OFF: The Fight Against Malaria

By Jonathan T. Helton

***Resolved: The United States federal government should substantially reform its foreign aid.***

The President’s Malaria Initiative was launched in 2005. Since then it has saved millions of lives—mostly in Africa and Asia. This case will increase funding for it in our fight against malaria.

The global fight against malaria is lagging. Funding is on the decline and antibiotic and insecticide resistance are growing. That means people die. This plan steps in to prevent some of those deaths. PMI has historically been successful in reducing malaria while keeping a clean track record. It is tough on corruption and offers several benefits to the U.S. Funding it even more is a win-win situation.

NEG strategy may focus on theft and drug resistance already occurring in the status quo. These harms are of course non-unique and should be rebutted as so. On top of that, the best way to fight resistance may be to increase funding for research (which the plan does).

Note: Plasmodium falciparum (P. falciparum) is one of the malaria parasites

OFF: The Fight Against Malaria 4

OBSERVATION 1. DEFINITIONS 4

Substantial 4

Foreign Aid 4

OBSERVATION 2. BACKGROUND, or INHERENCY. Facts about the Status Quo fight against malaria 4

FACT 1. PMI: The President’s Malaria Initiative – a $424 million program with big impact on the fight against malaria 4

FACT 2. Inadequate funding. Funding is far less than the need 5

OBSERVATION 2. THE HARM. It’s simple and terrible: People die of malaria. We have 2 sub-points: 5

A. Underfunding malaria control programs causes increases in the disease 5

B. Thousands die of malaria 5

OBSERVATION 3. The PLAN, to be enacted by Congress & the President 5

OBSERVATION 4. SOLVENCY 6

PMI is empirically successful 6

OBSERVATION 5. ADVANTAGES 6

ADVANTAGE 1. Disease contained and Americans safer. 6

Increased capacity contains outbreaks and makes US troops safer 6

ADVANTAGE 2. Reduced Malaria Deaths 6

A. Empirically proven. PMI works and increasing it saves even more lives 6

B. PMI saves 1 life for every $4,000 it spends 7

ADVANTAGE 3. Fighting resistant strains 7

Increased funding is critical now for controlling drug-resistant forms of malaria 7

2A Evidence: Malaria 8

TOPICALITY / DEFINITIONS 8

Substantial 8

Reform 8

A/T “No substantial reform” – Plan meets EO standard 8

A/T “No substantial reform” – Plan exceeds per minute spending 8

BACKGROUND 9

How PMI works: 4 interventions. LLIN, ACT, pregnancy protection, and IRS 9

How many people it covers: Millions of treatments, 20% of the global effort against malaria 9

INHERENCY 9

Only 45% of needed funding 9

Even with progress, malaria remains a problem 10

Minor cuts still harm 10

Stable spending is still a cut 10

44% cut threatened; it would infect millions 10

Inadequate awareness: Global ignorance of pandemic dangers 11

Flat funding is causing increases in malaria infections 11

IMPACT OF MALARIA 11

How it works – disease occurrence and progression 11

Blood transfusions tainted 11

Malaria is prevalent in Africa 12

Two million contract malaria annually 12

Malaria resistance could cause a resurgence – huge impact in lives and economic loss 12

ADVOCACY 13

PATH – Increased investment is critical to eliminating malaria and will save lives 13

Ambassador Mark Green and Dr. Kent Campbell: PMI has profound impact and makes tremendous progress 13

WHO says global malaria funding should be doubled 13

Malaria elimination is achievable and permanently solves 13

SOLVENCY 14

$5-$8 to prevent each case – malaria efforts have some of the highest rate of return for spending on public health 14

PMI successful against malaria: Brought 16% reduction in deaths of children under 5 in sub-Saharan Africa 14

Historically proven: PMI has saved 940 thousand lives so far 14

ACT works 15

ITNs work 15

IRS works 15

IPTp works 16

Definition of unobligated balances: Unused money just sitting there 16

$921 billion in unobligated balances 16

Billions are decades old and not being used 16

JUSTIFICATIONS for U.S. interest 17

Favorable opinion of the U.S. and economic benefits to the US 17

Private sector tech improvement – lots of new health care technologies come from US government malaria program 17

Stable export market: reducing disease improves global economic stability and saves US jobs 17

Massive return on investment: $1 combatting malaria = $36 in economic return 18

Biosecurity: Foreign disease epidemics are a US national security threat 18

Diseases can destabilize economies, cause political instability and conflict 18

Pandemic disease has the same impact as Bioterrorism 18

ADVANTAGES 19

Incentivizes other countries to fight malaria 19

Malaria eradication saves $2 trillion – one of the best returns on investment we could make 19

Fighting malaria reduces blood transfusions – frees up blood availability for other patients 19

DISADVANTAGE RESPONSES 20

A/T “Antibiotic resistance” – New methods being developed: Triclosan 20

A/T “Antibiotic resistance” – New methods being developed: Dormant cell study 20

A/T “Antibiotic resistance” – PMI solving with early intervention strategies and monitoring 20

A/T “Antibiotic resistance” – Monitoring leads to prevention, including therapeutic efficacy studies (TES) 21

A/T “Corruption” – PMI takes a tough line against corruption and solves whenever it is found 21

A/T “Corruption” – PMI has made big improvements over previous malaria programs, resulting in better effectiveness 22

Works Cited 23

OFF: The Fight Against Malaria

“A man is usually more careful of his money than he is of his principles.” Ralph Waldo Emerson. Do governments have a responsibility to do what is right? While this is not value debate, we believe that all policy is worthless without values. Therefore, when passing laws, governments should weigh the moral and monetary impacts of their actions. With so many people dying each year of disease across the world, my partner and I believe our government—representing the U.S. people—should do some good to counteract the bad. Please support us as we affirm the resolution that: The United States federal government should substantially reform its foreign aid

OBSERVATION 1. DEFINITIONS

Substantial

Merriam Webster Online Dict. copyright 2018 <https://www.merriam-webster.com/dictionary/substantial>

"important, essential"

Foreign Aid

Britannica copyright 2018 <https://www.britannica.com/topic/foreign-aid>

**Foreign aid**, the international transfer of [capital](https://www.britannica.com/topic/capital-economics), goods, or services from a country or [international organization](https://www.britannica.com/topic/international-organization) for the benefit of the recipient country or its population.

OBSERVATION 2. BACKGROUND, or INHERENCY. Facts about the Status Quo fight against malaria

FACT 1. PMI: The President’s Malaria Initiative – a $424 million program with big impact on the fight against malaria

[Peter Winskill](https://www.ncbi.nlm.nih.gov/pubmed/?term=Winskill%20P%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Hannah Slater](https://www.ncbi.nlm.nih.gov/pubmed/?term=Slater%20HC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Jamie Griffin](https://www.ncbi.nlm.nih.gov/pubmed/?term=Griffin%20JT%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Azra Ghani](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ghani%20AC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), and [Patrick Walker](https://www.ncbi.nlm.nih.gov/pubmed/?term=Walker%20PG%5BAuthor%5D&cauthor=true&cauthor_uid=29161259) 2017 (Winskill, Slater, Ghani, and Walker: MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London. Griffin: School of Mathematical Sciences, Queen Mary University of London. Published by PLOS Medicine.) November 2017 “The US President's Malaria Initiative, Plasmodium falciparum transmission and mortality: A modelling study” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5697814/>

The US is the world’s largest donor of foreign aid for malaria control and therefore a mainstay in global malaria efforts. The President’s Malaria Initiative (PMI), established in 2005 and funded by the United States Agency for International Development (USAID), has been particularly influential in investing in malaria control over the past 12 years. PMI provides support to malaria control programmes in 19 African focus countries and the Greater Mekong Subregion (GMS) and is the largest bilateral funder of malaria prevention and treatment. In the 12 years since its inception, PMI has procured 197 million LLINs and 378 million courses of ACTs, provided over 215 million person-years of protection with IRS, and distributed 35.7 million courses of preventative therapy for pregnant women. In 2015, PMI funding represented over one-fifth of the global malaria budget envelope. In a recent statistical analysis, the influence of PMI funding has been estimated to have had significant impact on under-5 mortality in sub-Saharan Africa, with an estimated reduction of 16%. The US’s commitment to overseas aid has been threatened in recent months, highlighting the fragility of global funding for malaria control and a reliance on global political stability. In May 2017, Congress published the Congressional Budget Justification, which outlined a commitment to malaria control for 2018 of US$424 million. This is equivalent to a 44% reduction relative to commitments reported for 2017.

FACT 2. Inadequate funding. Funding is far less than the need

World Health Organization 2018 (agency of the United Nations concerned with international public health. WHO is a member of the United Nations Development Group.) 25 April 2018 “World Malaria Day 2018: Ready to beat malaria” (the “US” in front of the $ does not mean the US government gave that much, only that the total of all countries, when converted into “US dollars,” adds up to that much) <http://www.who.int/malaria/media/world-malaria-day-2018/en/>

Funding for malaria control and elimination efforts has levelled off since 2010, with US$ 2.7 billion invested in malaria programmes globally in 2016. This amount represents less than half (41%) of the estimated US$ 6.5 billion needed annually by 2020 in order to reach the 2030 global malaria targets.

OBSERVATION 2. THE HARM. It’s simple and terrible: People die of malaria. We have 2 sub-points:

A. Underfunding malaria control programs causes increases in the disease

Amy Maxmen 2017 (senior reporter at Nature. Her science writing has been featured in Wired, National Geographic, the New York Times, Newsweek and others) 29 November 2017 “Rise in malaria cases sparks fears of a resurgence” <https://www.nature.com/news/rise-in-malaria-cases-sparks-fears-of-a-resurgence-1.23046>

Nonetheless, the money available for malaria-elimination programmes has been dropping[2](https://www.nature.com/news/rise-in-malaria-cases-sparks-fears-of-a-resurgence-1.23046#b2). A review of 75 malaria resurgences between 1930 and 2011 found that most upticks in the disease followed funding disruptions that weakened malaria-control programmes. Other causes included conflict and natural disaster.

B. Thousands die of malaria

World Health Organization 2018 (specialized agency of the United Nations that is concerned with international public health. WHO is a member of the United Nations Development Group) 11 June 2018 “Malaria” <http://www.who.int/news-room/fact-sheets/detail/malaria>

In areas with high transmission of malaria, children under 5 are particularly susceptible to infection, illness and death; more than two thirds (70%) of all malaria deaths occur in this age group. The number of under-5 malaria deaths has declined from 440 000 in 2010 to 285 000 in 2016. However, malaria remains a major killer of children under five years old, taking the life of a child every two minutes.

OBSERVATION 3. The PLAN, to be enacted by Congress & the President

1. Increase funding to the President’s Malaria Initiative by $600 million per year. Funds will be used to fight malaria through research, increased staff, and other standard PMI activities.

2. Funding comes from unobligated balances   
3. Enforcement through normal means, penalties for fraud or abuse the same as under existing law.  
4. Plan takes effect at the beginning of the next Fiscal Year (October 1, 2019).  
And all Affirmative speeches may clarify.

OBSERVATION 4. SOLVENCY

PMI is empirically successful

Roger Bate and Kimberly Hess 2012 (Bate - economist who researches international health policy, with a particular focus on tropical disease and substandard and counterfeit medicines. He writes regularly for American Enterprise Institute for Public Policy Research’s Health Policy Outlook. Hess is a researcher with Africa Fighting Malaria.) 3 October 2012 “Prioritizing malaria control in a time of foreign aid austerity” <https://www.aei.org/wp-content/uploads/2012/10/-prioritizing-malaria-control-in-a-time-of-foreign-aid-austerity_170241572.pdf>

PMI is quite possibly the most transparent and accountable bilateral donor agency. It is committed to measuring its effectiveness in terms of lives saved and malaria cases averted instead of commodities procured and distributed. PMI’s core actions have proven resilient—it employs all proven treatment and prevention methods, including artemisinin-based combination therapies (ACTs), insecticide-treated bed nets (ITNs), and indoor residual spraying (IRS); implements integrated malaria control systems; prevents mother-child transmission; and improves coordination between actors.

OBSERVATION 5. ADVANTAGES

ADVANTAGE 1. Disease contained and Americans safer.

Increased capacity contains outbreaks and makes US troops safer

Josh Blumenfeld and Margaret Reilly McDonnell 2018 (Blumenfeld is the managing director of global policy and advocacy at Malaria No More. McDonnell is the executive director of the UN Foundation Nothing But Nets campaign.) 19 April 2018 “The US is leading the way in the fight against malaria” <https://thehill.com/opinion/healthcare/383962-the-us-is-leading-the-way-in-the-fight-against-malaria>

The fight against malaria also builds health infrastructure in low-income countries. Increased laboratory capacity, real-time disease surveillance and efficient supply chains are critical for containing outbreaks and stopping pandemics in an increasingly interconnected world. And the more countries where malaria is under control or even eliminated, the safer American troops are when they’re stationed overseas.

ADVANTAGE 2. Reduced Malaria Deaths

A. Empirically proven. PMI works and increasing it saves even more lives

Dr. Eran Bendavid 2017 (Eran Bendavid is an infectious diseases physician and an Associate Professor of Medicine in the Division of General Internal Medicine and a Stanford Health Policy affiliate) 13 June 2017 “Malaria control adds to the evidence for health aid effectiveness” <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002320>

The US-financed retreat of malaria now adds to the pantheon of global health achievements. In this issue of PLOS Medicine, Aleksandra Jakubowski and colleagues provide an independent evaluation of the US President’s Malaria Initiative that adds meaningful evidence to the literature on health aid effectiveness. The authors use the Initiative’s unique structure—it was implemented in only 19 sub-Saharan African countries—to carefully examine the historical record on where and when malaria interventions have been implemented. The authors look at the malaria technologies that the Initiative financed directly—insecticide-treated nets, artemisinin-based combination therapy, and indoor residual spraying—before examining under-five mortality. For all three technologies, the authors find an increase in coverage after the Initiative’s implementation that was greater in the countries where it was implemented compared with neighboring sub-Saharan African countries (the change was positive but not statistically significant for artemisinin-based combination therapy). The authors find that these increases in the coverage of efficacious malaria interventions were accompanied by an annual risk of under-five death that declined 15% more in the Initiative’s partner countries compared with neighboring countries following the Initiative’s implementation. These are striking findings.

B. PMI saves 1 life for every $4,000 it spends

Peter Winskill, Hannah Slater, Jamie Griffin, Azra Ghani, and Patrick Walker 2017 (Griffin: School of Mathematical Sciences, Queen Mary Univ. of London. Winskill, Slater, Ghani, and Talker: MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London.) 21 November 2017 “The US President’s Malaria Initiative, Plasmodium falciparum transmission and mortality: A modelling study” [Brackets added] <https://journals.plos.org/plosmedicine/article/file?id=10.1371/journal.pmed.1002448&type=printable>

Over the period 2013–2015, when the PMI programme was fully scaled to current levels, PMI reported that spending in the 19 focus countries in sub-Saharan Africa was approximately US$1.7 billion. Translating the modelled epidemiological impact into system-wide cost-effectiveness, we estimate a cost of US$20.6 per malaria case averted (95% CrI: US$15.2, US$31.4), US$4,081 per death averted (95% CrI: US$2,084, US$7,435), and US$94 per DALY [Disability Adjusted Life Year] averted (95% CrI: US$51, US$166) (Table 1). This represents a range of 2%–57% as a proportion of per-capita gross domestic product (GDP) in these countries. Cost-effectiveness estimates are driven by the intervention mix and national-level differences in the cost of treating clinical and severe cases.

ADVANTAGE 3. Fighting resistant strains

Increased funding is critical now for controlling drug-resistant forms of malaria

Janet Midega 2017 (a scientist at the KEMRI-Wellcome Trust Research Program in Kilifi, Kenya, a research associate at the University of Oxford's Center for Genomics and Global Health) 8 December 2017 “"Supermalaria" Is on the Way” <https://blogs.scientificamerican.com/observations/supermalaria-is-on-the-way/>

Unfortunately, the sudden emergence and spread of this new resistant strain should not come as a surprise to malaria control experts—it’s a case of history repeating itself. Just like insecticide resistance, drug resistance is a phenomenon that we have experienced before, and will probably see again and again until malaria is eventually eradicated. Thus, we should view the periodic emergence and re-emergence of drug resistance as an opportunity to learn something new about the malaria parasite and its transmission, develop even more sustainable ways of controlling it, and make any new, alternative treatments last longer. Even more important, we need to [redouble](https://www.devex.com/news/q-a-pedro-alonso-director-of-who-s-global-malaria-program-91463) our efforts to increase and maintain funding for malaria control.

2A Evidence: Malaria

TOPICALITY / DEFINITIONS

Substantial

Oxford Dictionary copyright 2018 (Oxford Dictionaries focuses on current language and practical usage. The English site provides free access to the largest current English dictionaries) “substantial” <https://en.oxforddictionaries.com/definition/substantial>

Of considerable importance, size, or worth.

Reform

Oxford Dictionary copyright 2018 (Oxford Dictionaries focuses on current language and practical usage. The English site provides free access to the largest current English dictionaries and thesaurus as well as helpful tips on grammar, usage, spelling, and more.) “reform” <https://en.oxforddictionaries.com/definition/reform>

Make changes in (something, especially an institution or practice) in order to improve it.

A/T “No substantial reform” – Plan meets EO standard

Executive Order 12866 4 October 1993 “Regulatory Planning and Review” <https://reginfo.gov/public/jsp/Utilities/EO_12866.pdf>

‘‘Significant regulatory action’’ means any regulatory action that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive order.

A/T “No substantial reform” – Plan exceeds per minute spending

Center on Budget and Policy Priorities 2017 (The Center on Budget and Policy Priorities is a nonprofit, nonpartisan research organization and policy institute that conducts research and analysis on a range of government policies and programs. It is supported primarily by foundation grants.) 4 October 2017 “Policy Basics: Where Do Our Federal Tax Dollars Go?” <https://www.cbpp.org/research/federal-budget/policy-basics-where-do-our-federal-tax-dollars-go>

In fiscal year 2016, the federal government spent $3.9 trillion, amounting to 21 percent of the nation’s gross domestic product (GDP). Of that $3.9 trillion, over $3.3 trillion was financed by federal revenues. The remaining amount ($585 billion) was financed by borrowing.

END QUOTE. Doing some quick math, $3.9 trillion divided by 525,600 minutes in a year yields a little over $7.4 million per minute. Consider that there are 74 minutes in a TP debate round. That means the government spends about $550 million while we’re debating. Our plan spends $600 million in the first year. Ergo, we are passing a plan that is more substantial that current per minute federal spending.

BACKGROUND

How PMI works: 4 interventions. LLIN, ACT, pregnancy protection, and IRS

CDC 2015 (The *Centers for Disease Control* and Prevention (*CDC*) is the leading national public health institute of the United States.) 21 September 2015 “President's Malaria Initiative (PMI)” <https://www.cdc.gov/malaria/malaria_worldwide/cdc_activities/pmi.html>

PMI works to scale up access to and use of four interventions:

* Long-lasting insecticide-treated nets
* Artemisinin-based combination therapies (ACTs)
* Intermittent preventive treatment for pregnant women.
* Indoor residual spraying with approved insecticide, where appropriate.

How many people it covers: Millions of treatments, 20% of the global effort against malaria

[Peter Winskill](https://www.ncbi.nlm.nih.gov/pubmed/?term=Winskill%20P%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Hannah Slater](https://www.ncbi.nlm.nih.gov/pubmed/?term=Slater%20HC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Jamie Griffin](https://www.ncbi.nlm.nih.gov/pubmed/?term=Griffin%20JT%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Azra Ghani](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ghani%20AC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), and [Patrick Walker](https://www.ncbi.nlm.nih.gov/pubmed/?term=Walker%20PG%5BAuthor%5D&cauthor=true&cauthor_uid=29161259) 2017 (Winskill, Slater, Ghani, and Walker: MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London. Griffin: School of Mathematical Sciences, Queen Mary University of London. Published by PLOS Medicine. PLOS Medicine publishes articles relevant to clinicians, policymakers, and researchers.) November 2017 “The US President's Malaria Initiative, Plasmodium falciparum transmission and mortality: A modelling study” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5697814/>

PMI provides support to malaria control programmes in 19 African focus countries and the Greater Mekong Subregion (GMS) and is the largest bilateral funder of malaria prevention and treatment. In the 12 years since its inception, PMI has procured 197 million LLINs and 378 million courses of ACTs, provided over 215 million person-years of protection with IRS, and distributed 35.7 million courses of preventative therapy for pregnant women. In 2015, PMI funding represented over one-fifth of the global malaria budget envelope.

INHERENCY

Only 45% of needed funding

Kate Kelland 2017 (She is a reporter for Reuters.) 20 January 2017 “Malaria Advocates Are Worried About Eradication Funding Under President Trump” <https://www.huffingtonpost.com/entry/malaria-advocates-are-worried-about-eradication-funding-under-president-trump_us_58823c47e4b096b4a2314965>

Funding in 2015 was less than in 2013, with combined international and domestic sources totaling $2.9 billion. Even this is only 45 percent of what malaria experts say is needed annually to reach a target of a 40 percent reduction in malaria incidence and mortality by 2020.

Even with progress, malaria remains a problem

Roger Bate and Kimberly Hess 2012 (Bate - economist who researches international health policy, with a particular focus on tropical disease and substandard and counterfeit medicines. He writes regularly for American Enterprise Institute for Public Policy Research’s Health Policy Outlook. Hess is a researcher with Africa Fighting Malaria.) 3 October 2012 “Prioritizing malaria control in a time of foreign aid austerity” <https://www.aei.org/wp-content/uploads/2012/10/-prioritizing-malaria-control-in-a-time-of-foreign-aid-austerity_170241572.pdf>

Without PMI, many of the gains that have been made in malaria could be reversed as the majority of the malaria effort would then fall to the Global Fund. Malaria remains a major public health problem and sustaining and building on its successes will be a challenge in the face drug and insecticide restistance as well as uncertainties in donor funding for malaria control.

Minor cuts still harm

Sam Loewenberg 2018 (journalist specialising in global health and public policy) 30 January 2018 “Gains against malaria at risk from US cuts, donor complacency” <http://www.irinnews.org/feature/2018/01/30/gains-against-malaria-risk-us-cuts-donor-complacency>

The United States is such a massive player in global health, accounting for more than one third of total anti-malaria funding expenditures worldwide, that even relatively minor cuts would have a significant impact. The current global budget for malaria is $2.7 billion, less than half of what is needed to meet global malaria targets of reducing malaria by 40 percent by 2020, according to the World Health Organization.

Stable spending is still a cut

Sam Loewenberg 2018 (journalist specialising in global health and public policy) 30 January 2018 “Gains against malaria at risk from US cuts, donor complacency” <http://www.irinnews.org/feature/2018/01/30/gains-against-malaria-risk-us-cuts-donor-complacency>

It comes at a critical time in the fight against malaria, when threatened cuts could tip the balance in an already precarious struggle. So far, the budget process has been in flux, but the US Congress appears primed to keep spending levels steady from last year. Malaria advocates say that is effectively a cut, however, as it does not keep up with programme cost increases.

44% cut threatened; it would infect millions

ScienceDaily 2017 (ScienceDaily is one of the Internet’s most popular science news web sites. Since starting in 1995, the award-winning site has earned the loyalty of students, researchers, healthcare professionals, government agencies, educators and the general public around the world. With roughly 5 million monthly visitors worldwide, ScienceDaily reaches a global audience.) 21 November 2017 “Proposed cuts to US Malaria Initiative could mean millions more malaria cases” <https://www.sciencedaily.com/releases/2017/11/171121141933.htm>

Cutting the budget of the President's Malaria Initiative (PMI) by 44%, as the U.S. Congress has proposed, would lead to an estimated 67 million additional cases of malaria over the next four years, according to a mathematical model published this week in PLOS Medicine by Peter Winskill of Imperial College London, UK, and colleagues.

Inadequate awareness: Global ignorance of pandemic dangers

Asia Pacific Leaders Malaria Alliance 2016 (APLMA is an affiliation of Asian and Pacific heads of government formed to accelerate progress against malaria and to eliminate it in the region by 2030.) 24 April 2016 “The drug resistance, health security and malaria nexus” <http://aplma.org/blog/30/the-drug-resistance-health-security-and-malaria-nexus.html>

Do policymakers recognise the magnitude of the threat of drug resistance? Results of a survey of delegates to the World Economic Forum on their views on likelihood and impact of a range of global risks should be a wake up call. While they ranked the potential impact of ‘spread of infectious diseases’ second, the likelihood of infectious disease outbreaks was rated surprisingly low, failing to even enter the top ten. Alarmingly, this survey was carried out when the Ebola outbreak was at its peak.

Flat funding is causing increases in malaria infections

Amy Maxmen 2017 (senior reporter at Nature. Her science writing has been featured in Wired, National Geographic, the New York Times, Newsweek) 29 November 2017 “Rise in malaria cases sparks fears of a resurgence” <https://www.nature.com/news/rise-in-malaria-cases-sparks-fears-of-a-resurgence-1.23046>

Globally, malaria infections increased by about 5 million from 2015 to 2016, for a total of 216 million, with apparent jumps in parts of Asia, Africa and South America. The number of people who died from the disease remained relatively steady, at around 445,000, the WHO found. Although data on malaria is often inexact in countries with weak health-care systems, many researchers are concerned by the trends described in the WHO report, which the agency attributes to flat funding levels for anti-malaria programmes.

IMPACT OF MALARIA

How it works – disease occurrence and progression

World Health Organization 2018 (The World Health Organization is a specialized agency of the United Nations that is concerned with international public health. WHO is a member of the United Nations Development Group.) 11 June 2018 “Malaria” <http://www.who.int/news-room/fact-sheets/detail/malaria>

Malaria is an acute febrile illness. In a non-immune individual, symptoms usually appear 10–15 days after the infective mosquito bite. The first symptoms – fever, headache, and chills– may be mild and difficult to recognize as malaria. If not treated within 24 hours, *P. falciparum* malaria can progress to severe illness, often leading to death.

Blood transfusions tainted

Meera Senthilingam 2018 (London-based Editor for the CNN Health and Wellness unit.) 16 April 2018 “Malaria parasites present in 23% of donor blood in some African countries, study suggests” <https://www.cnn.com/2018/04/16/health/malaria-blood-transfusion-risk-intl/index.html>

Almost one in four blood bank supplies in certain regions of Africa may have malaria parasites in them, a new study suggests.

UK scientists reviewed 26 studies that measured levels of Plasmodium parasites -- which cause malaria -- among blood donors in sub-Saharan Africa between 2000 and 2017 and found that an average of 23.46% tested positive.

Malaria is prevalent in Africa

Richard-Fabian Schumacher and Elena Spinelli 2012 (The Mediterranean Journal of Hematology and Infectious Diseases publishes topical reviews and original articles concerning both clinical hematology and infectious diseases.) 6 November 2012 “Malaria in Children” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3507524/>

Malaria remains a leading cause of ill health. More than 40% of the world's population (approximately 3 billion people) are exposed to malaria in 108 endemic countries. It caused between 655 000 and 1.240.000deaths in 2010. Approximately 81% of malaria cases and 91% of malaria deaths occur in the African Region, where it remains one of the commonest causes of death and serious morbidity, especially for children and pregnant women; approximately 86% of malaria deaths globally are of children under 5 years of age. In fact children are at highest risk for severe disease and death between six months and five years of age: during this period children are most vulnerable as they have lost maternal immunity and they haven't yet developed specific immunity to infection. However this does not mean that younger infants are exempt from the death toll, the contrary is true given the fact that in addition to the well known inoculum through the blood meal of an infected female anopheles and through infusion of infected blood products, neonates and young infants might also be vertically infected by plasmodia crossing the placenta.

Two million contract malaria annually

Danielle Renwick 2016 (Copy Editor/Writer for the Council on Foreign Relations. The Council on Foreign Relations (CFR) is an independent, nonpartisan membership organization, think tank, and publisher) 5 October 2016 “Can Malaria Be Eradicated?” <https://www.cfr.org/backgrounder/can-malaria-be-eradicated>

Malaria, a mosquito-borne illness, is one of the world’s deadliest infectious diseases. More than two hundred million people contract the disease each year, and more than [four hundred thousand](http://www.who.int/features/factfiles/malaria/en/) die from it. Once transmitted in nearly every country on earth, today the vast majority of infections occur in sub-Saharan Africa. Nearly 70 percent of malaria deaths are in children under five.

Malaria resistance could cause a resurgence – huge impact in lives and economic loss

Asia Pacific Leaders Malaria Alliance 2016 (APLMA is an affiliation of Asian and Pacific heads of government formed to accelerate progress against malaria and to eliminate it in the region by 2030.) 24 April 2016 “The drug resistance, health security and malaria nexus” <http://aplma.org/blog/30/the-drug-resistance-health-security-and-malaria-nexus.html>

While new diseases dominate the news, much less attention has been given to the ‘slow-motion emergency’ of drug-resistant malaria. In the Greater Mekong Subregion, the most dangerous malaria strain already shows widespread resistance to artemisinins – the key class of medicines for effective treatment. There is growing resistance to other antimalarials, which must be used in combination with artemisinin, and malaria researchers are warning of the prospect of untreatable malaria. Computer models predict that without effective responses there could be a devastating rise in malaria cases and deaths. One widely quoted model predicts that resistance could result in over 100,000 more deaths and a quarter of a million severe cases a year in the region, with huge economic, social and human impacts on these rapidly growing economies.

ADVOCACY

PATH – Increased investment is critical to eliminating malaria and will save lives

PATH 2017 (leader in global health innovation. An international nonprofit organization, we save lives and improve health, especially among women and children. We accelerate innovation across five platforms— vaccines, drugs, diagnostics, devices, and system and service innovations—that harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity) 2017 “Accelerating US Progress in Combating Malaria Worldwide” <https://www.malariavaccine.org/sites/www.malariavaccine.org/files/content/resource/files/PATH_malaria_policy_recos_FINAL_201706.pdf>

Any scale-back of funding would put at risk the tremendous gains made over the past 15 years. Increased investment is critical to eliminating malaria and represents a tremendous opportunity to save lives, advance economic prosperity, and increase social and political stability. Malaria elimination can be achieved, but a whole-of-government, coordinated approach is required.

Ambassador Mark Green and Dr. Kent Campbell: PMI has profound impact and makes tremendous progress

Roger Bate and Kimberly Hess 2012 (Bate is an economist who researches international health policy, with a particular focus on tropical disease and substandard and counterfeit medicines. He also writes on general development policy in Asia and Africa. Hess is a researcher with Africa Fighting Malaria.) 3 October 2012 “Prioritizing malaria control in a time of foreign aid austerity” (ellipses in original) <https://www.aei.org/wp-content/uploads/2012/10/-prioritizing-malaria-control-in-a-time-of-foreign-aid-austerity_170241572.pdf>

PMI has also received accolades from leaders in the global health community. Dr. Kent Campbell of the international nonprofit organization PATH and Jonathon Simon of Boston University wrote in The Hill that “PMI is a shining example of the profound impact the U.S. is making in global health.” Ambassador Mark Green, senior director at the US Global Leadership Coalition, wrote in The Ripon Forum: “Just as I saw firsthand the terrible costs of malaria, I have also seen for myself the tremendous progress that PMI has helped to create. . . . As an American, I am proud that my country has helped to lift so many lives through our global health programs like PMI.”

WHO says global malaria funding should be doubled

Danielle Renwick 2016 (Copy Editor/Writer for the Council on Foreign Relations. The Council on Foreign Relations (CFR) is an independent, nonpartisan membership organization, think tank, and publisher.) 5 October 2016 “Can Malaria Be Eradicated?” <https://www.cfr.org/backgrounder/can-malaria-be-eradicated>

Eradicating malaria by 2040 would cost between $90 billion and $120 billion, according to the Gates Foundation. The WHO says annual funding will [need to reach](http://www.who.int/malaria/publications/world-malaria-report-2015/wmr2015-without-profiles.pdf?ua=1) [PDF] $6.4 billion per year, more than twice current levels, by 2020 to reduce global malaria incidence and mortality by 40 percent. Current funding levels fall short of the estimated costs of controlling and eliminating the disease, although some experts say costs are difficult to calculate and may be inflated (see graphic).

Malaria elimination is achievable and permanently solves

Bill Gates and Ray Chambers 2015 (With his wife Melinda, Bill Gates chairs the Bill & Melinda Gates Foundation, the world's largest private charitable foundation. Ray Chambers is the United Nations Secretary-General's Special Envoy for Financing the Health Millennium Development Goals and for Malaria) August 2015 “From Aspiration to Action: What Will It Take to End Malaria?” <https://www.mmv.org/sites/default/files/uploads/docs/publications/Aspiration-to-Action.pdf>

More than 100 United Nations member states have successfully eliminated malaria, and history has shown that elimination “sticks” once it has been achieved. This means that regions that have eliminated the disease will not need to maintain costly and intensive malaria surveillance eforts and can use more general infectious disease surveillance to avoid resurgence. It also means that countries and regions will be able to set their own schedules for elimination once they are confident that the necessary tools, strategies, and financing are in place.

SOLVENCY

$5-$8 to prevent each case – malaria efforts have some of the highest rate of return for spending on public health

PATH 2017 (PATH is the leader in global health innovation. An international nonprofit organization, we save lives and improve health, especially among women and children. We accelerate innovation across five platforms— vaccines, drugs, diagnostics, devices, and system and service innovations—that harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity) 2017 “Accelerating US Progress in Combating Malaria Worldwide” <https://www.malariavaccine.org/sites/www.malariavaccine.org/files/content/resource/files/PATH_malaria_policy_recos_FINAL_201706.pdf>

Many countries have benefited from improvements in coverage for malaria control interventions, such as insecticide-treated bednets, indoor residual spraying, intermittent preventive treatment during pregnancy, and effective diagnosis and treatment. Malaria interventions are highly cost-effective, in some settings costing only US$5 to $8 per case averted and generating millions in health care savings. They have some of the highest returns on investment in public health and have accelerated progress against the disease.

PMI successful against malaria: Brought 16% reduction in deaths of children under 5 in sub-Saharan Africa

[Peter Winskill](https://www.ncbi.nlm.nih.gov/pubmed/?term=Winskill%20P%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Hannah Slater](https://www.ncbi.nlm.nih.gov/pubmed/?term=Slater%20HC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Jamie Griffin](https://www.ncbi.nlm.nih.gov/pubmed/?term=Griffin%20JT%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Azra Ghani](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ghani%20AC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), and [Patrick Walker](https://www.ncbi.nlm.nih.gov/pubmed/?term=Walker%20PG%5BAuthor%5D&cauthor=true&cauthor_uid=29161259) 2017 (Winskill, Slater, Ghani, and Walker: MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London. Griffin: School of Mathematical Sciences, Queen Mary University of London. Published by PLOS Medicine. PLOS Medicine publishes articles relevant to clinicians, policymakers, and researchers.) November 2017 “The US President's Malaria Initiative, Plasmodium falciparum transmission and mortality: A modelling study” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5697814/>

The US is the world’s largest donor of foreign aid for malaria control and therefore a mainstay in global malaria efforts. The President’s Malaria Initiative (PMI), established in 2005 and funded by the United States Agency for International Development (USAID), has been particularly influential in investing in malaria control over the past 12 years. In 2015, PMI funding represented over one-fifth of the global malaria budget envelope. In a recent statistical analysis, the influence of PMI funding has been estimated to have had significant impact on under-5 mortality in sub-Saharan Africa, with an estimated reduction of 16% . The US’s commitment to overseas aid has been threatened in recent months, highlighting the fragility of global funding for malaria control and a reliance on global political stability

Historically proven: PMI has saved 940 thousand lives so far

[Peter Winskill](https://www.ncbi.nlm.nih.gov/pubmed/?term=Winskill%20P%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Hannah Slater](https://www.ncbi.nlm.nih.gov/pubmed/?term=Slater%20HC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Jamie Griffin](https://www.ncbi.nlm.nih.gov/pubmed/?term=Griffin%20JT%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), [Azra Ghani](https://www.ncbi.nlm.nih.gov/pubmed/?term=Ghani%20AC%5BAuthor%5D&cauthor=true&cauthor_uid=29161259), and [Patrick Walker](https://www.ncbi.nlm.nih.gov/pubmed/?term=Walker%20PG%5BAuthor%5D&cauthor=true&cauthor_uid=29161259) 2017 (Winskill, Slater, Ghani, and Walker: MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London. Griffin: School of Mathematical Sciences, Queen Mary University of London. Published by PLOS Medicine. PLOS Medicine publishes articles relevant to clinicians, policymakers, and researchers across a range of settings that address the major biological, environmental, social, and political determinants of health.) November 2017 “The US President's Malaria Initiative, Plasmodium falciparum transmission and mortality: A modelling study” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5697814/>

PMI funding is highly cost-effective, averting an estimated 185 million cases and saving 940,049 lives since it was set up in 2005.

ACT works

Danielle Renwick 2016 (She is a Copy Editor/Writer for the Council on Foreign Relations. The Council on Foreign Relations (CFR) is an independent, nonpartisan membership organization, think tank, and publisher dedicated to being a resource for its members, government officials, business executives, journalists, educators and students, civic and religious leaders, and other interested citizens in order to help them better understand the world and the foreign policy choices facing the United States and other countries. Founded in 1921, CFR takes no institutional positions on matters of policy. Our goal is to start a conversation in this country about the need for Americans to better understand the world.) 5 October 2016 “Can Malaria Be Eradicated?” <https://www.cfr.org/backgrounder/can-malaria-be-eradicated>

The most effective for treatments against the P. falciparum parasites are Artemisinin-based combination therapies ([ACTs](http://www.who.int/malaria/media/artemisinin_resistance_qa/en/)), which are administered in multiple doses. ACTs are 96 percent effective in killing off P. falciparum parasites in the bloodstreams of children under five. The first line of treatment for P. vivax is chloroquine, and the drug primaquine is administered in areas with chloroquine resistance.

ITNs work

CDC 2015 (The *Centers for Disease Control* and Prevention (*CDC*) is the leading national public health institute of the United States) 28 December 2015 “Insecticide-Treated Bed Nets” <https://www.cdc.gov/malaria/malaria_worldwide/reduction/itn.html>

Insecticide-treated bed nets (ITNs) are a form of personal protection that has been shown to reduce malaria illness, severe disease, and death due to malaria in endemic regions. In community-wide trials in several African settings, ITNs have been shown to reduce the death of children under 5 years from all causes by about 20%.

IRS works

Laith Yakob, Rebecca Dunning, and Guiyun Yan 2010 (The Journal of the Royal Society Interface is a monthly peer-reviewed scientific journal covering the interface between the life sciences and the physical sciences, including chemistry, engineering, materials science, mathematics, and physics.) 17 November 2010 “Indoor residual spray and insecticide-treated bednets for malaria control: theoretical synergisms and antagonisms” <http://rsif.royalsocietypublishing.org/content/8/59/799>

Indoor residual spray (IRS) of insecticides and insecticide-treated bednets (ITNs) are the two most important malaria vector control tools in the tropical world. Application of both tools in the same locations is being implemented for malaria control in endemic and epidemic Africa. The two tools are assumed to have synergistic benefits in reducing malaria transmission because they both act at multiple stages of the transmission cycle. However, this assumption has not been rigorously examined, empirically or theoretically. Using mathematical modelling, we obtained the conditions for which a combination strategy can be expected to improve upon single control tools. Specifically, spraying of dichlorodiphenyltrichloroethane (DDT) in all houses where residents are not using ITNs can reduce transmission of malaria (R0) by up to 10 times more than the reduction achieved through ITNs alone. Importantly, however, we also show how antagonism between control tools can arise via interference of their modes of action. Repellent IRS reduces the likelihood that ITNs are contacted within sprayed houses and ITNs reduce the rate at which blood-fed mosquitoes rest on sprayed walls. For example, 80 per cent coverage of ITNs and DDT used together at the household level resulted in an R0 of 11.1 when compared with an R0 of 0.1 achieved with 80 per cent ITN coverage without DDT. While this undesired effect can be avoided using low-repellence pyrethroid chemicals for IRS, the extent of the potential benefits is also attenuated. We discuss the impact that this result will likely have on future efforts in malaria control combination strategy.

IPTp works

World Health Organization 2018 (The World Health Organization is a specialized agency of the United Nations that is concerned with international public health. WHO is a member of the United Nations Development Group.) 21 June 2018 “Intermittent preventive treatment in pregnancy (IPTp)” <http://www.who.int/malaria/areas/preventive_therapies/pregnancy/en/>

Based on currently available evidence, IPTp-SP remains effective in preventing the adverse consequences of malaria on maternal and fetal outcomes even in areas where quintuple mutations linked to SP resistance are prevalent in P. falciparum. Therefore, IPTp-SP should still be administered to pregnant women in such areas.

Definition of unobligated balances: Unused money just sitting there

Deroy Murdock 2011 (nationally syndicated columnist with the Scripps Howard News Service and a media fellow with the Hoover Institution on War, Revolution, and Peace at Stanford Univ.) 14 February 2011 “The Federal Government’s Unspent Billions” <https://www.nationalreview.com/2011/02/federal-governments-unspent-billions-deroy-murdock/>

An arcane budgetary category called “unobligated funds” includes money that Congress has appropriated for agencies and programs in every corner of the federal government. When that money goes unspent, it just sits there — like an ancient wooden chest on a Caribbean island, just waiting to be pried open.

$921 billion in unobligated balances

Government Publishing Office 2017 (agency of the [legislative branch](https://en.wikipedia.org/wiki/Legislature) of the. The office prints and binds documents produced by and for the federal government) 2017 <https://www.govinfo.gov/content/pkg/BUDGET-2018-BALANCES/pdf/BUDGET-2018-BALANCES.pdf>

Total unexpended balances at the end of 2017 to be carried forward to 2018 is estimated to be $2,353 billion. Of this amount, 61% or $1,432 billion is estimated to be obligated, and 39% or $921 billion is estimated to be unobligated. This $921 billion in unobligated balances is similar to previous years. To provide more insight on the magnitude and composition of these balances, Table 9 groups unobligated balances into the following major program categories.

Billions are decades old and not being used

Deroy Murdock 2011 (nationally syndicated columnist with the Scripps Howard News Service and a media fellow with the Hoover Institution on War, Revolution, and Peace at Stanford University.) 14 February 2011 “The Federal Government’s Unspent Billions” <https://www.nationalreview.com/2011/02/federal-governments-unspent-billions-deroy-murdock/>

In fact, Senator Coburn’s office estimates that $82.4 billion of these funds are between six and 20 years old! You read correctly: At this very second, the federal budget contains $82.4 billion that has hibernated in numerous accounts between FY 1991 and FY 2005. While agency chiefs and lobbyists might scream that these funds are sacred, such arguments become hilarious when applied to taxpayer dollars that have remained untouched for at least half a dozen years.

JUSTIFICATIONS for U.S. interest

Favorable opinion of the U.S. and economic benefits to the US

Dr. Eran Bendavid 2017 (infectious diseases physician and an Associate Professor of Medicine in the Division of General Internal Medicine and a Stanford Health Policy affiliate; also a disease modeler, and uses that skill to explore issues of resource allocation in low and middle-income countries with cost-effectiveness analyses.) 13 June 2017 “Malaria control adds to the evidence for health aid effectiveness” <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002320>

The motto of the US Agency for International Development, pasted on every USAID-financed clinic, is “From the American People.” The American people do indeed fund USAID—about 1% of US government revenue goes to foreign aid. But the American people also benefit from the successes of foreign aid for health. Averting deaths of young children from malaria or vaccine-preventable diseases such as polio or measles promotes more stable and prosperous societies. In countries where the US gives most for health, the perception of the United States is among the most favorable in the world. For example, results from Pew Research Center Global Attitudes & Trends surveys show that in Ghana and Kenya, two partner countries for malaria and other forms of health aid, the portion of the population that views the US favorably approaches 90%, higher than in any European country (higher even than in the US). Finally, the economic benefits from reducing the burden of malaria are substantial, and some of those benefits are likely to return to the US.

Private sector tech improvement – lots of new health care technologies come from US government malaria program

Catherine Cheney 2017 (Senior Reporter for Devex. She covers the West Coast of the U.S., focusing on the role of technology and innovation in achieving the Sustainable Development Goals; bachelor’s and master’s degrees from Yale University, worked as a web producer for POLITICO and reporter for World Politics Review.) 24 July 2017 “Making the case for malaria eradication in a tight budgetary environment” <https://www.devex.com/news/making-the-case-for-malaria-eradication-in-a-tight-budgetary-environment-90596>

Last week, global health advocates have focused their attention on Washington, D.C., where [former ExxonMobil CEO Rex Tillerson leads the U.S. Department of State](https://www.devex.com/news/what-we-know-about-exxon-s-rex-tillerson-and-his-likely-impact-on-development-89305?utm_source=website&utm_medium=text&utm_campaign=linking_strategy), to try and convince the administration of the return on investment in global health. For example, “[Return on Innovation](https://ghtcpressroom.files.wordpress.com/2016/03/embargoed-report.pdf),” a report released by the Global Health Technologies Coalition, explains how these investments not only drive global health outcomes, but also grow the U.S. economy, protect U.S. health and national security, and protect U.S. global development investments. The report offers key insights into the impact of U.S. investments in malaria: Since 2000, 82 new global health technologies have been approved, resulting in a 60 percent reduction in the number of deaths from malaria; and with $15 billion of investment between 2007 and 2015, the U.S. government has helped to advance 42 of these 82 products, which include 11 new products for malaria. New tools that emerge from the private sector — like a new insecticide-treated mosquito net from the German chemicals company BASF that has just [received a recommendation](https://www.basf.com/in/en/company/news-and-media/news-releases/in/2017/07/mosquito-net-malaria-WHO.html) from the [World Health Organization](https://www.devex.com/organizations/world-health-organization-who-30562) — result from investments that were initially made by the public sector, experts told Devex.

Stable export market: reducing disease improves global economic stability and saves US jobs

CDC 2017 (The *Centers for Disease Control* and Prevention (*CDC*) is the leading national public health institute of the United States) 22 September 2017 “Why Global Health Security Is Essential to U.S. National Security” <https://www.cdc.gov/media/releases/2017/p0921-global-health-security.html>

Just as disease outbreaks cost lives, they can also disrupt global travel and trade and threaten economic stability. The U.S. is a major exporter — in 2015, the U.S. exported over $300 billion in American-made material goods and services to 49 CDC health security priority countries. These same exports supported over 1.6 million U.S. jobs across all 50 states.

Massive return on investment: $1 combatting malaria = $36 in economic return

Josh Blumenfeld and Margaret Reilly 2018 (Blumenfeld is the managing director of global policy and advocacy at Malaria No More. McDonnell is the executive director of the UN Foundation Nothing But Nets campaign.) 19 April 2018 “The US is leading the way in the fight against malaria” <https://thehill.com/opinion/healthcare/383962-the-us-is-leading-the-way-in-the-fight-against-malaria>

Lifting the malaria burden would unleash productivity and unlock prosperity for individuals and nations alike. According to the Copenhagen Consensus, every dollar spent to combat malaria generates $36 of economic return.

Biosecurity: Foreign disease epidemics are a US national security threat

Jane Evans 2010 (with the Department of Military Strategic Studies, U.S. Air Force Academy. Written in: Global Security Studies, a premier academic and professional journal for strategic issues involving international security affairs) Spring 2010 “Pandemics and National Security” <https://pdfs.semanticscholar.org/36f9/799a7392aa77bc92dcc343332107761a465f.pdf>

Traditionally, national security has been narrowly defined as the preservation of the state from physical threats. Still, emerging diseases and their pandemic potential pose perhaps an even greater national security threat, particularly in this era of globalization when disease can spread more rapidly than in previous eras. Thirty four percent of all deaths worldwide are now attributable to infectious disease, while war only accounts for 0.64 percent of those deaths. Moreover, the Spanish flu epidemic of 1918 killed approximately 500,000 Americans, more than all wars fought in the 20th century. Improving detection through biosurveillance is the key to stopping epidemics and the United States must increase its funding and focus on improving both domestic and global biosurvellance capability. Additionally, reducing disease transmission through public education and related measures is also crucial to minimizing pandemic impacts.

Diseases can destabilize economies, cause political instability and conflict

Jane Evans 2010 (with the Department of Military Strategic Studies, U.S. Air Force Academy. Written in: Global Security Studies, a premier academic and professional journal for strategic issues involving international security affairs) Spring 2010 “Pandemics and National Security” <https://pdfs.semanticscholar.org/36f9/799a7392aa77bc92dcc343332107761a465f.pdf>

There are many ways diseases can threaten national security. First, they cause increased rates of morbidity and mortality – people sicken and die, putting huge strains on public health and the nation’s workforce, leading to political instability, class strife, and economic volatility. For example, AIDS has led to numerous problems in many African countries. When marginalized or poor people cannot afford treatment and the government cannot or will not provide it, faith in the political system crumbles; class and ethnic conflict emerges and without a sufficient working class, GDP decreases and each problem begets more problems.

Pandemic disease has the same impact as Bioterrorism

Jane Evans 2010 (with the Department of Military Strategic Studies, U.S. Air Force Academy. Written in: Global Security Studies, a premier academic and professional journal for strategic issues involving international security affairs) Spring 2010 “Pandemics and National Security” <https://pdfs.semanticscholar.org/36f9/799a7392aa77bc92dcc343332107761a465f.pdf>

Second, in the article “Epidemic Disease and National Security,” author Susan Peterson argues that the most direct threat posed by a disease to the United States arises from its vulnerability to biological weapons attack (45). It is important to note that the result of a naturally spreading disease and something like bioterrorism is one and the same. Failure to prevent a biological weapons attack results in the same outcome – infection of the population – and requires the same solution. Preparation for widespread disease should therefore be a key focus of national security. More indirect threats to national security include “the health of the armed forces and, most significantly, to the social, economic, and political stability of certain key regions – especially Russia – that also challenge American security” (Peterson 46). In this sense, diseases lower the ability of the State Department or the Department of Defense to adequately provide international security to the United States. Both internal and external national security is threatened by the spread of disease.

ADVANTAGES

Incentivizes other countries to fight malaria

Josh Blumenfeld and Margaret Reilly 2018 (Blumenfeld is the managing director of global policy and advocacy at Malaria No More. McDonnell is the executive director of the UN Foundation Nothing But Nets campaign.) 19 April 2018 “The US is leading the way in the fight against malaria” <https://thehill.com/opinion/healthcare/383962-the-us-is-leading-the-way-in-the-fight-against-malaria>

These American commitments, sustained and grown over three administrations and multiple Congresses, have contributed to saving the lives of 7 million people. However, they have an even broader impact because they incentivize governments and businesses to add their own resources to the fight. Following our lead, major donors such as the United Kingdom and France have contributed billions of dollars to the Global Fund.

Malaria eradication saves $2 trillion – one of the best returns on investment we could make

Bill Gates and Ray Chambers 2015 (With his wife Melinda, Bill Gates chairs the Bill & Melinda Gates Foundation, the world's largest private charitable foundation. Ray Chambers is the United Nations Secretary-General's Special Envoy for Financing the Health Millennium Development Goals and for Malaria) August 2015 “From Aspiration to Action: What Will It Take to End Malaria?” <https://www.mmv.org/sites/default/files/uploads/docs/publications/Aspiration-to-Action.pdf>

Leading economists have identified the fight against malaria as one of the “best buys” in global development, estimating that a 50-percent reduction in global malaria incidence could produce $36 in economic benefits for every $1 invested. A new analysis also indicates that malaria eradication could deliver more than $2 trillion (U.S.) in economic benefits and save an estimated 11 million lives.

Fighting malaria reduces blood transfusions – frees up blood availability for other patients

12 researchers writing in the Malaria Journal 2014 (AUTHORS: Alison B Comfort, Janneke H van Dijk, Sungano Mharakurwa, Kathryn Stillman, Benjamin Johns, Payal Hathi, Sonali Korde, Allen S Craig, Nancy Nachbar, Yann Derriennic, Rose Gabert and Philip E Thuma. Malaria Journal is aimed at the scientific community interested in malaria in its broadest sense. It is the only journal that publishes exclusively articles on malaria and, as such, it aims to bring together knowledge from the different specialities involved in this very broad discipline, from the bench to the bedside and to the field. Malaria Journal offers a fast publication schedule while maintaining rigorous peer-review; this is achieved by managing the whole of the publication process electronically, from submission to peer-review.) 26 September 2014 “Association between malaria control and paediatric blood transfusions in rural Zambia: an interrupted time-series analysis” <https://malariajournal.biomedcentral.com/articles/10.1186/1475-2875-13-383>

For each additional paediatric malaria outpatient visit, there were 0.07 additional paediatric blood transfusions (95% CI 0.01-0.13; p < 0.05). For each additional paediatric admission for severe malarial anaemia, there were 1.09 additional paediatric blood transfusions (95% CI 0.95-1.23; p < 0.01). There were 19.1 fewer paediatric blood transfusions per month during the 2004–2006 malaria control period (95% CI 12.1-26.0; p < 0.01), a 50% reduction compared to the preceding period when malaria control was relatively limited. During the 2007–2008 malaria control period, there were 27.5 fewer paediatric blood transfusions per month (95% CI 14.6-40.3; p < 0.01), representing a 72% decline compared to the period with limited malaria control. Paediatric admissions for severe malarial anaemia largely explain total use of paediatric blood transfusions. The reduction in paediatric blood transfusions is consistent with the timing of the malaria control interventions. Malaria control seems to influence the use of paediatric blood transfusions by reducing the number of paediatric admissions for severe malarial anaemia. Reduced use of blood transfusions could benefit other areas of the health system through greater blood availability, particularly where supply is limited.

DISADVANTAGE RESPONSES

A/T “Antibiotic resistance” – New methods being developed: Triclosan

Craig Brierley 2018 (Head of Research Communications at the University of Cambridge.) 18 January 2018 “AI 'scientist' finds that toothpaste ingredient may help fight drug-resistant malaria” <https://www.cam.ac.uk/research/news/ai-scientist-finds-that-toothpaste-ingredient-may-help-fight-drug-resistant-malaria>

Now, in a study published today in the journal Scientific Reports, a team of researchers employed the Robot Scientist ‘Eve’ in a high-throughput screen and discovered that triclosan, an ingredient found in many toothpastes, may help the fight against drug-resistance.  
**[END QUOTE. He goes on later in the article to write QUOTE:]**Working with ‘Eve’, the research team discovered that in fact, triclosan affects parasite growth by specifically inhibiting an entirely different enzyme of the malaria parasite, called DHFR. DHFR is the target of a well-established antimalarial drug, pyrimethamine; however, resistance to the drug among malaria parasites is common, particularly in Africa. The Cambridge team showed that triclosan was able to target and act on this enzyme even in pyrimethamine-resistant parasites.

A/T “Antibiotic resistance” – New methods being developed: Dormant cell study

Anne Trafton 2018 (life sciences writer at the MIT News Office. MIT News is dedicated to communicating to the media and the public the news and achievements of the students, faculty, staff and the greater MIT community.) 22 February 2018 “Human malaria parasites grown for the first time in dormant form” <http://news.mit.edu/2018/human-malaria-parasites-grown-first-time-dormant-form-0222>

One of the biggest obstacles to eradicating malaria is a dormant form of the parasite that lurks in the livers of some patients. This dormant form is resistant to most antimalarial drugs and can reawaken months or years later, causing disease relapse. Malaria researchers know little about the biology of these dormant parasites, so it has been difficult to develop drugs that target them. In an advance that could help scientist discover new drugs, MIT researchers have shown they can grow the dormant parasite in engineered human liver tissue for several weeks, allowing them to closely study how the parasite becomes dormant, what vulnerabilities it may have, and how it springs back to life.

A/T “Antibiotic resistance” – PMI solving with early intervention strategies and monitoring

CDC 2017 (Author affiliations: Centers for Disease Control and Prevention, Atlanta, Georgia, USA (E.S. Halsey, M.M. Plucinski, E. Talundzic, N.W. Lucchi, Z. Zhou, A.M. Samuels, L.C. Steinhardt, J. Gutman, J. Hwang, Y.P. Shi, V. Udhayakumar); US Agency for International Development, Washington, DC, USA (M. Venkatesan); National Institute for Medical Research, Tanga, Tanzania (C.I. Mandara, D.S. Ishengoma); National Malaria Control Centre, Lusaka, Zambia (H. Moonga, B. Hamainza); Mafèrinyah Rural Health Research Center, Mafèrinyah, Guinea (A.H. Beavogui); University Gamal Abdel Nasser of Conakry, Conakry, Guinea (A.H. Beavogui); Kenya Medical Research Institute, Kisumu, Kenya (S. Kariuki); US Centers for Disease Control and Prevention, Kisumu (A.M. Samuels); University of Malawi College of Medicine, Blantyre, Malawi (D.P. Mathanga); National Malaria Control Program, Cotonou, Benin (Y.E. Denon); Rwanda Biomedical Center, Kigali, Rwanda (A. Uwimana); Ethiopian Public Health Institute, Addis Ababa, Ethiopia (A. Assefa, P.R. Dimbu); National Malaria Control Program, Luanda, Angola (P.R. Dimbu); University of Bamako, Mali (O. Koita); Université Cheikh Anta Diop de Dakar, Senegal (D. Ndiaye)) December 2017 “Capacity Development through the US President’s Malaria Initiative–Supported Antimalarial Resistance Monitoring in Africa Network” <https://wwwnc.cdc.gov/eid/article/23/13/17-0366_article>

Antimalarial drug resistance is an evolving global health security threat to malaria control. Early detection of Plasmodium falciparum resistance through therapeutic efficacy studies and associated genetic analyses may facilitate timely implementation of intervention strategies. The US President’s Malaria Initiative–supported Antimalarial Resistance Monitoring in Africa Network has assisted numerous laboratories in partner countries in acquiring the knowledge and capability to independently monitor for molecular markers of antimalarial drug resistance.

A/T “Antibiotic resistance” – Monitoring leads to prevention, including therapeutic efficacy studies (TES)

CDC 2017 (Author affiliations: Centers for Disease Control and Prevention, Atlanta, Georgia, USA (E.S. Halsey, M.M. Plucinski, E. Talundzic, N.W. Lucchi, Z. Zhou, A.M. Samuels, L.C. Steinhardt, J. Gutman, J. Hwang, Y.P. Shi, V. Udhayakumar); US Agency for International Development, Washington, DC, USA (M. Venkatesan); National Institute for Medical Research, Tanga, Tanzania (C.I. Mandara, D.S. Ishengoma); National Malaria Control Centre, Lusaka, Zambia (H. Moonga, B. Hamainza); Mafèrinyah Rural Health Research Center, Mafèrinyah, Guinea (A.H. Beavogui); University Gamal Abdel Nasser of Conakry, Conakry, Guinea (A.H. Beavogui); Kenya Medical Research Institute, Kisumu, Kenya (S. Kariuki); US Centers for Disease Control and Prevention, Kisumu (A.M. Samuels); University of Malawi College of Medicine, Blantyre, Malawi (D.P. Mathanga); National Malaria Control Program, Cotonou, Benin (Y.E. Denon); Rwanda Biomedical Center, Kigali, Rwanda (A. Uwimana); Ethiopian Public Health Institute, Addis Ababa, Ethiopia (A. Assefa, P.R. Dimbu); National Malaria Control Program, Luanda, Angola (P.R. Dimbu); University of Bamako, Mali (O. Koita); Université Cheikh Anta Diop de Dakar, Senegal (D. Ndiaye)) December 2017 “Capacity Development through the US President’s Malaria Initiative–Supported Antimalarial Resistance Monitoring in Africa Network” <https://wwwnc.cdc.gov/eid/article/23/13/17-0366_article>

Improving molecular surveillance capability in Africa could preserve antimalarial drug efficacy on the continent. Molecular surveillance can complement conventional TES methods and serve as an early warning system to trigger and direct follow-up investigations in areas of suspected resistance. Accelerating the confirmation of resistance and assisting countries in identifying appropriate actions are consistent with the aim to prevent, detect, and respond to human disease threats in the name of global health security. Whether that entails targeted interventions (e.g., heightened case surveillance, intensive indoor residual spraying of insecticide); switching to 1 of the other 5 WHO-approved ACTs; or developing a new option remains to be determined. Several innovative compounds show promise ([16](https://wwwnc.cdc.gov/eid/article/23/13/17-0366_article#r16)), including those possessing substantial differences from existing antimalarial drugs in their class and those with completely novel mechanisms of action; ongoing studies continue to produce safety and efficacy data. Available strategies include adding a third drug to the current 2-drug approach of treating uncomplicated malaria (triple therapy) ([17](https://wwwnc.cdc.gov/eid/article/23/13/17-0366_article#r17)), exploring the safety and efficacy of sequential administration of different ACTs, and extending the treatment duration of existing therapies ([18](https://wwwnc.cdc.gov/eid/article/23/13/17-0366_article#r18)). Regardless of the strategy chosen, surveillance programs such as PARMA and the PMI-supported TES network will be instrumental in keeping malaria control in Africa a step ahead of the parasite.

A/T “Corruption” – PMI takes a tough line against corruption and solves whenever it is found

Roger Bate and Kimberly Hess 2012 (Bate is an economist who researches international health policy, with a particular focus on tropical disease and substandard and counterfeit medicines. He also writes on general development policy in Asia and Africa. Hess is a researcher with Africa Fighting Malaria.) 3 October 2012 “Prioritizing malaria control in a time of foreign aid austerity” <https://www.aei.org/wp-content/uploads/2012/10/-prioritizing-malaria-control-in-a-time-of-foreign-aid-austerity_170241572.pdf>

When PMI encountered challenges with corruption, it took a tough line, minimizing its losses and maintaining strict standards for program participation. For example, in Angola in 2008, over $642,000 was lost in diverted USAIDfunded antimalarial medicines as a result of several thefts occurring while the medicines were under the control of the Angolan Ministry of Health. A US Department of Health and Human Services Office of Inspector General audit report cited the failure of USAID in Angola to “ensure a quick and proper delivery of the drug from the airports” and its reliance on “a distribution system with significant control weaknesses managed by the Government of Angola” as reasons for the loss of funds. PMI’s intolerance of corruption is evident in its decision to cease using the Angolan government’s warehouse as a result of the thefts and to begin using only private warehouses and contractors. The publication of audit reports such as this one is proof of the initiative’s commitment to transparency.

A/T “Corruption” – PMI has made big improvements over previous malaria programs, resulting in better effectiveness

Roger Bate and Kimberly Hess 2012 (Bate is an economist who researches international health policy, with a particular focus on tropical disease and substandard and counterfeit medicines. He also writes on general development policy in Asia and Africa. Hess is a researcher with Africa Fighting Malaria.) 3 October 2012 “Prioritizing malaria control in a time of foreign aid austerity” <https://www.aei.org/wp-content/uploads/2012/10/-prioritizing-malaria-control-in-a-time-of-foreign-aid-austerity_170241572.pdf>

PMI’s progress is truly remarkable given that it was conceived out of the unmonitored and generally woeful US malaria effort that existed during most of the 1990s and early 2000s. The USAID malaria control program that preceded PMI was fraught with problems. Antimalaria advocates prompted the US Congress to lead a series of investigations into the agency’s malaria programs between 2004 and 2006, which revealed almost no performance monitoring and evaluation, no accountability for spending, and a promotion of poor public health practices. Measurement focused almost entirely on inputs (number of commodities distributed) rather than outcomes (change in malaria morbidity and mortality). While USAID claimed to support comprehensive malaria control programs, most of its budget was spent hiring primarily US-based contractors and consultants rather than procuring lifesaving malaria treatments and prevention tools.

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