



ARIZONA  
2016  
ZIKA  
SUMMIT

# Road Map to Zika Success

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Arizona Zika Action Plan Summit

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**WELCOME BACK TO  
ARIZONA!**



**AZ-1**



# Who's at Risk?



AZ-1 Returning traveler

**AZ-2- Health Care Provider**

**AZ-2**  
Provider





# Physician Assessment

- Symptoms
    - Pregnant?
  - Travel History
  - Mosquito bites?
- 
- **REPORT** to Public Health
  - Patients should **AVOID** mosquito bites

# Distinguishing Zika from Dengue and Chikungunya

- Dengue and chikungunya viruses transmitted by **same mosquitoes** with similar ecology
- Dengue and chikungunya can **circulate in same area** and rarely cause co-infections
- Diseases have **similar clinical features**
- Important to **rule out** dengue, as proper clinical management can improve outcome

**Think 1 – Test 3! “CDZ”**

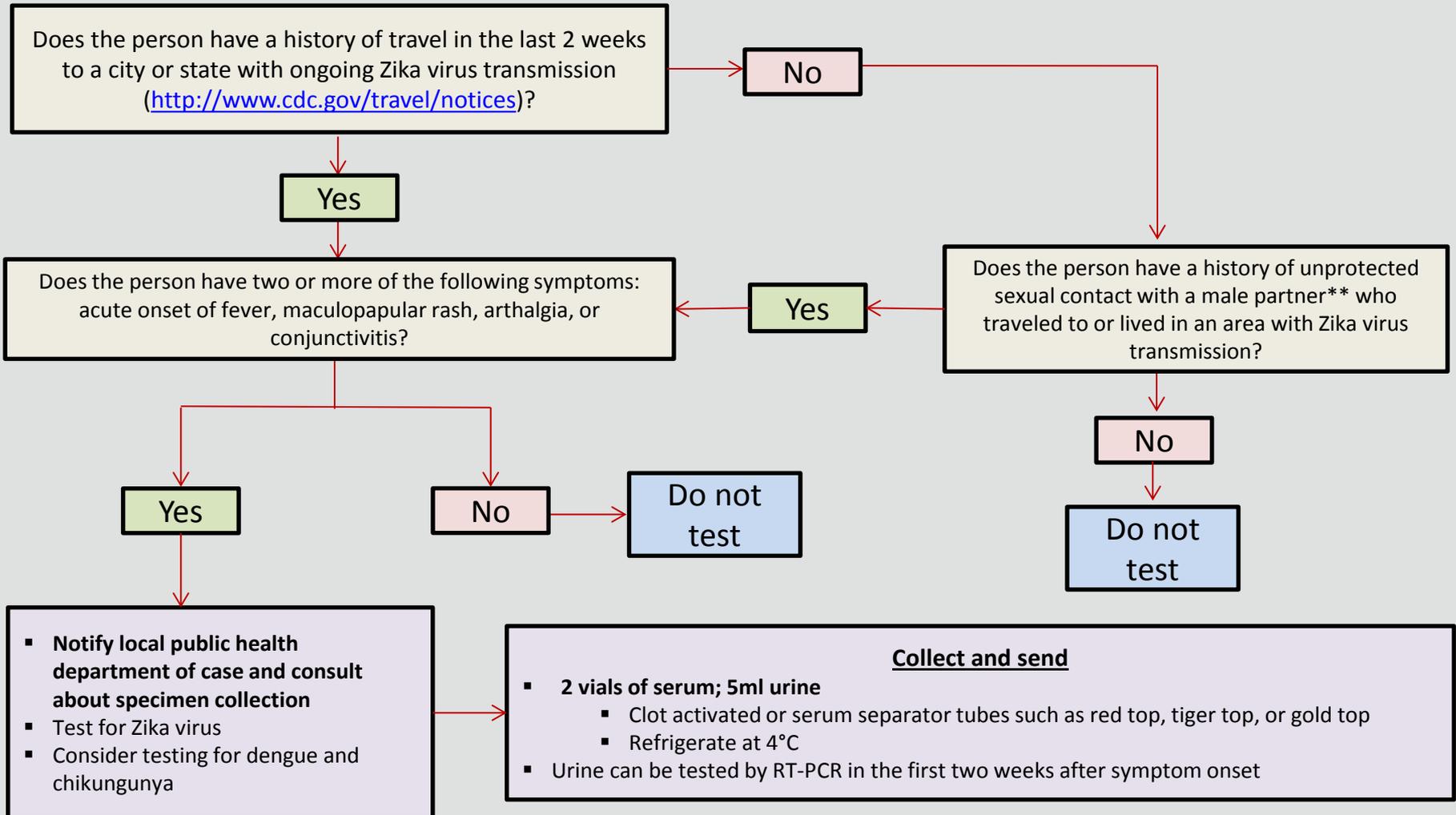
<b>Features</b>	<b>Zika</b>	<b>Dengue</b>	<b>Chikungunya</b>
<b>Fever</b>	<b>++</b>	<b>+++</b>	<b>+++</b>
<b>Rash</b>	<b>+++</b>	<b>+</b>	<b>++</b>
<b>Conjunctivitis</b>	<b>++</b>	<b>-</b>	<b>-</b>
<b>Arthralgia</b>	<b>++</b>	<b>+</b>	<b>+++</b>
<b>Myalgia</b>	<b>+</b>	<b>++</b>	<b>+</b>
<b>Headache</b>	<b>+</b>	<b>++</b>	<b>++</b>
<b>Hemorrhage</b>	<b>-</b>	<b>++</b>	<b>-</b>
<b>Shock</b>	<b>-</b>	<b>+</b>	<b>-</b>

# To Test or Not to Test?



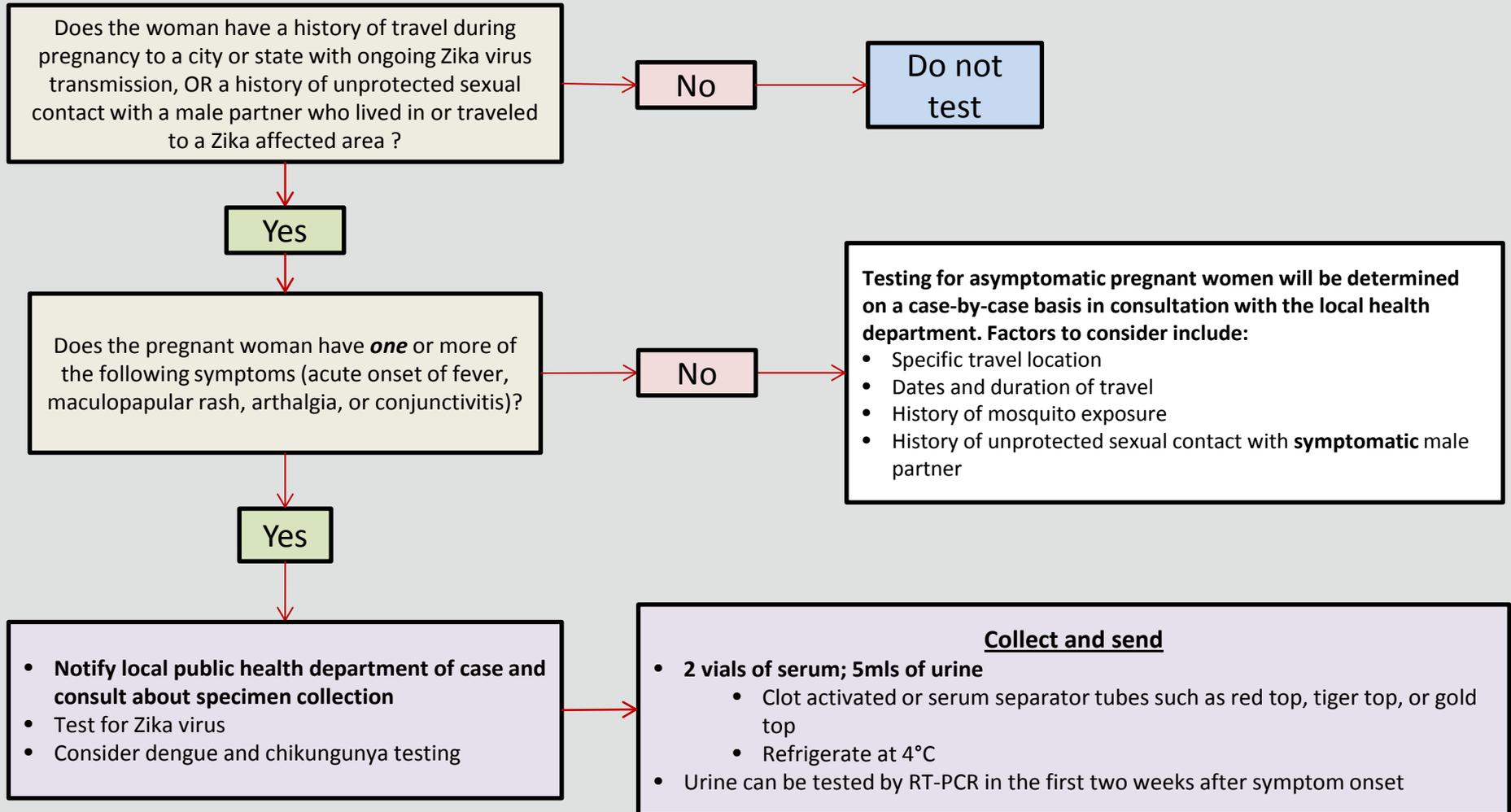
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# Zika Testing for Males and Non-pregnant Females



<http://www.azdhs.gov/preparedness/epidemiology-disease-control/mosquito-borne/index.php#zika-info-for-providers>

# Zika Testing for Pregnant Women



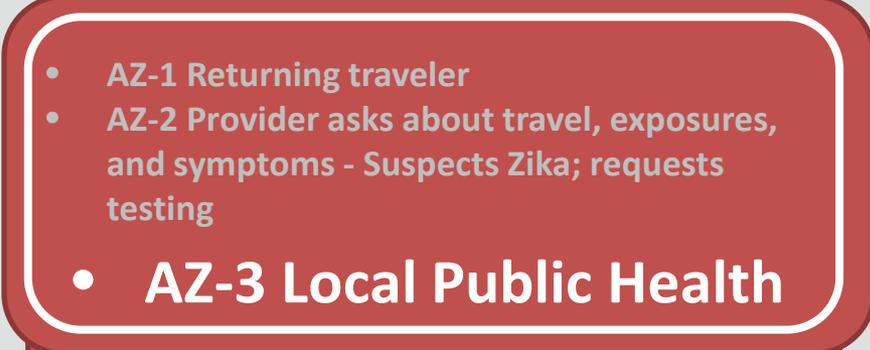
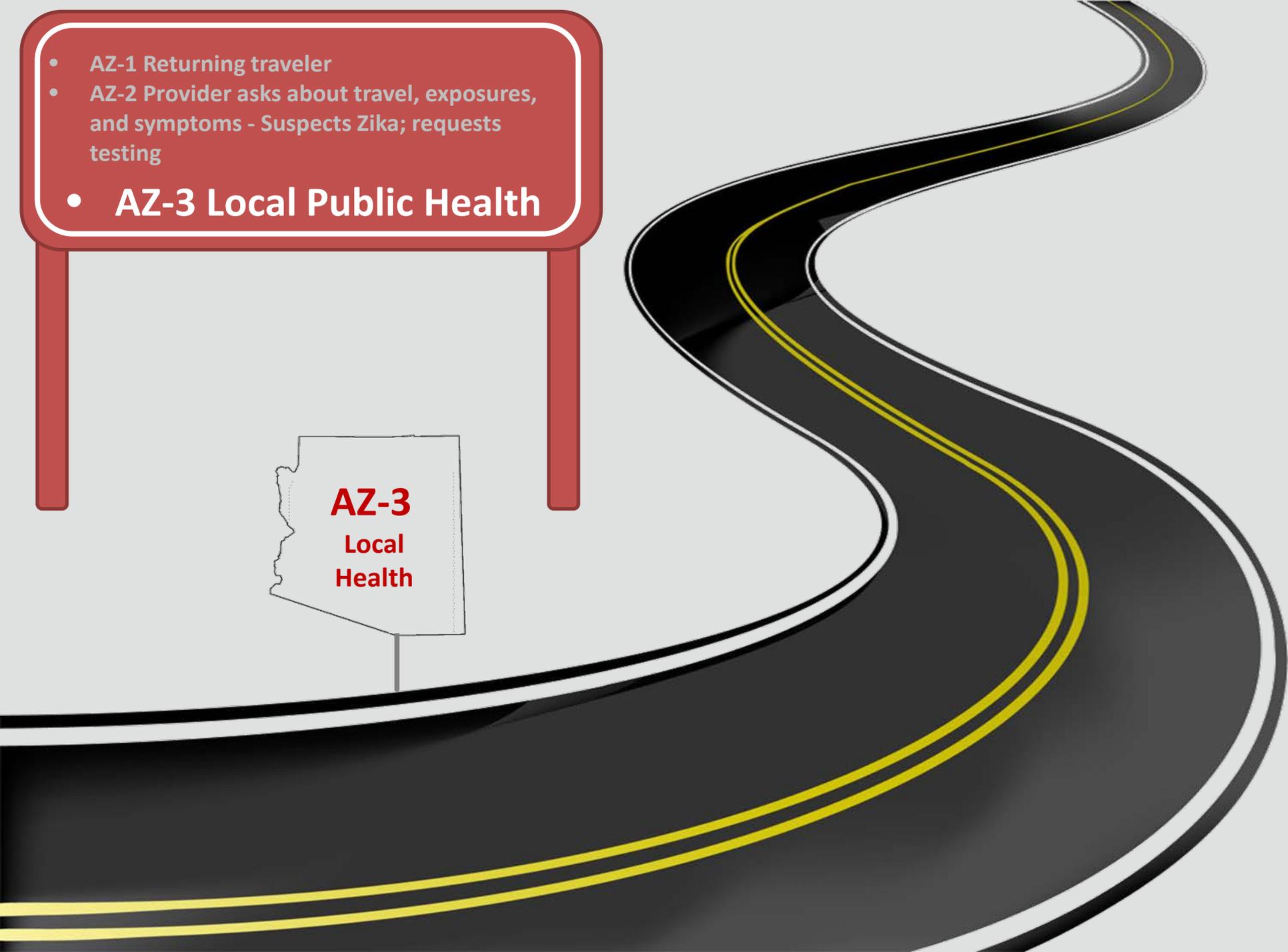
<http://www.azdhs.gov/preparedness/epidemiology-disease-control/mosquito-borne/index.php#zika-info-for-providers>

# TEST

- *Males and non-pregnant females* with **2 or more symptoms**
  - Within 2 weeks of travel
- *Females* with history of **unprotected sexual contact** with a male partner with recent travel
- *Asymptomatic pregnant women* who have traveled may be eligible for testing
  - 2-12 weeks after travel (IgM)
- Case by case for others

- AZ-1 Returning traveler
- AZ-2 Provider asks about travel, exposures, and symptoms - Suspects Zika; requests testing

- **AZ-3 Local Public Health**



**AZ-3**  
Local  
Health

# Local Public Health

**Thanks for calling your  
Local Health Department!**



# Role of Public Health

- **Interview and Counsel** Patients
- **Assist providers** with need for testing
- **Ensure accurate information** is provided to the public and healthcare providers
- **Facilitate Zika testing** through the Arizona State Public Health Laboratory
- **Coordinate** with Environmental Services for vector surveillance and control

# Patient Interview



A pregnant woman is shown from the waist up, holding her belly with both hands. She is wearing a grey ribbed top. The background is a soft-focus green and orange. A mosquito is visible on the left side of the image, partially overlapping the text.

# Recommendations for Pregnant Women:

- **AVOID** travel to Zika-affected areas
- **AVOID** mosquito bites
- **ABSTAIN** from sex or ensure **CONDOMS** are used
- **APPLY** insect repellent



## Mosquito Prevention Recommendations

# Additional Recommendations

- **Avoid** unprotected sexual contact
- Don't donate blood for **4 weeks** after return from travel
- **Wait** to conceive
  - **6 months** – symptomatic male
  - **8 weeks** – asymptomatic male or symptomatic woman



- AZ-2 Provider asks about exposures/travel, contacts public health, requests Zika testing
- AZ-3 Local public health interviews patient; provides recommendations

- **AZ-4 Vector Control**



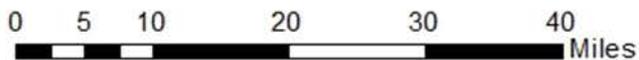
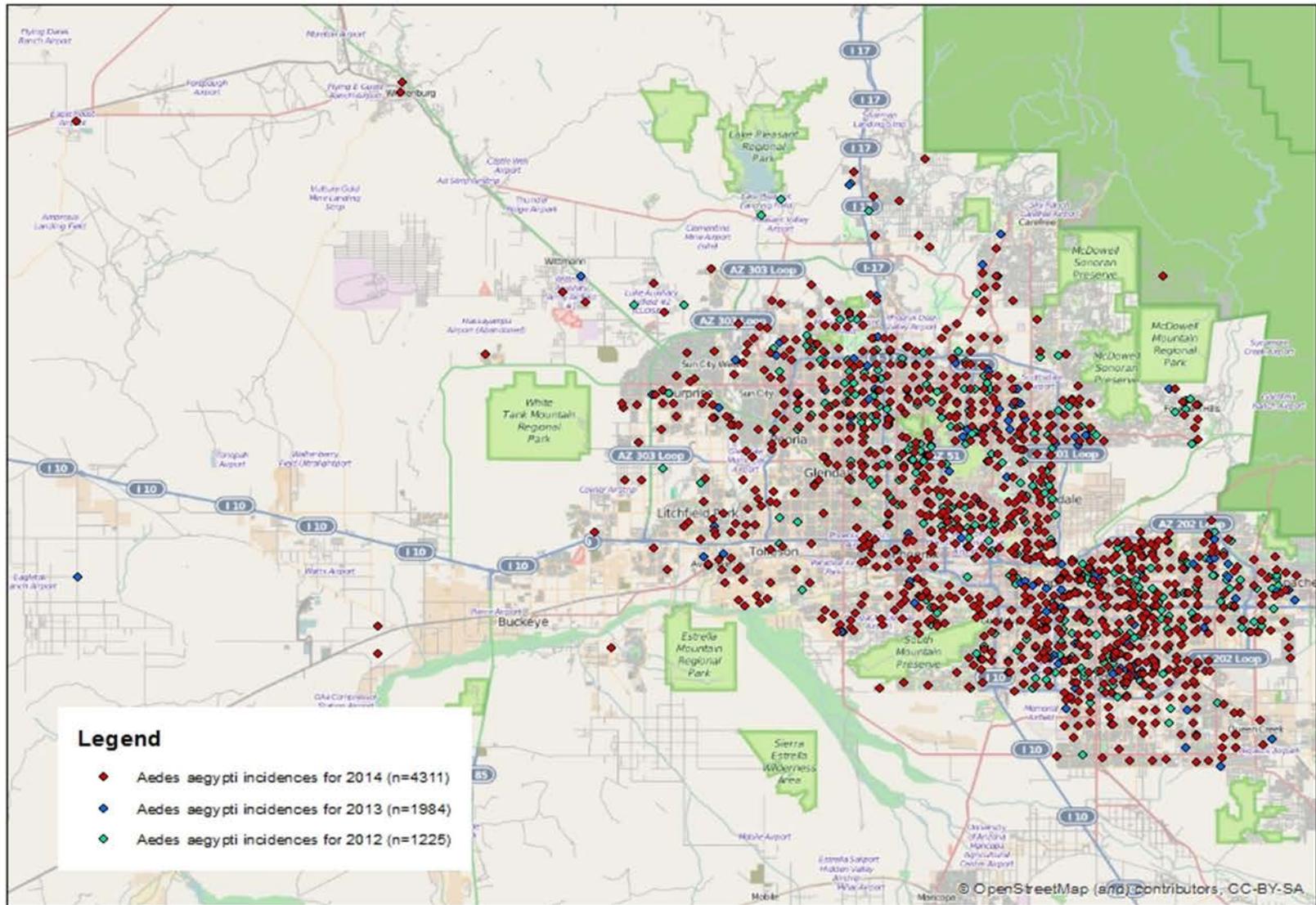
# Vector Control



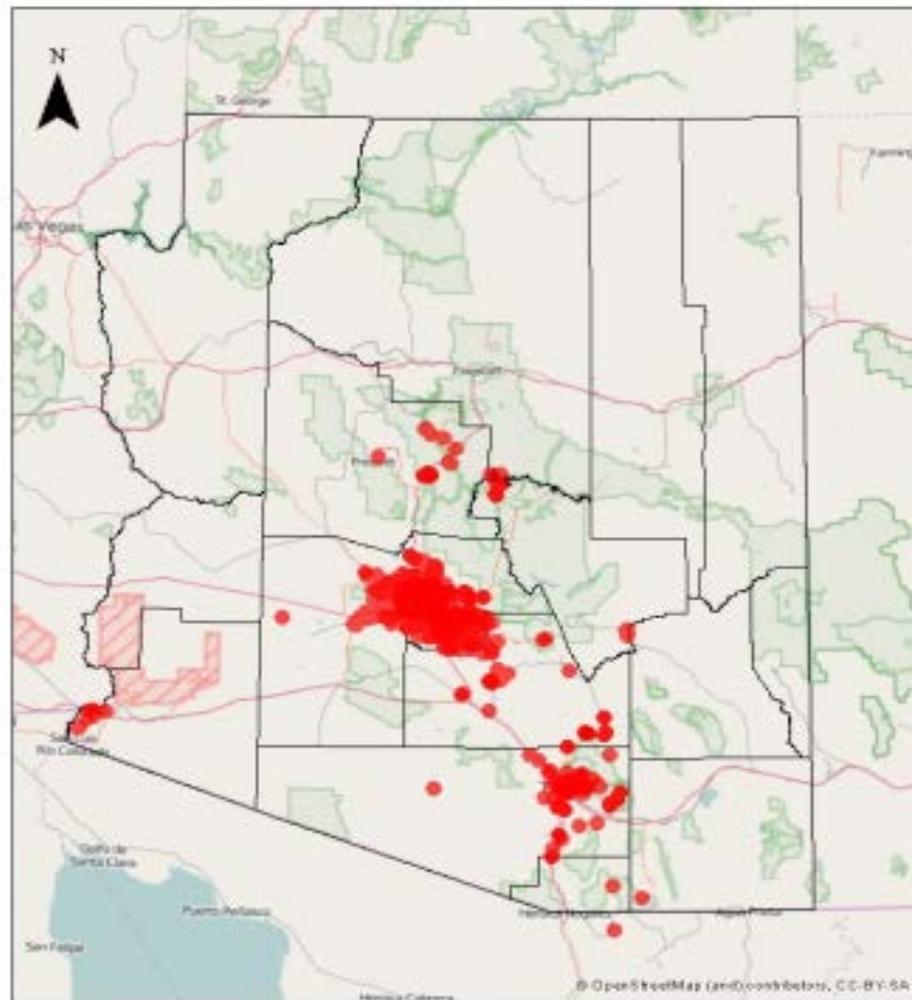
# Mosquito Surveillance



# Aedes aegypti incidences in Maricopa County (2012-2014)



# Locations of *Aedes aegypti* in Arizona, 2004 - 2015



0 20 40 80 120 160 Miles

## Legend

● *Aedes aegypti* locations 2004 - 2015

# Maricopa County Chikungunya/Dengue/Zika Vector Control Response Plan

Conditions	Vector Presence	Vector Abundance	Vector Response / Action
No Human Case Activity	None	Not Present	None
No Human Case Activity	Present	High	Increased Aedes aegypti trapping and testing
Suspect / Probable or Confirmed Human Case (Import Only)	Present	Some Vector Activity	Check historical CO2 trapping records for the presence of Aedes aegypti in the area, increase trapping and testing of mosquitoes in the area surrounding the suspect case with traps designed to collect Aedes aegypti. Will get address of patient from epi and confirm if we have permission to set traps immediately near the house. Will test mosquito for chik/dengue/Zika as possible for PCR and if positive mosquito is found see level 4/5.
Strong Suspect / Probable / Confirmed Human Case	Vector Presence High	Above Established Thresholds and/ or PCR + Mosquito samples	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect Aedes aegypti. Sample at least 100 meter radius surrounding the suspect/probable/confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments based on trapping data. Conduct source reduction and/or larviciding as indicated.
Human Case(s) w/ Evidence of Local Transmission within one or more communities	Present	N/A*	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect Aedes aegypti surrounding the confirmed human case. Sample at least 100 meter radius surrounding the confirmed human case. Placement of lethal ovi-traps and resting boxes in the area, backyard inspections to reduce breeding sites. neighborhood adulticide treatments, if possible, barrier spraying in the neighborhood.

Response scenario	Other considerations	Actions
Response to locally-acquired cases	Focal transmission	<ul style="list-style-type: none"> <li>❖ Inform public about risk of locally-acquired cases through press releases and social media</li> <li>❖ Consider door-to-door campaign in affected neighborhood(s) for source reduction and to encourage mosquito avoidance</li> <li>❖ Increase <i>Ae. aegypti</i> trapping and surveillance in affected areas by using oviposition traps or adult traps</li> <li>❖ Consider laboratory testing for chikungunya, dengue, or Zika among <i>Aedes aegypti</i> mosquitoes in the area, if not already implemented</li> <li>❖ Perform active case finding in affected communities, or within 150m of case residences</li> <li>❖ Perform larvicide and/or adulticide spraying of affected neighborhoods</li> <li>❖ Consider need for screening or deferring blood donations from affected areas</li> <li>❖ Analyze human and mosquito surveillance data through mapping</li> <li>❖ Describe epidemiology of persons affected and possible risk factors</li> <li>❖ Ensure data is shared with public health, vector control, and healthcare partners</li> </ul>
	Widespread transmission	<ul style="list-style-type: none"> <li>❖ Launch widespread media campaign <ul style="list-style-type: none"> <li>○ Raise awareness about risk from disease from mosquito bites</li> <li>○ Emphasize importance of source reduction</li> <li>○ Encourage ill persons to seek care</li> </ul> </li> <li>❖ Consider extensive larvicide applications and ultra-low volume spraying in highly-affected neighborhoods to lower mosquito numbers</li> <li>❖ Activate medical surge capacity plans for healthcare facilities and laboratories as needed</li> <li>❖ Ensure blood donations from affected areas are tested or deferred to prevent</li> </ul>

# YOU

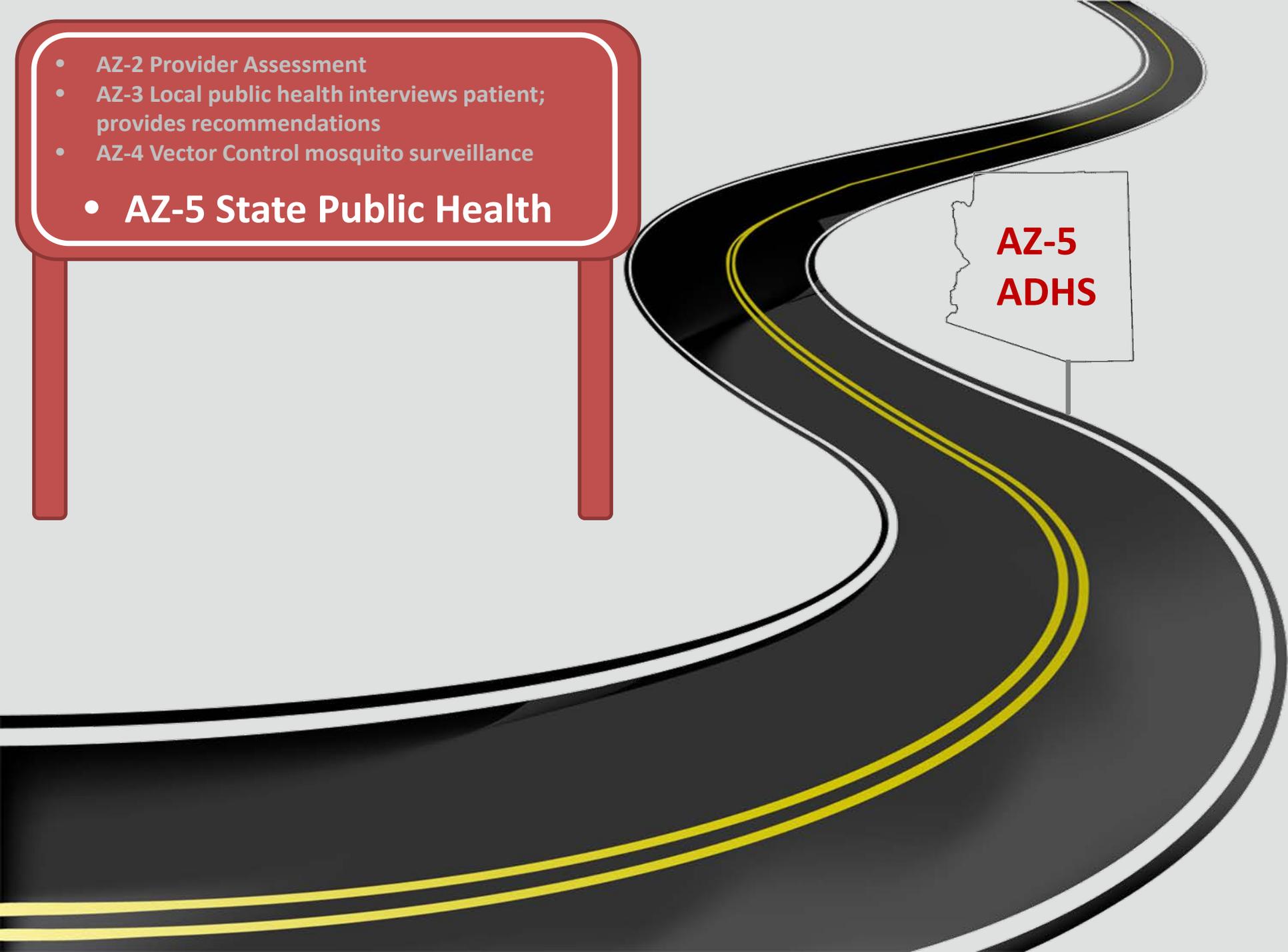
# Can Help!

- **Inspect** yard for mosquito breeding sites
- **Remove** containers that collect water
- **Cover** or turn over wheel barrows, canoes, etc.
- **Drain and scrub** containers that cannot be removed (e.g. pet bowls and bird baths)
- **Prevent** mosquito bites



- AZ-2 Provider Assessment
- AZ-3 Local public health interviews patient; provides recommendations
- AZ-4 Vector Control mosquito surveillance

- **AZ-5 State Public Health**

A winding road with yellow double lines and a white signpost with a map of Arizona. The signpost is located on the right side of the road, and the map of Arizona is white with a black outline. The text "AZ-5 ADHS" is written in red on the map.

**AZ-5  
ADHS**

# ADHS



150

150

FIRE  
LANE  
NO  
PARKING

FIRE  
LANE  
NO  
PARKING

FIRE  
LANE  
NO  
PARKING

ADHS  
Arizona Department of  
Health Services

# Role of State Health

- **Assist** the local health jurisdictions
- **Coordinate** statewide disease and vector surveillance activities
- Develop and disseminate **updated guidelines** and **educational materials**
- Conduct **laboratory testing**
- **Communicate** with CDC and other stakeholders
- **Liaison** with Mexico – Office of Border Health

## ZIKA VIRUS

The Office of Border Health and BIDS program have developed this report to give partners an overview of the location of confirmed locally acquired Zika virus cases reported in Mexico since the first case (week 47/2015). It reflects official information provided by the General Epidemiologic Direction (DGE) in Mexico.



Since 5/16/2016 (last BIDS Zika Virus Case Location Report) only **Chiapas, Guerrero, Michoacan, Nuevo Leon, Oaxaca, and Veracruz** reported new cases.

# Testing Approval

<b>MEDSIS ID</b>	<b>16-4442514</b>
<b>Initials</b>	CC
<b>Pregnancy status</b>	Pregnant; EDD 12-26-16; about 6 weeks pregnant now
<b>Symptoms</b>	None reported
<b>Onset</b>	NA
<b>Travel details</b>	3/22/16-4/3/16 travel to Belize, Honduras, and Cozumel Mexico. Likely conceived during trip.
<b>Dengue testing requested</b>	No
<b>Chik testing requested</b>	No
<b>Notes</b>	Remembered numerous mosquito bites

- Arboviral Syndromic Surveillance
- Laboratory Surveillance

# Surveillance Activities





# ARIZONA ARBOVIRAL HANDBOOK FOR CHIKUNGUNYA, DENGUE, & ZIKA VIRUSES



3/25/2016

Arizona Department of Health Services

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[www.azhealth.gov/zika](http://www.azhealth.gov/zika)



## Mosquito BREEDING SITES

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





2011 USA  
MARATHON  
CHAMPIONSHIP  
Mesa, AZ

TRAINING  
RACING TEAM

707

348

2011 USA  
MARATHON  
CHAMPIONSHIP  
Mesa, AZ

RUNNER'S DEN

790

PVHS  
11-06

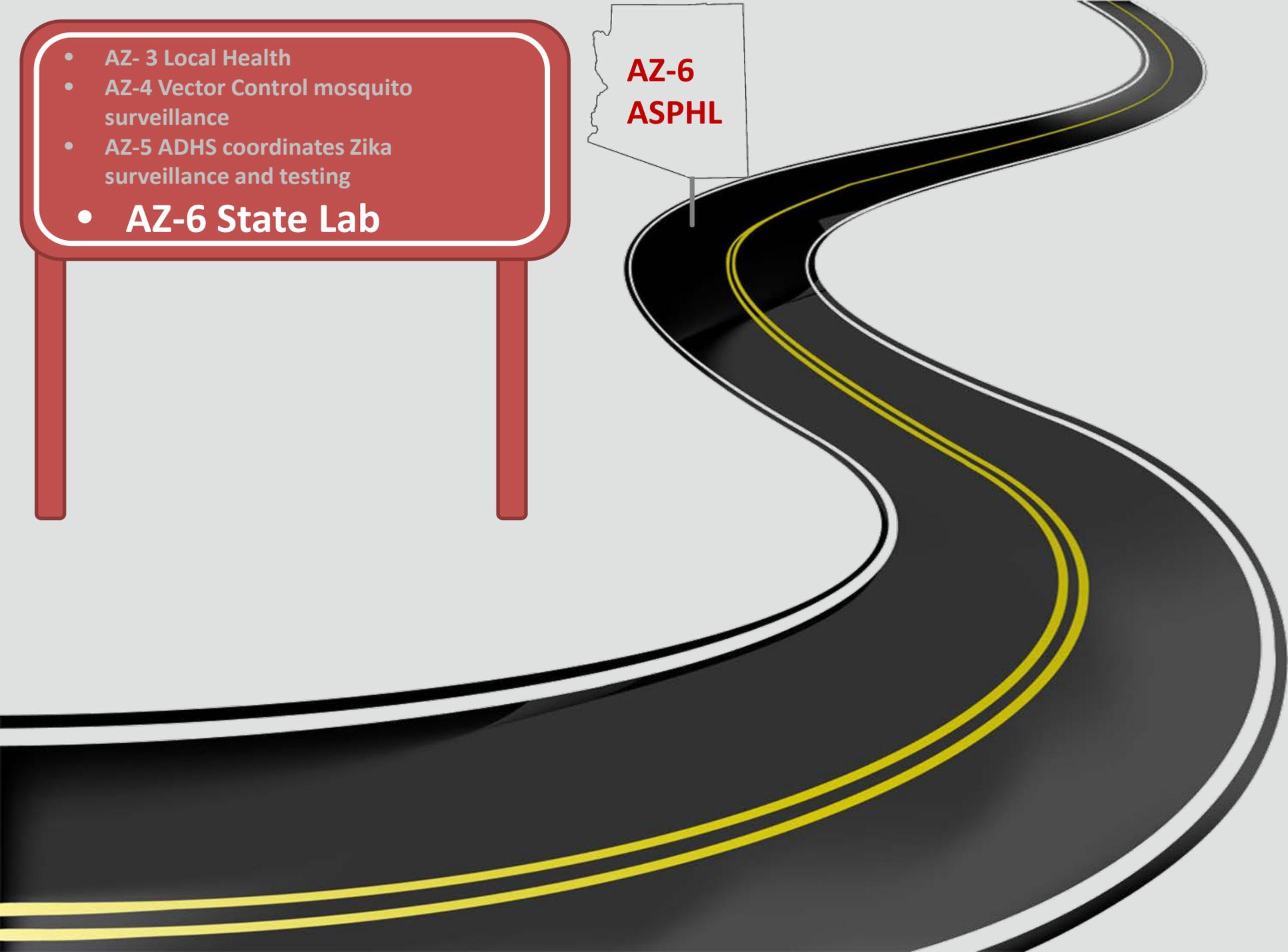
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# Pregnancy Workgroup



- AZ- 3 Local Health
- AZ-4 Vector Control mosquito surveillance
- AZ-5 ADHS coordinates Zika surveillance and testing
- **AZ-6 State Lab**



# ASPHL

ARIZONA DEPARTMENT OF HEALTH SERVICES  
STATE LABORATORY  
250





## PCR:

- Serum
- Urine

## IgM:

- Serum

**Trioplex**



# Turn Around Times

**PCR = 2-7 days**

**IgM = 2-7 days**

**PRNT = 3+weeks  
(CDC)**

# Testing and Submission Resources

Test	Specimen	Turnaround Time*	When Testing is Performed
PCR	Serum – 2 vials Urine – Collect ONLY if within 2 weeks of symptom onset ( <u>DO NOT</u> send for asymptomatic individuals), at least 5 mL CSF – At least 1 mL Amniotic fluid – At least 1 mL	2 – 7 business days	Only performed on symptomatic individuals  Serum will be tested if within 1 week of symptom onset  Urine will be tested if within 2 weeks of symptom onset  Serum that tests Zika PCR Negative or equivocal will have serological testing performed
IgM	Serum – 2 vials	2 – 7 business days	IgM testing is performed on individuals with travel to a Zika-affected area between 2 – 12 weeks ago AND are asymptomatic pregnant women OR individuals with two or more symptoms consistent with Zika. IgM can also be performed on symptomatic individuals who have a history of unprotected sexual contact with a male partner who travelled to or lived in an area with Zika transmission.  Serum that tests Zika IgM positive or equivocal is sent to the CDC for PRNT
PRNT	Serum	Could be 3+ weeks	Serum that tests Zika IgM positive or equivocal is sent to the CDC for PRNT

<http://www.azdhs.gov/preparedness/state-laboratory/index.php#zika-virus>



**What if it's  
positive for  
Zika?!**

**Next Exit: Pt Counseling;  
Pregnancy Registry;  
Microcephaly and Infant  
Follow-up**



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# Thank You

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**#ZikaAZ**

Arizona Zika Action Plan Summit

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