

July 12, 2023

## Locally Acquired Malaria Cases Identified in the United States

### Summary

The Delaware Public Health District (DPHD) is issuing this Health Advisory to share information and notify local clinicians about—

1. Identification of locally acquired malaria cases (*P. vivax*) in two U.S. states (Florida [4] and Texas [1]) within the last 2 months,
2. Concern for a potential rise in imported malaria cases associated with increased international travel in summer 2023, and
3. Need to plan for rapid access to IV artesunate, which is the first-line treatment for severe malaria in the United States.

### Background

The Centers for Disease Control and Prevention (CDC) is collaborating with two U.S. state health departments with ongoing investigations of locally acquired mosquito-transmitted *Plasmodium vivax* malaria cases. There is no evidence to suggest the cases in the two states (Florida and Texas) are related. In Florida, four cases within close geographic proximity have been identified, and active surveillance for additional cases is ongoing. Mosquito surveillance and control measures have been implemented in the affected area. In Texas, one case has been identified, and surveillance for additional cases, as well as mosquito surveillance and control, are ongoing. All patients have received treatment and are improving. Locally acquired mosquito-borne malaria has not occurred in the United States since 2003 when eight cases of locally acquired *P. vivax* malaria were identified in Palm Beach County, FL (1). Despite these cases, the risk of locally acquired malaria remains extremely low in the United States. However, *Anopheles* mosquito vectors, found throughout many regions of the country, are capable of transmitting malaria if they feed on a malaria-infected person (2). The risk is higher in areas where local climatic conditions allow the *Anopheles* mosquito to survive during most of or the entire year and where travelers from malaria-endemic areas are found. In addition to routinely considering malaria as a cause of febrile illness among patients with a history of international travel to areas where malaria is transmitted, clinicians should consider a malaria diagnosis in any person with a fever of unknown origin regardless of their travel history. Clinicians practicing in areas of the United States where locally acquired malaria cases have occurred should follow guidance from their state and local health departments. Prompt diagnosis and treatment of people with malaria can prevent progression to severe disease or death and limit ongoing transmission to local *Anopheles* mosquitos.

**After an urgent infectious disease consultation, if there are still questions about diagnosing and treating malaria, CDC malaria clinicians are on call 24/7 to provide advice to healthcare providers, further information can be found at <https://www.cdc.gov/parasites/contact.html>**

Clinical manifestations of malaria are non-specific and include fever, chills, headache, myalgias, and fatigue. Nausea, vomiting, and diarrhea may also occur. For most people, symptoms begin 10 days to 4 weeks after infection, although a person may feel ill as early as 7 days or as late as 1 year after infection. If not treated promptly, malaria may progress to severe disease, a life-threatening stage, in which mental status changes, seizures, renal failure, acute respiratory distress syndrome, and coma may occur.

Malaria in pregnant people is associated with high risks of both maternal and perinatal morbidity and mortality. *P. falciparum* and *P. knowlesi* infections can cause rapidly progressive severe illness or death, while the other species, including *P. vivax*, are less likely to cause severe disease. Laboratory abnormalities can include anemia, thrombocytopenia, hyperbilirubinemia, and elevated transaminases, varying from normal or mildly altered in uncomplicated disease to very abnormal in severe disease. *P. vivax* and *P. ovale* can remain dormant in the liver and such infections require additional treatment; failure to treat the dormant hepatic stages may result in chronic infection, causing relapsing episodes. Relapses may occur after months or even years without symptoms.

### Recommendations for Clinicians

Malaria is a medical emergency and should be treated accordingly. Patients suspected of having malaria should be urgently evaluated in a facility that is able to provide rapid diagnosis and treatment, within 24 hours of presentation. Order microscopic examination of thin and thick blood smears, and a rapid diagnostic test (RDT) if available, to diagnose malaria as soon as possible. Artemether-lumefantrine (Coartem<sup>®</sup>) is the preferred option, if readily available, for the initial treatment of uncomplicated *P. falciparum* or unknown species of malaria acquired in areas of chloroquine resistance. Atovaquone-proguanil (Malarone<sup>®</sup>) is another recommended option. *P. vivax* infections acquired from regions other than Papua New Guinea or Indonesia should initially be treated with chloroquine (or hydroxychloroquine). IV artesunate is the only drug available for treating severe malaria in the United States. Artesunate for Injection, manufactured by Amivas, is approved by the U.S. Food and Drug Administration (FDA) and is commercially available. Hospitals should have a plan for rapidly diagnosing and treating malaria within 24 hours of presentation. Additional information on diagnosing and treating malaria, including details of treating the dormant liver stages, is available on the CDC website.

Discuss travel plans with patients; prescribe a CDC-recommended malaria chemoprophylaxis regimen and discuss mosquito bite prevention for those traveling to an international area with malaria; encourage patients to adhere to the regimen before, during, and after travel. Malaria chemoprophylaxis is not needed domestically at this time.

Suspected or confirmed *locally acquired* malaria is a public health emergency and should be reported immediately to The Delaware Public Health District at **740-815-6518**. DPHD will work with the Ohio Department of Health, CDC and the clinical team to coordinate care and testing for the patient.

### References

This Health Alert adapted from the CDC Health Alert Network Health Alert 494. Please visit <https://emergency.cdc.gov/han/2023/han00494.asp> for more information.