PUBLIC HEALTH MANAGEMENT OF LEPROSY IN THE UNITED STATES NECESSITY FOR INDIVIDUALIZATION

by

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Although our knowledge of many aspects of the leprosy problem is very deficient, and doubtless further epidemiological, laboratory, and therapeutic studies will place further useful information at our disposal, there are enough reasonably well established facts to permit a rational approach to the public health management of the disease.

One cannot profitably generalize about the public aspects of leprosy as it prevails in different parts of the world. Measures that are justified in areas of high prevalence, as in parts of Africa where the disease affects a considerable proportion of the population, are not applicable in certain western European countries where so few cases occur that health authorities do not consider special measures necessary.

Even under American jurisdiction a variety of conditions prevail necessitating variations of procedure. For example, in Hawaii where the disease spreads relatively freely among the native population, cases judged to be communicable need to be, and are, isolated from the healthy population. In New York State, however, where the disease shows no tendency to spread, health authorities do not even require reporting of cases. In addition to these somewhat general considerations based largely on geographic location, discrimination is needed, especially in the United States, with respect to the individual case. In other words we should not deal with all patients by uniform procedures but should vary these on the basis of the needs of each case. It is recognized that this would require some readjustment of an administrative nature, but one is less reluctant to suggest this adjustment as there is no good evidence that methods followed in the past have had any appreciable influence in reducing the prevalence of the disease in the United States. A revision of present practices is necessary if the problem is to be dealt with intelligently. The writer is well aware that measures that have been taken up to the present have been largely in response to popular demand rather than on the basis of an intelligent understand-

ing of the public health needs. This has led to the practice of dealing with leprosy in general rather than with each patient as a separate problem.

The main elements that need to be considered in modifying our thinking and practice may be conveniently considered under the headings of (1) geographic location, (2) clinical type of case, (3) family surroundings and (4) economic circumstances.

Geographic location — There are only three states in the Union in which experience has shown that leprosy spreads sufficiently to necessitate special public health measures. These are Florida, Louisiana, and Texas. While no definite trend is to be discovered in the prevalence of the disease in these states the number of new cases reported each year is enough to show that it continues to spread—though nowhere to a serious extent. California presents a special problem in that infections are very rare—there have been perhaps 20 cases of transmission within the state recorded among a total of around 500 cases—the vast majority having been imported. In the remainder of the country there is so little tendency to spread that the disease constitutes no special public health problem. For example, in spite of the considerable number of cases always domiciled in New York City there is no clear evidence of any person having been infected in that city. Another example is to be found in New England. So far as records go but a single person has been infected in that part of the United States. This instance was in a case discovered in 1943 in Massachusetts, the patient having been a family contact of an earlier case infected abroad. On the basis of geographic distribution of infectivity only cases domiciled in the three states mentioned need to be considered seriously as sources of infection.

Clinical types: The available evidence on the relative danger of infection from the several clinical types of leprosy is by no means satisfactory. It has long been the practice of certain administrative health authorities to divide cases into "open" and "closed," the former being those that show acid-fast bacilli from lesions while the latter do not. The former alone are regarded by these authorities as probable sources of infection. In general the purely nerve form and the tuberculoid form are regarded as of little danger to contacts. While this view probably represents the majority opinion of leprologists, a few dissent, regarding all cases as communicable. On the basis of various statistics it may be said perhaps, that the lepromatous (nodular) and mixed cases are 3 to 7 times as potent sources of infection as the neural or tuberculoid cases. In this connection one must not lose sight of possible changes in the clinical type of a given

case, thereby rendering the patient more or less infectious. When one recalls that the finding of acid-fast bacilli is to some extent dependent both on the care with which microscopic preparations are made and the thoroughness of the search, the mere positive or negative report must be appraised with due circumspection. It is common to find acid-fast organisms in the first microscopic field of the first preparation examined but it sometimes happens, perhaps in one case in a hundred, that dozens of slides must be examined before a positive report is justified.

Home environment: In areas where the disease shows no tendency to spread this factor is not important, but in areas of definite communicability the family contacts may be very important in determining the measures to be taken with the patient. It is very generally believed that the exposure of children under ten years of age is most hazardous and should be prevented. At least one authority goes so far as to say that only small children under four years of age need to be considered. Adults, who are relatively insusceptible, do not need consideration. It is certain that in a family of adults only, the need for segregation of a case of leprosy is not imperative. On the other hand, in any circumstances leading to the exposure of children in endemic areas the separation of the patient from the environment is demanded. The exposure incurred by children by a visit to the home of a patient should be avoided. Indeed, the recent liberalization in policy with respect to patients being permitted to visit homes may do harm unless each application for leave of absence is carefully considered with respect to the factors referred to above and especially as to possible exposure of children.

Economic circumstances: If the economic circumstances of the patient will allow effective home isolation, or if they permit the patient to move to a new domicile or away from the endemic area all public health requirements would be satisfied. Obviously environment and economic circumstances require investigation outside the field of the physician and become the responsibility of the social service expert. The essential feature is to deal with each case in the light of a careful study of these factors. We do not adopt public health measures in other infectious diseases without some discrimination. The bacillus-disseminating tuberculosis patient is managed very differently from the patient with lupus; a patient with primary syphilis requires measures not required of the case of tabes or paresis, though in these examples both types are fundamentally the same disease. There is as much or more reason for modifying our

procedure in leprosy. Should we not deal with leprosy in the same fashion, depending on an intelligent appraisal of the risk in each situation? Nowhere is the necessity for considering each case on its merits more clearly demonstrated than in respect to travel on common carriers. Under the present rigid requirements travel is allowed only under most burdensome restrictions while all, who have given the problem thought, believe that practically no restrictions are necessary in the interest of public health. The logical objection would be to the travel of a lepromatous case in an endemic focus which also involved the exposure of children. Such a combination of conditions would in practice rarely be encountered.

The question has been raised as to whether institutional isolation (segregation) should be compulsory or voluntary. I believe that for patients domiciled in an endemic area the answer should depend on clinical type, family surroundings, and economic circumstances; if these factors are given due weight an intelligent decision can usually be made. In general I am of the opinion that very rarely is compulsory segregation required from the public health point of view. Some who have studied the problem believe that if there were more flexibility in dealing with patients, in other words if they were permitted to leave leprosy hospitals at will, more good than harm would be done. Many patients now at large would be encouraged to come to the hospital for treatment in the earlier stages of the development of the disease if it were understood that entrance to the hospital did not necessarily mean involuntary confinement. In other words it may well be that a more liberal policy respecting discharges would result in more patient-years in the institution away from contact with the public than is now the case. Another factor that remains to be considered is the possibility that the newer, apparently more promising treatments could be applied to earlier cases than now is practicable. The goal, of course, is a therapeutic agent so effective that there it would not be necessary to hospitalize patients but that they could be readily rendered non-infectious.

A few years ago much was hoped for from the establishment of out-patient treatment centers in India where patients could be treated without being confined in an institution. So far as the writer is able to judge these treatment centers have not given results of a public health nature that would justify an extension of the system. Perhaps the most important element in the whole problem of more intelligent approach to the management of leprosy is the education of the general public so that the senseless apprehension with regard

to any patient will no longer be the deciding factor in the public health management of this disease.

The writer does not advance the changes in administrative procedure implied as new—indeed some, perhaps all, are recognized by health officers in individual cases and in at least one jurisdiction as established practice. New York State having no evidence of the spread of leprosy in that jurisdiction does not impose any restriction on those suffering from the disease. New York City requires reporting of cases but only home care if the patient can be properly cared for in his domicile. That the more important of the changes suggested by the views expressed above have met with the favor of administrative authorities is demonstrated by the fact that the American Public Health Association in an official publication (1) lays stress on the matter of geographic location and type of cases in recommending control procedures. What is desirable is that the policy be adopted that each case shall be subject to study and the administrative action to be taken based on the results of this study. Let us no longer say that because a person suffers from leprosy he must be handled in such and such a fashion—rather let us say this patient has leprosy—what is the best way to manage this particular case?

If one wished to reduce to a logical formula the implications of the circumstances dealt with above it might be said that: the only patients with leprosy who need to be detained in an institution are those with the lepromatous (or mixed) type living in an endemic area where family environment and economic circumstances result in exposure of children. With these conditions met the purely public health needs of leprosy would be accomplished. Obviously to meet these conditions the study of each case as a separate problem is necessary.

The implications inherent in this discussion do not represent a novel approach to the problem except from an administrative point of view in the United States. The Norwegian health authorities during the last century or more, under the guidance of Hansen and Lie, have exercised intelligent discrimination in deciding which patients represented a danger to the community and therefore should be hospitalized and which might be cared for at home.

In conclusion I should like to point out that inconsistency may be charged in the discussion above. Perhaps I can clarify by explaining that while I am greatly impressed with the desirability of modifying the present practice of health authorities in such a way

as to relax many of the present restrictions on patients, I am also in favor of more intelligently applied measures, including isolation, with respect to patients regarded as a definite menace to the health of others.

REFERENCE

1. "Control of Communicable Disease" Am. J. Pub. Health 35 (1945) 162.