

Briefing Statement

Bureau: National Park Service
Issue: Update—Chikungunya outbreak in the Caribbean and South America
Park Sites: BUIS, CHRI, SAJU, SARI, VICR, VIIS
Date: June 16, 2014

Background: In December 2013, the first locally-acquired cases of chikungunya fever in the Americas occurred among residents of Saint Martin (French side). Since December, chikungunya virus (CHIKV)—a virus transmitted by mosquitoes—has spread to 18 other nations/territories in the Caribbean and South America where over 170,000 suspected and confirmed cases have been reported (as of June 13).

Puerto Rico and the U.S. Virgin Islands both confirmed their first locally-acquired cases of chikungunya fever in late May and early June, respectively. In the continental U.S., no locally-acquired cases have been reported, but several states have reported cases among travelers to the Caribbean.

Symptoms of chikungunya fever include high fever, headache, and severe joint pain; the disease is rarely fatal. As a vaccine is not available, the best strategy is to prevent mosquito bites. Park managers should educate employees and visitors about chikungunya fever and support/implement appropriate prevention measures.

Current Status:

- For up-to-date information on CHIKV and the outbreak in the Americas:
 - U.S. Centers for Disease Control and Prevention (CDC)
 - <http://www.cdc.gov/chikungunya/>
 - Pan American Health Organization (PAHO)
 - <http://www.paho.org/hq/index.php?lang=en>
 - Caribbean Public Health Agency (CARPHA)
 - <http://carpha.org/>
- Basic facts about chikungunya
 - Viral disease transmitted to people by infected mosquitoes (*Aedes* species), which bite mainly during the day and can also transmit dengue virus
 - Chikungunya virus (CHIKV) first described in 1952 in Tanzania
 - Besides the Americas outbreak, large outbreaks have occurred since 2006 in Kenya, India, Indonesia, Thailand, and other Asian and African countries
- Signs and symptoms
 - Symptoms usually begin 3-7 days (range: 1-12 days) after being bitten by an infected mosquito
 - Up to 25% of people infected with CHIKV do not have any symptoms
 - The most common symptoms are high fever ($\geq 102^{\circ}\text{F}$) and severe joint pain
 - Joint pain is usually symmetric and occurs often in hands and feet
 - In Makonde (African language), chikungunya means “that which bends”, referring to stooped appearance of patients in severe pain

- Other symptoms include headache, muscle pain, rash, joint swelling, conjunctivitis, and nausea/vomiting
- Treatment
 - There is no specific treatment or vaccine for CHIKV
 - Medicines (avoid aspirin) can help relieve fever and joint pain
 - A person who has recovered from chikungunya is likely immune against repeat infections
- Risk for complications
 - Most patients feel better within a week, although joint pain and other chronic symptoms (e.g. fatigue, depression) may persist for months to years
 - People at increased risk for severe disease include:
 - Newborns exposed during delivery
 - Older adults ≥65 years
 - People with chronic medical conditions, such as diabetes, high blood pressure, and heart disease
 - Deaths are rare and occur mostly in older adults
- Prevention measures
 - Wear long-sleeved shirts and long pants
 - Use repellents containing 30% or less DEET or 19% picaridin on exposed skin (<http://www.cdc.gov/westnile/faq/repellent.html>)
 - Wear permethrin-treated clothing, especially socks and pants
 - DO NOT treat skin with permethrin
 - Use bed nets, window/door screens, and indoor ceiling fans
 - Empty standing water from outdoor containers (e.g. flowerpots, tires, tarps)
 - Avoid outdoor activity at dawn and dusk (peak biting time)
 - Anyone who thinks they might have chikungunya should see a healthcare provider and remain under a mosquito bed net for duration of fever to reduce potential for infecting other mosquitoes
 - People at increased risk for severe disease should consider not traveling to areas with ongoing chikungunya outbreaks
- Implications and actions for NPS managers
 - Review prevention measures with employees, concessioners, and volunteers, and post alerts on websites and in visitor centers
 - http://www.cdc.gov/chikungunya/pdfs/CHIKV_FACT%20SHEET_CDC_General%20Public_cleared.pdf
 - Encourage inclusion of mosquito prevention measures in job hazard analyses
 - Document locations of and eliminate (in accordance with NPS policies) manmade mosquito habitat around human-occupied areas
 - Prioritize and track maintenance work orders (e.g. installing/fixing screens)
 - Contact your park/regional IPM coordinator for additional information on managing mosquitoes in human-occupied areas
 - If/when cases are identified at your park, consult with IPM, Office of Public Health, and Risk Management

Contact: CDR David Wong, MD, Chief, Epidemiology Branch, NPS Office of Public Health, (202) 538-9969, david_wong@nps.gov