



# STRATEGY TO ROLL BACK MALARIA

IN THE WHO EUROPEAN REGION



Department  
of Infectious  
Diseases

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**World Health Organization  
Regional Office for Europe**

Department of Infectious Diseases  
Emerging Diseases – Roll Back Malaria

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## EUROPEAN HEALTH21 TARGET 7 REDUCING COMMUNICABLE DISEASES

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By the year 2020, the adverse health effects of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance

(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)

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Malaria is one of the world's major health problems and the leading health issue in Sub-Saharan Africa. Malaria has also been targeted for priority action by some countries in the European Region as a priority owing to re-emergence of the disease.

Renewed interest is being shown by the international community in malaria prevention and control. Indeed, many countries are receiving increased interest and support from various donors. The higher priority accorded to malaria control and prevention by the new Director-General of the World Health Organization (WHO) has led to establishment of a new project, Roll Back Malaria. A key feature of the project is that its action is intersectoral, interagency, multidisciplinary and multinational, based on needs in the field and driven by country demands.

The purpose of this document is to describe the malaria situation in the European Region and to present the views of the WHO Regional Office for Europe on the strategy to be adopted to roll back malaria there.

## The malaria situation in the WHO European Region

The campaign launched in the late 1950s eradicated malaria in all countries of the European Region of WHO, except for the Asian part of Turkey and residual foci in Azerbaijan and Tajikistan. By the 1980s, malaria was very nearly a forgotten disease in the Region, but in recent years it has experienced a dramatic resurgence owing to political and economic instability, massive population movements and the impact of large-scale irrigation projects.

In 1993, some 30 years after the eradication of malaria in the former USSR, some 1000 cases of malaria were registered in the Russian Federation and in the newly independent states (NIS). Epidemiological surveillance revealed that the 318 cases in Belarus, Kazakhstan, the Russian Federation and Ukraine were all imported, while the 672 cases detected in Azerbaijan, Tajikistan, Turkmenistan and Uzbekistan, were indigenous.

Since 1993, the epidemiological situation relating to malaria has deteriorated considerably: currently, large-scale malaria epidemics are in progress in Azerbaijan, Tajikistan and Turkey, while Armenia is experiencing a small epidemic and an outbreak has occurred recently in Turkmenistan. The number of registered cases peaked in 1997, when 77 985 indigenous cases were officially reported in the Region. These were caused almost exclusively by *Plasmodium vivax*, *P. falciparum* being restricted to a rather limited number of cases in Tajikistan.

Another important problem in the European Region is the importation of malaria associated with a high fatality rate from tropical endemic countries.

### ARMENIA

In Armenia, imported malaria led to an epidemic occurring in foci in a number of areas bordering Turkey. In 1994, after 30 malaria-free years, 196 imported cases of malaria, caused by *P. vivax*, were recorded in Armenia. Of these 196 cases, 91% were imported by military personnel stationed along the border with Azerbaijan. The first locally acquired case occurred in Masis district. In 1995, 502 imported cases were recorded, among both military personnel and civilians. In 1996, the epidemiological situation changed dramatically, 347 cases being recorded in 17 regions, among them 149 indigenous cases. In 1997, there were 841 cases of malaria, 567

of which were locally transmitted. Although 30 out of 81 districts recorded malaria cases, 89% of the indigenous cases were registered in Masis district, in the Ararat valley bordering Turkey. In 1998, although the total number of cases increased to 1156, the epidemic was successfully contained in districts where malaria control activities had been implemented with WHO assistance. Of the 542 indigenous cases registered, 376 were in Masis district.

#### AZERBAIJAN

Malaria was practically eradicated from Azerbaijan in the 1960s.

In 1967, no more than three indigenous cases were recorded compared to some 600 000 cases in 1934. Relaxation of surveillance activities led to two malaria epidemics, one in 1969-1973 and the other in 1979-1983. These epidemics were brought under control as a result of a rapid and targeted response from an effective health system. However, they illustrate what can happen in an area where malaria was once highly endemic and the potential for development of the disease has been greatly enhanced over a 60-year period by a rapidly expanding network of irrigation and drainage systems.

Rapid deterioration of the malaria situation set in after 1990, when 22 cases were reported. The number increased to 667 in 1994, 2840 in 1995 and reached 13 135 in 1996. The main reason for the deterioration was a sharp worsening of socioeconomic conditions and the displacement of nearly one million people from war-stricken zones. With international assistance, the Ministry of Health of Azerbaijan resumed limited malaria control activities: in 1997, 9911 cases were officially reported and 5175 cases in 1998. Malaria transmission occurs from June to October and covers two thirds of the territory of Azerbaijan. Approximately half the malaria cases are reported from seven districts: Nachishivan (10.4%), Imishli (14.6%), Fizuli (8.1%), Sabirabad (6.8%), Saatly (6%), Bejlagan (5.6%) and Bilasuvar (4.8%). Local transmission is also reported from the periurban areas of Baku, where many displaced people are living in temporary shelters.

The malaria situation in Azerbaijan is closely linked to economic and sociopolitical circumstances. The presence of one million internally displaced people living in 17 refugee camps since 1993, and the high

mobility of the population living in the southern part of the country, are additional risk factors. It is estimated that 40% of Azerbaijanis migrate during the agricultural season. On the other hand, the decline in agricultural activity and the resultant failure to maintain irrigation and drainage systems are producing favourable conditions for the reproduction of malaria vectors.

#### TAJIKISTAN

Malaria was brought under control in Tajikistan in the 1960s,

although in the territories bordering Afghanistan (Shurabad, Kulab, Moskovskiy, Pyanj and, to some extent, Dangara) a low but persistent level of transmission continued. In 1990, 175 cases were reported from this area. However, malaria once more became endemic in the country in the wake of the civil war that broke out in 1992 which brought about the displacement of a large number of people, led to economic collapse and undermined health and social services. In addition, disruption of food supplies or lack of food forced people to recultivate wetlands and fields in river valleys, which recreated favourable conditions for the development of malaria vectors. At the beginning of the war, some 100 000 people fled to Afghanistan, but once the worst of the fighting subsided in 1993 most refugees returned to Tajikistan, carrying malaria parasites with them. Since 1993, there has been an explosive rise in the number of malaria cases. Most are caused by *P. vivax* but there has recently been an increase in cases caused by *P. falciparum* (16% of cases). In 1997, a total of 30 054 malaria cases were officially registered in Tajikistan, of which 85.3% occurred in the Khatlon region (65.7% in Kurgan-Tjube and 19.6% in the Kuliab group of districts), 10.5% in Dushanbe region, 3.5% in Gorno-Badakhshan region and 0.7% in Leninabad region. Four districts of Kurgan-Tjube Zone (Bokhtar, Vakhsh, Sarband and Pyanj) are the parts of the country most affected. This is the only area of the WHO European Region where transmission of *P. falciparum* occurs. The complex of foci located in the south-western part of Tajikistan and the settled areas in northern Afghanistan forms a single epidemiological unit in which military action along the border makes effective malaria control very difficult. Following implementation of malaria control activities with WHO assistance, the number of malaria cases officially registered in

1998 dropped to 19 361 (187 were cases of *falciparum* malaria).

## TURKMENISTAN

Some parts of Turkmenistan were prone to malaria epidemics before eradication in the 1930s to 1940s. Endemic malaria was finally eradicated in 1960. In the period 1965-1980, 23 indigenous malaria cases were registered in Turkmenistan, in the Mary and Ashgabat regions. In the 1980s, the majority of imported cases occurred among military personnel returning from Afghanistan. Despite the large number of cases imported from Afghanistan, no more than 24 indigenous cases were registered, confined to 10 villages in the Mary region (Kushka, Takhta Bazar and Bayram Ali districts). The number of imported malaria cases declined during the 1990s; although a few indigenous malaria cases continued to be registered, they initiated no outbreaks.

The potential for development of malaria used to be much lower in Turkmenistan than in other central Asian republics, but the situation has changed with the construction of the Karakum canal which now crosses the whole country from east to west. As a result, the most vulnerable and receptive areas are the Murghab valley and oasis, followed by the Tejen oasis and the foothills of Kopet Dag.

Although some undiagnosed indigenous cases probably occurred in 1997, it was in 1998 that a dramatic change occurred in the malaria situation in Turkmenistan, when 115 indigenous cases were registered and a number of other cases may not have been properly diagnosed or reported. The majority of cases (104) were registered in the Kushka district, in the south-east of Turkmenistan, among military service personnel. Unfortunately, due to lack of drugs, patients received no radical treatment. A proportion of malaria cases is therefore likely to relapse and serve as new sources of infection.

## TURKEY

Malaria control both before and during the WHO global malaria eradication effort sharply cut the incidence of malaria in Turkey. By 1971, *P. falciparum* had been eradicated and no more than 2046 cases of *P. vivax* were re-

corded, most of which were found in a small area in south-eastern Anatolia. From the late 1960s, however, vigorous expansion of irrigation in the Adana-Çukurova plain allowed the main vector, *Anopheles sacharovi*, to proliferate. Extensive agricultural development also attracted a steady flow of migrant labour from the malarial areas of south-eastern Anatolia. Inevitably, malaria transmission quickly increased and, by 1977, over 100 000 cases of *P. vivax* malaria were reported from Adana and the adjacent provinces of Hatay and Içel (88.1% of all cases). Concentrated efforts entailing considerable cost succeeded in reducing the number of cases countrywide to 15 000 by 1989. This could not be sustained, however, and the malaria situation deteriorated once more, the vast majority of cases being reported from south-eastern Anatolia.

One of the largest development projects in the Middle East is under way in this area. The Guneysdogu Anadolu Projesi (GAP) involves the construction of 13 dams, 19 hydroelectric power plants and an irrigation network of 1.7 million hectares of land. This irrigation project and social changes in the region have contributed to the increased risk of malaria now facing Turkey. While in 1990 only 8886 cases were reported from the entire country, the number of cases in 1991 was 12 218; in 1992 it increased to 18 676, in 1993 to 47 210, and in 1994 to 84 345. In recent years, the Government of Turkey has renewed its efforts to fight malaria, incorporating them into GAP with support from the United Nations Development Programme (UNDP) and WHO. In 1998, 36 461 cases were reported, 87.1% from south-eastern Anatolia, 8.7% from the Adana area and 4.2% from other areas of Turkey.

## INFLUENCE OF MALARIA EPIDEMICS ON NEIGHBOURING COUNTRIES

The epidemics in Armenia, Azerbaijan, Tajikistan and Turkey are having a considerable impact on the malaria situation in neighbouring countries of the European Region. The number of cases imported to such countries has increased significantly over the last few years. Cases have been imported from Turkey mainly to western Europe; from Azerbaijan to the Russian Federation, Georgia and the Republic of Moldova; and from Tajikistan to the central Asian republics and to the Russian Federation.

The flood of refugees from Tajikistan and the return home of peacekeeping troops from the border areas between Tajikistan and Afghanistan have been accompanied by a sharp increase in the number of malaria cases imported into Kazakhstan, Kyrgyzstan and Uzbekistan. In 1991, these four countries reported only 31 imported cases; in 1996 the number reached 178 and is continuously increasing.

These countries are finding it harder to maintain the malaria-free status they achieved after huge effort. Indigenous cases of malaria which originated from imported cases have been reported in Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation and Uzbekistan.

It is evident that the malaria situation in the European Region is strongly influenced by the epidemiological situation in neighbouring WHO regions and vice versa. In particular, in the Eastern Mediterranean Region, the uncontrolled epidemic of malaria in Afghanistan is having a considerable impact on the malaria situation in bordering countries. This requires greater cooperation among the WHO regions and consideration of malaria problems from a wider perspective.

#### IMPORTED MALARIA IN WESTERN EUROPEAN COUNTRIES

The constant increase in international travel and population movement has led to the massive importation of communicable diseases into countries where they had all but disappeared. The chances of plasmodia being imported into malaria-free areas are increasing, coinciding with the resurgence of malaria in many tropical areas. This problem has worsened since 1970. Data confirm this trend: 1010 cases were imported into the countries of the European Union in 1971; 2882 in 1981; about 9200 in 1991, and 12 328 in 1997.

In addition to imported malaria, several cases of so-called "airport malaria", "luggage malaria", "transfusion malaria" and "accidental malaria" have occurred in Europe. In these cases, the absence of anamnestic signs of any exposure to the malaria risk is a dangerous obstacle to diagnosis.

Because many of the cases of malaria imported into Europe are caused by *P. falciparum*, several deaths have occurred. The overall mean fatality rate is difficult to calculate at present, since only the cases of *P. falciparum* malaria should be used as a denominator, and statistics are often incomplete. In some countries the fatality rate has reached 7%. This is incompatible with the quality of the medical care generally available in Europe and suggests that knowledge is being poorly applied and resources for diagnosis and treatment poorly managed. Delays in establishing the correct diagnosis explain most of the deaths.

#### RISK OF RE-ESTABLISHMENT OF MALARIA TRANSMISSION IN SOUTHERN EUROPE

The increasing number of cases of imported malaria has raised the question of the risk of the re-introduction of malaria into some areas of Europe. The risk in northern Europe, despite the presence of potential vectors, is zero unless ecological and socioeconomic conditions change drastically. In contrast, the risk for the reappearance of the disease in some areas of southern Europe where more "efficient" vectors are present, is real. Malaria transmission could result from movements of the population, including migrant workers. An outbreak of *P. vivax* malaria in Corsica (1970/1971) and in Bulgaria (1995/1996), and the occurrence of two indigenous cases in the Republic of Moldova (1996) and in Italy (1997), justify concerns regarding the reappearance of malaria in southern Europe and demand that more efforts be made to prevent it. Although some countries are susceptible to the reintroduction of malaria, the reappearance of the disease seems improbable, owing to the efficient malaria surveillance network of the public health services with early detection and treatment of malaria cases as they enter the country.

## Actions implemented to control the resurgence of malaria in the European Region

The malaria epidemiological situation in the European Region in 1996 appeared very serious. There was a real danger that both the 50 years of work invested by WHO, and the financial resources invested by local governments into malaria eradication and in the maintenance of a malaria-free status, could be jeopardized, unless effective malaria prevention and control activities were implemented. Nevertheless, the socio-economic and political problems in some of the NIS led to considerable difficulties in implementing effective malaria control measures. To face such a situation, WHO made all possible efforts to mobilize and coordinate assistance from the international community.

### IN THE NIS

The central Asian and Caucasian republics recognized the potential danger of malaria in their countries and requested assistance from WHO. In response to their request, a resolution was adopted during the forty-sixth session of the Regional Committee for Europe (9-13 September 1996) concerning "new, emerging and re-emerging communicable diseases, including malaria" (EUR/RC46/R7). The resolution urged Member States and the WHO Regional Office for Europe to pursue vigorously control programmes and prepare regional and subregional plans of action.

Consequently, WHO organized missions to those NIS where there is a risk of malaria epidemics. The objectives of these missions were to evaluate the malaria situation, to prepare plans for epidemic control, to coordinate action with other international or nongovernmental organizations, and to mobilize international assistance. Most of the very limited funds reserved for epidemic prevention and control were immediately used to provide a limited stock of antimalarial drugs and to help the national institutions in Kazakhstan and Uzbekistan implement antimalarial activities. In Uzbekistan, the Isaev Institute of Medical Parasitology was requested to participate actively in the planning and implementation of antimalarial activities, as well as in the training of health personnel.

In 1997, with the financial support of the Italian Government and the technical assistance of the Istituto Superiore di Sanità in Rome (WHO collaborating centre for research and training in planning tropi-

cal disease control) and of the Martsinovskiy Institute of Medical Parasitology and Tropical Medicine in Moscow (WHO collaborating centre on vivax malaria), the training of health personnel in the field of malaria diagnosis, treatment and control was initiated in Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Workshops enabled the participants to acquire the necessary knowledge, skills and competence to manage an efficient countrywide programme for the control of malaria.

Several project proposals for emergency aid at country and subregional level were prepared and submitted to donors for financial support, and the governments of Italy, Japan and Norway responded to the appeals. In 1996-1997, Japan provided financial support for a large malaria control project in Tajikistan, and Norway supported activities carried out in 1997 to tackle the malaria outbreak in Armenia. In 1997-1998, Italy supported malaria prevention activities in Kazakhstan, Kyrgyzstan and Uzbekistan and some of the malaria activities carried out in Tajikistan under the Integrated Management of Childhood Illness initiative.

### IN TURKEY

The Gunezydugu Anadolu Project (GAP), supported by UNDP and operating in the south-eastern part of Turkey, has in its first year given priority to strengthening both the national malaria control programme and the capability of the general health services in malaria. The following training activities were carried out in 1998 by the national malaria control programme in collaboration with WHO:

- malaria awareness seminars for provincial administrators, including health administrators, from the GAP areas;
- a malaria course for provincial communicable disease officers;
- a malaria entomology course for biologists and medical technicians;
- training of trainers courses for primary health care physicians in malaria control;
- training of trainers courses in residual indoor spraying larval control methods and space spraying.



## **Constraints on malaria control in the European Region**

In addition, WHO guidelines and teaching materials are being translated into Turkish; information, education and communication materials are being produced; and provincial spraying equipment is being refurbished. A risk assessment of GAP provinces is being made and a plan of action for malaria control in the area will be developed following a review of the project in early 1999.

In the 1990s, all the NIS in central Asia and the Caucasus have experienced considerable problems in preventing and controlling malaria. The disruption of traditional links among the former republics of the USSR has resulted in difficult economic conditions, human migrations, and a sudden reduction in the quality of health care. The shortage of essential equipment and supplies for malaria prevention and control, particularly those that used to be purchased from abroad by the Ministry of Health of the former USSR (such as antimalarial drugs and insecticides) has weakened malaria prevention activities. Lack of knowledge and experience in malaria prevention and control among health service staff who have not seen malaria for 30 years, is another obstacle in the planning and effective implementation of these measures.

Some of the NIS suffer from political instability and host internally displaced persons and refugees. The civil war that started in Tajikistan after the dissolution of the USSR resulted in a complete breakdown of the health services and an exodus of trained public health personnel. The expertise in malaria epidemiology and control that existed in several research institutes in the European Region some 20-30 years ago is now limited to only a few expert centres.

## Strategy to roll back malaria in the European Region

For decades the WHO Regional Office for Europe has worked to help prevent the reintroduction of malaria into Europe and to coordinate antimalarial activities. To meet the challenge of malaria resurgence in Europe, particularly in view of the burden of the disease in Armenia, Azerbaijan, Tajikistan and Turkey, and of the vulnerability of several central Asian, Caucasian and Mediterranean countries, the Regional Office for Europe has developed a comprehensive strategy to roll back malaria. With this programme, the Regional Office, with the support of headquarters, intends to move rapidly from a phase of emergency aid and humanitarian assistance to a long-term sustainable strategy for the prevention and control of malaria.

### EPIDEMIOLOGICAL AND OPERATIONAL STRATIFICATION OF THE REGION

According to the malaria epidemiological situation the European Region can be divided into three main epidemiological strata:

- territories with malaria epidemics (Armenia, Azerbaijan, Tajikistan, Turkey and Turkmenistan);
- territories with a high risk of malaria re-establishment (Georgia, Kazakhstan, Kyrgyzstan, the Russian Federation, Uzbekistan and some other European countries); and
- territories not receptive to malaria (the remaining countries).

### TARGETS 2000-2005

The goal of Roll Back Malaria in the WHO European Region is significantly to reduce the regional burden of malaria through interventions adapted to local epidemiological situations and by reinforcement of the health sector.

The specific targets set for the period 2000-2005 are:

- to halve general malaria incidence in the epidemic countries and to eradicate malaria in countries such as Armenia and Turkmenistan;
- to maintain malaria-free status in countries where malaria has been eradicated; and
- to reduce the fatality rate of falciparum malaria (mainly in imported malaria cases) by 50%.

### APPROACH

Considering the experience acquired during the eradication period and lessons learned in the past, the WHO Regional Office for Europe will operate:

- within the framework of the Global Roll Back Malaria Strategy and WHO Global Malaria Control Strategy;
- by giving priority to countries experiencing malaria epidemics;
- by selecting interventions adapted to the needs of local epidemiological situations and health systems with the focus on community and district level actions through the reinforcement of the health sector;
- by developing realistic national plans of action that will consider the government commitment and the socioeconomic situation of each country;
- by making rational use of internal resources and providing assistance to countries in mobilizing external support;
- by ensuring early detection and treatment of cases and selecting long-term sustainable preventive measures, avoiding short-term and palliative actions;
- by establishing partnerships at regional, subregional and country levels with United Nations organizations (UNICEF, UNDP, World Bank, UNESCO), nongovernmental organizations (International Federation of Red Cross and Red Crescent Societies, Medical Emergency Relief International, Agency for Technical Cooperation and Development, Médecins sans frontières), WHO collaborating centres, universities, research institutes and the private sector;
- in collaboration with the other departments of the Regional Office, such as Country Health Development, Health Promotion and Disease Prevention, Health Policy and Services, Environment and Health, and through intradepartmental collaboration with other units;
- in coordination and with the support of WHO headquarters (Infectious Diseases cluster and Roll Back Malaria programme);
- in coordination with neighbouring WHO regions, particularly with the Eastern Mediterranean Region.

## ACTIVITIES

In each epidemiological stratum, different activities have been identified for national authorities to undertake with the support of the WHO Regional Office for Europe and other partners, to roll back malaria.

### Territories with malaria epidemics

The national authorities of countries experiencing malaria epidemics need:

- to strengthen health services, structures and facilities to ensure to roll back malaria effectively;
- to secure early detection and radical treatment of all malaria cases by increasing awareness of the disease among the general public, improving clinical and laboratory diagnosis of malaria and providing full treatment;
- to implement active case detection and vector control measures on a regular basis;
- to monitor the level of susceptibility of vectors to the insecticides in use and determine which alternative insecticides can be applied when necessary;
- to undertake, when appropriate, interseasonal mass radical treatment in the most intensive foci;
- to promote chemoprophylaxis, when appropriate, for special groups at risk;
- to implement various combinations of antimalarial measures appropriate to the local epidemiological situation, including an integrated approach to vector control;
- to incorporate the environmental health components by improving sanitation, drainage and water-supply systems in all human settlements concerned, with special attention to periurban communities where poor living conditions are most likely to be found;
- to take active steps to modify agricultural practices and irrigation processes wherever necessary to reduce and eradicate existing breeding places created by such practices and processes;
- to develop mechanisms for environmental management and technical control in order to eliminate the physical conditions that favour development of vectors;
- to reinforce health education activities and promote community participation to roll back malaria;
- to establish a task force to roll back malaria, comprising leading specialists in the sector and members of relevant ministries (such as agriculture, environment, defence, finance and others), to ensure the effective implementation of such activities.

### *The role of the WHO Regional Office for Europe should be:*

- to assist countries to review their malaria situation, update their national plans of action, and discuss related activities;
- to provide, whenever necessary, technical support in elaborating and reviewing national plans of action;
- to assist countries in resource mobilization;
- to integrate Roll Back Malaria activities in the other WHO programmes, where appropriate (for example, in the Integrated Management of Childhood Illness initiative);
- to develop a uniform system for monitoring the malaria situation;
- to establish a network of health care workers for developing an appropriately tested model of care in relation to malaria epidemics;
- to strengthen cooperation with the neighbouring countries by exchanging technical information and expertise as required;
- to facilitate the presentation of national malaria plans of action to donors to elicit financial support;
- to supply, in emergencies, limited stocks of basic equipment for Roll Back Malaria activities;
- to assist countries in controlling the quality of antimalarial drugs and setting minimum standards for equipment;
- to organize workshops and training courses and facilitate the training of national experts on malaria;
- to develop a general guidance package for health care workers on detection (signs, symptoms), treatment and notification of new cases;
- to provide instructions for the safe use of the insecticides used in vector control activities;
- to provide, whenever necessary, technical support to environmental health departments and services at all levels (national, provincial and local), in defining the appropriate environmental measures for the control of vectors;

- to provide, whenever necessary, technical support to the appropriate services in implementing the hydraulic techniques for the physical and biological control of vectors at local level;
- to provide instructions and limited material for assessing G6PD deficiency at least in a reference centre;
- to provide standard kits for testing the susceptibility of local vectors to insecticides;
- to promote studies on malaria vectors.

### **Territories with a high risk of malaria re-establishment**

The national authorities of the countries with territories still receptive and vulnerable to malarial areas need:

- to maintain an efficient surveillance system with notification of malaria cases made compulsory;
- to strengthen laboratory services in order to ensure proper diagnosis at peripheral level and appropriate supervision at central level.
- to carry out special epidemiological investigations whenever indigenous cases are reported, and take appropriate control measures including active case detection and vector control;
- to organize blood screening for malaria parasites in special groups (such as military personnel) returning from malarial areas and, when appropriate, to administer presumptive radical treatment;
- to maintain stocks of insecticides and drugs for the control of outbreaks;
- to divide the country into strata representing their potential for development of malaria and monitoring any changes;
- to consider the possible impact of changes in land use or of water management projects on the malaria situation.

### ***The role of the WHO Regional Office for Europe should be:***

- to coordinate and promote the activity of national malaria reference centres and help them in particular to implement preventive antimalarial measures, to conduct regular entomological activities in receptive areas and update epidemiological stratification;

- to promote operational research on different aspects of malaria epidemiology, prevention and control; and
- to provide primaquine for the radical treatment of *P. vivax* malaria cases in countries where procurement of this drug is difficult.

### **Territories not receptive to malaria**

The national authorities of countries not receptive to malaria need:

- to ensure prompt diagnosis and adequate treatment of all imported cases;
- to maintain a case-based surveillance system;
- to train medical and health care staff to provide correct diagnosis and treatment;
- to develop guidelines on malaria risk and prophylactic measures and provide the information to people travelling to malarial areas;
- to establish close collaboration with travel agencies and companies operating in malarial areas and to provide more active support by making information available to their clients and staff;
- to prevent transfusion of malaria by excluding suspect blood donors (for a four-month period, if they have just returned from malarial areas, and permanently if they frequently visit malarial areas);
- to prevent importation of infected *Anopheles* mosquitoes by ensuring the implementation of international health regulations for the disinsection of ports, airports and aircraft; and
- to designate reference centres to determine the level of sensitivity of *P. falciparum* to antimalarial drugs in the case of patients with suspected signs of resistance.

### ***The role of the WHO Regional Office for Europe, not only in this particular epidemiological stratum, but in all the countries of the European Region, should be:***

- to prepare appropriate information on prevention and control for the public and for the travel industry;
- to coordinate and promote activities related to malaria surveillance;
- to create and maintain a database for epidemiological analysis of the malaria situation in the European Region;

## Partnership

- to promote intersectoral cooperation to avoid the creation of conditions favourable to transmission of malaria (such as population movements and agricultural development plans);
- to collect and disseminate information about malaria among countries and organize meetings to exchange experiences (such as round-table discussions during international congresses of parasitology, travel medicine and tropical medicine);
- to promote operational research on vectors and their control;
- to upgrade national capabilities to prevent and roll back malaria through training of health staff;
- to prepare an inventory of existing facilities for research and training in each country, in order to provide a basis for mutual exchanges or technical assistance.

Partnership in malaria can be defined as the process of working together to maximize and optimize efforts and resources towards the goal of providing effective action in countries where malaria is epidemic and for the target populations. This partnership includes the following:

- articulating together a common vision and strategy for reaching a common goal;
- assisting in the search for additional partners and resources;
- taking advantage of the complementary skills and resources that each partner brings to the mix;
- developing together the process by which partnership is being implemented, establishing ground rules, relationships and communication protocols;
- accepting differences of opinion and perspective;
- recognizing the need for flexibility in the development, design and implementation of programmes; and
- sharing information.

Such partnership should build on *principles* and *values*.

Partnership to achieve the common objective of improving the health and wellbeing of people should be based on at least three principles: flexibility, transparency and accountability. The information flow among the partners should be unrestricted to maintain transparency, mutual trust and continuous consultation. Strict adherence to financial rules and regulations are essential for maintaining clear accounting and donors' confidence.

Three values should guide the partnership: equity, solidarity and sustainability. Malaria exacerbates inequities in health and impedes development of the poorest communities, which deserve greater attention when priorities are set in relation to needs and allocating resources. Malaria is everybody's business and the project should rest on community participation, multisectoral action, partnership and collaboration. Sustainability should be assured through building long-term health systems, developing human and financial resources, using appropriate technology and strengthening research and evaluation.

Based on the advantages each can offer, the roles of the agencies and groups are different though complementary.

### ROLE OF NATIONAL GOVERNMENTS

The key role of national governments should consist of carefully defining long-term national malaria strategies capable of taking current issues into account and predicting and preventing emerging problems. National governments should promote a high level of advocacy in order to create awareness of the socioeconomic impact and magnitude of the problem and involve all socioeconomic sectors. Finally, national governments should make the necessary commitments regarding the funding of control activities. This should start by mobilizing local financial and human resources to reduce the disparity often observed between political statements and the resources allocated for malaria control. In countries where no mechanism exists for donor coordination, malaria may be used as an entry point for a more structured dialogue on health sector priorities.

### ROLE OF THE COMMUNITY

The community has a key role to play in partnership against malaria. Some NIS have instituted health care cost recovery schemes and introduced co-management of health centres. The community is already paying for health care and should be involved in the mobilization of resources and the planning of malaria activities, in particular health promotion, such as creating awareness of malaria and its consequences, and providing environmental management to ensure sustainability of malaria control. This can be done through community organizations such as local development associations.

### ROLE OF MULTILATERAL AGENCIES AND BILATERAL AGENCIES

The specific advantages offered by key multilateral organizations such as the World Bank, UNICEF and UNDP are well known. The World Bank is committed to global development alleviating poverty. It can help to enhance multisectoral collaboration, facilitate resource mobilization and explore innovative mechanisms to deliver support. UNICEF is already widely involved in

community-based and local action to improve health and can effectively contribute to reducing the burden of malaria in general, and in young children and pregnant women in particular, who are its prime targets. UNDP action is oriented towards strengthening sustainable human development activities on the basis of collaborative programming and intersectoral action. These organizations can, in a synergistic manner, share information, maintain momentum, sustain efforts and inputs and monitor progress.

A number of bilateral agencies invest significant funds in various development sectors. Some are strongly committed to malaria control and prevention. The challenge facing them and the countries concerned will be to pay increased attention in their projects to the malaria issue and to environmental problems.

### ROLE OF NONGOVERNMENTAL ORGANIZATIONS AND THE PRIVATE SECTOR

Nongovernmental organizations as a rule work closely with communities and have adopted an integrated approach to health development. Their closeness to people and to their problems provide them with deep insights and experiences that could contribute substantially to recognition of the importance of community involvement in health efforts. Nongovernmental organizations can therefore be very useful in social mobilization and implementation of community programmes for malaria control.

Apart from some research activities, private sector organizations can contribute much to malaria control, for three reasons:

- many private sector organizations are affected by malaria, which reduces their income; on the other hand, some of their activities can affect malaria patterns;
- in some countries private sector organizations are the only organizations providing health insurance for their workers;
- some international companies are interested in linking their names to non-profit activities such as malaria control.

There is, therefore, a need to get global companies, national companies and private health care providers on board at regional level as well as at country level. A partnership was established in 1999 with Eni, an Italian oil company, to support the Roll Back Malaria programme in Azerbaijan. This is a concrete example of how WHO can act to obtain the commitment of international private companies in promoting the development of communities and countries in which they work.

Finally, other organizations and agencies such as foundations and trusts, research and academic institutions and the media can be called upon to build partnerships in rolling back malaria.

#### **ROLE OF WHO HEADQUARTERS AND THE REGIONAL OFFICE FOR EUROPE**

WHO has a natural leadership role in formulating strategy and setting standards and also engages in political and financial advocacy.

As a leader in dealing with health problems, WHO can easily spearhead resource mobilization.

WHO headquarters is well positioned to develop and implement global health strategies. The Roll Back Malaria programme in the European Region will collaborate closely with WHO headquarters (Roll Back Malaria and the Infectious Diseases cluster) particularly in joint planning of activities and evaluation to ensure implementation of the strategy.

The Regional Office for Europe will be responsible for adapting global Roll Back Malaria strategies to the epidemiological conditions prevailing in the European Region, for implementing those strategies and for providing direct support to countries. The Regional Office will implement the strategy in the countries of the Region, taking account of the experience gained from implementation of malaria control programmes in the Region and in other regions as well. Ongoing health sector reforms will also be taken into account.

The malaria situation in neighbouring regions of WHO, in particular the Eastern Mediterranean Region, has a considerable impact on the malaria situation in the European Region and vice versa. This calls for greater cooperation between regions, consideration of malaria

problems from a wider perspective and organization of joint activities.

WHO offices in countries will play a facilitating role and will work in collaboration with the national governments to implement the activities.

## Cross-departmental cooperation

The core player in the Roll Back Malaria programme at the Regional Office for Europe will be the Emerging Diseases unit within the Department of Infectious Diseases. However, implementation of activities will be carried out in close collaboration with other departments and programmes of the Regional Office. To ensure smooth collaboration, an office-wide task force will be formed to coordinate input from technical units of different departments.

Almost all technical departments will be expected to contribute to the regional Roll Back Malaria programme, calling on their own capacities and established networks. Particularly close collaboration will be developed with:

### **The Country Health Development Department:**

- to coordinate and monitor implementation of malaria control activities throughout medium-term programmes;
- to respond effectively to emergencies; and
- to monitor epidemiological indicators;

### **The Environment and Health Department:**

- to implement sustainable and health-promoting water management in order to prevent and/or to modify conditions favourable to the development of malaria through:
  - implementation of NEHAPs;
  - commitments under the legally binding Protocol on Water and Health signed at the Third Ministerial Conference on Environment and Health, London, June 1999, including setting targets for action;
  - implementation of pilot studies on sustainable management of water resources, supported by the responsible programmes under the Department, including the European Centre for Environment and Health;

### **The Health Promotion and Disease Prevention Department:**

- to provide efficient malaria care and prevention services to the most vulnerable groups: children and pregnant women;
- to include action on malaria in the Integrated Management of Childhood Illness initiative, the Safe Motherhood initiative, and the Child Health Development and Public Health Education programmes;

### **The Health Policy and Services Department:**

- to ensure that malaria services are integrated in existing health infrastructures, especially at primary health care level;
- to ensure that malaria services are part of ongoing health care reforms in the countries concerned;
- to establish appropriate networks of health care workers (professionals and community workers) in malaria-affected countries.



## Management

The management of the Roll Back Malaria programme in the Region will be gradually built up in line with the technical and managerial needs of countries. In addition, internal coordination and efficient collaboration with WHO headquarters and neighbouring regions of WHO will be essential.

Provided resources are available, the responsibilities will be expanded in future to cover other areas such as leishmaniasis and a number of other parasitic diseases of public health importance.

The WHO Regional Office for Europe is already a very active member of the global coordination and management mechanism created by the Roll Back Malaria programme at headquarters.

## Resources

In view of the financial difficulties faced by malaria-affected countries, considerable external support will be needed to sustain Roll Back Malaria action in the European Region.

The following resources could be made available for such activities:

- national resources
- WHO regular budget
- voluntary donations
- headquarters resources
- the network of WHO collaborating centres and appropriate institutions
- low-interest loans from international banks.

The funding needed for implementation of the Roll Back Malaria programme in the Region is estimated at US \$2 million per year. Because of the nature of the disease, it is important to highlight the fact that such funds should be guaranteed for successive years in order to achieve long-term sustainable results.



**EUROPE**

**The WHO Regional Office for Europe**

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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United Kingdom  
Uzbekistan  
Yugoslavia



Malaria is one of the world's major health problems and the leading health issue in Sub-Saharan Africa. Malaria has also been targeted for priority action by some countries in the European Region as a priority owing to re-emergence of the disease.

The purpose of this document is to describe the malaria situation in the European Region and to present the views of the WHO Regional Office for Europe on the strategy to be adopted to roll back malaria there.

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