

Travel-Related Arboviral Infections: Chikungunya Virus and Dengue Virus

With its recent emergence in the Americas, chikungunya virus infection has quickly become another significant source of travel-related arboviral infection among Philadelphia residents along with dengue virus, the most common arboviral infection worldwide. Both infections can cause febrile illness in travelers returning from tropical and subtropical regions, with polyarthralgia occurring in most with chikungunya. Dengue infections can progress to more severe illness (hemorrhagic fever or shock syndrome) that can be fatal.

Chikungunya virus and dengue virus are spread by *Aedes spp.* mosquitoes, which are daytime biters and found around homes due to their short flight range. *Aedes aegypti*, a principle vector for transmission of both viruses is not found in Philadelphia. *Aedes albopictus* (Asian tiger mosquito) are present and active during warmer months in Philadelphia. PDPH will continue to assess the presence of *A. albopictus* in Philadelphia and closely monitor human surveillance data to promptly identify local transmission should it occur.

Chikungunya and Dengue Infections, Philadelphia, 2011—2015

Year, n	Travel-Related Arboviral Infections ^a	
	Chikungunya	Dengue
2015 ^a	2	4
2014	42	0
2013	0	11
2012	0	1
2011	0	1
Median Age (Range), y	42.5 (5–78)	46 (10–79)
Female, n (%)	34 (77)	9 (53)
Foreign Born, n (%)	31 (70)	5 (29)
Hospitalized, n (%)	9 (20)	13 (76)
Death, n (%)	0 (0)	1 (6)

^aPreliminary year to date data for 2015.

Worldwide Distribution Reports

- [Chikungunya](#)
- [Dengue](#)

Prevention:

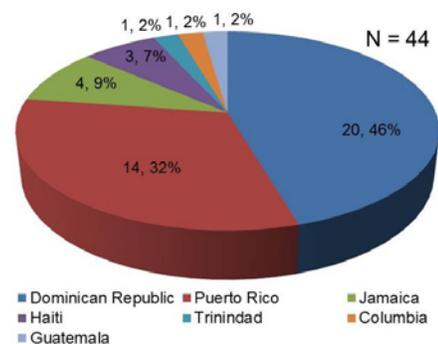
- Advise patients traveling to tropical/subtropical regions to take mosquito-bite prevention measures.
- Have those at risk for severe disease (>65 years, persons with underlying conditions, women late in pregnancy) consider not traveling.
- Advise cases to stay indoors and avoid mosquitoes for the first 7 days of illness.

Treatment:

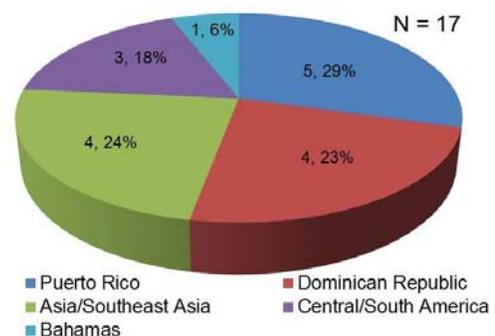
- Manage chikungunya as dengue with acetaminophen recommended for initial treatment.
- If dengue has been ruled out, narcotics or NSAIDs may be considered to manage pain due to chikungunya.

Travel Destinations

Chikungunya Cases



Dengue Cases



Testing and Reporting:

- If either chikungunya or dengue is suspected, collect serum and test for both pathogens.
 - Order PCR between day 1 and 8 of illness
 - Order IgM & IgG if ≥ day 4 of symptom onset
- Testing is available through the Pennsylvania Department of Health's Bureau of Laboratories and Focus Diagnostics. Quest Diagnostics and LabCorp also will forward orders to Focus.
- Report suspected and confirmed infections to PDPH by telephone at 215-685-6740 (215-686-4514 after hours) or fax at 215-238-6947.

Online Resources:

- [CDC Dengue Clinician Guide](#)
- [CDC Grand Rounds: Dengue and Chikungunya in Our Backyard](#)