

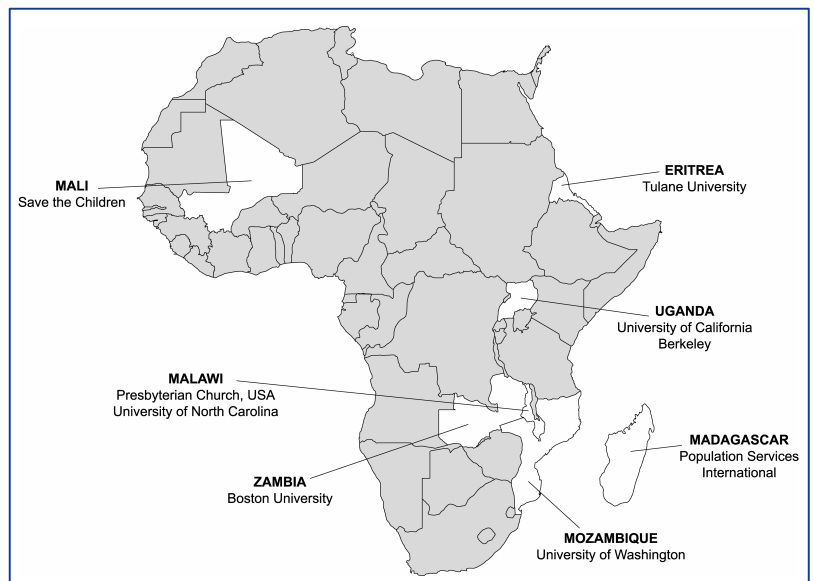
Global Malaria

Prevention and Control Program: Moving Ahead in the 21st Century



In Africa, malaria kills a million children each year.

CDC engages Schools of Public Health and Non-governmental Organizations in the fight against malaria.



The devastation across the globe left by AIDS, malaria, and tuberculosis, the sheer number of those infected and dying, is almost beyond comprehension... We have the power to help.

— President George W. Bush, May 11, 2001, Proposal for Global Fund to Fight HIV/AIDS, Malaria and Tuberculosis

Malaria— Most Common Life-Threatening Infection in the World

As the most common life-threatening infection in the world, malaria causes approximately 500 million infections and more than 1 million deaths annually. Malaria drains economies in Africa, Asia, and the Americas – causing a loss of up to 6% of Gross National Product from lost productivity and health service costs. While 40% of the world's population is at risk for malaria, 9 out of 10 cases and deaths occur in sub-Saharan Africa.

While malaria is no longer endemic in the United

A child dies from malaria every 30 seconds.

States, up to 2,000 people in the United States get malaria each year, mostly from traveling to countries where malaria is widespread. In the last decade, 48 people in the United States died from malaria. Each year more than 24 million travelers must use malaria prevention medicines, even as the increase in drug resistant malaria-strains reduces the effectiveness of the drugs. Each year, an estimated 50,000 U.S. blood donors are rejected because of concern about the spread of malaria through the blood supply.

Malaria's Impact on Health

Malaria Prevention— Important to Americans

Although malaria no longer threatens the health of most Americans, in the advent of globalization, it has become more evident that a healthy America depends on a healthy world. Increased global trade and communications have brought huge benefits to people around the world, but along with it has come increased risks for spreading diseases previously controlled in the United States. While a century ago it took weeks for goods and people to travel across oceans and continents, it now takes only hours. The movement of more than 2 million people each day across American borders and the growth of international commerce no longer confines diseases to their native areas and thus increases the risk of spreading diseases.

Malaria is spread by the bite of an infected mosquito. In areas of high malaria transmission, such as sub-Saharan Africa, the population develops partial immunity to malaria. Pregnant women and children under the age of 5 remain most at risk for malaria. When a woman becomes pregnant, the resistance she has built up changes and she once again becomes susceptible to infection. If a pregnant woman becomes infected, the malaria parasite develops in the placenta and may lead to low birth weight in her newborn. In addition, malaria also contributes to anemia in the mother, which is also a risk factor for low birth weight. Low birth weight is the greatest single risk factor for newborn and infant mortality.

In malaria-endemic areas of the world, children under 5 have not yet developed immunity to malaria, which happens over time from repeated bites from infected mosquitoes. Children under 18 months are the most likely to die from malaria. Many children in malaria-endemic countries are anemic, with a low level of red blood cells. An anemic child is more at risk for malaria and for developing severe anemia. Malaria destroys red blood cells, leaving an already anemic child with little, if any, resources to fight the disease.

Prevention and Control Strategies

Malaria can be prevented and the loss of life and productivity significantly reduced. During the 1980s and 1990s, the effectiveness of several prevention and control strategies was established. Successful strategies include:

- using insecticide-treated nets (ITNs) to greatly reduce child mortality;
- preventing malaria during pregnancy to improve maternal health and to reduce the rate of low birth weight in babies; and
- providing prompt and effective treatment for malaria in young children to reduce disease complications, particularly severe anemia, and to reduce mortality.

CDC Rolling Back Malaria

Proven prevention strategies must be implemented and vigilance maintained within malaria-endemic countries. The development of malaria resistance to medication and mosquito resistance to insecticides constantly threatens the effectiveness of malaria prevention and control programs. Most disease-endemic countries are poor, lacking the required resources to wage a campaign against malaria.

To address the global burden of malaria and the challenges to effective strategies, in 1998 the World Health Organization (WHO) launched the cabinet-level program Roll Back Malaria (RBM) with the goal of reducing the global burden of malaria in half by 2010. The United Nations agencies, United States, other developed countries, and African countries have enthusiastically joined, and support, the RBM partnership.



ITN protecting a sleeping child.

Roll Back Malaria (RBM)

In April 2000, an RBM meeting of African heads of state took place and resulted in the adoption of the “Abuja Declaration on RBM in Africa,” which states that African countries should initiate action to strengthen their health systems and ensure that by the year 2005:

- At least 60% of those suffering from malaria have prompt access to affordable and appropriate treatment within 24 hours of the onset of symptoms;
- At least 60% of those at risk for malaria, particularly pregnant women and children under 5, benefit from the most suitable combination of personal and community protective measures such as ITNs and other accessible and affordable interventions;
- At least 60% of all pregnant women who are at

risk for malaria, especially those in their first pregnancies, have access to chemoprophylaxis or presumptive intermittent treatment.

To facilitate progress and sustain control programs, future leaders in malaria control, particularly persons living in malaria-endemic countries, need to be trained. In individual countries, research needs to be conducted to establish the best possible use of these malaria prevention and control strategies.

CDC and RBM in Action

CDC’s National Center for Infectious Diseases/ Division of Parasitic Diseases’ (DPD) mission is to prevent and control parasitic diseases in the United States and throughout the world. DPD works toward this goal by providing diagnostic, consultative, and epidemiologic services and training to domestic and international organizations. Together with partners, DPD conducts malaria research, focused prevention and control programs, and education activities worldwide.

CDC is committed to the RBM Program and to

In 2001, DPD expanded its commitment to the RBM Program by implementing a grant program to increase the involvement of U.S. -based organizations in the global RBM effort.

assisting other countries and organizations in combating malaria. To that end, eight awards were made in September 2001 to three non-governmental organizations and five schools of public health. These grantees collaborate with a local African partner organization in seven sub-Saharan African countries. Each project focuses on one or more of the following program areas that is highlighted on the following page:

- malaria transmission reduction;
- case management;
- reduction of malaria and pregnancy;
- monitoring/evaluation/surveillance; and
- training African and U.S. nationals in support of malaria prevention programs.

Partnerships for a Healthy World

University of North Carolina (UNC) Malawi

UNC and the Malawi Ministry of Health are working together to carry out operational research and train professionals. UNC will document the impact of severe malaria and develop district-based interventions. Better methods to prevent malaria in pregnant women will be developed. An exchange program between medical officers from Malawi to UNC for MPH training, and of UNC faculty to Malawi to teach courses to health professionals has been established.

Population Services International (PSI) Madagascar

PSI, in partnership with The Adventist Development and Relief Agency, focuses on reducing mortality and morbidity in pregnant women and children under 5 in Tamatave Province. A regional social marketing project of ITNs is being implemented at health facilities.

Boston University (BU) Zambia

BU has established a collaborative program with the National Malaria Control Centre in the Republic of Zambia to support RBM project implementation, operations research, and public health implementation training. Activities focus on bridging existing gaps in the RBM program. These include monitoring and evaluation, surveillance of drug efficacy, improving program management skills, and assessing the efficacy of different therapies.

University of California, Berkeley (UCB) Uganda

The UCB collaborative project focuses on building Ugandan leadership in malaria control and strengthening local surveillance capacity. In partnership with Makerere University, the Uganda Ministry of Health, and the Makerere University/UC-San Francisco Malaria Research Project, UCB is strengthening the communication and education networks required for optimal malaria control activities and establishing an efficient surveillance system for monitoring national antimalarial drug efficacy.

Presbyterian Church USA, International Health Ministries Malawi

In rural northern Malawi, the Presbyterian Church USA works with the Christian Women's NetWorkers Program, a Malawian congregational community-based health program. The project focuses on preventing malaria in pregnant women and children under 5. Local, trained women conduct visits in their villages and provide education on the importance and proper use of ITNs and sell ITNs at subsidized prices.

Save the Children Mali

With the Mali Ministry of Health, Save the Children is implementing a broad-based malaria prevention and control project in three districts in the southern Sikasso Region. The project trains women associated with health centers to educate pregnant women and mothers with children under 5 on the importance and proper use of ITNs; trains head nurses in the health centers to better recognize and treat cases of severe malaria; and expands local access to essential drugs.

Tulane University Eritrea

Tulane University and the Eritrea Ministry of Health Malaria Program have developed and implemented a curriculum for public health technicians who primarily work at the sub-district level. Malaria program managers received training in operations research and are implementing independent malaria-related research projects.

University of Washington (UW) Mozambique

UW has expanded its relationship with the Ministry of Health in Mozambique and strengthened its formal link with the University of Eduardo Mondlane Medical School by creating a regional malaria research infrastructure in central Mozambique. The project improves the capacity of the Ministry of Health to implement, manage, and evaluate malaria programs, and to teach and carry out operations research projects that more clearly define appropriate malaria policy.

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