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**MALARIA
ERADICATION**
WITHIN A GENERATION


Malaria eradication within a generation: ambitious, achievable, and necessary

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Executive summary

50 years after a noble but flawed attempt to eradicate malaria in the mid-20th century, the global malaria community is once again seriously considering eradication. Momentum towards eradication has been building for decades, and more than half of the world's countries are now malaria free. Since 2000, a surge of global progress has occurred, facilitated by the roll-out of new technologies and the substantial growth in political and financial commitment by countries, regions, and their global partners. Annual domestic and international spending on malaria increased from roughly US\$1.5 billion in 2000 to \$4.3 billion in 2016. Simultaneously, the number of countries with endemic malaria dropped from 106 to 86, the worldwide annual incidence rate of malaria declined by 36%, and the annual death rate declined by 60%.

Inspired by these outstanding achievements, and troubled by a stagnation in progress that saw 55 countries report an increase in cases between 2015 and 2017, the *Lancet* Commission on Malaria Eradication (the Commission) was convened to consider whether malaria eradication is feasible, affordable, and worthwhile. In this report of the Commission, we synthesise existing evidence and new epidemiological and financial analyses to show that malaria eradication by 2050 is a bold but attainable goal, and a necessary one given the never-ending struggle against drug and insecticide resistance and the social and economic costs associated with a failure to eradicate.

Global social, economic, and environmental trends are, in most places, reducing malaria. Our models show that these trends alone will lead to greatly reduced but still widespread malaria by 2050. When the effects of enhanced access to high-quality diagnosis, treatment, and vector control are factored in, the 2050 projections show a world largely free of malaria, but with pockets of

low-level transmission persisting in a belt across Africa, from Senegal in the northwest to Mozambique in the southeast. In view of these projections, we explore the responses to the operational, biological, and financial challenges that are required to bend the curve (ie, to accelerate the decline in malaria cases and deaths) and achieve elimination everywhere outside of Africa by 2030 and worldwide eradication by 2050.

Operational obstacles limit the success of malaria programmes in many countries, including ineffective management, inadequate use of data to inform strategies, poorly incentivised staff, and disengaged communities. Solutions to most of these challenges are available and inexpensive but require access to management training and tools, which many malaria programmes do not have. Strengthening programme management and improving the availability and use of data for decision making are operational priorities which, if addressed, would enhance programme effectiveness and accelerate the path to malaria eradication. Leveraging the expertise and comparative advantages of the private sector and forming close partnerships with private health-care providers will further strengthen performance.

Multiple challenges arise from the complexity of malaria biology: malaria parasites and their mosquito vectors are constantly evolving resistance to widely used drugs and insecticides, the most common methods of parasite detection are not sensitive enough to identify all infections, simian malaria is now common in humans in parts of southeast Asia, and the effectiveness of standard vector control interventions is low in areas with the highest transmission intensity and where outdoor biting is common. Encouragingly, the research and development pipeline for drugs, insecticides, diagnostics, and vector control tools is robust. Promising new products with strong potential to overcome existing challenges have become available in the past 5 years or are scheduled to roll

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