COMPULSORY SEGREGATION OF LEPROSY

TWENTY-FIVE YEARS TRIAL IN SAINT CROIX

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Saint Croix is a small island in the West Indies, 84 square miles in area, with a population of 14,423: 88 per cent negro and mixed (negro and white), 9 per cent Puerto Rican, and 3 per cent white. There are 99 known cases of leprosy on the island, an incidence of 6.87 per mille. In the past twenty-five years all the cases of leprosy have been in the negro and mixed group.

Segregation of leprosy cases was first begun in 1888. A small 35-bed hospital asylum was built to care for the indigent cases—advanced cases that had been driven out of their villages or could not be cared for at home. Leprosy was a reportable disease and a check was kept on all reported cases. Approximately two-thirds of the known cases remained outside the asylum.

In 1903 Prof. Edward Ehlers, a noted Danish leprologist, made a careful survey and found 87 positive cases. He recommended strict compulsory segregation of all cases. Through his influence a village colony was built and opened in 1910. Since that date all known cases have been kept in segregation, unless released on parole.

Since 1918 there have been 88 new cases admitted (Table 1). At the end of 25 years we are chagrined to find that today we have more known cases of leprosy than we had either 25 or 57 years ago, and that the incidence of new cases each year has shown no decrease. We have been getting our new cases at a fairly early stage of the disease. Tables 2 and 3 show the age groups and stage of the disease on admission.

We feel that compulsory segregation has had a fair trial. There have been no particular socio-economic changes to complicate matters. The economic status of the people has always been fairly good, and has not changed greatly in the 25 years. The people have not been chronically malnourished, and have not been disease ridden. Filariasis is the only prevalent tropical disease. The death rate has

decreased, but mainly because of diminished infant mortality. There have been no changes in the general mode of life or occupation, and no changes due to shift in population, intermarriage of races, change in dietary habits, or exchange of population by immigration or emmigration. Formerly immigration occurred from other West Indies islands, but this stopped in 1917 when the island came under American jurisdiction.

TABLE 1.—*Leprosy census of Saint Croix.*[a]

Year	New Cases admitted	In colony Jan. 1	On parole Jan. 1	Total known cases Jan. 1	Population
1890	—	—	—	—	19,783
1894	—	—	—	82	—
1897	—	—	—	84	—
1901	—	—	—	—	18,590
1902	—	—	—	80	—
1903	—	—	—	87	—
1911	—	—	—	—	15,467
1917	—	—	—	—	14,901
1919	11	57	0	57	—
1920	1	66	0	66	—
1921	5	64	1	65	—
1922	6	66	1	67	—
1923	5	66	9	75	—
1924	3	67	8	75	—
1925	10	64	8	72	—
1926	3	73	7	80	—
1927	7	71	8	79	—
1928	2	74	8	82	—
1929	5	71	8	79	—
1930	3	71	9	80	11,413
1931	0	73	9	82	—
1932	9	70	9	79	—
1933	5	72	15	87	13,066
1934	13	71	15	86	14,423
1935	—	84	15	99	—

[a] St. Croix transferred to United States in 1917. Records prior to 1919 are lost. Readmissions not counted as new cases. Cases in colony from Virgin Islands other than St. Croix not counted.

There is little difference between the rural and urban life, for the main industry is agriculture and most of the town people work in the fields. The people are friendly, cooperative and intelligent, and they recognize the disease and report suspects. Contacts, relatives and paroled cases have been followed up. All school children on the island are given a physical examination each year.

If leprosy is an infectious disease acquired only from direct contact with an affected person, why has not our segregation of all our recognized cases produced a decrease in the incidence of the disease? It would seem that we either fail to detect and segregate a large per cent of the contagious cases, or we do not succeed in segregating them early enough. I cannot believe that we miss many positive clinical cases, and we get many of our cases so early that the patient himself has not yet suspected the diagnosis.

TABLE 2.—*Age groups of new admissions.*

Children under 14 years of age	16
Young adults, 14-30 years of age	28
Adults over 30 years of age	44
	88

One perplexing thing is that so few of our cases can be shown to have ever had any contact with the disease. Out of 145 patients who have been in the colony since 1918, only 57 give a history of a leprous relative or known contact. There were 13 instances of parent and child, 8 instances of siblings, and 10 instances of more remote relationship. Several of the patients with a leprous relative had no contact with that relative.

TABLE 3.—*Classification of cases on admission.*

Predominating Type	Number
Neural	
N—1 Slight neural (including early tuberculoid)	23
N—2 Moderately advanced neural	12
N—3 Advanced neural	2
Cutaneous	
C—1 Slight cutaneous	14
C—2 Moderately advanced cutaneous (numerous lesions)	35
C—3 Advanced nodular	2

1. A patient, William C., who developed the disease at the age of 10, had a leprous uncle, but this uncle had died several years before the patient was born.

2. Another patient, Marie E., who developed the disease at the age of 8, had a leprous sister but this sister had been in the colony since one year before the patient was born.

3. Another child, Leonile P., who developed the disease at the age of 7, had a leprous grandfather who was in the colony long before the patient was born.

4. Another patient, James N., who developed the disease at the age of 25, had a leprous aunt who had died before he was born.

5. Two other patients, James P. and Catherine P., brother and sister, who developed the disease at the ages of 10 and 7 respectively, had a leprous half-sister who had been in the colony since they were 5 and 2 years old, and who had been raised in another part of the island with her own mother's people and had never been in contact with the other children.

Instances like the above make one wonder if the disease may not exist in a subclinical yet contagious form, and if it may not be transmitted by persons showing no visible signs of the disease. We know that only a small percentage of household contacts ever develop clinical leprosy, and we have seen early positive cases which have made complete spontaneous recovery.

We will continue compulsory segregation, since it is the best thing we know how to do, and we will try to make it as effective as possible by closer study of contacts and families. Further progress may await new bacteriological or serological methods for the detection of subclinical cases, or improvement of the general economic status of the people.

Shortly before he came to St. Croix, Prof. Ehlers made leprosy surveys of Crete and Iceland and instituted similar compulsory segregation control methods there. It would be interesting to know if such control measures have met with any better success in those places.

SUMMARY

Twenty-five years of trial of compulsory segregation of all known cases of leprosy in St. Croix has not resulted in any appreciable decrease in the incidence of the disease.