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New cases of leprosy in the Cross River Region, Nigeria

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Summary Rates of leprosy cases newly reporting during 1986 are examined for a region of south-eastern Nigeria. Figures reveal that in the part of the region which was designated in 1987 as a new state, half of the administrative units had new case reporting rates higher than in adjacent areas, while the other half had very few cases reporting in 1986. Possible explanations are offered and the implications of the pattern for leprosy control in the new state are examined.

The Region

The Cross River Region was one of the nineteen states of the Federation of Nigeria until 1987, and was known as Cross River State. In September 1987 it was carved into two states, the larger northern and eastern portion retained the name of Cross River State, and the smaller but much more populous southern and western portion (locally known as the 'Mainland') became Akwa Ibom State, (Figure 1). Until the Civil (Biafran) War in 1967, it was part of the Eastern Region of Nigeria which had been important in the world of leprosy research and control for forty years. The leprosy hospitals at Itu and Uzuakoli were known beyond Nigeria for the pioneering work conducted there by leprologists of international repute.

The region lies between latitudes 4°N and 7°N. The southern one third, which includes the whole of the new state, lies below 100 metres in altitude. Akampka Local Government Area (LGA) in the east includes the Oban Hills which rise to 1070 metres, and in the extreme north-east the Obudu Plateau rises to 1841 metres. All areas of the region are cultivable and habitable. Annual rainfall in the south is 3500 millimetres; it decreases northwards but there are no water shortage problems. Population densities vary greatly, with the highest densities in the south throughout the new state, but with areas of scattered and sparse population in the north, which is thought to have suffered disruption and depopulation during the period of the Atlantic slave trade.

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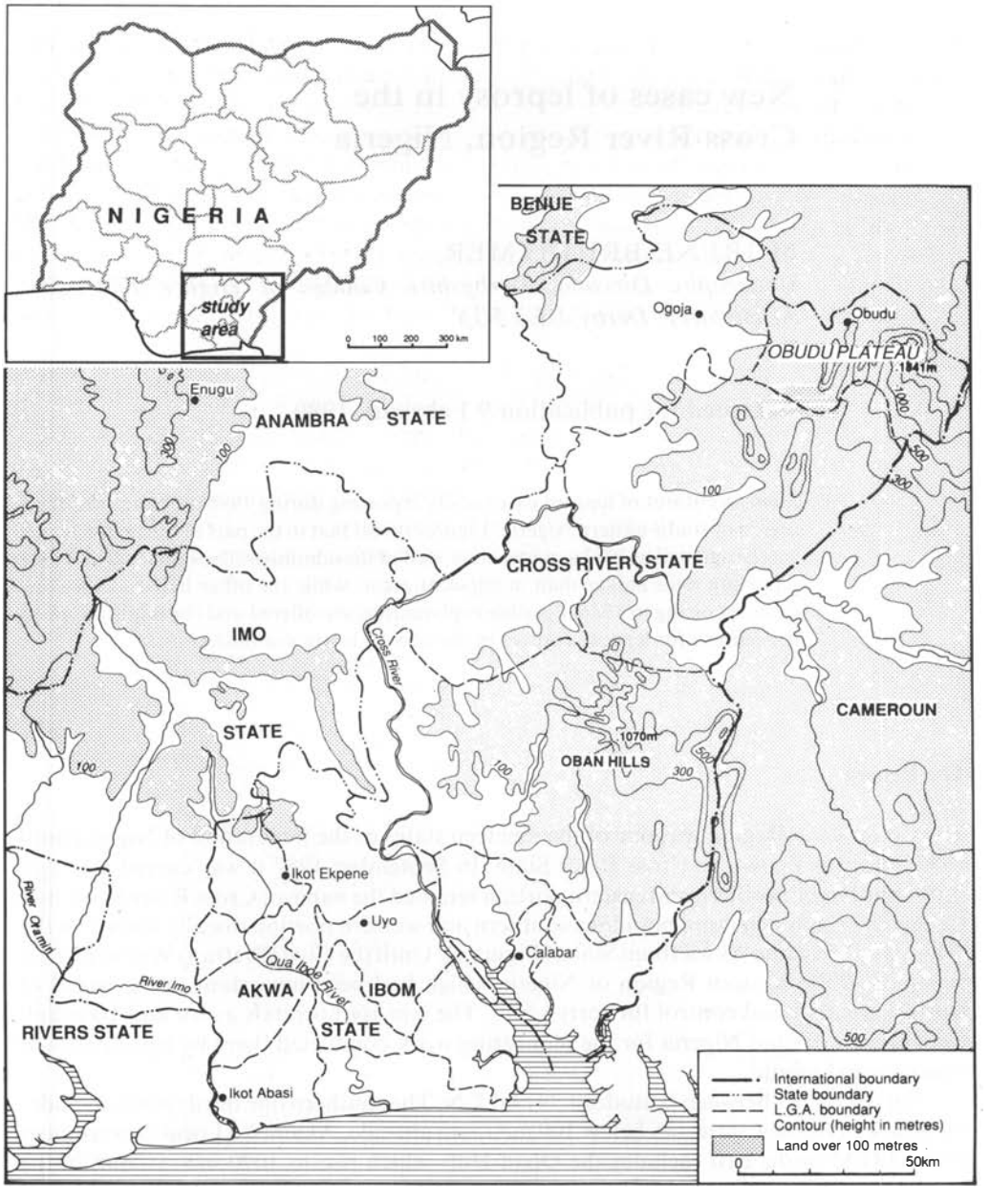

Figure 1. South-eastern Nigeria.

Leprosy control

Two specialist leprosy hospitals are located in the Cross River Region at Etinan and Ogoja. (Uzuakoli lies outside the region in the neighbouring state of Imo, and the leprosy hospital at Itu lies in ruins since the Civil War.) They provide surgery and treatment of complications for inpatients, as well as diagnosis and chemotherapy for outpatients. Outpatient diagnosis and chemotherapy is also provided at 223 leprosy clinics throughout the region, usually held monthly, and from where complications are referred to the hospitals. Periodic visits are made to some of the clinics by the hospital doctors. By 1986 the WHO (1982) recommended multidrug therapy (MDT) was in limited use in the region. It had been used selectively at the leprosy hospital in Etinan in the south since 1984, and in 1986 implementation began in the north of the state in Ikom, Obudu and Ogoja LGAs.

Leprosy rates in the Cross River Region in 1986, i.e. the original Cross River State), are examined here using the local clinic and hospital registers. 'Registered cases' refers to cases which had already been diagnosed with active leprosy prior to 1986, were still receiving chemotherapy and recorded on treatment registers. (In 1959, 3000 untreated cases of leprosy were found when 536,256 people were examined in this and the adjacent region during routine yaws surveys.[2]) It has been estimated that registered cases in this part of Nigeria represent only one half the true number,[1] as the stigmatization of leprosy

Table 1. Cross River Region. Leprosy by local government area 1986. Population density and rates of registered active leprosy cases on chemotherapy

LGA	Pop. (1000s)	Pop. dens. km^2	Dens. rank	Reg. lep. patients	Lep. rate per 1000	Lep. rank
Abak	325	630	5	120	0·37	10
Akamkpa	190	28	17	266	1·4	4
Calabar Mun.	188	563	6	126	0·67	7
Eket	580	781	2	53	0·09	17
Etinan	473	901	1	495*	1·05	5
Ikom	200	37	16	1285	6·43	2
Ikono	324	463	10	82	0·25	14
Ikot Abasi	419	530	8	128	0·31	12
Ikot Ekpene	438	679	3	128	0·29	13
Itu	273	458	11	99	0·36	11
Obubra	420	201	12	417	0·99	6
Obudu	130	82	15	764	5·88	3
Odukpani	224	132	13	91	0·41	9
Ogoja	313	89	14	2674	8·54	1
Oron	551	540	7	120	0·22	15
Ukanafun	390	491	9	163	0·42	8
Uyo	607	664	4	119	0·20	16
Total	6045	211 (mean)		7130	1·18 (mean)	

* Figures for Etinan are inflated by cases reported to the Etinan Leprosy Hospital from other LGAs and from outside the region.

patients especially in the south of Cross River, discourages reporting of cases. 'New cases' refers to cases newly diagnosed in 1986 and never treated before. Almost all leprosy cases in the region were self-reporting. There were no mass surveys nowadays as previously, nor even systematic contact-tracing. It is unlikely that there are variations between LGAs in the degree of reliability in the clinical diagnosis of leprosy.

RATES OF REGISTERED CASES

I have previously examined the pattern of registered leprosy cases for the region using the 1984 figures and compared the rates with the population distribution.[3] The pattern corresponded with that of other observers who have remarked on the apparent association in tropical Africa of areas of higher leprosy rates coinciding with areas of sparser population density.[4] The same pattern of an apparent association occurs in 1986 using the figures of already registered cases (Table 1). However, an association noted elsewhere between low leprosy rates and higher altitude does not occur in the region. The highest leprosy rates per thousand people in Cross River are in Obudu which is the area of highest land.

DISTRIBUTION PATTERN OF CASES NEWLY REPORTING IN 1986

However, a more complex pattern emerges when new cases reporting in 1986 are examined (Table 2 and Figure 2). The mean new case rate for the whole region in 1986 is 0·79 per 10,000, ranging from a low of 0·07 in Oron in the extreme south, to a high of 6·23

Table 2. Cross River Region. Leprosy by local government area 1986. New case rates

LGA	New cases	New cases per 10,000	Rank
Abak	23	0·71	6
Akamkpa	5	0·26	11
Calabar	12	0·64	7=
Eket	6	0·10	15
Etinan	4	0·08	16
Ikom	78	3·90	2
Ikono	18	0·56	9
Ikot Abasi	9	0·21	12=
Ikot Ekpene	28	0·64	7=
Itu	14	0·51	10
Obubra	35	0·83	5
Obudu	81	6·23	1
Odukpani	3	0·13	14
Ogoja	104	3·32	3
Oron	4	0·07	17
Ukanafun	38	0·97	4
Uyo	13	0·21	12=
Total	475	0·79 (mean)	

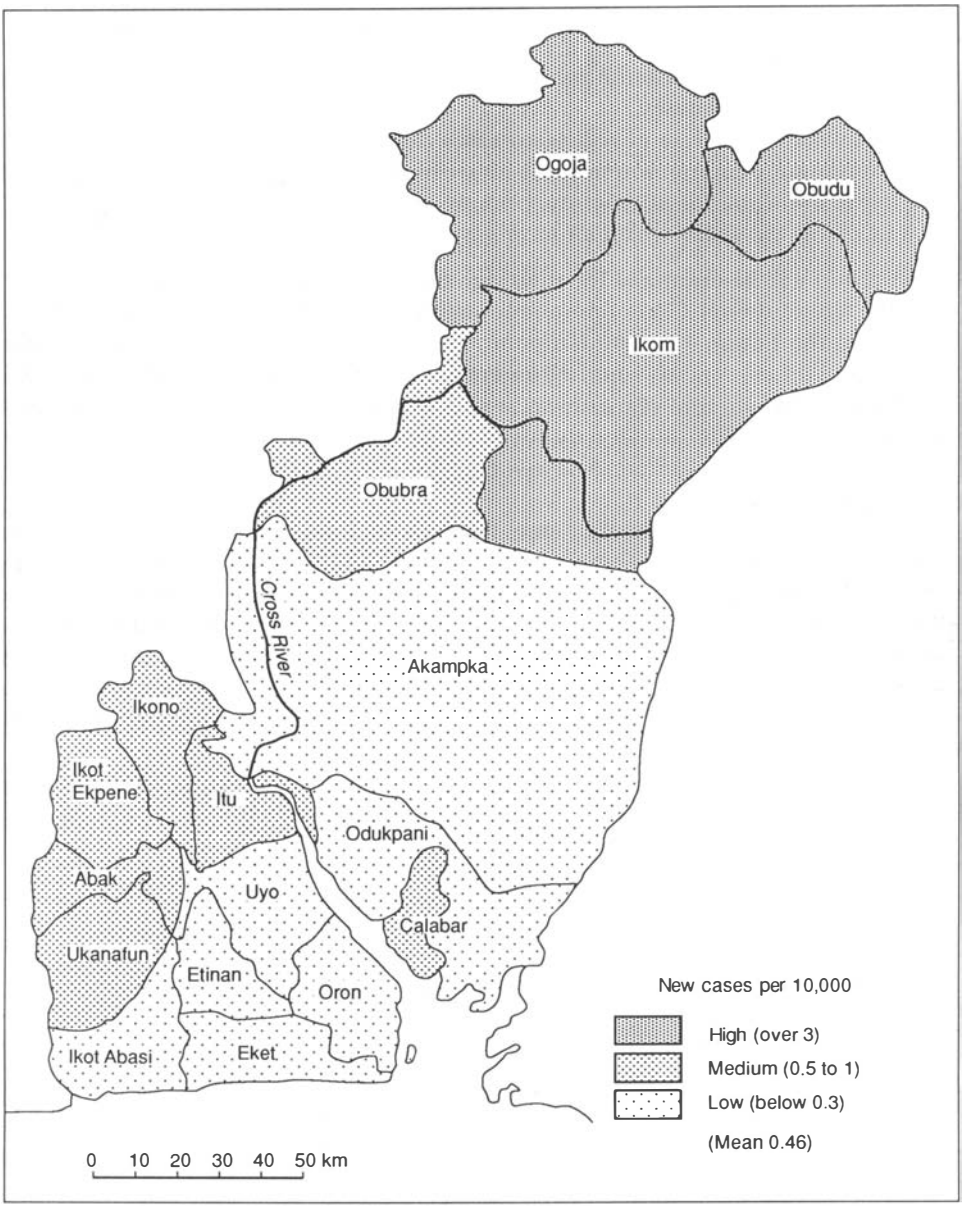

Figure 2. Cross River Region, Nigeria. Leprosy cases newly reported in 1986.

in Obudu in the extreme north. Another two LGAs are well above the mean, seven are around the mean and the rest are well below the mean.

The ten LGAs with a new case rate above and around the mean fall into four categories:

Ogoja, Obudu and Ikom in the north, which also have much higher than average rates of already registered cases;
2 Obubra which has a rate of registered cases close to the mean;
3 Calabar the state capital, where numbers are higher because cases report from outside the locality wishing for anonymity, because of the fear of ostracism; and
4 five LGAs in the south which all have very low rates of registered cases.

The last group will be examined for their significance for leprosy control.

For the ten southern LGAs of the whole region, in the 'Mainland', i.e. the new state of Akwa Ibom, the Etinan Leprosy Hospital registers and local clinic returns have been examined, and the cases newly reported and registered in 1986 are identified by their LGA of *residence* (rather than of registration, which is how Ministry statistics are recorded, thus inflating figures where the leprosy hospitals are located, as noted in Table 1). The new case rates are tabulated (Table 3) and mapped (Figure 3) separately from the rest of the Cross River Region.

The number of confirmed leprosy cases from the Mainland reporting for the first time in 1986 either to local clinics or the leprosy hospital was 157, a mean rate of 0·358 per 10,000, about half that for the whole of the Cross River Region, whereas the rate of registered cases for the Mainland was less than one third of the rate for the whole region, i.e. 0·34 compared with 1·18 per 1000. New case rates per 10,000 for individual LGAs varied from 0·08 in Etinan to 0·97 in Ukanafun. The five LGAs with highest rates have only 40% of the population of the new state but have 77% of the cases newly reporting in 1986.

Forty-five of the new cases in the Mainland reported to the leprosy hospital, where

Table 3. Cross River Region Mainland Area. Leprosy 1986 by local government area. Population and new cases, actual and expected

LGA	Pop (1000s)	% Total pop.	Actual new cases	Expected* new cases	Ratio actual to expected
Abak	325	7·44	23	11·60	1·98
Eket	580	13·24	6	20·65	0·29
Etinan	473	10·80	4	16·85	0·24
Ikono	324	7·40	18	11·54	1·56
Ikot Abasi	419	9·57	9	14·93	0·60
Ikot Ekpene	438	10·00	28	15·60	1·79
Itu	273	6·23	14	9·72	1·44
Oron	551	12·58	4	19·62	0·20
Ukanafun	390	8·90	38	13·88	2·74
Uyo	607	13·86	13	21·62	0·60
Total	4380	157			

* Number of cases expected if all the local government areas had the same new case rate per 1000 population.

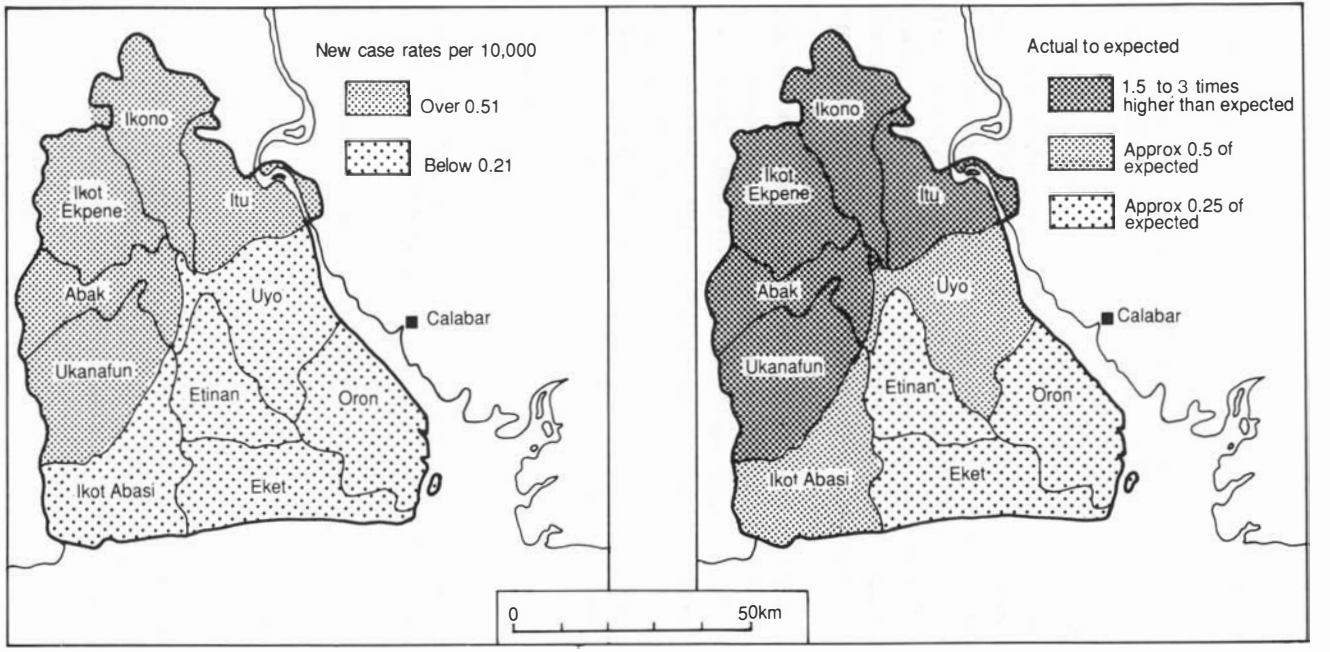

Figure 3. Cross River Region, Mainland Area. New leprosy cases in 1986.

classification records show that approximately one third (16 cases) were multibacillary, one of whom was under fifteen years of age. Two thirds (29 cases) were paucibacillary and eight of these were under fifteen years of age.

Discussion

Although leprosy rates overall were fairly low in the Cross River Region in 1986, there was a pattern of locally high rates of leprosy, with contrasts between rates of registered cases and rates of new cases.

The higher new case rates in the north and west of the new state area where existing registered rates are low, require special comment. The stigmatization of the disease especially by the Annang people who occupy most of the area may be one contributing factor; fieldwork has shown there is less stigmatization among the other main ethnic group of the Mainland. The effect of the disruption of leprosy control services during the Civil War (1967–70) should not be underestimated. These LGAs (excluding Itu) bordered the Ibo heartland of Biafra, and the formerly well-organized clinic system collapsed here in the early months of the conflict. There were also large-scale and frequent movements of refugees into and out of the area throughout the war, under conditions favourable for the transmission of disease. The famous leprosy hospital at Itu was bombed and thousands of patients dispersed, many never re-appearing anywhere for treatment.

Fieldworkers are believed to be reliable in respect of diagnosis and it is reasonable to assume that the figures represent true differences between leprosy rates within the new state area rather than variations in the certainty of the clinical diagnosis. The forty-five new cases which reported directly to the leprosy hospital were diagnosed by the experienced leprologist. That same leprologist made several visits during the year to clinics in Abak, Ikot Ekpene, Itu and Ukanafun, because of the frequency of cases from here reporting to the hospital, and confirmed the clinic diagnoses. The much higher than expected number of new cases in Ukanafun reflects a revival of leprosy control work there during 1985 and 1986; the newly reported cases in 1986 represent a backlog of untreated cases. This revival was initiated by the leprologist as a response to the number of leprosy cases from that LGA taking the trouble and expense to report to the Etinan Leprosy Hospital. There is every reason to believe that a similar backlog may exist in Ikono where leprosy control has lapsed in recent years and from where new patients also travel to the Etinan Leprosy Hospital.

Recommendations

The pattern revealed suggests that for effective leprosy control in the new state priority needs to be given to the five northern and western LGAs, where a greater number of previously untreated cases were reporting in 1986, and where more than one third were diagnosed as multibacillary. Although a few cases report each year from the other 5 LGAs, the low numbers of the previous years support the 1986 figures in suggesting that leprosy has almost disappeared, at least from Eket, Etinan and Oron.

Any new action against leprosy which the Akwa Ibom Ministry of Health might wish to take should begin in the north and west, and include the following priorities:

1 contract tracing, especially of all registered multibacillary cases;
2 the appointment and training of additional field staff for rural clinics, especially in the five northern and western LGAs;
3 the widespread implementation of MDT, based upon a guaranteed regular supply of drugs; and
4 a programme of health education, especially in the schools and communities of the LGAs with the highest rates of leprosy. This should emphasize the curability of leprosy and the availability of free treatment, and attempt to reduce the stigma of the disease.

The creation of the new state with its additional resources, reorganization and raised morale gives a good reason for optimism that with appropriate policies and serious commitment leprosy can be eradicated from this part of Nigeria in the not too distant future.

Acknowledgments

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