25 April 2009

Counting **Malaria** Out

WORLD MALARIA DAY

An ancient disease survives in our time

Malaria has plagued humankind since ancient times and is still a significant threat to half of the world's population - 3.3 billion people living in 109 countries are at risk of contracting the disease. Estimates suggest that malaria 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].

Thirty high-burden countries in Africa and five countries in Asia contribute to 98% of the total malaria deaths worldwide [3].

Estimates of malaria deaths and cases by region [4]

Region	Percentage of global cases	Percentage of global deaths
Africa	71%	85.7%
Asia	26%	9.4%
The Americas	1%	0.1%
Middle East	less than 3 %	approximately 5%

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 nearly 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

Prevention

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 to pregnant women** as an effective means of preventing malaria.

Treatment

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 combination treatments containing artemisinin (ACTs) have been promptly developed but they are 10 to 40 times more expensive than the older and failing drugs.

Rendering the effective drug therapies affordable goes hand in hand with the challenge of driving ineffective and potentially dangerous artemisinin monotherapies and ineffective drugs from the market.

The ACTs are the only first-line antimalarial drugs still appropriate for widespread use against the most lethal forms of malaria. A widespread use of inefficient artemisinin monotherapies could cause the emergence of parasite resistance to the only active ingredient that currently cures the deadliest form of malaria. If such resistance to artemisinin develops and spreads, malaria's toll will rise sharply.

Rendering effective treatment affordable

To increase the use of ACTs and to eliminate the use of ineffective drugs and artemisinin monotherapies, the Affordable Medicine Facility for Malaria has been established.

The AMFm will reduce consumer prices of a treatment course of an effective co-formulated antimalarial from the current level of USD 6–10 to a far lower level of USD 0.20–0.50 (which is competitive with current retail prices of ineffective drugs) for the majority of patients. This drop in prices is expected to more than triple current ACT usage, increasing ACT demand from the current level of 110 million treatment courses per year to a projected 360 million. In doing so, the AMFm will shift most purchases away from ineffective medicines and greatly reduce the market for artemisinin monotherapies and other substandard and ineffective antimalarial drugs.

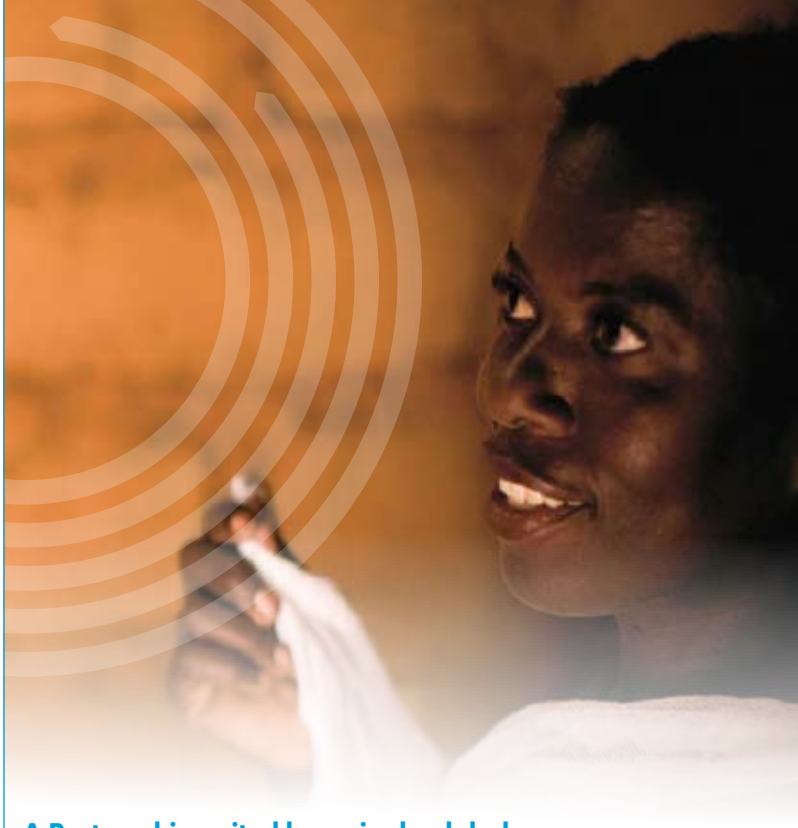
The AMFm will promote the use of eligible antimalarials and help to drive monotherapies and ineffective drugs from the market. Initially, the only class of eligible antimalarials will be ACTs, but this requirement is expected to change in the future as novel antimalarials emerge from ongoing research and development (R&D).

The result of this initiative will be an estimated 174,000 to 298,000 lives saved per year.

Cost of Malaria Commodities

(Source: Global Malaria Action Plan)

Malaria Commodities	Average unit costs USD
Mosquito net (LLIN) Insecticide-treated mosquito net. Long-lasting protection, for use by two people, including delivery *	6.40
Indoor spraying Indoor residual spraying (IRS), protecting one house. Effective 3–6 months, including labor costs	7.50
Malaria test One rapid diagnostic test (RDT), single use	0.99
Antimalarial medicine: adult Artemisinin-based combination therapy (ACT), treatment for one adult, including delivery	1.99
Antimalarial medicine: child Artemisinin-based combination therapy (ACT), treatment for one child (under 20 kg), including delivery	0.99



A Partnership united by a single global malaria action plan

Sustained commitment and leadership in endemic and donor countries and increased coordination at global level are critical to overcoming malaria. The Global Malaria Action Plan – GMAP – developed under the umbrella of the Roll Back Malaria Partnership (RBM) and endorsed by all malaria stakeholders in 2008, puts forth a single strategy for combating malaria worldwide.

The GMAP details what needs to be done in each region to achieve sustained malaria control, elimination and eventual eradication and shows the costs of each intervention.

Armed with a clear common action strategy, RBM partners are scaling up their efforts to achieve universal coverage by 2010, as called for by the United Nations Secretary-General Ban Ki-moon.

What universal coverage means

Prevention	100% of the population at risk is provided with locally appropriate preventive interventions. Coverage is defined as follows: • LLINs: one long lasting insecticidal net for every two people. • IRS: a household is routinely sprayed with indoor residual spraying. • IPTp: every pregnant woman living in a high transmission setting receives at least 2 doses of an appropriate antimalarial drug during her pregnancy.
Case management	100% of patients receive locally appropriate case management interventions. Coverage is defined as follows:
Diagnosis	Prompt parasitological diagnosis by microscopy or rapid diagnostic tests. (RDTs).
Treatment	Treatment with effective drugs within 24 hours after the first symptoms appear.

[1] RBM. *Global Malaria Action Plan*, 2008 - [2] WHO. *World Malaria Report*, 2008 - [3] RBM. *Global Malaria Action Plan*, 2008 - [4] RBM. *Global Malaria Action Plan*, 2008 - [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

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