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Malaria Control & Elimination

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Malaria Prevention and Public Health Issues

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Abstract

Control, elimination, and eradication of malaria are one of the world's greatest public health challenges, especially in Sub-Saharan Africa.The expectation of producing an effectivevaccine has been on for 40 years, but the recent breakthrough announcement of a malaria vaccine showing some level of protection among infants and children 3-4 years post vaccination seems like an excellent starting point. The globally accepted strategy for the control of malaria rely on chemotherapy, but unfortunately the overreliance on chemotherapy without proper control of drug usage and diagnosis has encouraged the selection of drug-resistant parasites, significantly contributing to the problem. Therefore, the prospects of malaria eradication rest heavily on integrated approaches that would include chemotherapy, vector control, and manipulation of environmental and ecological characteristics, and vaccination.

Keywords: Control • Challenges • Elimination • Eradication • Malaria

Introduction

Although it is an ancient and historical disease, malaria persists unabated in many parts of the world today. An estimated 3.3 billion people-approximately one-half of the world's population living in 109 countries-ares at risk of contracting this serious and often life-threatening disease. Malaria accounts for ~250 million clinical cases and nearly 1 million deaths each year, the great majority of which occur in children younger than 5 years of age and in young, pregnant women. Malaria influences the social and economic well-being of societies in affected areas, draining scarce health and human resources, interfering with educational achievement, and causing persistent economic disadvantage.

The World Health Organization endorsed such efforts, and the Roll Back Malaria (RBM) partnership launched its Global Malaria Action Plan in September 2008. In contrast to previous attempts at malaria eradication, current efforts explicitly acknowledge that to attain malaria eradication, a long-term effort must be undertaken, incorporating multiple activities and embracing multiple interventions, disciplines, approaches, and organizations.

The uniqueness of malaria as a disease is derived from the complexity of its life cycle, involving humans and mosquitoes, and the structural and genetic changes between hepatocytes, red blood cells, and stages within the mosquitoes.

In this context, two new global malaria policy and advocacy documents supporting elimination and eradication were released in 2015: the Roll Back Malaria (RBM) Partnership's Action and Investment to Defeat Malaria 2016–2030 and the WHO's Global Technical Strategy for Malaria 2016–2030. The Global Technical Strategy (GTS), which the WHO ratified in May 2015, calls for at least another 40 percent reduction in malaria-related mortality and morbidity between 2015 and 2020. Other goals and targets are illustrated in Table 1.The Global Technical Strategy (GTS), which the WHO ratified in May 2015, calls for at least another 40 per cent reduction in malaria-related mortality and morbidity between 2015 and 2020. Other goals and targets are illustrated in Table 1.

Conclusion

Malaria has proven to be a formidable adversary over many centuries; however, recent, hard-won successes in reducing its scope by means of a wide range of control programs have engendered a new sense of purpose and confidence in malaria elimination and, ultimately, eradication.As the lead agency in the US government charged with supporting biomedical research on malaria, the NIAID has long maintained robust and vibrant programs to better understand the fundamental biological aspects of malaria and to provide the research basis for identification, development, validation, and evaluation of new interventional tools and strategies.

Table 1. Global Milestones and Targets for Elimination.

Goal	Milestones		Target
	2020	2025	2030
Reduce malaria mortality rates globally compared with 2015.	At least 40%	At least 75%	At least 90%
Reduce malaria case incidence globally compared with 2015.	At least 40%	At least 75%	At least 90%
Eliminate malaria from countries in which malaria was transmitted in 2015.	At least 10 countries	At least 20 countries	At least 35 countries
Prevent reestablishment of malaria in all countries that are malaria free.	Reestablishment prevented	Reestablishment prevented	Reestablishment prevented

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