



USAID
FROM THE AMERICAN PEOPLE

 **BASICS**

MALARIA

BASICS III

Table of Contents

What is this technical area?	1
Why is this technical area important to child health?	1
What is the implementation process?	2
USAID/BASICS' Involvement	2
Results	4
What we learned and the way forward.....	7

What is this technical area?

Malaria is a blood-borne infection caused by parasites and transmitted to people by the bite of female *Anopheles* mosquitoes. Untreated, the infection can result in severe anemia, lung and kidney failure, coma, and death. Malaria is also the leading cause of school absenteeism in sub-Saharan Africa, and school children with malaria have greater difficulty with learning and concentration. Many children who survive an episode of severe malaria may suffer learning impairments or brain damage.

Malaria typically occurs in tropical and subtropical regions of the world, particularly in sub-Saharan Africa. Today, approximately 40% of the world's population—mostly those living in the world's poorest countries—are at risk of getting malaria. While all people living in malaria-endemic areas can be infected, children under 5 years of age are among the most vulnerable.

Malaria can be prevented and treated with cost-effective and proven interventions. Cost-effective and proven prevention measures include the use of insecticide-treated bed nets (ITNs—with insecticide lasting for about 2 years) and long-lasting insecticide-treated bed nets (LLINs—with insecticide lasting for 5 years), indoor residual spraying with insecticides, and intermittent preventive treatment of malaria during pregnancy (IPTp). The most effective antimalarial drugs currently available are artemisinin-based combination therapies (ACTs).

Diagnosis of most malaria cases is based solely on clinical grounds, without laboratory confirmation. Diagnosis is challenging because the symptoms and signs of malaria are not specific to malaria so many people treated for malaria do not have the infection. Because of the high cost of ACTs, the need for accurate diagnosis of malaria—through either examination of a blood sample under a microscope or with a rapid diagnostic test (RDT)—is essential to the success of national malaria control programs.

The spread and intensification of antimalarial drug resistance represents one of the most serious challenges to malaria control worldwide.

Why is this technical area important to child health?

Malaria causes more than 300 million acute illnesses and at least one million deaths annually. Ninety percent of those deaths are in children—over 850,000 children under five years of age die annually due to malaria; 94% of these deaths occur in Sub-Saharan Africa. Malaria accounts for 18% of under-five mortality in Sub-Saharan Africa; well above the global average of 8%. Malaria kills an African child approximately every 30 seconds. Pregnant women and their unborn children are also particularly vulnerable to malaria.

What is the implementation process?

The challenge of malaria in children is two-fold:

- How to reach children in need of preventive and curative malaria services.
- How to provide these services in an efficient and effective manner.

The most effective way to prevent malaria is through the selective and safe use of insecticides that kill the malaria transmitting mosquito. As cited above, there are two primary options for getting these insecticides into the homes of those most at risk: indoor residual spraying and LLINs.

Promptly diagnosing and correctly treating malaria is the other pillar of effective malaria control. In those diagnosed with malaria, correct use of antimalarial treatment will not only shorten the duration of the illness, but also reduce the frequency of complications and the risk of death.

As detailed in the following section, USAID/BASICS employed a number of innovative strategies to impact malaria prevention and treatment at the community level, including:

- Engaging civil society in the distribution of LLINs and follow-up with families to ensure appropriate, effective use.
- Contracting with NGOs to facilitate the dissemination of sustained, on-the-ground information, education, and communications regarding malaria prevention and care-seeking.
- Facilitating home-based care of malaria
- Introducing RDTs for use in programs for community case management of childhood illnesses.

USAID/BASICS' Involvement

Malawi

The USAID/BASICS initiated a grants program through which Malawian nongovernmental organizations (NGOs) were awarded 12-month grants valued at \$50,000 to support community-level malaria activities. In the program's first year (June 2008 to June 2009), the project awarded grants to 6 NGOs with the objective of implementing community-based behavior change communication programs in identified districts to:

- Educate people on the importance of using ITNs every night on a year-round basis, particularly for children under five, pregnant women, and/or people living with HIV/AIDS.
- Increase awareness of the importance of pregnant women receiving at least two doses of SP for intermittent preventive treatment in pregnancy (IPTp).

- Increase acceptance, compliance, and awareness of the change in first-line drug from sulphadoxine pyremethamine (SP) to artemether-lumafantrine (LA) in the community.
- Sensitize caregivers on the importance of prompt treatment with LA, and on the key signs and symptoms of malaria and other common childhood illness.

Rwanda

In 2004, Rwanda's Integrated National Malaria Control Program introduced a home-based management of malaria program in six pilot districts. In each district, between two and four *distributeurs* were trained to identify signs and symptoms of malaria (and other childhood illnesses), correctly administer amodiaquine plus SP (AQ/SP) to treat simple malaria, and identify danger signs that would require referral to a health center. At the same time, an extensive sensitization campaign was carried out with communities and health facilities to promote the importance of initial care-seeking through *distributeurs* as opposed to other (un-trained) sources, such as traditional healers. In 2007, USAID/BASICS conducted a review of the program to inform scale-up, as well as a second review in 2009 to look at the potential for rapid diagnostic test (RDT) use at the community level (a group of community health workers in two districts had been trained one year earlier in their use).

Timor-Leste

TAIS was responsible for the health promotion aspects of a joint initiative by the Ministry of Health and USAID to reduce malaria in the most endemic districts of Timor-Leste by providing long-lasting insecticide-treated bed nets (LLINs) to families with at least one child under the age of five. The project achieved significant results in ensuring effective use of the nearly 80,500 nets that were distributed between October 2005 and December 2007 by developing an innovative model through which *aldeia* chiefs (equivalent to mayors) and community volunteers were trained to provide clear information on proper net use at the time of distribution, make regularly-scheduled follow-up monitoring visits in homes, collect information on satisfaction and experiences, and encourage sustained net usage.

Benin

USAID/BASICS began efforts in September 2009 in 5 Health Zones to implement community case management of malaria, as well as diarrhea, nutrition, and, potentially, pneumonia. Benin is one of four country programs that will continue as separate USAID Task Orders beyond the expiration of USAID/BASICS' Task Order 1. Benin activities are expected to last until September 2011.

Madagascar

USAID/BASICS collaborated with PMI partners, the Global Fund, and the bilateral to coordinate the implementation of CCM-Malaria in a way that would minimize partner overlapping.

Results

Malawi

In April 2009, after one year of implementation, USAID/BASICS assessed its NGO grants program for scalability (coverage, quality of messages) and effectiveness (NGO capacity, collaboration, adequacy of resources), and made recommendations about program expansion. The review found that volunteers were an effective mechanism to reach communities with messages about malaria prevention and control and NGOs were appropriate structures to support the NMCP and DHMTs achieve these objectives. The review also found that the use of several strategies, particularly household visits and health talks, was critical for message uptake. This is in-line with the NMCP's BCC Strategy which recognizes the critical role of interpersonal communication to promote behavior change. The review recommended that the program be expanded to other districts in Malawi and that the grant contract timeframe be extended from one to two years to ensure that the objectives are achieved.

As a result of the review, cycle one grantees were given a 3-month no-cost extension to finalize activities. Cycle one grantees operating in 4 out of the 6 districts were subsequently given new contracts for another year (October 2009- October 2010) to continue operating in current districts. In addition, a second cycle of 4 grantees operating in 4 additional were awarded for one year (August 2009- August 2010).

Click [here](#) to read *Malawi Malaria Grant Program Review*.

Rwanda

In efforts to judge the success of efforts to increase the number of children receiving correct treatment within the onset of fever, USAID/BASICS' looked at whether caretakers were opting more often for care from *distributeurs* instead of other sources of care (or no care at all), and the accessibility and quality of care being provided by *distributeurs*. Based on four key parameters, the program was clearly shown to be successful:

1. Caretaker practice revealed a marked preference for care-seeking through *distributeurs* whereas they had relied on traditional sources of treatment before.
2. Major increases in the percentage of children being brought for care within 24 hours of the onset of fever were experienced, generally exceeding a total of 80%.
3. High levels of initial correct dosing by *distributeurs* and subsequent dosing at home by caretakers (following instructions from *distributeurs*) was seen.

4. Most caretakers referred to a health facility reported having completed the referral

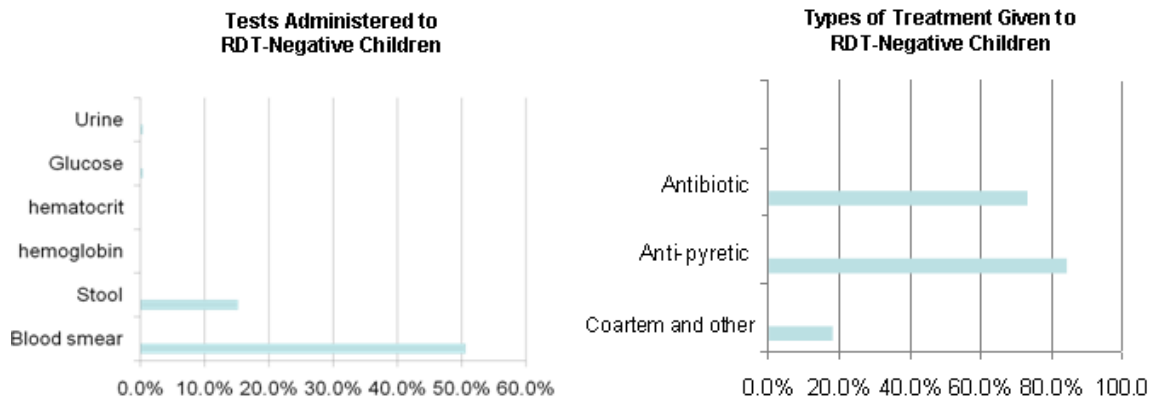
TABLE 1
COMMUNITY HEALTH WORKER KNOWLEDGE AND
PRACTICE RELATED TO RDT USE

Task	Knowledge (n=24)	Practice (n=24)
Check expiration date	71%	63%
Put on gloves	100%	96%
Position kit horizontally	92%	100%
Write identification of person and date on kit	71%	96%
Put drop of buffer in first hole	95%	100%
Disinfect finger and use pipette correctly	96%	92%
Use the pipette correctly	96%	48%
Discard pipette in waste container	71%	78%
Put entire volume of blood in 1st hole	100%	95%
Use kit to insert it in the first hole for 10 minutes	100%	79%
Use pipette to stir and let stand one minute	80%	100%
Use dipstick in 2nd hole for 10 minutes	100%	87%
Take out stick and throw away remains of kit	96%	96%
Interpret test correctly	N/A	91%
Gave PRIMO if test positive	100%	100%
Gave PRIMO if test negative	N/A	25%
Gave PRIMO and referred to HC	92%	14%

Click below to read *External Evaluation of the Pilot Phase of the Home-Based Management of Malaria Program in Rwanda*.

2007 Evaluation
 2008 Evaluation

FIGURES 1 AND 2
HEALTH CENTER ACTIONS WHEN RDT-NEGATIVE
CHILDREN ARE REFERRED (N=551)



Timor-Leste

Evaluation data revealed that in January 2006 in one district (Baucau), at least 80% of recipients were correctly using the nets and a similar assessment in another district (Manatuto) in October 2007 yielded 90% correct use. Moreover, the 2007 Timor-Leste Survey of Living Standards (2007 TLSLS) revealed that, 62.9% of children under five nationally slept under a mosquito net the night before; an increase from 47.7% in 2001. These improvements are quite significant in that it is well established that sleeping under an LLIN can help decrease malaria transmission in endemic areas by 45%, reduce premature births by 42%, and cut all-cause child mortality by as much as 63%.

An added feature of the LLIN effort was the inclusion of all recipient families in a newly developed database that can facilitate other community-based interventions.

Click [here](#) to read an article about USAID/BASICS' contribution to long-lasting insecticide-treated bed net-distribution in Timor-Leste.

What we learned and the way forward

Like any element of community-based health programming, the feasibility of CCM-malaria is dependent on several factors:

- The feasibility of CCM-malaria and ICCM depends on endorsement by the MOH and the community, and a clear system of support for CCM.
- RDTs at community level are feasible, as long as the support system is adequate and clear guidance for follow-up of RDT results is provided
- Scaling up ICCM is critical to control malaria and other conditions. It requires a mechanism, such as NGO grants, with clearly defined roles to strengthen collaboration between the public sector and civil society

Dr. Larry Barat of the President's Malaria Initiative offered cautionary advice during a USAID/BASICS-organized symposium on malaria in 2009:

Ensuring adequate support systems entails enormous investments of both money and time; and these systems honestly don't exist right now in Africa or in many countries. In its budget for 2009, PMI has included aggressive support for community case management in 13 of 15 focus countries. And in a number of countries, we're also supporting Rapid Diagnostic Tests (RDTs) and lab system strengthening. But it is important to remember that community case management and RDTs in the hands of community volunteers work on a small scale. We've seen this not only in Rwanda but also in Zambia and in a few other countries where we have excellent pilot projects that are often very well supervised and very well monitored. With CCM, I think we are a bit further along.

We're no longer in the business of promoting malaria-only community case management. What we're talking about is an integration of all diseases. That's a part of the solution, but creating another problem: getting people to go to the health facility when they are not getting treated for malaria. Ultimately, these systems are only going to work if the drugs and RDTs are delivered at the community level. The reality is that it is easy to train people but it is hard to run a system. So, this has a lot of potential, but there is a lot more work we all need to do in order to make these real programs that work.

USAID/BASICS' work in Malawi offers an excellent solution: while the Malawi NGO grant program was behavior-centered, its success suggests that, given clearly defined roles to strengthen collaboration between the public sector and civil society, the role of NGOs can be successfully expanded to support a full range of elements of community-level program for malaria and other childhood illnesses.