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Considerations for Patients with Suspected Malaria Following Identification of Locally Acquired Infections in the United States

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With the re-emergence of locally acquired malaria infections in Florida (n=7), Texas (n=1), and Maryland (n=1) and increased international travel during the summer, the Philadelphia Department of Public Health (PDPH) is sharing considerations and guidance for the clinical management of patients presenting with malaria-like illness for Philadelphia-area health care providers.

SUMMARY POINTS

- Locally acquired malaria has been identified in 3 states.
- Healthcare providers should pursue prompt and proper testing and treatment for patients with suspected malaria infections.
- Hospitals should plan for rapid access to IV artesunate, the first-line treatment for severe malaria.
- Suspected, locally acquired malaria infections should be reported immediately to PDPH.

Malaria is a mosquito-borne disease caused by a parasite that often results in fever, chills, and flu-like illness. Though rare, malaria can also be transmitted congenitally, through blood transfusions or organ transplants, or through unsafe needle-sharing practices. Annually, between 2013 and 2022, PDPH identified 7 to 45 internationally acquired, malaria infections in Philadelphia. Anopheles species mosquitoes, the vector for malaria, are present in Philadelphia, but only seasonally (typically from May through October). Overall, the risk to the public for locally acquired, mosquito-transmitted malaria remains very low.

Area healthcare providers should be aware that babesiosis, a parasitic infection transmitted by black-legged ticks is endemic to our region and can also cause malaria-like illness. Babesiosis infections can occur year-round but peak during warmer months. Annually, from 2013 through 2022, 1 to 4 babesiosis cases were identified among Philadelphia residents. During Summer 2023, PDPH has identified a marked increase in babesiosis diagnoses with 11 confirmed and suspected cases among Philadelphia residents reported to date.

Prompt and proper diagnosis and treatment of malaria is necessary to prevent severe complications and fatalities. A summary of recommendations for healthcare providers follows:

Clinical Recognition

- 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 with recent locally acquired malaria.
- Routinely obtain a travel history and consider malaria in a symptomatic person who traveled to an area with malaria in the weeks to months preceding symptom onset.
- If needed, refer patients suspected of having malaria to a facility, such as an emergency department, able to provide rapid diagnosis and treatment, within 24 hours of presentation.

Testing

- Order microscopic examination of thin and thick blood smears, and a rapid antigen test if available, to diagnose malaria as soon as possible. Note that rapid tests are less sensitive than microscopy and cannot confirm each specific species of the malaria parasite or level of parasitemia. Always pursue microscopy in conjunction with rapid testing.
- Contact PDPH at (215) 685-6741 (business hours) or (215) 686-4514 (after hours, press 1 for Unified Dispatch and ask for the Division of Disease Control on-call staff) for assistance with coordination of confirmatory microscopy and speciation at the Pennsylvania Department of Health Bureau of Laboratories (PADOH BOL) or CDC. For patients with suspected locally acquired infections, coordination of molecular

testing of whole blood for babesiosis and specific malaria species will also be pursued, since it can be difficult to distinguish *Babesia* and malaria parasites.

- Test for other vector borne infections as indicated based on the patient's clinical presentation and exposure history.

Treatment

- Treatment recommendations for malaria vary by species and severity. Please refer to CDC's Malaria Diagnosis and Treatment Guidelines for US Clinicians and Algorithm for Diagnosis and Treatment of Malaria in the United States.

- If blood smears or rapid antigen tests are positive and species determination is not available, antimalarial treatment effective against chloroquine-resistant *P. falciparum* must be initiated immediately.

- For hospitals, maintain access to antimalaria treatment:
  - Stock IV artesunate (Artesunate for Injection™) or have a plan in place for emergency procurement of IV artesunate for treatment of severe malaria.
  - Stock artemether-lumefantrine (Coartem®), the first-line drug in the United States for most cases of uncomplicated *P. falciparum* or unknown malaria species. Atovaquone-proguanil (Malarone®) is another recommended option.

Prevention

- Discuss travel plans and prescribe malaria chemoprophylaxis to patients who are traveling to an international area with malaria. Patients should be encouraged to adhere to the regimen before, during, and after travel. Malaria chemoprophylaxis is not indicated for domestic travel.
- Advise patients to use mosquito bite prevention measures, especially those who work or spend time outdoors locally during mosquito season and those traveling to areas where other mosquito-borne infections are endemic.

Reporting

- Suspected or confirmed locally acquired malaria is a public health emergency and should be reported immediately to PDPH at (215) 685-6741 during business hours or (215) 686-4514 after hours (press 1 for Unified Dispatch and ask for the Division of Disease Control on-call staff). Imported (or travel-associated) malaria is also reportable through routine reporting methods.

Resources

- CDC Webinar: Review of Malaria Diagnosis and Treatment in the United States
- CDC Yellow Book 2024 - Malaria
- CDC Parasites - Babesiosis

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