

# ZIKA VIRUS

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- ❖ Symptoms & Treatment
- ❖ Microcephaly
- ❖ Public Health Emergency
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# ABOUT ZIKA VIRUS (ZIKV)

- Zika virus was first discovered in 1947 and is named after the Zika forest in Uganda.
- In 1952, the first human cases of Zika were detected and since then, outbreaks of Zika have been reported in tropical Africa, Southeast Asia, and the Pacific Islands.
- Zika outbreaks have probably occurred in many locations.
- Before 2007, at least 14 cases of Zika had been documented, although other cases were likely to have occurred and were not reported.
- Because the symptoms of Zika are similar to those of many other diseases (Chikungunya and Dengue), many cases may not have been recognized.



Source: Centers for Disease Control website - <http://www.cdc.gov/zika/about/index.html>

# SYMPTOMS OF ZIKA VIRUS

- The Zika virus is spread to people primarily through the bite of an infected *Aedes* species mosquito (*Aedes aegypti* and *Aedes albopictus*).
- Most people infected with Zika virus won't even know they have the disease because they won't have symptoms. The most common symptoms of Zika are fever, rash, joint pain, or conjunctivitis (red eyes). Other common symptoms include muscle pain and headache.
  - **See your healthcare provider if you are pregnant and develop a fever, rash, joint pain, or red eyes within 2 weeks after traveling to a place where Zika has been reported. Be sure to tell your health care provider where you traveled.**
- The illness is usually mild with symptoms lasting for several days to a week after being bitten by an infected mosquito.
- People usually don't get sick enough to go to the hospital, and they very rarely die of Zika. For this reason, many people might not realize they have been infected.
- Zika virus usually remains in the blood of an infected person for about a week but it can be found longer in some people.
- Once a person has been infected, he or she is likely to be protected from future infections.

Source: Centers for Disease Control website - <http://www.cdc.gov/zika/symptoms/index.html>



# SYMPTOMS OF ZIKA VIRUS

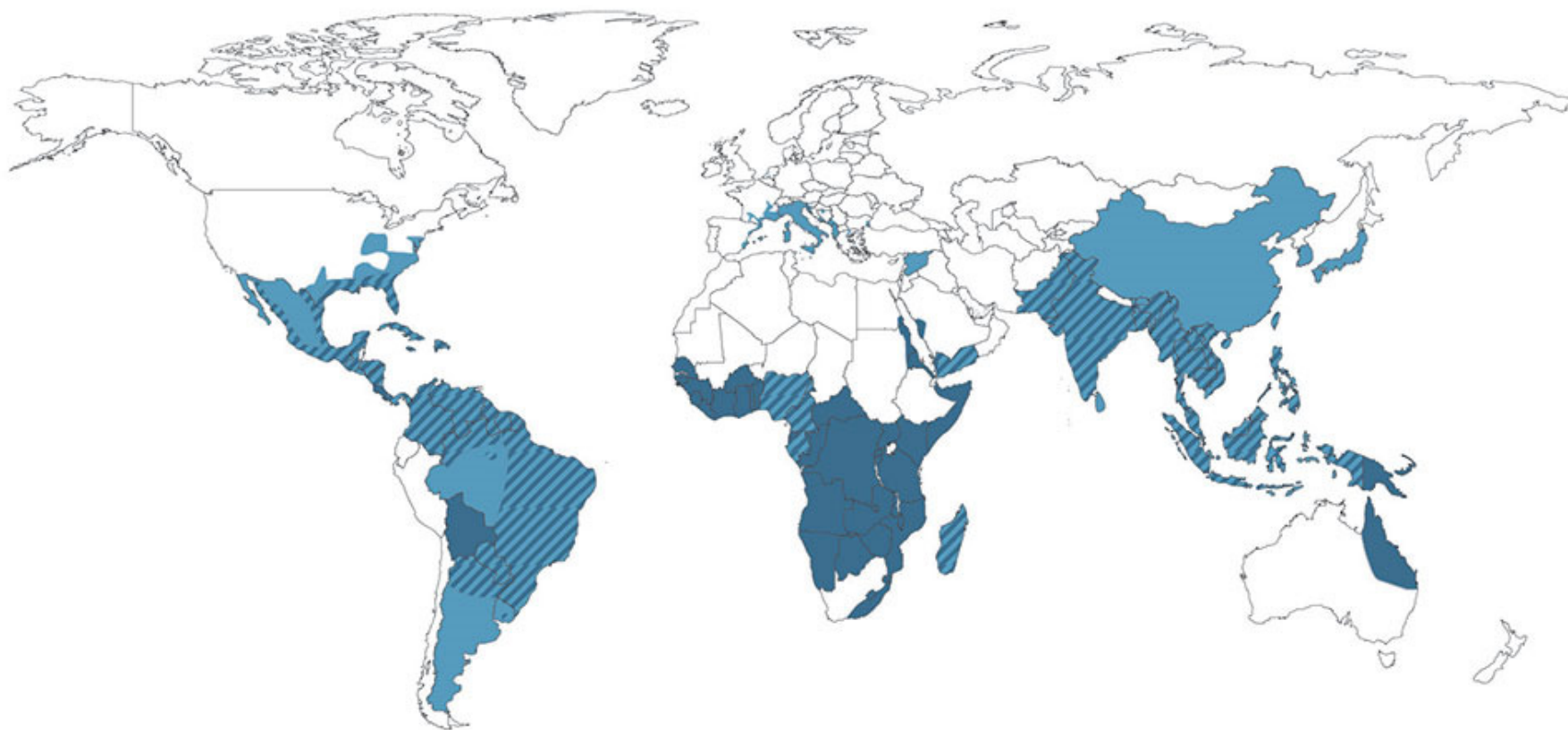
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### Distribution of established tiger mosquitoes\*

■ Asian tiger mosquito   ■ Yellow fever mosquito   ■ Asian tiger and yellow fever mosquito



\* We present these data to the best of our knowledge and belief, but do not give any guarantee that the data are free of errors.

Approximate distribution of *Aedes aegypti* in the United States\*



Approximate distribution of *Aedes albopictus* in the United States\*



\*Maps were developed using currently available information. Mosquito populations may be detected in areas not shaded on this map, and may not be consistently found in all shaded areas.

# TREATMENT FOR ZIKA VIRUS

- There is no vaccine to prevent or medicine to treat Zika infections.
- Treat the symptoms:
  - Get plenty of rest.
  - Drink fluids to prevent dehydration.
  - Take medicine such as acetaminophen (Tylenol®) or paracetamol to relieve fever and pain.
  - Do not take aspirin and other non-steroidal anti-inflammatory drugs.
  - If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.
- If you have Zika, prevent mosquito bites for the first week of your illness.
  - During the first week of infection, Zika virus can be found in the blood and passed from an infected person to a mosquito through mosquito bites.
  - An infected mosquito can then spread the virus to other people.



Source: Centers for Disease Control website - <http://www.cdc.gov/zika/symptoms/index.html>

# ZIKA VIRUS AND MICROCEPHALY

- Zika virus can be spread from a pregnant woman to her fetus and has been linked to a serious birth defect of the brain called **microcephaly** in babies of mothers who had Zika virus while pregnant.
- CDC recommends special precautions for pregnant women. Pregnant women should consider delaying travel to areas with Zika.
- If you must travel to one of these areas, talk to your healthcare provider first and strictly follow steps to prevent mosquito bites during your trip.
- Since May 2015, Brazil has experienced a significant outbreak of Zika virus.
- In recent months, Brazilian officials reported an increase in the number of babies born with microcephaly.
- Although there is increasing evidence of the link between Zika and microcephaly, it is still uncertain if these babies' microcephaly is a result of their mother's Zika virus infection during pregnancy.



Source: Centers for Disease Control website - <http://www.cdc.gov/zika/pregnancy/index.html>



# ZIKA VIRUS AND MICROCEPHALY

- Microcephaly is a condition where a baby's head is much smaller than expected.
- Microcephaly can occur because a baby's brain has not developed properly during pregnancy or has stopped growing after birth, which results in a smaller head size.
- Microcephaly can be an isolated condition, meaning that it can occur with no other major birth defects, or it can occur in combination with other major birth defects.
- Babies with microcephaly can have a range of other problems, depending on how severe their microcephaly is. Microcephaly has been linked with the following problems:
  - Seizures
  - Developmental delay, such as problems with speech or other [developmental milestones](#) (like sitting, standing, and walking)
  - Intellectual disability (decreased ability to learn and function in daily life)
  - Problems with movement and balance
  - Feeding problems, such as difficulty swallowing
  - Hearing loss
  - Vision problems



Baby with Typical Head Size



Baby with Microcephaly



Baby with Severe Microcephaly



Source: Centers for Disease Control website - <http://www.cdc.gov/zika/pregnancy/index.html>; <http://www.cdc.gov/ncbddd/birthdefects/microcephaly.html>



# PUBLIC HEALTH EMERGENCY

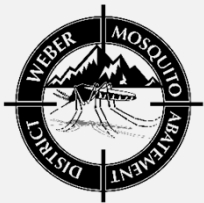
- In May 2015, the Pan American Health Organization (PAHO) issued an alert regarding the first confirmed Zika virus infection in Brazil.
- On February 1, 2016, the World Health Organization (WHO) declared Zika virus a public health emergency of international concern (PHEIC).
- Local transmission has been reported in many other countries and territories.
- Zika virus likely will continue to spread to new areas.



Source: Centers for Disease Control website - <http://www.cdc.gov/zika/about/index.html>

# BRAZILIAN OUTBREAK

- In early 2015, an outbreak of Zika virus, a flavivirus transmitted by *Aedes* mosquitoes, was identified in northeast Brazil, an area where Dengue virus was also circulating.
- By September, reports of an increase in the number of infants born with microcephaly in Zika virus-affected areas began to emerge, and Zika virus RNA was identified in the amniotic fluid of two women whose fetuses had been found to have microcephaly by prenatal ultrasound.
- The Brazil Ministry of Health (MoH) established a task force to investigate the possible association of microcephaly with Zika virus infection during pregnancy.
- Among a cohort of 35 infants with microcephaly born during August–October 2015 in eight of Brazil's 26 states and reported to the registry, the mothers of all 35 had lived in or visited Zika virus-affected areas during pregnancy, 25 (71%) infants had severe microcephaly, 17 (49%) had at least one neurologic abnormality, and among 27 infants who had neuroimaging studies, all had abnormalities. Tests for other congenital infections were negative.



Source: Centers for Disease Control website - <http://www.cdc.gov/mmwr/volumes/65/wr/mm6503e2.htm>

# BRAZILIAN OUTBREAK

- >3,000 suspected cases of microcephaly (approximately 20 cases per 10,000 live births) were reported to the MoH through the special notification protocol, suggesting a sharp increase in birth prevalence.
- The special notification protocol might have also increased case reporting.
- Before the November MoH alert, although descriptions of congenital anomalies were reported, infant head circumference was not routinely recorded. Hence, it is possible that mild cases of microcephaly might not have been reported.
- Since the MoH alert and the attendant media coverage of the outbreak, surveillance for microcephaly and physician reporting of suspected cases have increased.



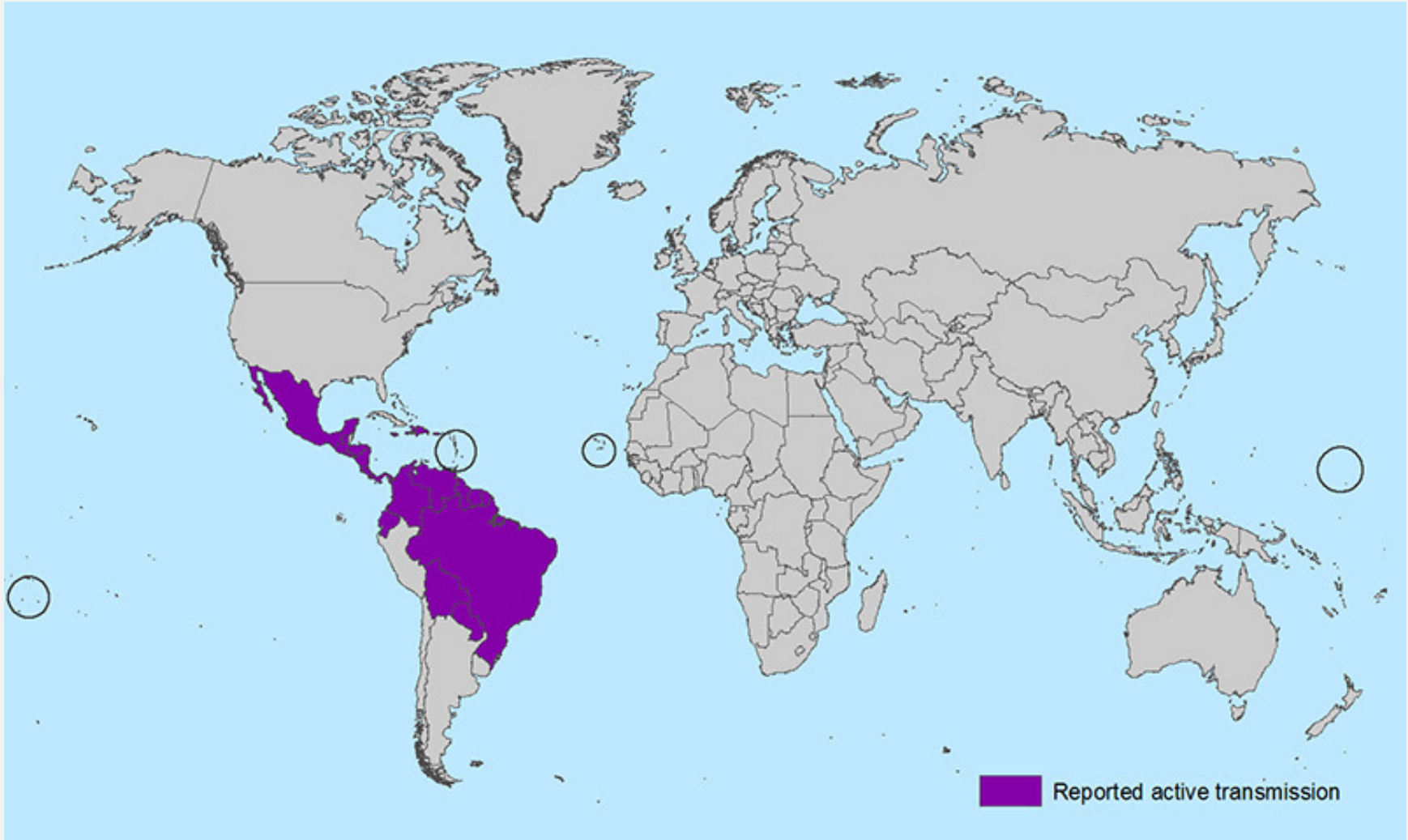
Source: Centers for Disease Control website - <http://www.cdc.gov/mmwr/volumes/65/wr/mm6503e2.htm>

# ZIKA TRAVEL ADVISORIES

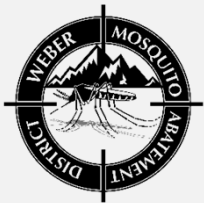
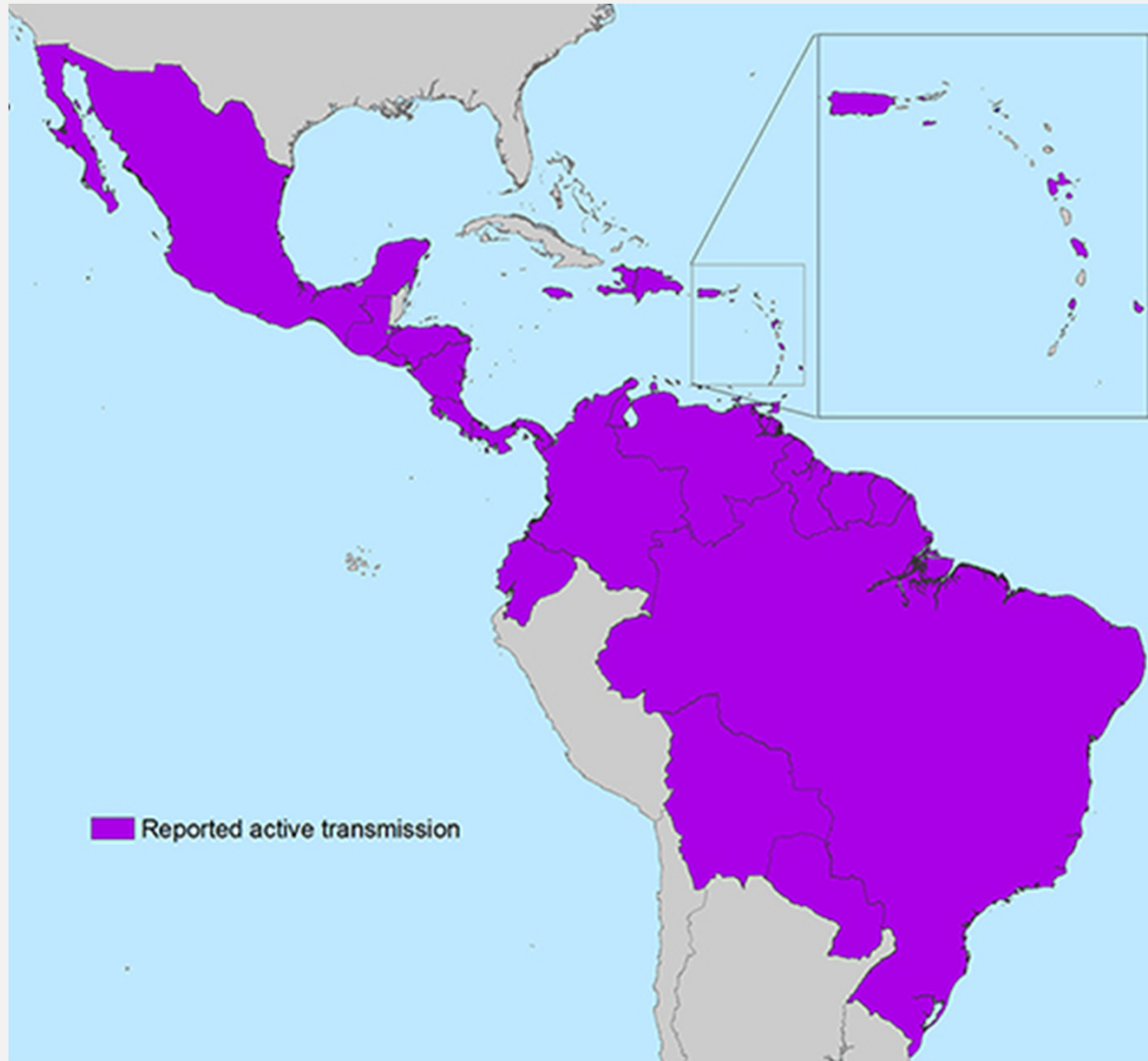
- **Zika Virus in Cape Verde**
- **Zika Virus in the Caribbean**  
Currently includes: Aruba; Barbados; Bonaire; Curaçao; Dominican Republic; Guadeloupe; Haiti; Jamaica; Martinique; the Commonwealth of Puerto Rico, a U.S. territory; Saint Martin; Saint Vincent and the Grenadines; Saint Maarten; Trinidad and Tobago; U.S. Virgin Islands
- **Zika Virus in Central America**  
Currently includes: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama
- **Zika Virus in Mexico**
- **Zika Virus in the Pacific Islands**  
Currently includes: American Samoa, Marshall Islands, Samoa, Tonga
- **Zika Virus in South America**  
Currently includes: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Suriname, Venezuela
- **2016 Summer Olympics (Rio 2016)**

Source: Centers for Disease Control website - <http://wwwnc.cdc.gov/travel/page/zika-travel-information>





Source: Centers for Disease Control website - <http://www.cdc.gov/zika/geo/active-countries.html>



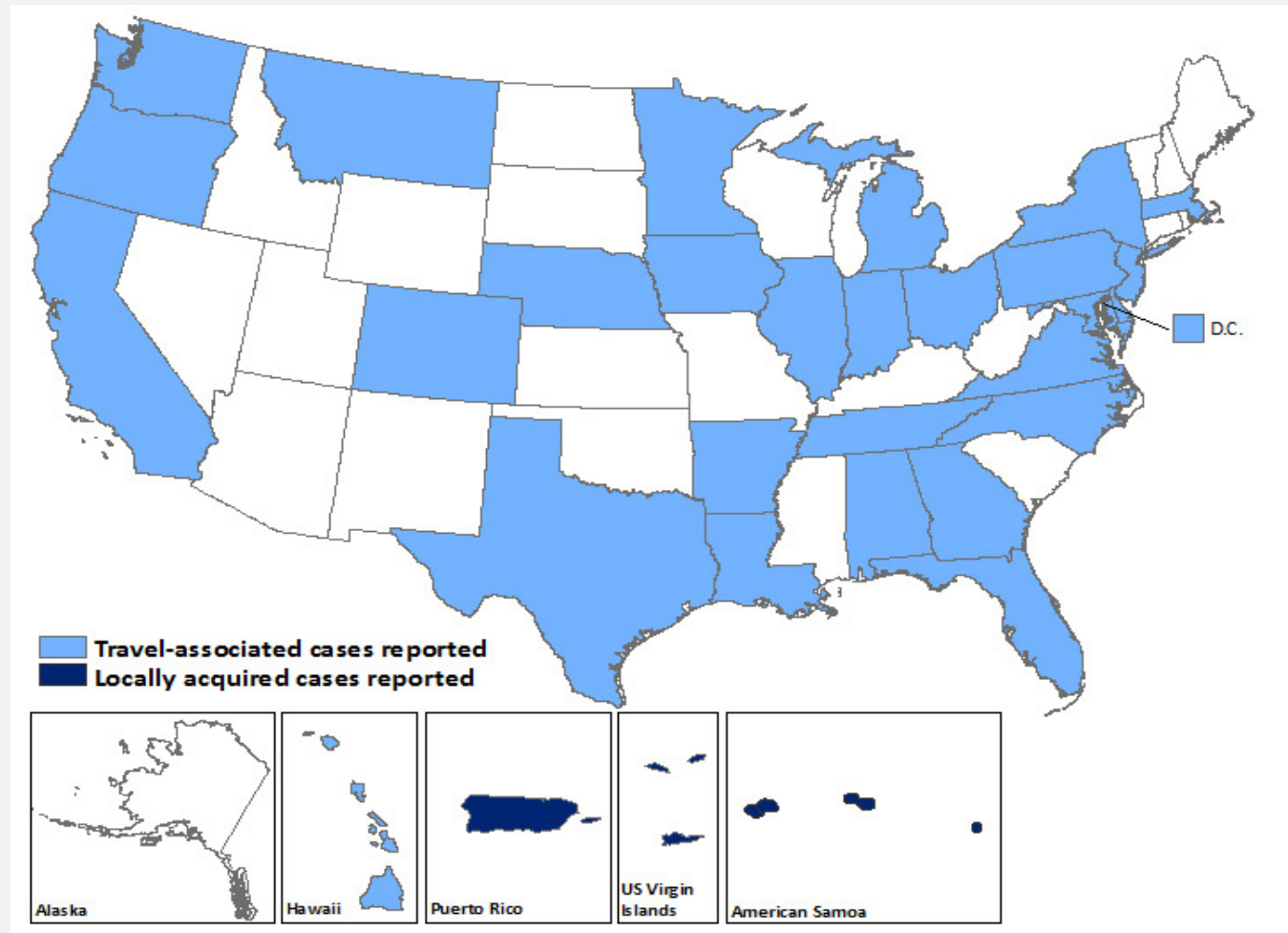
## US States

- Travel-associated Zika virus disease cases reported: 193
- Locally acquired vector-borne cases reported: 0

## US Territories

- Travel-associated cases reported: 1
- Locally acquired cases reported: 173

(as of March 9, 2016)



Source: Centers for Disease Control website - <http://wwwnc.cdc.gov/travel/page/zika-travel-information>

