Global Malaria Control Strategy

INTRODUCTION

Malaria has plagued humankind for thousands of years. Although it is now regarded as a tropical disease, malaria was endemic in parts of the United States of America and Europe until as recently as the middle of this century, and localized control activities are still carried out in some Mediterranean countries. But it is in the poorer, developing countries that malaria continues to have an enormous impact. Every year, more than a million people die from this disease and almost 100 million fall ill. Forty percent of the world’s population—some 2.2 billion persons in over 90 different countries—live in areas threatened by malaria. Sub-Saharan Africa is estimated to be particularly hard hit, accounting for 80% of the cases.

Malaria affects people of all ages, but is particularly dangerous to children and pregnant women, in whom it causes anemia and increases vulnerability to other diseases. By debilitating large numbers of the economically active population, malaria also causes costly losses of productivity.

Despite several decades of malaria control activities in some parts of the world (notably Asia and the Americas), progress against the disease is at a standstill, and in some areas the situation is worsening. Although the risk of malaria is relatively low for most of the population in the Americas, the problem is serious in frontier development areas and in countries affected by social and political conflict. Environmental disturbances, population movements, and gaps in the health care infrastructure have been responsible for exacerbating malaria in places where the disease was previously under some measure of control. For example, two-thirds of the cases in the Americas occur in the Amazon basin, where colonization, mining, and agriculture have disrupted the forest environment and brought substantial numbers of people into contact with burgeoning populations of vector mosquitoes.

In 1989 the Executive Board of the World Health Organization and the 42nd World Health Assembly reaffirmed the importance of intensifying the fight against malaria. In order to prepare an updated global strategy to combat the disease, WHO convened three interregional meetings, held in Brazzaville, Congo (October 1991), New Delhi, India (February 1992), and Brasilia, Brazil (April 1992). At these meetings, malaria control personnel from 82 malarious countries, as well as representatives of international development agencies and research institutions, assessed the successes and weaknesses of current antimalarial activities and pro-

Sources: World Health Organization; "Global Malaria Control Strategy" (Document CTD/MCM/92.3), and "Malaria: Disease of Poverty and Underdevelopment" (Press release); Ministerial Conference on Malaria, Amsterdam, 26–27 October 1992.
posed new solutions. The strategy they developed was then presented to and adopted by the Ministerial Conference on Malaria, which was held on 26-27 October 1992 in Amsterdam. In addition to the global strategy, the Conference also adopted a World Declaration on the Control of Malaria, which exhorted governments and donor agencies to unite their initiatives and resources to combat this disease.

GLOBAL STRATEGY

In endemic countries, the goal of malaria control is to prevent malaria mortality and reduce the morbidity and socioeconomic losses caused by the disease. (Eradication is not a realistic goal in the great majority of countries.) In malaria-free areas, the goal is to maintain that status.

Since the malaria situation varies throughout the world, no single control plan can be prescribed for all countries. Each country's circumstances will influence how programs are organized; local problems and priorities must be identified and appropriate interventions designed and implemented. Nevertheless, the global control strategy contains four essential components, wherever it is applied: (1) disease management through early diagnosis and prompt treatment; (2) planning and application of selective and sustainable preventive measures; (3) early detection or prevention of epidemics, and their containment; and (4) regular reassessment of the malaria situation, including the ecologic, economic, and social factors that permit the disease to persist.

Disease Management

Early diagnosis and prompt treatment are fundamental to malaria control. They necessitate the development of practical guidelines for the management of febrile patients at different levels of the health care system. In addition, the ability to diagnose malaria at the first referral level is critical.

National antimalarial drug policies are needed by all countries, and governments must assure the quality, availability, and affordability of the drugs used for treatment. The increasing drug resistance of malaria parasites is a matter of great concern. Treatment failures must be monitored and investigated to determine the extent of drug resistance.

Preventive Measures

Attention must be given to avoiding infection through personal protection against mosquito bites. Chemoprophylaxis is no longer recommended for young children or large segments of the population, but remains desirable for short-term use among special groups, such as pregnant women and nonimmune migrant workers in infected areas. Chemoprophylaxis should always be combined with personal protection, such as repellents, protective clothing, and bednets. Prevention of malaria by immunization may become possible someday, but vaccines are still at an early stage of development.

Vector control, mainly by means of house-spraying with residual insecticides, has been used extensively in the Americas since the 1950s. Proper use of these chemicals is costly, and they are no longer effective in some areas. Before embarking on (or continuing with) large-scale vector control programs, the epidemiologic situation, availability of resources, and sustainability of the operations must be analyzed.

Malarious areas need to be carefully delineated. An appropriate epidemiologic information system is essential for assessment and analysis of local malaria
problems, before any control activity is begun. In some countries, the extent and cost of spraying operations has been reduced without an increase in malaria infection by a gradual shift to well-targeted spraying of priority areas identified through effective information systems.

Environmental management to reduce or eliminate mosquito breeding sites should be applied by communities for their collective protection against vectors and should be incorporated into development projects and activities. The latter action requires intersectoral collaboration between health, development, agriculture, water, and other relevant sectors.

Detection and Containment of Epidemics

There is an urgent need to strengthen the capacity for early detection of epidemics and to speed up communication between the peripheral health services and the staff of centralized malaria control programs. Local health services can help identify areas prone to epidemics and can monitor indicators or risk factors of epidemic conditions in order to build up community preparedness and encourage prevention. Emergency relief organizations should include malaria in their planning so that they can work with the regular health services to deal with epidemics occasioned by natural disasters or other situations resulting in population movements.

While the need for epidemiologic information systems is widely recognized, their effectiveness has been hampered by time lags and communication problems. Such systems should be decentralized.

Reassessment

All malaria control programs require the capability for operational research so that program activities can be adjusted to changing biologic and epidemiologic factors. No campaign against malaria can be static. Flexibility and the capacity to evolve in keeping with the results of basic and applied research are indispensable characteristics of any effective antimalarial strategy. Moreover, appropriate response to changing situations will ensure optimal use of the limited resources available to many countries.

Training

Training is fundamental to all elements of the control strategy. In most countries with endemic malaria, there is a shortage of persons knowledgeable about its epidemiology and the planning and managing of its control. Personnel in the peripheral health services may lack the needed skills for diagnosis and correct treatment. They also need training in the analysis of epidemiologic data. National control staff often require training in research methodology and analysis. Thus, an important element of the global strategy is to build up malaria training capacity. Strong, high-level financial commitment is needed to underpin training and ensure that it is sustained.

Training should take place at levels and under conditions that simulate actual working conditions as closely as possible, and curriculum content should reflect the tasks required of malaria control workers. Both in-service and pre-service training should be available.

STRATEGY IMPLEMENTATION

In order to succeed, the Global Malaria Control Strategy needs to be translated into effective national malaria control plans and programs. Both the general health services and existing specialized malaria control services have essential roles to play. While responsibility for diagnosis and treatment of malaria should be trans-
ferred progressively to the general health services, the vector control expertise of the specialized malaria services remains critically important. Careful analysis of epidemiologic data obtained largely through the general health services will allow a flexible response to local problems by the specialized services.

Governments need to make a political commitment to malaria control. This may include establishment of a sound legislative foundation for malaria prevention and control. Often, the social, economic, and environmental problems posed by malaria exceed the jurisdiction and capabilities of the ministries of health and require collaboration with nonhealth sectors. The potential of development projects to engender malaria or other diseases should be assessed, and national intersectoral coordinating groups may need to be instituted.

In order to strengthen national and local institutions so that they can effectively control malaria, collaboration should extend from the individual and the community to the national and international institutions that guide policies and help provide resources. It is the responsibility of governments to mobilize all possible resources, including those from private and nongovernmental organizations. While some countries will be able to provide crucial resources themselves, external assistance, both financial and technical, is required in many cases.

Bilateral and multilateral international support must be adapted to the countries’ priority needs and should be directed at policies and programs to reduce the risk of malaria or to prevent it. Support will also be needed for collective initiatives at local, national, and regional levels to promote training, share experience and knowledge, and increase collaboration between countries. For their part, PAHO and WHO will continue to assist countries in strengthening their health services and developing or reorienting national malaria control programs, and in training the personnel required to carry them out.

In summary, effective implementation of the Global Malaria Control Strategy depends upon (1) sustained political commitment from all levels and sectors of government; (2) integration of malaria control into health systems, and coordination with relevant nonhealth sectors; (3) full partnership of communities in malaria control activities; and (4) mobilization of adequate human and financial resources, both nationally and internationally.

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