

# THE MALARIA DIVIDENDO

### WHY INVESTING IN MALARIA ELIMINATION CREATES RETURNS FOR ALL







O X F O R D E C O N O M I C S AFRICA





# **ABOUT THIS REPORT**

This report was written and produced by Malaria No More UK, a partner to, and in support, of the RBM Partnership to End Malaria. It is based on analysis from Oxford Economic Africa.

The report is published as a contribution to Zero Malaria, a global movement born out of the grassroots pan-African campaign Zero Malaria Starts with Me, that is committed to ending malaria in a generation.

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# **KEY FIGURES AT A GLANCE**

Analysis by Oxford Economics Africa shows that by getting back on track for the Sustainable Development Goals Target 3.3 for malaria, between 2023 and 2030 we could see:

### A BOOST TO THE GDP OF ALL MALARIA-ENDEMIC COUNTRIES IN AFRICA OF



A BOOST TO ALL MALARIA-ENDEMIC COUNTRIES' GDP GLOBALLY OF



A BOOST TO INTERNATIONAL TRADE OF



A BOOST FOR G7 COUNTRY EXPORTS TO KEY MALARIA-ENDEMIC AFRICAN COUNTRIES OF

\$3.9 billion

# **EXECUTIVE SUMMARY**

Malaria remains a severe threat to human health, especially in sub-Saharan Africa where the burden of disease is centred. Millions of lives are at risk from this preventable illness, and most of the 600,000 deaths each year are of children under five years of age.

While great progress was made in the first two decades of the century — the global mortality rate for malaria halved between 2000 and 2015,<sup>1</sup> and case incidence fell by  $26\%^2$  — the fight is far from over. Since the latter half of the 2010s, overall global progress has stalled. A combination of factors including the disruptive impacts on malaria programming from climate change and conflict, growing drug and insecticide resistance, and the persistent impact on economies from the effects of the COVID-19 pandemic, have all contributed to a perfect storm of conditions holding back progress. As a result, the progress needed for the Sustainable Development Goal (SDG) target on malaria, which requires a 90% reduction in case incidence and mortality rates by 2030, is now off-track.

In response to this, Oxford Economics Africa (OEA) were commissioned to model and assess the economic impact of meeting the SDG target for malaria. This work was commissioned by Malaria No More UK, a partner of the RBM Partnership to End Malaria.

The analysis shows that investing in malaria control and elimination programmes doesn't just save lives; it's also economically smart, for malaria-endemic countries and their international partners. This report shows that achieving the target through a 90% reduction in case incidence by 2030 (set out as an indicator for the target) could significantly boost the Gross Domestic Product (GDP) of malaria-endemic countries by \$142.7 billion (bn) over the 2023 – 2030 period analysed. This will also have global benefits by increasing international trade by \$80.7 bn over the same timeline, including direct trade benefits for G7 countries of \$3.9 bn in additional exports. This underscores the economic benefits of ending malaria, not just for affected endemic countries but for the whole global economy.

While great progress was made in the first two decades of the century — the global mortality rate for malaria halved between 2000 and 2015, and case incidence fell by 26% — the fight is far from over.

These gains can only be realised by getting back on track to achieving the target set for 2030. Staying on the current trajectory not only costs the lives and wellbeing of millions, it leaves billions of dollars of economic progress unrealised.

Despite being off-track to meet the 2030 target on malaria, the global campaign to end the disease has much cause for optimism. Malaria is a vector-borne, preventable, and treatable infectious disease. As such it responds to increased use of effective tools, treatments, and programmes of management. Rapid decreases in case incidence can be achieved quickly. The huge achievement of eliminating the disease continues to occur within countries across the world, most recently by Cabo Verde in 2024.<sup>3</sup> Thanks to sustained, prudent investments, malaria has a strong research and development pipeline, with new vaccines and tools now being deployed and many more potentially game-changing innovations on their way.

With a concerted and urgent effort, it is still possible to get back on track to the 2030 target. This urgency was well recognised in the Yaoundé declaration, launched in March 2024<sup>4</sup> following the Ministerial conference on malaria. This ministerial level declaration acknowledges the vital role that domestic resource mobilisation and political will must play in driving down the malaria burden, and calls for both endemic countries and donors to step up their commitments.

### With a concerted and urgent effort, it is still possible to get back on track to the 2030 target.

Doing so will save millions of lives, deliver significant economic benefits, and allow for reinvestment of these dividends to other vital sectors. This can help malariaendemic countries strengthen their health systems and develop better pandemic preparedness, in addition to climate change mitigation and adaptation which is beneficial to all. 2024 sees not one but two malaria vaccines become part of the routine immunisation programmes across 20 countries in sub-Saharan Africa. The successful roll-out of malaria vaccines could take us one step closer to getting back on track to 2030. However, to do so they must be rolled-out in close coordination with other malaria control measures to maximise their impact and save as many lives as possible. This can only be achieved if two global health multilaterals, The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and Gavi, The Vaccine Alliance (Gavi) are fully replenished financially by the end of 2025, to support malaria control and elimination efforts in the years remaining to 2030.

The next 18 months offer a golden opportunity to realign efforts towards achieving the global malaria target by 2030. With the strengthened domestic resource mobilisation committed to by ministers in Yaoundé, a renewed commitment to the Global Fund and Gavi replenishments from G7 governments and other donors, and continued investment and support to the malaria research and development pipeline, it is not just possible to save the lives of millions, but also to strengthen the world's resilience against future pandemics and boost economic growth. It's time to prioritise the dividends that eliminating malaria can provide, and pave the way for a healthier, more secure future.

### **GEORGE'S STORY:** MALARIA'S HUMAN TOLL

George Otieno is a father, fisherman and community leader for sanitation and environmental health, from a vibrant fishing village on the shore of lake Victoria in Kisumu county, Kenya. George knows first-hand the impact of malaria through the devastating affect on his family and wider community and what we have to gain by ending this disease.

George shares: "Malaria is a disease that is always affecting my family, year in year out. We have experienced very difficult times with my family, it's like a cycle from one child to another child. And even to the fishing community, there are many economic activities with fishing, and when you work is when you get your pay. So, when you are sick with malaria it means you are not going to work, you are not going to fish. It's a disease that's very dangerous to the fishing community.

It's important to advocate to end malaria, so it can give us the energy so we can build our economy. If you are a sick person, it means the economy will go down, but if you are healthy, it means the revenue we collect it will go up, because the fisherman and crews are working, the mothers are working and those doing related trading activities are also working, so if there is a way of stopping malaria, we would prefer if it could be stopped.

With zero malaria it means we can do a lot of things, our children will go to school, our fisherman will go to work, our farmers will go to the farm and those who are trading can do their business."

**George Otieno** Fisherman, Kenya

Credit: Malaria No More UK



# THE ECONOMIC CASE FOR INVESTING IN **MALARIA CONTROL AND ELIMINATION**

### SUMMARY METHODOLOGY

Funding malaria control and elimination efforts is the right thing to do to save and improve lives, especially those most affected — children under five and pregnant women. It's also a smart economic investment. To quantify the potential impact of achieving the 2030 malaria target, which includes the success indicator of a 90% reduction in case incidence, Malaria No More UK commissioned Oxford Economics Africa (OEA). The methodology, detailed in the appendix, illustrates how each step contributes to the estimation of economic benefits at different levels—country, regional, and global.

Analysis by Sarma et al. (2019) found that a 10% decrease in malaria case incidence is associated with a 0.11 percentage point increase in annual GDP per capita growth.<sup>5</sup> This analysis combines these findings from Sarma et al. (2019) with case incidence projections over the 2023-2030 period using the latest World Health Organization data from the World Malaria Report. The research uses two scenarios - a 'baseline' scenario where case incidence remains on the same historic trend and a 'SDG achievement' scenario where case incidence steadily declines toward the SDG target 3.3 on malaria, which is measured by the achievement of a 90% reduction in both case incidence and mortality rates. The difference in case incidence between the baseline and SDG achievement scenarios when combined with the Sarma et al. (2019) findings provide an illustrative analysis of the potential boost to GDP by meeting

the 2030 target for malaria - the results of which are detailed in the following sections.

To estimate the impact on trade, OEA extrapolated the impact on GDP to international trade, considering the economic outlooks of countries over the time frame. This process involved estimating how the boost to GDP translates into trade benefits, including both bilateral trade with select nations and trade with 13 'focus' countries identified by their current malaria burden.

These 13 focus countries refer to the ten countries most affected by malaria: Nigeria, the Democratic Republic of Congo (DRC), Uganda, Mozambique, Angola, Burkina Faso, Mali, Tanzania, Niger, and Côte d'Ivoire; as well as three other large African economies where malaria is persistent -Ghana, Zambia, and Kenya.

Detailed assumptions regarding trade can be found in the appendix, further explaining the methodology used to estimate economic gains by 2030.

### **REDUCING MALARIA BOOSTS GDP IN MALARIA-ENDEMIC COUNTRIES**

Malaria places a heavy economic toll on affected countries, stunting socioeconomic progress and perpetuating cycles of poverty. People who fall sick from malaria, particularly young children, require rapid treatment and care. This is often paid for through out-of-pocket expenditure and increases the burden of unpaid care on families (primarily mothers), which

holds back their potential for economic engagement. Families who face catastrophic expenditure on treatment cannot invest in education or other methods of breaking the poverty cycle. The economic costs to each family are significant and, when scaled up to national levels, even more so.

Through extrapolating the potential economic benefits of reducing malaria incidence, OEA's analysis reveals the transformative impact of curbing malaria cases on GDP for endemic countries in Africa and globally.

### FIGURE 1 - ESTIMATE INCREASE IN GDP FOR MALARIA-ENDEMIC COUNTRIES BETWEEN 2023-2030<sup>a</sup>



The economic gains from malaria reduction efforts are substantial, particularly in Africa, where the projected GDP increase would be \$126.9 billion over the 2023-2030 period. This represents a significant proportion of the potential gain from all malaria-endemic countries, comprising 88.9% of the total GDP boost. Across all malaria-endemic countries, the collective GDP increase is estimated at \$142.7 bn, underscoring the widespread economic advantages of eliminating malaria. This data is illustrated in Figure 1.

Figure 2 shows how this boost to GDP occurs over the period 2023-2030, with substantial gains made towards the end of the decade.



FIGURE 2 - ESTIMATE CUMULATIVE INCREASE IN GDP FOR MALARIA-ENDEMIC COUNTRIES, 2023-2030<sup>b</sup>

The analysis also shows the potential economic benefits at a country-level for the focus countries. Figure 3 below shows that Nigeria alone, which has by far the largest burden of malaria cases and deaths, could benefit from a GDP boost of nearly \$34 bn by 2030. Nigeria is followed by Kenya and Angola, with each country experiencing GDP gains of \$9.4 bn and \$8.5 bn, respectively. Tanzania could receive a boost to GDP of approximately \$7.5 bn and DRC could see a substantial GDP increase of \$4.9 bn over the 2023 to 2030 period.

### FIGURE 3 - ESTIMATE INCREASE IN GDP FOR SELECTED "FOCUS" COUNTRIES, 2023-2030



The economic benefit of reducing malaria will be felt by individuals and businesses alike. Where businesses are multinational in scope, these benefits spread across borders and can contribute to the citizens of other countries. Zambia Sugar and Fever-

### ZAMBIA SUGAR

Zambia Sugar, a leading cane sugar producer in Africa under Associated British Foods, is dedicated to eradicating malaria. Operating from Mazabuka, Zambia, the company's commitment to eliminating malaria not only ensures a healthy workforce but also sets a precedent for successful business operations intertwined with community health initiatives.

Recognising the impact of malaria on productivity and sustainability, Zambia Sugar proactively addressed the challenge by implementing comprehensive control measures. Collaborating with local health authorities and NGOs, the company deployed sustainable interventions including biological control measures and malaria surveillance.

### FEVER-TREE

The fight against malaria has been foundational to Fever-Tree, spanning eleven years of partnership with Malaria No More UK. The quinine-producing cinchona tree, known colloquially as "the fever tree", has been hugely important in humanity's fight against malaria and is closely aligned to Fever-Tree's roots, given quinine's role as a key ingredient in tonic water. In addition, the quinine used in Fever-Tree's tonic water is sourced from the Democratic Republic of Congo (DRC), which is severely impacted by malaria and is one of this report's focus countries. The company's unwavering commitment to malaria eradication has been underscored over the years through a range of activities, from providing support to key events like the 2018 Malaria Summit London,

b,c Source: Oxford Economics Africa & Malaria No More UK (2024)

Tree are two businesses that understand the importance of ending malaria for the health of their employees and the productivity of their operations (*see Case Studies below*).

Surveillance approaches range from malaria test and treat, delivered through community health workers and health facilities to active surveillance in the community targeting groups such as migrant workers and farm workers. These measures have resulted in improved productivity, reduced absenteeism, and lower healthcare costs for its workforce.

Additionally, surrounding communities benefited from enhanced health outcomes, leading to improved economic opportunities and social well-being. Zambia Sugar's malaria elimination programme demonstrates the transformative power of corporate social responsibility, emphasising the importance of integrating health initiatives into business strategies for sustainable development and shared prosperity.

to building consumer awareness through on-pack and social media campaigns as well as employees taking part in fundraising challenges.

Since 2023 Fever-Tree have been funding a campaign designed to support behaviour change efforts to inform, inspire, and protect communities living at risk from malaria in three target counties in Kenya.

As a responsible business Fever-Tree is committed to supporting the communities within their supply chain. They believe that by helping the goal to reduce the global threat of malaria and one day achieve a world free from this preventable treatable disease, they can play an important part in positively impacting the health and wellbeing of the communities that they touch.

### **REDUCING MALARIA BOOSTS TRADE, BENEFITING BOTH ENDEMIC AND G7/DONOR COUNTRIES**

The economic advantages of ending malaria reach far beyond malaria-endemic regions, offering tangible opportunities for trade and investment for G7 countries, and other nations, who are supporting gains in global health through their funding.

OEA's analysis shows that in addition to boosting GDP for malaria-endemic countries, international trade stands to receive a substantial lift, with an estimated increase of \$80.7 bn between 2023 and 2030. Over a third (39.3%) of this uplift in trade is due to increased exports from African countries due to increased economic demand. Notably, exports from the G7, UAE, Republic of Korea (ROK), and the rest of the European Union (EU) to the focus countries are projected to increase by \$8.5 bn. Again, this surge in economic

output not only fosters growth but also enhances living standards and unlocks human potential.

OEA's analysis reveals that over the period 2023-2030, exports from the G7 to the focus countries examined could rise by \$3.9 bn if malaria control and elimination efforts are ramped up and the 2030 target is achieved. This upsurge in trade reflects the potential for expanded market access, increased consumer purchasing power, and enhanced business prospects in malaria-endemic regions.

Figure 4 shows that the US could receive the highest export boost with an increase of \$1.5 bn. Other G7 countries including France, Germany and the UK could all gain more than \$450 million each.

### FIGURE 4 – ESTIMATE INCREASE IN VALUE OF EXPORTS FROM SELECTED DONOR COUNTRIES TO "FOCUS" COUNTRIES OVER 2023-2030 PERIOD<sup>d</sup>



As Figure 5 shows, Italy, the President of the G7 in 2024, could receive a boost of over \$280 mn, with over a third of that coming from exports to Nigeria alone.

### FIGURE 5 - ESTIMATE INCREASE IN VALUE OF EXPORTS FROM ITALY TO "FOCUS" COUNTRIES, 2023-2030°



African countries will also benefit from increased exports to the rest of the world. Figure 6 shows this breakdown for the 13 focus countries. Over half of the focus countries in this report will receive export boosts that are worth more than a billion dollars. In the cases of Nigeria and Angola, these figures are equivalent to \$4.8 bn and \$3.6 bn, respectively.

### FIGURE 6 - ESTIMATE INCREASE IN EXPORTS VALUE FROM SELECTED "FOCUS" COUNTRIES TO THE REST OF THE WORLD OVER 2023-2030 PERIOD<sup>f</sup>



# **CONCLUSION**

The years to 2030 represent a golden opportunity for the malaria fight. The analysis by Oxford Economics Africa shows that by getting back on track to the 2030 target, we have the opportunity to not only save lives, but also boost economic output to the benefit of all.

To get back on track, enhanced domestic resource mobilisation and increased support by donor countries for the control, and elimination of malaria, must be prioritised.

In the near term of the next 18 months, the necessity of adequately funding both the Global Fund and Gavi at their upcoming replenishments cannot be overstated. This must be done in tandem, and with close coordination. Their complementary roles in advancing malaria control strategies, particularly with the recent introduction of malaria vaccines, exemplifies the urgent need for joint investment. The successful rollout of the new malaria vaccines in Africa relies on the full funding and effective coordination mechanisms of both organisations.

To maximise their impact, these vaccines must be coordinated closely with complementary malaria control and elimination programmes that encompass various interventions such as bed nets and preventive chemotherapy. This united approach, facilitated by Gavi's procurement of vaccine doses and the Global Fund's support for malaria prevention and control measures, is essential to accelerate progress towards elimination and ultimately save lives.

In the medium and longer term, continued and increased funding will be required to maintain and strengthen the research and development pipeline for malaria tools and treatment.

Enhancing malaria-endemic countries' economic growth through ending the disease not only uplifts the communities affected by malaria, but also creates increased trade prospects for the countries that support them. By investing in the fight against malaria, donor countries are not only supporting malaria control and elimination efforts, they can also enhance their own economic potential.

The urgency embedded in the Yaoundé declaration provides a call to action for malaria-endemic countries and global partners alike, to restore momentum in tackling this preventable disease. OEA's analysis backs up this call for urgency by showing that the benefits of driving down malaria are widespread, and would make the world a safer and more prosperous place for everyone.

# **RECOMMENDATIONS**

1. Fully fund The Global Fund To Fight **AIDS.** Tuberculosis and Malaria and Gavi, The Vaccine Alliance: All donors, and particularly the G7 governments, should commit to fully financing both the Global Fund and Gavi at their upcoming replenishments in 2024/25, supporting and enhancing the investments made by malariaendemic countries themselves. These organisations play indispensable roles in the fight against malaria, and their work must be fully supported to ensure effective malaria control and immunisation efforts reach those who need them most.

# ...we have the opportunity to not only save lives, but also boost economic output to the benefit of all.



- 2. Support and deliver on the promise of the Yaoundé declaration. Malariaendemic countries, supported by donors and global partners, should ensure that the necessary domestic resource mobilisation and political will to drive down malaria are prioritised.
- 3. Recognise the link between economic development, global health security and malaria elimination: G7 countries can use this year's G7 leaders' summit, as well as meetings of health, trade and development ministers, to recognise that malaria elimination is core to both social and economic progress.

# **ACKNOWLEDGMENTS**

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## **APPENDIX**

The appendix contains detailed methodology, data sources, and supplementary information referenced in the report.

### **METHODOLOGY**

Malaria No More UK commissioned Oxford Economics Africa (OEA) to estimate the potential economic gains if the 2030 global malaria target are met.

### **Economic impact analysis**

OEA's economic impact analysis relies on the research conducted by Sarma et al. (2019), which examined the historical economic effects of changes in malaria case incidence from 2000 to 2017. Their findings indicate that a 10% decrease in malaria case incidence is associated with a 0.11 percentage point increase in annual GDP per capita growth.<sup>6</sup>

OEA's analysis combines these findings from Sarma et al. (2019) with case incidence projections over the 2023-2030 period using the latest World Health Organization data on case incidence. The analysis uses this period as 2022 is the most up to date case incidence data available at the time of the research. The analysis looks at all malaria-endemic countries globally as well as provides deep dives for thirteen focus countries including the top ten highest burden in Africa and additionally Kenya, Zambia and Ghana because of their global economic and political influence.

The research uses two scenarios - a 'baseline' scenario where case incidence remains on the same trend and a 'SDG achievement' scenario where cases decline towards the indicator for success of SDG target 3.3 on malaria. For the current trends scenario, the analysis extends the annual change in cases from 2015 to 2022 to predict cases up to 2030 using UN population forecasts. Conversely, the 'SDG achievement' scenario calculates the required reduction in incidence from 2022 levels to achieve the SDG target of a 90% decrease in malaria cases by 2030 compared to 2015 levels.

The difference in case incidence between the baseline and 'SDG achievement' scenarios when combined with the Sarma et al. (2019) findings is used to quantify the potential boost to GDP per capita growth.

### Trade impact analysis

The analysis also delves into the impact on international trade resulting from the projected economic growth. The research disaggregates economic output by expenditure type to estimate the impact on international trade if the economic growth projections materialise.

The analysis uses the median GDP contributions of exports and imports over the past three years and uses these ratios on the different economic scenarios for the future. This analysis is first applied to all malaria-endemic countries globally, to measure the broader global impact of achieving SDG target. The analysis is then narrowed to examine the benefits that would stem from Africa if all African SDG target regarding malaria incidence were achieved by 2030.

The research then looks at the boost to trade at the bilateral level between the 13 Focus Countries and the G7 (comprising Canada, France, Germany, Italy, Japan, the UK, and the US), the EU, the UAE, and the Republic of Korea. Here, again, it is assumed that current trade patterns remain largely the same by using the mean contribution of each bilateral trade partnership over the past five years. These ratios are then used on the broader trade benefits to calculate the boost to bilateral trade

### **Research contributions**

The originality of the analysis in this report lies in leveraging the latest and most prominent research on the economic impact of reducing malaria incidence; projecting incidence under two different scenarios; and then calculating the projected economic outcomes under each scenario and comparing them. The modelling applied in this study should be viewed as building on the prevailing body of evidence. In addition to advancing on the work of Gallup and Sachs (2001) and Sarma et al. (2019), and extending estimated economic impacts to international trade, the method further contributes to research by the WHO (2020) and Patouillard et al. (2023). This study adds to the existing body of literature by:

- 1. Considering not only the GDP impacts of malaria-endemic countries to international trade, but also the trade impacts for donor countries.
- 2. Designing and applying the effects of both scenarios of (a) the current baseline whereby trending elimination figures persist; and (b) the economic gains that could be realised in a scenario in which malaria case incidence declines toward 2030 targets.
- 3. Forecasting economic and trade impacts into the future, as opposed to estimating the historic economic impact of malaria. While previous research also considered future economic impacts, this was done so by using the WHO model for Economic Projections of Illness and Cost (EPIC). This report's combination of forward projections offers a unique insight into the landscape of malaria as it relates to trade and the economy.

### **Data tables**

All data tables can be found at <u>https://bit.</u> <u>ly/3R58Lcx</u>



# **LIST OF ABBREVIATIONS**

**bn** – *billion* 

Gavi – Gavi, The Vaccine Alliance Global Fund – The Global Fund to Fight AIDS, Tuberculosis and Malaria mn – million NGO – non-governmental organisation OEA – Oxford Economics Africa R&D – research and development SDG – Sustainable Development Goal UN – United Nations WHO – World Health Organisation

**\$** – US dollars

# **ENDNOTES**

<sup>1</sup> World Health Organization. (2015). *World Malaria Report 2015*. Retrieved from <u>https://iris.who.int/bitstream/</u> <u>handle/10665/200018/9789241565158\_eng.</u> <u>pdf?sequence=1</u>

<sup>2</sup> World Health Organization. (2023). *World Malaria Report 2023*. Retrieved from <u>https://www.who.int/teams/global-</u> <u>malaria-programme/reports/world-malaria-</u> <u>report-2023</u>

<sup>3</sup> World Health Organization. (2024), 'WHO certifies Cabo Verde as malaria-free, marking a historic milestone in the fight against malaria'. Retrieved from https://www.who.int/news/ item/12-01-2024-who-certifies-cabo-verde-asmalaria-free--marking-a-historic-milestone-inthe-fight-against-malaria

<sup>4</sup> World Health Organization. (2024), 'African Health Ministers commit to end malaria deaths', Retrieved from <u>https://www.who.int/news/</u> item/06-03-2024-african-health-ministerscommit-to-end-malaria-deaths

<sup>5,6</sup> Sarma, N., Patouillard, E., Cibulskis, R. E., & Arcand, J. L. (2019). The Economic Burden of Malaria: Revisiting the Evidence. *The American Journal of Tropical Medicine and Hygiene*, 101(6), 1405–1415. doi:10.4269/ajtmh.19-0386

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