

What does it take to invest in the control and elimination of malaria?

William R Brieger summarises the current debate on where the emphasis should be in the battle to defeat malaria

World Malaria Day is coming up in 25 April, and achieving the theme of 'End Malaria for Good' requires increasing and sustaining investment in malaria control and elimination continues. Progress has been made.¹ Global funding levels rose after the launching of the Roll Back Malaria (RBM) partnership, but have stagnated in recent years, leading experts to estimate that we may only be generating one-third of the support needed to finish the job that was formulated in the Abuja Declaration of 2000.

Consideration of the issue of investment must occur on many levels. Herein, we will look at the investments ranging from multilateral agencies to the household and look at the implications for reaching global elimination targets in the next 20–30 years.

Major sources of financial support

Global support comes from international organisations, bilateral country donors, foundations and corporations. A report from the Kaiser Family Foundation showed that in 2013 US\$2.6 billion in global funding was designated for malaria, up from US\$871 million in 2005. While these amounts appear large, the most recent contributions cover around half of the estimated annual need of US\$5.1 billion according to the RBM Partnership Global Malaria Action Plan.²

Most (43.2%) of the 2013 funding came from international organisations, most notably the Global Fund to Fight AIDS, Tuberculosis (TB) and Malaria (GFATM) (40.5%), and the World Bank (2.7%).³ National/domestic funding accounted for 20.4% (although it is not elaborated whether this is governmental, private or a mix). Bilateral donors provide a major share with 26.2% coming from USA and 6.9% from UK. The remaining 3% comes from other sources like corporations and foundations.

An example of bilateral financial support is the US President's Malaria Initiative which started with three countries in Africa in 2005. Its first funding was US\$30 million in 2006. A decade later the programme had expanded to 18 African countries and the Greater Mekong Region with an annual budget of US\$619 million. Funding levels have remained steady over the past four years.⁴

The 2016 World Malaria Report (WMR)⁵ updates the figures. According to the report, 'Total funding for

malaria control and elimination in 2015 is estimated at US\$2.9 billion, having increased by US\$0.06 billion since 2010. This total represents just 46% of the GTS (Global Technical Strategy for Malaria 2016–2030) 2020 milestone of US\$6.4 billion.' Again we see the gap between what maintains malaria efforts and what could accelerate them to reach goals of eliminating the disease in the next 20–30 years. The WMR 2016 also documents that the largest individual donor countries are the USA and Great Britain, but notes that much of their contributions are channeled through international organisations, particularly the Global Fund.

The WMR 2016 also breaks down national governmental expenditure. Of the 32% of total funding in 2015 coming from governments, US\$612 million was direct expenditures through national malaria control programmes (NMCPs), while US\$332 million was expenditures on malaria patient care. While domestic funding for malaria in African countries has increased in absolute terms over the years, it still remains a smaller proportion of total funding.⁶



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The non-governmental sphere plays a relatively small but important role in malaria funding. The WMR 2016 notes that the Bill & Melinda Gates Foundation contributed 1.2% of global financing to malaria in 2015. The Global Fund itself characterises nearly US\$300 million as contributions from foundations, corporations and other entities. This accounts for approximately 6% of the total 2015 contributions.⁷ These are not differentiated among HIV, TB and malaria, though in terms of disbursements, malaria programmes received approximately 28% of the total.⁸

Households

Households are often said to bear the brunt of malaria financing through out-of-pocket expenditure for both treatment and prevention. This may vary from country to country based on whether there is effort to provide free or low-cost care to all as in Malawi, or whether a more mixed economic and healthcare system exists as in Nigeria. Usually it is difficult to get national estimates of such payments, and so the financial picture of malaria reflects mainly the contributions from governments and donors. While we do not have specific figures for malaria, we note that the overall out-of-pocket (OOP) expenditure by households in Nigeria for healthcare averaged 69.3% between 2010 and 2014.⁹ In the same period the average OOP in Malawi was 10%.

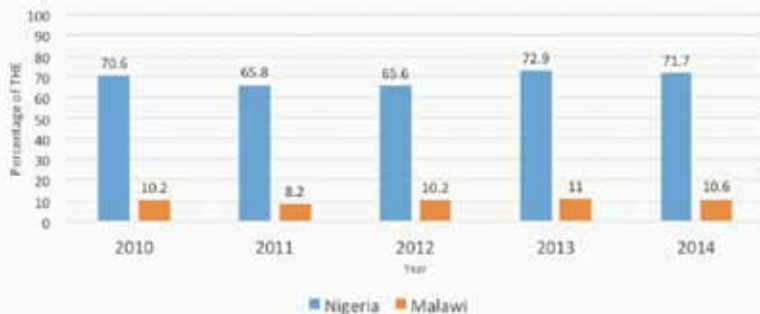
Part of household expenditure derives from lack of access to safe and affordable medicines, and to nearby health providers. A three-country study in Burkina Faso, Nigeria and Uganda reported that, 'Improving access to malaria diagnostics and treatments in malaria-endemic areas substantially reduces private household costs.'¹⁰ In this study household costs included consultation fees, registration costs, user fees, diagnosis, bed, drugs, food, and transport costs. The use of community health workers led to the following statistically significant reductions in household costs:

- From US\$4.36 to US\$1.54 in Burkina Faso
- From US\$3.90 to US\$2.04 in Nigeria
- From US\$4.46 to US\$1.42 in Uganda

Source of care influences how much costs are borne by a household for a malaria episode.¹¹ Another study in Burkina Faso study investigated the level and correlates of expenditure among individuals with self-reported malaria episode. The following variations in household costs were documented:

- Median cost for malaria treatment US\$10
- Public primary care health facilities
 - US\$8.4 for uncomplicated malaria
 - US\$15.2 for severe malaria
- Private-for-profit facilities run by a medical doctor
 - US\$30.3 for uncomplicated malaria
 - US\$43.0 for severe malaria

Out-of-Pocket Health Expenditure as Percent of Total Health Expenditure (THE)



http://apps.who.int/nha/database/Key_Indicators_by_Country/Index/en?COUNTRYKEY=84700

Costs of fever/malaria episodes in Ghana were mainly covered by membership in the national health insurance scheme (which requires one to pay annual premiums) or through case payments.¹² Care seeking was divided among chemical/medicine shops, private clinics and community health clinics. The mean direct costs for a fever case was US\$2.76. The average indirect costs per case were estimated at US\$11.84.

A recent study from Mali examines the costs to pregnant women surrounding the supposedly free provision of intermittent preventive treatment (IPTp) for malaria. During focus group discussions, women described a variety of experiences with some mentioning the fees for antenatal cards and consultation that preceded provision of IPTp, while others explained that the cost of the sulfadoxine-pyrimethamine used for IPTp was included in their overall bill for medicines.¹³

Funding research for new approaches

The Kaiser Foundation also reports on research and development (R&D). 'In 2013, funding for malaria R&D activities totalled US\$549 million. This represents a decrease of US\$38 million (7%) from 2012 levels and the second consecutive year of declines in R&D





funding for malaria.' This funding can be compared to a peak of \$US602 million in 2009.

Research expenditures do not always reflect in the information shared on programming support. The WMR 2016 estimates that, 'Spending on research and development for malaria was estimated at US\$611 million in 2014 (the latest year for which data is available), increasing from US\$607 million in 2010,' or 90% of annual investment target.

Part of the Bill and Melinda Gates Foundation's support for malaria focuses on research. 'Given sufficient global commitment, major investments in research and development, and transformative new tools and delivery strategies.'¹⁴ Another major driver of malaria research over several decades has been the UNICEF-UNDP-World Bank-WHO (World Health Organization) Special Programme for Research and Training in Tropical Diseases (TDR). A strength of TDR has been its focus on implementation research, and for malaria the focus is on helping low- and middle-income countries scale-up their efforts to diagnose and treat malaria and prevent illness and deaths.¹⁵ Of great benefit has been the targeting of grants to malaria endemic countries themselves.

Conclusions

While malaria funding has been increasing over the years, it has recently stagnated at a level; approximately 45% of that level targeted to eventually eliminate the disease. In many countries households still bear the brunt of malaria costs, both for treatment and prevention.

While research support has been maintained, there are still serious operational research questions about the best ways to eliminate the disease in low-resource environments. Benefits have been seen in studies on interventions like community health workers.¹⁶ More financial support is needed to scale these up, especially by mobilising in-country governmental, corporate and non-governmental resources.

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