

July 10, 2023

Health Notice for District of Columbia Health Care Providers Locally Acquired Malaria Cases Identified in the United States

SUMMARY

The Centers for Disease Control and Prevention (CDC) has issued a Health Alert Network (HAN) Health Advisory on Monday, June 26, 2023, regarding important updates of malaria in the United States. Recent cases of malaria caused by *Plasmodium vivax* have been identified in Florida and Texas within the past two months, indicating ongoing transmission in these areas. The advisory highlights concern regarding the potential increase in imported malaria cases due to anticipated international travel during summer 2023. Healthcare providers are urged to remain vigilant, promptly identify cases, and plan for rapid access to intravenous artesunate, which is the recommended first-line treatment for severe malaria in the United States. Malaria was eliminated from the United States (U.S.) in 1951, and almost all cases of malaria in the U.S. are travel-associated¹. Locally acquired, mosquito-transmitted cases of malaria last occurred in 2003 when eight cases of *P. vivax* were identified in Florida². To date, the DC Department of Health has received eight confirmed malaria cases, all directly linked to international travel.

The purpose of this health notice is to provide a situational update regarding the emergence of locally acquired malaria, and share recommendations for prompt diagnosis, treatment, and prevention of malaria, including the availability of intravenous artesunate as the first-line treatment for severe cases. The notice also emphasizes the significance of reporting both locally acquired and imported malaria cases.

BACKGROUND

As of June 26, 2023, CDC announced ongoing investigations of locally acquired mosquito-transmitted *Plasmodium vivax* malaria cases in Florida and Texas³. Four cases within close geographic proximity have been identified in Florida while one case has been identified in Texas. No evidence suggests a link between the reported cases in the two states. Active surveillance for additional cases is ongoing and mosquito surveillance and control measures have been implemented in both states³. All patients have received treatment and are in improving health. These are the first known cases of locally acquired mosquito-transmitted malaria in the United States since 2003 when eight cases of *P. vivax* were identified in Palm Beach County, Florida².

Malaria is a serious and potentially life-threatening illness transmitted through the bites of infected female *Anopheles* mosquitoes^{3,5}. Symptoms usually appear between 10 days to 4 weeks after infection but can occur as early as 7 days or as late as 1 year. However, each *Plasmodium* species has a unique incubation period. Clinical symptoms of malaria are typically non-specific,

including fever, chills, sweats, myalgia, arthralgia, fatigue, headache, and anorexia. In severe cases, patients can experience confusion, seizures, and difficulty breathing⁴. Classic malarial paroxysms with spiking fever, chills, and rigors at specific intervals are rare, but if present, suggest an infection with *P. ovale* or *P. vivax*. Severe or life-threatening disease is mostly associated with *P. falciparum*. Malarial infections in humans are caused by four species of genus *Plasmodium*: *P. falciparum*, *P. vivax*, *P. malariae*, and *P. ovale*^{4,5,6}. Human infection with *P. knowlesi*, a primarily simian malaria in Southeast Asia, is rare⁶. In terms of global malaria morbidity, *P. falciparum* and *P. vivax* pose the greatest threat to human health. *P. falciparum* malaria is most prevalent in Africa, and untreated cases can quickly progress to severe illness and death within 24 hours. *P. vivax* is dominant in most countries outside of sub-Saharan Africa and can remain dormant in the liver, which may result in relapsing disease months or years after the initial infection⁴.

In 2021, there were an estimated 247 million cases reported worldwide, 95% of which occurred in Africa^{4,6}. While malaria can cause serious illness in all people, infants, children under 5 years old, pregnant people, travelers, and people living with HIV or AIDS are at a higher risk of severe infection⁴. Since elimination from the United States in 1951, almost all cases of malaria in the U.S. occur in people traveling from countries with malaria transmission and the risk of locally acquired mosquito-transmitted malaria remains extremely low^{1,3}. However, the *Anopheles* mosquito vector is found throughout many regions in the U.S. and is capable of transmitting malaria if they feed on a malaria-infected person⁴. This is especially relevant in areas where local climatic conditions are favorable to the survival of the *Anopheles* mosquito during most of or the entire year and where travelers from malaria-endemic areas are found⁴.

RECOMMENDATIONS FOR HEALTHCARE PROVIDERS

CDC emphasizes the need for immediate attention and appropriate measures to control the spread of malaria and prevent further transmission. Malaria is a medical emergency and should be treated with urgency. Prompt diagnosis and treatment of people with malaria can prevent progression to severe disease or death and limit ongoing transmission to local *Anopheles* mosquitos⁴. It is recommended that clinicians:

- Consider the diagnosis of malaria in any person with a fever of unknown origin, regardless of international travel history, particularly if they have been to the areas in Florida and Texas with recent locally acquired malaria.
- Continue to routinely obtain travel history and consider malaria in a symptomatic person who traveled to an area with malaria in the weeks to months preceding symptom onset.
- Provide prompt treatment according to the malaria species and severity. Please refer to [CDC's Malaria Diagnosis and Treatment Guidelines for U.S. Clinicians for additional guidance](#).
 - Malaria is a medical emergency and can progress quickly to severe disease if not diagnosed and treated promptly.

- Patients suspected of having malaria should be urgently evaluated in a facility able to provide rapid diagnosis and treatment within 24 hours of presentation.
- Order a rapid diagnostic test (RDT) and microscopic examination of thin and thick blood smears to diagnose malaria as soon as possible.
 - “BinaxNOW™,” a malaria RDT, is approved for use in the United States. RDTs are less sensitive than microscopy and cannot confirm each specific species of the malaria parasite or the parasite density.
 - Microscopy should be obtained in conjunction with an RDT to determine parasite species and density.
 - If blood smears are positive but species determination is not possible, antimalaria treatment that is effective against chloroquine-resistant *P. falciparum* must be initiated immediately.
- If available, Artemether-Lumefantrine (Coartem®) or Atovaquone-proguanil (Malarone®) are recommended options for the initial treatment of uncomplicated *P. falciparum* or unknown species of malaria acquired in [areas of chloroquine resistance](#). *P. vivax* infections acquired from regions other than Papua New Guinea or Indonesia should initially be treated with chloroquine (or hydroxychloroquine).
- IV artesunate (Artesunate for Injection™) is the first-line drug for treatment of severe malaria in the United States. [Refer to CDC for information on how to acquire IV artesunate.](#)
- Species determination is important because *P. vivax* and *P. ovale* can remain dormant in the liver and require additional antirelapse treatment. Failure to treat the dormant hepatic parasites may result in chronic infection with relapsing episodes, which may occur after months or years without symptoms.
- Contact DC Health at vectorborne.epi@dc.gov or 202-442-9143 during business hours or 844-493-2652 after hours if questions about diagnosing and treating malaria remain after an urgent infectious disease consultation.
- Report suspected or confirmed locally acquired malaria to DC Health immediately. Imported (or travel-associated) malaria should also be reported within the required timeframe.
- Discuss international travel plans with patients, and if necessary, prescribe a CDC-recommended malaria chemoprophylaxis regimen and discuss mosquito bite prevention for those traveling to an international area with malaria. Malaria chemoprophylaxis is not currently needed domestically.

ADDITIONAL RESOURCES

- [Malaria | CDC Yellow Book 2024.](#)
- [Treatment of Malaria: Guidelines for Clinicians \(United States\).](#) CDC 2023
- [Malaria Information and Prophylaxis, by Country.](#) (CDC 2021)
- [CDC Malaria Risk Assessment for Travelers.](#) (CDC 2018)

REFERENCES

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5. Mace, K. E., Lucchi, N. W., & Tan, K. R. (2021). Malaria Surveillance - United States, 2017. *Morbidity and Mortality Weekly Report*. Surveillance summaries (Washington, D.C.: 2002), 70(2), 1–35. <https://doi.org/10.15585/mmwr.ss7002a1>
6. World Health Organization. (2022). World malaria report 2022. Geneva: World Health Organization. 2022. Retrieved from <https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2022>

Please regularly visit the DC Health - Health Notices website at dchealth.dc.gov/page/health-notices for the latest updates and information.

Please contact the DC Health Division of Epidemiology-Disease Surveillance and Investigation at:
Phone: (202) 442-9371/442-8141 (8:15 am-4:45 pm) | 844-493-2652 (after-hours calls) | Fax:
(202) 442-8060 | Email: vectorborne.epi@dc.gov or doh.epi@dc.gov