

# Research suggests malaria can be defeated without a globally led eradication program

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A researcher at the University of Southampton, working as part of a team from the UK and USA, believes the global eradication of malaria could be achieved by individual countries eliminating the disease within their own borders and coordinating efforts regionally. The team's findings have been published in the journal *Science*.

Dr Andrew Tatem explains, "In 1955 a global programme was launched to eradicate Malaria, but funding collapsed in 1969 and ultimately eradication wasn't achieved. We have examined what was learned from this programme and how malaria has since been eliminated in individual countries.

"Our findings suggest it may be possible for malaria elimination to proceed like a ratchet, tightening the grip on the disease region-by-region, country-by-country, until eradication is ultimately achieved – but without the need for a globally coordinated campaign."

The research team examined data from 1980 onwards for 30 countries which successfully eliminated malaria and also took part in the 1955 Global Malaria Eradication Programme (GMEP). In these countries, elimination has become highly stable, transmission (or infection) has declined and resurgence has occurred far less frequently than traditional theory would predict.

Three potential reasons for this decline and stability of malaria have been suggested:

- declines in transmission rates resulting from [urbanization](#) and economic development
- a high-degree of transmission control from treating malaria cases combined with outbreak control
- low-connectivity among places that are highly receptive to transmission

Dr Tatem comments, "Evidence from the data we have examined suggests that a concerted effort to bring an individual country to the point of elimination will likely result in that country maintaining a stable, low [malaria transmission](#) rate. If this is the case, malaria elimination could proceed at an individual country level, until global eradication is achieved.

"The possibility that the complete absence of ongoing malaria transmission can become highly-stable is relevant for policy because it suggests that before achieving global eradication, some countries that eliminate could scale back control measures and rely on their health systems. Projected economic costs of elimination are dominated by the management of imported malaria, but if elimination is stable, then it could save costs before achieving eradication."

The researchers observed that after elimination in a region, [malaria](#) importation poses a constant threat, because humans and mosquitoes carry the disease from endemic areas across international boundaries and within countries. This means it is important to maintain measures to monitor and contain outbreaks and avoid endemic transmission from restarting. Of the countries examined, causes of resurgence were poorly documented, but it was most frequently blamed on a failure to intervene at a high-level when outbreaks were identified. This demonstrates long-term investment is needed to ensure elimination in a country is

maintained.

**More information:** The paper 'The Stability of Malaria Elimination' can be found in the journal *Science*:

[www.sciencemag.org/content/339/6122/909.summary](http://www.sciencemag.org/content/339/6122/909.summary)

Provided by University of Southampton

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