14 (including the Central Settlement).
Okigwa Division	9
Aba Division	3
Ahoada Division	3



At these centres, more than 7,000 patients are attending regularly for treatment, while a further 1,000 are being kept under observation. Exact statistical details are given later.

The position of the clinics are marked in MAP I.

CLINIC ORGANISATION

The clinic is simply a suitable site by the side of a motor road where persons suffering from leprosy gather for treatment. No elaborate buildings are necessary, and indeed in all cases have been provided free of charge either by chiefs or by patients themselves. No rent is paid for the site, the owners offering the land freely for the good of their clan. The people thus feel that the clinic belongs to them, and not to us, and the first step in winning their co-operation is achieved. Clinics have usually three buildings, a treatment hut, an ulcer dressing hut, and a waiting room.

The early days of a clinic witness many distressing scenes which would be a revelation to anyone unfamiliar with the situation. On the appointed morning a motley crowd of lepers gathers at the site, unkempt, hopeless, penniless and in rags; many have dragged themselves along with the aid of sticks, their untreated sores an eloquent testimony to their neglected condition. There is little noise, most of the patients exhibiting that apathy common to Ibo lepers, the result of the contempt and ostracism with which they are regarded. Nigeria's "untouchables" are revealed in all their misery.

The patients are registered, temperatures taken, leprosy treatment given, ulcers are dressed, advice given regarding personal hygiene, and in a few weeks a miracle occurs. Ulcers often undressed for years respond to regular treatment, self-respect is re-awakened, disorder gives place to discipline, and the clinic becomes a place of cheerfulness and hope. Patients seriously ill are carried to Uzuakoli for hospital treatment. Capable patients give assistance to the nurse, others become 'policemen,' and the flow of the new patients, slow at first, rapidly becomes a flood. With returning self-respect there comes a demand for redress for wrongs formerly suffered in silence, debts unpaid, land and goods confiscated, dowries unrefunded, and so on. To his fellows, a leper is often outside the law, but through the magnificent co-operation of District Officers, many a patient has found justice, and a healthy respect has been born in the minds of non-lepers for our work.

These and other services lead to a sense of gratitude in the minds of the patients, who become eager to co-operate in any measures for leprosy control which we suggest. This is a vital matter, for no leprosy control is possible until the patients themselves are willing to assist in making it effective.

This story is reproduced with almost monotonous regularity with each new clinic, and the clinic thus takes its place as a vital step in the achievement of leprosy control.

We now come to the end of the story.

During 1941, 223 patients have been discharged symptom free, 79 of them from the Uzuakoli Settlement and 144 of them from clinics. This latter group have been treated exclusively at Clinics and have never been to Uzuakoli.

Thus are clinics triumphantly justified.

The Clinics vary greatly in size, the largest, at Uturu, having nearly 900 patients. The population of the Owerri Province is both dense and fairly evenly distributed, and consists, for the most part, of many small clans, each decidedly clan conscious. There is widespread opposition to lepers travelling through the territory of a neighbouring clan in order to reach a clinic, and our policy has therefore been to establish many small clinics, mainly on a basis of at least one to a clan, rather than a few large clinics. The goodwill of the people has thus been retained and lepers have had the maximum encouragement to attend clinics. Throughout the Bende Division there are few areas where lepers have to walk more than five miles to a clinic. Advanced cases are thus not involved in any untoward degree of discomfort in attending clinics and regular attendance is made possible. This is an important consideration when leprosy control measures are in operation as will be indicated later.

At many of the clinics there are resident nurses, and their appointment is an integral part of our policy, as it permits of work of a high degree of efficiency being carried out. One example will suffice. Many patients suffer from ulcers, and no radical improvement in their conditions, as far as leprosy is concerned, may be hoped for until ulcers are properly treated. With a nurse resident at the clinic, patients may receive dressings daily where these are needed. The nurse also prepares for the weekly visit of the Medical Officer and his staff from Uzuakoli, visits absentee patients, and when a model village is built, he becomes the natural leader of the patients.

LIMITS TO THE USEFULNESS OF CLINICS

It must not be imagined that clinics offer a radical solution to the leprosy problem. As a means of providing leprosy relief on a large scale their value cannot be overestimated, but their contribution to leprosy control is small. Although large numbers of patients are improved in health and many early cases may be cured, the infectious lepromatous cases are not greatly influenced by

clinic treatment except in isolated cases. These remain active sources of danger to healthy people in spite of their treatment and it is therefore futile to rely on clinics as a means of stamping out leprosy. If any improvement in the situation is to be hoped for in a reasonable time, more active measures are necessary.

The functions of a clinic may be summarised as follows:—

1. To provide free leprosy treatment to patients near their homes.
2. To be a source of leprosy propaganda.
3. To form some estimate of the leprosy problems in the neighbourhood.
4. To win the confidence and co-operation of both patients and healthy people and so prepare the way for future work.

At first we met with considerable opposition when trying to open clinics. Now requests for new clinics are becoming more numerous and new clinics are being opened at the rate of one per month. At least six more are visualised in the immediate future. A point is now being reached when requests for new clinics must be met with a refusal, as we have not the staff available for supervising them.

2. LEPROSY SURVEYS

When a clinic has been established and both lepers and healthy people are ready to co-operate, the way is prepared for active leprosy control measures, the next step in which is the Leprosy Survey. By submitting the entire population to medical examination, accurate statistics regarding leprosy incidence and type can be obtained, and the extent of the problem reckoned exactly. With a record made of all infectious cases, data vital to leprosy control are obtained and all is ready for the next step.

Leprosy surveys are by far the most difficult feature of our work, but are the only basis on which effective leprosy control can be built. The first revelation which a survey makes is that the number of patients attending the clinic is no real guide to the actual incidence of leprosy. There are two classes of patient who do not attend clinics in representative numbers. These are (1) the very advanced case who fails to attend through sheer infirmity, and (2) the very large group of early cases.

When a man is discovered to be suffering from leprosy, the loss of social status and prestige which he suffers is dreaded far more than the suffering which the disease itself produces. All patients therefore endeavour to conceal their disease as long as possible. When a man attends for treatment at the Clinic, doubts in the

minds of his neighbours become certainties and he bows to the inevitable. Early cases can still conceal their disease, and are consequently not adequately represented at the clinic. They are easily discovered during a survey.

It may be asked, "Why do these people not hide themselves during a survey?" The answer is simple. The survey is only held when a large majority of the people want it, and many local people assist in it. The survey is conducted from house to house. The chiefs have ordered that on a certain day everyone must stay at home for medical examination. Any person who absents himself is at once regarded with suspicion, and public opinion demands his examination later.

The early cases thus discovered are a most important group. They normally go for treatment secretly to a native doctor and some are certainly rendered symptom free by the cautery and caustics which native doctors employ. At the same time, this is precisely the group whose treatment at Clinics is most desirable for 100% cures can be expected. Indeed, most of the patients we have discharged from clinics come from this group, and their successful treatment enormously enhances the prestige of the clinic.

In our experience only about one-third of the lepers in an area attend a clinic on their own initiative, and the remainder have to be discovered by means of a survey. For every advanced case there are at least six to ten very early cases, and it is necessary to count lepers in tens of thousands in the Owerri Province in order to obtain even a rough estimate of the huge numbers of patients at large in the Province.

A survey is of little value unless it is thorough, and its carrying out is both physically and mentally exhausting. Much depends on team work, and we have built up a team of workers capable of carrying out intensive surveys with full bacteriological control. The ground to be covered is so vast that this work must fall increasingly on the shoulders of Africans, and Leprosy Inspectors are now to receive training in this aspect of their work.

A considerable number of surveys has now been carried out, as the following statistics indicate.

<i>Clan</i>	<i>Village</i>	<i>Population Examined</i>	<i>Leprosy Incidence (percentage)</i>
Ozuiem	Ebem	109	4.6
	Elugwu Mba	240	3.3
	Ndi Agho	794	3.4
	Amankwo	145	3.4
	Amagbo	248	6.1
	Mba	389	3.9

<i>Clan</i>	<i>Village</i>	<i>Population Examined</i>	<i>Leprosy Incidence (percentage)</i>
	Oboko	1772	1.5
	Mbele	185	4.3
Isiegbu	Amaeke	361	11.8
	Umueze	288	9.6
Nkporo	Etiti Ama	1892	6.2
	Ama Orie	1312	5.9
Abam	Ndi Oji	1145	12.9
	Atani	1022	8.5
	Ndi Okereke	492	11.7
	Ahuma	143	8.6
	Aziafo	159	15.2
	Ndi Okorie	221	12.2
	Ndi Okpara	77	9.1
Bende	Totals for 14 villages	2829	3.1
Umu-Imenyi	Akaelu Lodu	507	6.4
Ohuhu	Umuakam	249	3.6
	Umuosu	429	1.4
	Umuleweze	86	1.3
Item	Amaeke	1402	2.7
Abua	The entire clan was surveyed, but without bacteriological control. Original figures were later adjusted as follows:		
		14,515	5.2

With the exception of Abua, all the areas surveyed are in the Bende Division. Attention should be drawn to the appallingly high incidence in some clans, notably in Abam and in Isiegbu Ozuitem.

(3) VOLUNTARY SEGREGATION IN MODEL VILLAGES

With a clinic established and a survey completed, all is ready for the vital step in leprosy control. The spread of leprosy is attributed to a multitude of causes, overcrowding, under-nourishment, debilitating diseases, bad sanitation and so on. It cannot be too strongly emphasised that these are secondary causes only, and only operate provided that the germ of leprosy is present, or in other words, provided that persons suffering from contagious leprosy are living among the general population. If contact between these persons and healthy people is prevented, it is impossible for leprosy to spread, as the disease cannot be reproduced in the absence of the lepra bacillus. By dint of improving diet and hygiene, the susceptibility of the race to leprosy may gradually be

lessened, but there is small profit if during the decades needed for its achievement, infectious cases of leprosy are spreading the disease far and wide.

All authorities agree that segregation of infectious cases is the one vital step in leprosy control, but opinions differ as to the best methods to be adopted, as the goal, namely the segregation of ALL infectious cases is elusive.

Methods of compulsion are doomed to failure as unwilling patients make every effort to conceal themselves.

The only method which commends itself is to make segregation a voluntary matter, but make it so attractive that patients, instead of dreading it, actually ask for it.

This highly desirable object is not a theory or a dream of the future. In the Owerri Province it is very much within the realm of actual practice. Already, more than 2,000 patients have voluntarily segregated themselves and hundreds more are waiting to do so as soon as accommodation becomes available.

The method employed is as follows:

Following the establishment of a clinic, chiefs are asked to offer freely an area of land where patients can live. Good land is demanded, close to drinking water and not more than three miles from the villages from which patients are drawn. No rent is paid. When the land has been approved, the clinic if distant is moved to its proximity. Healthy people help to clear the land and then the patients are enlisted for work one or two days a week. This has an excellent effect both physically and mentally and aids the co-operate spirit. One house is built on the site and here the nurse comes to live. A model village is now planned to suit the site, and as houses multiply they are occupied by patients who desire to live there. Chiefs provide building materials, and houses, latrines, incinerators, etc., are constructed of local materials and are designed to provide an object lesson to healthy people in village lay out and sanitation. A valuable contribution is thus made to the sanitary education of the community. Patients with few exceptions are eager to move to new quarters, for advantages are many. Sanitary surroundings lead to physical fitness, there is a nurse on the spot to attend to ulcers, etc., patients are still within easy reach of their farms, and in the new community there is none of the ostracism and unhappiness with which they are only too familiar in the towns.

It must be emphasised that the first and most important inhabitant of the village is the nurse attached to the local clinic. He acts as leader and supervisor until such time as a suitable headman can be discovered, but always retains his post as sanitary supervisor.

In some instances suitable persons have been sent from Uzuakoli to act as headman. This supervision by trained assistants is a vital necessity.

There are already 10 village Settlements of this type, made beautiful with lawns and flower beds, and some of them are among the most attractive villages in Nigeria.

In some areas the process of voluntary segregation has gone on to its logical conclusion, and every known case of infectious leprosy is segregated. We are entitled to claim that leprosy control has actually been achieved in these areas, and the machinery has now been produced for maintaining this highly desirable state of things indefinitely.

4. LEPROSY INSPECTORS AND THEIR WORK

The area within which clinics can be maintained and leprosy control work supervised directly from Uzuakoli is limited to a circle with a radius of about 30 miles. This is but a small part of the Province, in the whole of which a figure of 50,000 is almost certainly too low an estimate for the leprosy incidence. How may these vast multitudes of patients be reached? It is extremely doubtful whether there will ever be adequate numbers of Europeans to supervise leprosy work on the scale which is necessary. Much of the work is of a routine nature, and can safely be left in African hands. We have therefore created a class of men known as Leprosy Inspectors who are destined to play a vital part in the future programme of leprosy control. These men are non-lepers and are made responsible for leprosy work in a limited area only. Their duties are as follows:—

- (1) To keep registers and supervise up to 3 Clinics.
- (2) To trace patients to their homes and advise them regarding the avoidance of contact where necessary.
- (3) To undertake propaganda, visit schools, compounds and courts.
- (4) To undertake localised leprosy surveys.
- (5) To supervise the model villages and act as their sanitary inspectors.
- (6) To give sanitary advice to healthy people, working in co-operation with the local sanitary inspector.
- (7) When leprosy control has been established, to maintain it by annual surveys and the examination of newcomers.

The first course of training for these men was held in 1940,

and the Health Department co-operated in it. Two courses will be needed during 1942. At present five of these men are at work and their appointment has made possible the efficient running of clinics and villages at places remote from Uzuakoli. The work in these areas is visited once monthly, when any necessary oversight and guidance are given, new patients examined and so on.

Already the success of the work of these men may be described as brilliant, for some of our best work is being carried out where these men are stationed. Surveys have been undertaken by them in which thousands of people have been examined, and we are convinced that the appointment of these men should be regarded as a vital feature of the programme of leprosy control. As their numbers increase it will be possible to carry leprosy control to the remotest parts of the Province.

Their function of maintaining leprosy control once it has been established is of great importance. Even with a large staff, the survey of the whole Province would take many years to complete. Control needs annual surveys to maintain its effectiveness. These men, each working in a limited area offer the solution to this problem. The local people are soon known personally to them and surveys are carried out even more effectively than is possible to a visiting team of workers who are strangers to the people.

Leprosy control is a key problem, with which are bound up all those sanitary and economic problems the solution of which seems so remote in Southern Nigeria. Many clans have not the funds necessary for the provision of a sanitary inspector but there are few who cannot afford to have a Leprosy Inspector, and the possibilities inherent in the appointment of these men are so great that every effort should be made to facilitate the increase of their numbers.

5. PROPAGANDA

Although Ibos have an uncanny ability to diagnose leprosy, there is widespread ignorance of the facts regarding the disease, and propaganda is therefore an important feature of our work. Actual methods employed include the following :—

A. PROPAGANDA FOR THOSE WHO CAN READ

There is everywhere considerable readiness to believe anything seen in print. A booklet, "What Everybody should know about Leprosy," has been prepared and a small test edition was exhausted immediately it appeared. It is hoped that a larger and improved edition will be printed. Posters have been printed and sent to Missions, N.A. Treasuries, schools and courts.

B. PROPAGANDA BY LEPROSY INSPECTORS

Excellent propaganda is being carried out by Leprosy Inspectors. Many visits to schools, compounds and courts have been made. This type of work will inevitably fall more and more on African shoulders.

C. PROPAGANDA FOR ILLITERATE PEOPLE

Where illiterate people are concerned, by far the most effective means of propaganda is that offered by successful clinics and model villages. Improvement in the condition of the patients soon awakens the interest of non-lepers to whom this is a miracle. Persons suffering from leprosy in neighbouring clans begin to pester their chiefs to do something to improve their lot and have even threatened aggressive action. Scandalised chiefs have offered land on more than one occasion because local lepers threatened to make nuisances of themselves, and when the clinics have been established they have ultimately come to thank us for the results achieved.

Numerous visits have been made to Clan Councils and meetings of chiefs. Here, also, District Officers have an unique opportunity for propaganda on our behalf, and it is being used to the full.

The work during 1941 in the different sub-divisions of the province can be conveniently summarised in the following table :

<i>Division</i>	<i>Clinics</i>	<i>Registered patients</i>	<i>Discharged recovered</i>	<i>Model villages</i>
Bende	13	2872	51	5
Okigwi	9	2117		2
Aba	3	401		
Ahoda	3	721	92	3
Uzuakoli Settlement	1	1072	79	
Total	29	7183	222	10

A number of the clinics have not been open long enough to allow of recoveries; 5 more clinics were to be opened early in 1942. Five male nurses and five inspectors were already at work in the clinics. The leper villages isolate 2,000 highly infectious cases.

D. THE PROVINCIAL LEPROSY SETTLEMENT AT UZUAKOLI

The Provincial Leprosy Settlement at Uzuakoli was founded in 1932. It is a Native Administration Institution in which the Methodist Missionary Society is responsible for religious and social

work. At its outset the colony was visualised as the only centre for leprosy work in the Province. It was to be an agricultural colony, and it was hoped that it would become largely self-supporting. With greater knowledge, we can now look back and smile at the absurdity of this idea. Even with a resident population of 1,000, the spectacle of one out of every 60 lepers living in choice conditions at Uzuakoli, while the remaining 59 spread the disease far and wide, is truly Gilbertian. With regard to the Colony becoming self-supporting the position is equally diverting. For even a partial condition of self-support to be possible, a majority of the patients must be strong, able-bodied men capable of farming on a large scale. There can be no room for highly infectious cases weakened by their disease, for deformed cases, or for representative numbers of women and children. Thus the colony was to be filled with strong patients, most of whom were relatively uninfected, while advanced cases, the infectious weak nodular cases, women and children, were to be left in wretchedness and misery to get on as best they could. The Colony never did become self-supporting, and as long as humanity and common sense exist, it never will, and this basic fact must be accepted.

As soon as our programme of leprosy control in the Province took shape, it was realised that the whole policy of the Provincial Settlement must be brought into line with that programme. The first demand made on the Settlement was that the hospital should be made available for clinic patients, the second, that large numbers of nurses (male) should be trained. These and other demands resulted in many changes, and the Colony has now taken its place as the centre of the entire organisation. The Colony was readily adapted to its new role, thanks to the situation chosen for it by its first superintendent, Dr. Brown, and to his lay out of the site, and we are exceedingly fortunate in having a large and healthy site, eminently suited to European accommodation, with the railway as one boundary, and yet right in the heart of that part of the Province where leprosy is most rife.

The functions which the Provincial Settlement is fulfilling as the centre of the leprosy control organisation in the Province are as follows:

1. THE ADMINISTRATIVE CENTRE

It is from Uzuakoli that the whole organisation is organised and administered. All records are kept here. All hydnocarpus oil used for treatment (about 2,500 pints per annum) is processed here.

2. THE HOSPITAL CENTRE

Very many patients are found at clinics who are in urgent need

of hospital treatment of some sort, usually for serious ulcers. There is no place for these in the wards of general hospitals even in the few areas where such hospitals exist. In any case, no non-leper nurse would agree to care for them, so the obvious hospital centre is the Uzuakoli Settlement. The hospital here has accordingly been made available to clinic patients free of charge, and considerable numbers have received treatment there, in almost every case having been first carried to Uzuakoli by companions from the clinic. The capacity of the hospital has been strained to the limit, and there is urgent need for a new block for the accommodation of clinic patients.

3. THE TRAINING CENTRE FOR LEPROSY WORKERS

This function is of the utmost importance. During 1941 the following courses have been held.

(a) *Training Courses for Medical Superintendents of Leprosy Settlements.*

Two short courses were held, working in conjunction with Oji River Settlement.

(b) *Training Courses for Clinic Nurses.*

There are more than 70 leper nurses in training, and our clinic work is dependent on the efficiency of these. Now that there is no shortage of at any rate semi-educated patients, we are constantly raising the standard demanded of these nurses, and a course of training lasting one year, with appropriate examinations is demanded before a nurse goes to a Clinic.

(c) *Training of Leprosy Inspectors.*

Preliminary courses of training have been held during the year, but that part of the course in which the Health Department co-operates has not been held. Two such courses will be needed during 1942.

It is hoped in the future to have short courses of training for Sanitary Inspectors, N.A. Dressers, teachers, Court Clerks and other public workers. Nothing further can be done until a building is provided to act as a hostel for these people during their training.

4. A LABORATORY AND DIAGNOSTIC CENTRE

This obvious function is already fully realised. The laboratory is well equipped and thousands of tests are carried out annually.

5. A LEPROSARIUM FOR PATIENTS WHO CANNOT BE CATERED
FOR AT CLINICS

These include the following types of patients:—

- (a) Deformed persons unable to look after themselves.
- (b) Advanced lepromatous cases.
- (c) Destitute and pauper lepers.
- (d) Children suffering from leprosy.

Children suffering from leprosy are often grossly neglected. At the Provincial Settlement there is a school, and every facility for their care and well-being.

These four types of patient are encouraged to come into the Settlement and are rapidly taking the place of more able-bodied persons who find that treatment at clinics near their homes is adequate. This is as it should be, but it must be stressed that a greater financial burden is thrown on the Provincial Settlement in consequence, as the four types of patient mentioned above are not able to work to any extent and so assist the finances of the Colony.

There are at present 1,072 patients in the Settlement at Uzua-koli, and 79 have been discharged during 1941 as symptom free. This large community demands an elaborate organisation for its treatment and welfare. The Settlement has all the desirable features of a large leprosarium, and improvements are constantly being made.

In this report, the emphasis has been laid upon the situation outside the Settlement where there is a crying need for leprosy control work. Had we the staff available we believe that immediate and tremendous progress could be made, and the distant goal of leprosy control throughout the Province could in fact be realised.

Nothing has been said of finance. It holds the key to the situation. The great virtue of the programme is its demand for so little in the way of funds, but the time is approaching when the present unsatisfactory arrangements will have to be reviewed and implemented if any serious attempt is to be made to face the leprosy problem in the Province.

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