

THE PRIORITY OF MALARIA ERADICATION PROGRAMS¹

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For many years the Governments of the Americas have assigned high priority to combating malaria. This presentation reviews the historical background of their efforts, points out the importance of assigning different priorities to different programs with different problems, and affirms the need for securing adequate financial support.

Introduction

Health problems, including those posed by malaria, may be regarded as having priority on a world, hemispheric, national, regional, or local scale, depending on their severity and extent. Assignment of such priority—in the sense of giving one thing preference over another—is done in the course of planning health activities, selecting health problems to be attacked, and arranging these problems in order of the economic and social harm they do and the feasibility of applying effective measures against them. The analysis which follows is designed to facilitate an examination of alternatives and the selection of those procedures which will be most effective in terms of each country's general policy, technical and operational possibilities and available resources.

As late as 1948 it was estimated that at

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least three-fourths of the world's population was exposed to the risk of contracting and dying from malaria. Thirty-nine per cent of the Hemisphere's land area, containing 36 per cent of the population, was malarious. Within these malarious areas the disease frequently produced high rates of morbidity and mortality, kept the inhabitants impoverished, and depopulated fertile tropical regions or prevented their settlement. In this manner, the disease made it impossible for countries to incorporate vast tropical and subtropical zones into the economic and social development process.

Historical Background

Malaria was considered a Hemisphere-wide problem by the III International Sanitary Conference of 1907, and since then it has figured on the agenda of every Pan American Sanitary Conference. In 1938 the X Pan American Sanitary Conference resolved to establish a Pan American Malaria Commission, together with a program encompassing studies of epidemiology, establishment of norms for chemotherapy and vector control measures, and standardization of malaria

terminology. The membership of the Commission, which was set up in 1940, included prominent malariologists from Argentina, Brazil, El Salvador, Mexico, the United States of America, and Venezuela. The Commission's work provided an extremely useful foundation for development of Hemisphere-wide plans.

Although the malaria control measures known at that time had only limited applicability (in urban and suburban areas, construction sites for public works, and zones of particular economic importance), the Governments gave these measures high priority in their allocations of funds. According to data obtained by the Pan American Malaria Commission, allocations for malaria control in 1943 accounted, on the average, for 12 per cent of the total health budget in the 15 countries studied. The maximum and minimum percentages were 64.7 per cent in Panama and 1.5 per cent in Costa Rica.

The Goal of Eradication

The 1944-1945 experience with intradomiciliary DDT spraying at Castel Volturno and the Tiber Delta in Italy revealed for the first time an effective method for controlling malaria at a cost compatible with large-scale use. This new method, which made it possible to attack the disease in the countryside, was later tested in various countries of the Americas and in other parts of the world with good results. The Rockefeller Foundation, the League of Nations Malaria Commission, and the Pan American Sanitary Bureau all participated in these initial trials.

In view of the technical feasibility of combating the disease on a continental scale, in 1950 the XIII Pan American Sanitary Conference recommended that the operating programs of the Pan American Sanitary Bureau include development of those activities required for the greatest possible intensification and coordination of anti-malaria work in the Hemisphere. In 1954

the XIV Pan American Sanitary Conference declared eradicating malaria from the Western Hemisphere to be a matter of extreme urgency and authorized the Director of the Bureau to seek financial assistance from private, public, national, and international organizations in pursuit of this goal. At the Eighth World Health Assembly, held in Mexico City in 1955, a similar decision was taken on a world scale. In the wake of these actions, PAHO's Directing Council resolved in 1956 "To record the consensus of all countries of the Hemisphere that malaria should be given first priority among public health problems."

By 1961 all the countries of the Americas with malarious areas had initiated eradication programs. The Governments gave high priority to these programs, most of which made satisfactory progress. By the end of 1964, six of the 29 countries or territories with active programs had succeeded in eradicating the disease. Considerable progress, including interruption of transmission over a large portion of the malarious areas, was also made in the other 23 political units. Overall, from 1958 to 1964 inhabitants of the Hemisphere living in consolidation-phase areas³ rose from 1.5 per cent to 20.3 per cent of the total population of the malarious areas.

³For convenience, areas are referred to as being in the attack phase, the consolidation phase, or the maintenance phase. These terms are defined as follows:

1) Attack phase: The phase during which anti-malarial measures applicable on a large scale and aimed at interrupting transmission are applied on a total-coverage basis in an operational area.

2) Consolidation phase: The phase that follows the attack phase; it is characterized by active, intense, and complete surveillance directed at eliminating any remaining infections and at proving that malaria has been eradicated. It ends when the criteria for eradication have been met.

3) Maintenance phase: The phase that begins when the criteria for malaria eradication are met in an operational area. During this phase vigilance is exercised by the public health or malaria service to prevent spread of imported malaria across the borders of the area concerned.

Events of the Past Decade

After 1964, progress was slowed by various factors adversely affecting some programs. Consolidation-phase areas required continued expenditures for surveillance activities, while attack-phase areas needed more funds for supplementary and substitute measures—owing to development of vector resistance to DDT, parasite resistance to chloroquine, increased exposure during the colonization of virgin lands for cultivation, and operational problems. Although the Governments increased their budgets from 22 million dollars in 1961 to 66 million in 1974, even this increase did not offset growing operating costs, especially those resulting from higher insecticide and equipment prices in recent years.

In this regard, a significant negative factor has been the withdrawal of substantial assistance provided by the United States Agency for International Development (AID) and UNICEF. For many years AID gave valuable assistance to the malaria programs; but this assistance was gradually reduced and the Governments have not been able to raise sufficient funds to offset the loss. UNICEF's assistance—in the form of insecticides, vehicles, equipment, and supplies—continued at appreciable levels until 1966, after which it was also reduced considerably; in 1971 UNICEF approved its last allotment of funds for malaria eradication programs in the Americas. The Government of the German Federal Republic contributed supplies of propoxur to Central American countries from 1971 to 1973, but this assistance was suspended in 1974.

PAHO has continued to provide technical assistance, as well as supplies, equipment, and vehicles to the extent possible, ever since the start of the malaria eradication campaign in 1956.

Development of a New Strategy

In view of the technical, administrative, and operational problems hindering world-

wide eradication of malaria within a limited time-frame, the Twentieth and Twenty-First World Health Assemblies (1967 and 1968) instructed the Director-General of WHO to examine the world strategy for malaria eradication. At the Twenty-Second World Health Assembly (1969), the Director-General presented a report on the results of this study. Its recommendations were approved by the Assembly as a strategy for continuing the fight against the disease. This document modified the concept of short-term world-wide eradication without changing the final eradication goal. It proposed that each country review its program and determine its own strategy in the light of local epidemiologic conditions and available resources. Under this strategy, each country should determine the priority to be accorded the program in acquiring and distributing resources, in order to assure fulfillment of the proposed goal.

In 1974 the Twenty-Seventh World Health Assembly, having studied the status of malaria in the world in relation to the strategy recommended by the Twenty-Second Assembly, concluded that malaria control continued to merit high priority and that the forementioned strategy was valid. It also asked the WHO Executive Board to make an exhaustive review of both the program and the existing national and international priorities, and to report its findings to the Twenty-Eighth World Health Assembly.

Two years earlier, in 1972, the III Special Meeting of Ministers of Health of the Americas had set a hemispheric target for the decade: eradication of malaria or the interruption of its transmission in areas containing 90.7 per cent of the population living in the originally malarious areas of the Americas. In 1974 the XIX Pan American Sanitary Conference confirmed this target, recommending at the same time that the Governments and the Director of the Pan American Sanitary Bureau make a careful study of problems impeding progress and

that they reexamine the program's priority in order to determine future strategy. The Governments were also asked to instruct the directors of their National Malaria Eradication Services to propose appropriate measures at their next meeting.

The Relation of Program Conditions to the Priority Required

To assist with this review of malaria programs in terms of priority appropriate to the situation, the programs in the Americas have been arranged in groups on the basis of present epidemiologic conditions and future prospects, as follows:

GROUP I. This group includes 12 countries and territories with 69,259,000 inhabitants (34.5 per cent of the total population of the originally malarious areas). Here malaria has been eradicated and surveillance activities continue. Within these countries and territories, surveillance should receive sufficient priority to assure that they remain free of the disease.

GROUP II. This group includes eight countries and territories with 12,804,000 inhabitants (6.4 per cent of the total). Here the outlook for eradicating malaria in the near future is favorable. Programs in these regions should therefore continue receiving the highest priority, so as to permit elimination of the remaining foci and organization of an adequate surveillance system to prevent resumption of transmission.

GROUP III. This group includes 14 countries and territories with 118,697,000 inhabitants. Most of these political units have part of their territory in either the consolidation or the maintenance phase. In some countries or territories eradication could be achieved within a limited time if the financial support were increased, but in others eradication should be considered as an ongoing objective without a fixed time-frame. For these countries, the priority assigned should be determined in accordance

with the extent of the damage malaria causes (in terms of mortality, morbidity, and economic loss), the technical and operational feasibility of applying adequate attack and surveillance measures, and, above all, the resources available.

In countries where no serious technical problems exist, a high priority should be set in order that the malaria program will have the financial and administrative support needed to gradually reduce the incidence of the disease. In countries where serious technical, operational, and financial problems exist, the program should be given a degree of priority that will make it possible (1) to conserve the progress already achieved in consolidation and maintenance phase areas, (2) to prevent the situation from deteriorating in the rest of the malarious areas, where transmission persists, and (3) to intensify applied research. When resources are limited, economically important zones where malaria problems are impeding development should be given priority.

Assignment of "priority," of course, should not merely signify financial, administrative, and manpower support; it should also signify an ongoing renewal of interest and dedication among the people entrusted with carrying out the task.

The percentage of a country's budget assigned to malaria—in terms of both the total budget and the health budget—is a useful indicator of the priority the Government assigns to the program, but it is not always an accurate gauge of the effectiveness of the activities actually carried out. Nor is a country's level of socioeconomic development uniquely related to the chances for the success of its program.

If the program receives high priority from the Government, there is a greater likelihood that sufficient funds will be made available, either through the regular budget or through international or bilateral agencies. But it should be kept in mind that external aid is not a substitute for national resources;

it is, rather, a complement to a country's efforts or a catalyst helping to promote better program operation. It is hoped that once the countries have assigned and verified a particular priority as corresponding to their particular malaria problems, they will examine the possibilities for obtaining appropriate funding, either locally or from abroad.

Malaria continues to be a very serious problem in some rural areas of the Americas. As previously noted, the Governments of the Americas have attached high priority to

control of this disease since the beginning of this century, and in 1954 announced their decision to eradicate malaria from the Hemisphere, assigning the malaria program first priority among all public health programs. Since then their interest has been demonstrated through extensive financial support, which increased in dollar terms from US\$ 22 million in 1961 to \$66 million in 1974. In view of the current situation, it is hoped that the Governments will continue to intensify their efforts to eradicate malaria from the Americas.

SUMMARY

The planning of health activities begins with the setting of priorities—that is to say, the selection and arrangement of the problems to be attacked in an order consistent with their gravity and the possibilities that exist for the adoption of effective measures for their solution. The assignment of priorities not only implies financial, administrative, and manpower support, but also involves the continuing renewal of health workers' interest in fulfilling the tasks that have been entrusted to them. According to the extent and severity of the problem, priorities may have to be envisaged on a world, continental, regional, or local scale.

Ever since the beginning of the present century the Governments of the Americas have accorded high priority to malaria control and, since 1954, to its eradication. In recent years malaria programs in the Americas have been classified into three groups according to their epidemiologic status and prospects for the future. As of 1974, Group I included the 12 political units (countries or territories) in which malaria had been eradicated. These units should give suitable priority to activities for ensuring that they remain free of

the disease. Group II was composed of eight units whose prospects of achieving eradication within a short period were good. Here the highest priority should go to efforts designed to eliminate residual foci and to complete the last steps toward ultimate eradication. Group III contained 14 units, the majority of which had part of their territories in the consolidation or maintenance phase. In some of these Group III units malaria eradication could be achieved within a short period if additional funds are found; in others the situation is quite different and eradication cannot be expected in a foreseeable time. The latter units should therefore give high priority to activities that will conserve the gains already made (in those areas which are in the consolidation and maintenance phases) and that will gradually reduce the incidence of malaria in areas that are still in the attack phase.

In general, when a malaria program is given high priority by the Government concerned, adequate funds for the campaign can be obtained more readily, either through the regular budget or from international and bilateral agencies.