

Chikungunya Virus: Preparing Florida for an Emerging Threat



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Florida Demographics

	Florida
Population (2012 est.)	19,320,749
Hispanic or Latino (2012)	23.2%
Foreign born (2008-2012)	19.3%
Language other than English at home (age 5+, 2008-2012)	27.3%
Persons below poverty level (2008-2012)	15.6%
Persons per sq. mile	350.6

Source: US Census <http://quickfacts.census.gov/qfd/states/12/1245000.html> accessed 2/5/2014

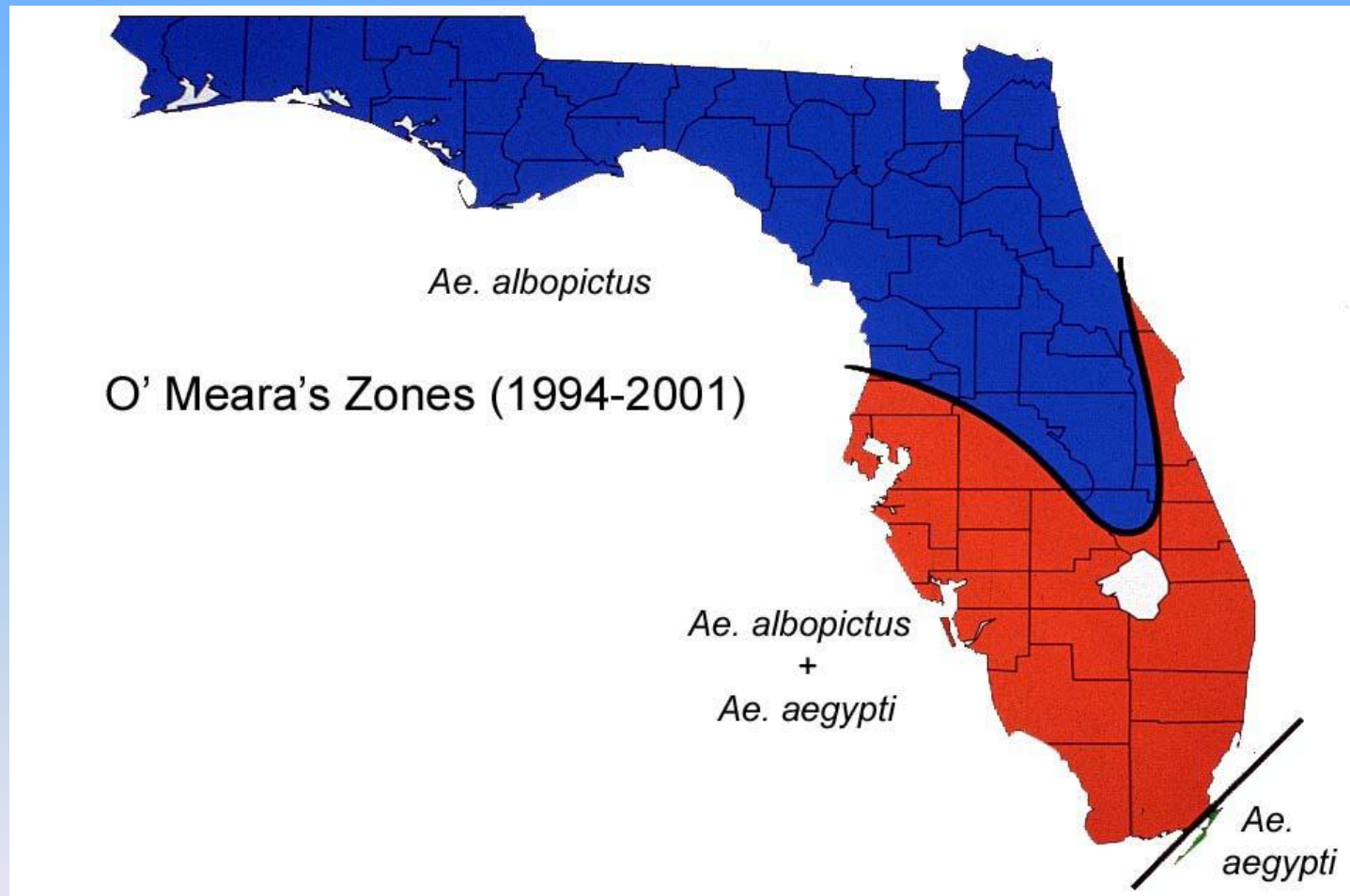


Florida Visitors

2013: Over 15 million international visitors;
more than 7 million from dengue-endemic
countries in Latin America/Caribbean

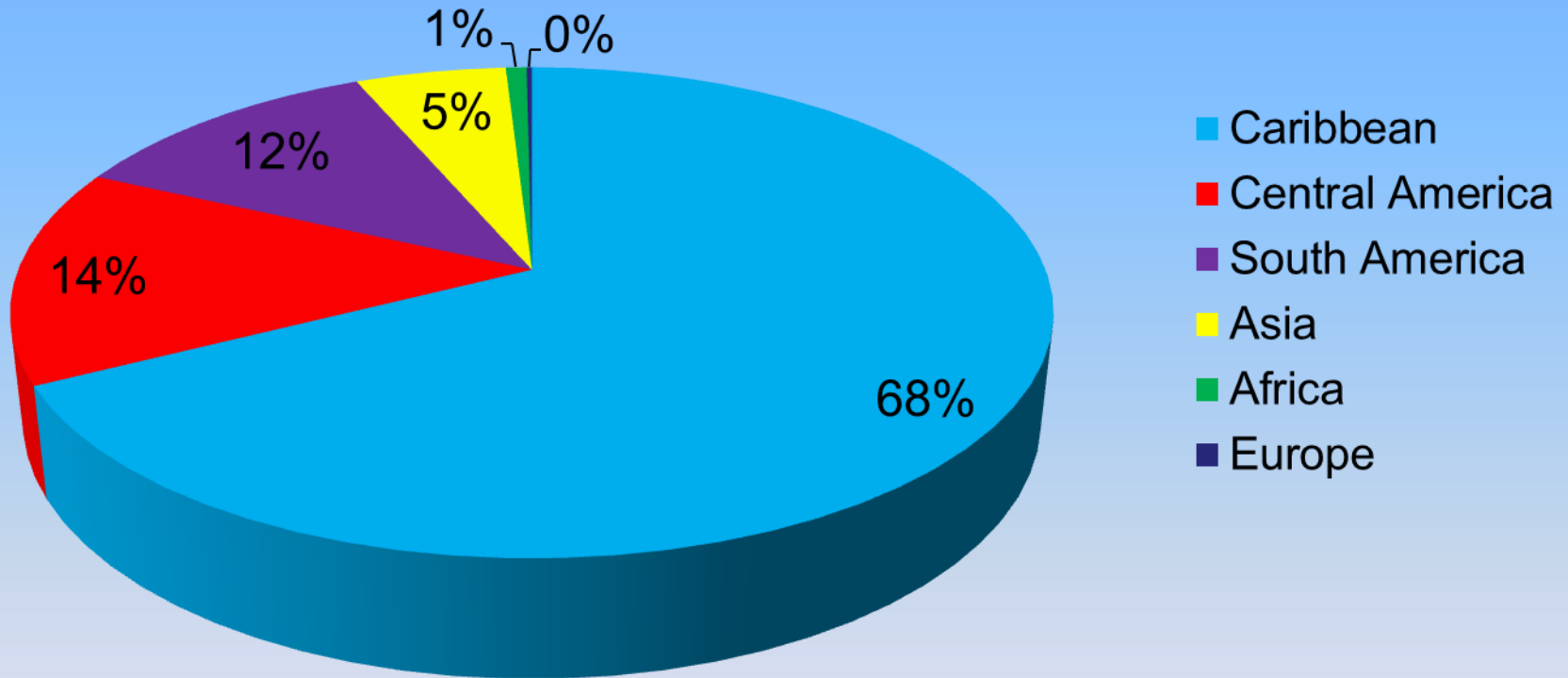
2011: 13.5 million cruise ship passengers;
many ports of call in Caribbean

General *Aedes aegypti* and *Aedes albopictus* Distribution



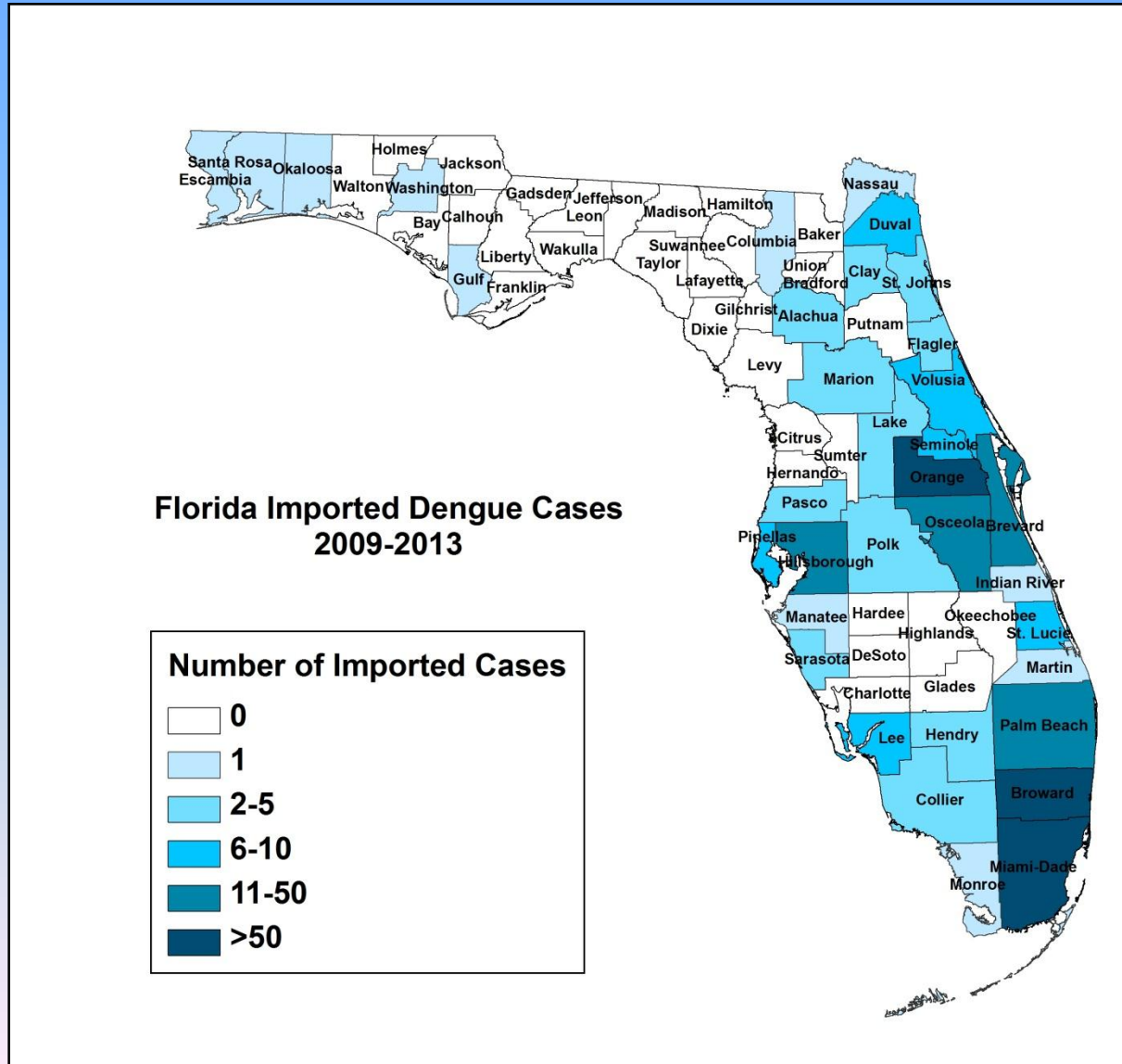
Courtesy of Dr. Peter Jiang, FDACS

Imported Dengue Cases, Florida 2009-2013



n = 524

Imported Dengue in Florida, 2009-2013



FL Local Dengue, 2009-2013

County	Primary Vector ⁺	# Imported Cases [°]	Local Intros	Non-U.S. Born
Broward	AE	59 (11%)	1	31%
Hillsborough	AE	22 (4%)	1	15%
Martin	AA/AE	1 (<1%)	2	16%
Miami-Dade	AE	189 (36%)	8	51%
Monroe	AE	1 (<1%)	1	10%
Palm Beach	AA / AE	46 (9%)	2	22%
Osceola	AA	19 (4%)	1	20%
Florida	AA/AE	337/524*	16	19%

+AA: *Aedes aegypti*; AE: *Aedes albopictus*

* Total imported cases in Florida

° Percent of total imported cases in Florida

Imported Chikungunya

- December 2006-Miami Dade
- January 2007-Volusia
- January 2010-Miami Dade
- November 2013-Miami Dade
- December 2013-Sarasota



Reportable Disease

Reportable Diseases/Conditions in Florida Practitioner* List 11/24/08

Did you know that you are required by Florida statute** to report certain diseases to your local county health department?

*Reporting requirements for laboratories differ. For specific information on disease reporting, consult Rule 64D-3, Florida Administrative Code (FAC).

! = Report immediately 24/7 by phone upon initial suspicion or laboratory test order

☎ = Report immediately 24/7 by phone

• = Report next business day

+ = Other reporting timeframe

! Any disease outbreak	! <i>Haemophilus influenzae</i> (meningitis and invasive disease)	! Rabies (possible exposure)
! Any case, cluster of cases, or outbreak of a disease or condition found in the general community or any defined setting such as a hospital, school or other institution, not listed below that is of urgent public health significance. This includes those indicative of person to person spread, zoonotic spread, the presence of an environmental, food or waterborne source of exposure and those that result from a deliberate act of terrorism.	Hansen's disease (Leprosy)•	! Ricin toxicity
Acquired Immune Deficiency Syndrome (AIDS)+	☎ Hantavirus infection	Rocky Mountain spotted fever•
	☎ Hepatitis A	! Rubella (including congenital)
	Hepatitis B, C, D, E, and G•	St. Louis encephalitis (SLE) virus disease (uroinvasive and non-neuroinvasive)•
	Hepatitis B surface antigen (HBsAg) (positive in a pregnant woman or a child up to 24 months old)•	Salmonellosis•
	Herpes simplex virus (HSV) in infants up to	Saxitoxin poisoning including paralytic shellfish poisoning (PSP)•
		! Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV) disease
		Shigellosis•

Notification

If there is a suspected case:

- Medical providers should immediately contact their county health department.
- County health departments should immediately contact the local mosquito control district and the Vector-Borne Surveillance Coordinator.
- If suspect case was potentially viremic while visiting another Florida county, corresponding county health department should be notified immediately.

Information-sharing MOA

**Agreed protocol for reporting arbovirus human cases to Mosquito Control jurisdictions
by County Health Departments**

HIPAA BUSINESS ASSOCIATE AGREEMENT

The Florida Department of Health and its xxxxxxxxx COUNTY HEALTH DEPARTMENT, hereinafter Covered Entity, and xxxxxxxxxxxx (mosquito control), hereinafter Business Associate agree to the following terms and conditions in addition to an existing agreement to perform services that involve the temporary possession of protected health information to develop a product for the use and possession of Business Associate. After completion of the contracted work all protected health information is returned to the Covered Entity or destroyed as directed by the Covered Entity.

State Lab Testing

DOH Bureau of Public Health Laboratories (BPHL):

- BPHL Tampa and Jacksonville
 - RT PCR \leq 8 days post onset
- BPHL Jacksonville
 - IgM EIA \geq 4 days post onset
 - IgG EIA $>$ 8 days post onset



RT PCR: reverse transcriptase polymerase chain reaction
EIA: enzyme-linked immunosorbent assay

State Lab Testing

- At least 2 ml of serum (red or tiger top)
- Cerebral spinal fluid (CSF) and autopsy tissues as appropriate
- Virus isolation/detection-placed on dry ice immediately after collection and kept frozen on dry ice while in transit
- Convalescent samples ship chilled

State Lab Testing

- All specimens that come to BPHL for dengue testing with travel to the Caribbean will also be tested for chikungunya and vice versa.
- Suspect local dengue cases will also be tested for chikungunya.

Case Definition

Clinically compatible illness

- Fever or chills as reported by the patient or a health care provider, AND
- Arthralgia or arthritis involving two or more joints, AND
- Absence of a more likely clinical explanation

Case Definition

Confirmed case

- A person with a clinically compatible illness and one or more of the following:
 - PCR
 - PRNT
 - IgM antibodies with confirmatory virus-specific neutralizing antibodies

Case Definition

Probable case

- A person with a clinically compatible illness and IgM antibodies with no virus-specific neutralizing antibody testing

Suspect case

- A person with a clinically compatible illness and no testing

Investigation

Assess for possible travel-associated versus locally-acquired infection:

- Recent travel: specific dates and locations of travel in the two weeks prior to illness onset
- No recent travel: any household contacts (household members or visitors) have traveled one month prior to illness onset

Investigation

Specimen collection:

- Forward acute serum to the BPHL for testing of chikungunya and dengue viruses.
- Arrange for a convalescent sample to be collected.
 - 10-14 days after the acute serum

Investigation

During acute stage of illness recommend:

- Case-patient stay in air conditioned or screened accommodations; use repellent when outside.
- Reduce mosquito breeding sites in and around the home.



Merlin

Outbreak Info

Outbreak ID: **1806**
Outbreak Date: **12/11/2013**
Outbreak Type: **DISEASE**

Outbreak Name: **STATE - CHIKUNGUNYA**
County: **STATE**
Outbreak Status: **OPEN**

Outbreak Summary

Outbreak Name: **STATE - CHIKUNGUNYA**
Outbreak Case Definition: **ALL SUSPECT, PROBABLE, AND CONFIRMED CASES OF IMPORTED OR LOCALLY ACQUIRED CHIKUNGUNYA (SEE SURVEY QUESTIONS FOR CASE DEFINITIONS)**

State Arbovirus Guide-Ch. 8

- Mosquito-Borne illness risk level (1-5)
 - Awareness
 - **Advisory**
 - Alert
 - Threat
- County health department issues advisories and alerts in consultation with mosquito control district and Vector-Borne Disease Surveillance Coordinator.

Surveillance and Control of Selected
Mosquito-borne Diseases in Florida

2013 Guidebook



COVER



Protect yourself from mosquito bites & the diseases they carry.



DRAIN

Feeling the sting of mosquitoes? Then it's time to

drain and cover.



Resources

- Weekly report
- State guide
- Clinician one-pager
- Educational materials (multiple languages) and press release templates
- State Arbovirus Advisory Committee

<http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/index.html>



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