be established between the antitoxin titre reached after toxoid treatment and the clinical changes observed in these patients.

We cannot suggest any reason for the very limited therapeutic results observed in our series, as compared with those claimed in the majority of cases submitted to a similar treatment by others.

Acknowledgements:

We wish to thank Professor A. Sutherland Strachan and Dr. F. W. Simons of the Department of Pathology of the South African Institute for Medical Research, for their much appreciated contribution to these investigations in the examination of post-mortem specimens, and Mr. A. W. Schaalma (Senior Technician, Serum Department) for his valuable assistance with titration of the sera. Also we have to thank Dr. Peter Allen, Secretary for Public Health and for the Union of South Africa, for authority to conduct this investigation.

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THE OJI RIVER SETTLEMENT AND CLINICS

REPORT ON THE YEAR 1940

T. D. F. Money

1. Policy.

There has been no change in general policy and steady progress has been made towards the completion of the plan of development outlined in the meeting presided over by His Honour the Chief Commissioner at the Settlement on 15th September 1938. The aim remains to control, that is progressively to reduce the incidence of leprosy in the community over as wide an area of the Onitsha
Province as possible, and in doing so to afford the maximum of relief possible to those already suffering from the disease.

2. CLINICS.

In accordance with this policy, existing clinics have been maintained, the numbers served thereby showing increases in every case (in one up to fifty-one per cent). These clinics, four in number, serve patients in the Afwa, Ava and Udi Divisions and in some areas bordering on these. In the course of the year a clinic in the Ondisha Division was opened at Orifite, but, owing to opposition which was confined to Orifite Town, the clinic had to be closed after five weeks in operation. Immediately requests flowed in from patients and councils for the re-establishment of the clinic at another site in the area. Eventually it was decided to operate a morning clinic at Amichi and an afternoon clinic at Uke. The attitude of the councils concerned was entirely different from that at Orifite. The reason given by the Amichi council for desiring a clinic was that they had seen the good results from Agulu. Amichi lies nearer to Agulu than does Orifite. The two new clinics have to some extent relieved the great pressure on the Agulu clinic, owing to considerable numbers of patients transferring to them. Despite this the Agulu clinic has, at the close of 1940, twenty per cent more patients on the register than at the beginning of the year.

3. THE SETTLEMENT AS A BASE.

The Settlement has emerged more clearly than ever as the essential base from which clinics are operated. Six of its functions as such may be mentioned.

(a) From the patients resident in the Settlement are selected those suitable for training for clinic work.

(b) In the course of treating in-patients and local out-patients at the Settlement, training is given to clinic assistants under close supervision.

(c) The records of the clinic patients, approaching ten thousand in number, are classified, filed and issued as required for use in the clinics.

(d) The oil required for injection (averaging approximately forty pints a week) is taken from bulk, treated, sterilised and issued in suitable containers.

(e) The bacteriological preparations made from patients (approximately 8,500 in the year) are examined in the laboratory.

(f) Out-patients are treated in the hospital.
4. Staff.

The staff falls into three sections, namely European, African non-patient, and African patient. The European staff are largely trained for the particular branches of the work which are allotted to them. On the other hand, with but few exceptions, the African non-patient staff are young and unqualified and still in process of training. This is even more true of the African patient staff which, being selected from the patients, is drawn from a body in which even moderate educational attainments are rare. The general plan of the organisation is, therefore, to divide the whole work into departments, the functions of each of which are limited, and as simplified as possible. Each department has, with few exceptions, at least two 'Africans, the senior of which is responsible to the European member of the staff in charge of his department. Each member of the European staff has charge of several departments. Some such method is essential if the work, which is both extensive and technical, is to be carried on with a staff of which such a small proportion has technical qualifications.

5. The Settlement.

(i) Population. The Settlement may now be likened to a small town made up of several quarters or villages. In one part there live the men, in another the women, in another the married couples, in another those under observation, in another the staff, in another those concerned in the market or with contracts in the Settlement. The in-patients have increased by 75% and the staff by 54%. In addition, relatives and servants of the staff permitted to live in the Settlement are a considerable number. Fifty new houses were built in 1940. In all, it is calculated, the community at Oji River now numbers 621. With church, schools, market, councils, court, hospital, dispensary and playing fields, a life that may compare not unfavourably with that which they have left is lived by farmers, nurses, clerks, blacksmiths, brickmakers, watchmen, teachers, school children and many others.

(ii) Public Health. Sanitation by means of Otway pits is generally used throughout the Settlement and is most satisfactory, being both simple of construction and effective. A notable step forward has been the acquisition of land along the whole of the south border of the Settlement. A number of undesirable dwellings had begun to appear on this land which is now brought under control. This was most desirable as the land in question is adjacent to the African and European staff reserves in the Settlement. There were no major epidemics of disease in the Settlement during the year.
(iii) Market. The establishment of a market (bye), arranged suitably for use by both patients and others, is proving of benefit to those resident in the Settlement, as well as to those from the surrounding country.

(iv) Schools. Three advances have been made in the year.
(a) In January a school was opened for the children of the staff. This school has grown steadily through the year from one teacher, two classes and twelve pupils, to two teachers, four classes and forty pupils. (b) An industrial school was started in April. The place of bookwork in the education of many of the children is limited and in some cases very limited. At the same time both their present happiness and future needs are well served by giving them training in various forms of handwork, in which they may become proficient and by which they earn a living, while taking pleasure in their craftsmanship. In the Industrial School the children are taught farming; the growing of cotton, spinning and weaving; dyeing; mat, basket and sandal making; selection and preparation of wood and carpentry; pottery; sewing; and laundry work. A number are crippled in various ways by their disease and are more fitted for one occupation than another, but all do something. (c) A hostel for boys was opened in August. Previously all the boys lived with the adult patients who acted as guardians and exacted service. Now these boys, who are supported either by private subscription or the Settlement, live in the hostel. This is designed so that boys work and cook by groups of five or six. The main feature of the building is that the boys live always out of doors, on an outer verandah by day and an inner verandah by night. They are never "indoors"—there are no doors except to each group storeroom. Supervised in this way, the boys have more time for play, more ordered discipline and make better use of the food issued to them,

(v) The Hospital. With the strengthening of the medical staff more surgical work has been undertaken. A beginning has also been made with physiotherapeutics and some good results obtained in otherwise severely disabled patients. The nursing staff (patients) has been much increased, largely to allow individual members more time to attend classes of instruction. A school for nurses is in operation each afternoon.

(vi) The Prison. By arrangement with the Prisons Department of the Government a prison has been built and in it are lodged leprous prisoners from Enugu gaol. Warders are supplied by the Prison Department and the prison routine is much as in the gaol with modifications to allow of prisoners receiving treatment.
(vii) Casualty Department. Inevitably when accident befalls, the people of the countryside look to the Settlement for assistance. Snake bites, more or less severe injuries due to falls from palm trees, and difficult maternity cases are the commonest troubles. Such cases cannot be dealt with alongside the leprosy patients and for long there has been no better accommodation than a bench on a verandah or a partially cleared store. Now, by rebuilding St. Francis Chapel elsewhere, a casualty room has become available to the benefit of accidents from without and sick members of the staff within the Settlement.

(viii) Other Departments. Minor improvements have been effected in the working of most other departments not specifically mentioned. Their work is partly apparent in the statistical section of this report.

6. Finance.

At the close of the year 1939/1940 there was a small credit balance on the Native Administrative subscribed funds. This, and sundry other small balances, have been carried forward to help in meeting the effect of the rise of prices in the present financial year, the Native Administrations contributing the same sum as in 1939/1940. Without budgetting for any marked expansion in 1941/42, the estimated expenditure on general maintenance (European and African non-patient staff excluded) amounted to a sum of 38% above the Native Administration grant for 1940/41. That increase to some extent was accounted for by the auditors’ recommendations for further provision for replacements.) On the other hand, the Resident decided that the contribution from the Native Administrations would have to be reduced to a sum 55% below that for 1940/1941. Eventually arrangements have been made by which the Nigerian Branch of the British Empire Leprosy Relief Association will contribute £1,000 and the Native Administrations an approximately similar sum. A difference between estimated expenditure and revenue for 1941/42 amounting to £1,076 has been reduced to £400. The greater part of this will be met by making no provision in 1941/42 for replacements—a departure from the “sound financial principles” commended by the auditors only to be justified as a temporary emergency measure. The remainder of the difference is under consideration. The proportions of the contributions in 1939/40 by the Native Administrations (for general maintenance) and by the voluntary bodies concerned in the Settlement (for European and African non-patient staff) remained as in 1938/39, that is by the Native Administrations 45% and by voluntary bodies 55% of the total recurrent costs.
Two far-reaching innovations were made after last year’s farming season. The first concerned the conditions of patients’ admission and their work on the Settlement farms. The previous system was as follows. Patients contributed £2 annually to the Settlement general funds. They were then employed at a living wage by the Agriculture and Industries Department of the Settlement. It was realised that the average capacity for work of the patients is considerably below that of average normal labourers. Nevertheless, wages are paid on the basis of what a normal labourer would earn in the same time, because a diseased man cannot work extra time to make up for his physical incapacity. Thus the foodstuffs grown cost more to produce than if normal labour was employed. But they could only be sold at open market rates. It therefore was necessary to subsidise the Agriculture and Industries Department from general funds. The amount of the subsidy approached the sum contributed by the patients to general funds. In other words the net contribution of the patients to the Settlement was small. It was further realised that the agricultural produce of the country is largely the result of family or communal work which is not valued in terms of money, and for which no cash wages are paid. Such agricultural produce can come on the market at lower rates than if the labour involved were on a cash basis. (This might not apply to large scale scientific agricultural methods but these are not applicable at the Oji River Settlement.)

It was therefore decided (a) to abolish the payment of £2 by patients to general funds; (b) to abolish wages; and (c) to demand a contribution in unpaid labour from all patients, at the same time setting up a "Works Committee" of four senior patients to distribute and supervise the execution of the work set. The whole scheme was explained to the patients and their co-operation invited. The results have been (a) that patients now only have to find £2 to bank for their first year until established on their private farms, and are no longer faced with the often impossible task of raising £2 in cash in the second and subsequent years; (b) that there is a considerable reduction in book-keeping; and (c) that the Agriculture and Industries Department requires no subsidy from general funds, while its profit exceeds the net contribution by patients under the old arrangement. Secondly; a system of crop rotation on a four year cycle has been adopted and all agricultural land in the Settlement is divided into four units. Patients and staff for their individual farms, and the Settlement for its communal farm, have a stake in each of the four units, in any one of which only certain crops may be grown in any particular year. Building, brick-
making and numerous other works have been carried out as usual by this department.

8. Training.

(i) External. During May the District Officers of the Province attended a two-day course at the Settlement. A brief outline of the disease in its various forms was given, followed by an explanation of the significance of these for the individual and the community. This led on to consideration of measures of control and the part of the Administration in these. It should be recorded that if the talks and discussions were as valuable to the Administrative Officers as they were to him who gave the course, the time spent was not lost.

(ii) Internal. The school for nurses has been referred to above (paragraph 5 (v)). Out-patients who show promise in minor posts at the clinics are brought into the Settlement for courses of training fitting them to work as local clinic assistants.


Religious observance is entirely voluntary. Christians and pagans worship together in the Church of Our Saviour of the Transfiguration, while Anglican and Roman priests visit the Church at intervals to administer the Sacraments to those of their own flock. The system of class teaching of the Diocese is in use for Anglicans and pagans whose interest in the Faith has been aroused and who wish to be instructed. The teaching in the classes is distinctively Anglican and those who can read are encouraged in the public and private use of the Prayer Book. Members of the Roman Church do not attend such classes. The preaching in the Church remains on the large area of ground common to all Christians present. Emphasis is laid upon respect for the seasons and festivals due to be observed by all Christians. In a community such as that at the Settlement, where members of both the Anglican and Roman obedience are present in considerable numbers, it would be idle to pretend there are no deep differences of belief, and it behoves those with responsibility in the religious life of the Settlement to understand something of the different viewpoints of the two bodies. The occasion of a man’s physical distress is not made the occasion for pressing him to change his allegiance as a Christian. It is realised that, to those of the Roman obedience, without any sacrifice of charity, the Anglicans must seem as mistaken and outside the body of the Church but also that they may perhaps be seen as Christians and of the soul of the Church. The exclusive element in this the Anglicans cannot accept, but they, on their
part, may see and respect their fellow Christians as members of the largest branch of the Catholic Church. Good will on both sides amongst those responsible has led to a modus vivendi, and, deep though divisions may be, there is an outward harmony based upon a fellowship born of common suffering and common work in this life together. Deo gratias.

10. Acknowledgments.

His Honour the Chief Commissioner (G. G. Shute, Esq.) paid three visits to the Settlement and Clinics and, having obtained a mastery of the system in operation and its financial implications, presented in person the case of the Settlement to the Executive Committee of the Nigerian Branch of the British Empire Leprosy Relief Association with the result described in paragraph 6 above. The Resident (Captain D. P. J. O'Connor) acquainted himself in detail with the financial position and has made every attempt to increase the original Native Administration estimates for the Settlement and Clinics. In addition his efforts have been untiring to settle local objections at the Ozubulu and Awa Clinics, in the latter case successfully. District Officers have continued their cooperation in sundry ways, especially in connection with the Clinics. The Senior Health Officer (Dr. N. S. Turnbull) has, as usual, assisted in various matters. The Rev. Father Nwanigbo has ministered to those of the Roman Church in the Settlement. Within the Mission assistance has been received from many. The Bishop has given freely his ministrations through the year. His advice has also been sought and obtained on a number of occasions. The Archdeacon has assisted likewise. Several of the clergy of the Diocese have also given their services. The new farming policy owes much to the Mission Agriculturist (K. H. Prior, Esq.). At a time when the Agulu Clinic was overwhelming the staff, Mrs. Prior gave great assistance. The Superintendent of Iyi Enu Hospital (Dr. Batley), to provide a relief, released a Sister (Miss Simmons) who gave much needed help. On behalf of the patients and staff of the Settlement and Clinics warm thanks are expressed to all of these.

11. Staff Acknowledgments.

Record should be made of the consistently steady work of the staff, European and African, patients and non-patients, which has operated every clinic due to be operated and turned away no patient seeking help. Two severe losses call for mention. In July the Chief of the patients, Solomon Ugwuoka died. He was a man beloved, respected and of ability. After lying in the Church
that all in the Settlement might pay their respect, he was received with honour by the Christian community of his own town and was buried by the Church which he had done so much to establish.

In October H. P. Pedrick left the Settlement to join the army in response to a call for recruits from the Mission. Since August 1937 his increasing ability had been devoted to the Settlement and many marks of his work as Manager will long remain.


The number of patients on the registers has increased by seventy-three per cent. The number of clinics has increased from four to six (fifty per cent). The area of the Province served (allowing a 15 mile radius from a clinic) is now approximately two-fifths of the whole, but as it is the most densely inhabited area, a larger proportion of the population is served. On the other hand, the European staff has increased only from four to five (twenty-five per cent). There has therefore had to be (a) an increase in the African staff and (b) an increased efficiency of organisation. The Settlement and Clinics may now be regarded as a somewhat finely balanced machine with a cycle of seven days.


Any remarks under this head postulate a continuance of supplies without any great increase in cost. It also postulates the maintenance of the European staff at the present level. And here attention must be drawn to the fact that every member, in the ordinary course of events, would be due for leave before the end of October, 1941. Even if all can sustain an appreciable extension of service, which is very open to doubt, the question of reliefs will arise with increasing frequency and insistence before the end of the coming year. As there are no members of the staff on leave, the solution of the problems is not immediately to hand. There remain, to complete the scheme of development under the Three Year Plan, three pieces of work. (a) The establishment of a clinic in the Nsukka Division is necessary. For some time the matter has been under arrangement with the people of Nsukka and it is expected the clinic will open very shortly. (b) African Preventive Officers must be trained and attached to clinics from which they will work to arrange the segregation of those infectious cases brought to light by the clinic. They will also spread information about leprosy in the community. The training quarters for these men are nearing completion. (c) Much information has been collected in the records of the patients and requires collation. This work has been begun but much remains to do. With these things
there must always be a striving for improvement in technical efficiency. But beyond everything mentioned there still lacks detailed survey work occupying itself with forms of the disease in relation to environment. Such survey work on any adequate scale will probably always remain a dream until there is created for it a Research Unit with a staff not responsible for routine administration and treatment. In an area of the Empire as large as the West African Colonies, where the numbers of persons affected by leprosy are so high, probably at least as high as anywhere in the world, there should surely be a central Leprosy Institute for training and research. When finally the Empire is free from the present man-made distraction of destruction and the time to build anew has come, it is to be hoped that the eyes of men will be open to the age-long destruction which nature has not ceased to inflict, and compared to the suffering of which death in war would be to many a boon.

STATISTICS FOR 1940.

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th>31.12.40</th>
<th>31.12.39</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients in the Settlement</td>
<td>491</td>
<td>281</td>
<td>+ 210 (+75%)</td>
</tr>
<tr>
<td>Patients on the Clinics Registers</td>
<td>9,506</td>
<td>5,302</td>
<td>+ 4,204 (+72%)</td>
</tr>
<tr>
<td>Attendance at Clinics</td>
<td>158,336</td>
<td>106,726</td>
<td>+ 51,610 (+39%)</td>
</tr>
<tr>
<td>Treatment with Hydnocarpus Oil: Settlement and Clinic cases</td>
<td>170,937</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Note: A patient may receive treatment by intramuscular or intradermal injection or by both in a week. All treatment, by either method or both in the course of a single week, is reckoned as one treatment in these statistics.)

Of these 491 patients 291 were males, 103 females and 97 children.

The staff consisted of 5 Europeans and 32 Africans, including 19 doing clerical or technical work. The average number of patients in hospital was 39, and the babies in the home for the infants of infectious cases numbered 9. The laboratory carried out 8,695 bacteriological and 343 other examinations during the year.

The hydnocarpus oil prepared and issued in sterile containers amounted to 2,051 pints. The treatments of Settlement patients with hydnocarpus oil were estimated at 18,349.

The Works Department constructed from native materials 50 houses, a staff school, an industrial school, a hostel for schoolboy patients, a prison, which only had 10 occupants in the year, and a market. A brick and concrete chapel was also built.

The patients registered during the year at the six clinics, two of which were only opened in October, 1940, totalled 9,308. Of these
7,540 were treatment cases, 1,331 observation ones and 635 cases for diagnosis. The total number was 73% higher than in 1939. Treatment attendances amounted to 152,388 and the total attendances to 198,336, an increase of 36%.

REVIEWS


The authors report that positive lepromin reactions have been obtained in persons in whom the chances of exposure to leprosy are very remote. It does not therefore appear to be one of specific allergy. No direct evidence was obtained for or against the theory that the positive test is dependent on the resistance of the tissues. The increased number of reactions with increasing age is compatible with either theory. The incidence and degree of reactions are more marked in endemic than in non-endemic areas. Thus exposure to infection and increasing age influence the number of reactions.

A note on Leprosy in the Kangra District of the Punjab. There is little leprosy in most parts of the Punjab but more in Kangra than elsewhere. Its elevation varies from a few hundred to over 10,000 feet and it is sparsely inhabited. The known cases number 803, or 0.1%. The disease is uncommon at altitudes under 2,000 feet and most common between 4 to 6 thousand feet. The neural and lepromatous cases are about equal in number, but the lepromatous type is more frequent at over 4,000 feet. The proportion of cases under the age of 15 is under 5%, and of above 35 is 50%, which is usual for lepromatous cases. Further studies are being made.

A note by Dharmendra states that the chaulmoogra oil of ancient Hindu medicine is Hydnocarpus Wightiana.

They Walk Alone. A Leper's Life. By Perry Burgess. (Dent 12/6.)

Our readers will know well the name of the author of this book. Dr. Burgess, after a distinguished career in other fields of social service, was from 1925 to 1930 the National Director of what