

# Gearing up for Chikungunya in Georgia: Epidemiology's response

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- Chikungunya 101
- A quick overview of the 2014 “arrival” in Georgia
- Surveillance practices
- Challenges and strengths of our response

# Chikungunya

## *Alphavirus Togaviridae*

- Mosquito-borne viral disease characterized by acute onset of fever and severe polyarthralgia
- In December of 2013, it was found for the first time in the Americas on an island in the Caribbean
- Since early 2014, an increase in travel-associated infections has been seen in the US
- At this point, the only documented local transmission in the US has occurred in Florida



# Symptoms

- The majority of people infected become symptomatic
- Incubation period is usually 3-7 days (range 1-12 days)
- Typically present with acute onset of fever and polyarthralgia
- Joint pain/symptoms are usually symmetric and often occur in the hands and feet – this may be severe and debilitating
- May include symptoms of headache, myalgia, arthritis, conjunctivitis, nausea/vomiting, or maculopapular rash

# Treatment

- No antiviral therapy available – supportive care with rest and fluids is recommended
- Non-steroidal anti-inflammatory drugs (NSAIDs) for acute pain and fever or persistent joint pain
- Acute symptoms typically resolve in 7-10 days
- Mortality is rare and mostly occurs in older adults

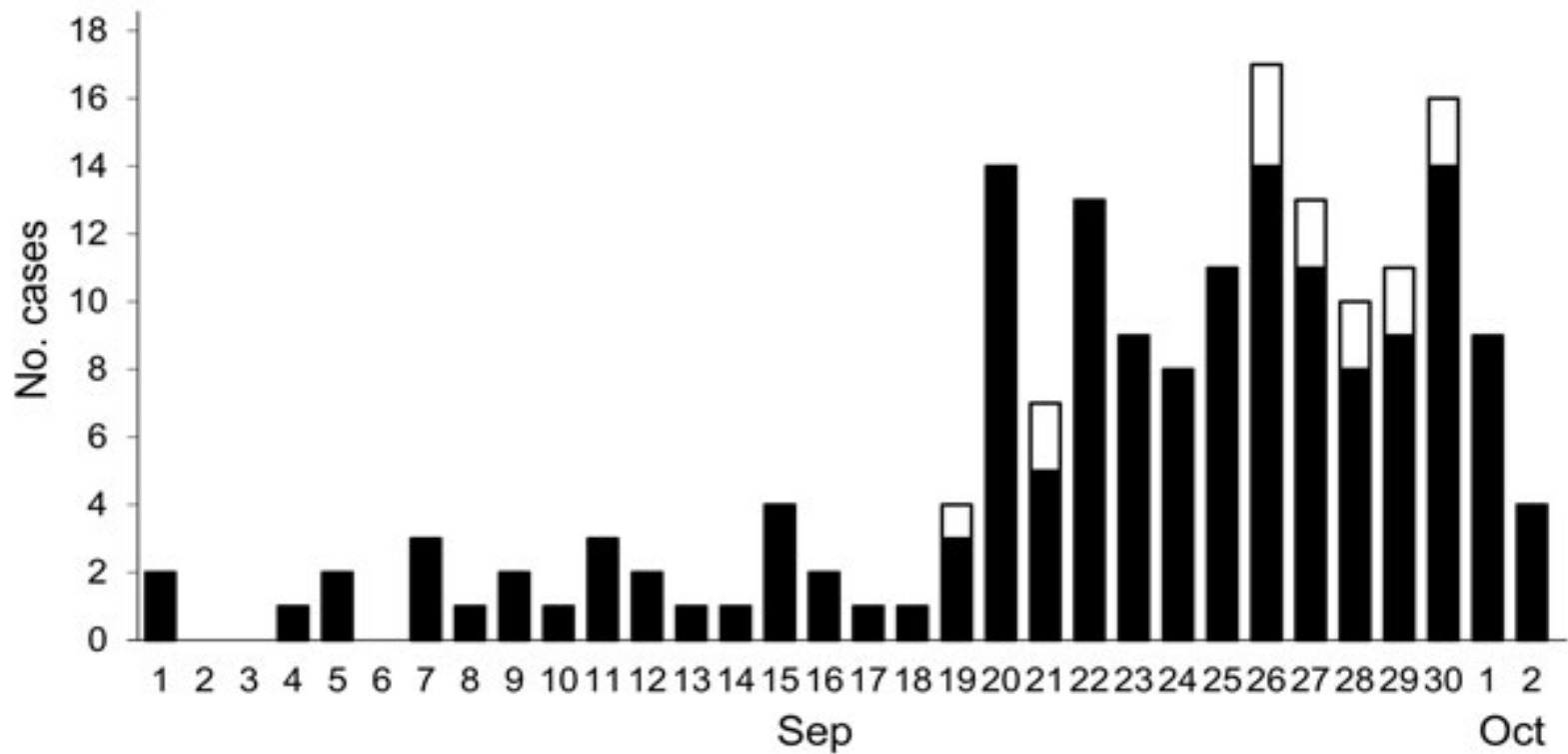
# Prevention

- No vaccine or medication is available
- Reduce mosquito exposure
  - Air conditioning or window/door screens
  - Use mosquito repellent (20% DEET at least)
  - Wear long-sleeved shirts and long pants
  - Empty standing water from outdoor containers
- People with chikungunya or dengue should be protected from further mosquito exposure during the first 7-10 days of illness
- People with increased risk (neonates, older adults >65 years, and persons with underlying health risks) should consider not travelling to places currently experiencing high rates of dengue or chikungunya

# Concern in Georgia (in early 2014)

- Humans act as the reservoir – mosquitos infect people after they have fed on someone who is infected
- We have the appropriate vectors here in Georgia
- Can spread quickly, in 2005-2006 more than 272,000 people were infected in an outbreak on the Indian Ocean islands of Reunion and Mauritius
- In 2006, 1,500,000 cases were reported in an outbreak in India

## 2010 Chikungunya outbreak in China



*Chikungunya Outbreak in Guangdong Province, China, 2010. Emerging Infectious Diseases, March 2012*



# Potential Vectors in Georgia

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.

National Center for Emerging and Zoonotic Infectious Diseases  
Division of Vector-Borne Diseases -- <http://www.cdc.gov/ncezid/dvbd>



# June 2014: So it begins...

- Early June:

Receive a call at the state health department concerning a Georgia resident who traveled to a country in the Caribbean and returned with classic Chikungunya symptoms.

## Early June, cont.

- The next day we receive a call about a group that traveled to the Caribbean with multiple people who are ill, all of the ill persons are under 18 and the person calling is the parent of 2 of them. He is uncomfortable giving contact information on the others without talking to them first

## Early June, cont.

- The following day, we receive a call about another group with travel to the Caribbean. One of the members of the group is at a local hospital but is from another state. The caller is the leader of the group and is afraid to give contact information.

# Epi's Response

- Educate those who are ill with chik-consistent symptoms on mosquito avoidance for the first 7-10 days of illness regardless of testing
- Test those who meet minimum case definitions clinically
- Work to get information for other persons in groups so we can pass on mosquito education and addresses to EH as appropriate for forward to mosquito control
- Get information out to the public on mosquito avoidance through our communications department
- CDC changes recommendation on testing to commercial labs

# Improving Epi's Response

- The Zoonotic and Vectorborne Disease Team at GDCPH develop a guidance document for district health departments and release it in mid-June of 2014
- We also opened an outbreak log in our Outbreak Management System (OMS) – the same system used to manage the H1N1 outbreak in 2009
- Called commercial labs to make sure they sent us Chikungunya results

# Guidance Document Highlights

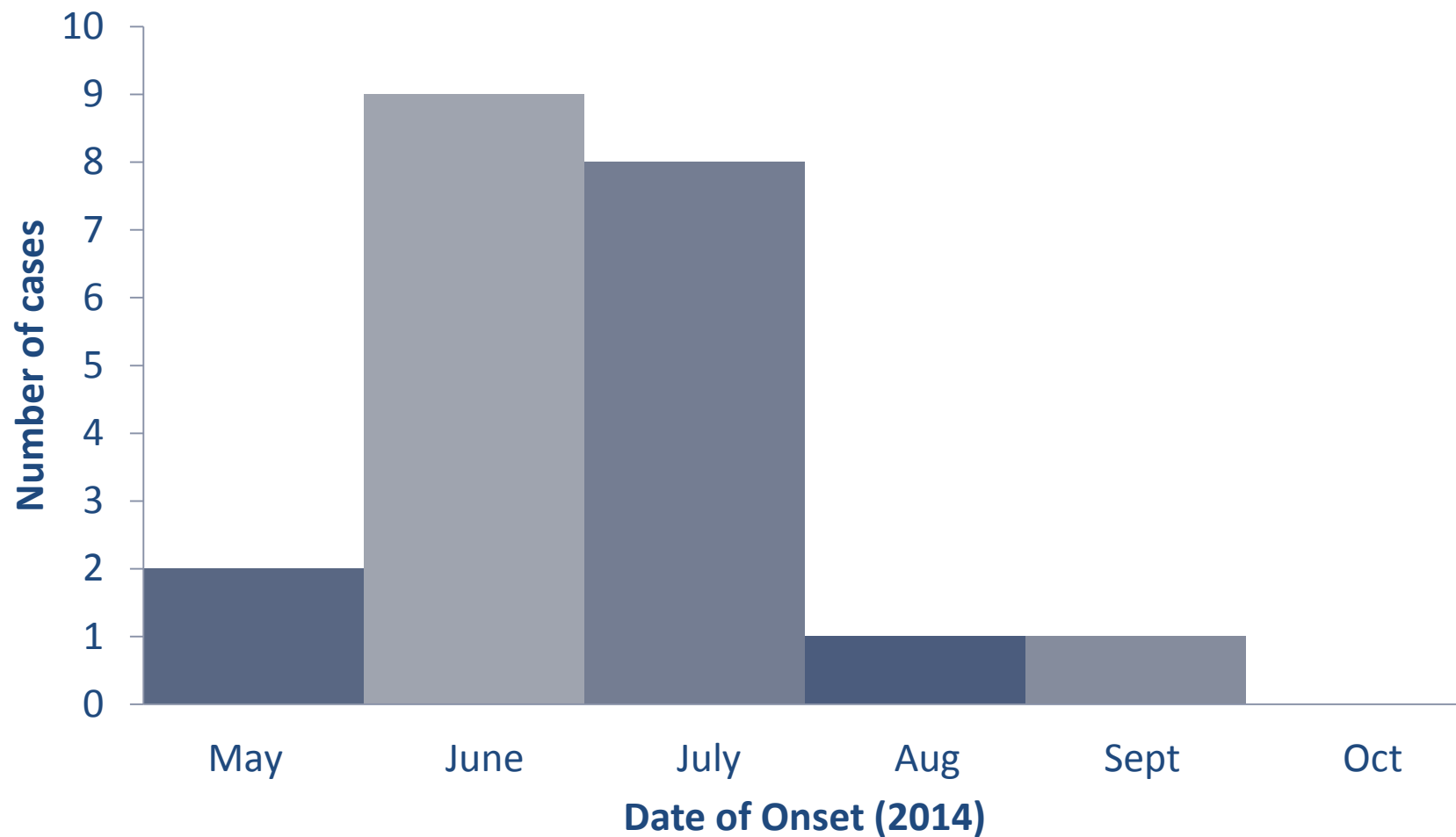
- Chikungunya Informational Resources
- Current Status of Chikungunya Distribution and Transmission
- Surveillance and Response
- Case Definitions for Chikungunya Virus Infection
- Laboratory Testing Protocols (Human)
- Release of Information to Media
- Differentiating Chikungunya and Dengue
- DPH Chikungunya Case Report Form
- Example Interview Script for Fellow Travelers of a Suspect or Confirmed Case
- Chikungunya and Mosquitoes: Talking Points
- Media Talking Points
- DPH Contact List

# Surveillance in Georgia

- As in other states, we collect information and manage cases through passive surveillance mechanisms
- Cases are reported to the state health department or districts by hospitals, labs, or Georgia citizens
- Districts investigate the case and the state assists with testing decisions, case classification, and follow-up as needed
- If a suspect case agrees, I will forward the street of residence to EH for follow up while investigation is on-going



## Confirmed Cases of Chikungunya in Georgia by Onset Date



# Challenges

- Resources
  - Testing cannot be done at the state public health lab – delays/patient refusal to use commercial labs
  - Districts manage all notifiable diseases, not just vectorborne
- Delay in reporting
- Lack of education on the part of physicians
- Refusal of mosquito surveillance

# Strengths!

- Fast response to initial cases and development of guidance
- Our amazing district staff
- Mosquito control and the information we receive from you all
- Guidance documents themselves

# Who to Contact

## Epidemiology:

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## Entomology:

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- References: CDC pages on Chikungunya, DPH Guidance documents