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July 11, 2022

Dear Physician:

**WEST NILE VIRUS AND FLEA-BORNE TYPHUS ACTIVITY IN LOS ANGELES COUNTY**

As we approach the peak of summer, residents in Los Angeles County (LAC) are at increased risk for two common vector-borne diseases found in our local area: mosquito-borne West Nile Virus (WNV) and flea-borne typhus. Though WNV is seasonal and typhus occurs year-round, both diseases occur most frequently through the summer and fall months. Over the last five years, an average of 91 cases of WNV were documented by year in LAC. However, WNV activity is unpredictable and case counts can reach over 300 cases in some years. An average of 100 flea-borne typhus cases were reported in the last five years, reaching a record of 141 cases in 2021, including three [community outbreaks](#). Department of Public Health (DPH) encourages physicians to suspect and test for these vector-borne threats and discuss prevention with patients.

**The LAC DPH recommends that medical providers:**

- ✓ Order WNV testing for all patients with aseptic meningitis, encephalitis, acute flaccid paralysis, or nonspecific illness consistent with WNV fever, from now through December in California.
- ✓ Consider a diagnosis of flea-borne typhus in patients of all ages with a non-specific febrile illness with headache, myalgia, rash, and laboratory abnormalities including leukopenia,

thrombocytopenia, and elevation of hepatic transaminases, without alternate identifiable etiology.

- ✓ Discuss prevention of vector-borne disease as part of routine care to decrease risk of exposure and illness.

Diagnostic testing for both WNV and flea-borne typhus is available at many commercial laboratories. Serologic testing is the standard for diagnosis for both these diseases. Polymerase chain reaction (PCR) testing may also be helpful particularly earlier in the course of either disease or in immunocompromised patients. If WNV is suspected, serological testing for WNV-specific IgM antibody should be performed on serum, as well as cerebrospinal fluid (CSF) in cases with neurological symptoms. Laboratory diagnosis of flea-borne typhus can be conducted through serologic testing for *Rickettsia typhi* IgG and IgM antibodies. Rickettsia IgG antibodies are considered more accurate than IgM. As there can be cross-reactivity with other rickettsiae, providers should additionally test against *R. rickettsii*, the causative agent of Rocky Mountain Spotted Fever. Serology performed on samples collected within the first week of illness can often be false negative as detectable levels of Rickettsia IgG antibody do not generally appear until 7-10 days after illness onset. Testing of paired acute and convalescent serum samples is recommended to demonstrate an increase in titers and confirm serological diagnosis.

The LAC DPH Public Health Laboratory (PHL) can perform diagnostic testing for both diseases. PHL provides antibody testing against WNV-IgM in serum. WNV-IgM and PCR testing on CSF is available through the California Department of Public Health (CDPH) and can be arranged through PHL. WNV testing at PHL from December to April requires consultation with the Acute Communicable Disease Control (ACDC) Program (213) 240-7941. PHL also provides both serological and PCR testing for Rickettsia. *R. typhi* and *R. rickettsii* serum testing is available and PCR whole blood testing can detect all Rickettsia species. PHL and CDPH do not charge the submitter for testing services. For more information on submitting specimens to PHL, refer to the PHL [testing catalog](#) or review the LAC DPH Flea-Borne Typhus Testing [webpage](#).

Physicians are encouraged to discuss prevention with patients as part of routine care. Prevention measures and educational materials that can be shared with patients can be found in the following ACDC resources:

- [West Nile Virus Health Education Materials](#)
- [Flea-borne \(Endemic\) Typhus disease page](#)

Human WNV and flea-borne typhus infections are reportable conditions in California and health care providers are mandated to report cases to the local health department. Reporting of WNV and flea-borne typhus cases guides LAC DPH and vector control districts to target vector abatement services, surveillance activities, outbreak response and health education. We remind clinicians that all cases of acute encephalitis and meningitis (including those pending definitive diagnosis or suspected to be of viral, bacterial, fungal, or parasitic etiologies) also are reportable.

Cases may be reported to Los Angeles County Department of Public Health by:
Health care providers:
<ul style="list-style-type: none"><li>▪ Phone - call the Communicable Disease Reporting System at (888) 397-3993 or</li><li>▪ Mail or fax - complete a <a href="#">Confidential Morbidity Report (CMR)</a> form and follow fax and mail instructions.</li></ul>
Laboratories:
<ul style="list-style-type: none"><li>▪ Electronic Laboratory Reporting (ELR) for connected laboratories</li><li>▪ Web-based vCMR Community Reporting Module system</li><li>▪ <a href="#">Confidential Morbidity Report (CMR)</a>, attach a copy of your lab report and fax to (888) 397-3778</li></ul>

LAC DPH provides updated surveillance data to the medical community and additional information on the [LAC DPH Vector-borne and Zoonotic Disease webpage](#). To receive weekly WNV and arboviral surveillance reports send an email to [ACDC2@ph.lacounty.gov](mailto:ACDC2@ph.lacounty.gov).

Medical consultation regarding vector-borne diseases in humans, prevention, surveillance activities, and test interpretation is available by contacting ACDC program at (213) 240-7941. DPH looks forward to working with clinicians and laboratories in our vector-borne disease surveillance efforts.

Sincerely,



Sharon Balter, M.D., M.F.A.

Director, Division of Communicable Disease Control and Prevention

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