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Malaria

Malaria Kills up to 3 Million People Each Year

Malaria threatens close to one-half of the world's population, and more than 1 million children die each year of malaria-related complications.

The disease is transmitted when mosquitoes carrying the malaria parasite bite and infect humans. If left untreated in pregnant women, malaria causes low birthweight, which can lead to a range of impairments including cerebral palsy, mental retardation, and cognitive deficits. In Sub-Saharan Africa, nearly 4 percent of all maternal deaths annually are the result of malaria-associated anemia.

The battle against malaria, ranked the eighth-highest contributor to the global disease burden and second highest in Africa, is being fought using a combination of traditional low-cost methods and promising new drugs.

Eliminating malaria from most endemic areas is an important global health priority. It also presents a significant challenge, in part because of the large numbers of people infected and inadequate infrastructure and resources in many countries. Efforts to reduce the burden of malaria involve

early diagnosis and treatment; proper use of drugs, including new therapies called artemisinins; preventive therapy during pregnancy and infancy; use of insecticide-treated nets; and mosquito control. Studies have shown a significant negative association between malaria and economic growth. In terms of economic growth alone, malaria control is extremely cost beneficial.

Controlling and Conquering Malaria

- **Provide universal access to insecticide-treated nets (ITNs) and spray indoor surfaces with long-lasting insecticides.** ITNs are very cost effective and have been associated with up to an 18 percent reduction in child mortality and as much as a 50 percent reduction in malarial episodes in parts of Africa. Studies have shown that malaria incidence decreased sharply following the use of indoor spraying in large-scale programs in parts of Africa, the Americas, Asia, and Europe.

Deaths Attributable to All Causes and to Malaria, by WHO Region, 2000

Regions	Population	Deaths, 2000				Malaria deaths as a percentage of all deaths
		All causes		Malaria		
		Thousands	Percent	Thousands	Percent	
World	6,122,211	56,554	100.0	1,124	100.0	2.00
Africa	655,476	10,681	18.9	963	85.7	9.00
Americas	837,967	5,911	10.5	1	< 0.1	0.02
Eastern Mediterranean	493,091	4,156	7.3	55	4.9	1.30
Europe	874,178	9,703	17.2	< 1	< 0.1	< 0.010
Southeast Asia	1,559,810	14,467	25.6	95	8.5	0.70
Western Pacific	1,701,689	11,636	20.6	10	0.9	< 0.09

Note: Percentages may not add up to 100 because of rounding.

Source: Breman, J., A. Mills, R. Snow, R. Steketee, N. White, K. Mendis, and others. 2006. "Conquering Malaria." In *Disease Control Priorities in Developing Countries*, 2nd ed., ed. D. T. Jamison, J. G. Breman, A. R. Measham, G. Alleyne, M. Claeson, D. B. Evans, P. Jha, A. Mills, and P. Musgrove, table 21.1. New York: Oxford University Press.

- **Expand the use of intermittent preventive treatment (IPT) for pregnant women to reduce severe maternal anemia and newborn deaths.** IPT usually consists of two curative doses of antimalarial treatment. IPT in infancy involves giving infants treatment doses during vaccination or well-baby visits to health clinics.
- **Finance more effective drugs—especially artemisinin combination therapies (ACT)—to replace widely used ineffective drugs.** In many areas, strains of the parasite are now resistant to chloroquine and sulfadoxine-pyrimethamine, the most commonly used drugs to prevent and treat malaria. The next generation of treatment is ACT and, although more expensive than traditional drugs, is also more cost-effective where drug-resistant strains are highly prevalent.

Many of the malarial interventions available can be quite cost-effective. For example, the total cost of a program to promote ITN use for children is about US\$2.80 per capita per year, and a program for indoor spraying is about US\$4 per capita per year. While these costs are low by many standards, they are still out of reach for some countries. Many of these countries have total health budgets that range from US\$2 to US\$10 per capita per year. The feasibility of such interventions depends largely on the health infrastructure, the nature of the epidemic, and the financial resources available in a given area, and may require the assistance of external donors.

In addition to scaling up control and treatment programs, educating patients and their families about the need for prompt diagnosis, treatment, and referral are important for malaria control. These tools improve the timeliness of treatment by helping people identify the disease and seek appropriate care, and promote the use of ITNs and improve adherence to drug therapy.

Research Priorities

Current interventions to combat malaria remain inadequate. Greatly increased support for malaria research and for developing institutional capacity must occur to make advances and to bring them to populations in need. Four major areas of research are patient management, including treatment; prevention research; new and innovative approaches; and social, economic, and policy research.

Given the heavy burden of malaria, existing strategies and interventions in scaled-up programs must be used more effectively and deployed more widely, especially in Africa. And while existing tools can be improved, newer tools are required.

For More Information

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