

Zika Preparedness and Response: A Public Health and Legal Perspective

March 18, 2016



CDC Responds to ZIKA



Webinar Panel Discussion

“Zika Preparedness & Response: A Public Health & Legal Perspective”

March 18, 2016

Introduction to Zika Virus & the Public Health Response

Steve Monroe, PhD

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

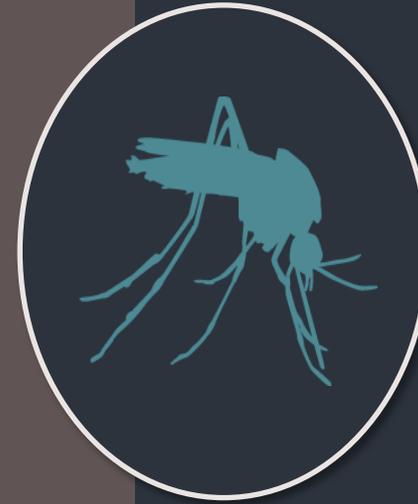
What is Zika virus disease (Zika)?

- Disease spread primarily through the bite of an *Aedes* mosquito infected with Zika virus.
- Most people won't even know they have Zika.
- Symptoms are mild and last for several days to a week.



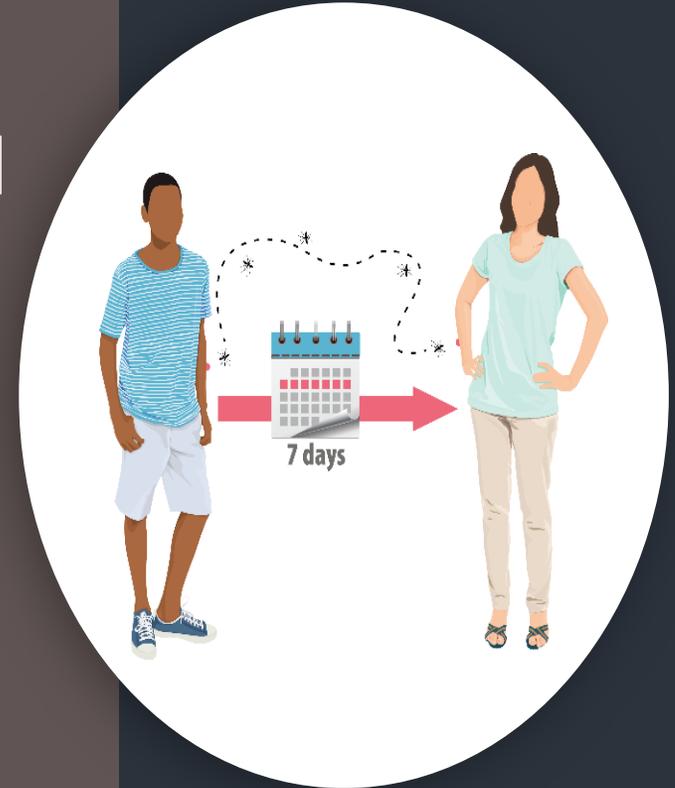
How is Zika transmitted?

- Zika can be transmitted through:
 - Mosquito bites
 - From a mother to her unborn baby
 - Sexual contact
 - Blood transfusion



When is a person infectious with Zika?

- During the first week of illness, Zika virus can be found in blood for about a week. If a mosquito bites the person, it becomes infected and can pass the infection to others.



Zika and Sexual Transmission

What we know

- Zika virus can be transmitted by a man to his sex partners.

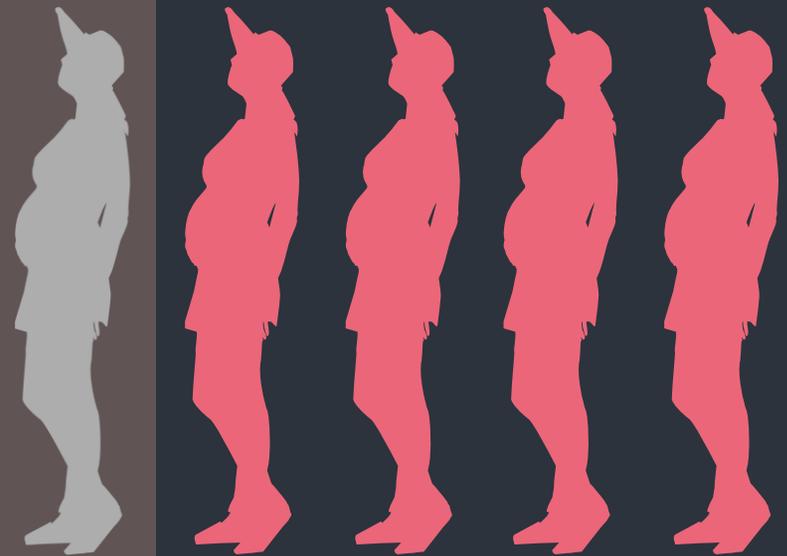
Zika and Sexual Transmission

What we do not know

- We do not know how long the virus is present in semen in men who have had Zika.
- We do not know if infected men who never develop symptoms can have Zika virus in their semen.
- We do not know if infected men who never develop symptoms can transmit Zika virus through sex.
- We do not know if a woman can transmit Zika virus to her sex partners.
- We do not know if Zika can be spread through oral sex. Although there are no known cases of Zika transmission from mouth-to-penis oral sex, Zika is known to be spread from semen.
- It is not known if Zika can be spread from other body fluids that may be exchanged during oral sex, including saliva and vaginal fluids.

How does Zika virus affect people?

- Anyone who lives in or travels to an area where Zika virus is found and has not already been infected with Zika virus can get it.
- Most people infected with Zika won't even know it.
- For those who do get sick, Zika is a mild illness.



How does Zika affect pregnant women?

- Zika infection in pregnancy is linked to microcephaly.
 - Microcephaly: birth defect in which a baby's head is smaller than expected when compared to babies of the same sex and age.
 - Previous infection will not affect future pregnancies.



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.
- GBS is an uncommon sickness of the nervous system in which a person's own immune system damages the nerve cells, causing muscle weakness, and sometimes, paralysis.

How is Zika treated?

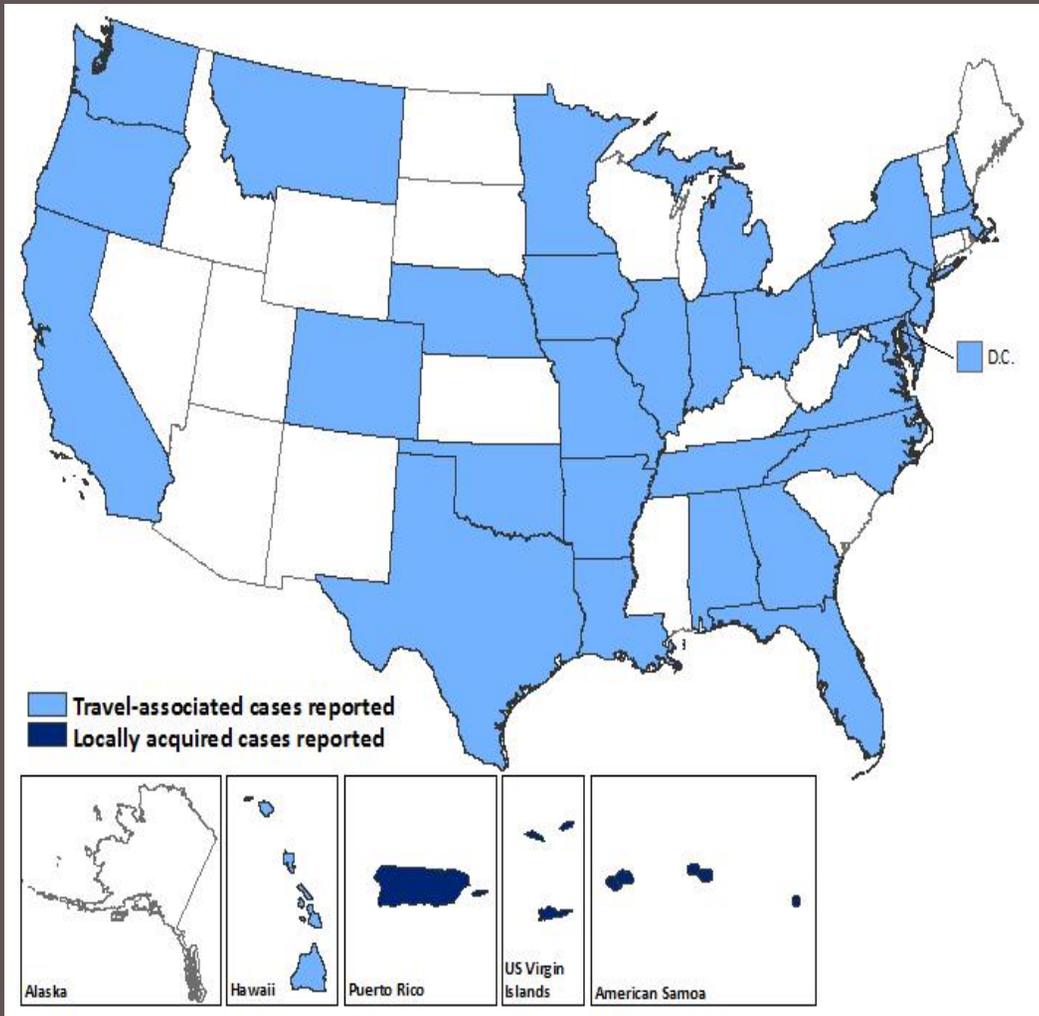
- There is no specific medicine or vaccine for Zika virus.

Zika in the Americas



31 countries and territories affected

Zika in the United States



258 travel-associated cases in 34 states plus D.C.

Range of *Aedes* mosquitos in the United States

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.

What is CDC doing?

- Working with partners to:
 - Educate healthcare providers and the public about Zika.
 - Post travel notices and other travel-related guidance.
 - Provide state and territorial health laboratories with diagnostic tests.



What is CDC doing?

- Working with partners to:
 - Monitor and report cases.
 - Support mosquito control programs both in the United States and around the world.
 - Conducting studies to learn more about Zika and microcephaly and Guillain-Barré syndrome.



CDC ZIKA VIRUS GUIDANCE

- CDC travel guidance for pregnant women issued within days of laboratory tests showing an association between Zika and microcephaly



- Other guidance released such as:
 - Health care providers caring for pregnant women and women of reproductive age
 - Sexual transmission

Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

Zika Virus Spreads to New Areas – Region of the Americas, May 2015–January 2016

Early Release / January 22, 2016 / 65(3);1–4



Morgan Hennessey, DVM¹; Marc Fischer, MD¹; J. Erin Staples, MD, PhD¹ ([View author affiliations](#))

[View suggested citation](#)

Zika virus is a mosquito-borne flavivirus that was first identified in Uganda in 1947 (1). Before 2007, only sporadic human disease cases were reported from countries in Africa and Asia. In 2007, the first documented outbreak of Zika virus disease was reported in Yap State, Federated

Possible Association Between Zika Virus Infection and Microcephaly – Brazil, 2015

Weekly / January 29, 2016 / 65(3);59–62



Format:

On January 22, 2016, this report was posted as an MMWR Early Release on the MMWR website (<http://www.cdc.gov/mmwr/>).

Lavinia Schuler-Faccini, PhD¹; Erlane M. Ribeiro, PhD²; Ian M.L. Feitosa, MD³; Dafne D.G. Horovitz, PhD⁵; Denise P. Cavalcanti, PhD, MD⁵; André Pessoa²; Maria Juliana R. Doriqui, MD⁶; Joao Ivarildo Neri, MD⁷; Joao Monteiro de Pina Neto, PhD⁸; Hector Y.C. Wanderley, MD⁹; Mirlene Cernach, PhD¹⁰; Antonette S. El-Husny, PhD¹¹; Marcos V.S. Pone, PhD¹²; Cassio L.C. Serao, MD¹²; Maria Teresa V. Sanseverino, PhD¹³; Brazilian Medical Genetics Society–Zika Embryopathy Task Force¹⁴ ([View author affiliations](#))

[View suggested citation](#)

In early 2015, an outbreak of Zika virus, a flavivirus transmitted by *Aedes* mosquitoes, was identified in northeast Brazil, an area where dengue

Summary

Interim Guidelines for Prevention of Sexual Transmission of Zika Virus – United States, 2016

Early Release / February 5, 2016 / 65(5);1–2



Format:

Alexandra M. Oster, MD¹; John T. Brooks, MD¹; Jo Ellen Stryker, PhD¹; Rachel E. Kachur²; Paul Mead, MD³; Nicki T. Pesik, MD⁴; Lyle R. Petersen, MD³ ([View author affiliations](#))

[View suggested citation](#)

Zika virus is a mosquito-borne flavivirus primarily transmitted by *Aedes aegypti* mosquitoes (1,2). Infection with Zika virus is asymptomatic in an estimated 80% of cases (2,3), and when Zika virus does cause illness, symptoms are generally mild and self-limited. Recent evidence suggests a possible association between maternal Zika virus infection and adverse fetal outcomes, such as

Update: Interim Guidelines for Health Care Providers Caring for Pregnant Women and Women of Reproductive Age with Possible Zika Virus Exposure – United States, 2016

Early Release / February 5, 2016 / 65(05);1–6



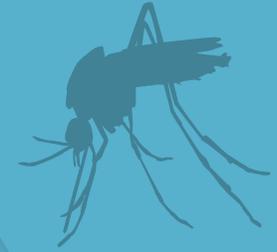
Format:

Tililope Oduyebo, MD^{1,2}; Emily E. Petersen, MD²; Sonja A. Rasmussen, MD³; Paul S. Mead, MD⁵; Dana Meaney-Delman, MD⁵; Christina M. Renquist, MPH⁶; Sascha R. Ellington, MSPH²; Marc Fischer, MD⁴; J. Erin Staples, MD, PhD⁴; Ann M. Powers, PhD³; Julie Villanueva, PhD⁴; Romeo R. Galang, MD^{1,2}; Ada Dieke, DrPH^{1,2}; Jorge L. Muñoz, PhD⁷; Margaret A. Honein, PhD⁸; Denise J. Jamieson, MD² ([View author affiliations](#))

[View suggested citation](#)

CDC has updated its interim guidelines for U.S. health care providers caring for pregnant women during a Zika virus outbreak (1). Updated guidelines include a new recommendation to offer

<http://www.cdc.gov/zika>



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



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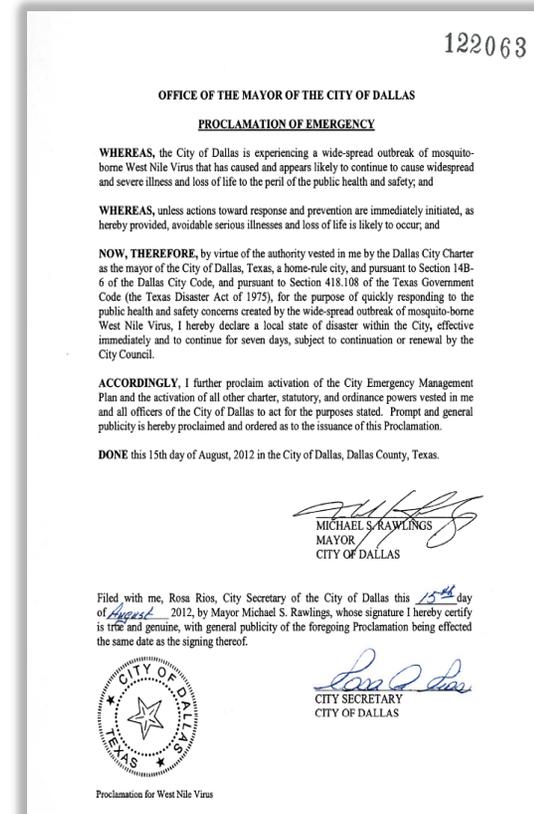
Executive Orders and Emergency Declarations for the West Nile virus: Applying Lessons from Past Outbreaks to Zika

Gregory Sunshine, JD

Public Health Analyst, Carter Consulting Inc., Public Health Law Program, Office for State Tribal Local and Territorial Support

Zika Preparedness and Response: A Public Health and Legal Perspective

March 18, 2016



CDC-PHLP Disclaimer

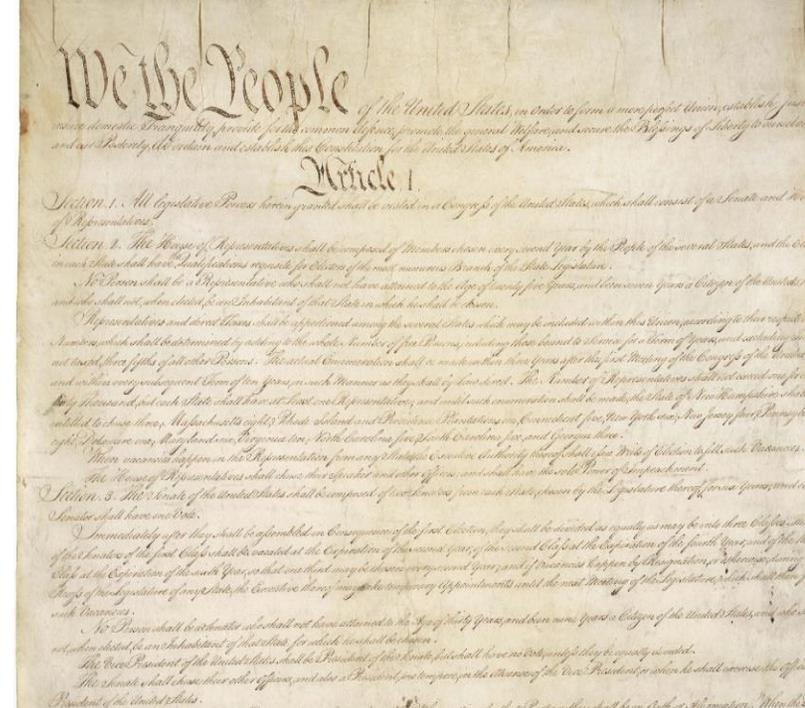
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These materials are for instructional use only and are not intended as a substitute for professional legal or other advice.

Always seek the advice of an attorney or other qualified professional with any questions you may have regarding a legal matter.

Important concept: federalism

- Federalism is the separation of powers between the different levels of government
 - Article 1, Section 8 of the Constitution: federal government's enumerated powers
 - interstate commerce
 - tax and spend
 - national defense
 - 10th Amendment of the Bill of Rights: “powers not delegated to the United States by the Constitution... are reserved to the States”
 - States may delegate powers to localities



Important concept: emergency declarations

- Emergency declarations are:
 - Public announcements
 - “An emergency has occurred and the state will respond to it.”
 - Legal determinations
 - Special emergency grant by legislature through its powers over lawmaking
 - Made by an authorized government official
 - Trigger special emergency powers
 - Allow expenditure of emergency funds
 - Can be tailored to type of event

122063

OFFICE OF THE MAYOR OF THE CITY OF DALLAS

PROCLAMATION OF EMERGENCY

WHEREAS, the City of Dallas is experiencing a wide-spread outbreak of mosquito-borne West Nile Virus that has caused and appears likely to continue to cause widespread and severe illness and loss of life to the peril of the public health and safety; and

WHEREAS, unless actions toward response and prevention are immediately initiated, as hereby provided, avoidable serious illnesses and loss of life is likely to occur; and

NOW, THEREFORE, by virtue of the authority vested in me by the Dallas City Charter as the mayor of the City of Dallas, Texas, a home-rule city, and pursuant to Section 14B-6 of the Dallas City Code, and pursuant to Section 418.108 of the Texas Government Code (the Texas Disaster Act of 1975), for the purpose of quickly responding to the public health and safety concerns created by the wide-spread outbreak of mosquito-borne West Nile Virus, I hereby declare a local state of disaster within the City, effective immediately and to continue for seven days, subject to continuation or renewal by the City Council.

ACCORDINGLY, I further proclaim activation of the City Emergency Management Plan and the activation of all other charter, statutory, and ordinance powers vested in me and all officers of the City of Dallas to act for the purposes stated. Prompt and general publicity is hereby proclaimed and ordered as to the issuance of this Proclamation.

DONE this 15th day of August, 2012 in the City of Dallas, Dallas County, Texas.


MICHAEL S. RAWLINGS
MAYOR
CITY OF DALLAS

Filed with me, Rosa Rios, City Secretary of the City of Dallas this 15th day of August, 2012, by Mayor Michael S. Rawlings, whose signature I hereby certify is true and genuine, with general publicity of the foregoing Proclamation being effected the same date as the signing thereof.


CITY SECRETARY
CITY OF DALLAS



Proclamation for West Nile Virus

Collecting and Coding West Nile virus Executive Orders and Emergency Declarations

- Focused on West Nile virus declarations, due to focus on mosquito abatement
- Used legal databases, online searches, and contacting jurisdictions directly
- Examined documents to determine what types of actions each ordered to respond to the West Nile virus
- Established coding categories to find common trends
 - Jurisdiction, date, types of actions ordered, etc.



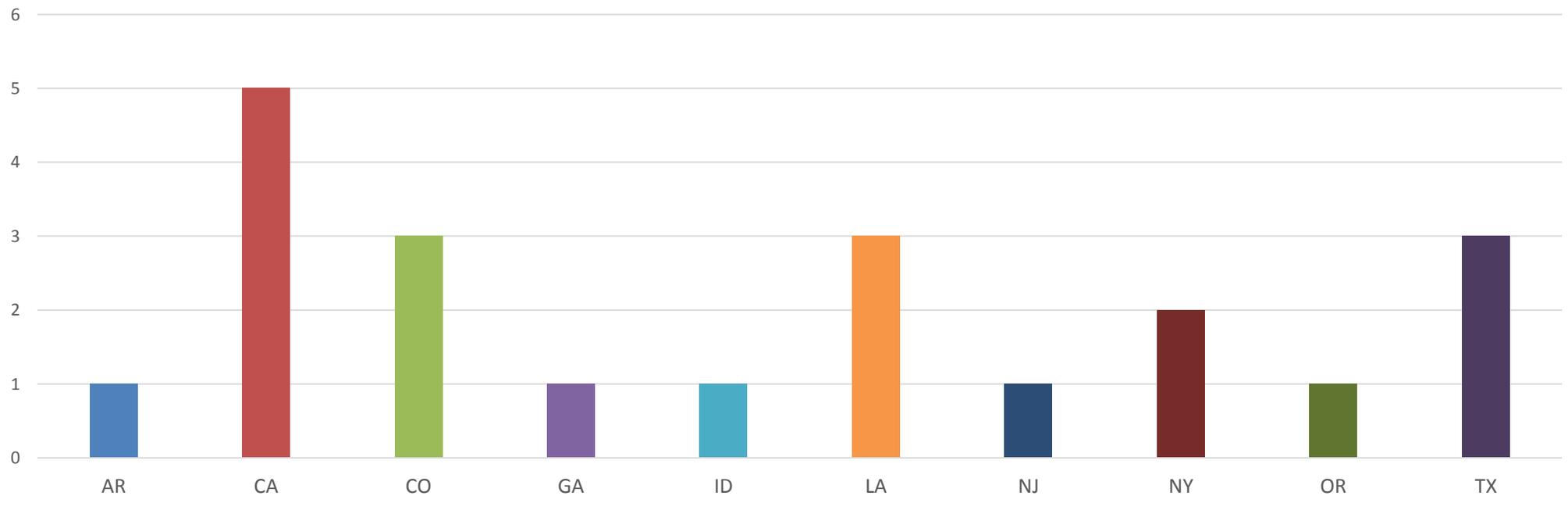
Culex quinquefasciatus mosquito

Type of Mosquito	Viruses spread
 <i>Aedes aegypti</i> , <i>Aedes albopictus</i>	Chikungunya, Dengue, Zika
 <i>Culex</i> species	West Nile

How many West Nile virus EOs and emergency declarations did we find?

- As of February 21, 2016, we found 21 local, state, and federal EOs and declarations

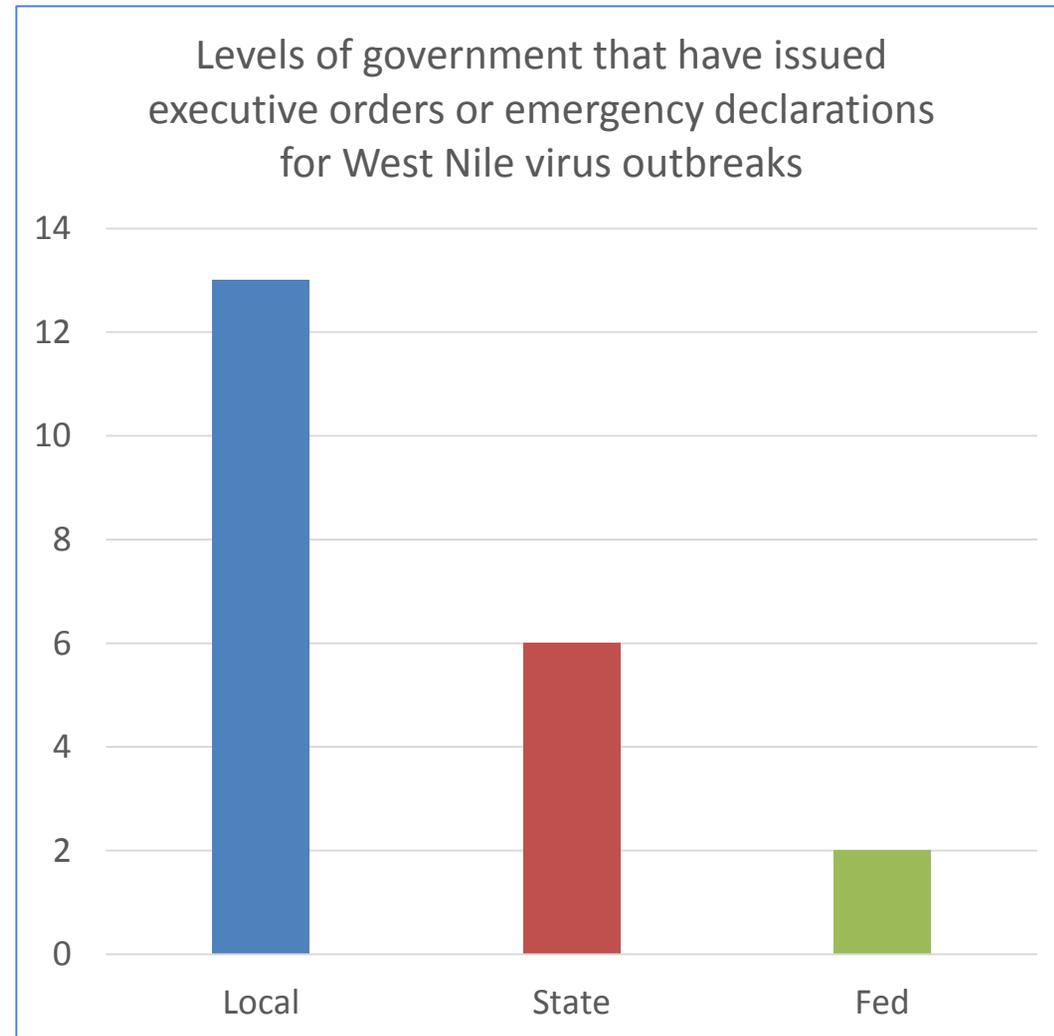
States that have had federal, state, or local executive orders or emergency declarations for West Nile virus outbreaks



Interesting Trends

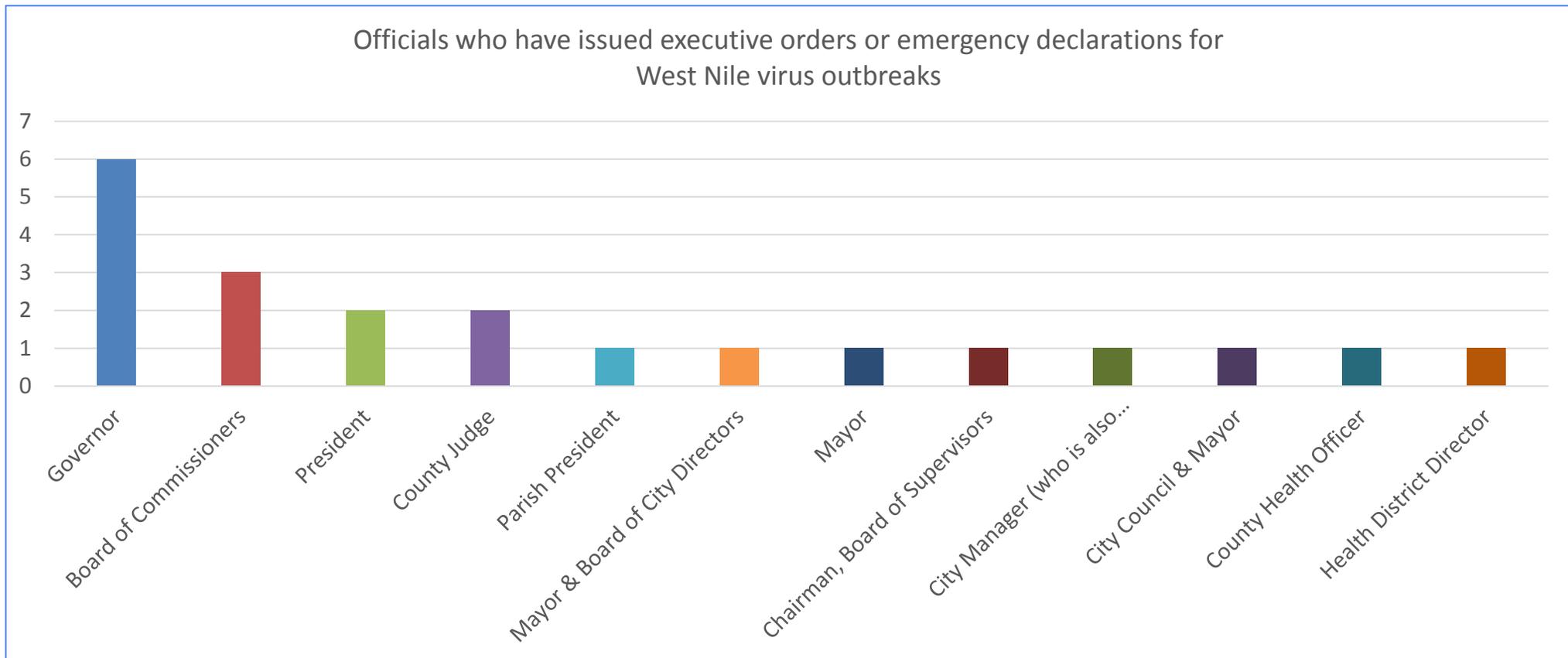
- **What levels of government declared West Nile virus emergencies?**

- 13 local
- 6 state
- 2 federal



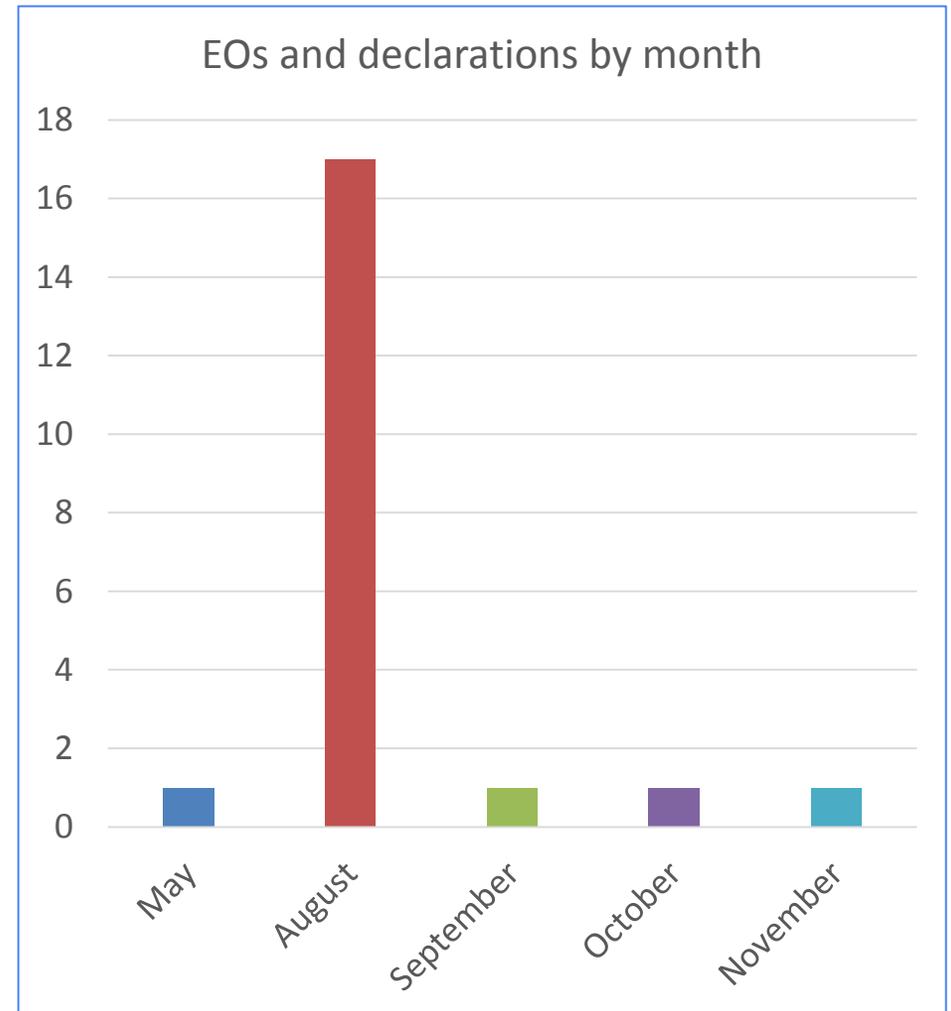
Interesting Trends

- **Who issues West Nile virus EOs and declarations?**
 - Wide variety!



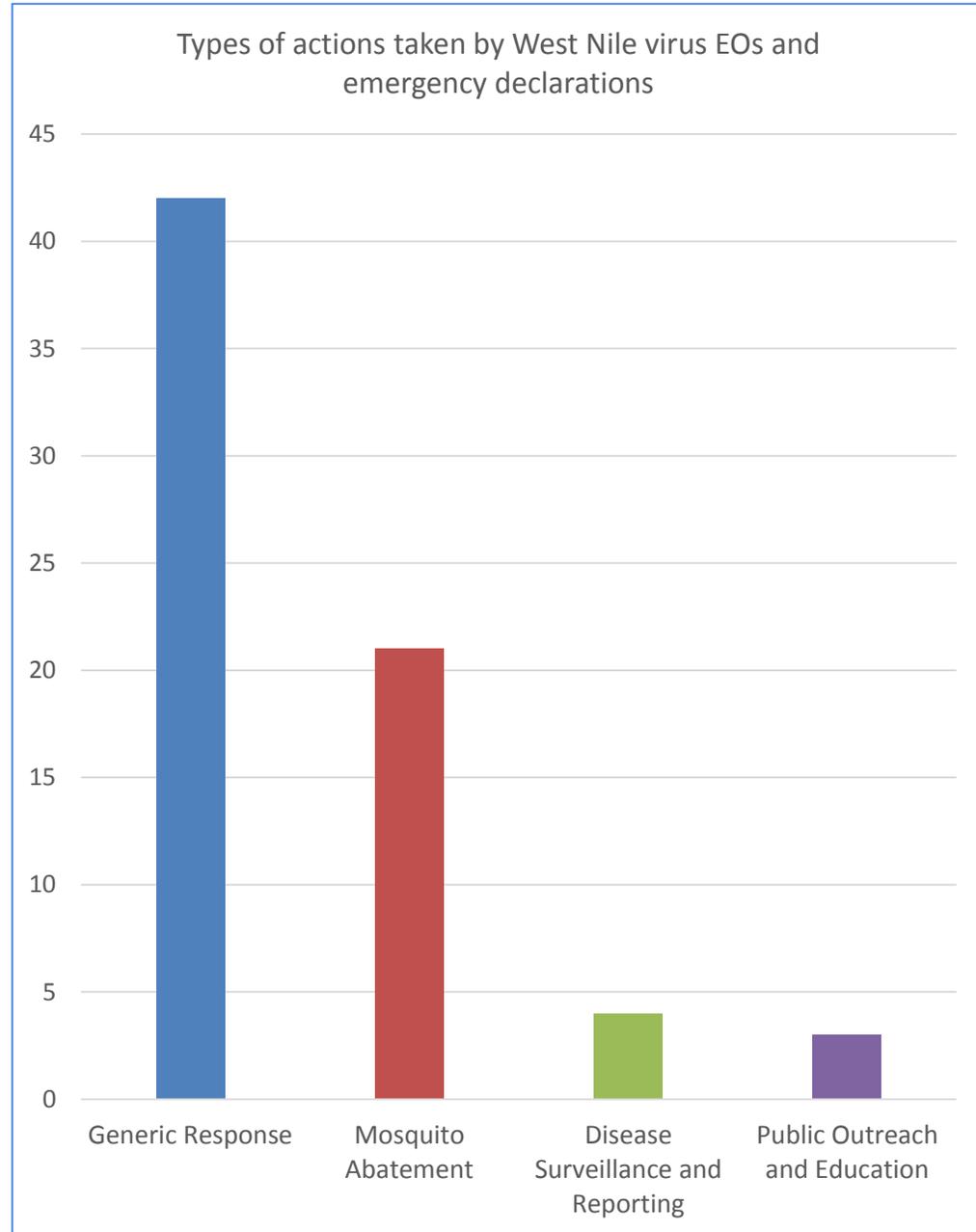
Interesting Trends

- **When are West Nile virus EOs and declarations Issued?**
 - All but 3 were issued in August or early September
- **What does this tell us?**
 - Most West Nile virus outbreaks reached the level of severity that emergency declarations were needed towards the end of summer



Interesting Trends

- **What types of actions are being ordered?**
 - Generic response
 - Mosquito abatement
 - Disease surveillance and reporting
 - Public outreach and education



PHLP's Zika Page:

www.cdc.gov/phlp/publications/topic/zika.html

Contact:

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Zika Preparedness and Response: A Local Perspective



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Administrator and Health Officer
Monroe County Health Department
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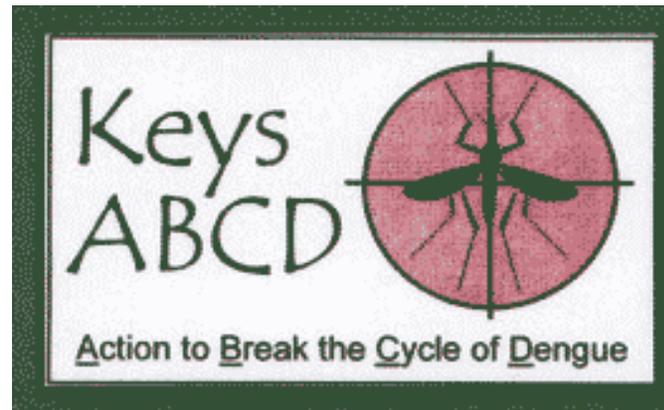
Overview of the presentation

- ▶ Background
- ▶ How did this happen?
- ▶ Community Action Plan
 - ▶ What did we learn from dengue?
- ▶ Zika v. Dengue Prevention
- ▶ Health Care Considerations
- ▶ Concluding thoughts



Background

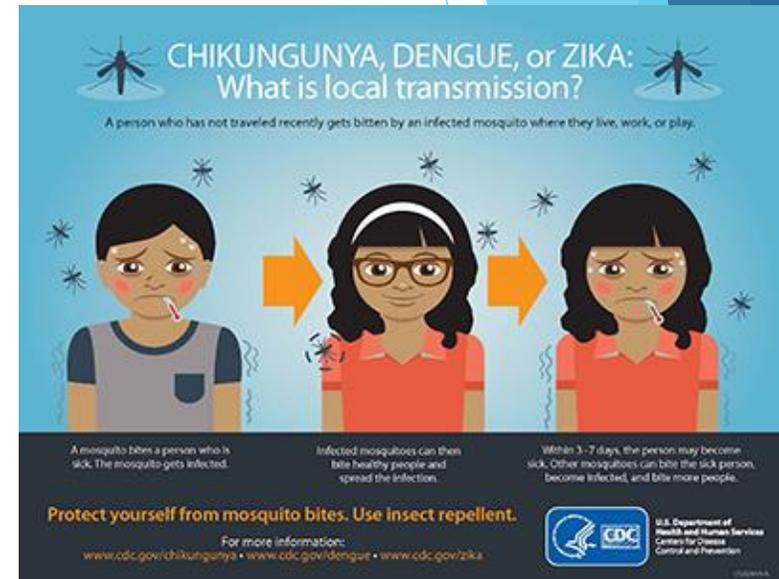
- ▶ Monroe County/Florida Keys Mosquito Control District (FKMC) internationally recognized organization with a \$10M Budget and 60 employees
- ▶ Locally-acquired dengue virus in 2009 in Key West
- ▶ Over 90 people were diagnosed and 2 were hospitalized.
- ▶ It had been over 70 years since the last case of dengue had occurred in the Keys



How did this happen?

All the elements for an outbreak came together.

- ▶ There was an infected person
- ▶ the necessary species of mosquito
- ▶ the infection and survival of a sufficient number of mosquitos to infect other humans
- ▶ repetition of the cycle
- ▶ and so the outbreak occurred



Community Action Planning

- ▶ Roles and responsibilities will change as the incident transpires
- ▶ Local health director and his legal advisors are the ones expected to translate all the theory and policies into effective action
- ▶ Who should participate in planning discussions?
 - ▶ Mosquito control officials (whether from within the local health department another agency)
 - ▶ Local government elected officials
 - ▶ City and county managers
 - ▶ Local health community (including family planning and STI clinics)
 - ▶ Law enforcement
 - ▶ Legal community and representatives for the community at large

Community Action Planning: Questions to consider

1. Does your jurisdiction have the *Aedes Aegypti* mosquito?
2. Who has the primary responsibility/authority for mosquito control?
3. What are the personnel requirements for effectively controlling this species of mosquito?

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.

Community Action Planning:

Questions to consider

4. If an outbreak occurs:

- ▶ Do you have staff members who can lead and sustain public education and mobilization efforts?
- ▶ What is the legal authority in your locality to enter and inspect private property and take appropriate control actions?
- ▶ Know what protocols CDC and state health and mosquito control authorities recommend. Make sure you have access to the antibody tests from CDC.
- ▶ Who will handle rumor control and how will the public have access to valid to correct information?
- ▶ How will the legal and law enforcement communities be involved?

Zika v. Dengue Prevention

Zika:

- ▶ The ability of the virus to be sexually transmitted adds an extremely complex dimension to local prevention planning.
 - ▶ It will be necessary to add expertise from the family planning and STI communities.
 - ▶ Requires partnerships and collaborations heretofore not contemplated.
 - ▶ Dearth of scientific data upon which to formulate programs and strategies.



Healthcare Considerations

- ▶ Health department is responsible for making sure the medical community is educated
- ▶ Once an outbreak occurs, the primary focus should shift to assuring that medical providers are kept informed of the latest medical information and available treatment options
- ▶ Consider access and equity issues

Centers for Disease Control and Prevention
MMWR

Early Release / Vol. 65

Morbidity and Mortality Weekly Report

February 5, 2016

Update: Interim Guidelines for Health Care Providers Caring for Pregnant Women and Women of Reproductive Age with Possible Zika Virus Exposure — United States, 2016

Tiffany Odujoko, MD^{1,2}; Emily E. Petersen, MD³; Sonja A. Rasmussen, MD³; Paul S. Mead, MD⁴; Dana Mcarney-Deitman, MD⁵; Christina M. Rensette, MD⁶; Sacha R. Ellington, MSPH⁷; Marc Fischer, MD⁸; J. Erin Staples, MD, PhD⁹; Ann M. Powers, PhD⁹; Julie Villanueva, PhD⁹; Romeo R. Galang, MD^{1,2}; Ada Dickie, DPH^{1,2}; Jorge L. Muñoz, PhD⁹; Margaret A. Honein, PhD⁹; Denise J. Jamieson, MD²

CDC has updated its interim guidelines for U.S. health care providers caring for pregnant women during a Zika virus outbreak (1). Updated guidelines include a new recommendation to offer serologic testing to asymptomatic pregnant women (women who do not report clinical illness consistent with Zika virus disease) who have traveled to areas with ongoing Zika virus transmission. Testing can be offered 2–12 weeks after pregnant women return from travel. This update also expands guidance to women who reside in areas with ongoing Zika virus transmission, and includes recommendations for screening, testing, and management of pregnant women and recommendations for counseling women of reproductive age (15–44 years). Pregnant women who reside in areas with ongoing Zika virus transmission have an ongoing risk for infection throughout their pregnancy. For pregnant women with clinical illness consistent with Zika virus disease,* testing is recommended during the first week of illness. For asymptomatic pregnant women residing in areas with ongoing Zika virus transmission, testing is recommended at the initiation of prenatal care with follow-up testing mid-second trimester. Local health officials should determine when to implement testing of asymptomatic pregnant women based on information about levels of Zika virus transmission and laboratory capacity. Health care providers should discuss reproductive life plans, including pregnancy intention and timing, with women of reproductive age in the context of the potential risks associated with Zika virus infection.

* Clinical illness consistent with Zika virus disease is defined as two or more of the following signs or symptoms: acute onset of fever, maculopapular rash, arthralgia, or conjunctivitis.

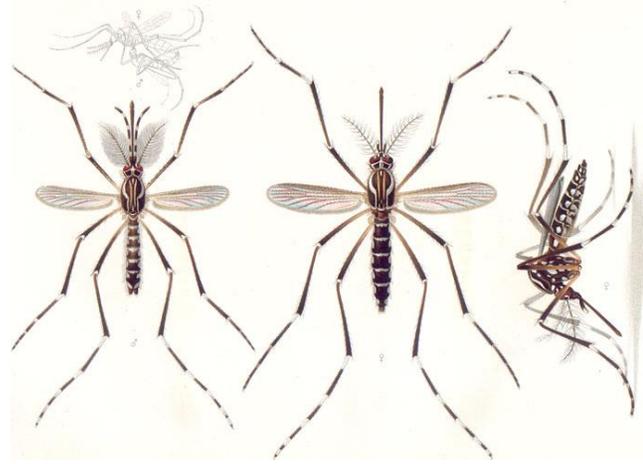
Zika virus is primarily transmitted by *Aedes aegypti* mosquitoes, which are found throughout much of the region of the Americas, including parts of the United States (2,3). These mosquitoes can also transmit dengue and chikungunya viruses (4). The Zika virus outbreak continues to spread (<http://www.cdc.gov/zika/geo/index.html>), with ongoing Zika virus transmission recently reported in U.S. territories. Evidence suggesting an association of Zika virus infection with an increased risk for congenital microcephaly and other abnormalities of the brain and eye (5) prompted the World Health Organization to declare the Zika virus outbreak a Public Health Emergency of International Concern on February 1, 2016 (<http://www.who.int/mediacentre/news/statements/2016/1st-emergency-committee-zika/en/>).

There is currently no vaccine or medication to prevent Zika virus infection. All travelers to or residents of areas with ongoing Zika virus transmission should be advised to strictly follow steps to avoid mosquito bites because of the potential for exposure to Zika, dengue, and chikungunya viruses (6). *Aedes* vector mosquitoes bite mostly during daylight hours; thus, protection from mosquito bites is required throughout the day (7). Prevention of mosquito bites includes wearing long-sleeved shirts, pants, permethrin-treated clothing, and using United States Environmental Protection Agency (EPA)-registered insect repellents. Insect repellents containing ingredients such as DEET, picaridin, and IR3535 are safe for use during pregnancy when used in accordance with the product label (6). To prevent human-to-mosquito-to-human transmission, persons infected with Zika, dengue, or chikungunya virus should protect themselves from mosquito exposure during the first week of illness. The number of mosquitoes in and around



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Concluding Thoughts



- ▶ Plan now!
- ▶ Labor, resource, and emotionally intensive issue
- ▶ Initially, response must come from local sources
- ▶ Prepare for intensive media and public scrutiny
- ▶ Regularly share information on successes and setbacks in preparedness and response efforts

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Zika Preparedness and Response: A Public Health and Legal Perspective

■ ■ HALL
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Pulling It Together: The Provider and Public Health



Pulling It Together

- It's a Global World – Disease Moves at the Speed of Sound!
 - New Infectious Diseases emerge quickly
 - Minimal time to prepare
 - Requires that hospitals, primary care, and EMS be prepared to deal with new emerging infectious diseases with little warning
- The Good Thing Is....some relatively standard good practices provide the basis for emergency preparedness
 - Relationships
 - A Broad-Based Emergency Plan
 - Practice, Practice, Practice

Pulling It Together

- Relationships
 - The time to build relationships between Practitioners, Public Health and Legal (including the Judge) is NOT in the middle of the crisis!
 - Develop a standing committee that addresses Public Health Emergency Preparedness
 - Meet even when there isn't an issue!
 - Evaluate your health system processes and compare them to the processes of Public Health and other health system partners, to ensure that they integrate well and are complementary, not conflicting
 - About that Emergency Plan...

Pulling It Together

- Emergency Plan
 - Look at the Emergency Plan, especially the Infectious Disease component
 - Make sure you don't have a "Pandemic Influenza Plan", or an "Ebola Plan". Have a comprehensive "Infectious Disease Emergency Plan", which accommodates a wide variety of infectious diseases that can rise to the level of a public health emergency
 - The Infectious Disease Emergency Plan should be threat and protective measure focused
 - Ensure that flexibility exists to accommodate new information from Public Health partners

Pulling It Together

- Emergency Plan
 - Look at the Emergency Plan, especially the Infectious Disease component
 - Be prepared to implement the Emergency Infectious Disease Plan in modules, so that only those portions of the Plan that are needed, based on the threat, containment, and response needs, are activated
 - Flexibility regarding activation of staffing, quarantine and isolation, supply chain, use of secondary care centers
 - Train and prepare ahead of time
 - Exercising is necessary for “preparedness muscles”

Pulling It Together

- Emergency Plan
 - Don't forget that often, public education and care of the “worried well” is one of the most critical factors...
 - Training of staff will need to address best way to address concerns
 - As additional information regarding the virus and sequelae is learned, coordinated communication will be important to avoid confusion and inconsistent messages
 - The public cannot tell the difference between a *Aedes aegypti* mosquito, which carries Zika, and a *Culex pipiens* mosquito, which does not. Pregnant patients who have mosquito bites can be expected to be concerned, and an efficient and effective means of responding to those concerns should be established.

Pulling It Together

- Communications Plan
 - Work with Public Health on a Community-Wide Communications Plan
 - Provide information about the risks of Zika
 - Provide information about how to decrease transmission of Zika and control mosquitos
 - Prepare a Hospital/Health System Communications Plan
 - Regarding testing capabilities
 - Be prepared to handle inquiries if there is a diagnosed patient
 - To answer questions from patients about travel to areas of concern

Pulling It Together

- Communications Plan
 - Work with Public Health on a Community-Wide Communications Plan
 - Provide information about the risks of Zika
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Pulling It Together

- Plan For Response
 - While the Zika virus is not likely, based on the information we currently have, to create surges that were anticipated with diseases such as pandemic influenza, staffing needs and resource constraints should be considered:
 - If significant disease rates are observed, anticipate increased need for monitoring of pregnant women, including increased frequency of ultrasounds. This may require additional staffing and broadened appointment times
 - Similarly, neonatal ICU and other specialty support needs may be increased to care for microcephaly and other sequelae from infection

Pulling It Together

- Plan For Response
 - Open and effective communication is critical. Rapid diagnostic tests are being developed that may be appropriate for use at your facility; be prepared to evaluate whether and how to implement in vitro diagnostic tests as they are developed
 - Remember that Public Health preparedness is always evolving. As new information regarding the development, diagnosis and sequelae of this disease is developed, and as the next emerging infectious disease is identified, continuing review of policies to identify best practices and lessons learned will help improve the effectiveness and streamline the response at both the public health and provider levels.



Please visit the Hall Render Blog at <http://blogs.hallrender.com> for more information on topics related to health care law.

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