



Yakima Health District

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Clinician Advisory Zika Virus Epidemic and Pregnant Women

Requested Actions

- **Advise pregnant women to avoid travel to Zika-affected areas until further notice.**

Rationale: an epidemic of congenital microcephaly in Brazil has been linked to Zika virus transmission that is occurring throughout that country, other tropical countries in South America, Mexico, Central America, Puerto Rico and the Caribbean.

- If pregnant women must travel to an affected area, strongly recommend mosquito avoidance measures (see "Prevention" below for details).
- Report suspected cases to YHD at (509) 249-6541 to discuss specimen submission for laboratory testing. Typical features of Zika virus infection include fever, rash, arthralgia, and conjunctivitis.
- Contact YHD to pursue testing among pregnant travelers returning from affected areas who
 - report onset of a clinically compatible illness within 14 days of return, OR
 - have ultrasound evidence of fetal microcephaly or cranial calcifications, OR
 - lose a pregnancy and have the clinical or ultrasound features cited above.

Clinical Features of Zika Virus Infection

- Suspected case definition
 - Two or more of the following symptoms occurring within 14 days of return from an affected area: fever, rash, arthralgia, and/or conjunctivitis.
 - OR
 - Microcephaly or cranial calcifications on fetal ultrasound or on exam of a newborn or fetal death whose mother traveled to an affected area during pregnancy.
- 80% of Zika virus infections are asymptomatic.
- Onset of illness usually occurs within 2-7 days (maximum 14 days) of the infecting mosquito bite.
- Symptoms usually last one week or less, are milder than for chikungunya or dengue, and generally do not lead to severe illness or hospitalization.
- Treatment is supportive with use of acetaminophen for fever and pain control and avoidance of aspirin and other non-steroidal anti-inflammatory agents until dengue infection has been excluded.
- Cases of Zika-associated Guillan-Barre syndrome have been reported.

Zika Virus Testing

- Laboratory testing for Zika virus via polymerase chain reaction and serology performed on blood or amniotic fluid is provided only by the Centers for Disease Control and Prevention (CDC). Specimen submission must be triaged and coordinated through YHD. Call (509) 249-6541 if you would like to discuss a candidate patient for testing.
- Testing is not recommended and will not be conducted for returning travelers who do not meet the criteria set forth above.
- Please do NOT request testing on returning pregnant travelers who (1) lack a clinically compatible syndrome and (2) show neither fetal microcephaly nor brain calcifications on ultrasound exam.
- Please do NOT request testing on other returning travelers who do not have a clinically compatible syndrome within 14 days of return.
- Serologic cross reactivity between Zika and other flaviviruses (e.g., dengue, yellow fever) calls for additional testing and nuanced interpretation of results in some situations (e.g., prior yellow fever vaccination, prior dengue fever).
- Dengue and chikungunya testing can be obtained through simultaneously collected specimens submitted to commercial laboratories.

Zika Virus Background

- Zika is a mosquito-borne flavivirus first isolated in Uganda in 1947 and previously localized to the tropics of the eastern hemisphere. It is transmitted primarily by *Aedes aegypti* mosquitoes.

- New geographic expansion to the Americas occurred last year with the first documented local transmission occurring in Brazil in May 2015.
- Now an American continental epidemic continues with 1.5 million cases in Brazil alone and ongoing transmission in **Mexico, other parts of Central America**, Puerto Rico, other islands in the Caribbean, and most of the tropical latitudes of South America.
- Specific countries with confirmed transmission include: Barbados, Bolivia, Brazil, Colombia, Ecuador, **El Salvador**, French Guiana, Guadeloupe, **Guatemala**, Guyana, Haiti, **Honduras**, Martinique, **Mexico**, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, Venezuela (see map below).
- Simultaneous dengue and chikungunya transmission also continues in most or all of the Zika-affected region.
- Local transmission of Zika virus has not been documented in the continental United States. However, Zika virus infections have been reported in travelers returning to the United States from affected areas. These cases could pass it on to other humans domestically via *Aedes aegypti* (Gulf Coast) or even possibly *Aedes albopictus* (southeast and eastern seaboard) mosquito vectors. Some experts predict that Zika transmission in the southeastern United States is inevitable.
- The greatest immediate consequence of all this so far has been a concurrent congenital **microcephaly** epidemic in Brazil affecting over 3,500 newborns and approximately 50 infant or fetal deaths. The causal link between Zika and microcephaly has still not been confirmed, but preliminary evidence for an association has been found. Zika is the suspected culprit for the microcephaly epidemic in Brazil.

Prevention

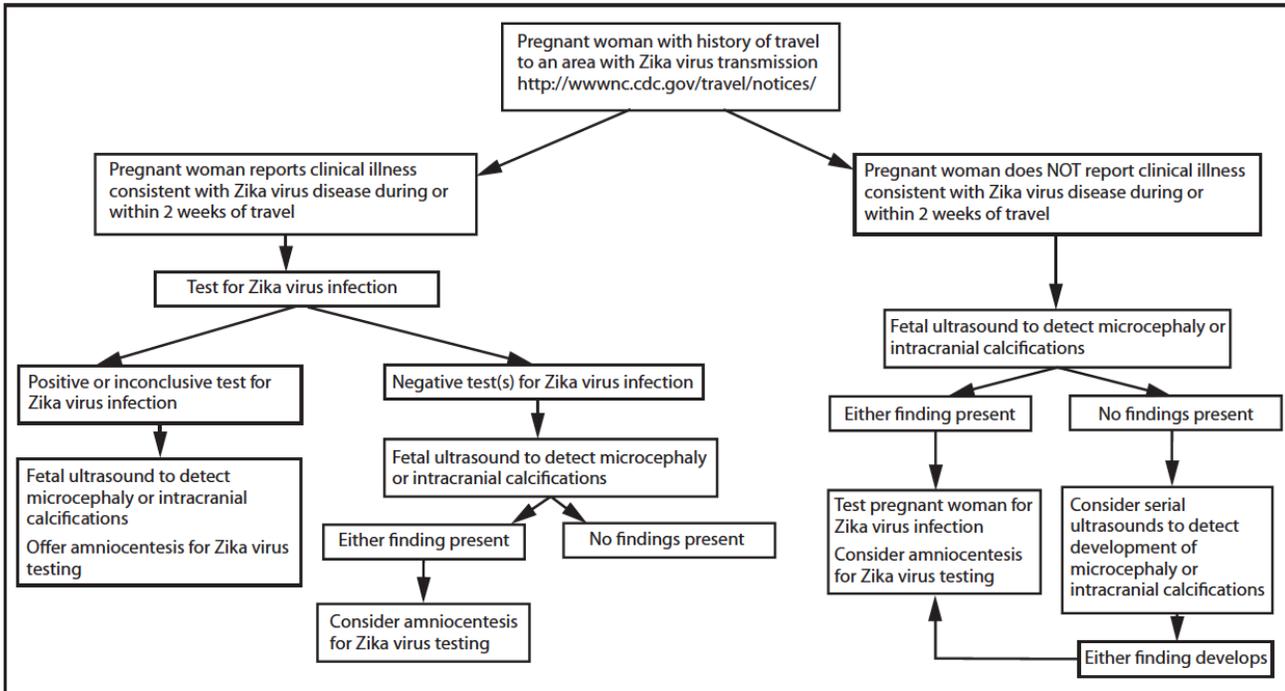
- No licensed vaccine exists for Zika, chikungunya, or dengue. Dengue vaccine trials are underway, but a product is probably still several years away from marketing in the United States.
- A vaccine for yellow fever does exist. Indications for pre-travel use are set forth at <http://www.cdc.gov/vaccines/vpd-vac/yf/>. CDC authorization is required in order to purchase and administer the vaccine to patients.
- All travelers to affected areas should practice mosquito avoidance through use of indoor air-conditioned environments, insect repellent use, and breeding ground prevention. *Aedes spp.* feed throughout the day, not only at dawn and dusk like some other species, so this must be an around-the-clock effort.
- Mosquito prevention strategies include wearing long-sleeved shirts and long pants, using U.S. Environmental Protection Agency (EPA)–registered insect repellents, using permethrin-treated clothing and gear, and staying and sleeping in screened-in or air-conditioned rooms.
- When used as directed on the product label, insect repellents containing DEET, picaridin, and IR3535 are safe for pregnant women.
- Patients with mosquito-borne viral illness should stay indoors and avoid exposure to mosquitoes until their illness has resolved.

Additional Resources

- Information for clinicians and the general public
<http://www.cdc.gov/zika/index.html>
<http://www.paho.org/hq>
- Guidelines for using insect repellents
<http://wwwnc.cdc.gov/travel/page/avoid-bug-bites>
- Updates on areas with ongoing Zika virus transmission
<http://wwwnc.cdc.gov/travel/notices>
- Zika virus research
<http://collections.plos.org/zika>

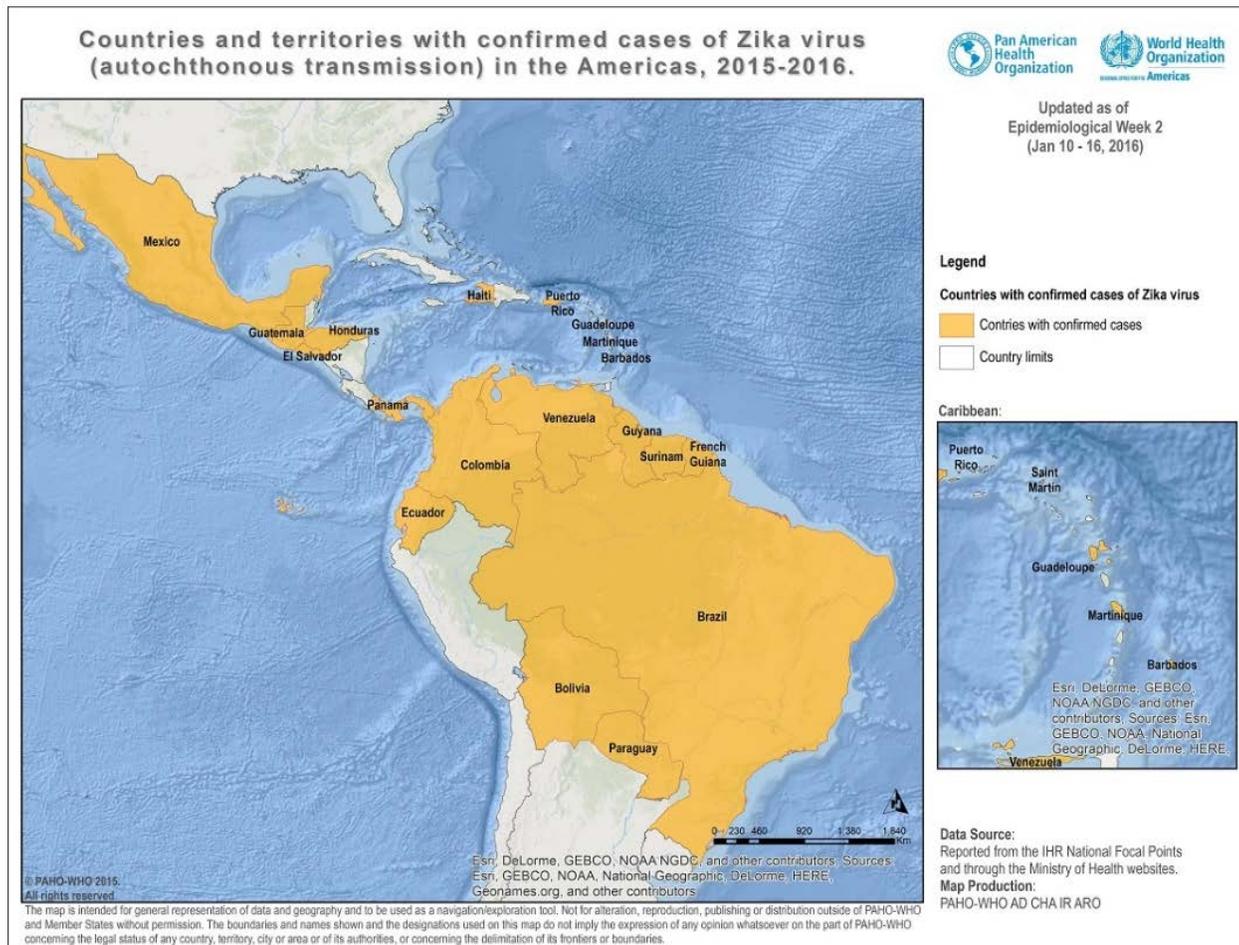
Algorithm for Evaluation and Follow-up of Pregnant Travelers Returning from Zika-Affected Areas

FIGURE. Interim guidance: testing algorithm^{*,†,§} for a pregnant woman with history of travel to an area[¶] with Zika virus transmission, with or without clinical illness^{**} consistent with Zika virus disease



Source: Centers for Disease Control and Prevention, 2016.

Map of Zika-Affected Areas in the Americas, January 2016



Source: World Health Organization, 2016.