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**IMPORTANCE OF EARLY DIAGNOSIS IN THE
EPIDEMIOLOGICAL SURVEILLANCE AND CONTROL OF LEPROSY**

by

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This paper is only an introduction to the subject of early diagnosis for the surveillance and control of leprosy. It is my hope that, from my modest contribution to this meeting, new ideas and methods may emerge to solve one of the most difficult problems so far encountered in the control of leprosy.

As you know, the disease reaches the stage of identification when it is already considerably advanced. The factors which prevent the patient from seeking medical care are of various order as shown in the attached schematic presentation of health care and preventive services available to the population. It is clear that the relative proportion falling under category (A) - Healthy protected - against the proportion of those falling under category (B) and (C) could be considered as an index of health services development for the country.

Again referring to the attached schema we can see that a large number of leprosy patients fall in a category numbered (1) and (2) i.e. patients who are aware of the disease, wish to be assisted but cannot either for lack of financial means or for lack of facilities. This points to the need for actively reaching these patients so that a long-term and, to a certain extent, expensive treatment can be offered to them for a sufficient length of time to return them to a productive life before the ravages of the disease are too advanced to make their reintegration possible. This implies the provision of free curative services possibly domiciliary or at specific dispensaries and their continuous follow up (clinical and laboratory) for the length of time required for the cure of the disease. Such services must be fully integrated in the primary health care scheme.

Surveillance should also aim at the identification of those who do not wish assistance or do not know that they harbour the disease. These are marked in the schema under numbers (3) and (4). The problem in this case is twofold: in the first group it is necessary to make the patients understand the importance of treatment for their own benefit as well as for the benefit of their family and the community in which they live. In the second group which is made of those who do

not know leads to the need to develop screening methodologies for early detection of the disease well before it has reached the stage which makes the disease obvious to the general population. Thus this latter aspect is particularly important because it results in the unfortunate rejection of the cases by the communities in which they live. It is necessary therefore that proper surveillance methodologies be developed so that the existence of the early signs of the disease remains a well-guarded secret between the medical staff and the patient, thus avoiding the inconveniences to which the patients are submitted and is at the root of the patient's escaping medical care.

We feel that the category number (3) - those who do not wish assistance - is probably the category which requires most attention, as it is often this group which is responsible for the reproduction of the disease and for the lack of impact that years of dedicated work of a large number of well-motivated national and international staff have had on the prevalence of this disease.

It is with the objective of reducing the reproduction rate of the disease, which, from available statistical records, would appear to be still in the increase, that the urgency of a surveillance mechanism is to be seen. This is particularly important when we consider that the age in which a large number of new infections are acquired and are not detected, is below twenty. There are still a number of problems which have to be solved to fully elucidate the mechanism of transmission. It is known that a number of infected cases had one way or another close contact with a lepromatous case, still one out of six had contact with a non-lepromatous case. Furthermore, for a certain proportion of cases, no evidence of contact can be evidenced. It is believed that children are more susceptible to the disease and a large number of children born of parents with leprosy end up with the disease.

It is not the purpose of this paper to elucidate the methodology of contact but to put in evidence the population groups at risk where the probability of finding positive cases is highest. With this in mind surveillance could be based on a

screening of the whole population for early signs of the disease in the countries where leprosy is endemic. For countries where leprosy is focal and not uniformly distributed, it would be too difficult to submit to screening the whole population. It should therefore be possible to identify the localities where cases occur and thereafter concentrate on the close contacts of known cases (index cases) particularly among the children population.

We may identify three levels of contacts:

- 1) the persons of the household of the index case
- 2) the persons of the immediate working or school environment
- 3) the persons of the community in which the case has occurred.

To start with the surveillance mechanism should be able to reach the persons of the family of the index case and thoroughly examine them. It should be clear in this context that a single examination would not lead to any substantial results and a follow up of these contacts (high risk) is absolutely necessary and should continue for a long period. It is known that lepromatous cases are those most likely to distribute the infection in view of the massive bacillary charge while the other cases particularly tuberculoid ones may be more difficult to prove bacteriologically. Bacteriological confirmation therefore of the cases is essential before a firm diagnosis is established, and other (possibly serological) means of diagnosis are required. For that purpose the surveillance mechanism should have a reliable laboratory support. Furthermore, the surveillance mechanism should also have facilities for data processing likely to facilitate the long term follow up of each individual contact at risk for a period of at least five years.

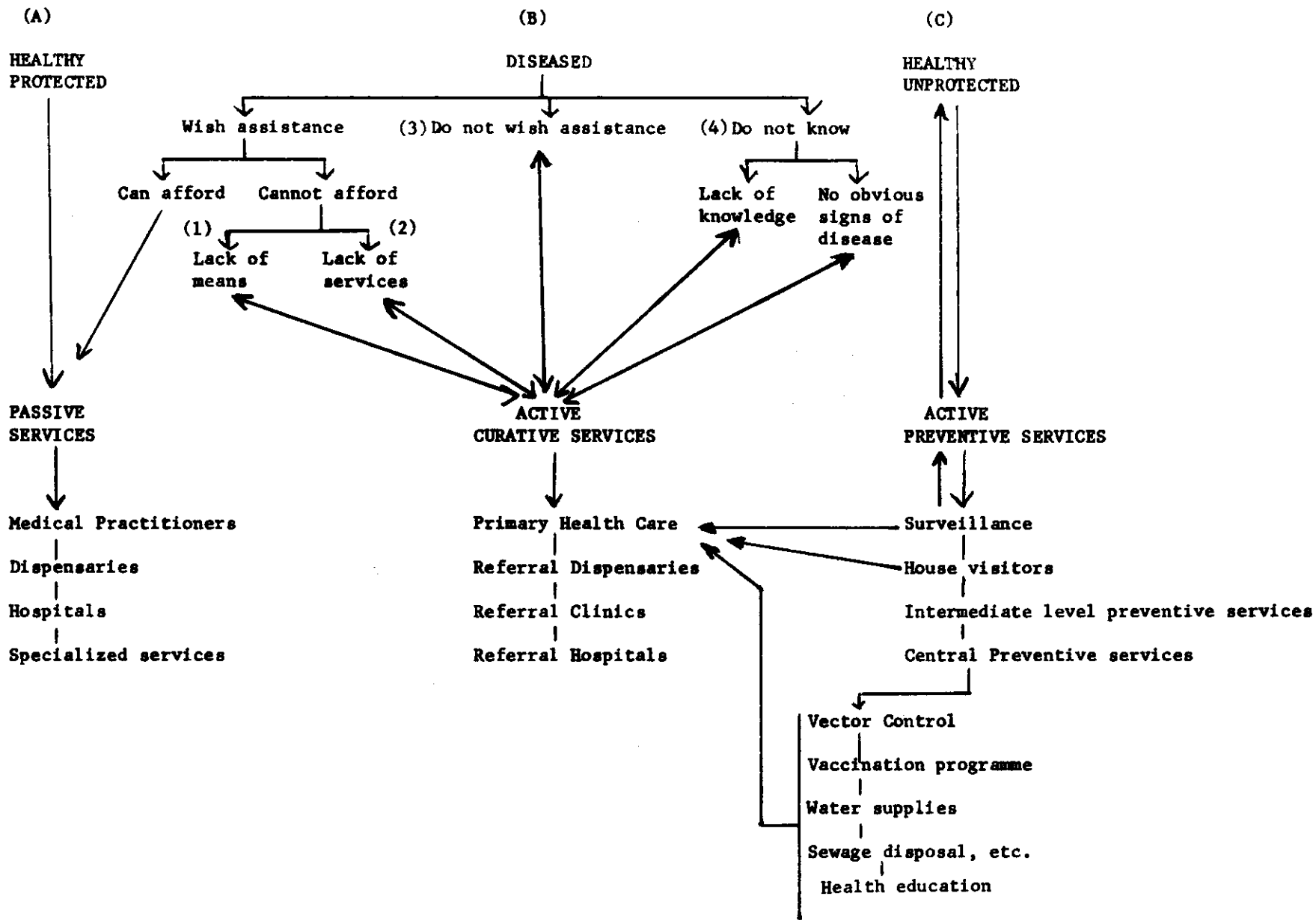
In most countries facilities for rapid and reliable data processing are not available but in view of the large number of people which will have to be followed up and in view of the limited number of dedicated persons available for this work the provision of automatic data processing is to be considered a must for a good surveillance mechanism.

Once all the population under risk i.e. those living in contact either at first, second or third level have been identified and a follow up established, the early detection of cases and consequently their early treatment may lead to an impact in terms of reduction of prevalence of leprosy.

Before concluding it is necessary to remind you that for the implementation of an effective surveillance there should be no mention of the word "leprosy" to the patients being investigated and followed up. This could endanger the whole success of the surveillance programme. It would be advisable therefore that a new terminology be created to deal with the problem of early diagnosis of leprosy. Such terminology only should be used in all matters concerning the screening for the disease. The staff engaged in the screening process should in any case not be the same as those engaged in the care and follow up of the patients already registered. This is only a suggestion and it may be an important part of the screening methodology.

It should be noted that the surveillance mechanism should not be a separate vertical structure but integrated fully into the primary health care system. It is therefore necessary that all developments concerning surveillance for leprosy be strictly linked with the development of the primary health care scheme indicated in the attached schema.

Obviously the screening mechanism should be based on the activities of specially trained house visitors in collaboration with the primary health care workers at village level and be supervised by the intermediate and central specialized services related to the leprosy programme and fully integrated in the health structure of the country.



SCHEMATIC REPRODUCTION OF HEALTH CARE (PREVENTIVE AND CURATIVE) FOR COMMUNICABLE DISEASES