STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

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Zika Virus Diagnostic Testing Available at MDHHS Bureau of Laboratories: Updated MDHHS Guidance for Providers

Date: May 6, 2016

To: Michigan Healthcare Facilities, Local Public Health Departments, Infection Preventionists, Healthcare Providers, Laboratories

From: Eden Wells, MD, MPH, FACPM, Chief Medical Executive

Re: Zika Virus Testing Update

On Monday, May 9, 2016, the Michigan Department of Health and Human Services (MDHHS) Bureau of Laboratories (BOL) will begin to offer an **Emerging Arbovirus Panel** that will include diagnostic testing for the following viruses: Zika, dengue, chikungunya. Test methodologies available include polymerase chain reaction (PCR) assays for the detection of viral nucleic acid in serum, and an IgM antigen-capture (MAC) ELISA assay for the detection of IgM in serum (or cerebral spinal fluid if a serum is also submitted). Additionally, urine, CSF, and amniotic fluid samples can now be submitted for Zika PCR if they are accompanied by a serum sample.

This Emerging Arbovirus Panel is offered in addition to the Arbovirus Panel that MDHHS BOL has provided to Michigan healthcare providers and their patients for over a decade. The endemic arboviruses covered by this advanced diagnostic capability include West Nile virus, Eastern equine encephalitis virus, St. Louis encephalitis virus, and La Crosse encephalitis virus.

This new capability should reduce the turn-around time to receive test results for most patients. Providers should be aware that specimens that test positive or equivocal for Zika virus IgM will be submitted to CDC for confirmatory plaque-reduction neutralization testing (PRNT), due to significant cross-reactivity between Zika and other flaviviruses (e.g., dengue, West Nile virus) with the MAC ELISA test.

It is likely that commercial laboratories may also soon offer testing for Zika virus IgM. Clinicians should be aware that because there can be substantial antibody cross reactivity between flaviviruses, any positive Zika IgM results from commercial laboratories should be confirmed with additional testing, which at this time is only available through public health laboratories. Laboratories and clinicians utilizing commercial Zika testing are advised to also send a sample to MDHHS for tandem testing. In the event of a positive result at a commercial lab, confirmatory testing will be facilitated and additional samples may not need to be collected from the patient.

Finally, Zika virus is a reportable condition in Michigan (under “Arboviral” on the list posted at http://www.michigan.gov/documents/mdch/Reportable_Diseases_Michigan_by_Pathogen_478489_7.pdf). Any healthcare provider or laboratory must report suspect and confirmed cases of

Zika virus to the appropriate Michigan local public health department. Contact numbers for the local health departments are included with the Reportable Disease List.

How to request Zika testing at MDHHS:

Healthcare providers must contact their **local health department** (see link above for the contact information of Michigan local health departments) or the MDHHS Emerging Zoonotic and Infectious Diseases Section (517-335-8165) to request Zika virus testing for Michigan residents. This process assures that the appropriate tests are ordered and that specimens are correctly collected, labeled, processed, packaged, and transported. Public health agencies will assist providers with deciding on the appropriate test and completing the required forms.

Zika virus testing is indicated when any of the following criteria are met:

1) A **pregnant woman** who has:
   - History of travel to an area with ongoing Zika virus transmission*
     i. And has clinical illness consistent with Zika virus infection (**one** or more of the following: fever, rash, joint pain, red irritated eyes) within two weeks of travel
     ii. Or has no symptoms, and is **within 2-12 weeks after their return from travel**
   - Had sex without a condom with a male partner with possible Zika virus exposure*
     i. And develops at least one of the following signs of Zika virus disease: fever, rash, joint pain, red irritated eyes
     ii. Or her male partner has been diagnosed with Zika virus disease or developed a clinical illness consistent with Zika virus disease (one or more of the following: fever, rash, joint pain, red irritated eyes

   [Testing is not currently recommended for pregnant women with possible sexual exposure to Zika virus **if both partners are asymptomatic**.]

2) A person who has a history of travel to an area with ongoing Zika virus transmission* and has a clinical illness consistent with Zika virus infection (**one** or more of the following: fever, rash, joint pain, red irritated eyes) within two weeks of travel

3) A fetus or infant with suspected or confirmed microcephaly or intracranial calcifications (diagnosed prenatally or at birth) **whose mother**:
   - Spent time in an area with active Zika virus transmission*
   - During pregnancy, had unprotected vaginal, anal, or oral sex with a partner who spent time in an area with active Zika virus transmission*

4) A person who developed Guillain-Barré syndrome after spending time in an area with active Zika virus transmission*

***See the CDC website for the current list of areas with active Zika virus transmission:** http://www.cdc.gov/zika/geo/index.html

What to expect when you call:

1. A Health Department representative will review the case with you to ensure that testing criteria are met.

2. The Health Department representative will collect demographic, clinical, and travel history information about the patient using a Michigan Zika Supplemental Questionnaire form and assist with ordering the appropriate testing and completion of the required MDHHS test request form.
3. The representative will advise you on which type(s) of specimen(s) to collect.
4. The completed forms must accompany the specimen to the MDHHS BOL.

What information is needed at the time of the call:
See Appendix A for the list of information required in order for testing to be performed.

What will I do after the call?
1. Collect the appropriate specimen from the patient as recommended or send the patient to an appropriate laboratory for sample collection
2. Assure the required paperwork accompanies the specimen to MDHHS BOL or the patient to the phlebotomy lab.
3. Testing will be performed at the MDHHS BOL and/or CDC, depending on the specimen type and test.
4. Results will be delivered by secure fax or US mail to the provider or facility indicated as the SUBMITTER on the MDHHS test request form.
5. Molecular testing is typically reported within one week of specimen receipt.
6. Serology results can take three or more weeks from specimen receipt.

For more information about Zika virus testing in Michigan, see the "What's New", posting dated 5/6/2016: http://www.michigan.gov/mdhhs/0,5885,7-339-71551_2945_5103-215861--,00.html

For laboratory questions, contact Dr. Janice Matthews-Greer at 517-335-8099.

For questions about criteria for testing or to discuss a case, contact the MDHHS Emerging and Zoonotic Infectious Diseases Section at 517-335-8165.

Appendix A

When calling a Michigan Local Health Department (http://www.michigan.gov/documents/mdch/Reportable_Diseases_Michigan_by_Pathogen_478489_7.pdf) to request Zika virus testing, please have all of the information below available.

Patient demographic information:

1. Full name (first, last, middle initial)
2. Sex
3. Date of birth
4. Pregnancy status (including estimated date of conception)
5. Address
6. Phone number

Patient travel and symptom information:

1. Zika virus-affected area(s)* visited by the patient
2. Dates of travel (arrival and departure)
3. Symptoms (fever, rash, arthralgia, conjunctivitis, or none)
4. Date of symptom onset (if applicable)

Submitter information: (this is where the test results will be sent)

1. Name of the submitting facility (Hospital or provider)
2. Submitter address
3. Contact name (Lab director or provider)
4. Telephone number
5. Secure Fax number

Ordering Provider Information: (if not the same entity as the submitter)

1. Name
2. Address
3. Phone
4. Secure fax number

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