A global strategy for malaria control

World Health Organization
Geneva

A global strategy for malaria control

World Health Organization
Geneva
1993

WHO Library Cataloguing in Publication Data
A Global strategy for malaria control.
1.Malaria – prevention & control
ISBN 92 4 156161 0 (NLM Classification: WC 765)

Designed by WHO Graphics
Printed in Switzerland
93/9752 – Gloor – 6500

The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this organization, which was created in 1948, the health professions of some 185 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

By means of direct technical cooperation with its Member States, and by stimulating such cooperation among them, WHO promotes the development of comprehensive health services, the prevention and control of diseases, the improvement of environmental conditions, the development of human resources for health, the coordination and development of biomedical and health services research, and the planning and implementation of health programmes.

These broad fields of endeavour encompass a wide variety of activities, such as developing systems of primary health care that reach the whole population of Member countries; promoting the health of mothers and children; combating malnutrition; controlling malaria and other communicable diseases including tuberculosis and leprosy; coordinating the global strategy for the prevention and control of AIDS; having achieved the eradication of smallpox, promoting mass immunization against a number of other preventable diseases; improving mental health; providing safe water supplies; and training health personnel of all categories.

Progress towards better health throughout the world also demands international cooperation in such matters as establishing international standards for biological substances, pesticides, and pharmaceuticals; formulating environmental health criteria; recommending international nonproprietary names for drugs; administering the International Health Regulations; revising the International Statistical Classification of Diseases and Related Health Problems; and collecting and disseminating health statistical information.

Reflecting the concerns and priorities of the Organization and its Member States, WHO publications provide authoritative information and guidance aimed at promoting and protecting health and preventing and controlling disease.

Preface

During the late 1980s, it was noted at several international meetings that the malaria situation in some parts of the world was seriously worsening. In tropical Africa, which had never been involved in the global malaria eradication campaign from 1955 to 1969, the disease continued to be the cause of an estimated one million childhood deaths per year; the mainstay of control, early chloroquine treatment of fever attacks, was in jeopardy because of increasing drug resistance; and in highland and desert-fringe areas, epidemics were killing thousands of people in all age groups. At the same time, the complex problems of multi-drug-resistant falciparum malaria in frontier areas of development in South-East Asia and South America clearly warranted concerted intervention supported by field research. It was felt that most of the countries affected needed far more technical and financial support for combating malaria than they had been receiving since 1969.

In consequence, it was proposed at a meeting of WHO's Executive Board in 1990 that a Ministerial Conference on Malaria should be held to mobilize affected countries and the international community to intensify disease control efforts. WHO received financial and organizational support for the proposed conference from a large number of Member States, agencies and organizations.

In preparation for the conference a number of international consultations took place, the most important being interregional conferences in Brazzaville in 1991 and in New Delhi and Brasília in 1992. At these conferences, with a total of nearly 400 participants, health officers responsible for national malaria programmes and representatives of donor agencies, research institutions and the United Nations and its specialized agencies discussed all aspects of malaria control. The main result was the synthesis of consensus opinions on current standards for malaria control and the formulation of a Global Malaria Control Strategy. This Strategy was presented at the Ministerial Conference,

which took place in Amsterdam from 26 to 27 October 1992 under the presidency of Professor Pascal Lissouba, President of the Republic of the Congo, with the participation of ministers of health and other health leaders from 102 countries, as well as representatives of the United Nations and related organizations, other intergovernmental organizations and the scientific community.

The Global Strategy received the support of the Ministerial Conference, which recommended minor changes to its text; it is presented here as amended and endorsed by the Conference. The Ministerial Conference went on to adopt the World Declaration on the Control of Malaria (see Annex). In so doing, participants expressed the strongest possible commitment to work together in implementing the Global Strategy, to alleviate the intolerable burden of malaria wherever it occurs. The World Declaration was further endorsed in May 1993 by the Forty-sixth World Health Assembly, which requested the Director-General of WHO "to ensure...the necessary technical support...to Member States for the preparation or reorientation of malaria control programmes according to the Global Malaria Control Strategy and for their implementation in the context of primary health care".

The Global Strategy calls for rational use of existing and future tools to control malaria. It recognizes that malaria problems vary enormously from epidemiological, ecological, social and operational viewpoints, and that sustainable, cost-effective control must therefore be based on local analysis. Based on decades of lessons from practice, the Strategy is firmly rooted in the primary health care approach, and calls for the strengthening of local and national capabilities for disease control, for community partnership and the decentralization of decision-making, for the integration of malaria control activities with related disease programmes, and for the involvement of other sectors, especially those concerned with education, agriculture, social development and the environment. It emphasizes the vital importance of continuing malaria research, locally and internationally, and of international teamwork in both control and research.

This publication should be of interest far beyond the circles of malaria specialists. Its most important role may be as a reference for general health planners in countries affected by malaria and those responsible for other disease control programmes. It should be used as a basic guide to malaria control by those responsible for health in international, bilateral and nongovernmental agencies and organizations and also remind them of the commitment they made in Amsterdam in 1992. Finally, it should be used to mobilize governments and all sectors whose work relates to health to work together for malaria control.

Executive summary

The time has come for a renewed attack on malaria. Every year, malaria causes clinical illness, often very severe, in 300–500 million people[1] and over a million people die from it. It threatens 2200 million persons, about 40% of the world's population, undermining the health and welfare of families, endangering the survival of children, debilitating the active population and straining both countries' and people's scarce resources.

Yet malaria is a curable disease, not an inevitable burden. The vastly expanded knowledge of the disease and its control acquired over the years provides a basis for launching a new global initiative for malaria control. Malaria can be curbed with present tools by local health systems, as some countries have shown.

In most endemic countries, the goal of malaria control will be to prevent malaria mortality and to reduce morbidity and the socioeconomic losses provoked by the disease. The goal in malaria-free areas will be to maintain that freedom.

Success in achieving these goals depends on political support from the highest level. It also depends on a change in emphasis from highly prescriptive, centralized control programmes to flexible, cost-effective and sustainable programmes adapted to local conditions and responding to local needs. This requires the progressive creation of national and local capacities for assessing malaria situations and selecting appropriate control measures that are aimed at reducing or preventing the disease problem in the community rather than being concentrated on reducing parasite rates in the population, as was too often the case in the past.

In some countries, the development of disease-oriented malaria control programmes has started, but in others too little is being done,

[1] These figures are based on estimates prepared in 1993 (after the Ministerial Conference on Malaria).

or malaria control programmes persist with inefficient practices based on eradication principles. In the great majority of countries, eradication is not a realistic goal.

Malaria control is not the isolated concern of the health worker. It is everybody's business, and everyone should contribute. It requires the partnership of community members and the involvement of those engaged in education, the environment in general, and water supply, sanitation and community development in particular. Malaria control must be an integral part of national health development and health concerns must be an integral part of national development programmes in general.

Community-based action for malaria control must be sustained and supported by intersectoral collaboration at district, national and international levels, by monitoring, training and evaluation, and by operational and basic research. Local situation appraisal and action need global support. The time has come for governments and the international community to make a commitment to control the disease by developing personnel, by investing the necessary resources and by reorienting programmes where necessary, and to tackle the problem in a cost-effective and sustainable way. Once this strategy is implemented, better and more efficient use of resources will over time achieve the ultimate objective of malaria control: the prevention of death and reduction of suffering from malarial disease.

The objectives of the Global Malaria Control Strategy are to prevent mortality and to reduce morbidity and social and economic loss due to disease through the progressive improvement and strengthening of local and national capabilities. The four basic technical elements of the Strategy are:

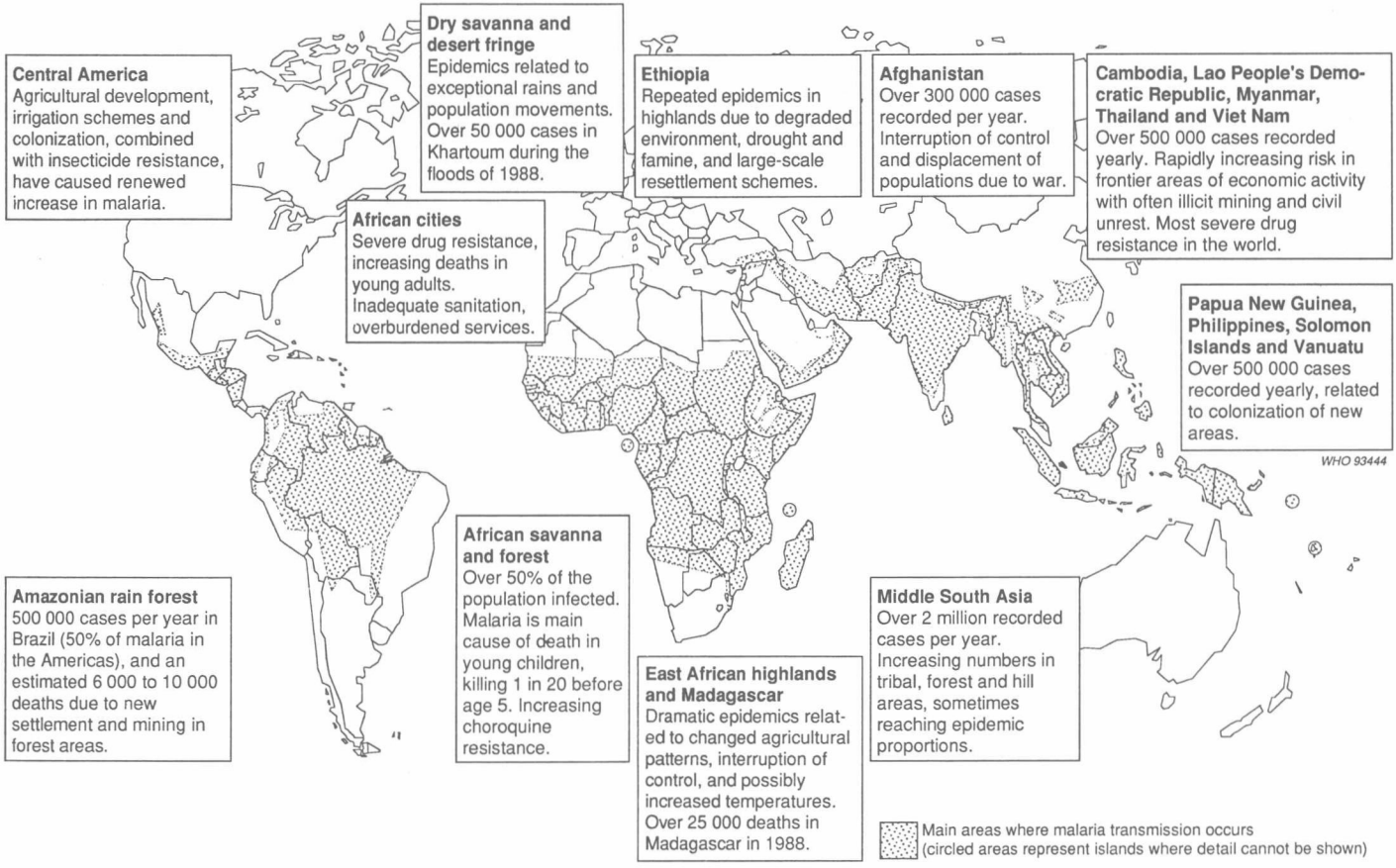
- to provide early diagnosis and prompt treatment;
- to plan and implement selective and sustainable preventive measures, including vector control;
- to detect early, contain or prevent epidemics; and
- to strengthen local capacities in basic and applied research to permit and promote the regular assessment of a country's malaria situation, in particular the ecological, social and economic determinants of the disease.

The Strategy does not propose a single solution but gives broad lines of approach to achieving a common aim. The approaches are to be adapted by the countries concerned according to the structures of their

health systems and existing control operations, their resources and a realistic assessment of control needs and risk factors.

Affected countries will need the technical and financial support of the international community. The Strategy outlines the roles of governments and international institutions in a partnership for the coordination and technical cooperation necessary to ensure continuity of action and unity of purpose. WHO is ready to join in that partnership, which serves the health, social and economic interests of malarious and malaria-free countries alike.

Figure 1. Malaria distribution and problem areas



Contents

1

The present malaria situation

Globally, the malaria situation is serious and getting worse (Fig. 1). The countries of the world affected by malaria today can be classified with respect to malaria control priorities into two major categories: those that were not included in the efforts of the global malaria eradication programme to end the transmission of infection (Category I), and those that were and in which large-scale programmes of house-spraying with insecticides have been in operation since the 1950s or 1960s (Category II).

Most countries in Category I are in Africa south of the Sahara. In these countries, about 550 million people are at risk from malaria, with an annual total of 250–450 million clinical cases of disease[1] and over a million deaths. These figures account for over 80% of the cases of malarial disease in the world. Some of the most severe malaria epidemics in recent years have taken place in highland areas in Africa, the most serious being the epidemic that claimed about 25 000 lives in Madagascar in 1988.

In Africa, malaria is responsible for about 10% of hospital admissions and 20–30% of outpatient consultations. Children are particularly at risk of disease, malaria being one of the major childhood killers in rural tropical Africa, taking the life of one out of 20 children before the age of five years. The disease causes anaemia in children and pregnant women and increases vulnerability to other diseases. Malaria is also a major cause of school absenteeism. In young adults in Africa, malaria is still one of the most common diseases, and it tends to strike at the time of year when agricultural work is at its height. In 1987, the estimated annual direct and indirect cost of malaria in Africa was US$ 800 million and this figure is expected to rise to more than US$ 1800 million by 1995.

[1] These figures are based on estimates prepared in 1993 (after the Ministerial Conference on Malaria).

The countries in which eradication was attempted in the past 20–35 years are mainly in Asia and the Americas. The total number of cases recorded from these areas is now approximately five million per year. It is estimated, however, that the real number is nearly four times as high. About 80% of these cases are found in Asia, where – except in China – the situation is worsening, particularly in the Indochinese peninsula, which is affected by extremely severe problems of parasite resistance to drugs. No progress in malaria control has been observed in the endemic countries of the Indian subcontinent during the past few years. It is estimated that malaria claims more than 100 000 lives per year outside Africa; these deaths occur in all age groups.

Although most of the populations in Asia and the Americas now live in areas where the risk of malaria is relatively low, there is a serious problem in frontier areas of economic development and in countries affected by social disruption. In these areas, environmental disturbances, movements of underprivileged populations and the absence of health care infrastructure have been responsible for malaria problems in parts of the world where the disease was otherwise under a measure of control. Thus, two-thirds of the cases of malaria in the Americas occur in the Amazon basin as a result of colonization and mining of the forest environment. In Asia, control efforts have been thwarted by war in countries such as Afghanistan and Cambodia.

2

The Global Malaria Control Strategy

Since malaria varies throughout the world, no single prescription can be made for the control of malaria in all countries. On the contrary, each country's circumstances will influence the organization of practicable programmes to identify local problems and priorities and to design and implement appropriate interventions. The key is competent local action.

The goal of malaria control is to prevent mortality and reduce morbidity and social and economic losses, through the progressive improvement and strengthening of local and national capabilities.

The four basic technical elements of the Strategy are:

- to provide early diagnosis and prompt treatment;
- to plan and implement selective and sustainable preventive measures, including vector control;
- to detect early, contain or prevent epidemics; and
- to strengthen local capacities in basic and applied research to permit and promote the regular assessment of a country's malaria situation, in particular the ecological, social and economic determinants of the disease.

Effective implementation of the Global Strategy requires:

- sustained political commitment from all levels and sectors of government;
- malaria control to be an integral part of health systems, and be coordinated with relevant development programmes in non-health sectors;
- communities to be full partners in malaria control activities; and
- the mobilization of adequate human and financial resources.

Given the paucity of resources in Category I countries, the priority in these areas should now be to focus on the good management of

Table 1. Priorities for strengthening malaria control programmes

Structural component	Category I countries	Category II countries
Funding	Substantial increase needed, but within overall health planning.	Modest investments can lead to better cost-effectiveness and long-term savings.
Collaboration with general health services	Implementation of malaria control mainly through general health services. Disease management may need to be extended beyond coverage of existing formal health services.	Programme capabilities should be used to strengthen general health services, to enable them to take full responsibility for disease management.
Epidemiological information system	Must be strengthened, initially by use of hospital and sentinel data. Local analysis of data by general health services needed.	Must be based on general health services data. Must be used dynamically for targeting intervention.
Special services for vector control	May need to be established in some countries with risk of epidemics. Special technical, managerial and logistic support needed if impregnated nets are to be used.	Need to be trimmed and better managed. Improved targeting of activities needed. In some areas, impregnated nets should be adopted instead of house-spraying.
Intersectoral collaboration	Requires technical strengthening of control programmes, involvement of relevant sectors in planning, increased awareness in different sectors and high-level political commitment.	
Staff	More required. Training needed in epidemiology, management and operational research.	Increase needed in ratio of qualified professional to intermediate-level and unskilled staff.

malarial disease as the foundation for developing malaria control programmes through the general health services.

In Category II countries, disease prevention activities, which include vector control, need better targeting to provide effective and sustainable protection for the population. Most of these programmes are in urgent need of reorientation and restructuring; disease management must receive renewed emphasis and become an integral part of the work of the general health services.

In both categories of countries, a number of situations of special risk occur, sometimes threatening specific population groups, sometimes leading to epidemics. These demand particular attention.

An outline of the main points to be considered for strengthening malaria control programmes is given in Table 1.

3

Malaria control activities

Disease management

Early diagnosis and prompt treatment – disease management – are fundamental to malaria control. They are a basic right of the affected populations and need to be available wherever malaria occurs. Populations at special risk of malaria must be identified and specifically defined so that diagnosis and treatment facilities can be focused and prompt management of disease ensured. Children and pregnant women, on whom malaria has its greatest impact in most parts of the world, are especially important.

National antimalarial drug policies are needed by all countries. These policies should take into consideration: epidemiological factors that affect the aims of therapy, such as the geographical distribution of the parasite and its degree of resistance to the drugs; the characteristics of the health services, including the private sector; the levels of the health service at which treatment with different drugs will be offered; and the risks and benefits of different drug regimens, compliance with them and their cost.

No universal formula for the management of malarial disease can be offered that could be applied in all countries of the world. As a general principle, health ministries should aim at a policy of diagnosis and treatment that minimizes mortality, morbidity and the development of drug resistance, while keeping within the limits imposed by their budgetary and staffing constraints.

Health ministries should also ensure that all health care providers, whether public or private, are fully cognizant of ministry policies and their rationale. When variations in ministry policies are introduced, they should be consistent with that rationale.

The difficulty of diagnosing malaria with certainty if blood slides cannot be promptly examined by a skilled microscopist makes it necessary to develop practical guidelines for the management of