

# Researchers find that silent carriers of malaria are unlikely to develop the disease

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Credit: CDC

In regions where malaria illness is widespread, it is common to find many individuals who are infected with malaria parasites (*Plasmodium falciparum*), but without symptoms. New research conducted by the University of Maryland School of Medicine (UMSOM) shows that treating these silent malaria cases could help stop the spread of malaria to others.

UMSOM researchers conducted a study of 114 participants in Malawi ranging from children to adults to better understand the role asymptomatic [malaria](#) infections have in the spread and occurrence of malaria illness. It is the first study to use prospective, longitudinal detection of asymptomatic malaria infection to examine subsequent risk of malaria illness among all ages.

These asymptomatic infections may never develop into illness, but they are an important contributor to the spread of malaria and pose a public health challenge.

"We know that in Malawi, like many parts of Africa, most of the malaria parasites are being carried by

people who are not sick. They don't get treatment for their infections, because their infections are silent, but when they get bitten by mosquitoes, they can transmit malaria" said Miriam Laufer, MD, MPH, Associate Professor of Pediatrics and Associate Director for Malaria Research in UMSOM's Center for Vaccine Development and Global Health (CVD).

Researchers examined the association between asymptomatic malaria infections and subsequent risk of malaria illness and demonstrated that carrying *P. falciparum* infection without symptoms was associated with a 50% decrease in the risk of malaria illness.

Using a genotyping method to determine the molecular fingerprint of each parasite, they discovered when people who have asymptomatic malaria infection and get sick from malaria, it is because they acquire a new infection (from the bite of a mosquito) rather than having the asymptomatic infection develop into clinical disease. With new infections, adults and children with and without asymptomatic infection were equally likely to get sick. The researchers concluded that asymptomatic infection did not protect against new infections that made them sick.

"We have always worried that if we give medicine to treat malaria to people with asymptomatic infection, they might get sicker the next time they get malaria. This has been a challenge to introducing new policies like mass drug administration or screening and treating campaigns to interrupt malaria transmission. Our results suggest that treating asymptomatic [infection](#) will not lead to increased risk of disease in the short term. Now we need to evaluate these new interventions to determine the long term impact both on the individual's health and also on [malaria transmission](#)" said Dr. Laufer.

Researchers enrolled participants seeking treatment for uncomplicated malaria at the Mfera

Health Centre in Chikhwawa district in Malawi between June 2014 and March 2015. Subjects were eligible if they had symptomatic *P. falciparum* infection, detected by malaria rapid diagnostic test (RDT) and confirmed by microscopy, and were HIV-negative at time of screening. They were treated for their initial [illness](#) and then followed every month and evaluated every time they were ill.

Provided by University of Maryland School of Medicine

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