



## Malaria Control

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### Policy Questions

- How effective are Long-Lasting Insecticide-Treated Nets (LLITNs) and anti-malarial medications in decreasing malaria incidence?
- What are the most effective delivery mechanisms for providing LLITNs and timely disease treatment?
- What is the impact of public-private partnerships on the delivery of anti-malarial services?
- What impact does malaria control have on education outcomes?

### Background & Context

Malaria is a leading cause of morbidity and mortality in much of the developing world. Nearly half a billion people contract malaria each year;<sup>1</sup> more than a million people die annually.<sup>2</sup> Children under five and pregnant women represent a large portion of the population at risk. In endemic areas, malaria infection during pregnancy accounts for up to a quarter of all cases of severe maternal anemia, and for 10-20 percent of low birth weight babies.<sup>3</sup> Most malaria-related deaths occur in Africa. Also, evidence suggests that the number of clinical episodes of *P. falciparum* is higher than widely quoted, and morbidity due to malaria, including *P. vivax*, has been greatly underestimated in Asia.<sup>4</sup>

The World Bank, through its Booster Program for Malaria Control and operations in other regions has joined an aggressive global campaign to control malaria, committing approximately US \$500 million, in IDA funds, over the next two years to support countries ready to expand their malaria control efforts.<sup>5</sup> The program is designed to scale-up anti-malaria efforts through

<sup>1</sup> Snow RW, Guerra CA, Noor AM, Myint HY, Hay SI. The global distribution of clinical episodes of *Plasmodium falciparum* malaria. *Nature*. 2005 Mar 10;434(7030):214-7.

<sup>2</sup> Greenwood, BM, Bojang, K., Whitty, C. & Targett, GAT. Malaria. *The Lancet* 2005; 365 April 23.

<sup>3</sup> Guyatt, HK, Snow RW. Malaria in pregnancy as an indirect cause of infant mortality in Sub-Saharan Africa. *Trans R Soc trop Med Hyg* 2001; 95: 569-76.

<sup>4</sup> Mendis K, Sina BJ, Marchesini P, Carter R. The neglected burden of *Plasmodium vivax* malaria. *Am J Trop Med Hyg*. 2001. Jan-Feb; 64(1-2 Suppl):97-106.

<sup>5</sup> Rolling Back Malaria: The World Bank Global Strategy and Booster Program 2005.

enhancing delivery of key disease control and treatment services, while contributing to health systems strengthening.

While the causal link between use of effective anti-malaria services and improved malaria outcomes is well established, the relative effectiveness of alternative delivery mechanisms and intervention packages to induce a change in people’s health behavior is not as well understood.<sup>6</sup> The SIEF Malaria cluster focuses on critical knowledge gaps regarding the effectiveness of alternative: 1) modes of delivery, and 2) channels of communication.

### **SIEF-funded Impact Evaluations**

**Kenya** – This IE is helping determine whether a school-based malaria intervention can reduce rates of anemia among schoolchildren, thereby improving classroom attention, school attendance, and educational achievement in school. A secondary question examines whether health and education interventions work synergistically together.

**India** - The World Bank, through preparation of the National Vector-Borne Disease Control Program (NVBDCP) is assisting the government of India to develop a new national malaria response strategy. The IE component of the NVBDCP focuses on determining whether targeted support (training and field supervision) of volunteer village health workers results in improved case identification, accurate diagnosis and timely treatment; and which mode of LLITN distribution (of four) results in the greatest adoption and proper use of nets and an increase in general malaria knowledge.

**Democratic Republic of Congo** – This IE is evaluating which LLITN distribution strategy (mass distribution or distribution through routine health services combined with comprehensive expanded outreach) achieves the highest utilization of LLITNs by under-five children and pregnant women in the Democratic Republic of Congo.

**Zambia** – This impact evaluation is part of a larger project led by the Zambian government, which is piloting a private-sector subsidy of Artemisinin Combination Therapy (ACT) for malaria. This IE is examining 1) whether the ACT subsidy can increase access and affordability of ACTs, especially in rural areas; 2) whether the use of Rapid Diagnostic Tests increases the cost effectiveness of ACT subsidies; and 3) whether community participation and mobilization have an impact on individual ACT use.

**Senegal** – This evaluation is assessing the effectiveness of a school-based, preventive strategy using intermittent preventive treatment (IPT) involving the periodic mass administration of a full therapeutic course of an anti-malarial drug, irrespective of infection status. The IE also assesses the impact of a program of training for primary school teachers to improve literacy instruction and the interaction between malaria prevention and improved education quality on learning.

<b>Malaria Control</b>	<b>Country</b>	<b>Budget</b>
School Health and Nutrition: role of malaria control in improving education	Kenya	\$ 36,587
School Health and Nutrition: role of malaria control in improving education	India	\$ 173,007
Improving Malaria Outcomes by Evidence-Based Program Design	Congo, DR	\$ 109,207
Improving Malaria Outcomes by Evidence-Based Program Design	Zambia	\$ 247,687
Improving Malaria Outcomes by Evidence-Based Program Design	Senegal	\$ 36,247
	<b>Total</b>	<b>\$ 602,735</b>

<sup>6</sup> Differences in vehicles of delivery include, for example, public or private; facility-based or house-to-house; professionals or community workers, etc.