

**COMMITTEE ON FOREIGN AFFAIRS**  
**Subcommittee on Africa, Global Health, and Human Rights**  
**Testimony on Malaria,**  
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**Malaria Control Saves Lives – one of the very best investments in Global Health of our generation**

The parasite that causes malaria, its life cycle, and its mode of transmission were identified just over 100 years ago. In the 1950s and 1960s, the global public health community attempted an ambitious program to eradicate malaria, which produced many successes in countries but never reached its stated global goal. In the decades that followed, malaria became an enormous problem, unchecked by any substantive program interventions. In the 1990s, the malaria science community recommitted itself to identifying, testing, and demonstrating the efficacy of a set of improved affordable interventions that could be delivered on a wide scale to homes and communities. And, in 1997, African Heads of State made a call for a renewed effort against malaria in the Harare Declaration on Malaria.

Building on the enthusiasm for effective interventions and in recognition of the enormous growing burden, the Roll Back Malaria (RBM) “movement” was launched in December 1998 with leadership from the World Health Organization (WHO), the United Nations Children’s Fund (UNICEF), the World Bank, and the United Nations Development Program (UNDP). As RBM was organizing and a new millennium beginning, the year 2000 was taken as the baseline for measurement of the anticipated progress. Momentum grew over the next several years, but it was the remarkable increase in investment by global donors and multilateral agencies beginning in 2005 that transformed partners’ collective understanding of what was possible. Many donors had long supported countries in their malaria control efforts, but major shifts in the mid-2000s changed what was possible and inspired an urgent sense of responsibility to bring this deadly disease to a halt, and simultaneously contribute to the achievement of the Millennium Development Goals (MDGs).

From modest beginnings, the RBM Partnership has rapidly evolved into what it is today: a superior example of global partnership with ambitious, yet achievable, aspirations. A disciplined commitment to strategy, evidence, and the prioritization of country support and leadership were central partnership principles that were fuelled by funding sufficient to bring about impact.

Major changes have occurred in every aspect of malaria control since 2000, including the control measures themselves, global and national policies and strategies, partnerships, financing, and systems for monitoring program scale-up and progress. The evolution of new tools (such as long-

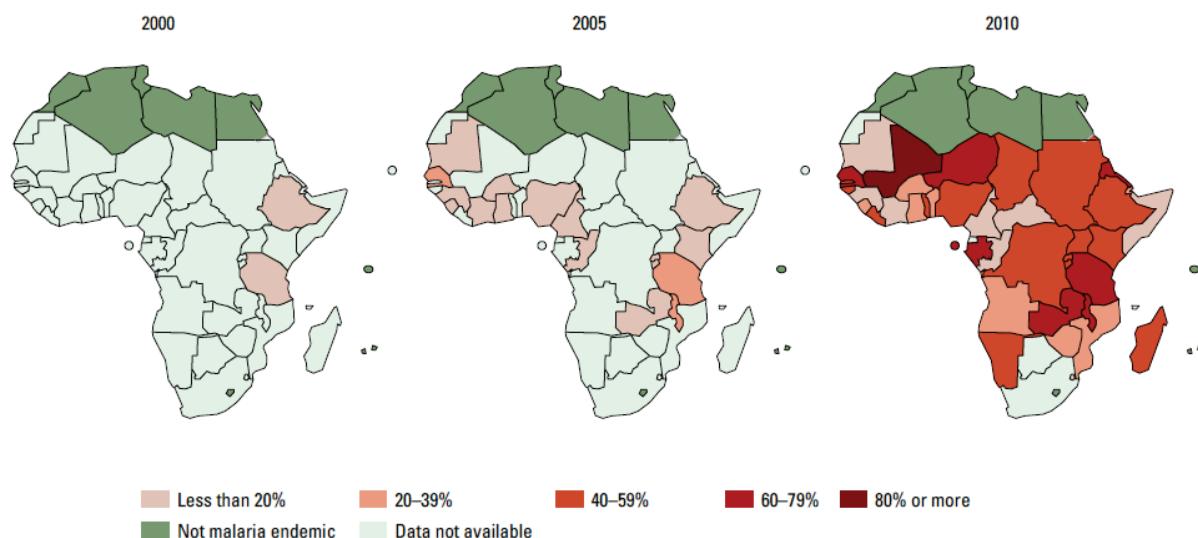
lasting insecticide-treated nets, rapid diagnostics, and better drugs) and new strategies (scaling up for impact, expanding from a narrowly targeted approach to reach all at risk, and targeting elimination where possible) indicates a partnership that has quickly matured and responded to diverse and rapidly changing needs and situations. Moreover, the partnership has placed the greatest attention on Africa where the infections, illnesses, and deaths from malaria make up more than 85 percent of the global burden.

Around the world, many countries have rapidly scaled up their programs and compiled remarkable evidence of impact. This represents clear evidence that the malaria control community, led by national governments and their national malaria programs, can deliver the services to people in need (Figure 1 shows this dramatic change in the last five years).

**Figure 1**

**Proportion of households with at least one ITN, based on the latest survey data available by the end of 2000, 2005 and 2010**

*Steep increases were seen in the proportion of African households with at least one ITN.*



Countries have accomplished this with substantial national leadership and hard work and with a broad partnership supporting them. This partnership—the RBM Partnership—has evolved as a range of collaborative national, regional, and global partnerships. Its underpinnings include high level political support from the UN Secretary General's Special Envoy for Malaria, technical guidance from the WHO Global Malaria Program, remarkable growth in program financing from key donors (the Global Fund to fight AIDS, Tuberculosis and Malaria [Global Fund], World Bank, the US President's Malaria Initiative [US-PMI], UK Department for International Development [DFID], the Bill & Melinda Gates Foundation, and others), development of new interventions by the science

community and private sector, and support for program action by national and international nongovernmental public health organizations.

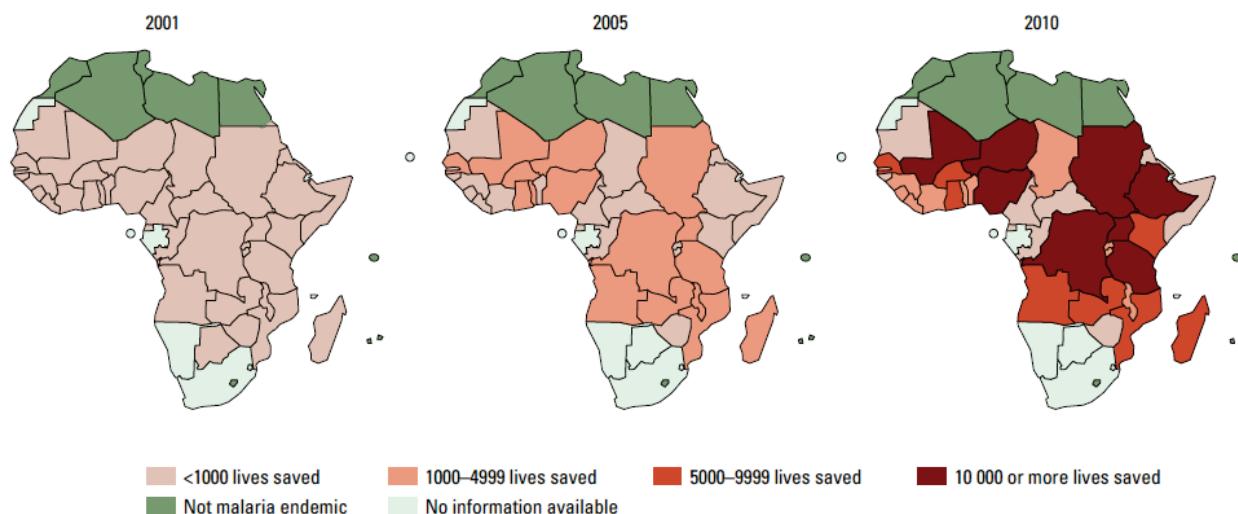
It is this powerful partnership that has established the foundation on which malaria control today is achieving unprecedented results, including:

- A more than ten-fold increase in resources available for malaria control since the beginning of the decade, with most money raised over the past three years.
- An estimated 1.1 million child malaria deaths averted in sub-Saharan Africa since the start of the RBM Partnership (see Figure 2).
- A more than 50 percent reduction in malaria cases and deaths in more than ten African countries that achieved substantial intervention scale-up.

**Figure 2**

**Estimated number of children's lives saved by malaria prevention in 2000, 2005 and 2010**

*Using the Lives Saved Tool (LiST), a health impact model that estimates the under-five child mortality impact of key interventions based on coverage data from surveys and intervention efficacy from randomized controlled trial research, modelled estimates suggest that compared to mortality in 2000, a substantial number of child malaria deaths have been prevented each year and this has occurred largely since 2005. In 2010 alone, an estimated almost 300 000 child malaria deaths were averted in Africa due to malaria control.*

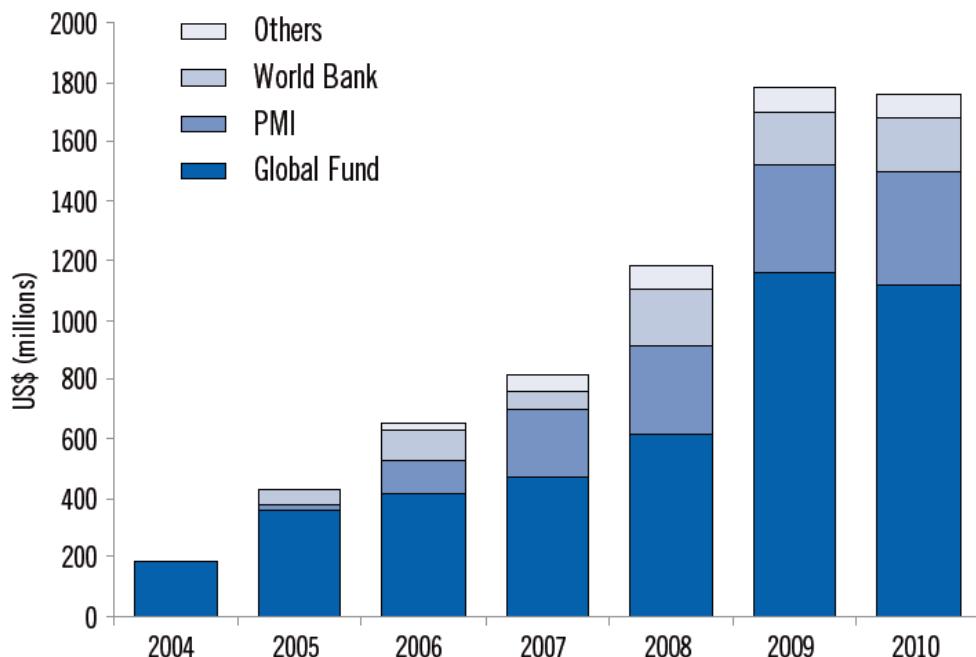


*Source: LiST modelling done by Tulane University School of Public Health and Tropical Medicine and Johns Hopkins University Bloomberg School of Public Health, based on Stover J et al., 2010.<sup>37</sup>*

- A more than 50 percent reduction in malaria cases and deaths in the majority (but not all) of the malaria-endemic countries in the other (non-African) malarious regions of the world.
- Four countries over the past four years (United Arab Emirates, Morocco, Turkmenistan, and Armenia) certified by WHO as having eliminated malaria—the first countries to achieve this distinction in 20 years.

Global funding of malaria control clearly has been one of the most productive health investments ever. The following figure shows the dramatic increase in commitments for malaria control globally from the three main donors (the Global Fund, US-PMI, and the World Bank) and other partners. The increase starting after 2004 has led to the interventions being delivered and lives being saved.

**Figure 3**  
**Funding commitments for malaria from the Global Fund, the U.S. President's Malaria Initiative, the World Bank, and Others – (2004 –2010)**



But the work is still far from done. Some countries have not yet begun to fully scale up malaria interventions; other countries that have scaled up are now struggling to achieve the efficiencies required to sustain high coverage rates and to take next steps to further reduce malaria transmission, illness, and malaria-associated deaths. And the global partnership is challenged by the global economic downturn and donors' shifting funding priorities, placing at risk even this successful health initiative.

Based on the successes to date, the RBM Partnership has updated its goals for end-2015 to align with the MDGs, identifying the elimination of malaria deaths, the marked reduction of malaria cases, and the elimination of malaria transmission in ten countries and the European Region as major objectives. Indeed, the next phase of the RBM Partnership is upon us. It will require yet another remarkable effort in the near term, requiring significant financial, technical, and human resource commitments from countries and all existing and new partners.

## Key Messages

**Message 1. Rapid intervention scale-up has resulted in remarkable global and regional reductions in malaria illness and death.** The first decade of Roll Back Malaria has witnessed remarkable impact of malaria control in countries where interventions have been scaled up. Child survival has improved around the world and across Africa. Estimates provided here suggest that malaria prevention has contributed to saving more than 1 million children from a malaria death in Africa since the inception of the RBM Partnership. National population-based surveys, facility surveys, routine health information, and special studies demonstrate consistently fewer malaria cases, less anemia, and fewer blood transfusions, less severe disease, less death, and marked reduction in transmission including elimination of malaria in three countries.

**Malaria control impact was achieved across all endemic regions:**<sup>1</sup> Global goals focused on reducing the burden of malaria by one-half have brought about dramatic impact in all regions.

**In the African region:** Malaria control has saved the lives of more than 1 million African children from malaria deaths between the creation of the RBM Partnership and the launch of this report. In countries with substantial scale up of interventions, remarkable progress has been seen and at least 11 countries have recorded a more than 50 percent reduction in cases or deaths due to malaria.

**In the European region:** There has been remarkable progress in malaria control; malaria mortality has essentially been eliminated and the region is poised to eliminate transmission in the coming five years.

**In the Americas:** The majority of countries have demonstrated substantial progress and more than one-half have achieved a more than 50 percent reduction in malaria cases and/or deaths.

**In the Eastern Mediterranean region:** Remarkable progress has occurred here with elimination having been achieved in several countries and marked progress in others. But some larger countries with considerable burden such as Sudan and Somalia have experienced limited progress over the decade linked to political and economic strife (however Sudan is reporting very recent successes in scale-up of malaria control).

**In the South-East Asia Region:** Half of the ten malaria-endemic countries have shown a greater than 50 percent reduction in cases or deaths; but several large countries and/or

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<sup>1</sup> This report uses WHO Regions.

heavily populated countries such as India, Bangladesh, Indonesia, and Myanmar still suffer a considerable burden.

**In the Western Pacific Region:** Half of the countries have achieved a greater than 50 percent reduction in cases or deaths; but again, major scale-up efforts are required in countries such as Cambodia and Papua New Guinea to advance regional progress.

**Message 2. The malaria control landscape has been transformed in the last decade.** The first decade of Roll Back Malaria has seen a major change in every aspect of malaria control including global and national policies and strategies; partnerships; financing; interventions—including new systems for insecticide-treated nets (ITNs), indoor residual spraying (IRS), prevention in pregnancy, diagnosis, and treatment; and systems for monitoring program action and progress. Malaria control today is unrecognizable from just ten years ago and we can anticipate that this rapid pace of change will continue and be required in the coming decade to sustain and grow the impact.

**Evolution in the RBM Partnership:** The RBM Partnership emerged in a global public health context where partnerships were seen as the way forward, yet there was limited experience with core requirements for effectiveness. Today, the RBM Partnership offers a robust platform for discussions and harmonization of partners in malaria programming, resourcing and advocacy, and its structure and function appear to be one of the stronger partnership examples in global public health—undoubtedly aided by its experience and focus on country work.

**Improvements in malaria control policies and strategies:** Between 2000 and 2010, countries moved aggressively to align their malaria control policies with WHO recommendations and to embrace the global strategy as laid out in the Global Malaria Action Plan and to respond to the UN Secretary General's call for achieving universal coverage, particularly with ITNs in sub-Saharan Africa. Policies initially targeted the most vulnerable populations (women and young children) but have evolved to address entire populations in order to reach all people at risk, especially those potentially transmitting infections to others. And, because of the recognition that malaria prevention is a global public good and that the poorest must have access, there has been a dramatic evolution to provide interventions that are affordable (often needing to be free) to the end user.

**Growth in malaria control financing:** Starting in earnest by the middle of the decade, financing commitments and disbursements for malaria control increased seven- to nine-fold, although they remain below required levels to achieve full scale-up across endemic countries. Funding increases have resulted in marked increases in program coverage resulting in considerable health impact. This success is fragile and inextricably tied to funding; in some areas, gains were quickly lost when financing fell off. Particularly in the current unstable global economic environment, consistent and sufficient funding is required to ensure continued success.

**Improvements in interventions and delivery systems:** During the course of the decade, interventions have changed. ITNs are now long-lasting ITNs (LLINs) and don't need retreatment. IRS is much more widely applied beyond urban and peri-urban settings and protects many more families. Intermittent preventive treatment for pregnant women (IPTp) and ITNs reach many more pregnant and reproductive-age women through antenatal clinics. With recent clarity on the quality, utility, and decreasing price of rapid diagnostic tests (RDTs), WHO now recommends universal diagnostic testing of suspected malaria with RDTs as a first line diagnostic test in peripheral health facilities and in communities, representing a true paradigm change for malaria control. Much more effective treatment with ACTs has reached wide-scale acceptance, distribution, and use. Finally, additional new interventions are poised to help even more: recent evidence from malaria vaccine trials shows important promise; new drugs are under development and testing in the field; new diagnostics are also becoming available.

**Improvements in measuring progress:** In 2000, there was a distinct lack of information to guide programs. Over the decade, attention to the collection and synthesis of accurate information has blossomed. A "malaria module" was introduced into national surveys (DHS, MICS) and the Malaria Indicator Survey facilitated data collection where these other surveys were not available. National surveillance systems have been pushed to improve timeliness and quality of information. Malaria diagnostic testing is transforming surveillance as countries change to reporting "confirmed malaria" rather than "suspected malaria" or simply "fever presumed to be malaria." New phone and internet technologies are facilitating novel approaches to surveillance that incorporate real-time feedback to front line health workers. And, as transmission is reduced, it is this improved surveillance and timely local information that will be critical to further contain and ultimately stop malaria transmission.

**Message 3. Policy and action supporting intervention scale-up is broadly accepted and prioritized as integral to stopping malaria.** Efforts to achieve universal intervention coverage, as declared by the UN Secretary General in 2008 have been a shining success in many countries.

**Vector control:** To date, near-full coverage of populations with LLINs has been achieved in many African countries. IRS has been markedly expanded as well in many countries. But some countries remain in the early stage of scale-up; and resources, infrastructure, technical capacity, and commodities are required in those countries to achieve and maintain high coverage.

**Prevention in pregnancy:** While policy adoption for the prevention of malaria during pregnancy progressed rapidly during the decade, coverage of women with IPTp has been slower and not as well supported as might have been possible. Efforts in this area need to be redoubled to protect susceptible women and their newborns.

**Diagnostic testing:** In 2010, WHO recommended diagnostic testing for all suspected malaria cases prior to treatment. This is revolutionary for the field of malaria control—both knowing where the malaria is and treating confirmed malaria rather than all febrile children. It is anticipated that, as with other recommendations, the full adoption of this policy into daily practice will progress rapidly.

**Case management:** While policy adoption for malaria treatment with ACTs has progressed rapidly, deployment and coverage with ACT treatment has been slow until the last two years. Recently, several African countries have turned the corner and treatment using ACTs is becoming the standard practice. Aligning appropriate treatment with confirmed malaria and reaching all those in need remain important next steps in malaria control.

**Message 4. The continual upgrading of the RBM Partnership's goals, objectives, and targets is a demonstration of progress.** The 2011 update of the RBM Partnership's malaria control vision and objectives tightens the focus specifically on action required to achieve the 2015 MDGs. There have been four updates over the course of the decade and this recent update, with its increasingly ambitious targets, highlights the sense of urgency accumulating as countries build on their successes.

#### RBM Vision, Objectives, and Targets updated in 2011

**Vision:** Achieve a malaria-free world.

**Objective 1.** Reduce global malaria deaths to near zero by end-2015.

**Objective 2.** Reduce global malaria cases by 75% by end-2015 (from 2000 levels).

**Objective 3.** Eliminate malaria by 2015 in ten new countries and in the WHO Europe Region.

**Targets include:** Achieve universal access to and utilization of prevention measures; sustain universal access to and utilization of prevention measures; accelerate development of surveillance systems; achieve universal access to case management in the public sector; achieve universal access to case management and referral in the private sector; achieve universal access to community case management of malaria.

**Message 5. Continued success requires building on what works, rapidly anticipating the need for and developing new strategies and tools, addressing threats head on, and ensuring that successful investments are not lost due to global competing priorities.**

**Build on what works:** The rapid impact of population-based intervention scale-up is now well-established. Strengthening the intervention delivery planning processes, procurement and logistics and supply systems, and financial management mechanisms remains essential

to further progress. In addition to ensuring continued universal coverage of LLINs (and IRS where appropriate), special focus on increasing coverage of IPTp, diagnostic testing, and treatment is required.

**Rapidly anticipate the need for and develop new strategies and tools:** This next decade is likely to bring us a first malaria vaccine, new diagnostic tests, new drugs and drug combinations, new insecticides and new ways to deliver them, and new enthusiasm for reducing and containing malaria to smaller and more focal areas and then eliminating those foci as well. These new and emerging tools will introduce challenges for countries and partners in keeping national policies updated, allocating needed budgets, and implementing more and more at local levels.

**Directly address threats to progress:** There will be threats to the progress in malaria control. These include: waning efficacy of tools; challenges inherent in supporting large, complex countries that are early in their efforts to scale-up or countries with political instability or conflict; strengthening systems for both scale-up and keep-up efforts; supporting countries to further reduce transmission and enter pre-elimination or elimination work; and providing predictable support in an environment of fluctuating global health resources.

**Ensure that successful investments are not lost due to global competing priorities:** Malaria control has been an excellent investment. Sleeping under an ITN and having a home sprayed with insecticide are now normal expectations in many millions of households and in most national malaria control programs. But if financing commitments falter, these gains will quickly be lost. RBM partners must continue producing results and communicate these successes to decision-makers in and beyond the health sector so that it will be unthinkable to reduce global commitments of support. As with global immunization, this set of essential and highly effective child survival interventions must become uniquely prioritized in a way to guarantee that they are always in reach for the poorest and most rural or marginalized at-risk populations.

**Sustain investments in research and development of new tools:** The recent successes in malaria control are due in part to past investments in product development, whether safe and effective insecticides, improved drug treatments, or diagnostic tests. Knowing what we do about the adaptive abilities of the malaria parasite and its mosquito host, maintaining the flow of funds for the development of the tools of tomorrow is imperative, whether new classes of insecticides and drugs, more accurate diagnostic methods, or (assuming a first vaccine is within reach) a more highly effective, second-generation vaccine.

Political momentum, particularly among the endemic countries, will be essential to maintain the gains and keep malaria high on the international agenda. The recent formation of the African Leaders Malaria Alliance (ALMA), a coalition of 39 African Heads of State focused on ending deaths from malaria represents a groundbreaking opportunity to ensure that successful investments are maintained.

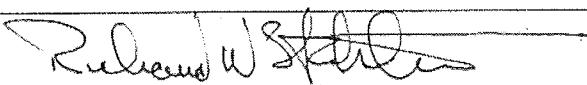
### **Status of Funding: The Critical Role of the United States and the Global Fund to Fight AIDS, Tuberculosis and Malaria**

The combination of the global economic crisis and competing global health priorities has created an acute crisis in the continued financial support of the Global Fund. And, like many health sector programs supported by the people of the United States, the U.S. President's Malaria Initiative is at risk even when it has demonstrated excellent progress. The most recent Global Fund Board Meeting (November 2011) led to decisions to revise the strategy to further limit financial support risk because funding was simply not available; this puts successful malaria control programs on the brink of losing ground after demonstrated success.

United States House of Representatives  
Committee on Foreign Affairs

"TRUTH IN TESTIMONY" DISCLOSURE FORM

Clause 2(g) of rule XI of the Rules of the House of Representatives and the Rules of the Committee require the disclosure of the following information. A copy of this form should be attached to your written testimony and will be made publicly available in electronic format, per House Rules.

1. Name:  Richard W. Steketee, MD, MPH	2. Organization or organizations you are representing:  PATH
3. Date of Committee hearing:  December 5, 2011	
4. Have <u>you</u> received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify?	5. Have any of the <u>organizations</u> you are representing received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify?
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6. If you answered yes to either item 4 or 5, please list the source and amount of each grant or contract, and indicate whether the recipient of such grant was you or the organization(s) you are representing. You may list additional grants or contracts on additional sheets.	
See attached. PATH has 6 grants (5 on HIV/AIDS and 1 on child survival)	
7. Signature:	

*Please attach a copy of this form to your written testimony.*

PATH currently has 6 grants (5 on HIV/AIDS and 1 on child survival and health systems strengthening that permit or encourage expenditure on malaria control. These are listed below. Dr Richard Steketee is not listed on any of these grants.

Funder	Award Title	Award Type	Start Date	End Date	Budget
USAID	AIDSTAR-TO#1 – Orphans & Vulnerable Children Caregiver Training and Child Protection	Cost Plus Fixed Fee - LOE Contract	9/15/2008	9/14/2013	\$9,999,315.00
USAID	AIDSTAR-TO#2- Strengthening Communities' Responses to HIV/AIDS	Cost Plus Fixed Fee Contract	4/1/2009	3/31/2014	\$35,000,000.00
USAID	AIDSTAR:TASK ORDER # 3 - Democratic Republic of Congo (DRC)	Cost Plus Fixed Fee- LOE Contract	9/30/2009	9/30/2014	\$44,873,203.00
USAID	Partnership for an HIV-Free Generation G-PANGE Project	Cost Plus Fixed Fee Contract	7/15/2010	7/14/2012	\$20,483,980.00
USAID	APHIplus Health Service Delivery Project – Zone 1 Western and Nyanza Provinces	Cooperative Agreement	1/1/2011	12/31/2015	\$142,691,684.00
USAID	AIDSTAR:TASK ORDER # 3 - Democratic Republic of Congo (DRC)	Cost Plus Fixed Fee- LOE Contract	9/30/2009	9/30/2014	\$44,873,203.00