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United States Government Accountability Office  
Washington, DC 20548

November 16, 2005

The Honorable Judd Gregg  
Chairman  
Committee on the Budget  
United States Senate

The Honorable Russell D. Feingold  
Ranking Minority Member  
Subcommittee on African Affairs  
Committee on Foreign Relations  
United States Senate

The Honorable Tom Coburn  
Chairman  
Subcommittee on Federal Financial Management,  
Government Information, and International Security  
Committee on Homeland Security and Governmental Affairs  
United States Senate

The Honorable Sam Brownback  
United States Senate

Subject: *Global Malaria Control: U.S. and Multinational Investments and  
Implementation Challenges*

Each year, hundreds of millions of people are sickened with malaria and more than 1 million people die. Over 80 percent of all malaria deaths occur in Africa, most of them in children under the age of 5. This burden continues despite the existence of relatively simple, safe, effective, and inexpensive methods to prevent and treat malaria.

The U.S. government supports the efforts of malaria-endemic countries to control malaria, both directly through agencies such as the U.S. Agency for International Development (USAID) and indirectly through its contributions to multinational organizations such as the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria (Global Fund) and its participation in the Roll Back Malaria (RBM) Partnership.<sup>1</sup>

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<sup>1</sup>The RBM Partnership was created in 1998 to coordinate and increase the scale of global efforts to reduce the burden of malaria. The RBM Partnership includes representatives from malaria-endemic countries, multinational development organizations, the Global Fund, donor countries (including the

However, concerns have been raised that current global malaria control efforts may not be as effective as they could be. In light of these concerns, you asked us to examine U.S. involvement in global efforts to combat malaria.

In this report, we (1) describe investments that have been made by the U.S. government to support the implementation of national malaria control programs in malaria-endemic countries, both directly and in partnership with other organizations; and (2) describe key challenges to the implementation of national malaria control programs and strategies for addressing those challenges.

For the purposes of our report, we reviewed only activities that support the implementation of national malaria control programs. Support for basic and clinical research to develop new tools (such as vaccines) to combat malaria was outside the scope of our review. To describe U.S. investments to support implementation of national malaria control programs, we reviewed financial and program documentation for U.S. agencies—including USAID and the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH)—and for multinational organizations to which the U.S. government contributes—including the Global Fund, the United Nations Children's Fund (UNICEF), the World Health Organization's (WHO) RBM Department, the RBM Partnership Secretariat,<sup>2</sup> and the World Bank. We also interviewed officials from these agencies and other organizations that support malaria control efforts. We checked the financial and program data for reliability and determined that they were sufficiently reliable for our purposes.

To describe key implementation challenges and strategies to address those challenges, we reviewed a series of comprehensive country assessments conducted in Bénin, Eritrea, Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Sénégal, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.<sup>3</sup> In addition, we conducted—via e-mail—structured interviews with officials from USAID country and regional mission offices, as well as CDC field staff, in 13 of these countries.<sup>4</sup> We also interviewed other officials from U.S. agencies and partner organizations and reviewed the literature on implementation of malaria control programs. We did not independently evaluate the reported challenges and strategies to address those challenges. We performed our work from January 2005 through November 2005, in accordance with generally accepted government auditing standards.

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United States), the research and academic community, the private sector, nongovernmental organizations (NGO), and foundations.

<sup>2</sup>WHO's RBM Department is responsible for WHO's global malaria control efforts, and is one organization within the RBM Partnership. The RBM Partnership Secretariat is a separate organization that is part of the support structure for the RBM Partnership itself.

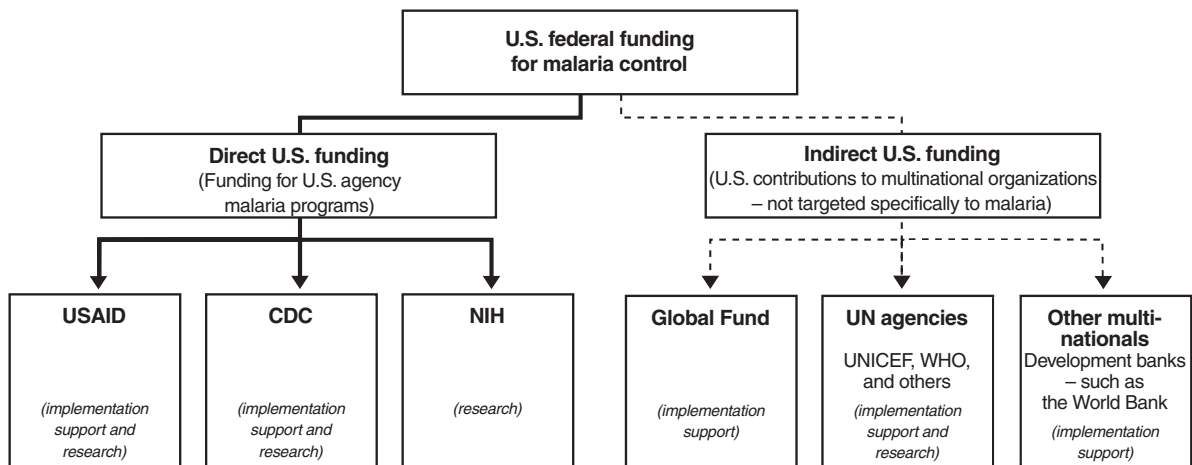
<sup>3</sup>Assessment reports for Bénin, Mali, and Sénégal were in French. For these countries we relied on structured interviews.

<sup>4</sup>We conducted 19 structured interviews in total. We did not interview officials in the USAID field office in Zimbabwe because that office does not provide support for malaria control. In addition, within these countries, CDC has field staff only in Kenya, Malawi, Tanzania, and Uganda.

## Background

USAID, CDC, and NIH are the primary agencies that receive U.S. funding for global malaria control efforts.<sup>5</sup> USAID primarily provides support for implementation of national malaria control programs but also supports some basic research. CDC provides a mix of implementation support and funding for basic research activities. NIH supports malaria research and training of malaria researchers in endemic countries, but does not provide implementation support.<sup>6</sup> The U.S. government also funds global malaria control efforts through its contributions to multinational organizations including the Global Fund, agencies within the United Nations (UN) system—such as UNICEF and WHO’s RBM Department—and development banks such as the World Bank. (See fig. 1.) Other donor nations, philanthropic foundations, and private-sector companies also provide significant funding to support global malaria control efforts.

**Figure 1: U.S. Federal Funding for Global Malaria Control Efforts**



Source: GAO.

Malaria is transmitted to people by mosquitoes that carry the malaria parasite. Malaria control involves both preventing the disease and treating people who have been infected. Malaria can be prevented by targeting the mosquitoes that transmit malaria or by using medication to prevent malaria infections. The primary prevention strategies that target mosquitoes include using insecticide-treated bed nets (ITN) and spraying the interior of homes with small amounts of insecticides, known as indoor residual spraying (IRS). Intermittent preventive treatment (IPT) with sulfadoxine-pyrimethamine (S/P) in pregnant women is the primary prevention strategy that relies on the use of medication. Currently, there are no effective vaccines that can be used to prevent malaria.

<sup>5</sup>The Department of Defense also provides support for malaria control, focusing primarily on research.

<sup>6</sup>In June 2005, the U.S. President announced an initiative that, in addition to existing U.S. funding, would provide \$1.2 billion over 5 years to support increased malaria control efforts in 15 or more African countries.

The key medications for treating people with uncomplicated malaria in developing countries include artemisinin-based combination therapies (ACT),<sup>7</sup> amodiaquine, chloroquine, and S/P. Some of these medications are available in or used in combination with each other. ACTs are preferable in many countries due to widespread parasite resistance to chloroquine and increasing resistance to S/P, particularly in Africa. However, ACTs are 10 to 20 times more expensive than the other medications and are not used in all countries.

The RBM Partnership currently endorses a four-pronged approach to malaria control. This approach, which represents the consensus of all partners, including USAID and CDC, consists of

- improved and prompt access to effective treatment,
- increased use of locally appropriate means of mosquito control,
- early detection of and response to malaria epidemics, and
- improved prevention and treatment of malaria in pregnant women.

There is broad agreement among U.S. and international malaria control experts that national malaria control programs, and the support that donors provide to those programs, should be tailored to the specific needs of each malaria-endemic country. Because of the complex nature of malaria transmission, the appropriate prevention and treatment strategies vary across countries, and sometimes across regions within a country, depending on multiple factors such as local patterns of mosquito and parasite resistance to different insecticides and medications.

### **Results in Brief**

The U.S. government's direct investments to support implementation of national malaria control programs in endemic countries—through USAID and CDC—are exceeded by its indirect investments through partner organizations, particularly the Global Fund. More than \$68 million of USAID's fiscal year 2004 malaria budget—which increased from almost \$30 million in fiscal year 2000 to almost \$80 million in fiscal year 2004—was used to provide a range of implementation support, such as updating national prevention and treatment policies and supporting distribution of malaria-related commodities, including ITNs, insecticides, and medications. Almost \$6 million of CDC's fiscal year 2004 global malaria budget—which increased from \$9 million in fiscal year 2000 to more than \$13 million in fiscal year 2004—was used to provide implementation support to national programs, including ITN, IPT, and treatment initiatives. In fiscal year 2004, the U.S. government's indirect investments through the Global Fund alone exceeded all direct investments to support implementation of national malaria control programs. We estimate, based on total Global Fund commitments for malaria control, that more than \$142 million of the U.S. government's fiscal year 2004 contribution to the Global Fund goes to support malaria control grants. Using U.S. and other donor contributions, the Global Fund has, as of September 1, 2005, committed to provide more than \$1.7 billion over the 5-year course of the malaria grants it has approved. The U.S. government's indirect

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<sup>7</sup>The artemisinin components of ACTs are extracted from the plant *Artemisia annua*.

investments through contributions to U.N. agencies and other multinational organizations also provide support to national malaria control programs. However, in the case of these organizations it is not possible to attribute a specific amount of their malaria funding to the United States.

Key challenges to implementation of national malaria control programs include inadequate human resources, specifically, widespread shortages of adequately trained technical and clinical staff; insufficient financial resources for program implementation, donor support activities, and procurement of commodities; coordination challenges, including difficulties coordinating the activities of a range of partners in malaria-endemic countries; and challenges related to limited production, procurement, and distribution capacity for key commodities such as ACTs and long-lasting ITNs (also known as LLINs). Key strategies that are being used to tackle these challenges include addressing human resource and access-to-care issues through training of community health workers and integration of malaria program activities into antenatal care clinics and immunization programs; securing additional funding—particularly from the Global Fund—to support implementation of national programs and obtaining technical assistance from U.S. agencies and partner organizations to help ensure that this funding is used effectively; improving global and local commodity production capacity—particularly for ACTs and LLINs—by reducing or eliminating applicable taxes and fostering technology transfer to local manufacturers, among others; and addressing commodity distribution and use issues through strategies such as using a mix of ITN distribution mechanisms to target different populations, prepackaging medications, and employing extensive community education efforts. Enclosure I contains briefing slides on our findings.

### **Agency Comments and Comments from the World Bank**

We provided a draft of this report to HHS, USAID, and the World Bank. In its written comments, HHS did not indicate whether it agreed with the information we presented in our draft report. The agency stated that continued research to develop new medications, insecticides, and a malaria vaccine is critical for long-term efforts to control malaria. HHS noted that in addition to their support for malaria control in Africa, U.S. agencies support malaria control efforts in other regions of the world. Although the challenges we describe were identified primarily by officials working in Africa, our report provides information on all U.S. investments to support implementation of malaria control programs, not just those in Africa.

USAID also provided written comments, in which it generally agreed with the information we presented in our draft report and highlighted the contributions that the agency has made toward improving malaria-endemic countries' ability to expand their malaria control programs. However, USAID expressed concern that the complexity of some of the issues we discussed in our draft report, such as supporting updating of national prevention and treatment policies and the subsequent implementation of those policies, was not adequately addressed. We agree that expanding malaria control programs is highly complex and challenging, and a section of our report is focused on identifying the key challenges and strategies that are being used to address those challenges. USAID also provided additional information about


the 5-year, \$1.2 billion malaria initiative recently announced by the President and updated information in our draft report, most notably regarding the number of countries that have switched their treatment guidelines to recommend ACTs and have adopted IPT prevention policies.

HHS, USAID, and the World Bank all provided technical comments, which we incorporated where appropriate. In its technical comments, the World Bank noted that there is need for predictable, medium- to long-term financing for malaria control programs, but that financing from donor nations tends to be short term and unpredictable. We have reprinted HHS's written comments in enclosure II and USAID's written comments in enclosure III.

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We provided your staff with the information contained in this report on August 25, 2005. We agreed with your staff to issue a report to you containing the information we provided. We are sending copies of this report to the Secretary of State, the Secretary of Health and Human Services, the Administrator of the U.S. Agency for International Development, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please call me at (202) 512-7119. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Martin T. Gahart, Assistant Director; Chad Davenport; Keyla Lee; J. Alice Nixon; and Roseanne Price made key contributions to this report.



Marcia Crosse  
Director, Health Care

Enclosures – 3



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# **Global Malaria Control: U.S. and Multinational Investments and Implementation Challenges**

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## **Briefing for Congressional Staff**

**Updated**



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## Introduction

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**Each year, hundreds of millions of people are sickened with malaria and more than 1 million people die, despite the existence of relatively simple, safe, effective, and inexpensive methods to prevent and treat malaria. Over 80 percent of all malaria deaths occur in Africa, most in children under the age of 5 and pregnant women.**

**The U.S. government supports the efforts of malaria-endemic countries to control malaria, both directly through agencies such as the U.S. Agency for International Development (USAID) and indirectly through its contributions to and partnership with multinational organizations such as the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria (Global Fund) and the Roll Back Malaria (RBM) Partnership.<sup>1</sup>**

**Concerns have been raised that current global malaria control efforts and U.S. involvement in those efforts may not be as effective as they could be.**

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<sup>1</sup>The Partnership—created in 1998—includes representatives from malaria-endemic countries, the Global Fund, multinational development organizations, donor countries (including the United States), the research and academic community, nongovernmental organizations (NGO), foundations, and the private sector. 2





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## Objectives

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- 1. Describe investments that have been made by the U.S. government to support the implementation of national malaria control programs in malaria-endemic countries, both directly and in partnership with other organizations.**
  - 2. Describe key challenges to the implementation of national malaria control programs and strategies for addressing those challenges.**
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## Scope and Methodology

For the purposes of our report, we did not include basic and clinical research to develop new tools to combat malaria (such as vaccines) in our review of implementation support activities. To describe U.S. investments to support implementation of national malaria control programs, we reviewed financial and program documentation for U.S. agencies—including USAID, the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH)—and for organizations to which the U.S. government contributes—including the Global Fund, the United Nations Children's Fund (UNICEF), the World Health Organization's (WHO) RBM Department, the RBM Partnership Secretariat,<sup>1</sup> and the World Bank.

We interviewed officials from these and other agencies and organizations that support malaria control efforts.

We checked the financial and program data for reliability and determined that they were sufficiently reliable for our purposes. We have taken into account any issues related to the comparability of financial data—such as budget time frames—and other data, and noted them in these slides as appropriate.

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<sup>1</sup>WHO's RBM Department is responsible for WHO's global malaria control efforts and is one organization within the RBM Partnership. The RBM Partnership Secretariat is a separate organization that is part of the support structure for the RBM Partnership itself.



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## Scope and Methodology (continued)

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To describe key implementation challenges and strategies for addressing those challenges, we reviewed a series of comprehensive country assessments conducted by the RBM Partnership with the assistance of U.S. agencies and others. The missions were conducted in Bénin, Eritrea, Ethiopia, Ghana, Kenya, Malawi, Mali, Nigeria, Sénégal, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.<sup>1</sup>

In addition, we conducted and analyzed a series of structured interviews—conducted via e-mail—with officials from USAID country and regional mission offices and CDC field staff in the same countries, with the following exceptions: (1) The USAID field office in Zimbabwe does not provide support for malaria control. (2) Of these countries, CDC has field staff only in Kenya, Malawi, Tanzania, and Uganda. We conducted 19 structured interviews in total.

We interviewed other officials from U.S. and partner organizations and reviewed the literature on implementation of malaria control programs.

We did not independently evaluate the reported challenges and strategies to address those challenges.

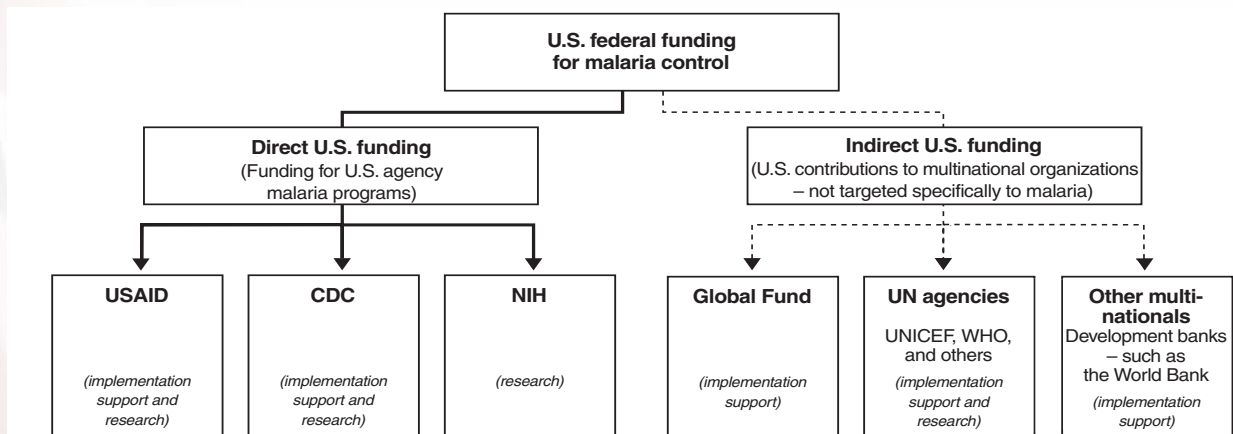
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<sup>1</sup>Assessment reports for Bénin, Mali, and Sénégal were in French. For these countries we relied on structured interviews.

## Background

### U.S. Federal and Other Sources of Funding for Global Malaria Control Efforts

#### U.S. federal funding



Source: GAO.

**Other sources of funding for malaria control programs and research include other donor nations, philanthropic foundations (particularly the Bill and Melinda Gates Foundation), and private-sector companies**

Note: The Department of Defense also provides support for malaria control, focusing primarily on research.



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## **Background (continued)**

### **Prevention Strategies for Malaria Control**

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#### **Prevention strategies that target the mosquitoes that carry the malaria parasite include**

- Using insecticide-treated bed nets (ITN)
- Spraying the interior of homes with small amounts of insecticides—a practice known as indoor residual spraying (IRS)
- Other options such as using insecticides to control mosquito larvae

#### **Prevention strategies that use medication to prevent malaria include**

- Intermittent preventive treatment (IPT) with sulfadoxine-pyrimethamine (S/P) in pregnant women

#### **The appropriate mix of prevention strategies for a particular setting varies according to factors such as**

- The local pattern of mosquito and malaria parasite resistance to different insecticides and medications
- The local pattern of disease transmission
- Operational feasibility and sustainability

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Note: There are currently no vaccines available to prevent malaria.



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## **Background (continued)**

### **Treatment Strategies for Malaria Control**

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#### **The key medications for treating people with uncomplicated malaria in developing countries include**

- Artemisinin-based combination therapies (ACT)<sup>1</sup>
- Amodiaquine
- Chloroquine
- S/P

**ACTs are preferable in many countries due to widespread parasite resistance to chloroquine and increasing resistance to S/P, particularly in Africa. However, ACTs are 10 to 20 times more expensive than the other key medications and are not used in all countries.**

#### **The appropriate medication for a particular setting varies according to factors such as**

- The local pattern of malaria parasite resistance to different medications
- The type and severity of the malaria infection
- The age and pregnancy status of the patient

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<sup>1</sup>The artemisinin components of ACTs are extracted from the plant *Artemisia annua*.



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## **Background (continued)**

### **Consensus Agreement of U.S. Agencies and Partner Organizations on Approach to Malaria Control**

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**National malaria control programs and the support that donors provide should be tailored to the specific needs and practical realities of each malaria-endemic country**

**The four key approaches to malaria control are**

- 1. Improved and prompt access to effective treatment**
  - 2. Increased use of locally appropriate means of mosquito control**
  - 3. Early detection of and response to malaria epidemics**
  - 4. Improved prevention and treatment of malaria in pregnant women**
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## **Background (continued)**

### **Comprehensive National Malaria Control Programs**

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**Comprehensive national malaria control programs involve a range of activities, including selecting appropriate prevention and treatment strategies, implementing those strategies on a large scale, and conducting surveillance, monitoring, and evaluation activities**

**The specific mix of appropriate prevention strategies and treatment strategies varies across countries, and sometimes across regions within a country**

#### **Global and local factors can affect implementation of national programs**

- **Global factors:** Global funding, production capacity for malaria-related commodities (including ITNs, insecticides, and medications), development of new technologies, and political factors
  - **Local factors:** Local disease epidemiology, economic situation, infrastructure, human resources, and cultural and political factors
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## **Objective 1: U.S. Investments in Malaria Control**

### **Summary of Direct and Indirect Investments**

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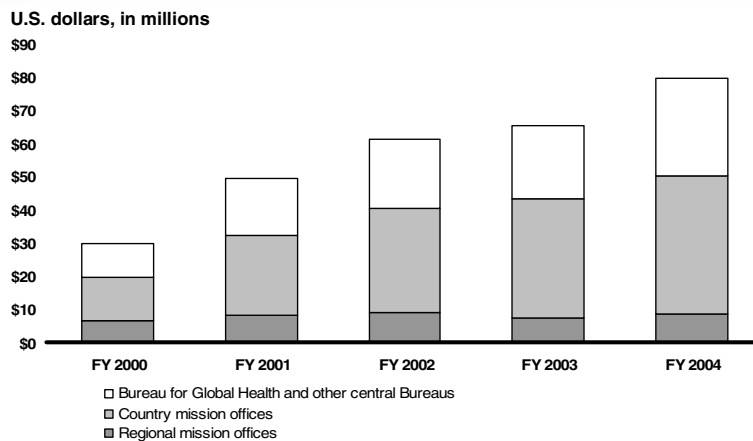
**The U.S. government’s direct investments to support implementation of national malaria control programs—through USAID and CDC—are exceeded by its indirect investments through partner organizations, particularly the Global Fund**

- More than \$68 million of USAID’s FY04 malaria budget, which increased from almost \$30 million in FY2000 to almost \$80 million in FY04, was used to provide implementation support
  - CDC officials estimate that almost \$6 million of the agency’s FY04 global malaria budget, which increased from \$9 million in FY2000 to more than \$13 million in FY04, was used to provide implementation support
  - In FY04, U.S. indirect investment through the Global Fund alone exceeded all direct investments to support implementation of national malaria control programs—we estimate that more than \$142 million of the U.S. government’s FY04 contribution to the Global Fund supports malaria control
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## Objective 1: U.S. Investments in Malaria Control USAID Malaria Budget by Office and Fiscal Year

### USAID's malaria budget has increased since FY2000



Source: GAO analysis of USAID data.

In FY04, USAID obligated roughly \$56 million to support implementation of programs in Africa<sup>1</sup>—almost \$41 million through mission offices and an estimated \$15 million through the agency's Bureau for Global Health (BGH)

<sup>1</sup>USAID also supports malaria control programs in Asia, Latin America and the Caribbean, and Europe.



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## **Objective 1: U.S. Investments in Malaria Control**

### **USAID Malaria Obligations (FY04) by Type of Investment and Top Recipients**

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#### **More than \$68 million (86%) was used to provide implementation support for national malaria control programs**

More than \$50 million—roughly 63%—provided implementation support through NGOs. Top recipients included

- Academy for Educational Development — \$9.5 million
- Population Services International — \$5.6 million

More than \$18 million—roughly 23%—provided implementation support through partnerships with CDC, multinational organizations, and national ministries of health. Top recipients included

- WHO — \$8.6 million
- CDC — \$5.5 million

**Almost \$9 million (11%) was used to support research and development efforts for new medications and vaccines. Top recipients included Walter Reed Army Institute of Research, Malaria Vaccine Initiative, and Medicines for Malaria Venture**

**More than \$2 million (3%) was used for USAID internal administrative and staff costs**

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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities<sup>1</sup>**

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### **USAID implementation support covers a broad range of activities including**

- Supporting updates to national prevention and treatment policies, including training technical and clinical staff, and developing surveillance and monitoring systems
- Supporting commodity distribution programs, including using vouchers to subsidize the cost of nets to individuals and some direct purchasing of commodities
- Supporting national efforts to obtain additional funding from other organizations, particularly the Global Fund

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<sup>1</sup>Unless otherwise noted, the implementation support activities described on slides 14 through 18 were reported in March 2005 by 36 USAID mission offices and USAID's BGH. The reported information may not capture all activities conducted.



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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities—Prevention Support (FY04)**

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**32 of 36 USAID mission offices and the BGH reported providing a range of support for implementation of prevention programs, such as**

**Supporting implementation of specific types of prevention strategies**

- ITNs—29 mission offices (21 of 23 in Africa) and the BGH
- IRS—10 mission offices (5 of 23 in Africa) and the BGH
- IPT in pregnant women—16 mission offices (16 of 23 in Africa) and the BGH

**Providing subsidies or distributing vouchers to support ITN programs**

- 13 mission offices and the BGH

**Training technical and clinical staff regarding prevention**

- 12 mission offices

**Conducting community education or social marketing programs for ITNs and IPT**

- 10 mission offices

**Supporting updating of national prevention policy to include IPT**

- 8 mission offices and the BGH<sup>1</sup>

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<sup>1</sup>The BGH reported that, as of March 2005, a total of 21 countries have adopted IPT, 6 of those in 2004.



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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities—Treatment Support (FY04)**

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**33 of 36 USAID mission offices and the BGH reported providing a range of support for implementation of treatment programs, such as**

**Supporting updating of national treatment policy to recommend ACTs for people with uncomplicated malaria**

- 18 mission offices and the BGH<sup>1</sup>

**Developing monitoring or surveillance systems to detect drug resistance and epidemic outbreaks to guide changes to national treatment policies**

- 21 mission offices and the BGH

**Training technical and clinical staff regarding treatment**

- 21 mission offices

**Directly purchasing ACTs for treatment**

- 6 mission offices

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<sup>1</sup>The BGH reported that, as of March 2005, a total of 29 countries have changed their national treatment policy.



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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities—Supporting Commodity Distribution and Direct Commodity Purchases (FY04)**

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### **Support for commodity distribution<sup>1</sup>**

- USAID supported various commodity distribution efforts, including programs that provide vouchers to subsidize the cost of nets to individuals, such as
  - NetMark (a USAID initiative focused on public-private investment to increase ITN use), which spent \$318,000 to subsidize the cost of nets
  - Subsidized ITN distribution through antenatal care clinics in Benin
  - Community-based distribution of treatment through NGOs in Rwanda

### **Direct commodity purchases<sup>2</sup>**

- 20 of 36 USAID mission offices reported commodity purchases totaling almost \$5.7 million
  - Almost \$4.9 million for prevention commodities, including more than \$4.1 million for long-lasting insecticidal nets (LLIN), which are preferable because they can remain effective for as long 5 years, in comparison with traditional ITNs which require retreatment with insecticide roughly every 6 to 12 months
  - Roughly \$830,000 for malaria medications, including almost \$500,000 for ACTs

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<sup>1</sup>Systematic data are not available on the quantities of various commodities provided with USAID support.

<sup>2</sup>Updated data on FY04 commodities purchases were reported by mission offices to the BGH in May and June 2005.<sup>17</sup>



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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities—Other Support (FY04)**

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### **Supporting national efforts to develop Global Fund malaria grant applications in order to obtain additional financial resources**

- 23 mission offices and the BGH

### **Providing salary support for in-country staff working within the national malaria control program**

- 8 mission offices and the BGH

### **Supporting integration of malaria commodity distribution and community education programs into antenatal care settings**

- 14 mission offices and the BGH
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## **Objective 1: U.S. Investments in Malaria Control USAID Implementation Support Activities—Data on Results**

### **Systematic data on malaria-specific outputs, outcomes, and impacts resulting from USAID investments are not readily available, in part due to resource constraints**

- USAID requires mission offices to report annually on missionwide activities, but comprehensive malaria-specific reporting is not required
- According to USAID officials, collecting nationally representative data on key impact indicators—such as all-cause mortality in children under age 5—is time consuming and expensive; for example, national impact surveys cost \$1 million or more and are conducted roughly every 4 years<sup>1</sup>
- Mission offices collect data on outcomes—such as percentage of children under age 5 with access to treatment—and outputs—such as numbers of people trained—but systematic reporting of these data to USAID’s central bureaus is not required

### **Specific USAID-supported initiatives report additional information, such as**

- NetMark reported that 56% of households in Senegal in 2004 owned a net or ITN
- A national malaria control project in Eritrea<sup>2</sup> reported a 63% drop in malaria cases from 1999 to 2003

<sup>1</sup>USAID has streamlined survey tools to evaluate malaria impact more regularly.

<sup>2</sup>Funded primarily through the World Bank and implemented with USAID technical assistance to the national Ministry of Health.



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## **Objective 1: U.S. Investments in Malaria Control**

### **CDC Global Malaria Budget and Types of Investments**

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**CDC's global malaria budget increased from \$9 million in FY2000 to more than \$13 million in FY04**

**CDC estimates that of the agency's FY04 global malaria budget**

- Almost \$5.7 million was used to provide implementation support<sup>1</sup>
- About \$3.5 million was used to support basic research efforts
- Almost \$4.2 million was used for program support functions within CDC as well as mandatory costs such as rent and utilities

**CDC supports its global malaria control activities with additional funding from within the agency, other federal agencies (particularly USAID), and external organizations (such as the Bill and Melinda Gates Foundation). This funding ranged from more than \$3 million in FY2000 to almost \$7 million in FY04**

- This funding is used almost entirely to provide implementation support

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<sup>1</sup>The amounts of CDC's global malaria budget used to support implementation and basic research are estimates because CDC does not track its malaria funding according to these breakdowns.



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## **Objective 1: U.S. Investments in Malaria Control CDC Implementation Support Activities**

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**CDC provides a range of technical assistance to support national malaria control programs—including ITN, IPT, and treatment initiatives—such as**

- **Operational research to validate the effectiveness of different malaria prevention and treatment strategies**
- **Surveillance, monitoring, and evaluation to support updating of national prevention and treatment policies and assess program effectiveness**
  - Support for data collection on insecticide and medication resistance patterns
  - Surveillance to detect malaria outbreaks that might signal an epidemic
- **Human resources support**
  - Training for malaria control staff
  - Posting of CDC staff to other organizations (such as WHO’s RBM Department)
  - Participation in global coordination mechanisms
- **Community education**
- **Support for design and expansion of national prevention and treatment initiatives, including commodity distribution programs<sup>1</sup> such as a free mass ITN distribution campaign in Togo**

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<sup>1</sup>However, CDC does not directly purchase commodities for distribution.



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## **Objective 1: U.S. Investments in Malaria Control Indirect Investments—Global Fund Malaria Funding**

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**The Global Fund is a key source of funding for implementation of national malaria control programs—particularly the purchase of commodities—but it does not provide technical assistance for the implementation of the grants it funds**

- As of September 1, 2005, the Global Fund has committed to provide more than \$1.7 billion for malaria control over the 5-year course of existing malaria grants
- Of the funding currently available to grantees, almost \$358 million has been disbursed and more than \$537 million remains available
- More than \$435 million from Global Fund malaria grants has been used or is currently budgeted to purchase ACTs and ITNs

**We estimate that more than \$142 million of the U.S. government’s FY04 contribution to the Global Fund supports malaria control programs**

- Because 31% of all Global Fund commitments have been for malaria grants, we estimate that 31% of the U.S. government’s \$459 million contribution to the Fund in FY04 supports malaria control grants<sup>1</sup>

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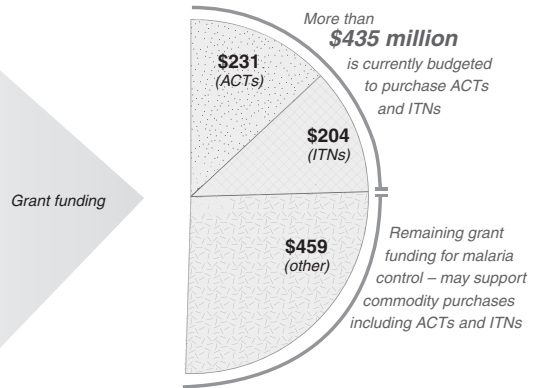
<sup>1</sup>U.S. contributions to the Global Fund represent about 28% of all donor contributions since the Fund's creation in January 2002.

## Objective 1: U.S. Investments in Malaria Control Indirect Investments—Global Fund Commitments, Disbursements, and Commodity Budgets for Malaria Grants

**Breakdown of Global Fund commitments for malaria (U.S. dollars, in millions) – totaling more than \$1.7 billion**



**Estimated amount of current grant budgets for commodity purchases (U.S. dollars, in millions)**



Signed malaria grants  
 Additional approved commitments for malaria (contingent on grant performance and availability of funds)

Budgeted for artemisinin-based combination therapies (ACT)  
 Budgeted for insecticide-treated nets (ITN)  
 Remaining grant budgets

Source: GAO analysis of Global Fund data as of September 1, 2005, except for ACT budgets which are as of August 29, 2005.

Note: The sum of commodity budgets and remaining funding does not add to total signed grant amounts due to rounding.



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## **Objective 1: U.S. Investments in Malaria Control Indirect Investments—Global Fund Commitments and Disbursements for Malaria Grants, as of September 1, 2005**

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### **The Global Fund has signed malaria grants worth almost \$895 million**

- The Global Fund has disbursed almost \$358 million of this amount, 86% of this since January 2004<sup>1</sup>
  - Almost \$136 million was disbursed in 2004
  - Almost \$173 million was disbursed January 2005 through September 1, 2005
- Almost \$655 million (73%) from signed grants is for countries in Sub-Saharan Africa

### **The Global Fund has approved an additional \$852 million for later years (years 3 through 5) of existing malaria grants, but these funds are not yet available to grantees**

- This funding is contingent on grant performance and availability of funding
- More than \$93 million of this funding has already met the performance requirements but is awaiting signing of grant agreement extensions

### **Global Fund officials expect new malaria grants will be approved during the current round (number 5) of applications**

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<sup>1</sup>The first Global Fund disbursement for a malaria grant was in February 2003.



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## **Objective 1: U.S. Investments in Malaria Control**

### **Indirect Investments—Commodity Budgets from Global Fund Malaria Grants**

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#### **More than \$231 million from signed grants is budgeted to purchase ACTs<sup>1</sup>**

- Orders for almost \$93 million worth of ACTs have been placed since 2003

#### **More than \$204 million from signed grants is budgeted to purchase almost 46 million ITNs<sup>2</sup>**

- Orders for almost \$56 million worth of ITNs (almost 13 million) have been placed
- Almost 84% of funds budgeted for ITN purchases are for LLINs

**Global Fund officials did not have readily available data on budgets for medications other than ACTs or data on insecticide purchases, but told us that they are working on systems to track these data**

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<sup>1</sup>ACT budget totals were reported by the Global Fund, as of August 29, 2005.

<sup>2</sup>ITN budget totals were reported by the Global Fund, as of September 1, 2005.



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## **Objective 1: U.S. Investments in Malaria Control Indirect Investments—Global Fund Efforts to Facilitate Procurement of Preferred Commodities**

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**The Global Fund is facilitating ACT and LLIN procurement by allowing grantees to**

- Reprogram approved grants to switch from other medications to ACTs
- Reprogram approved grants to switch from ITNs to LLINs
- Make payments to manufacturers or procurement agents directly from Global Fund accounts
- Request funding advances to offset costs of switching to ACTs and LLINs





## Objective 1: U.S. Investments in Malaria Control Indirect Investments—Summary of Other Partners

U.N. agencies and multinationals	Focus	Funding <sup>1</sup>
UNICEF	Implementation support, direct commodity procurement, and procurement services	Almost <b>\$39 million</b> in malaria expenditures in 2004
RBM Partnership Secretariat	Coordination of RBM partner efforts to support expansion of global malaria control efforts	Average budget of almost <b>\$12 million/yr</b> for 2004 and 2005, but shortfall was about 50% in 2004 (about 97% of budget comes from voluntary contributions)
WHO's RBM Department	Policy and strategy formulation, and capacity strengthening	Average budget of almost <b>\$63 million/yr</b> for 2004 and 2005
WHO Pesticide Evaluation Scheme (WHOPES)	Quality assurance and evaluation of mosquito control technologies such as LLINs and insecticides	Average budget of more than <b>\$340,000/yr</b> in 2004 and 2005 for malaria activities
Special Programme for Research and Training in Tropical Diseases	Clinical and operational research as well as training activities	Average malaria budget of almost <b>\$23.5 million/yr</b> for 2004 and 2005
The World Bank	Strengthening national health sectors	Malaria-specific commitments (2000-April 2005) of <b>\$100 million to \$150 million</b> . Additional Bank lending for malaria implementation support is available, and the Bank has committed to make \$500 million to \$1 billion available over the next 5 years.

<sup>1</sup>Because U.S. government general contributions to these organizations are not targeted to malaria, it is not possible to attribute a specific amount of their malaria funding to the United States. Instead, we present malaria-specific funding for each organization as a whole.



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## **Objective 2: Key Challenges to Implementation of National Malaria Control Programs**

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- 1. Inadequate Human Resources**
- 2. Insufficient Financial Resources**
- 3. Coordination Challenges**
- 4. Commodities Challenges—Production, Procurement, and Distribution Capacity**
- 5. Limited Surveillance, Monitoring, and Evaluation Capacity**
- 6. National Challenges**
  - Knowledge gaps at the community level
  - National leadership issues
  - Weak health systems infrastructure—Access-to-care issues

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Note: These challenges were identified, in part, through structured interviews with USAID and CDC officials working in 13 countries and two regional offices in Sub-Saharan Africa.



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## **Objective 2: Key Challenges to Implementation**

### **Inadequate Human Resources**

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#### **Staff shortages and lack of necessary skills and training**

- Most countries reported shortages in numbers of adequately trained staff
- Shortages were reported for general malaria control program staff, staff with specialized skills such as supply chain management, and clinical staff at various, and sometimes all, levels of the health system
- National malaria control programs in several countries reported a lack of senior management staff

#### **Examples of reported consequences**

- Delays in implementation and inadequate health care delivery
  - Technical staff diverted from their responsibilities to take on budgeting and planning responsibilities
  - Inappropriate use of medications for treatment
  - Resistance among some clinical staff to dispensing recommended medications
-



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## **Objective 2: Key Challenges to Implementation**

### **Insufficient Financial Resources**

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#### **Lack of funding for program implementation and donor support activities, including**

- Updating of national prevention and treatment policies
- Establishment of monitoring, evaluation, and surveillance systems
- Capital investments—such as the purchase of equipment for IRS programs—needed to support effective policy implementation

#### **Examples of reported consequences**

- Delays in implementation of updated prevention and treatment policies
  - Limited capacity to expand a newly integrated policy involving the coupling of ITN use with IPT
  - Inability of programs to purchase a sustainable supply of insecticides, spray equipment, and vehicles for mobilization of spray teams needed to effectively implement IRS programs
  - Limited use of available research and monitoring and evaluation data to make program implementation more effective
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## **Objective 2: Key Challenges to Implementation**

### **Insufficient Financial Resources (continued)**

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#### **Lack of funding for commodity procurement, distribution, and consumer purchase**

- High up-front costs for newer commodity types
  - ACTs are 10 to 20 times more expensive than other malaria medications
  - LLINs cost more up front (although they may cost less over time)
- Inability to provide sufficient subsidies to promote consumer purchases
- Costs due to national tariffs/taxes on commodities and raw ingredients

#### **Examples of reported consequences**

- Higher overall program costs related to newer commodities
  - Barriers to access to commodities resulting from out-of-pocket costs to individuals—in one country, ITN sales increased significantly only after the subsidized price was reduced to about \$0.65 per ITN
  - Supply problems caused by high tariffs—in one case, a 75% tariff on imported ITNs virtually cut off international supply and overwhelmed local manufacturers, leading to a local shortage of ITNs
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## **Objective 2: Key Challenges to Implementation**

### **Coordination Challenges**

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#### **Difficulties in coordinating across a range of partners in malaria-endemic countries, including**

- Ministries of Health across national, regional, and local levels, as well as national officials from other sectors (such as agriculture)
- U.S. agency and partner organizations
- Relevant private-sector companies
- The research community

#### **Examples of reported consequences**

- Disconnects between national prevention and treatment policies and local implementation
  - Convoluted implementation of combination therapy across national and international partners
  - An ITN subsidy policy that may not most effectively reach the most vulnerable groups
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## **Objective 2: Key Challenges to Implementation**

### **Commodities Challenges—Production Capacity**

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#### **ACTs—Global production capacity shortages due to**

- A single ACT product—manufactured by Novartis—having been prequalified through WHO’s Prequalification Project<sup>1</sup>
- Limited information available to generate reliable demand forecasts
- Lag time of 9 to 12 months from cultivation of plants to finished products
- Insecure supply with large-scale cultivation primarily limited to China and Vietnam—Novartis reports that almost all of its supply comes from one company

#### **Examples of reported consequences**

- Producers reluctant to base investments on existing demand forecasts
- Long delays from time orders are placed to delivery
- Products sometimes not available for purchase
- Some countries choosing not to purchase recommended ACTs or to delay changes in national treatment policies until ACT supply is more predictable

#### **Global and local production capacity shortages are also reported for LLINs, with similar consequences**

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<sup>1</sup>As an interim measure, WHO has given time-limited approval, based on review of quality and manufacturing data, for the purchase of several other ACT products that have not yet completed the full prequalification process. 33



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## **Objective 2: Key Challenges to Implementation Commodities Challenges—Procurement and Distribution Capacity**

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### **Ineffective/inadequate forecasting and stock management due to**

- Lack of staff experienced with supply chain management
- Inadequate infrastructure for large-scale commodity procurement and distribution
- Limited national capacity to ensure the quality of imported and locally manufactured commodities
- Inadequate information systems to track commodity stocks at various levels of the health system

### **Examples of reported consequences**

- Frequent shortages of S/P in certain locations despite available national supply
  - Some cases of substandard or poor quality ITNs and drugs being sold
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## **Objective 2: Key Challenges to Implementation Commodities Challenges—Procurement and Distribution Capacity (continued)**

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### **Procurement procedural delays due to**

- Delays in signing of agreements between government ministries and a procurement agent
- Global Fund procurement standards
- Nontransparent Ministry of Health procedures for purchasing commodities using Global Fund monies
- Lengthy customs clearance processes for commodities

### **Examples of reported consequences**

- Recommended drugs being replaced with less appropriate choices
  - Procurement delays of 1 month or more—which have been especially problematic in emergency situations such as epidemic outbreaks—due to lengthy customs clearance procedures
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## **Objective 2: Key Challenges to Implementation**

### **Limited Surveillance, Monitoring, and Evaluation Capacity**

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#### **Surveillance and monitoring system weaknesses**

- Limited data on insecticide and drug resistance patterns
- Weak epidemic surveillance systems

#### **Examples of reported consequences**

- Need for investments by U.S. agencies and other partners to gather resistance data to inform updates to national prevention and treatment policies
- Delays in epidemic detection resulting in high rates of morbidity and mortality

#### **Program evaluation limitations**

- Lack of systematic information on donor support activities
- Lack of sufficient baseline data on country situation before program expansion

#### **Examples of reported consequences**

- Limited ability to assess impacts and outcomes that can be attributed to malaria control programs
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## **Objective 2: Key Challenges to Implementation**

### **National Challenges**

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#### **Knowledge gaps at the community level**

- Limited awareness of malaria signs and symptoms and appropriate use of medications for treatment
- Lack of knowledge about prevention tools, including ITNs, IRS, and IPT
- Disparities in awareness and ITN use between urban and rural areas

#### **National leadership issues**

- Lack of political support for malaria control in some countries
- Lack of government authority, particularly for national malaria control programs
- NGOs operating independently of national policies in some countries

#### **Weak health systems infrastructure—Access-to-care issues**

- Limited number of clinics, laboratories, and trained staff in rural areas
  - Poor rural transportation infrastructure
  - Delayed access to appropriate treatment—in one country, fewer than 5% of patients were treated within 24 hours of the onset of fever
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## **Objective 2: Key Strategies for Addressing Implementation Challenges**

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**According to USAID and CDC officials working in Africa, various strategies are being used to address implementation challenges faced by national malaria control programs**

- 1. Strategies for Addressing Human Resource and Access-to-Care Issues**
  - 2. Strategies for Securing and Effectively Using Additional Funding**
  - 3. Strategies for Improving Commodity Production and Procurement Capacity for ACTs, ITNs, and LLINs**
  - 4. Strategies for Addressing Commodity Distribution and Use Issues**
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## **Objective 2: Key Strategies**

### **Addressing Human Resource and Access-to-Care Issues**

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#### **Training community health workers**

- Multiple countries are training large numbers of community health workers or health extension workers (e.g., 25,000 in Ethiopia) to deliver malaria prevention and treatment services at the local level—training includes skills such as appropriate diagnosis of malaria, delivery of medications, appropriate use of ITNs, and health education

#### **Integrating malaria program activities into antenatal care clinics, immunization programs, and other services**

- USAID, CDC, and partners are supporting efforts to integrate malaria commodity distribution and community education programs into antenatal care clinics and immunization programs
    - This integration leverages and strengthens existing health care services
    - It also provides malaria control services at a key point of access to care that is used by pregnant women and children under age 5
  - Malaria programs are being integrated with some national efforts to expand HIV services
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## **Objective 2: Key Strategies**

### **Securing and Effectively Using Additional Funding**

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#### **Supporting the implementation of national programs with funding from existing Global Fund grants and/or applying for additional Global Fund grants**

- Most countries are using Global Fund grants—or have submitted new grant applications—to support ACT, ITN (including LLIN), IRS, and IPT initiatives

#### **Seeking funding from the World Bank, other multinational organizations, donor nations, and the private sector to support implementation of national programs**

#### **Obtaining technical assistance from U.S. agencies and others to help secure additional funds and develop local capacity to effectively use those funds**

- U.S. agencies and partner organizations reported playing a key role in supporting national efforts to secure additional Global Fund resources
  - These agencies and organizations also provided technical expertise and developed local capacity to ensure that Global Fund and other available resources are used effectively
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## **Objective 2: Key Strategies**

### **Improving Commodity Production and Procurement Capacity for ACTs, ITNs, and LLINs**

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**The Global Fund will, at a country's request, make direct payments to ACT, ITN, and LLIN manufacturers to facilitate procurement processes<sup>1</sup>**

**Improving demand forecasting for ACTs—with USAID and other support—by anchoring estimates to data from partners and countries**

**Using risk capital from USAID to promote local cultivation of *Artemisia annua* and develop local production capacity for ACTs—Kenya and Tanzania**

**Using risk capital from USAID to promote increased net production by local manufacturers—NetMark reports \$0.61 of private investment for every \$1 the program invests**

**Fostering the transfer of LLIN production technology to local net manufacturers**

**Advocating to reduce or eliminate national taxes on imported nets and raw materials used in local production of ITNs and LLINs**

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<sup>1</sup>In its 2004 report *Saving Lives, Buying Time: Economics of Malaria Drugs in an Age of Resistance*, the Institute of Medicine recommended a global subsidy of \$300 million to \$500 million per year to cover the costs of ACTs, but such a mechanism has not yet been established.



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## **Objective 2: Key Strategies**

### **Addressing Commodity Distribution and Use Issues**

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**Using a mix of ITN distribution mechanisms—including free distribution, vouchers and other subsidies, and commercial sales targeted to different populations**

**Providing LLINs to address need to re-treat traditional ITNs every 6 months**

**Bundling nets with re-treatment kits**

**Using regional warehousing and buffer stocks to prevent shortages of ITNs**

**Prepackaging medications with age and culturally appropriate instructions to encourage patients to take the full treatment course**

**Using rapid diagnostic tests to promote rational use of limited ACT supplies**

**Targeting IRS activities to regions prone to epidemic outbreaks**

**Rotating use of insecticides to counter development of resistance to insecticides**

**Employing extensive community education efforts, including training local drug retailers and pharmacists on appropriate use of ACTs and teaching mothers and local health care providers how to recognize signs and symptoms of malaria and use ACTs and ITNs**

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## **Concluding Observations**


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**The amount of funding available to support implementation of national malaria control programs in endemic countries has increased in recent years, in part due to increased investments by the U.S. government, both through such organizations as the Global Fund and through its own agencies. Since the beginning of 2004, the Global Fund in particular has become a key source of funding; however, it does not provide technical assistance to its grantees.**

**Endemic countries continue to face significant challenges to implementing their malaria control programs. Many report limited financial and human resources and still require technical assistance to develop the capacities needed to use available funding effectively. USAID and CDC, along with various U.N. agencies, have begun to address some of these challenges and have provided technical assistance, but more remains to be accomplished.**

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**Comments from the Department of Health and Human Services**

	<b>DEPARTMENT OF HEALTH &amp; HUMAN SERVICES</b>	Office of Inspector General
		Washington, D.C. 20201

OCT 27 2005

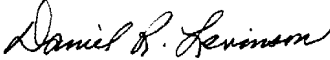
Ms. Marcia Crosse  
Director, Health Care  
U.S. Government Accountability Office  
Washington, DC 20548

Dear Ms. Crosse:

Enclosed are the Department's comments on the U.S. Government Accountability Office's (GAO's) draft correspondence entitled, "GLOBAL MALARIA CONTROL: U.S. and Multinational Investments and Implementation Challenges" (GAO-06-147R). These comments represent the tentative position of the Department and are subject to reevaluation when the final version of this report is received.

The Department appreciates the opportunity to comment on this draft report before its publication.

Sincerely,



Daniel R. Levinson  
Inspector General

Enclosure

The Office of Inspector General (OIG) is transmitting the Department's response to this draft correspondence in our capacity as the Department's designated focal point and coordinator for U.S. Government Accountability Office reports. OIG has not conducted an independent assessment of these comments and therefore expresses no opinion on them.

**COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES ON  
THE U.S. GOVERNMENT ACCOUNTABILITY OFFICE'S (GAO) DRAFT  
CORRESPONDENCE ENTITLED, "GLOBAL MALARIA CONTROL: U.S. AND  
MULTINATIONAL INVESTMENTS AND IMPLEMENTATION CHALLENGES"  
(GAO-06-147R)**

**General Comments**

The draft report addresses challenges for implementing the currently available effective methods for controlling malaria. Efforts to develop additional control tools to complement current tools will need to continue. Additional effective therapeutics, new classes of insecticides, and, ultimately, a malaria vaccine are still needed. Research in these areas is critical for a long-term control of malaria, and is a component of the U.S. Government's (USG) balanced efforts on global malaria control.

The country assessments included in the draft are all in Africa. Although only 10 percent of malaria deaths occur outside Africa, malaria is a major public health problem in many other areas, particularly in Asia, and USG agencies also are supporting malaria control in other areas of the world.

**Comments from the U.S. Agency for International Development**



U.S. AGENCY FOR  
INTERNATIONAL  
DEVELOPMENT

NOV 10 2005

Ms. Marcia Crosse  
Director, Health Care  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Ms. Crosse:

I am pleased to provide the U.S. Agency for International Development's (USAID) formal response on the draft GAO report entitled "Global Malaria Control: U.S. and Multinational Investments and Implementation Challenges (GAO-06-147R)."

We very much appreciate the extensive and thoughtful effort that went into this review by the GAO team. Given the relatively short time the team had to complete their work, we were impressed with their grasp of the complex issues at hand and found the report to be a succinct and balanced presentation of some of the critical challenges facing malaria control today, as well as of examples of the kinds of programs and activities USAID has been supporting to address malaria. The enclosed comments identify a few concerns and elaborate on several of the examples and issues identified in your report.

Thank you for the opportunity to respond to the GAO draft report and for the courtesies extended by your staff in the conduct of this review.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa D. Fiely".

Lisa D. Fiely  
Chief Financial Officer  
Bureau for Management

Enclosure: a/s

1300 PENNSYLVANIA AVENUE, N.W.  
WASHINGTON, D.C. 20523

United States Agency for International Development's (USAID) Comments  
on GAO Draft Report: Global Malaria Control: U.S. and Multinational  
Investments and Implementation Challenges (GAO-06-147R)

USAID appreciates the opportunity to review and comment on the GAO draft report on Global Malaria Control. The extensive and thoughtful efforts of the GAO team are reflected in their impressive grasp of the complex issues; however, we have taken this opportunity to identify a few concerns and to elaborate on several of the examples and issues identified in this report.

In addition to providing essential, life-saving interventions, USAID's work in malaria over the past decade has laid the groundwork for the exciting opportunities we currently have in scaling up effective anti-malarial programs in Africa as part of the President's Malaria Initiative. We continue to work with countries throughout Africa, as well as Asia and Latin America, to monitor drug resistance and help them change treatment policy to adopt more effective first-line treatments. Thirty countries in Africa, eight in Latin America, and five in Asia now have adopted artemisinin combination therapy (ACT) as their first-line treatment. In seventeen of these countries USAID has helped directly effect this change. USAID supported the research necessary to introduce ACTs in Africa, demonstrating their safety in children under ten kilograms. USAID's support for the insecticide treated net (ITN) trials in Kenya in the 1990s demonstrated their effectiveness in reducing malaria and reducing child mortality in areas with high malaria transmission. USAID also supported the research demonstrating the power of intermittent preventive therapy (IPT) in reducing malaria in pregnant women and the number of low birth weight babies and has been instrumental in helping 25 countries in Africa adopt a policy on IPT.

The President's Malaria Initiative builds on this long-standing experience to forge a program capable of reducing mortality attributable to malaria by 50 percent. Under this initiative, the President has proposed \$1.2 billion over the next five years, on top of our on-going programs. We will meet these targets by dramatically scaling up proven effective interventions, including use of ITNs, indoor residual spraying, ACTs and IPT in at least fifteen countries in sub-Saharan Africa. USAID will purchase substantial amounts of life-saving commodities and dramatically expand services. In order to deliver these commodities, we will continue to build logistics and management systems, train health care workers and monitor programs, and work in close partnership with National Malaria Control Programs and other partners at the global and country level.

Several serious issues noted in your report warrant further elaboration. On page 8 of your slides, you note that ACTs still are not being used in all countries. We are concerned, however, that the complexity of changing and implementing a new drug policy is not given adequate attention. Changing drug policy requires political commitment on the part of affected countries, new drug regulations, changes to the logistics and distribution systems (including phasing out of obsolete medicines), training of health care providers at all levels of the system, and providing clear information to patients. In addition, global supply issues (noted on page 33 of your slides) are proving to be a significant barrier to increased uptake and use of ACTs -- even as pharmaceutical companies work to increase their production and resources become available from the Global Fund, USAID, and other donors to purchase ACTs. USAID continues to work to address this critical problem. We are helping pharmaceutical manufacturers to meet prequalification requirements in order to expand the number of manufacturers on the market. We are supporting a coordination mechanism for procurement forecasting to help manufacturers better plan for meeting the demand for ACTs. We also have provided funding to agricultural concerns to grow the *Artemisia annua* plant in East Africa, which will lead to increased supply of ACTs in early 2006.

Your report correctly notes that USAID's implementation support includes updates to prevention and treatment policies and to commodity distribution systems. Without these investments, and the on-going work to build functioning management systems, ACTs, ITNs, and other life-saving commodities would simply sit in a warehouse and never get to those who need them.

However, the report highlights only a few examples that, in the aggregate, do not adequately describe the extent of USAID activities. In the past year alone, for example, NetMark spent over \$1 million to subsidize the costs of ITNs for the poor (including \$248,071 spent through NetMark by ExxonMobil and the Red Cross). Through its formal partnerships with the private sector, including local distributors in Africa, NetMark has distributed over 6 million ITNs and 4.2 million insecticide treatment and re-treatment kits to families in need. This success is due in large part to USAID's large-scale demand generation, marketing support, and provision of payment guarantees to manufacturers to increase credit ceilings for African distributors by between 100 to 400 percent. It also is due to USAID efforts to develop the capacity of local distributors and built sustainable, national level markets to deliver ITNs without the need for perpetual donor support. USAID also has subsidized ITN distribution through antenatal clinics and other health centers in many other countries, including Madagascar, Benin, Angola, Ethiopia, and the Democratic Republic of the Congo.

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In addition to the data on commodities included on page 17 of your report, USAID allocated about \$600,000 for other malaria related commodities, including laboratory equipment and rapid diagnostic tests. The total funding for malaria related commodities in FY 2004 was \$6.2 million.

(290436)

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