

Researchers detect malaria resistant to key drug in Africa

September 23 2021, by Maria Cheng



This file photo provided by the Centers for Disease Control and Prevention (CDC) shows a feeding female *Anopheles Stepensi* mosquito crouching forward and downward on her forelegs on a human skin surface, in the process of obtaining its blood meal through its sharp, needle-like labrum, which it had inserted into its human host. In a study published Wednesday, Sept. 22, 2021, scientists say there is evidence a resistant form of malaria is spreading in Uganda, in a worrying sign the top drug used against the parasitic disease could ultimately be rendered useless without concerted efforts from countries and

global health officials. Credit: James Gathany/CDC via AP, File

Scientists have found evidence of a resistant form of malaria in Uganda, a worrying sign that the top drug used against the parasitic disease could ultimately be rendered useless without more action to stop its spread.

Researchers in Uganda analyzed [blood samples](#) from patients treated with artemisinin, the primary medicine used for malaria in Africa in combination with other drugs. They found that by 2019, nearly 20% of the samples had genetic mutations suggesting the treatment was ineffective. Lab tests showed it took much longer for those patients to get rid of the parasites that cause malaria.

Drug-resistant forms of malaria were previously detected in Asia, and health officials have been nervously watching for any signs in Africa, which accounts for more than 90% of the world's malaria cases. Some isolated [drug-resistant](#) strains of malaria have previously been seen in Rwanda.

"Our findings suggest a potential risk of cross-border spread across Africa," the researchers wrote in the [*New England Journal of Medicine*](#), which published the study on Wednesday.

The [drug-resistant](#) strains emerged in Uganda rather than being imported from elsewhere, they reported. They examined 240 blood samples over three years.

Malaria is spread by mosquito bites and kills more than 400,000 people every year, mostly children under 5 and pregnant women.

Dr. Philip Rosenthal, a professor of medicine at the University of

California, San Francisco, said that the new findings in Uganda, after past results in Rwanda, "prove that resistance really now has a foothold in Africa."

Rosenthal, who was not involved in the new study, said it was likely there was undetected drug resistance elsewhere on the continent. He said drug-resistant versions of malaria emerged in Cambodia years ago and have now spread across Asia. He predicted a similar path for the disease in Africa, with deadlier consequences given the burden of malaria on the continent.

Dr. Nicholas White, a professor of tropical medicine at Mahidol University in Bangkok, described the new paper's conclusions about emerging malaria resistance as "unequivocal."

"We basically rely on one drug for malaria and now it's been hobbled," said White, who also wrote an accompanying editorial in the journal.

He suggested that instead of the standard approach, where one or two other drugs are used in combination with artemisinin, doctors should now use three, as is often done in treating tuberculosis and HIV.

White said public [health officials](#) need to act to stem drug-resistant [malaria](#), by beefing up surveillance and supporting research into new drugs, among other measures.

"We shouldn't wait until the fire is burning to do something, but that is not what generally happens in global health," he said, citing the failures to stop the coronavirus pandemic as an example.

More information: Betty Balikagala et al, Evidence of Artemisinin-Resistant Malaria in Africa, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMoa2101746](https://doi.org/10.1056/NEJMoa2101746)

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