

25 April 2008

Malaria - a disease without borders

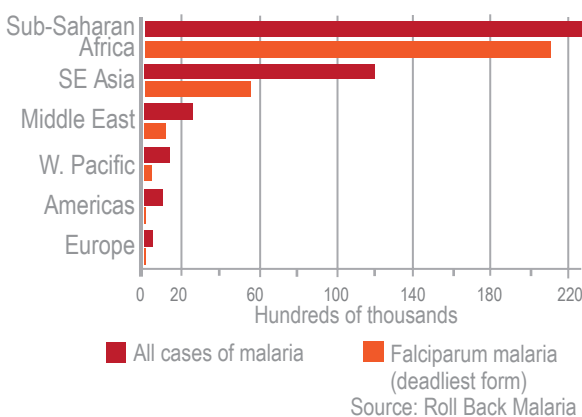
WORLD MALARIA DAY

MALARIA - A GLOBAL PUBLIC HEALTH PROBLEM

An ancient disease survives in our time

Malaria has plagued humankind since ancient times and is still putting nearly 40% of the world's population at risk. No one knows for sure how many people contract the disease but estimates suggest that it afflicts between 350 and 500 million people every year (1). In addition, as many as 30,000 visitors to tropical countries are infected annually (2). The World Health Organization (3) estimates that 59% of the world's clinical malaria cases occur in Africa, 38% in Asia and 3% in the Americas. Although the disease is rare in Europe, a few cases of *Plasmodium falciparum* malaria have been reported in several Western European countries in 2006 in persons with no history of travel or blood transfusion (4).

ESTIMATES OF MALARIA CASES BY REGION IN 2004



The mighty adversary is a microscopic parasite

Malaria is caused by a parasite of the *Plasmodium* species transmitted from the blood of an infected person and passed to a healthy human by the bite of a female *Anopheles* mosquito. The malaria parasite became first known to the world in 1880 when Charles Louis Alphonse Laveran identified it in the blood of infected soldiers (5).

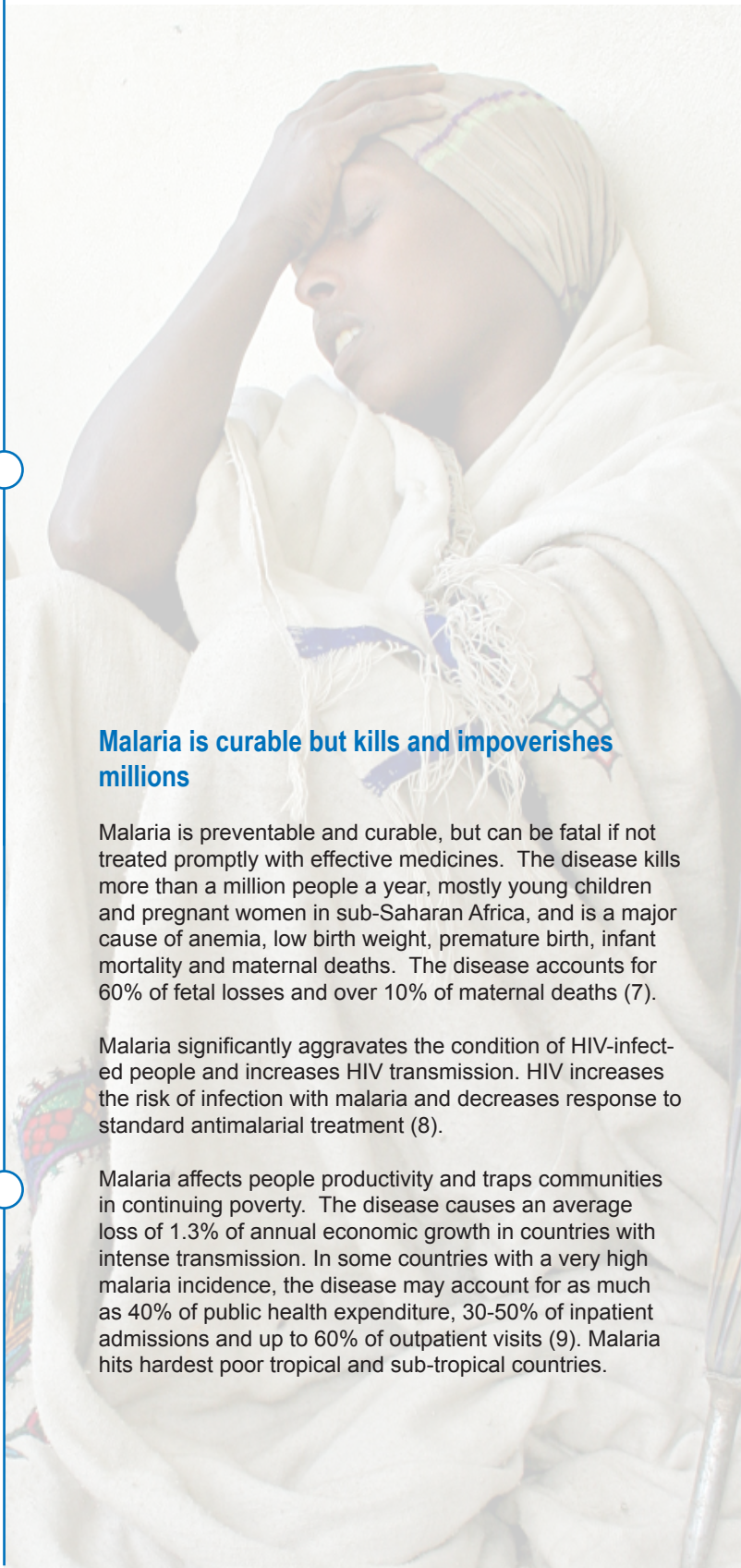
There are four species of the human malaria parasite *Plasmodium*, each causing symptoms that vary in intensity and duration. *Plasmodium falciparum* is the deadliest of the four human malaria parasites (6).

Malaria is curable but kills and impoverishes millions

Malaria is preventable and curable, but can be fatal if not treated promptly with effective medicines. The disease kills more than a million people a year, mostly young children and pregnant women in sub-Saharan Africa, and is a major cause of anemia, low birth weight, premature birth, infant mortality and maternal deaths. The disease accounts for 60% of fetal losses and over 10% of maternal deaths (7).

Malaria significantly aggravates the condition of HIV-infected people and increases HIV transmission. HIV increases the risk of infection with malaria and decreases response to standard antimalarial treatment (8).

Malaria affects people productivity and traps communities in continuing poverty. The disease causes an average loss of 1.3% of annual economic growth in countries with intense transmission. In some countries with a very high malaria incidence, the disease may account for as much as 40% of public health expenditure, 30-50% of inpatient admissions and up to 60% of outpatient visits (9). Malaria hits hardest poor tropical and sub-tropical countries.





Cost-effective prevention and treatment exists

People living in areas where malaria is common are recommended to sleep under protective bed nets treated with insecticides as malarial mosquitoes generally bite at night. In endemic areas indoors spraying with appropriate insecticides is also used to reduce or even interrupt malaria transmission.

Pregnant women and young children are particularly vulnerable to the disease. In areas of high transmission of *Plasmodium falciparum*, an antimalarial drug is administered as an effective means of preventing malaria.

Treatment depends on the type of malaria (usually diagnosed by a blood test), where it was contracted and how ill the patient is. A major problem in endemic areas in recent decades has been the growing resistance of the most dangerous parasite species to chloroquine, a cheap drug commonly used to prevent and cure malaria. New and more expensive combination treatments containing artemisinin have been promptly developed. Artemisinin is derived from a plant that has been used for centuries in traditional Chinese medicine to treat fever.

Malaria Commodities

Unit costs

| | |
|---|--|
| Bed nets (LLINs) * | Average annual cost per person is US\$ 1, including distribution |
| Indoor spraying | Average annual cost per person is US\$ 3.50 |
| Prevention for pregnant women (IPT) | Average cost is US \$0.20 (plus negligible distribution costs) |
| Drugs (ACTs) | Average cost is US\$ 1.17 plus distribution |
| Diagnostic tests (Rapid Diagnostic Tests) | Average cost is US\$ 0.70 plus distribution |

* These calculations assume that an LLIN is shared by 2 people and that it is properly used and effective for at least 3 years (11). The initial purchase and distribution cost for a long-lasting net averages US\$ 6

- (1) WHO. *World Malaria Report*, 2005
- (2) WHO. A60/12
- (3) WHO. *World Malaria Report*, 2005.
- (4) Barbara Doudier et al., Possible Autochthonous Malaria from Marseille to Minneapolis. *Emerging Infectious Diseases Journal*, 2007, Vol. 13, No 8.
- (5) WHO. *Frequently Asked Questions About Malaria* (<http://www.who.int/malaria/faq.html>)
- (6) WHO. Fact sheet No. 94. 2007
- (7) WHO *World Malaria Report*, 2005
- (8) Ibid.
- (9) WHO. Fact sheet No. 94. 2007
- (10) Malaria No More Policy Center. "Putting Bed Net Scale-up in Context", February 2008
- (11) WHO. *Insecticide-Treated Mosquito nets: a WHO position paper* (<http://www.who.int/malaria/docs/itn/ITNspospaperfinal.pdf>)