



THE ZIKA VIRUS

August 3, 2016

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What Makes Zika Unique?

- ▣ Viral disease (Flavi virus)
- ▣ Transmission
 - ▣ Through the bite of an Aedes species mosquito
 - ▣ Sex with an infected partner
 - ▣ (Virus can also be transmitted from a pregnant women to her fetus, through blood transfusion, and through laboratory exposure)
- ▣ Birth defects including microcephaly



Where Did Zika Come From?

- First discovered in rhesus monkeys in 1947 in Uganda, near the Zika forest
- Subsequently described in humans in 1952 in Uganda and United Republic of Tanzania
- Cases in Africa and Asia during 1950-1970's
- First outbreak outside of Asia or Africa in 2007 in Yap
- Outbreak in French Polynesia starting in October of 2013



How is Zika Spread?



Estimated Range of *Aedes Aegypti* and *Albopictus*

Estimated range of *Aedes aegypti* in the United States, 2016*



Estimated range of *Aedes albopictus* in the United States, 2016*



Aedes Mosquito

- ▣ Aegypti and albopictus (Asian Tiger)
- ▣ Same mosquitos that spread dengue and chikungunya
- ▣ Container breeders; they lay eggs in and near standing water (i.e. buckets, bowls, animal dishes, flower pots)
- ▣ Prefer to bite people below the knees
- ▣ Live indoors and outdoors near people
- ▣ Aggressive, daytime biters
- ▣ Short range

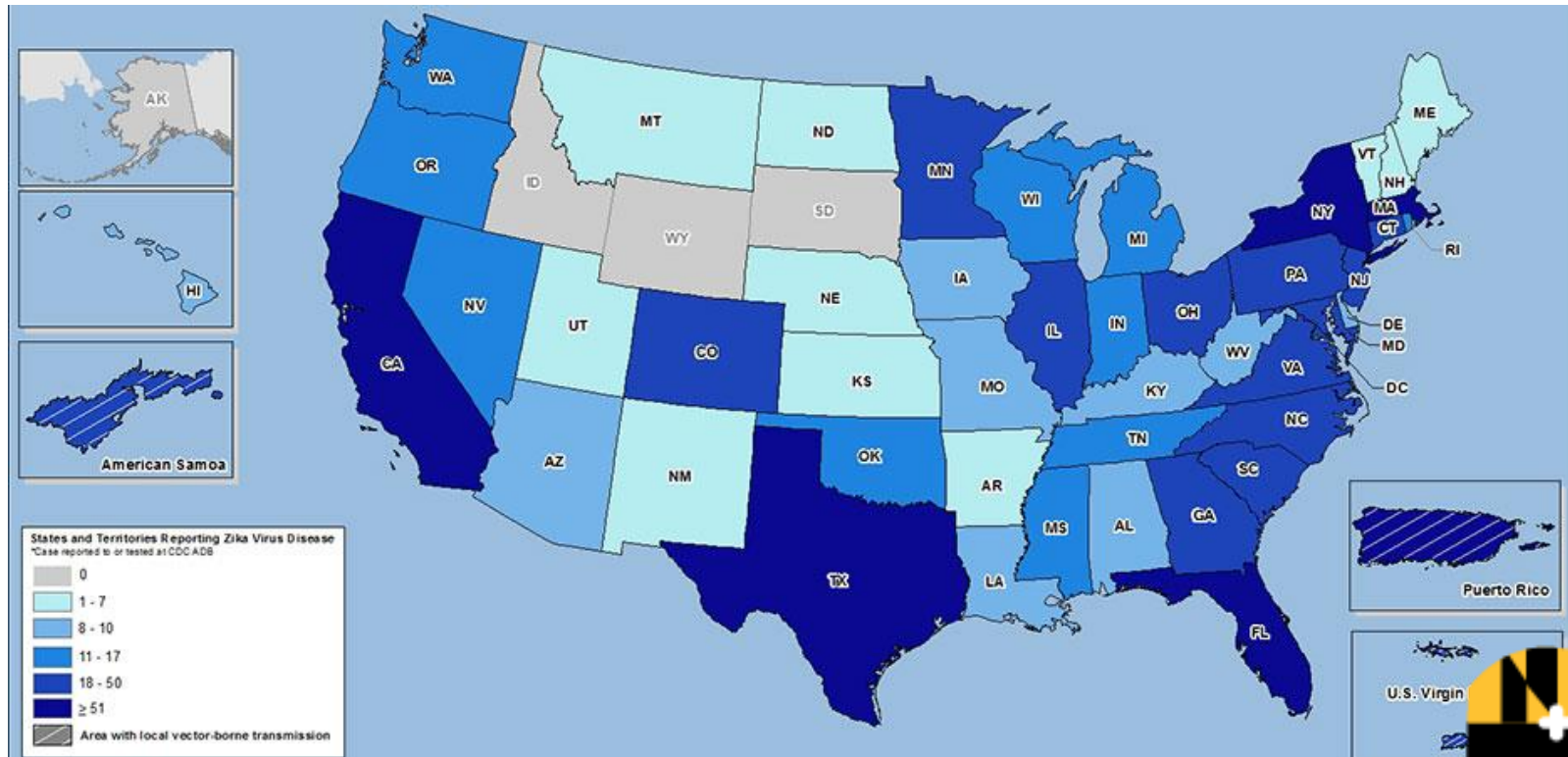


Zika in the World



Zika in the United States

*Florida Department of Health has identified an area in one neighborhood of Miami where Zika is being spread by mosquitoes.



The Zika Virus

- ▣ Zika virus infection is generally asymptomatic or mild
- ▣ Zika infection during pregnancy can cause serious birth defects
- ▣ Zika virus is primarily spread through the bite of an infected mosquito
- ▣ Zika virus can also be sexually transmitted



Current Cases in the United States (as of 7/27/16)

- 1,658 lab-confirmed Zika disease cases in the United States (46 states + Washington, D.C.)
 - At least 433 are pregnant women (as of 7/21/16)
 - 13 liveborn infants with birth defects
 - 6 pregnancy losses with birth defects
 - 15 cases were sexually transmitted
 - 5 cases of Guillain-Barre syndrome



Current Cases in Maryland (as of 7/27/16)

- ▣ 48 lab-confirmed Zika disease cases in Maryland
 - ▣ All cases have been related to travel and sexual transmission
 - ▣ No local transmission from Maryland mosquitos



Zika Infection

- ▣ Incubation period: estimated 3-5 days, up to 14 days
- ▣ Only about 20% of people infected have symptoms
- ▣ Duration of illness: brief, typically ~1 week
- ▣ Viremia lasts for ≤ 1 week
- ▣ Illness is generally mild, but could lead to important potential complications
 - ▣ Guillain-Barre Syndrome
 - ▣ Pregnancy complications, especially microcephaly



Clinical Presentation

Symptom	Zika	Dengue	Chikungunya
Fever	++	+++	+++
Rash	+++	+	++
Conjunctivitis	++	-	-
Arthralgia	++	+	+++
Myalgia	+	++	+
Headache	+	++	++
Hemorrhage	-	++	-
Shock	-	+	-



Diagnostic Testing

- ❑ PCR can detect virus in first week after illness onset
- ❑ Serological testing can detect illness for longer but is less specific
 - ❑ IgM detectable starting on day 4 after illness onset
 - ❑ Significant interactions with other viruses (WNV, YFV, Dengue) making test interpretation sometimes difficult
 - ❑ More complex serological tests can be done to help distinguish Zika from other infections; less helpful if previously infected/vaccinated
- ❑ Commercial testing now available



Treatment

- ❑ No specific medicine or vaccine for Zika virus
- ❑ Can treat the symptoms with rest, fluids, acetaminophen for fever and pain
- ❑ Avoid aspirin and NSAIDs until dengue is ruled out to avoid hemorrhagic complications
- ❑ Likely lifelong immunity after infection



Zika and Pregnancy

- CDC currently recommends the following:
 1. Avoid travel to an area with Zika
 2. Take steps to prevent mosquito bites
 3. Take steps to prevent getting Zika through sex
 4. See a doctor or other healthcare provider
- All pregnant women in the United States should be assessed for possible Zika virus exposure during each prenatal care visit; pregnant women with possible Zika exposure (i.e. through travel to an area with Zika or unprotected sex with a partner that traveled to an area with Zika) and/or signs of symptoms of Zika should be tested for Zika
- No risk to future pregnancies
- Potentially many other Zika-related severe fetal brain defects including eye defects, hearing loss, and impaired growth



Thinking about Pregnancy?

Suggested timeframe to wait before trying to get pregnant

Possible exposure via recent travel or sex without a condom with a partner infected with Zika

	Women	Men
Zika symptoms	Wait at least 8 weeks after symptoms start	Wait at least 6 months after symptoms start
No Zika symptoms	Wait at least 8 weeks after exposure	Wait at least 8 weeks after exposure. Talk with your healthcare provider.



Prevention Measures: Travel

- ▣ Avoid travel to areas with Zika
- ▣ Check travel notices
- ▣ Protect yourself from mosquito bites
- ▣ Protect yourself during sex
- ▣ See a doctor or healthcare professional



Prevention Measures: Sex

- If you live in or have traveled to an area with Zika, take the following precautions during pregnancy:
 - Use condoms and/or other barriers to protect against infection
 - Consider refraining from sex during pregnancy

- For couples considering getting pregnant or concerned about sexual transmission who have traveled to an area with Zika:
 - Consider using condoms or not having sex for at least 6 months after symptoms begin
 - If there are no symptoms, consider using condoms or not having sex for at least 8 weeks after travel



Prevention Measures: Mosquitoes

- Take steps to prevent mosquito bites
 - Wear long-sleeved shirts and long pants
 - Stay in places with air conditioning and window and door screens to keep mosquitoes outside
 - Use Environmental Protection Agency registered insect repellents (i.e. DEET, picaridin, oil of lemon eucalyptus or para-menthane-diol, IR3535)
 - Follow instructions
 - Treat clothing and gear
 - Remove or stay away from mosquito breeding sites, like containers with standing water



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For More Information

- Centers for Disease Control and Prevention:
www.cdc.gov
- DHMH Zika Town Hall: <https://youtu.be/1xpcuDHsGK8>
- Soundcloud for Zika audio PSAs:
<https://soundcloud.com/mdagdept>
- Mosquito prevention: <https://youtu.be/DmiR8DJjMQM>
- Questions? E-mail Zika.Questions@maryland.gov

