

Zika Overview

Cara Christ, MD
Arizona Department
of Health Services

The logo features a light gray silhouette of the state of Arizona. Overlaid on the map is the text "ARIZONA 2016 ZIKA SUMMIT" in a light brown, sans-serif font, arranged in four lines.

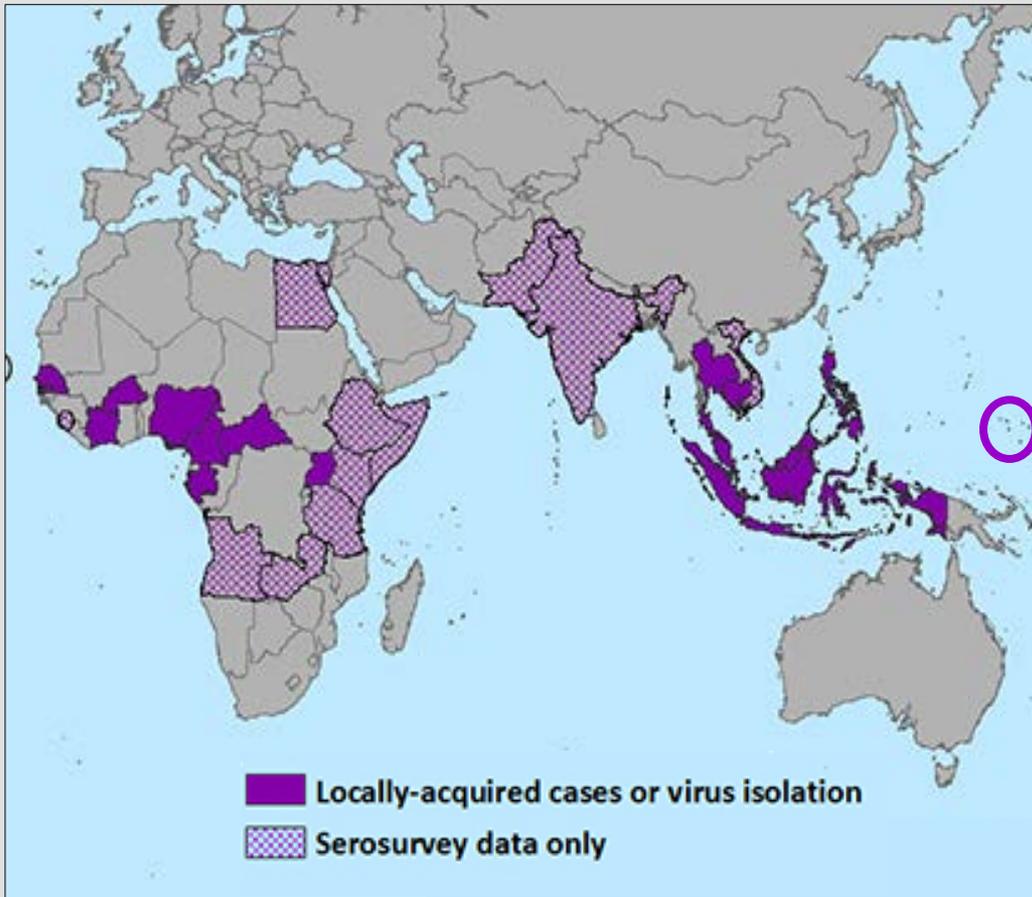
ARIZONA
2016
ZIKA
SUMMIT

Arizona Zika Action Plan Summit
May 24, 2016

What is Zika virus disease (Zika)?



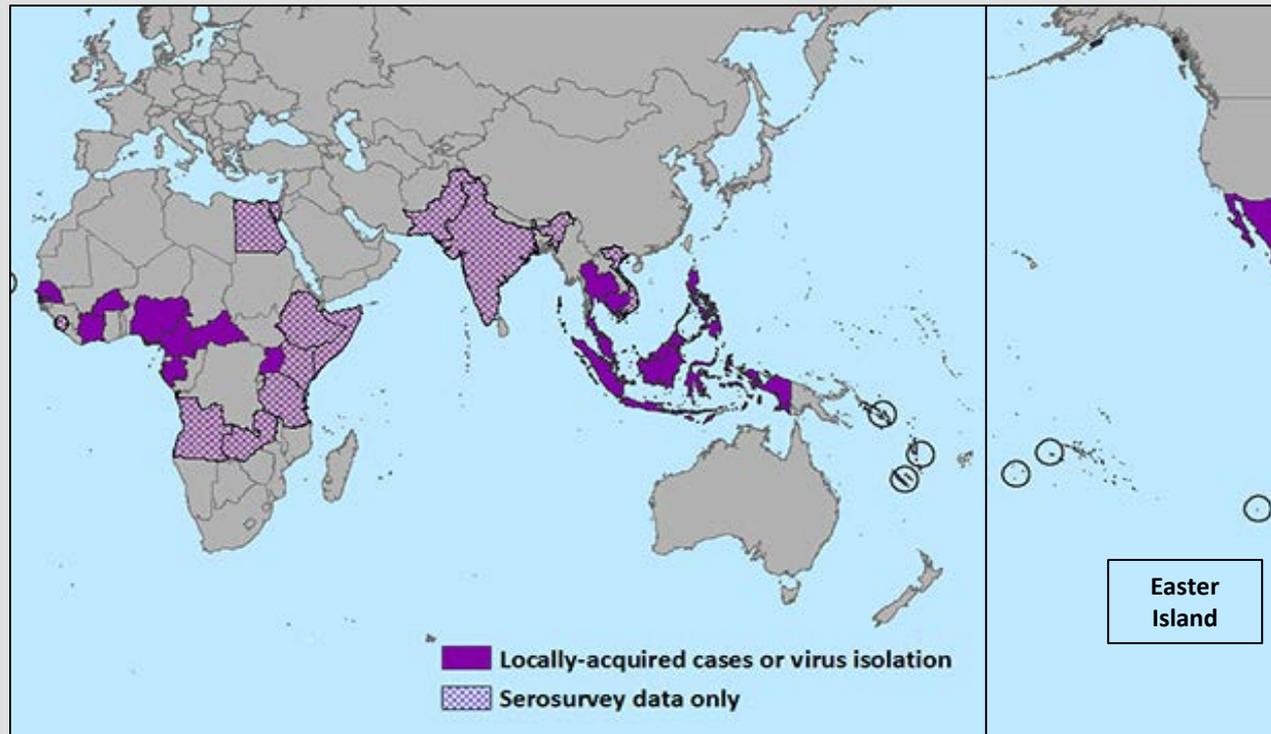
Where has Zika virus been found?



2007:

- Outbreak in Yap, Micronesia
- Estimated ~75% of population infected
- Only 20% experienced symptoms (~900 people)

Where has Zika virus been found?



2013-2014

Continued spread in the Pacific Islands

- French Polynesia
- New Caledonia
- Cook Islands
- Vanatu
- Fiji
- Solomon Islands
- Easter Island

Where has Zika virus been found?



2015: Brazil

- May: first detected cases
- May–July: Increase in Guillain-Barre cases in NE states (121 cases)
- Dec: spread to >18 states

Locally-acquired cases

vs.

Travel-associated or Imported
cases



CHIKUNGUNYA, DENGUE, or ZIKA: What is local transmission?



A person who has not traveled recently gets bitten by an infected mosquito where they live, work, or play.



A mosquito bites a person who is sick. The mosquito gets infected.

Infected mosquitoes can then bite healthy people and spread the infection.

Within 3–7 days, the person may become sick. Other mosquitoes can bite the sick person, become infected, and bite more people.



CHIKUNGUNYA, DENGUE, or ZIKA: What is an imported case?

A person who was bitten by an infected mosquito while traveling away from home.



A person gets bitten by an infected mosquito while traveling.

Symptoms may begin 3–7 days after being bitten by an infected mosquito.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

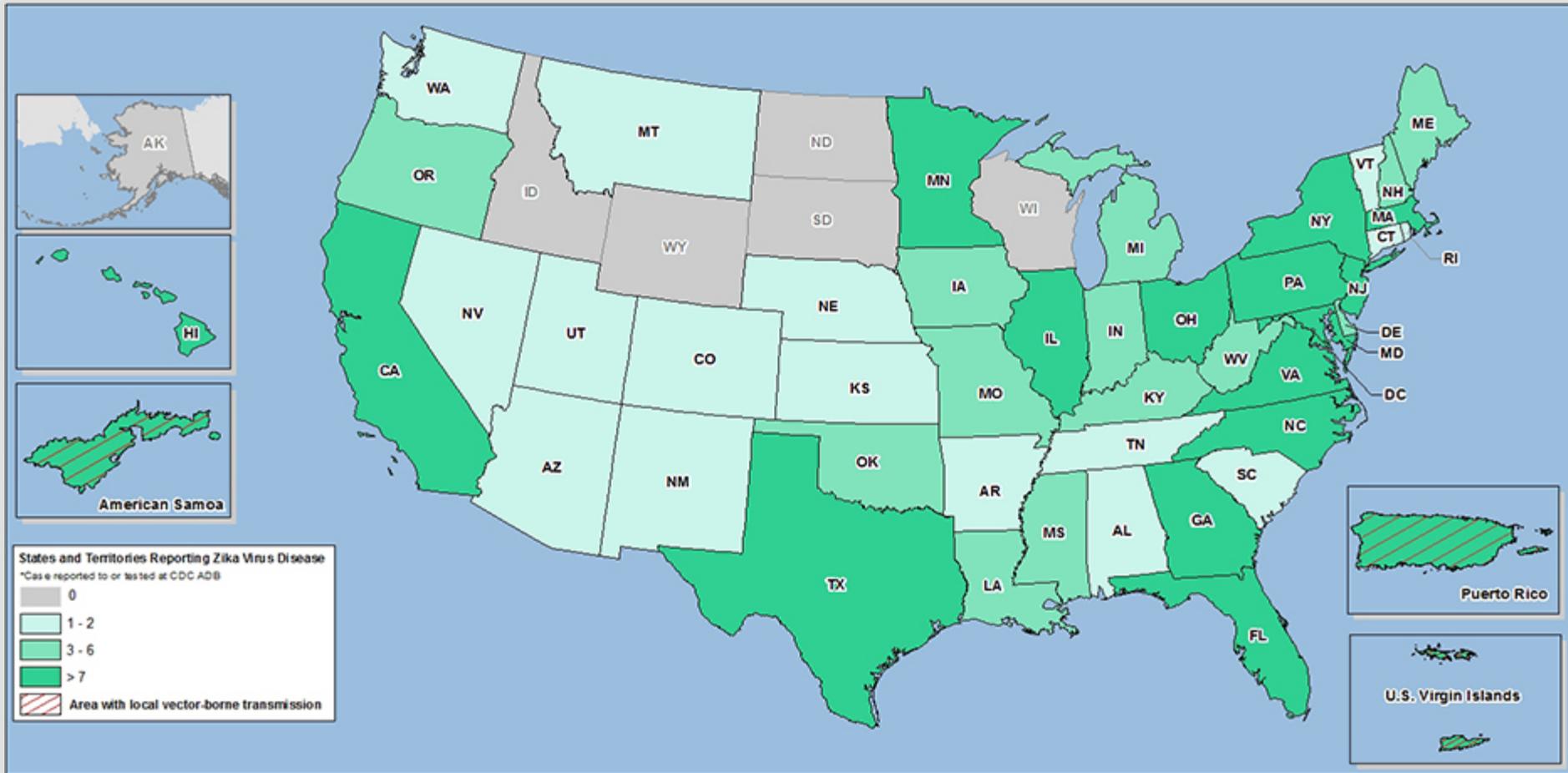
For more information: www.cdc.gov/chikungunya • www.cdc.gov/dengue • www.cdc.gov/zika

Where is Zika now?



As of May 12, 2016

Where is Zika now?



Laboratory-confirmed Zika virus disease cases reported to ArboNET by state or territory — United States, 2015–2016 (as of May 18, 2016)

How many Zika cases have been reported?

As of May 18th, 2016:

- U.S. territories: 836 cases
 - Guillain-Barre syndrome: 5 (0.6%)
 - Locally-acquired: 832 (99%)

How many Zika cases have been reported?

As of May 18th, 2016:

- U.S. states: 544 cases
 - Sexually transmitted: 10 (2%)
 - Guillain-Barré syndrome: 1 (0.2%)
 - Locally-acquired mosquito-borne: 0 (0%)

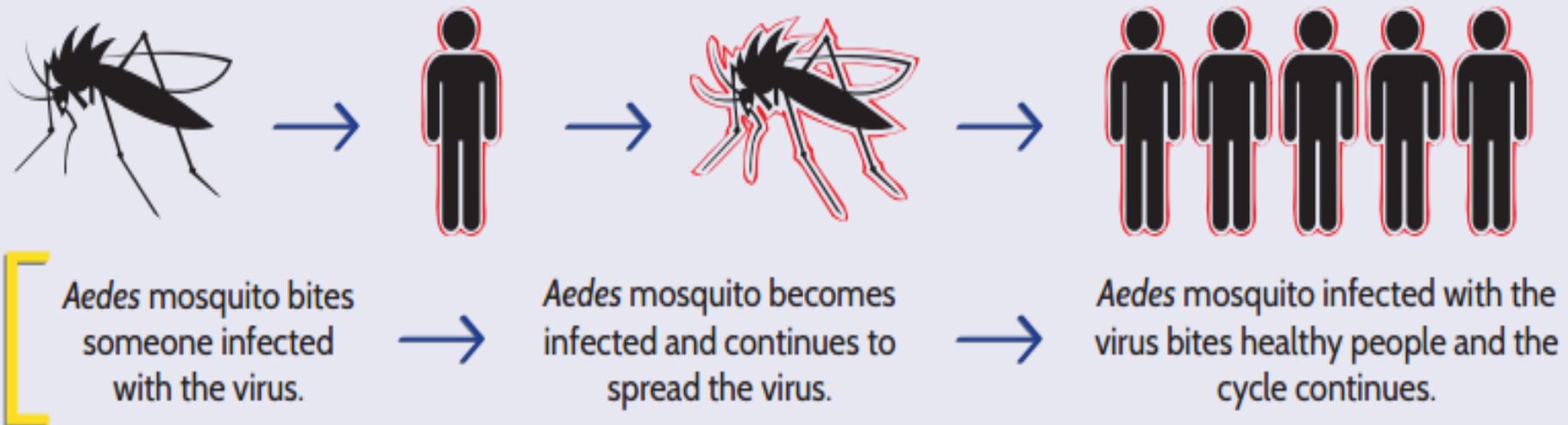
How many Zika cases have been reported?

As of May 24th, 2016:

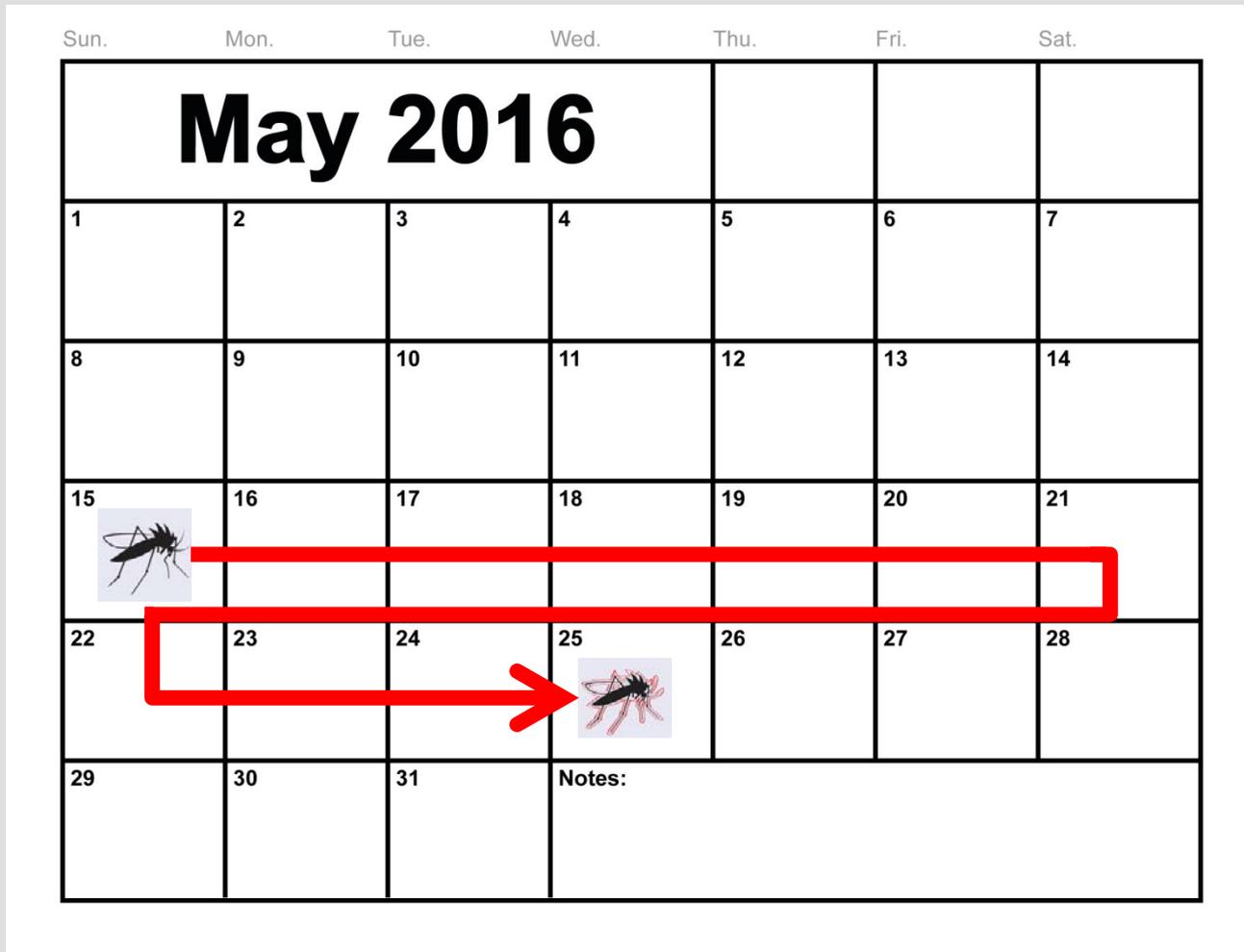
- Arizona: 3 travel-associated cases

How is Zika transmitted?

- Zika can be transmitted through:
 - Mosquito bites



Incubation period in mosquitos?

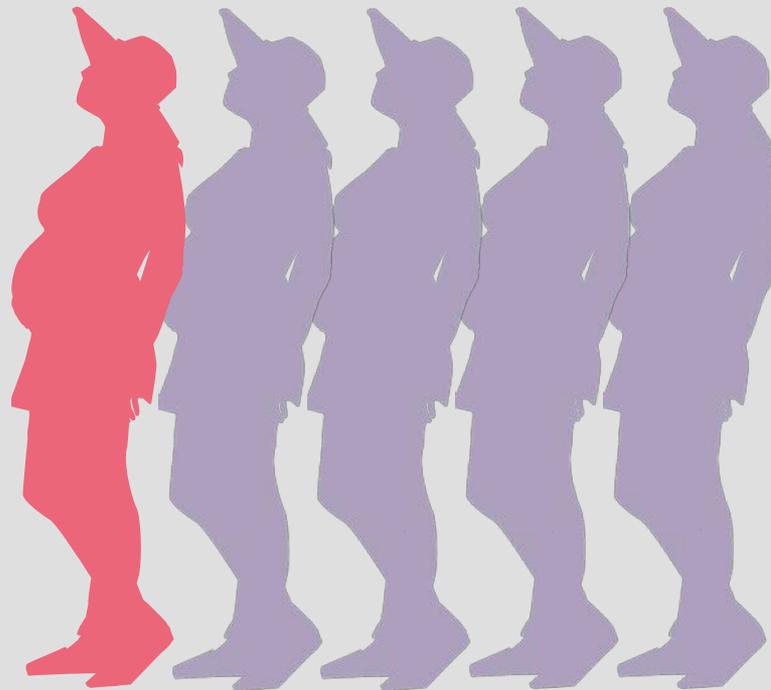


Incubation period in humans?

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
May 2016						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15 	16	17	18	19	20	21 
22	23	24	25	26	27	28
29	30	31	Notes:			

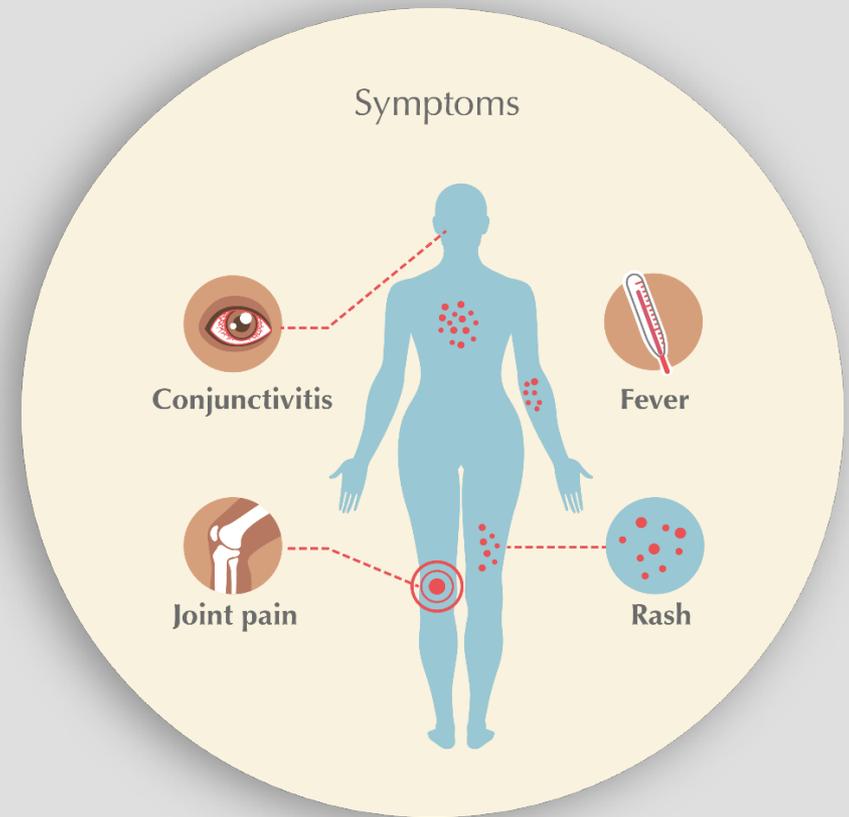
What are the symptoms?

- Only about 1 in 5 people infected with Zika will experience symptoms



What are the symptoms?

- The most common symptoms of Zika are:
 - Fever
 - Rash
 - Joint Pain
 - Conjunctivitis (red eyes)



How does Zika virus affect people?

- Most people who get sick from Zika will experience *mild* symptoms.
- Symptoms go away after about 1 week
- People usually experience immunity after infection

How does Zika virus affect pregnant women?

- Zika virus can pass from a pregnant woman to her fetus during pregnancy and at delivery.
- There have been no reports of the virus spread through breastfeeding.
- Previous Zika infection does not appear to affect future pregnancies.



How does Zika virus affect pregnant women?

- Zika infection in pregnancy is linked to microcephaly.



What don't we know about Zika infection during pregnancy?



Does Zika cause Guillain-Barré Syndrome (GBS)?

- GBS is very likely triggered by Zika in a small proportion of infections, much as it is after a variety of other infections.
- As of May 11, 2016, 13 countries have reported GBS increases or Zika infections among GBS cases

How is Zika diagnosed?

Diagnosis of Zika is based on a person's recent travel history, symptoms, and results of laboratory tests.



What tests are used to identify Zika?



- RT-PCR tests can identify Zika virus RNA in blood or urine
- Serologic tests can identify Zika virus in blood
- All tests should be coordinated with the appropriate county health department

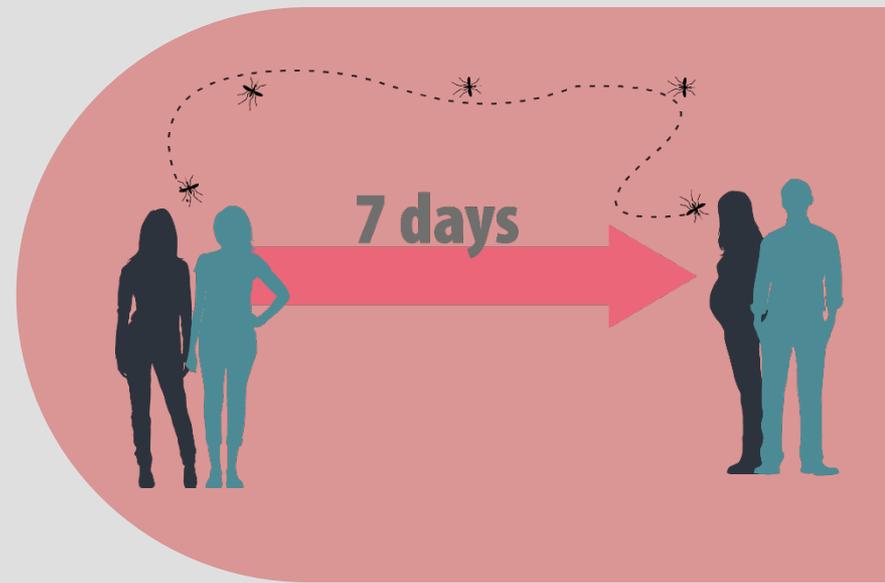
How is Zika treated?

- There are no vaccines or specific treatment for Zika
- Treat symptoms:
 - Rest
 - Fluids
 - Acetaminophen



What precautions should infected people take?

- Avoid mosquitos
- Avoid unprotected sex



Which mosquitos spread Zika?

- *Aedes* species mosquitos spread Zika
- In Arizona, our Zika risk is from *Aedes aegypti* mosquitos



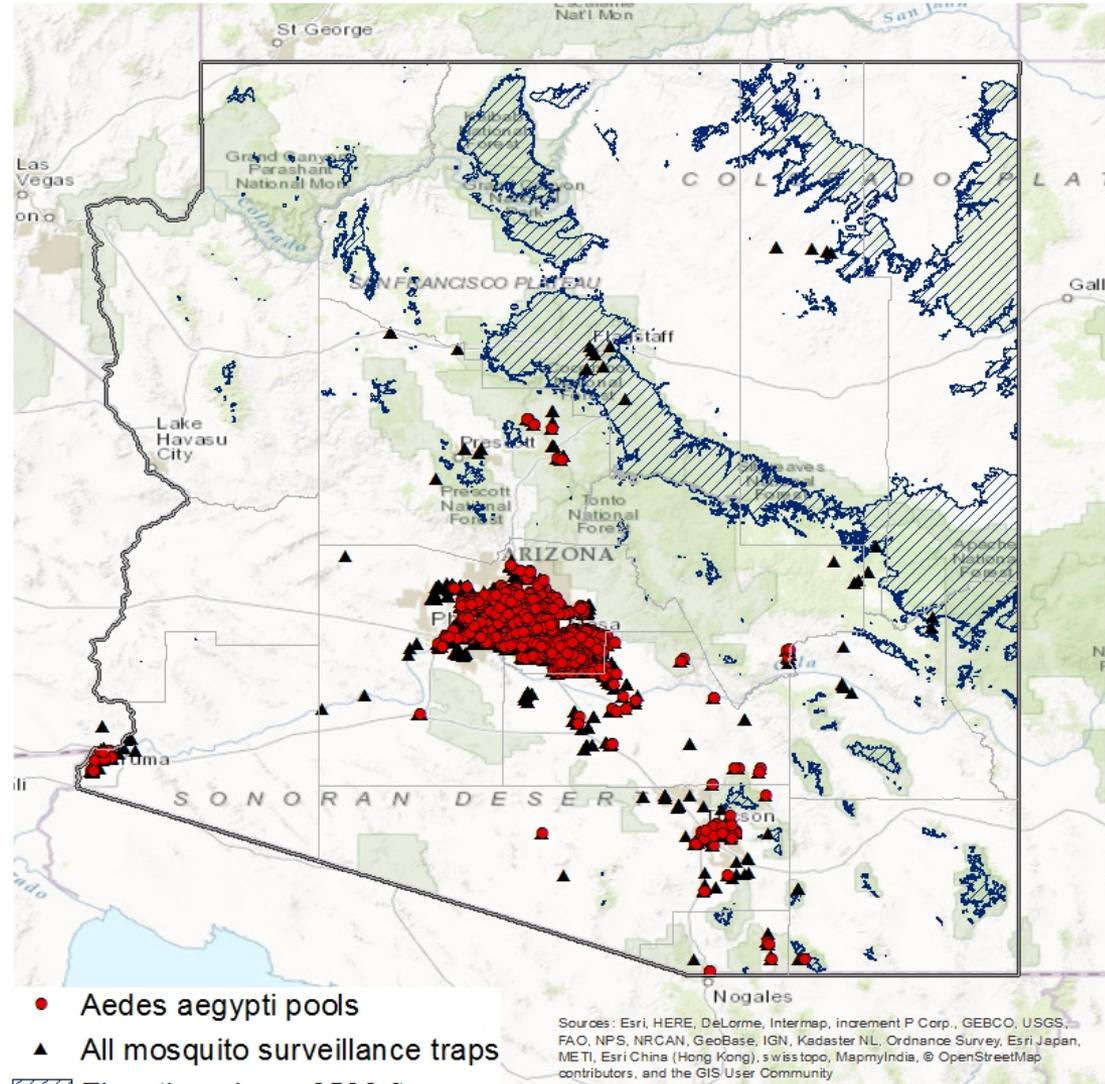
What is known about *Aedes* mosquitos?



- Prefer to feed on humans
- Daytime biters
- Lay eggs in water-holding containers

**Aedes aegypti mosquito pools (n=9,405) &
Elevation above 6,500 ft
Jan 1 – Dec 31, 2015**

Where are
Aedes
mosquitos
found?



How can I keep Myself and My Family Safe?



Remove standing water around your house and yard.



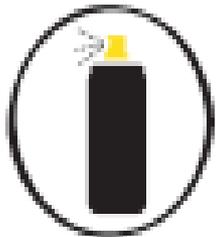
Protect yourself from mosquitoes all day long.



Use screens on windows and doors.



Visit your doctor immediately if you feel sick.

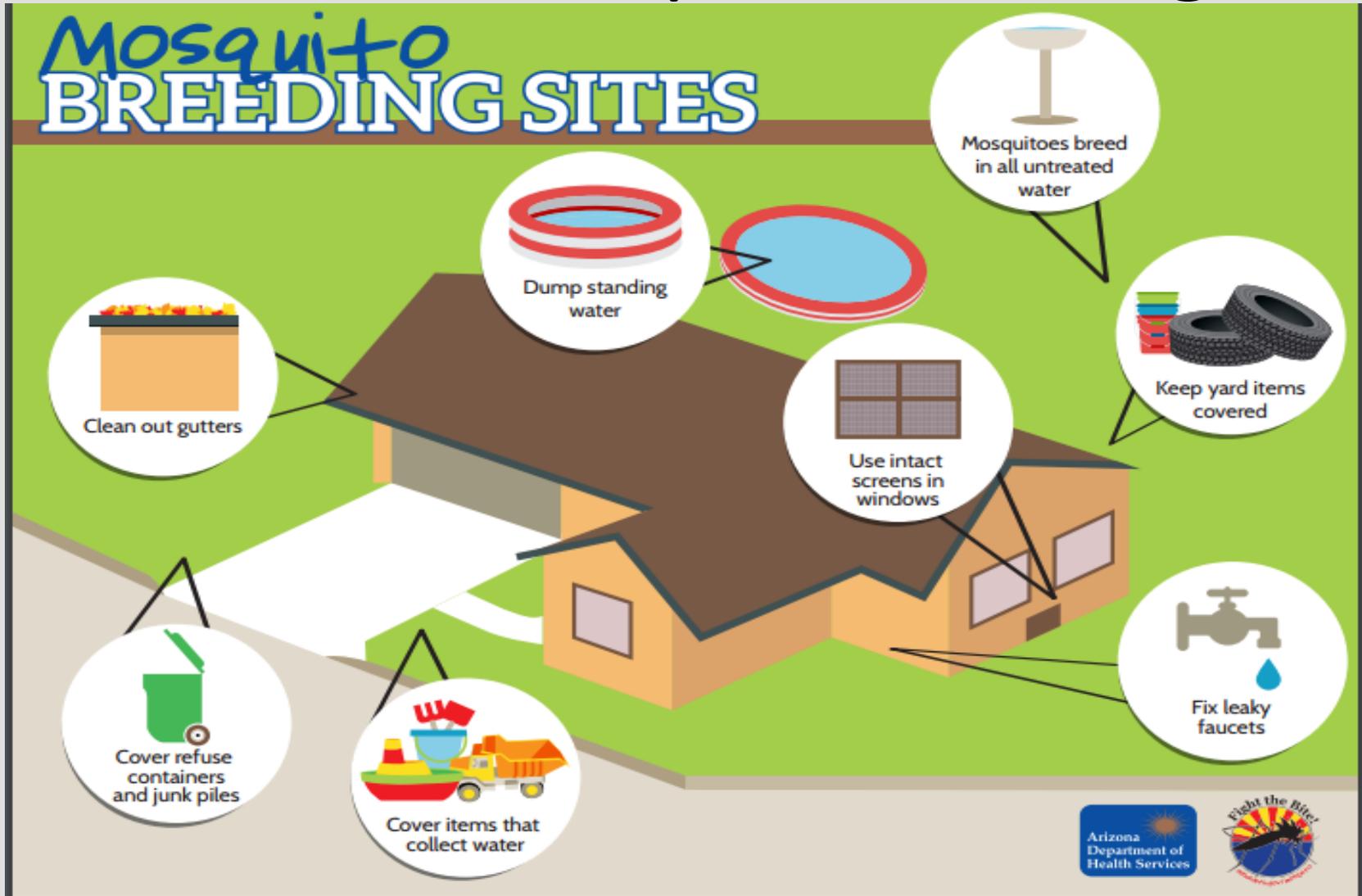


Wear bug spray



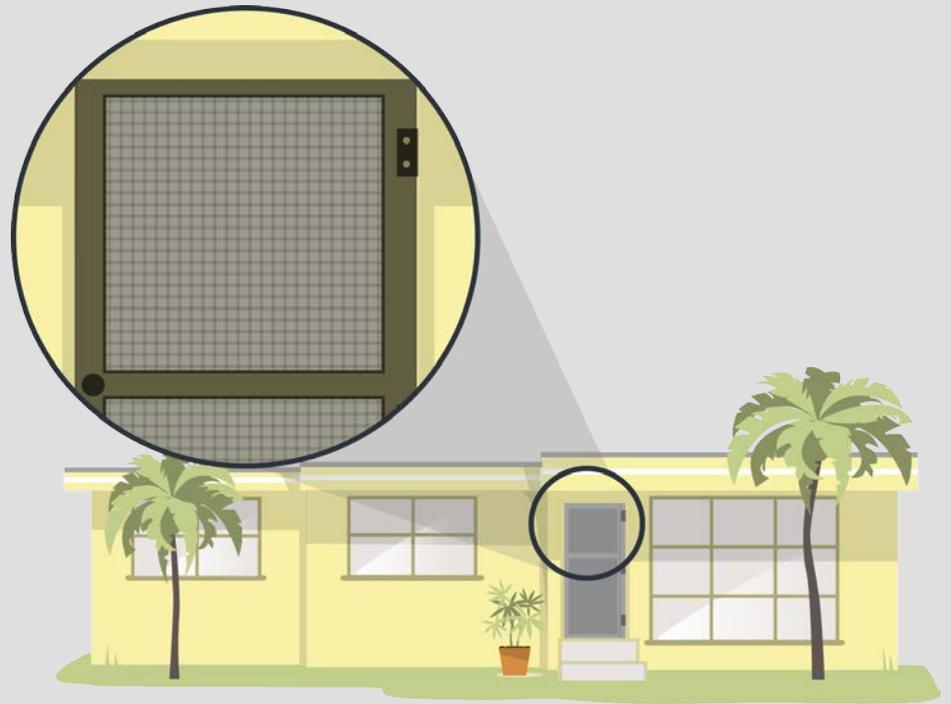
Protect yourself from mosquitoes when traveling to areas with these viruses.

Prevent mosquito breeding



Keep mosquitos outside

During mosquito season, keep doors and windows closed or screened to prevent mosquitos from entering the home.



Dress to protect yourself



Wear long sleeves and long pants to prevent skin exposure to mosquitos

Wear insect repellent

- Use EPA-registered repellents with one of the following:
 - DEET
 - Picaridin
 - IR535
 - Oil of lemon or eucalyptus
 - Para-menthane-diol
- Follow the label instructions
- Apply sunscreen first

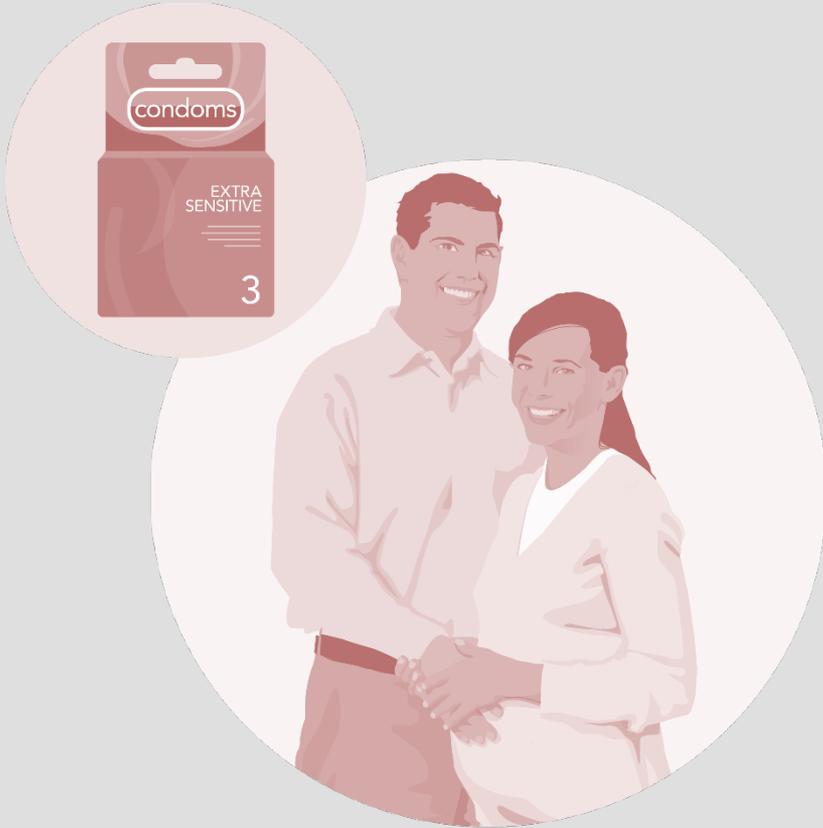


Insect repellent and children

- Do not use insect repellents on babies <2 months old
- Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children <3 years old
- Do not apply onto hands, eyes, mouth, and cut or irritated skin.
- Adults: Spray onto your hands and then apply to a child's face.



Protect your partner

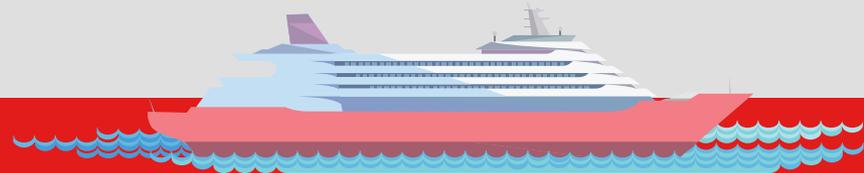


With a pregnant partner, men who have lived in or traveled to an area with Zika should use condoms the right way, every time; or not have sex during the pregnancy.



Plan your travel

- Pregnant women should postpone travel to areas with active Zika transmission.
- Travelers to Zika-affected areas should:
 - Prevent mosquito bites while traveling
 - Avoid mosquito bites for 3 weeks after they get home



Public Health Response to Zika

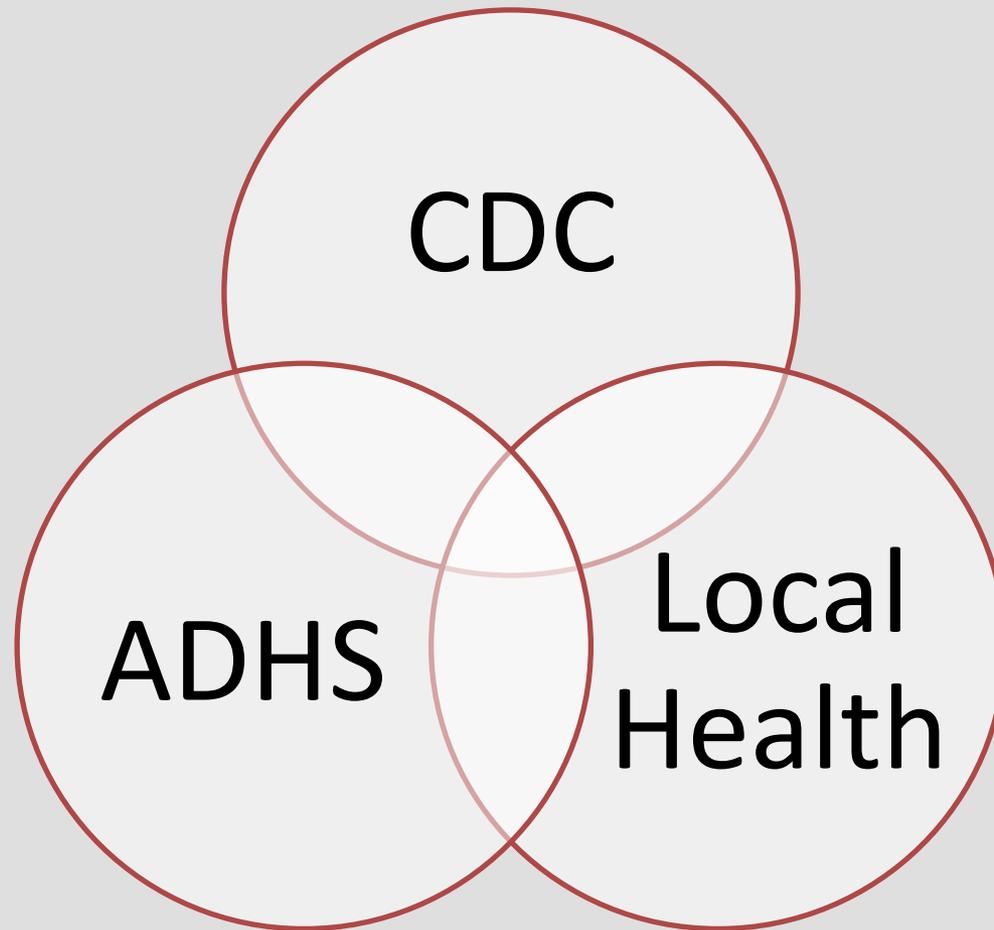
The logo features a light gray silhouette of the state of Arizona on the left. To its right, the text "ARIZONA 2016 ZIKA SUMMIT" is stacked vertically in a light gray, sans-serif font. The entire logo is set against a background of three concentric, light gray circular lines that are partially visible on the left side of the slide.

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Arizona Zika Action Plan Summit
May 24, 2016



Public Health System Response



CDC's role



- Educate public and healthcare providers
- Post travel notices and guidelines
- Provide guidance to state and local public health
- Support laboratory testing
- Conduct national surveillance
- Implement studies to learn more about Zika
- Support national and international response

Arizona Response Plans

 ARIZONA DEPARTMENT
OF HEALTH SERVICES

ARIZONA
ARBOVIRAL
HANDBOOK FOR
CHIKUNGUNYA,
DENGUE, & ZIKA
VIRUSES



3/25/2016 | Arizona Department of Health Services

| Page 1

azhealth.gov/mosquito

Arizona Arboviral Handbook

- Scenario 1: Risk for Imported Cases
 - Provide education about source reduction and mosquito avoidance
 - Closely investigate travel-associated cases
 - Facilitate laboratory testing for suspect and probable cases
 - Track the number and distribution of cases
 - Collaborate with vector control counterparts to compare human disease cases and mosquito surveillance results

Arizona Arboviral Handbook

- Scenario 2: Response to locally acquired cases
 - Notify media and raise public awareness
 - Intensify communication with healthcare providers
 - Enhance disease surveillance
 - Active case finding in communities where cases identified
 - Enhanced laboratory surveillance
 - Track number and distribution of cases
 - Collaborate with vector control to target high-risk areas for vector control operations

Arizona Arboviral Handbook

- Scenario 3: Recovery
 - Consider enhanced surveillance for human cases in high-risk areas
 - Decrease *Aedes aegypti* surveillance to baseline levels

Current Arizona Activities



Maintain Situational Awareness

- Closely follow national and international Zika updates
- Ensure that new information is shared with state and local partners

Monthly Arboviral Work Group

- Enhance communication between epi/vector control partners
- Identify and address arboviral surveillance and response needs
- Strengthen human and mosquito surveillance
- Develop protocols for management of suspect mosquito-borne disease cases

Mosquito Surveillance and Control

- Local vector control departments trap for *Aedes aegypti* mosquitos
- Citizen science projects
- Mosquito control through targeted larvacide and adulticide application

The screenshot shows the Arizona Department of Health Services website. The top navigation bar includes links for Home, About ADHS, About the Director, RSS, and AZDHS.gov. The main content area features a news article titled "The 2015 Great Arizona Mosquito Hunt" with a sub-header "ArboAZ Arizona Mosquito Activity January 1-March 4, 2016". The article includes a photograph of a mosquito on a wooden surface and text describing the partnership with the University of Arizona and local health departments. A sidebar on the right features a profile of Cara H. Christ, M.D., M.S., who became Director in May 2015. Below the article is a detailed section for the ArboAZ project, including a table of mosquito pool data submitted to ADHS.

**ArboAZ
Arizona Mosquito Activity
January 1-March 4, 2016**

Culex spp. **Aedes aegypti**

	Number of Mosquito Pools	Mosquito Pools Tested (%)	Pools Positive for any Arbovirus (%)
Total	6,738	1,102 (17.2%)	0 (0%)

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Pregnancy Registry

CDC's Response to **Zika**

US Zika Pregnancy Registry

What Pregnant Women Need to Know



What is the purpose of the registry?

CDC developed the US Zika Pregnancy Registry to:

- Learn more about the effects of Zika virus infection (Zika) during pregnancy.
- Learn more about the growth and development of babies whose mothers had Zika while pregnant.

CDC will collect health information about Zika among pregnant women and babies across the United States for the registry. CDC and health departments will use the information from this registry to help pregnant women and families affected by Zika. The knowledge gained from this registry will help doctors and other healthcare providers care for pregnant women and their babies.

Who is being included in the registry?

Women living in the United States who have been infected with Zika during pregnancy and their babies can be included in the registry.*

What will be done with the information collected?

The identity of people in the registry will be kept private and secured. The information your doctor or other healthcare provider shares will be added to the registry with information about other pregnant patients with Zika, and the babies born to these mothers, to help CDC and state health departments develop a clearer picture of how Zika affects pregnant women and their babies.

What do I have to do to be in the registry?

You will not need to do extra paperwork, go to extra appointments, or have extra tests to be part of the registry. If your healthcare provider is participating in this Registry, she/he will share information about your health with your health department and the CDC, the Federal public health authority that is trying to understand, prevent, and control disease. Your health department and CDC will work with your doctor and other healthcare providers to collect all of the information needed. For this registry, your health department and CDC will:

- Collect information about your pregnancy,
- Collect information about you and your baby around the time the baby is born, and
- Contact the baby's doctor or other healthcare provider to collect information about the baby's growth and development up to his or her first birthday.

If you change doctors or healthcare providers, please request that your new provider contact registry staff through the email address below.

As established in the HIPAA Privacy Rule (45 CFR 164.522, 164.524, 164.526, and 164.528), you have the right to request from your healthcare provider restrictions to, access to, amendments to, and accounting of the disclosure of your protected health information at any time.

How much does this cost?

Being in the registry will not cost you any money.

What if I have questions about being in the registry?

For more information, call 770-488-7100, visit CDC's or send questions to ZIKAPregnancy@cdc.gov.

*Puerto Rico is establishing a separate Zika Active Pregnancy Surveillance System (ZAPSS)

www.cdc.gov/zika



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Microcephaly Surveillance



Blood Safety

- Defer blood donation for 28 days after travel to a Zika-affected area

Daily Activities



Respond to Zika inquiries from the public, healthcare providers, and local health departments



Investigate suspected Zika cases



Coordinate Zika testing with local, state, and CDC laboratories

Zika Testing

- The Arizona State Public Health Laboratory can test for Zika virus:
 - In humans
 - In mosquitos



Information Sharing

Mosquito-Borne Diseases

ADHS Home / Public Health Preparedness / Epidemiology & Disease Control / Infectious Disease Services / Highlighted Infectious Diseases for Arizona / Vector-Borne and Zoonotic Diseases / Mosquito-Borne - Zika - Information for Providers

Home

Protection from Mosquitoes

Mosquitoes of Arizona

West Nile Virus

St. Louis encephalitis

Dengue Fever

Chikungunya

Zika

Home

Signs & Symptoms

Prevention

Information for Providers

Information & Data

Zika FAQs

Laboratory Resources

Zika & Pregnancy

Zika Affected Areas

The Great Arizona Mosquito Hunt

Infectious Diseases A-Z

Communicable Disease Reporting

Travel-associated Zika cases confirmed in Arizona: 3

Arizona Arboviral Handbook for Chikungunya, Dengue, & Zika Viruses

Arizona's First Zika Case Recorded in Traveler, read the news release

Zika - Information for Providers

Testing for Zika virus should be considered among patients who have signs and symptoms of disease and traveled to Zika-affected areas, or had sexual contact with someone suspected to have Zika virus infection. Testing for asymptomatic pregnant women can also be considered. Currently, commercial testing is not available; healthcare providers should contact the local health department to report suspect cases and coordinate testing at a public health laboratory. More information about specimen collection, handling, and shipping for Zika virus is available here.

Symptoms of Zika virus in patients include acute onset of fever, which is usually mild, although Guillain-Barre syndrome has been reported. Please see CDC's Zika information for healthcare providers.

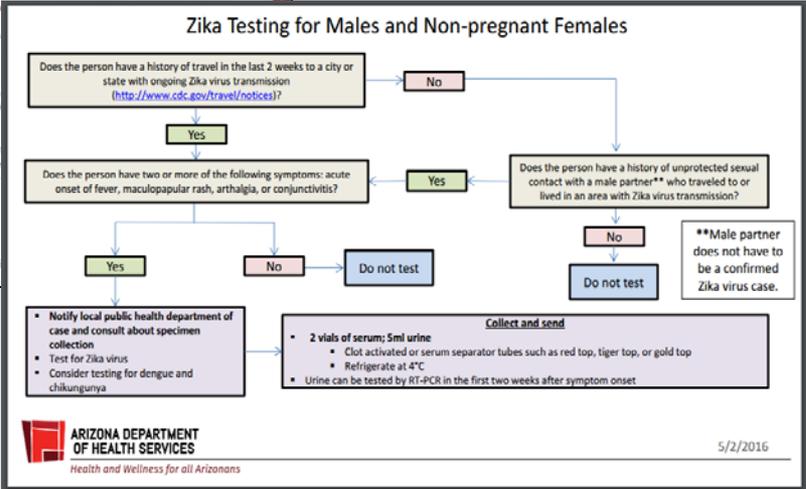
Many other diseases can have a similar clinical presentation to Zika virus, including group A streptococcus, rubella, measles, parvovirus, enterovirus, and others. Consider these other diseases in the differential diagnosis of patients suspected of Zika infection.

Currently, there is no vaccine or specific treatment for Zika virus. Supportive care and non-steroidal anti-inflammatory drugs should be avoided. Patients should be advised to prevent mosquito bites to stop disease transmission.

Zika & Pregnancy

Frequently Asked Questions for Prenatal Care Providers

Zika testing algorithms for healthcare providers.



ARIZONA HEALTH ALERT NETWORK

Register Now: han.health.azdhs.gov

The Arizona Health Alert Network (AzHAN) is a secure web-based notification system available 24/7/365 that distributes important public health alerts to public health officials and healthcare professionals.

Public Education

Mosquito-Borne Diseases

ADHS Home / Public Health Preparedness / Epidemiology & Disease Control / Infectious Disease Services / Highlighted Infectious Diseases for Arizona / Vector-Borne and Zoonotic Diseases / Mosquito-Borne - Zika - Home

- Home
- Protection from Mosquitoes
- Mosquitoes of Arizona
- West Nile Virus
- St. Louis encephalitis
- Dengue Fever
- Chikungunya
- Zika
- Home
- Signs & Symptoms
- Prevention
- Information
- Information
- Zika FAQ
- Laboratory
- Zika and Pregnancy
- Zika and Travel
- The Great Outdoors
- Infectious

Zika - Home

Zika is a flavivirus transmitted by mosquitoes that was first identified in Uganda in 1952. In the Americas, Zika virus transmission began in northeastern Brazil in 2014.

Zika virus transmission has not been identified within the continental United States; currently, all cases have occurred among travelers who visited areas where the virus is circulating. Check out affected areas and current CDC travel alerts. Because of the risk during pregnancy, pregnant women are recommended to consider postponing travel to areas where the virus is circulating.

Dr. Cara Christ (@DrCaraChrist)

Director of ADHS, Department of Health Services, Arizona Department of Health Services. I am passionate about public health and preventing disease. Please contact me if you have any questions.

Tweets:

- Our @azdhs lab confirmed 2 new travel associated #Zika cases. Keep checking our website for the latest Zika numbers. 1.usa.gov/1RyZCcg
- @AZDHS mtg: AZ funding priorities for the Preventive Health & Health Services Block Grant: 1.usa.gov/1U1ES7P

Chikungunya, Dengue & Zika Viruses

KNOW THE FACTS

Bureau of Epidemiology and Disease Control Services
Office of Infectious Disease Services

What are These Viruses?

Chikungunya, dengue and Zika viruses are transmitted by mosquitoes and can be serious diseases if not recognized and treated early. Symptoms can start about one week after the mosquito bite.

What are the Symptoms?

Common symptoms include: fever, rash, joint pain, muscle pain, headache, and conjunctivitis.

How do These Viruses Spread?

Aedes mosquito bites someone infected with the virus. Aedes mosquito becomes infected and spreads the virus to others.

How can I keep Myself and My Family Safe?

- Remove standing water around your house and yard.
- Use screens on windows and doors.
- Wear bug spray.
- Protect yourself from mosquito bites.
- Visit your doctor if you feel sick.
- Protect yourself from mosquito bites.

For More Information:
www.azhealth.gov/mosquito • www.cdc.gov/dengue • www.cdc.gov/chikungunya

Mosquito BREEDING SITES

- Clean out gutters
- Dump standing water
- Use intact screens in windows
- Fix leaky faucets
- Cover refuse containers and junk piles
- Cover items that collect water
- Keep yard items covered
- Mosquitoes breed in all untreated water

So, what's the risk in AZ?

-  We have the right kind of mosquito
-  We have travelers from Zika-affected areas
-  Many households are screened or air conditioned in areas with *Aedes* mosquitos
-  We've successfully responded to *Aedes*-caused outbreaks recently

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Thank You

Cara Christ, MD

azhealth.gov/zika

@dracarachrist

#ZikaAZ



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