Zika virus disease epidemiology in the Americas, 2015–2016

Zika Response Epidemiology and Surveillance Task Force

October 20, 2016

Zika virus

- RNA flavivirus related to dengue, yellow fever, Japanese encephalitis, and West Nile viruses
- Transmitted to humans primarily by Aedes (Stegomyia) species mosquitoes
- Typically causes asymptomatic infection or mild dengue-like illness
- Recent outbreaks identified new modes of transmission and clinical manifestations

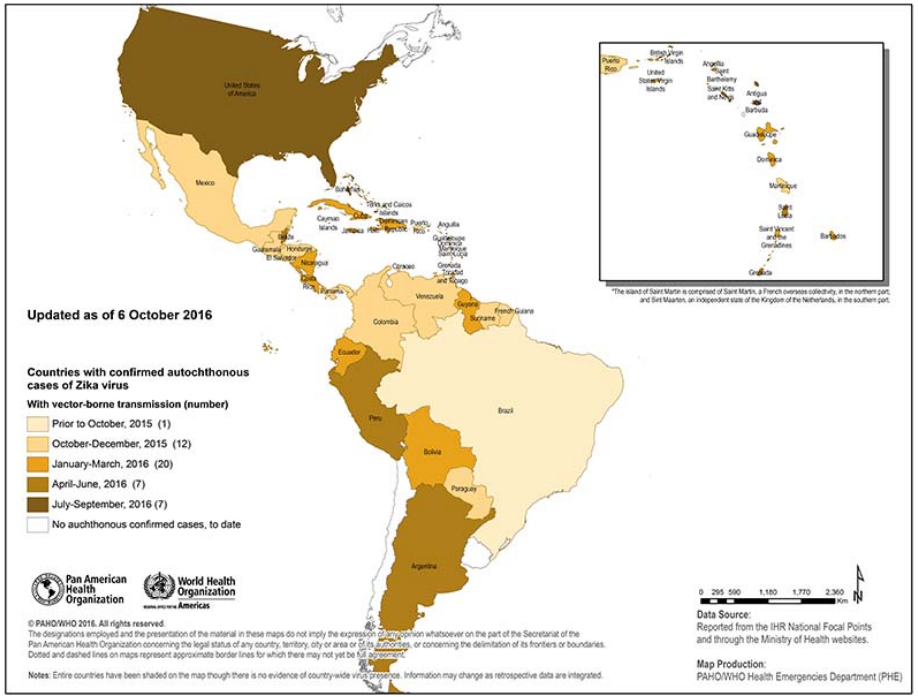
Aedes aegypti

Aedes albopictus

Zika virus epidemiology

- First isolated from a monkey in Uganda in 1947
- Before 2007, only sporadic human disease cases reported from Africa and southeast Asia
- In 2007, first outbreak reported on Yap Island, Federated States of Micronesia
- In 2013–2015, >30,000 suspected cases reported from French Polynesia and other Pacific islands
- Local transmission first identified in the Americas in May 2015

Locally transmitted Zika virus disease cases reported to PAHO by country in the Americas, 2015–2016 (as of Oct 13)

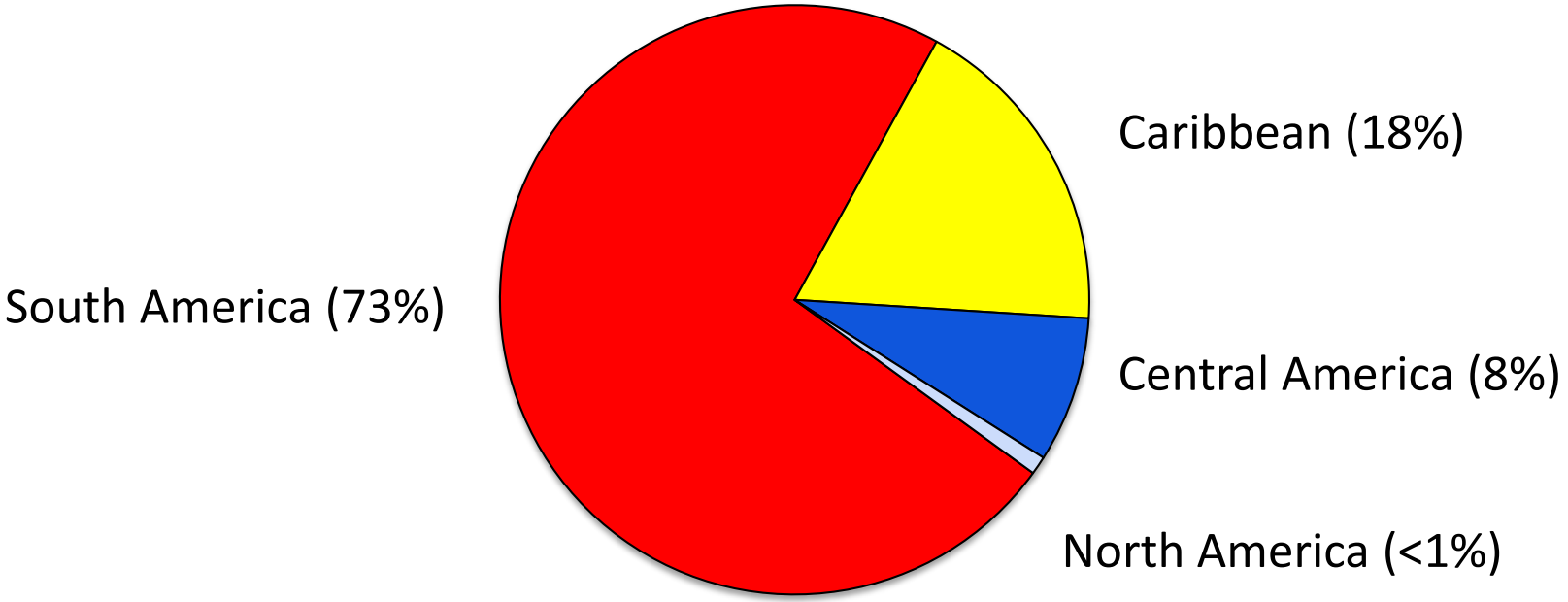


Country/Territory (N=47)	(N=661,183)*	
Brazil	298,827	(45%)
Colombia	104,465	(16%)
Venezuela	60,176	(9%)
Martinique	36,467	(6%)
Honduras	31,799	(5%)
Guadeloupe	30,969	(5%)
Puerto Rico	26,701	(4%)
El Salvador	11,285	(2%)
Other	60,494	(9%)

*23% of cases are lab-confirmed

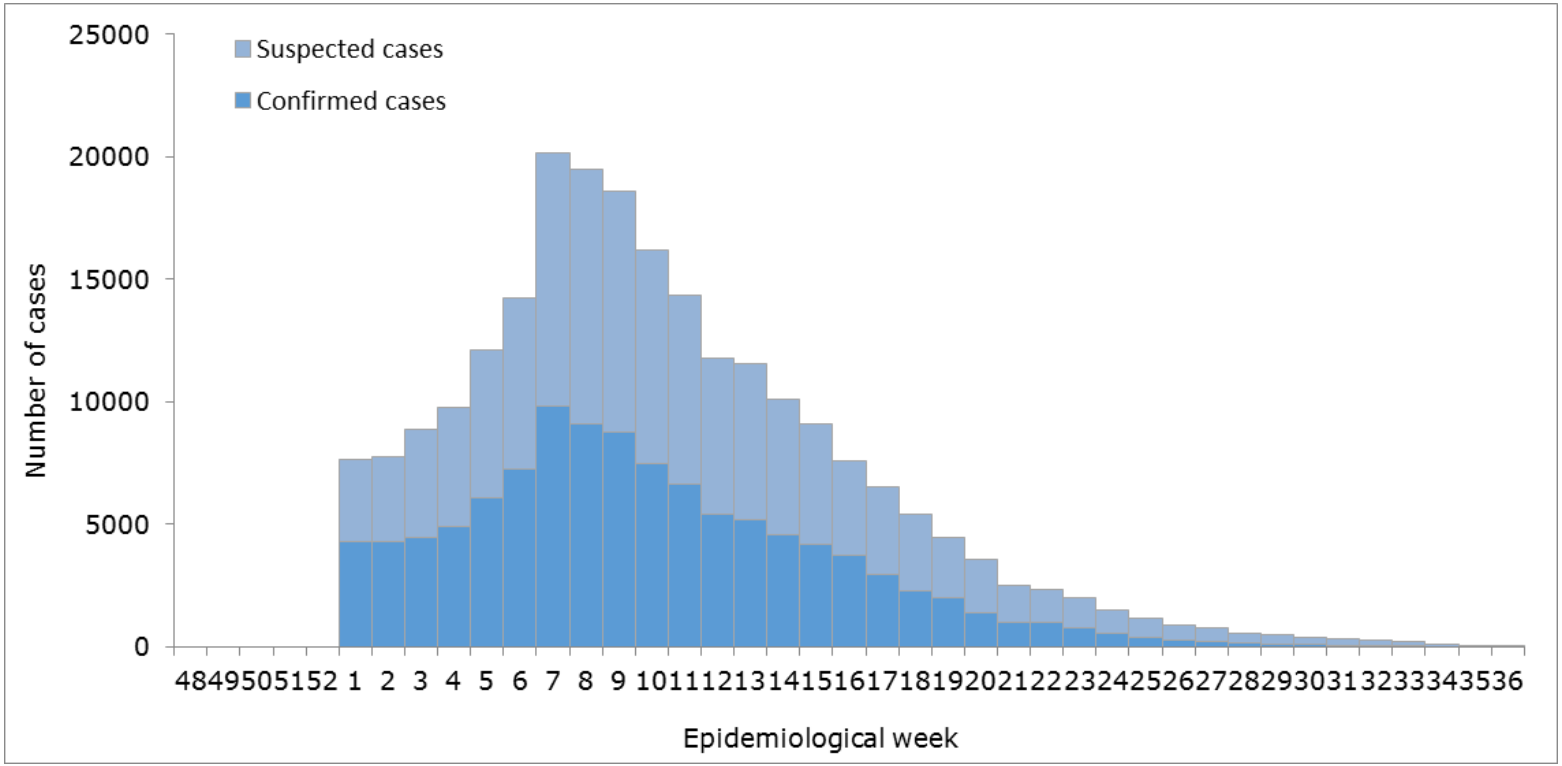
http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&Itemid=270&gid=36555&lang=en

Suspected and confirmed locally transmitted Zika virus disease cases reported to PAHO by region in the Americas, 2015–2016



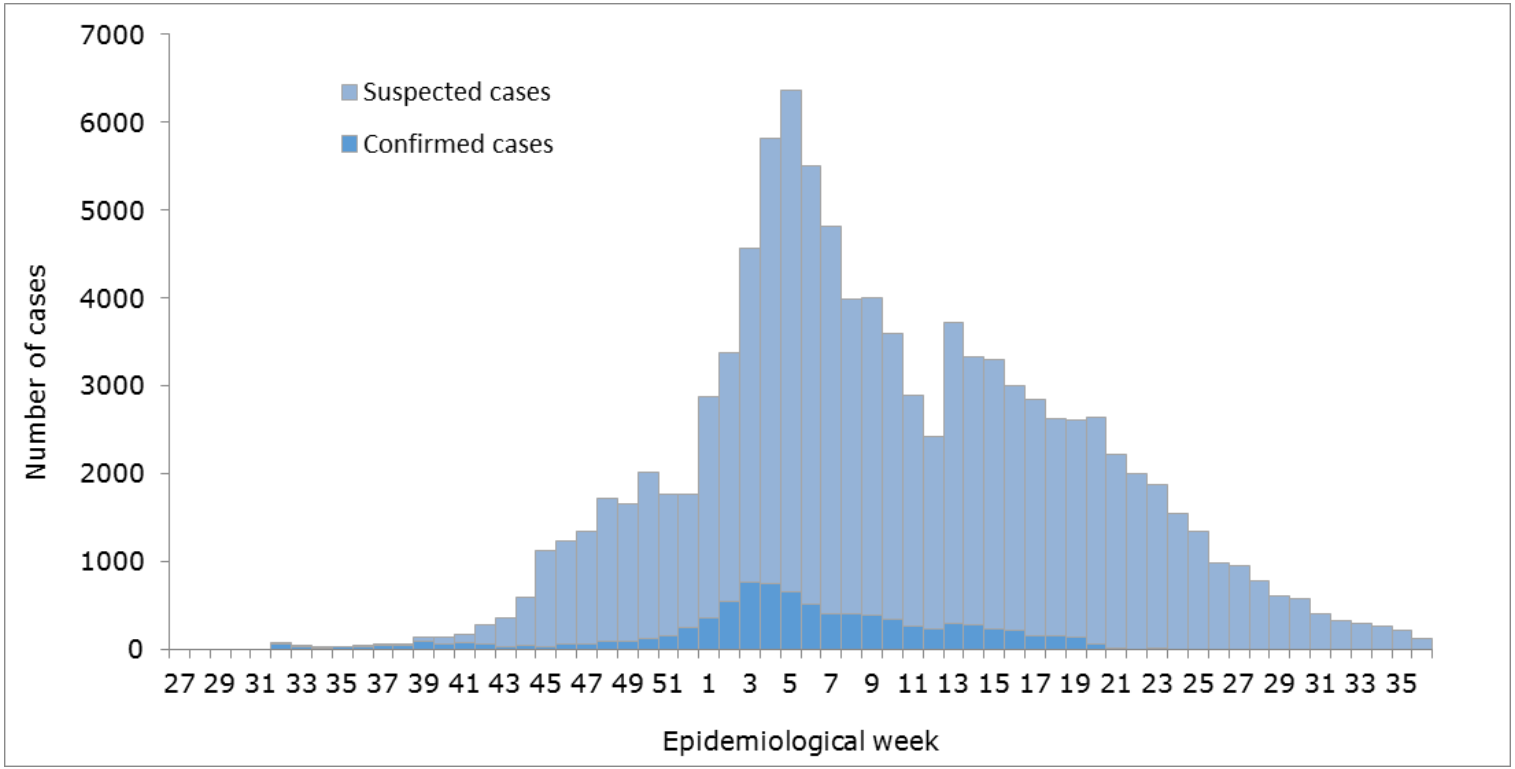
N=661,183 suspected and confirmed cases

Suspected Zika virus disease cases reported to PAHO from Brazil, Jan–Oct 3, 2016



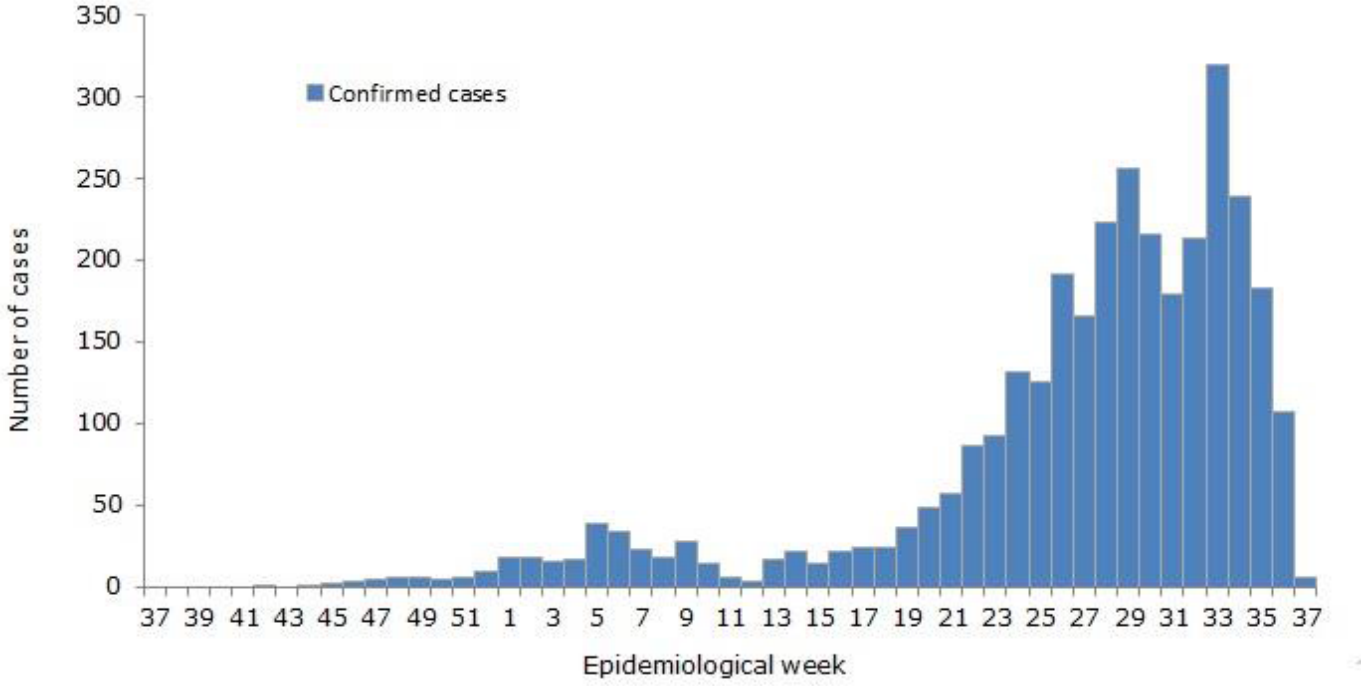
http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=35221&Itemid=270&lang=en

Suspected and confirmed Zika virus disease cases reported to PAHO from Colombia, Jul 2015–Oct 3, 2016



http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=35139&Itemid=270&lang=en

Confirmed Zika virus disease cases reported to PAHO from Mexico, Sep 2015–Oct 3, 2016



http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=35106&Itemid=270

Laboratory-confirmed Zika virus disease cases reported to ArboNET by states or territories — United States, 2015-2016 (as of Oct 12, 2016)

	Travel-associated cases* (N=3,892)		Locally acquired cases† (N=25,999)	
States	3,808	(98%)	128	(<1%)
Territories				
Puerto Rico	75	(2%)	25,355	(98%)
U.S. Virgin Islands	2	(<1%)	469	(2%)
American Samoa	7	(<1%)	47	(<1%)

*Includes cases in travelers and their contacts with presumed sexual or in utero transmission, one case with unknown route of person-to-person transmission, and one lab acquired case

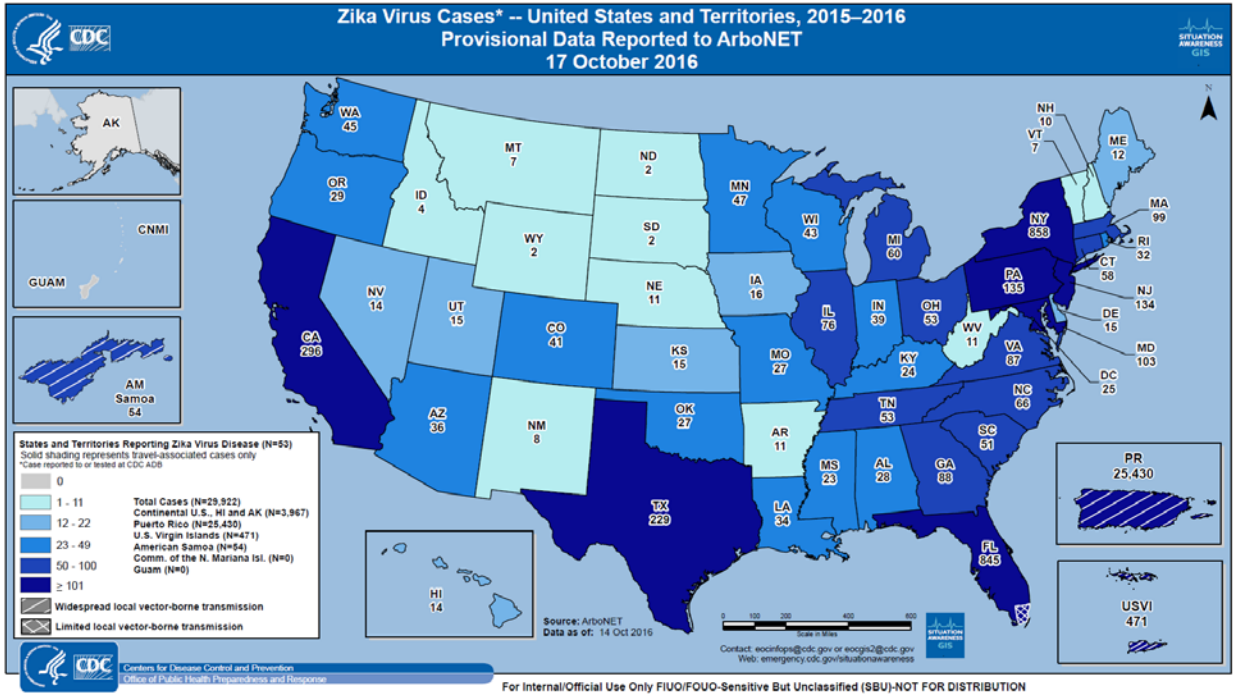
†Presumed local mosquito-borne transmission

www.cdc.gov/zika/geo/united-states.html

ArboNET

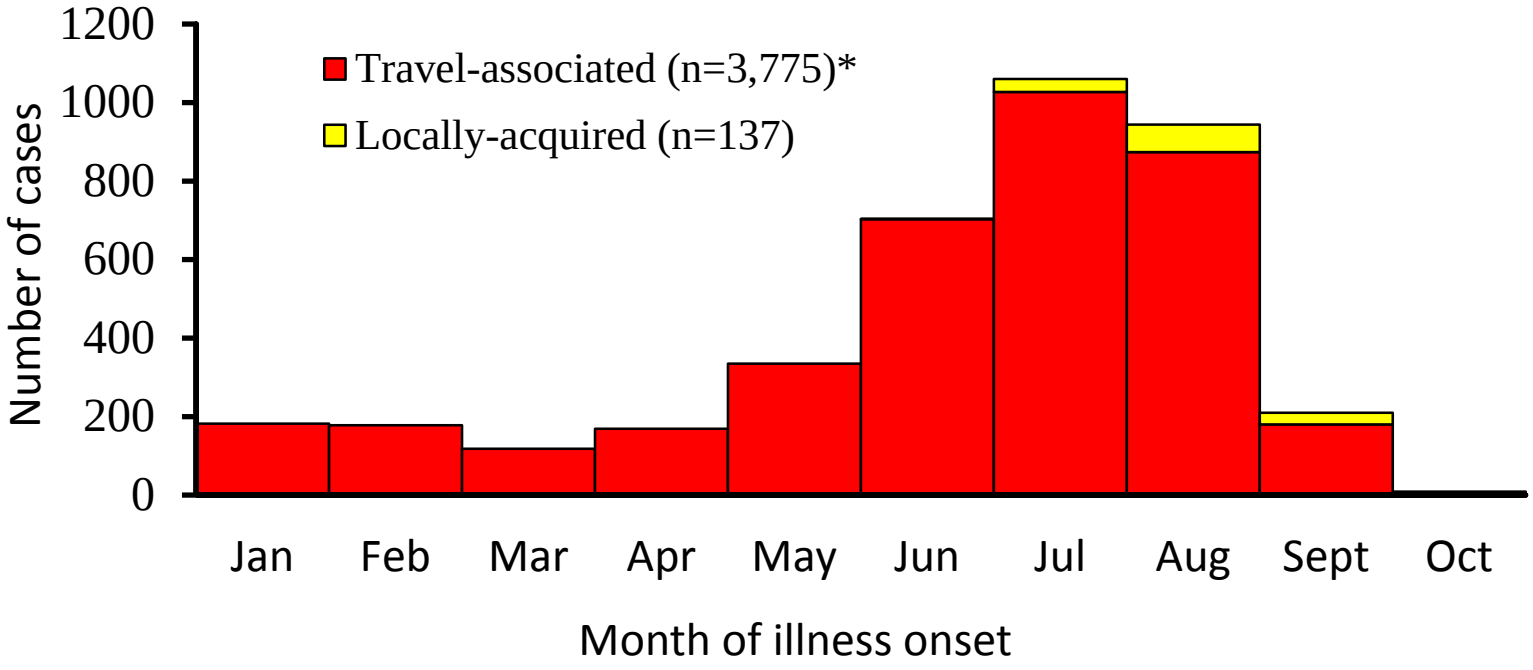
CDC

State of residence for reported Zika virus disease cases — U.S. states 2015-2016 (as of Oct 12, 2016)



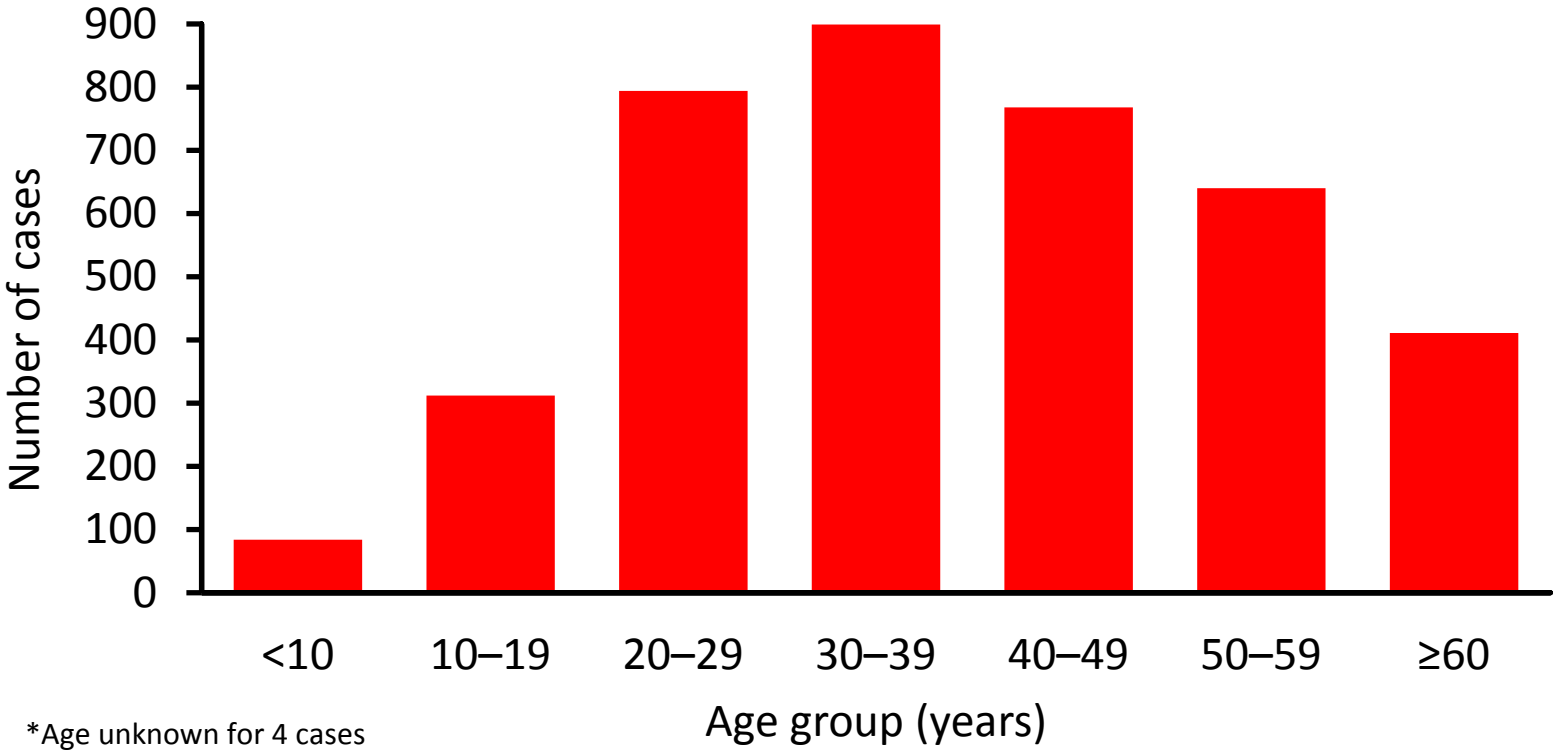
State	(N=3,936)
NY	858 (22%)
FL	836 (21%)
CA	296 (8%)
TX	228 (6%)
PA	135 (3%)
NJ	134 (3%)

Month of illness onset for reported Zika virus disease cases — U.S. states, Jan-Oct 2016



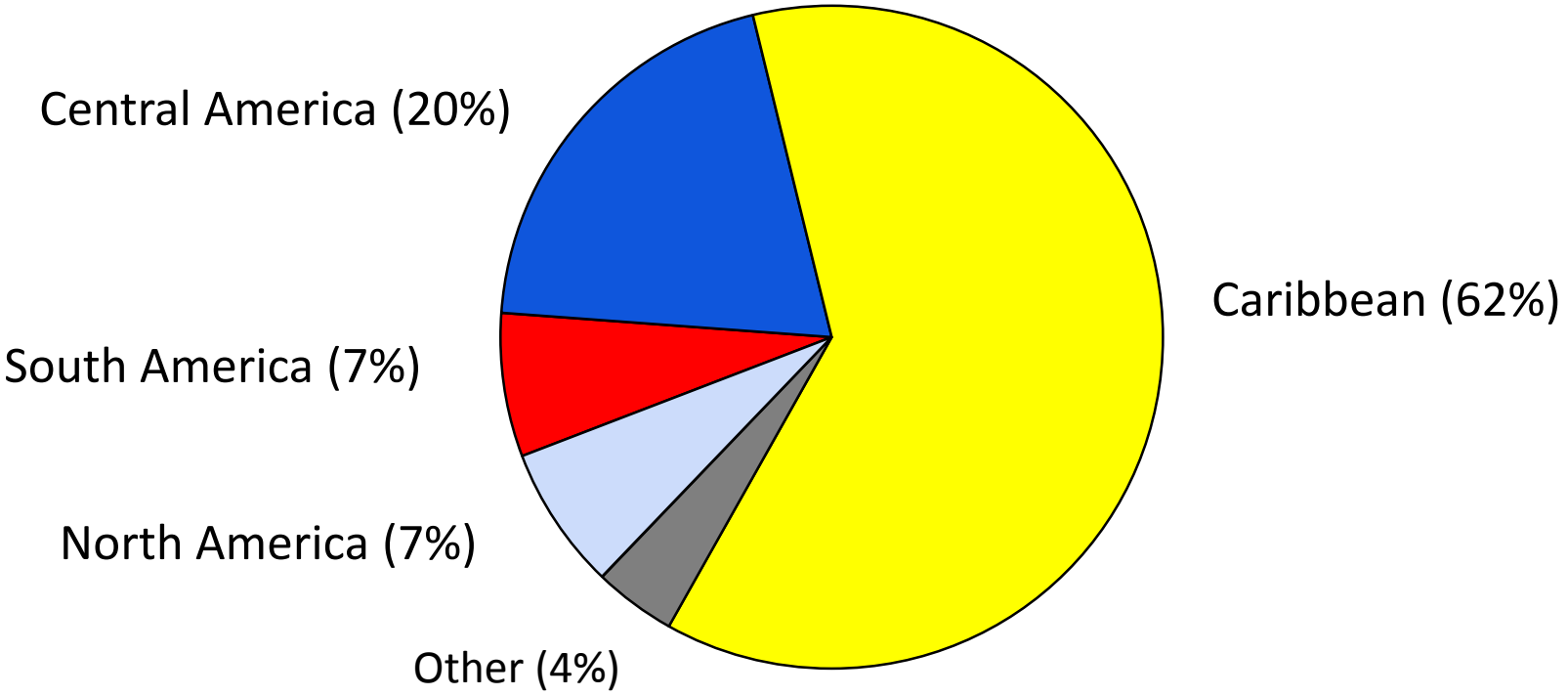
*Travelers or their sexual contacts returning from affected areas

Age group for reported Zika virus disease cases — U.S. states, Jan-Oct 2016 (N=3,912*)

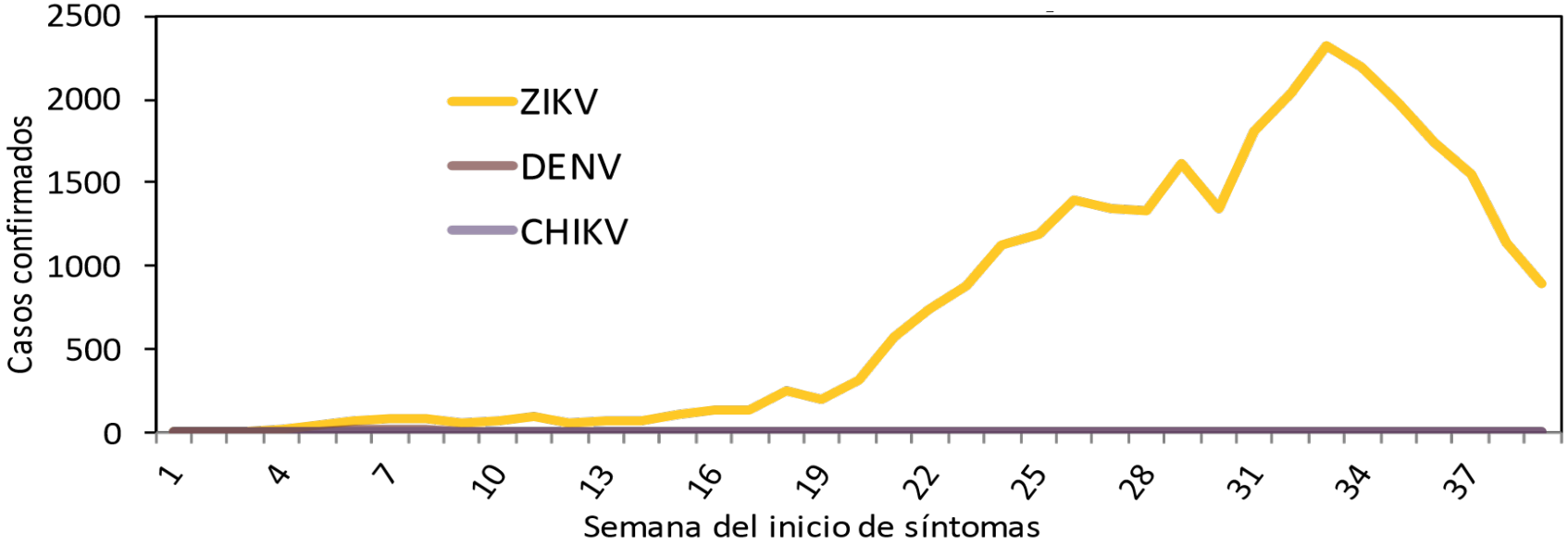


*Age unknown for 4 cases

Region where reported U.S. travel-associated Zika virus disease cases were acquired, Jan–Sept 2016



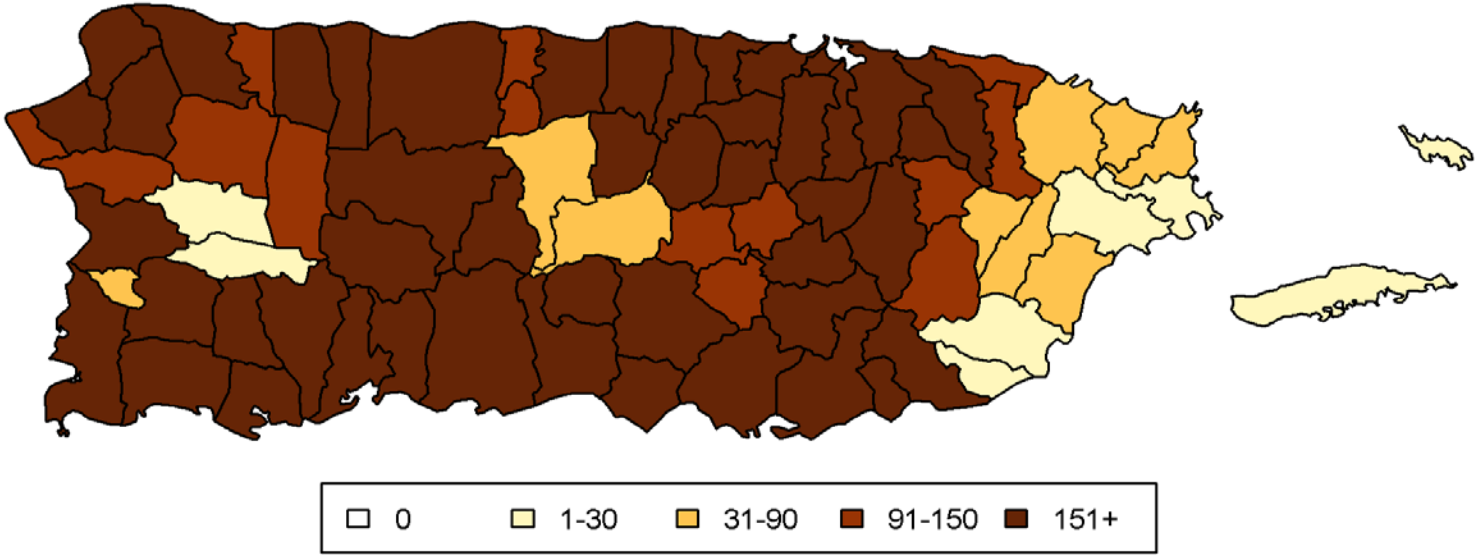
Confirmed Zika, dengue, and chikungunya virus disease cases reported from Puerto Rico by week of illness onset, 2016*



*as of Sept 29, 2016

http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Pages/Informe-Arboviral.aspx

Confirmed Zika virus disease cases reported from Puerto Rico by municipality, week 39, 2015–2016 (n=28,878)



http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Pages/Informe-Arboviral.aspx

Mosquito-borne transmission in Florida

As of Oct 17, 2016

Mosquito-borne transmission in Florida

- Sporadic locally acquired cases identified in multiple counties in south Florida
- Multiperson transmission identified in three areas of Miami-Dade County
  - Resulted in recommendations for pregnant women to avoid travel to those areas
- No evidence of ongoing active local transmission in one of the three areas after aerial spraying and other mosquito control efforts
- As of Oct 17th there were 160 locally acquired cases reported by Florida DOH
- Florida DOH continues to report active investigations in several counties in south Florida
- Pregnant women and their sex partners who are concerned about potential exposure to Zika may consider postponing nonessential travel to all parts of Miami-Dade County

Likos A, et al. MMWR 2016;65:1032-1038. DOI: http://dx.doi.org/10.15585/mmwr.mm6538e1
http://www.floridahealth.gov/newsroom/2016/10/101116-zika-update.html

Zika virus vaccine development and clinical trials

- U.S. government interagency working group objectives
  - Evaluate promising candidate vaccines for safety, immunogenicity, and efficacy
  - Have one or more candidate vaccines available in 2018 for emergency use in U.S. populations at high risk of exposure or disease
  - Work with partners to commercialize vaccines for broad distribution by 2020
- Current status
  - Many vaccine candidates in preclinical development
  - Four vaccines in phase 1 clinical trials by end of 2016
  - Phase 2 studies scheduled to begin in 2017

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.