

September 5, 2023

## Health Notice for District of Columbia Health Care Providers Locally Acquired Malaria Cases Identified in Florida, Texas, and Maryland

### SUMMARY

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On August 28, 2023, The Centers for Disease Control and Prevention (CDC) issued a Health Alert Network (HAN) Health Update to share new information about a case of malaria caused by *Plasmodium falciparum* identified in the National Capital Region of Maryland. This comes two months after eight cases of malaria caused by *Plasmodium vivax* were reported in Florida and Texas. In addition, because international travel by U.S. residents have returned to pre-COVID-19 pandemic levels, more imported malaria cases are likely. Malaria was eliminated from the United States (U.S.) in 1951, and almost all cases of malaria in the U.S. are travel-associated<sup>1</sup>. Locally acquired, mosquito-transmitted cases of malaria last occurred in 2003 when eight cases of *P. vivax* were identified in Florida. To date, 11 cases of imported malaria have been reported to the DC Department of Health in 2023, all directly linked to international travel. Healthcare providers are urged to remain vigilant for this serious infection, and to promptly identify and treat cases.

### BACKGROUND

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On August 28, 2023, CDC issued a Health Alert Network (HAN) Health Update regarding one case of locally acquired *P. falciparum* malaria identified August 18 in the National Capital Region of Maryland. This follows unrelated incidents of locally transmitted *P. vivax* malaria identified in Florida and Texas in June 2023. There have been no additional reports of local transmission of malaria in Florida or Texas since mid-July 2023. Active surveillance for additional cases as well as malaria-related mosquito surveillance and control will proceed in all three affected states for a period of 8 weeks following the most recent case in each state. All patients have received treatment and are clinically improving. Prior to this year, locally transmitted mosquito-borne malaria had not occurred in the United States since 2003 when eight cases of *P. vivax* were identified in Palm Beach County, Florida.

Malaria is a serious and potentially life-threatening illness caused by infection with the parasitic protozoan *Plasmodium*. Malaria is transmitted through the bites of infected female *Anopheles* mosquitoes. The malaria parasite has a complex life cycle with blood and liver stages in the human body. 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. Malaria presents as an acute febrile illness, classically with paroxysms of high fever (up to 40° C/104° F), chills and rigors<sup>2</sup>. Paroxysms correspond with rupture of the parasite from red blood cells and are not always present<sup>2</sup>. Malaria can present with nonspecific symptoms including fever, chills, sweats, myalgia, arthralgia, fatigue, headache, and anorexia. In severe cases, patients can experience confusion, seizures, renal failure, difficulty

breathing, and coma<sup>3</sup>. Malarial infections in humans are caused by five species of *Plasmodium*: *P. falciparum*, *P. vivax*, *P. malariae*, *P. ovale*, and *P. knowlesi*. Most malaria deaths are caused by *P. falciparum*<sup>2</sup>. *P. falciparum* malaria is most prevalent in Africa, and untreated cases can rapidly progress to severe illness and death. *P. vivax* is dominant in most countries outside of sub-Saharan Africa. *P. vivax* and *P. ovale* can remain dormant in the liver, which may result in relapsing disease months or years after the initial infection.

In 2021, there were an estimated 247 million cases reported worldwide, 95% of which occurred in Africa<sup>3</sup>. 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 infection<sup>3</sup>. Since elimination from the United States in 1951, almost all cases of malaria in the U.S. occur in people traveling from malaria-endemic countries and the risk of locally acquired mosquito-transmitted malaria remains extremely low. However, the *Anopheles* mosquito vector is found throughout many regions of the U.S. and is capable of transmitting malaria if they feed on a malaria-infected person. This is more likely in areas where local climate 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 found.

## RECOMMENDATIONS FOR HEALTHCARE PROVIDERS

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Malaria is a medical emergency and should be treated without delay. Prompt diagnosis and treatment of people with malaria can prevent progression to severe disease or death and limit ongoing transmission to local *Anopheles* mosquitos. It is recommended that clinicians:

- Routinely obtain travel history and consider malaria in symptomatic persons who traveled to an area with malaria in the weeks to months preceding symptom onset.
- Consider the diagnosis of malaria in any person with a fever of unknown origin, including persons without international travel history, particularly if they have been to areas of the United States with recent locally acquired malaria.
- 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](#).
  - Patients suspected of having malaria should be urgently evaluated in a facility able to provide rapid diagnosis and treatment within 24 hours of presentation.
  - An urgent infectious disease consult should be ordered.
  - Order a microscopic examination of thin and thick blood smears **AND** a rapid diagnostic test (RDT) 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 *nor* the parasite density as microscopy can. This is why microscopy should always be ordered in conjunction with an RDT.

- If blood smears are positive but species determination is not possible, antimalarial treatment that is effective against chloroquine-resistant *P. falciparum* must be initiated immediately.
- Artemether-Lumefantrine (Coartem®) is the preferred first-line treatment (if available) for the initial treatment of uncomplicated *P. falciparum* or unknown species of malaria acquired in [areas of chloroquine resistance](#). Atovaquone-proguanil (Malarone®) 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 (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 anti-relapse 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.
- 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. For more information, see [cdc.gov/malaria/travelers/drugs.html](https://cdc.gov/malaria/travelers/drugs.html) and [cdc.gov/mosquitoes/mosquito-bites/prevent-mosquito-bites.html](https://cdc.gov/mosquitoes/mosquito-bites/prevent-mosquito-bites.html).
- Recommend to patients that they take steps to prevent mosquito bites and control mosquitos at home in order to protect themselves from mosquito-borne illnesses, including malaria. For more information, see [cdc.gov/mosquitoes/mosquito-bites/prevent-mosquito-bites.html](https://cdc.gov/mosquitoes/mosquito-bites/prevent-mosquito-bites.html).
- Report suspected or confirmed locally acquired malaria to DC Health immediately. Imported (travel-associated) malaria should also be reported within the required timeframe.
- Contact DC Health at [vectorborne.epi@dc.gov](mailto:vectorborne.epi@dc.gov) or 202-442-9143 during business hours or 844-493-2652 for any additional questions.

## RESOURCES

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- [Health Alert Network \(HAN\) - 00496 | Important Updates on Locally Acquired Malaria Cases Identified in Florida, Texas, and Maryland \(cdc.gov\)](#) (8/28/23)
- [Health Alert Network \(HAN\) - 00494 | Locally Acquired Malaria Cases Identified in the United States \(cdc.gov\)](#) (6/26/23)
- [Malaria | CDC Yellow Book 2024](#).
- [Treatment of Malaria: Guidelines for Clinicians \(United States\)](#). CDC (updated 6/29/23)
- [Malaria Information and Prophylaxis, by Country](#). (CDC 2021)
- [CDC Malaria Risk Assessment for Travelers](#). (CDC 2018)

- [World malaria report 2022 \(who.int\)](#)

## REFERENCES

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1. Centers for Disease Control and Prevention. (CDC 2018). The History of Malaria, an Ancient Disease. Retrieved from [cdc.gov/malaria/about/history/index.html](https://www.cdc.gov/malaria/about/history/index.html)
2. Principles and Practice of Infectious Disease, 9th edition (2020), Edited by Bennett, JE et al. Chapter 274 Malaria (*Plasmodium* species), Fairhurst, RM and Wellems, TE.
3. World Health Organization. (2023). Malaria. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/malaria>

Please regularly visit the DC Health - Health Notices website at [dchealth.dc.gov/page/health-notices](https://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](mailto:vectorborne.epi@dc.gov) or [doh.epi@dc.gov](mailto:doh.epi@dc.gov)