

The Smartest Ways to Fight Malaria

Healthy societies are productive societies, and Ghana is making great progress. In many areas, from improved nutrition and poverty reduction to disease prevention, the country is witnessing significant development. However, malaria remains a major public health concern. With one of every five citizens affected every year, it is the leading cause of death and disease and a great toll on all of society.

Malaria places an enormous demand on the country's health system and decreases productivity, with an estimated annual economic burden of 1% to 2% of GDP. Of all workdays lost in Ghana, 40% are due to malaria, and 13.5% of individuals in the prime working ages between 15 and 49 contract it annually. An increase in malaria incidence of 1% has been shown to reduce economic growth by 0.41%, and the regions most affected by it have a much slower rate of development than the national average.

Malaria prevention and treatment methods have made great advances in the past decades, and new research can point to the most cost-effective measures. This is what Ghana Priorities, a collaboration between the National Development



Planning Commission and the Copenhagen Consensus, is doing. Since early last year, 28 teams of top economists have been working to calculate the economic, social and environmental costs and benefits of more than 80 initiatives identified by the Finance Ministry and the Planning Ministry in areas ranging from education to housing and health care. The goal is to help the government and society set priorities by discovering where public spending could do the most good.

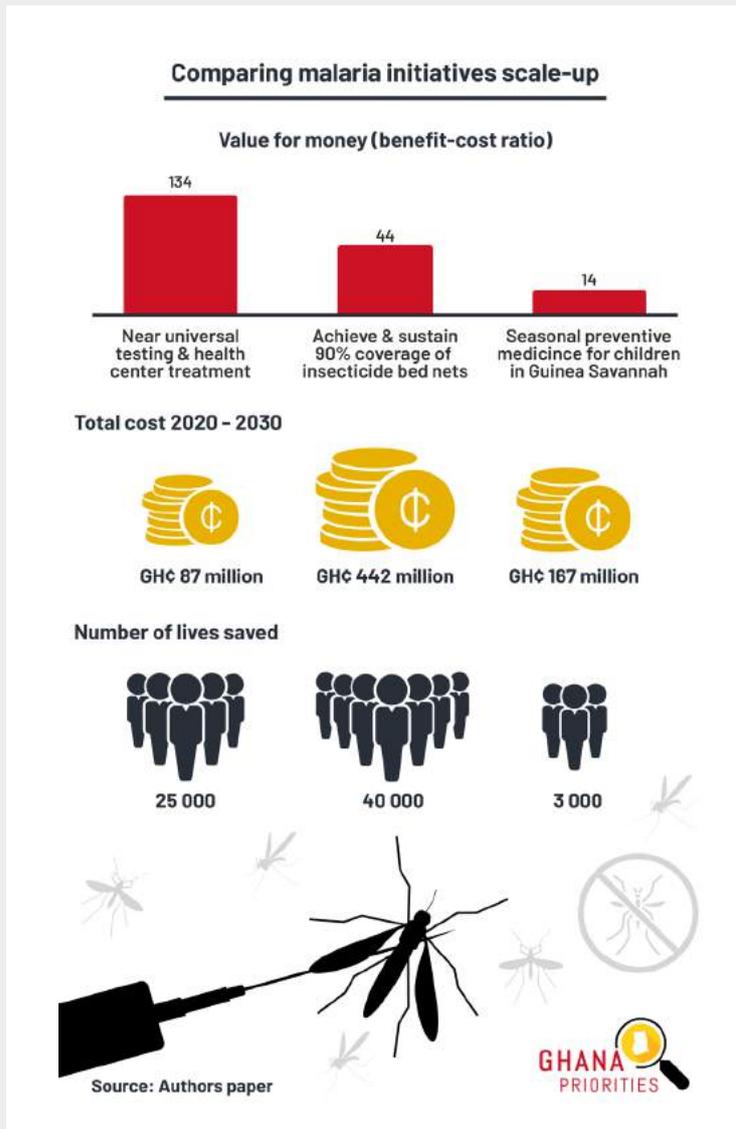
In the fight against malaria, where should resources be increased first to reap the biggest social benefit? Edward Nketiah-Amponsah from the University of Ghana, Timothy Awine and Sheetal Silal from the University of Cape Town, and Brad Wong from Copenhagen Consensus studied the best current initiatives to limit the spread of the disease. They calculated the benefit of scaling up three strategies already in use: diagnostic testing of suspected malaria cases at health facilities, distribution of insecticide-treated bed nets, and seasonal malaria chemoprevention.

For years, the government has prioritized increasing the use of bed nets to prevent the spread of the disease, with great results. The first analysed initiative expects to increase the number of bed nets distributed, with the goal of reaching 90% coverage in 2023 and maintaining it thereafter. This would require extra funding for the National Malaria Control Program (NMCP) of 45 million GHC initially, with a total cost of 442 million by 2030. Bed nets are relatively inexpensive but making coverage



near-universal would have a big impact: 12.9 million cases of uncomplicated malaria, some 700,000 severe cases, and 40,000 deaths could be avoided in the time frame studied. The total social and economic benefits would be 44 times the original investment, at about 19,000 million GHC.

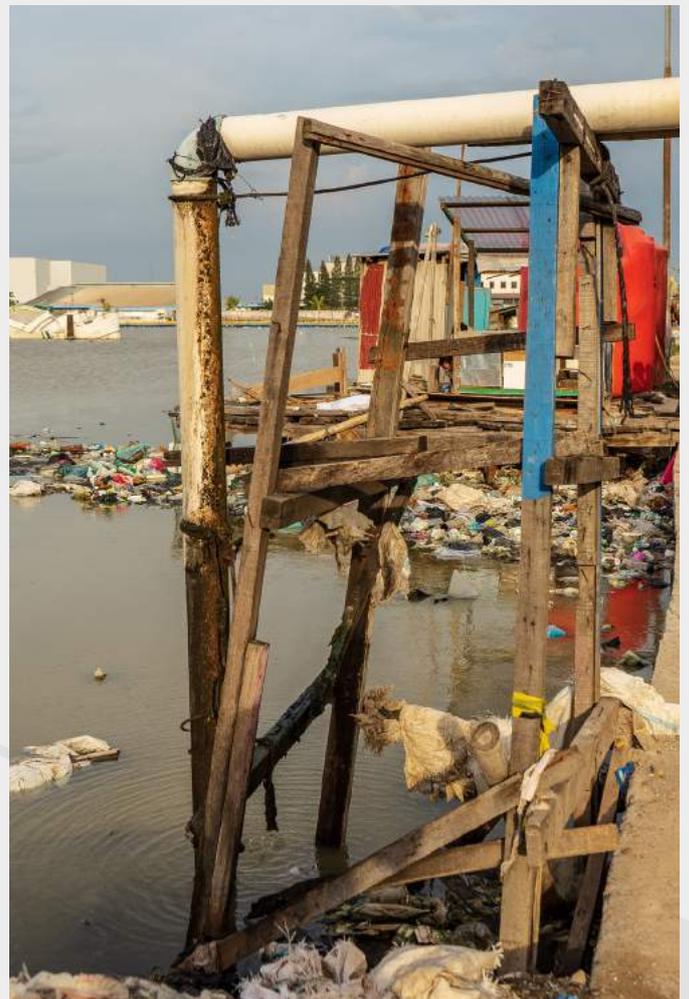
Among the initiatives analysed, increasing testing to confirm suspected malaria cases in health facilities would bring the highest benefits for every cedi spent. Testing is currently targeted at 90% of cases and helps limit indiscriminate use of anti-malarial treatment, which saves money and protects the public through more accurate diagnoses. The study investigates an increase towards near-universal implementation by training health facility staff in the use of the right protocols and making improvements in the availability of equipment, as well as monitoring. Reaching the last 10% of coverage would be significantly more difficult than the previous



expansion of testing, with the authors estimating that reaching these last cases would be 10 times as costly per suspected patient compared to what Ghana has paid so far. Even with these large extra costs, the return on investment from this intervention would be massive. By properly diagnosing malaria and giving early treatment to those infected, 435,000 severe cases and close to 25,000 deaths could be avoided between now and 2030. The study also suggests savings in drugs and time worth around GHC 17 for every suspected malaria case. The total value of benefits by 2030 would be a phenomenal GHC 11,600 million. Every cedi spent would

create benefits worth GHC134.

Young children are the most vulnerable to malaria. Seasonal malaria chemoprevention targeted at children up to five years of age is another strategy that has brought good results for the NMCP. The researchers considered increasing preventive treatment in the Guinea Savannah region to 90%, to bring preventive medicine to up to 600,000 children. This would require significant planning and human resources, but in total would help save more than 3,000 lives by 2030. The total benefit is calculated at GHC 2,300 million and the costs at GHC 167 million, meaning each cedi produces GHC 14 in social benefits – still a very respectable return.





Investments to ramp up malaria initiatives can be a very good way forward for Ghana, not only in saving lives but in achieving higher productivity for the future. This study can help the Health Ministry spend extra resources to do the most good for Ghana.

BCR SUMMARY TABLE

INTERVENTIONS	DISCOUNT RATE	Benefit GHS m	Cost GHS m	BCR	QUALITY OF EVIDENCE
Distribute and sustain 90 per cent coverage of LLIN	8%	19,359	442	44	Very Strong
Seasonal Malaria Chemoprevention to 90 per cent of children in the Guinea Savannah zone	8%	2,303	167	14	Medium
Near universal coverage of testing and treatment at health facilities	8%	11,595	87	134	Limited