



# MALARIA CONTROL PROGRAM

## **What is malaria?**

Malaria is a potentially fatal mosquito-borne parasitic disease, widespread in tropical and sub-tropical regions.

## **How do you get malaria?**

Malaria is transmitted through the bites of infectious female Anopheles mosquitoes. Only female mosquitoes bite, and when feeding, they can pick up malaria parasites from an infected person. After a development cycle in the mosquito lasting from seven to 10 days, the mosquito becomes infectious and transfers malaria into the next human host when feeding.

Parasites injected by mosquitoes go first to the patient's/person's liver, where they grow, divide, and then re-enter the bloodstream. In some malaria species, parasites can remain in the liver and emerge later, causing relapses of the disease.

In the bloodstream, parasites invade red blood cells. They then go through cycles of multiplication, rupture of red cells, and reinvasion of new blood cells. The two to three-day cycle of rupturing red blood cells leads to the symptoms of the disease, which include periodic fevers, intense headache, and body-shaking chills.

## **How widespread is the problem?**

Each year, malaria kills more than 1 million people, mostly children, with 350-500 million cases reported worldwide.

Approximately 90 percent of all cases of malaria are in Africa, where one child in 10 dies before the age of 5 from malaria.

Malaria predominately affects people who live, work, and sleep in unscreened

houses where mosquitoes can easily enter through open eaves and windows.

## **How is the disease treated and infection prevented?**

Anti-malarial medications, where available, can be taken to avoid and treat infection.

Anopheles mosquitoes bite during the night so transmission occurs when people are sleeping. Bed nets have been used for centuries to provide a barrier against mosquito biting, thereby reducing the chance of exposure to malaria.

## **What is the Carter Center's role in malaria prevention?**

The Carter Center's Malaria Control Program works in Ethiopia and Nigeria,

integrating malaria prevention activities with other health programming, pioneering village-based health care delivery systems that share resources, personnel, health education, and treatment to address several diseases at once.

In Ethiopia, the Center works in collaboration with the national malaria control program as well as the Center's in-country river blindness and trachoma programs.

The Center's programming in Ethiopia began in 2007, when, at the invitation of the national program, The Carter Center purchased and distributed 3 million long-lasting insecticidal bed nets, the balance the national program needed to reach its goal of providing free bed net protection for all 50 million Ethiopians at risk of malaria.



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The innovative “MALTRA” weeks, in Amhara Region, Ethiopia, exemplify how malaria and trachoma control are being integrated into twice-yearly, week-long campaigns, allowing health workers to free resources for other disease prevention activities throughout the rest of the year.

The Carter Center also has been working with the Ethiopia government to improve and sustain the targeting of control efforts. In addition, the Center has assisted with new guidelines for malaria surveillance and epidemic detection to ensure that outbreaks are dealt with quickly, and the impact on public health minimized.

In Nigeria, The Carter Center integrates bed net distribution with its lymphatic filariasis and river blindness prevention activities. Since the same mosquito transmits both malaria and lymphatic filariasis in Africa, the distribution of bed nets can be used to prevent both diseases at once. Since 2004, more than 260,000 bed nets have been distributed.

The Carter Center also was part of a historic 18-month initiative to accelerate the elimination of malaria and lymphatic filariasis from the island of Hispaniola. Working with the Dominican Republic

and Haiti from 2008-2009, the pilot project stemmed from a 2006 recommendation of the Carter Center’s International Task Force for Disease Eradication that it is “technically feasible, medically desirable, and would be economically beneficial,” to eliminate these two parasitic diseases from Hispaniola. Since then, the binational project has broken new ground in collaborations between these two countries for the betterment of public health on the entire island.