

Eliminating malaria has longlasting benefits for many countries

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Many nations battling malaria face an economic dilemma: spend money indefinitely to control malaria transmission or commit additional resources to eliminate transmission completely.

A review of [malaria](#) elimination conducted by researchers at the Johns Hopkins Malaria Research Institute and other institutions suggests stopping malaria transmission completely has longlasting benefits for many countries and that once eliminated, the disease is unlikely to reemerge over time. Furthermore, total eradication of malaria may not be necessary before countries that eliminate the disease within their own borders can rely on their [health systems](#) to control cases. The study is published in the February 22 edition of *Science*.

"Our research identified a number of changes that could explain the stability of malaria elimination. The key for us now is to determine whether elimination caused some of these changes, and to identify other countries where elimination could become a stable endpoint," said the study's senior author, David Smith, PhD, MS, professor in the Department of [Epidemiology](#) and the Malaria Research Institute at the Johns Hopkins Bloomberg School of Public Health.

For the analysis, the researchers examined outcomes of the Global Malaria Eradication Programme, with activities starting in the late 1940s. When the program was defunded in 1969, the majority of countries that had achieved elimination stayed that way, while most countries that did not eliminate the disease continue to battle malaria

today. The study analyzed data from countries that eliminated malaria, describing nearly a quarter of a million imported malaria cases—usually acquired during travel—compared with only about five thousand malaria cases transmitted in-country. Malaria transmission in elimination countries is rare today.

The researchers developed six [hypotheses](#) as to why malaria elimination remains stable over time. Among the reasons, researchers question whether economic development spurs a reduction in [malaria transmission](#), independent of disease control measures, or if [economic development](#) is a byproduct of reduced illness from malaria. Other hypotheses consider benefits of mosquito control measures, effectiveness of outbreak management, and population travel patterns as reasons for keeping importation of new malaria infections low.

"If malaria elimination helps cause its own stability, then eradication may benefit from regional coordination, but it does not require a globally coordinated campaign. [Malaria elimination](#) can proceed like a ratchet, country-by-country and region-by-region, culminating in global eradication," explained Smith.

More information: "The Stability of Malaria Elimination" was written by C. Chiyaka, A.J. Tatem, J.M. Cohen, P.W. Gething, G. Johnston, R. Gosling, R. Laxminarayan, S.I. Hay, and D.L. Smith.

Provided by Johns Hopkins University Bloomberg School of Public Health

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