Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 65
January 22, 2016

Zika Virus Spreads to New Areas — Region of the Americas, May 2015–January 2016

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Zika virus is a mosquito-borne flavivirus that was first identified in Uganda in 1947 (*1*). Before 2007, only sporadic human disease cases were reported from countries in Africa and Asia. In 2007, the first documented outbreak of Zika virus disease was reported in Yap State, Federated States of Micronesia; 73% of the population aged ≥3 years is estimated to have been infected (*2*). Subsequent outbreaks occurred in Southeast Asia and the Western Pacific (*3*). In May 2015, the World Health Organization reported the first local transmission of Zika virus in the Region of the Americas (Americas), with autochthonous cases identified in Brazil (*4*). In December, the Ministry of Health estimated that 440,000–1,300,000 suspected cases of Zika virus disease had occurred in Brazil in 2015 (*5*). By January 20, 2016, locally-transmitted cases had been reported to the Pan American Health Organization from Puerto Rico and 19 other countries or territories in the Americas* (Figure) (*6*). Further spread to other countries in the region is being monitored closely.

Although local transmission of Zika virus has not been documented in the continental United States, Zika virus infections have been reported in returning travelers (*7*). In light of the recent outbreaks in the Americas, the number of Zika virus disease cases among travelers visiting or returning to the United States is likely to increase. These imported cases might result in local human-to-mosquito-to-human spread of the virus in limited areas of the continental United States that have the appropriate mosquito vectors.

Zika virus is transmitted primarily by *Aedes aegypti* mosquitoes (*1*,*7*). *Aedes albopictus* mosquitoes also might transmit the virus. *Aedes aegypti* and *Ae. albopictus* mosquitoes are found throughout much of the Americas, including parts of the United States, and also transmit dengue and chikungunya viruses. In addition to mosquito-to-human transmission, Zika virus infections have been documented through intrauterine transmission resulting in congenital infection, intrapartum transmission from a viremic mother to her newborn, sexual transmission, blood transfusion, and laboratory exposure (*5*). There is a theoretical concern that transmission could occur through organ or tissue transplantation, and although Zika virus RNA has been detected in breast milk, transmission through breastfeeding has not been documented (*5*).

During outbreaks, humans are the primary amplifying host for Zika virus. An estimated 80% of persons who are infected with Zika virus are asymptomatic (*2*). Symptomatic disease generally is mild and characterized by acute onset of fever, maculopapular rash, arthralgia, or nonpurulent conjunctivitis. Symptoms usually last from several days to 1 week. Based on information from previous outbreaks, severe disease requiring hospitalization is uncommon, and fatalities are rare. During the current outbreak in Brazil, Zika virus RNA has been identified in tissues from several infants with microcephaly and from fetal losses in women who were infected during pregnancy (*5*,*7*,*8*). The Brazil Ministry of Health has reported a marked increase in the number of infants born with microcephaly in 2015, although it is not known how many of these cases are associated with Zika virus infection (*8*). Guillain-Barré syndrome also has been reported in patients following suspected Zika virus infection (*5*). Studies are under way to evaluate the risks for Zika virus transmission during pregnancy, the spectrum of outcomes associated with congenital infection, and the possible association between Zika virus infection and Guillain-Barré syndrome.

Zika virus infection should be considered in patients with acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis, who traveled to areas with ongoing transmission in the 2 weeks preceding illness onset. Because dengue and chikungunya virus infections share a similar geographic

*Barbados, Bolivia, Brazil, Colombia, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, and Venezuela.

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FIGURE. Countries and territories with documented local transmission of Zika virus infection reported to the Pan American Health Organization — Region of the Americas, 2015–2016

distribution with Zika virus and symptoms of infection are similar, patients with suspected Zika virus infections also should be evaluated and managed for possible dengue or chikungunya virus infection (*9,10*). Other considerations in the differential diagnosis include malaria, rubella, measles, parvovirus, adenovirus, enterovirus, leptospirosis, rickettsia, and group A streptococcal infections.

There is no commercially available test for Zika virus. Zika virus testing is performed in the United States at CDC and four state health department laboratories, and CDC is working to expand laboratory diagnostic testing to additional states. Health care providers should contact their state or local health department to facilitate testing. To evaluate for evidence of Zika virus infection, reverse transcription–polymerase chain reaction (RT-PCR) testing should be performed on serum specimens collected within the first week of illness (*11*). Immunoglobulin M and neutralizing antibody testing should be performed on specimens collected ≥4 days after onset of illness; however, these serologic assays can be positive because of cross-reacting antibodies against related flaviviruses (e.g., dengue and yellow

fever viruses). Virus-specific cross-neutralization testing can be used to discriminate between cross-reacting antibodies in primary flavivirus infections, although neutralizing antibodies might still yield cross-reactive results in persons who were previously infected or vaccinated against a related flavivirus (i.e., secondary flavivirus infection).

No specific antiviral treatment is available for Zika virus disease. Treatment is generally supportive and can include rest, fluids, and use of analgesics and antipyretics. Aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided until dengue can be ruled out to reduce the risk of hemorrhage. Febrile pregnant women should be treated with acetaminophen. Persons infected with Zika, dengue, or chikungunya virus should be protected from further mosquito exposure during the first few days of illness to reduce the risk for local transmission.

No vaccine to prevent Zika virus infection is available. The best way to prevent Zika virus infection is to avoid mosquito bites by using air conditioning or window and door screens when indoors, wearing long sleeves and pants, using permethrin-treated clothing and gear, and using insect repellents when outdoors. Most Environmental Protection Agency (EPA)–registered repellents, including N,N-diethyl-m-toluamide (DEET), can be used on children aged >2 months (*12*). When used according to the product label, EPA-registered insect repellents also are safe for pregnant and lactating women. All travelers should take steps to avoid mosquito bites to prevent Zika virus infection and other mosquito-borne diseases.

Until more is known, and out of an abundance of caution, pregnant women should consider postponing travel to any area where Zika virus transmission is ongoing.[†] Pregnant women who do travel to one of these areas should talk to their health care provider before traveling and strictly follow steps to avoid mosquito bites during travel. Pregnant women who develop a clinically compatible illness during or within 2 weeks of returning from an area with Zika virus transmission should be tested for Zika virus infection (*13*). Fetuses and infants of women infected with Zika virus during pregnancy should be evaluated for possible congenital infection.

Health care providers are encouraged to report suspected Zika virus disease cases[§] to their state or local health departments to facilitate diagnosis and mitigate the risk for local transmission in areas where *Aedes* species mosquitoes are currently active. State health departments are requested to report laboratory-confirmed cases to CDC. CDC is working with the Council of State and Territorial Epidemiologists and other partners to develop a surveillance case definition, to provide further guidance and mechanisms for evaluating and reporting cases, and to track the outcomes of pregnant women infected with Zika virus and their babies.

[†] CDC. Traveler's health notices. http://wwwnc.cdc.gov/travel/notices/.

[§] The interim case definition for suspected Zika virus disease is an illness characterized by acute onset of two or more of the following: fever, maculopapular rash, arthralgia, or nonpurulent conjunctivitis not explained by other medical conditions, in a person who resides in or has visited an area with ongoing Zika virus transmission within 2 weeks before the onset of symptoms.

Summary

What is already known on this topic?

Zika virus is a mosquito-borne flavivirus transmitted primarily by *Aedes aegypti* mosquitoes. Most infections are asymptomatic, and symptomatic disease generally is mild. In May 2015, the first local transmission of Zika virus in the Region of the Americas was reported in Brazil. Following the spread of Zika virus in Brazil, there has been a marked reported increase in the number of infants born with microcephaly; it is not known how many of these cases are associated with Zika virus infection.

What is added by this report?

By mid-January 2016, local Zika virus transmission had been reported to the Pan American Health Organization from 20 countries or territories in the Region of the Americas; spread to other countries in the region is likely. Although local transmission of Zika virus has not been documented in the continental United States, infections have been reported among travelers visiting or returning to the United States, and these likely will increase. Imported cases might result in local transmission in limited areas of the continental United States.

What are the implications for public health practice?

The best way to prevent Zika virus infection is to avoid mosquito bites by avoiding exposure and eliminating mosquito breeding areas. Until more is known, pregnant women should consider postponing travel to any area with ongoing Zika virus transmission. Health care providers should contact their state or local health department about testing patients with symptoms of Zika virus infection and a compatible travel history.

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