Vector Control & Response Plan

Cochise Health & Social Services
Public Programs…Personal Service
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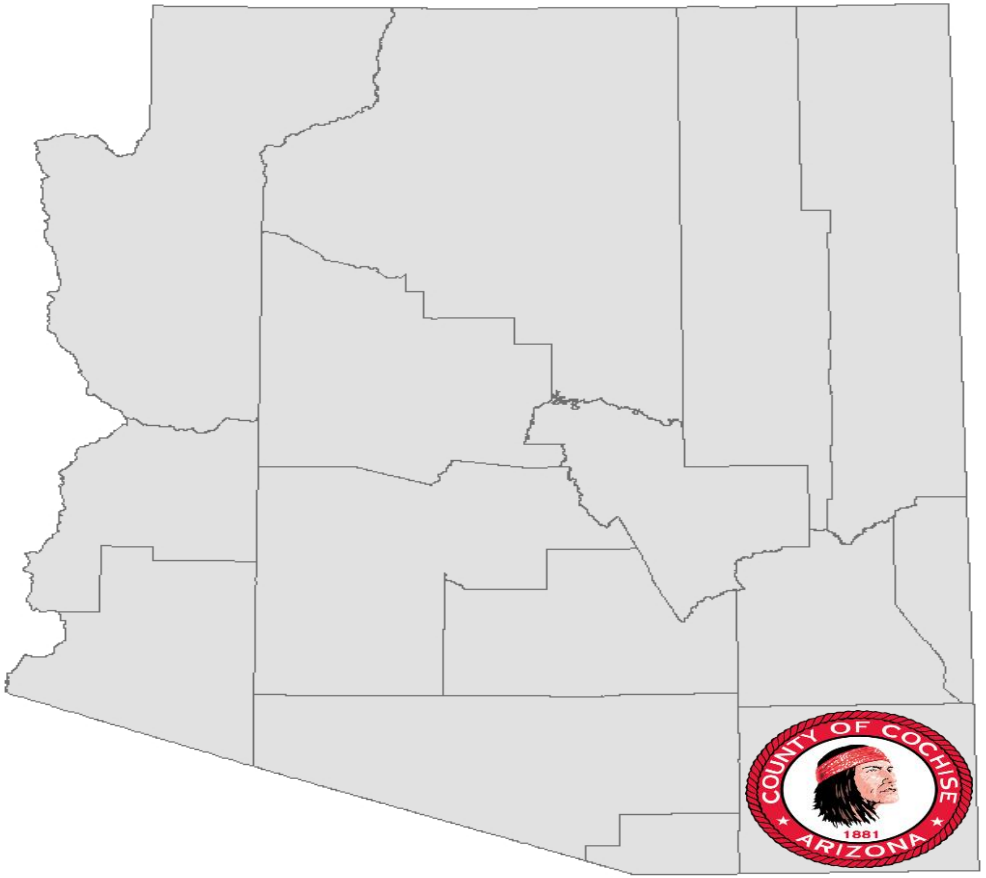


Land of Legends

WELCOME

Carrie Langley

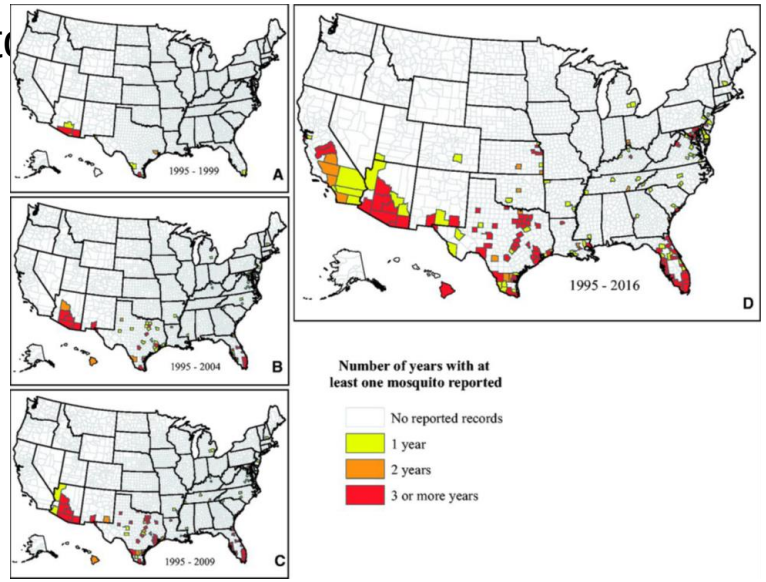
Agenda

- Overview
- Aedes & Culex Species
- Cochise County Efforts
- Border Health Surveillance Reports
- Travel vs Locally Acquired: Definitions
- Response Levels and Phases
- Insecticide Control Measures
- Case Investigations and Canvassing
- Travel Advisories
- Media Releases
- Questions?

Carrie Langley, RN-BC, MSN, MPH
Director

Overview

- Vector borne diseases are those caused by biting insects such as mosquitoes and ticks.
- Vector borne diseases of particular significance t Cochise County are:
    - Zika
    - Dengue
    - Chikungunya
    - West Nile Virus
    - St. Louis Encephalitis
- Cochise County at particular risk of the diseases occurring due to proximity of US/Mexico border



Aedes & Culex Species

All Have Been Identified in Cochise County

Aedes Aegypti

- Lives in neighborhoods, feeds on humans not animals
- Feeds at all times of day
- Needs very little water to breed
- Carries zika, dengue, & chikungunya

Aedes Albopictus

- Lives in neighborhoods, feeds on humans not animals
- Feeds at all times of day
- Needs very little water to breed
- Carries zika, dengue, & chikungunya

Culex Species (Not one in particular)

- Lives everywhere, fields, woods and neighborhoods
- Primarily a night feeder
- These are the pond and large water source breeders
- Carries west nile virus and St. Louis encephalitis

Cochise County Efforts

Education & Awareness: A Zika and mosquito bite prevention campaign has been undertaken involving the distribution of Zika literature (bilingual), the distribution of Zika kits to community members through CHSS programs, design and posting of 8 billboards strategically placed around Cochise County (Willcox, Benson, Douglas and Sierra Vista)

Cochise County Efforts

Mosquito Trapping & Testing: A contract has been established and implemented to trap and test mosquitos in various residential centers around Cochise County (Douglas, Bisbee, Naco, Sierra Vista).

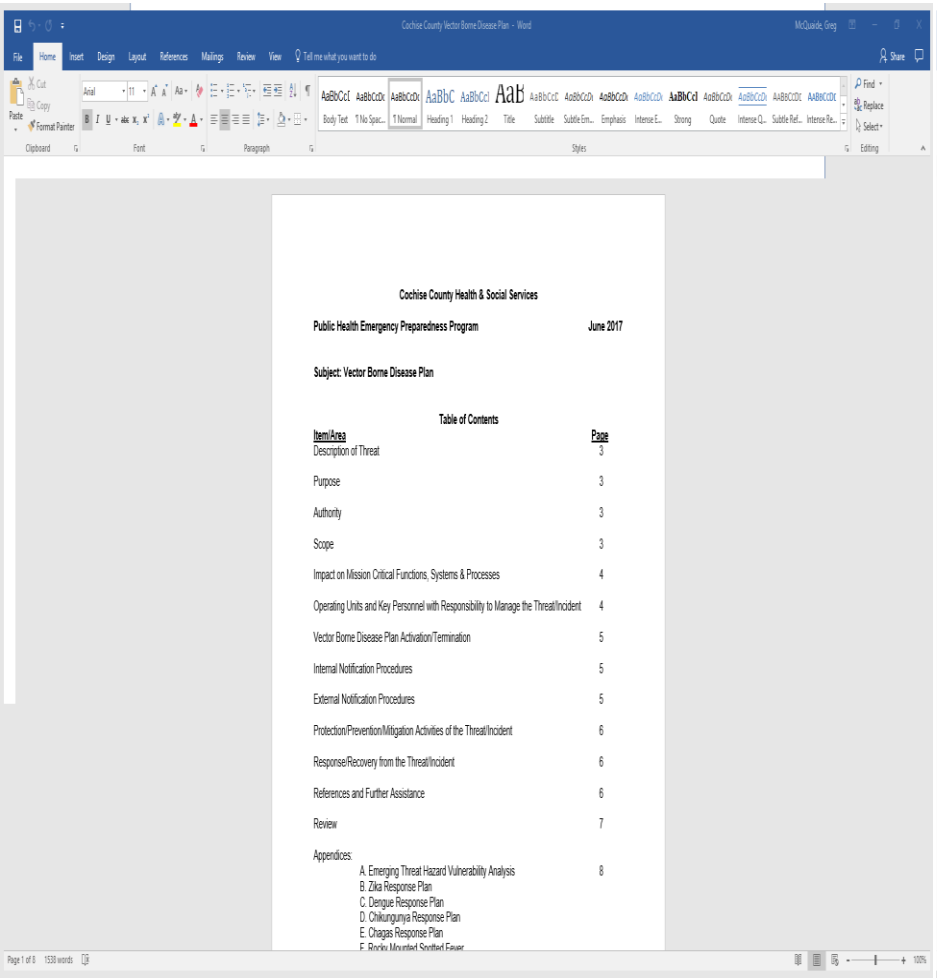
Cochise County Efforts

Mosquito Trapping & Testing Results to Date

Demographics					7/9/2017				7/23/2017				8/6/2017			
Site Number	Address	City	Zip Code	Property Contact	Aedes aegypti		Culex Spp.		Aedes aegypti		Culex Spp.		Aedes aegypti		Culex Spp.	
					Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
C1	3031 E. Navaho St.	Sierra Vista	85650		0	2	2	0	1	4	0	0	1	0	4	1
C2	2048 Chantilly Dr.	Sierra Vista	85635		0	0	0	0	0	0	0	0	1	1	4	0
C3	4707 Via Felipe	Sierra Vista	85635		2	0	1	0	2	2	0	0	2	1	1	1
C4	4823 DeMedici	Sierra Vista	85635		0	1	0	0	0	0	0	0	0	2	4	2
C5	6353 W. Karen Dr.	Sierra Vista	85635		0	3	1	0	5	6	0	5	4	4	21	7
C6	Cochise County Court Administration, 100 Quality Hill Rd	Bisbee	85603		0	0	0	0	0	0	0	0	0	2	2	2
C7	420 Douglas St.	Bisbee	85603		1	2	3	0	1	1	0	1	2	1	3	2
C8	105 San Jose Dr.	Bisbee	85603		0	0	1	1	0	0	0	0	2	3	1	1
C9	San Jose Fire Dept., 2160 S Barnett Rd	Bisbee	85603		0	0	0	0	0	1	0	0	0	0	0	0
C10	Naco Fire Dept., 2019 W Martinez St	Naco	85620		0	1	0	1	0	0	0	0	7	6	7	3
C11	3778 S. Giesler Ave.	Naco	85620		0	0	0	1	0	0	1	0	1	4	13	7
C12	2718 N. Cleveland St.	Pirtleville	85626		0	0	3	32	0	0	16	13	0	0	3	0
C13	1451 E. 24th St.	Douglas	85607		1	0	3	3	1	0	7	13	8	15	1	2
C14	861 E. 9th St.	Douglas	85607		0	1	0	0	3	2	3	30	3	4	1	0
C15	422 I Ave	Douglas	85607		0	0	1	5	2	1	17	4	1	0	0	4
				Totals	4	10	15	43	15	17	44	66	32	43	65	32

Cochise County Efforts

Control and Response Planning

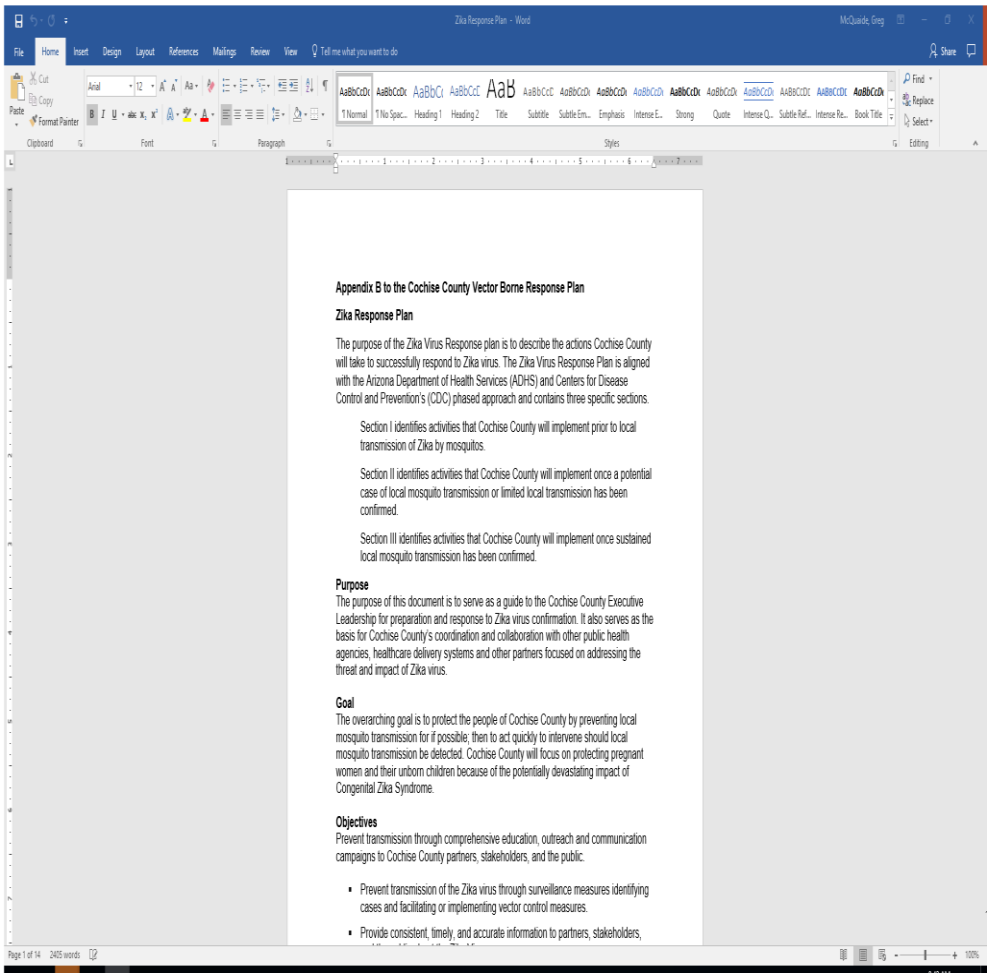


Cochise County Health & Social Services

Public Health Emergency Preparedness Program June 2017

Subject: Vector Borne Disease Plan

Table of Contents



Appendix B to the Cochise County Vector Borne Response Plan

Zika Response Plan

The purpose of the Zika Virus Response plan is to describe the actions Cochise County will take to successfully respond to Zika virus. The Zika Virus Response Plan is aligned with the Arizona Department of Health Services (ADHS) and Centers for Disease Control and Prevention's (CDC) phased approach and contains three specific sections.

Section I identifies activities that Cochise County will implement prior to local transmission of Zika by mosquitos.

Section II identifies activities that Cochise County will implement once a potential case of local mosquito transmission or limited local transmission has been confirmed.

Section III identifies activities that Cochise County will implement once sustained local mosquito transmission has been confirmed.

Purpose

The purpose of this document is to serve as a guide to the Cochise County Executive Leadership for preparation and response to Zika virus confirmation. It also serves as the basis for Cochise County's coordination and collaboration with other public health agencies, healthcare delivery systems and other partners focused on addressing the threat and impact of Zika virus.

Goal

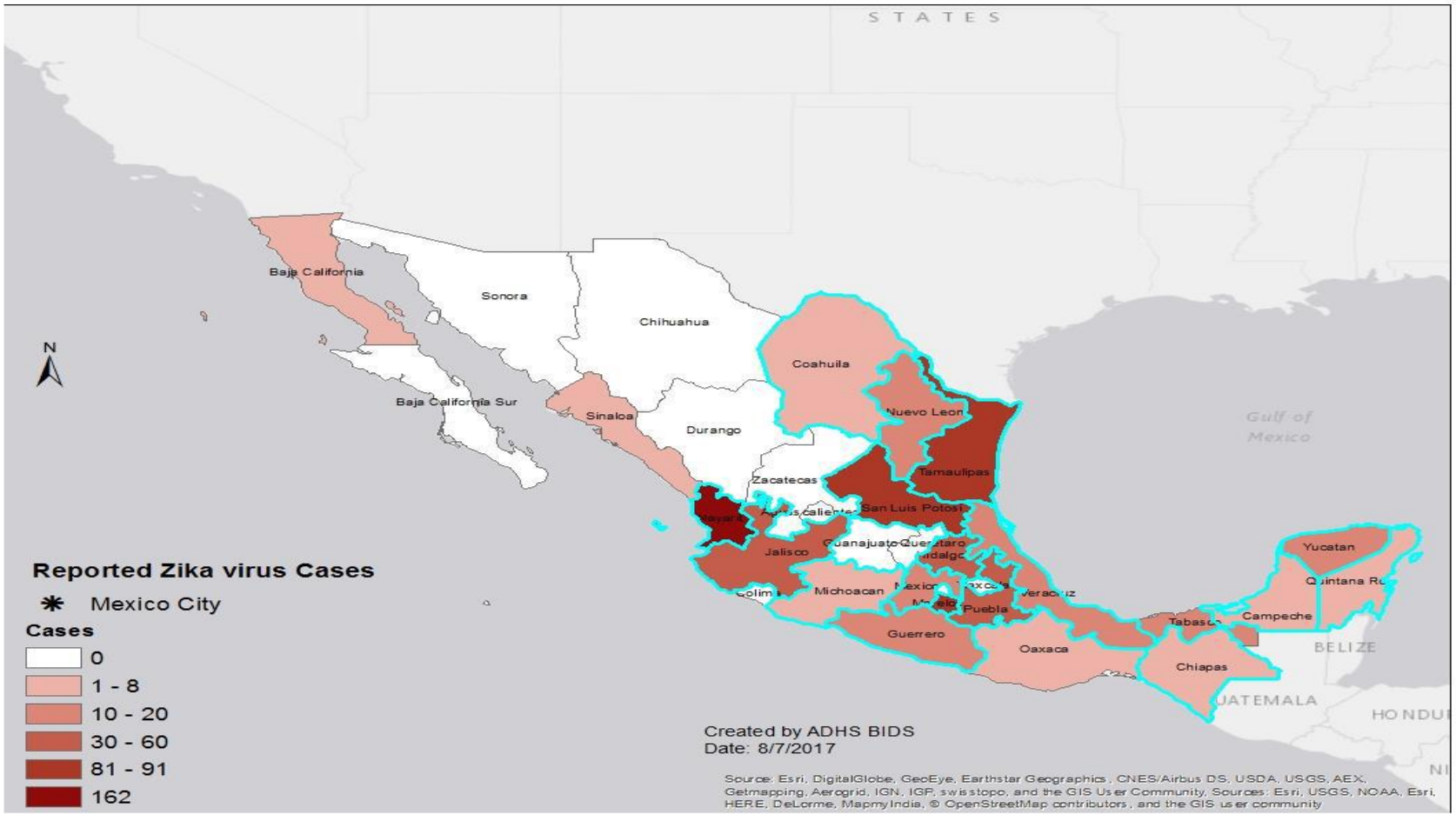
The overarching goal is to protect the people of Cochise County by preventing local mosquito transmission for if possible; then to act quickly to intervene should local mosquito transmission be detected. Cochise County will focus on protecting pregnant women and their unborn children because of the potentially devastating impact of Congenital Zika Syndrome.

Objectives

Prevent transmission through comprehensive education, outreach and communication campaigns to Cochise County partners, stakeholders, and the public.

- Prevent transmission of the Zika virus through surveillance measures identifying cases and facilitating or implementing vector control measures.
- Provide consistent, timely, and accurate information to partners, stakeholders,

Border Health Surveillance Reports



States that have had NEW cases in the **last 6 weeks** (since WK 25 starting on 06/18/2017) have Teal a outline.

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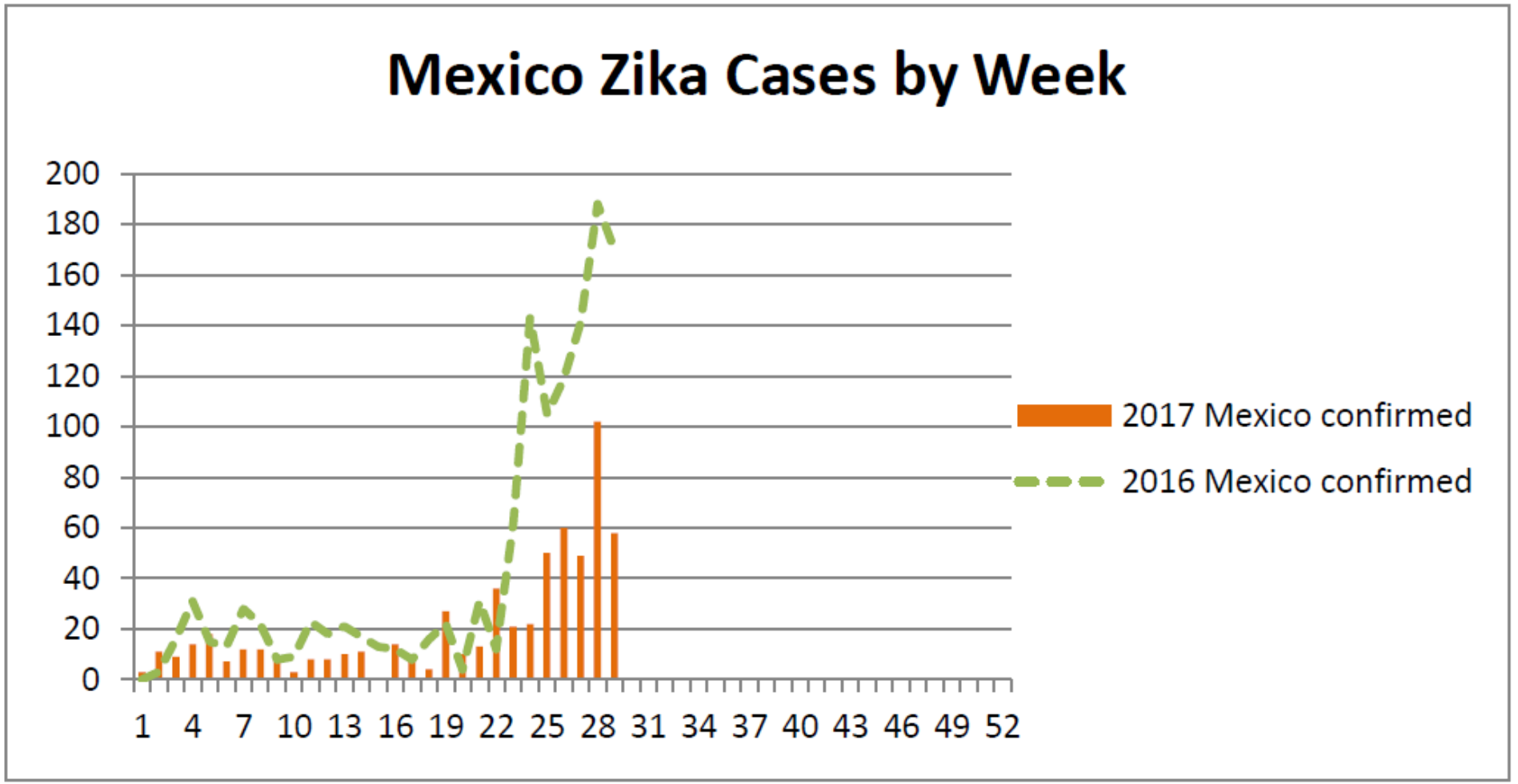
Director

Border Health Surveillance Reports



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Director

Travel vs Locally Acquired: Definitions

Local Transmission: A person who does not have risk factors for Zika virus acquisition through travel, sexual contact or other known exposure with body fluids, and who tests positive for Zika virus infection per CDC laboratory guidance.

Limited Local Transmission: Confirmed local transmission of a person without and epidemiological link within a 5-mile diameter over a period of 45 days.

Multiple Person Local Transmission: Confirmed local transmission multiple person transmission with epidemiological links.

Travel Related Transmission: Confirmed transmission with risk factors associated with travel, sexual contact or other known bodily fluids and who tests positive for Zika virus infection per CDDC laboratory guidance.

Response Tiers

Response Level	Conditions	Vector Presence	Vector Abundance	Response Action	Epidemiological Response
1	No Human Case Activity	None	Not Present	None	
2	No Human Case Activity	Present	High	Increased Aedes trapping and testing	Routine passive surveillance; consider initiating enhanced passive surveillance
3	Probable or Confirmed Human Case	Present	Some	Check historical trapping records for the presence of Aedes species 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.	Rapid case investigation, including arranging for additional laboratory testing and patient and/or family interview (includes questions about travel/exposure history, if the patient is seeing mosquitos in or near their home, and asking permission to set traps immediately near their house). Will also give prevention education to the patient and family.
4	Probable or Confirmed Human Case	High	PCR+ Mosquito Samples	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect Aedes species. Sample at least 300 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.	Same as #3 above. Plus: Public health team to assess need to go door to door in the immediate neighborhood (minimum area = 100 meter radius surrounding suspect patient house). Will leave door hangers and give education to all the home owners in the neighborhood. This might also be the level that an emergency will be declared, and EOC (virtual or actual) is initiated, especially if mosquitoes test positive by PCR.
5	Human case(s) with Evidence of Local Transmission within one of more communities	Present	N/A	Extensive mosquito trapping and testing of the mosquito population in the neighborhood with traps designed to collect Aedes species surrounding the confirmed human case. Sample at least 300 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.	Same as #3 and #4 above. Emergency to be declared including to allow entrance of vector team into neighborhood of case patient(s). Large education campaign to surrounding neighborhood of case patients. Press release. Continue and/or expand door-to-door outreach efforts based on outbreak monitoring.

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Response Levels and Phases

- Immediate case investigation all residences within 100 meter radius and working outward to a 1 mile diameter to match the “Red Area” travel advisory.
- Immediate environmental survey for potential breeding sites, increased mosquito surveillance through trapping, potential for spraying/fogging operations.
- Coordinated response education campaign targeted to “red and yellow area” and expanding to entire community and county.

Insecticide Control Measures

Backpack spraying/fogging

Aerial (helo) spraying/fogging

Vehicle Mounted spraying/fogging

Airplane spraying/fogging

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Insecticide Control Measures

How is an insecticide chosen for use in aerial spraying?

- State and local officials make the decision on what insecticide(s) to use for aerial spraying.
- The decision is based on the results of insecticide resistance testing in the target area.
- Aerial spraying is not experimental.
- EPA-registered insecticides are used for aerial spraying. EPA-registered insecticides have been studied for their effectiveness and safety when used according to label instructions.
- Aerial spraying, using Naled and other insecticides, has been used in many populated areas of the continental United States, including Miami, Tampa, and New Orleans, to help control mosquitoes.
    - In 2014, almost 6 million acres of land in Florida was aerial sprayed with Naled by mosquito control programs.

Insecticide Control Measures

Typical Insecticide Applications:

Naled: (Liquid/Aerosol)

- Aerial spraying, using Naled and other insecticides, has been used in many populated areas of the continental United States, including Miami, Tampa, and New Orleans, to help control mosquitoes.
  - In 2014, almost 6 million acres of land in Florida was aerial sprayed with Naled by mosquito control programs.
- EPA has classified Naled as Group E “Evidence of Non-carcinogenicity for Humans
- Naled starts to degrade (break down) immediately on surfaces, in water, and in sunlight.

BTI: (Granule)

- *Bacillus thuringiensis* subspecies *israelensis* (Bti) is a naturally occurring bacteria found in soils.
- Bti produces toxins that kill the larvae of mosquitoes and blackflies when swallowed. The toxins cause death by starvation and only begin working when swallowed by certain insects (larvae of mosquitoes, blackflies, and fungus gnats).
- There are several strains of *Bacillus thuringiensis* (Bt) that kill other insect larva like caterpillars and beetles. These are **not** the same as Bti.
- Bti is often applied using methods that are not aerial spraying.
- Bti can be applied using truck-mounted or backpack spraying. It can also be found as dunks or briquettes that can be put in areas of standing water that cannot be emptied, such as fountains and ornamental ponds, septic tanks, and unchlorinated pools.
- Dunks are currently being distributed in Zika prevention kits

Insecticide Control Measures

Spraying/Fogging and Human Health:

- During aerial spraying, a small amount of insecticide is sprayed over an area, about 1 ounce (two tablespoons) per acre or about the size of a football field.
- This small amount does not pose a health risk to people or pets in the area that is sprayed.
- When aerial spraying is done correctly, it does not cause asthma attacks.
- There is a possibility that spraying of a larvicide, like Bti, can cause eye irritation if a person is outside and looking up when spraying takes place.
- EPA-registered products are used for aerial spraying. The label instructions are followed by a licensed professional.
- If people prefer to stay inside and close windows and doors when spraying takes place they can, but it is not necessary.

Spraying/Fogging and Animal/Wildlife Health:

- When aerial spraying is done correctly, it does not harm animals, birds or bees.
- Application best conducted at dawn and dusk, minimizing animal, bird and bee exposure.

Spraying/Fogging and Animal/Wildlife Health:

- When aerial spraying is done correctly, it does not pollute water or contaminate soil.
- Research shows that, when applied according to label instructions, EPA-registered insecticides sprayed in low levels does not cause long-term harm to the environment or local ecosystem, even if spraying happens more than once.

Carrie Langley, RN-BC, MSN, MPH
Director

Insecticide Control Measures

Spraying/Fogging and Animal/Wildlife Health:

- When aerial spraying is done correctly, it does not pollute water or contaminate soil.
- Research shows that, when applied according to label instructions, EPA-registered insecticides sprayed in low levels does not cause long-term harm to the environment or local ecosystem, even if spraying happens more than once.

Case Investigations and Canvassing

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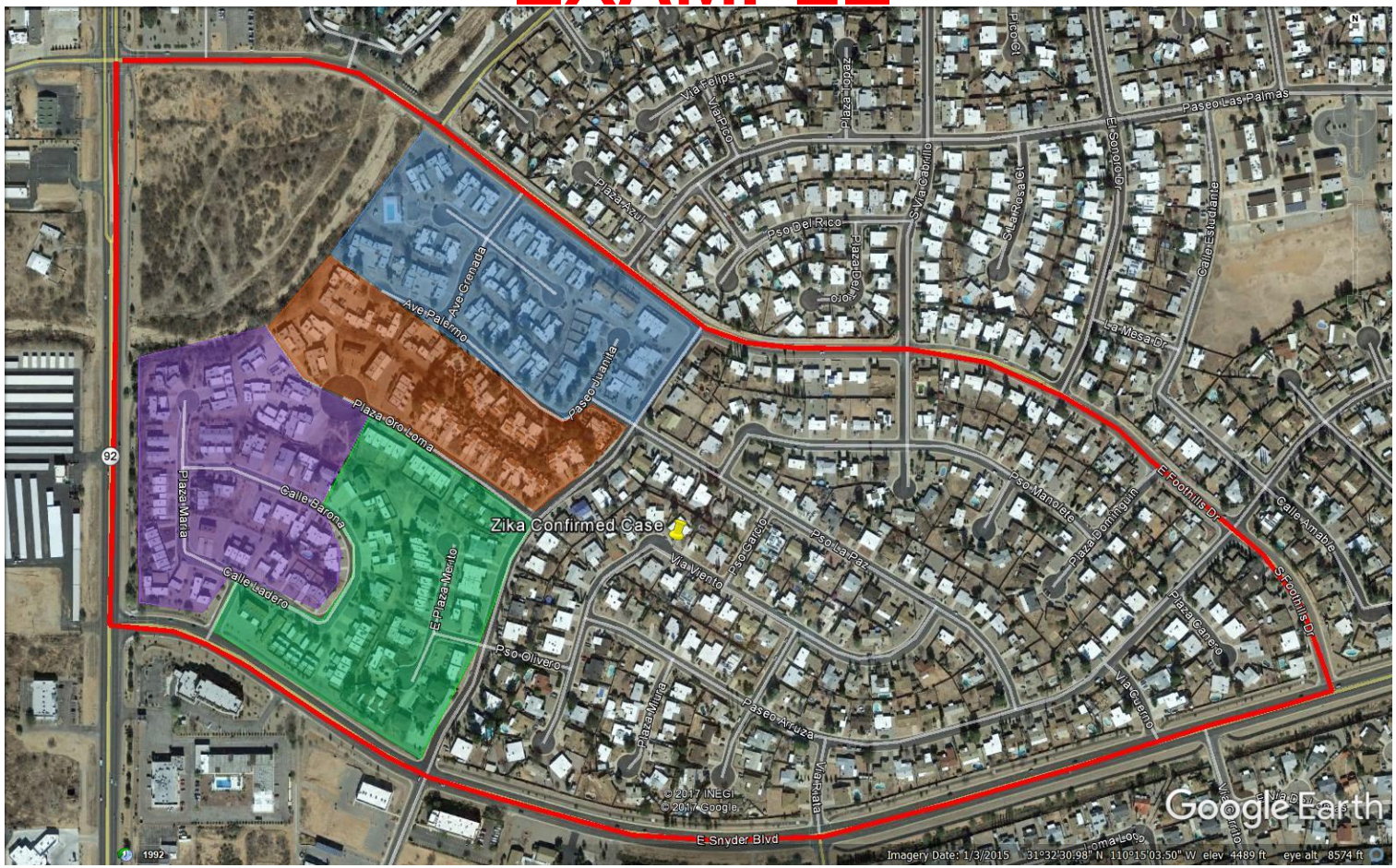

EXAMPLE

EXAMPLE

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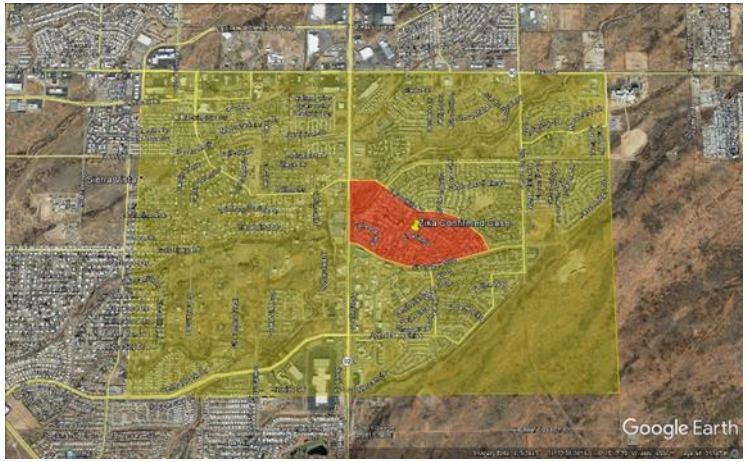
Travel Advisories

Yellow Area: An area 5-miles in diameter with confirmed local transmission of Zika virus within a 45-day period. Yellow area is implemented simultaneously with a red area. This is a travel advisory area.

EXAMPLE



EXAMPLE

Local or Limited Local Transmission

Red Area: An area at least 1 mile in diameter with easily identifiable boundaries encompassing an area with confirmed multiple person local transmission. This is a travel advisory area.

EXAMPLE

EXAMPLE

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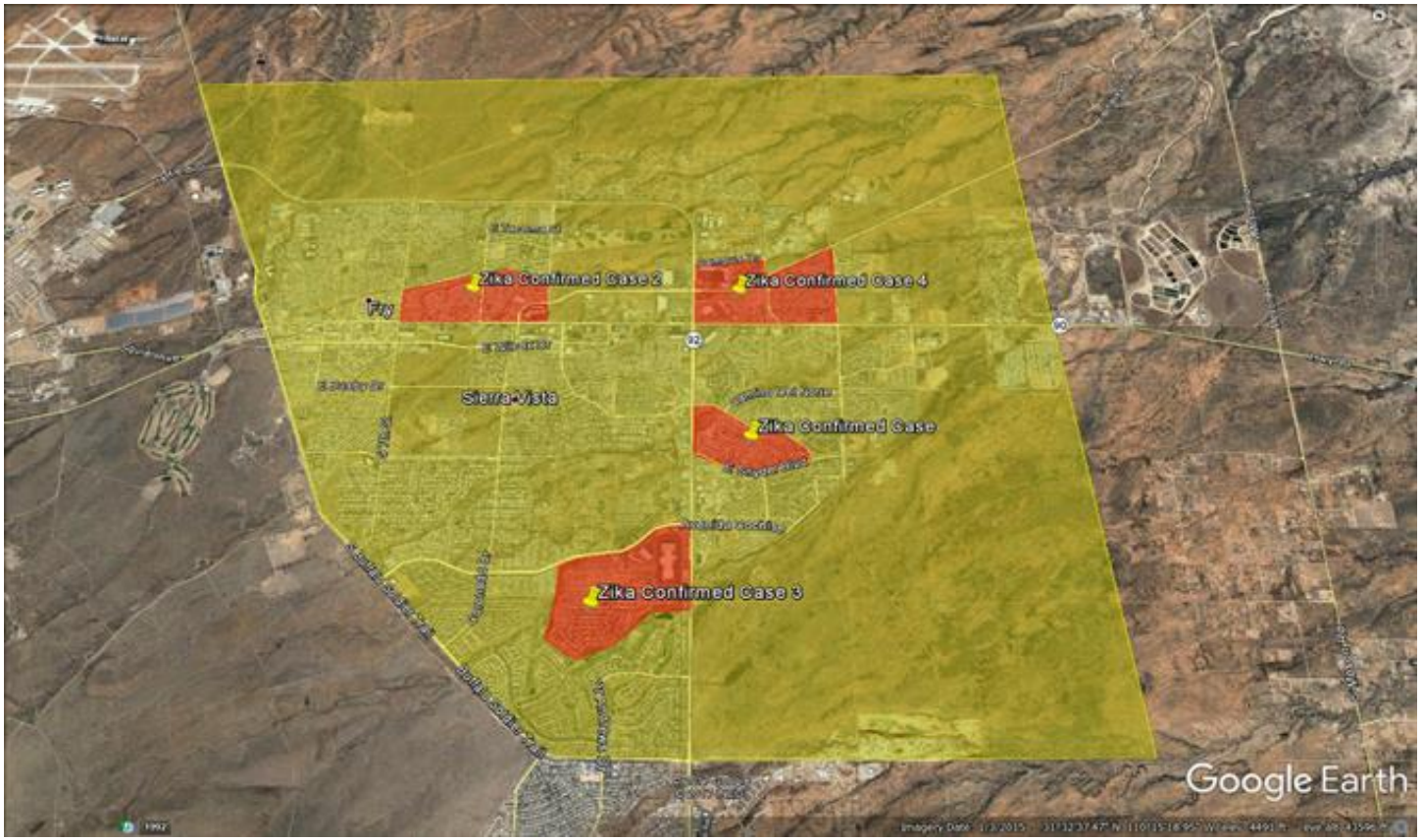
Travel Advisories

Multiple Person Local Transmission

EXAMPLE



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Media Releases

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Director

MEDIA ADVISORY

DATE

Media Contact | Ray Falkenberg
Direct: 520.432.9414
Mobile: 520.432

Headline

1-2 sentence description of what's happening

State and Cochise county public health officials will be available to answer questions related to today's news release (title/subject).

Who: Dr. Cara Christ, Director, Arizona Department of Health Services

Carrie Langley, Director, Cochise County Health & Social Services

What: Description of what will be discussed

When: Day, Month Day, Year, Time

Where: Arizona Department of Health Services State Laboratory
250 N 17th Avenue, Phoenix, AZ 85007

Cochise County Location (_____)

Photo and Interview Opportunities:
Dr. Cara Christ, Director, Arizona Department of Health Services

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About us: The Arizona Department of Health Services is responsible for leading Arizona's public health system including responding to disease outbreaks, licensing health and childcare facilities, operating the Arizona State Hospital, and improving the overall health and wellness of all Arizonans.

Health and Wellness for all Arizonans

azhealth.gov *twitter.com/azdhs* *instagram.com/azdhs* *facebook.com/azdhs* *youtube.com/azd*

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ARIZONA DEPARTMENT OF HEALTH SERVICES

DRAFT - FOR IMMEDIATE RELEASE – DRAFT
Date: Month, Day, Year
Contact: Holly Ward, Arizona Dept. of Health Services, 602-542-1094
Ray Falkenberg, Cochise Health & Social Services, 520-432-9414

Arizona confirms first locally-acquired Zika case

Risk of virus spread throughout state remains low

MARICOPA COUNTY — The Arizona Department of Health Services and the Cochise County Health & Social Services confirmed today, the first locally-acquired case of Zika virus in a Cochise County resident. [Detail on the case – i.e.: The man did not report any travel outside of Arizona before becoming ill. Sexual transmission has not been ruled out.]

[quote from [name] County on public health response – what you're doing]

Zika virus is transmitted by *Aedes aegypti* mosquitoes, which are found across the southern United States including Arizona. Zika is of great concern for pregnant women, who can pass the disease to their unborn children. Infection during pregnancy can cause certain birth defects including microcephaly.

"We have been preparing for the possibility of a locally acquired case of Zika and we are ready," said Cara Christ. "When we learn a doctor has ordered a Zika test, public health is already working to ensure the individual is taking precautions to avoid mosquito bites and our environmental health partners go to the neighborhood to trap, test and spray for mosquitoes."

The Arizona Department of Health Services, Cochise County Health & Social Services, and Centers for Disease Control and Prevention are investigating how and where the local case may have become infected and assessing whether anyone else in the area has Zika. To reduce the chance of further spread of the virus, _____County Environmental Services has begun spraying for mosquitoes around the man's residence.

[quote from county vector control on fogging response – what you're doing]

There are currently [#] travel associated cases of Zika reported in Arizona. Most people infected with Zika virus will not experience symptoms. Those who do become ill have symptoms that may include fever, rash, joint pain, and red eyes. Severe illness and hospitalization due to Zika virus is rare.

"The most effective way to prevent the spread of Zika virus is to prevent mosquito bites," said… "Always use mosquito repellent with DEET when outdoors and remove or empty any container that can hold water."

For more information on Zika virus visit azhealth.gov/zika or call (hotline #).

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Director

Questions?