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UNEXPECTED COST INCREASES OF MALARIA ERADICATION PROGRAMMES

by

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It is only three years since the Eighth World Health Assembly passed the history-making resolution calling for malaria eradication, and only a few months more since the XIV Pan American Sanitary Conference had done the same as regards the Americas. It is impressive to see, after so few years, that malaria eradication programmes have now been implemented or are being carried out in so many countries and territories; that they provide for elimination of malaria from areas with an aggregate population of 749 millions, which is about two-thirds of the population at risk all over the world.

Three years ago, of course, experience on malaria eradication was extremely scanty; it has increased remarkably during this period. Two untoward findings have sometimes been deplored. One has been the need to extend the area to be protected over and above the area defined at the beginning. Another has been that of the need to prolong spraying operations beyond the number of years originally planned.

Both findings have the result of increasing the cost of the programme and efforts should be made to avoid them.

1. The first is the need for extending eradication operations to parts of the country which had not been originally included in the plan. This is due to inadequacy of malaria reconnaissance. Obviously, in order to eradicate malaria the first step is to achieve interruption of malaria transmission all over the malarious areas, and to maintain such interruption until the population is no longer infectious for the anophelines. Hence the need for carrying out spraying operations over all the areas where transmission takes place or is likely to take place, however weak

such transmission might be. It is the responsibility of the pre-eradication survey personnel to map out all such areas, making sure that no locality needing coverage is missed, but, in order to avoid unnecessary expense, striving at the same time to ascertain the areas where no transmission is possible either on climatological grounds or because either vectors or parasites are absent. The pre-eradication survey, which will constitute the factual basis upon which the eradication plan will be built, requires some ingenuity. Attention must be focused on areas which are commonly considered not to be malarious; the whole health service of the country should be alerted to notify any suspicious malaria cases that might have been contracted in such areas, and epidemiological enquiries will be required.

2. The second finding, which recent experience has made possible, is the need for continuing spraying operations for a greater number of years than that originally estimated necessary. It has been widely accepted that if transmission remains fully interrupted for at least three years the reservoir of parasites in the population may be exhausted. Consequently, spraying operations might not need to last more than three years if transmission has been interrupted from the first spraying. That is why it has been stated that in very favourable conditions spraying operations for three years must indeed suffice. These favourable conditions, however, are the exception.

2.1 In many areas the bionomics of the vectors or the efficiency and the duration of residual activity of the insecticide, or the habits of the population prevent the achievement of full interruption of transmission after a single spraying year.

2.2 In some other areas where the desired result could have been achieved, the operations have been faulty and transmission goes on in so many pockets that the first year's spraying cannot be counted as efficient.

In the case of 2.1 again, it is the responsibility of the pre-eradication organization to establish whether a single year of spraying, in the different epidemiological areas of the country, can or can not be expected to achieve interruption of transmission. It is very likely that knowledge already exists in the country to clear this point. If not, pilot projects should be set up as soon as

possible. Clearly, a three or four years spraying programme cannot be planned to achieve eradication if it is found that in some of such areas two or three years are required to prevent occurrence of new infections, nor should a yearly dieldrin spraying be suggested in the plan of operations if it has been found that its residual activity covers but a portion of the transmission season.

In the case of 2.2, the responsibility lies with the actual carrying out of the operations. This does not mean that the malaria eradication service is necessarily guilty, because for the full efficiency of its work constant collaboration from all the relevant government departments is indispensable.

Obviously, all houses of the "malarious zone" must be sprayed efficiently, with adequate quantity of effective insecticide, and at the right time. The task may well be enormous. Unless the government gives to malaria eradication its full co-operation, one hundred per cent. efficiency cannot be reached, and this may mean that the spraying operations will have to be prolonged for another year.

A plan in which provision was made for four years' spraying will then need five years of such operations. Moreover, if the coverage is not really total, in extent and in efficiency, the surveillance work-load will eventually become so heavy that it will also require additional expense.

It is not proposed here to dwell upon technical or administrative details on how to fulfil the basic tasks of the pre-eradication period and of the eradication service, which have been indicated above and which if not carried out as they should be, will result in increased expenditure. But it was thought useful to draw attention once again to the commonplace truth that if malaria eradication is technically possible, it is and will always remain a very serious task, and that governments should not embark on it underestimating its difficulties, or hoping that as the years pass some of the problems will automatically be cleared on the grounds that residual insecticides generally succeed in lowering transmission. This partial success might work the other way around. Instead of increasing their help to the eradication service, governments may well decrease it on the grounds that malaria morbidity declines.

In conclusion malaria eradication plans must be based upon adequate knowledge, which will generally require a special pre-eradication survey which, in its turn, might involve epidemiological collaboration from the health administration and the establishment of pilot projects in various areas. The implementation of the plan must be carried out exactly as laid down and with full efficiency and this requires the full comprehension and co-operation of all relevant government departments. If not, great additional expense will be needed and failure may even ensue.