



United States Army Public Health Command
**Army Vector-borne
 Disease Report**

06 June 2014

Data are preliminary and subject to change

- **Tick-borne Disease:** Changes in disease prevalence can be attributed to increased testing capacity, newly recognized disease agents and heightened awareness in healthcare communities and the public.
- **Chikungunya:** Continued increase in case numbers; Puerto Rico, Haiti, and Guyana are the latest areas reporting local transmission.

Tick-borne Diseases

Increased Testing Capacities and Newly Recognized Infections

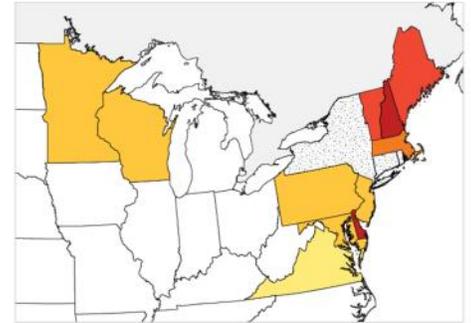
- As knowledge of tick-borne disease increases, medical and entomological professionals are becoming better able to distinguish between tick-borne pathogens that cause similar illnesses. For example, recognition of additional Rickettsial species capable of causing symptoms similar to, and false-positive tests for, Rocky Mountain Spotted Fever (RMSF), has led to a renaming of the CDC case reporting category from "RMSF" to "Spotted Fever Rickettsiosis (including RMSF)".
- Other disease agents, such as *Borrelia miyamotoi* and Heartland virus, have been identified over the last several years. Rather than representing new disease threats, these more likely help to explain previously unknown causes of febrile illness.

Expanding Ranges

- Lyme disease (LD) infections are concentrated in the northeastern and upper midwestern United States. Over the past several years, increasing numbers of infections have been identified beyond LD's historic boundaries, suggesting that the range of disease is spreading and other tick-borne pathogens causing similar illnesses are also on the rise.
- LD can be easily confused with Southern Tick-Associated Rash Illness (STARI), which is spread by lone star ticks, *Amblyomma americanum*. These ticks are found throughout southern states, and have spread north along the east coast to New England.
- *Ixodes scapularis*, the vector of Lyme disease, does inhabit the southern US but a change in tick feeding behaviors means this tick rarely vectors LD in these warmer regions.

Tick-borne Disease Prevention

- Frequent tick-checks and prompt removal of attached ticks reduce the risk of contracting disease. This is because the infected tick must be attached to the human host for hours or even days before transmission of infection can occur. The necessary attachment time varies among pathogens.
- This [CDC website](#) explains how to properly remove ticks using tweezers. "Folklore remedies," such as applying heat or petroleum jelly to the attached tick, should be avoided as these methods are much less effective in reducing risk of infection.
- Please refer to the CDC guide, [Tickborne Diseases of the United States: A Reference Manual for Health Care Providers](#) for comprehensive information on several tick-borne illnesses endemic to the United States.



Total increase in cases per 100,000 people:
 0 20 40 60 80 100
 Trend not able to be calculated

Data source: CDC (Centers for Disease Control and Prevention). 2014. Lyme disease data and statistics. www.cdc.gov/lyme/stats/index.html. Accessed January 2014.
 For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at www.epa.gov/climatechange/indicators.

Chikungunya in the Americas (As of 30 May)

- The number of countries/territories reporting local transmission of chikungunya has increased to 17: 15 Caribbean and 2 continental South American countries.¹
- 107,424 total confirmed/suspect human cases have been reported, including 13 deaths.¹
- The outbreak has stabilized in some areas but is expanding in others, including the Dominican Republic and Haiti.
- Puerto Rico reported its first locally-acquired case.¹
- As of 2 June, 9 U.S. states/territories report 26 travel-associated cases; FL-16, VA-3, CT-2, 1 each from AR, CA, MD, NV, NY, and U.S. Virgin Islands.²

Army Surveillance

- No chikungunya cases have been reported among Army beneficiaries in 2014.

Outlook

- Chikungunya virus will likely continue spreading to new areas; mosquitoes that are able to transmit the virus are found throughout much of the Americas, including parts of the U.S.

Chikungunya Infections in the Americas			
Location	Total Cases [¥]	Lab Confirmed Cases	Deaths
Caribbean Islands [†]	107,200	4,182	13
South America [±]	224	224	0
Total	107,424	4,406	13

Source: Pan American Health Organization / World Health Organization

Data from 5 DEC 2013 - 30 MAY 2014

[¥] Includes suspect and lab-confirmed cases

[†] Anguilla, Antigua & Barbuda, Aruba (1 imported case only), Dominica, Dominican Republic, Guadeloupe, Haiti, Martinique, Puerto Rico, St. Barthelemy, St. Martin, Sint Maarten, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Virgin Islands (UK)

[±] French Guiana, Guyana



CDC: Countries/territories in the Americas where chikungunya cases have been reported (as of June 2, 2014)

Natrapel® Pump Spray

- NSN 6840-01-619-4795
- An army DEET alternative which can be used to repel mosquitoes, biting flies, ticks, fleas, and chiggers.
- Can be used on human skin.
- Provides improved protection against Anopheles mosquitoes, the vector for malaria.
- Contains 20% Picaridin, which repels insects and discourages them from biting.
- It can be found on the Armed Forces Pest Management Board [list of pesticides and repellents](#).

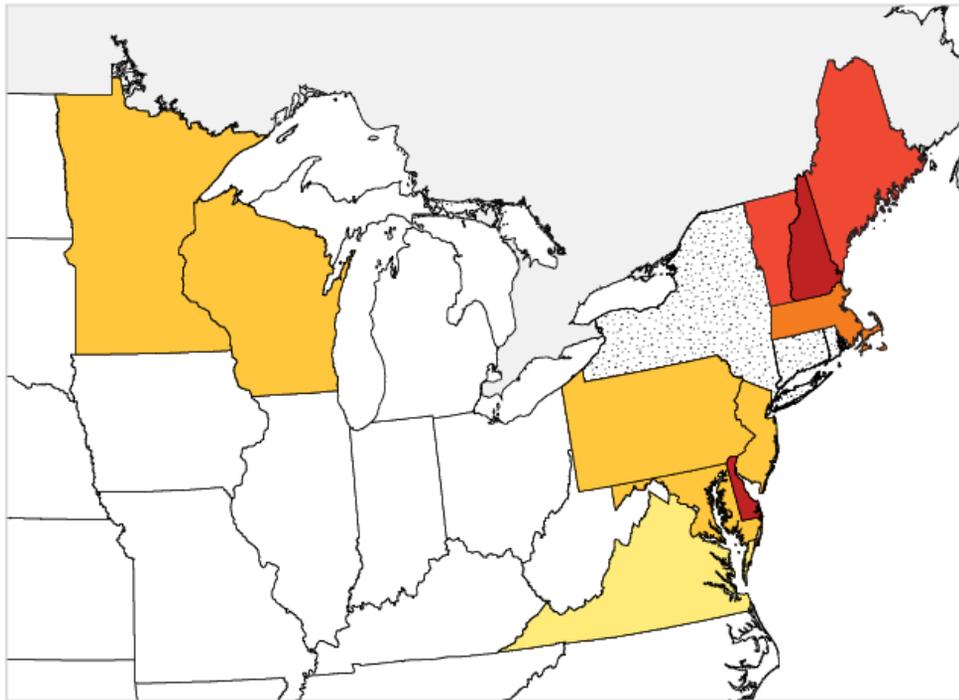
Resources: PAHO CHIKV • [CDC Tickborne Diseases](#) • [Human Tick Test Program](#) • [USAPHC WNV Fact Sheet](#) • [Army Vector-borne Disease Reports](#) • [USAPHC](#)

Key: CDC Centers for Disease Control and Prevention; [DRSi Disease Reporting System Internet](#); [Mosquito pool 1 to 50 mosquitoes](#); [AD Active Duty](#)

Contact us: [USAPHC Disease Epidemiology](#) or 410-417-2377

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Change in Reported Lyme Disease Incidence in the Northeast and Upper Midwest, 1991-2012



Total increase in cases per 100,000 people:



Trend not able to be calculated

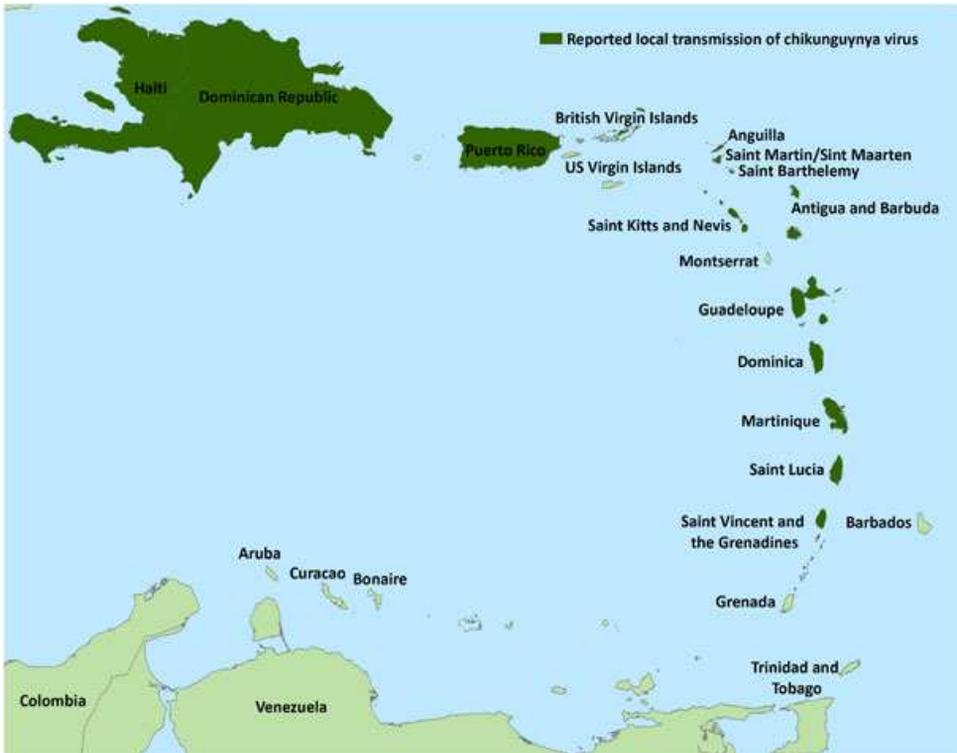
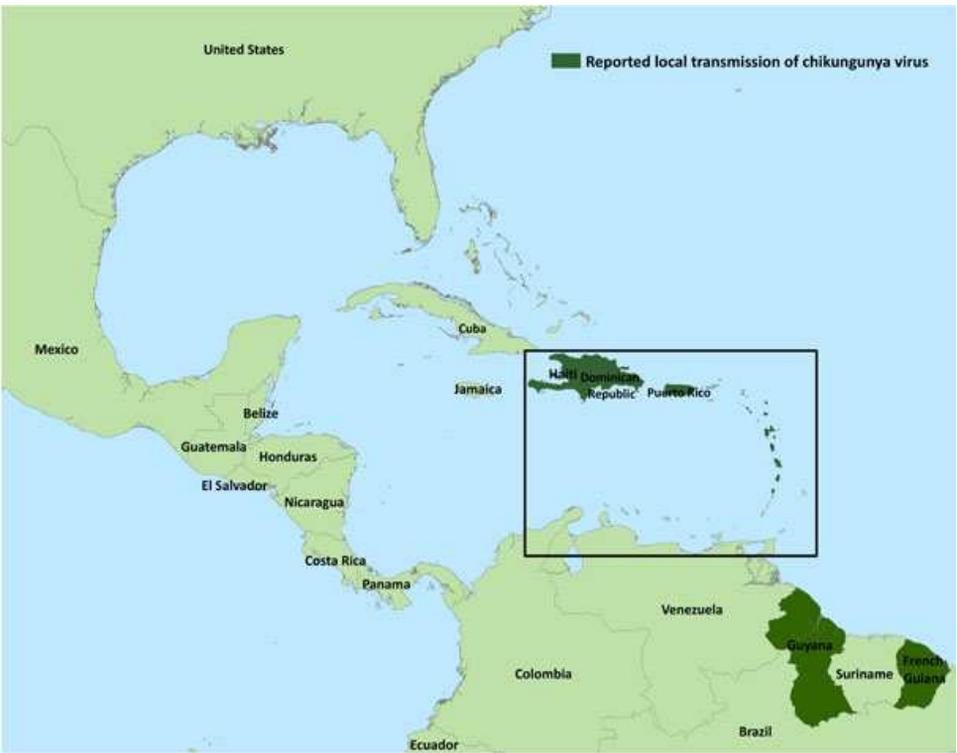
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This map shows how reported Lyme disease incidence has changed by state since 1991, based on the number of new cases per 100,000 people. The total change has been estimated from the average annual rate of change in each state. This map is limited to the 14 states where Lyme disease is most common, where annual rates are consistently above 10 cases per 100,000. Connecticut, New York, and Rhode Island had too much year-to-year variation in reporting practices to allow trend calculation.

Source: <http://www.epa.gov/climatechange/science/indicators/health-society/lyme.html>

CDC: Countries/territories in the Americas where chikungunya cases have been reported* (as of June 2, 2014)



Countries and territories in the Americas where chikungunya cases have been reported* (as of June 2, 2014)

*Does not include countries or territories where only imported cases have been documented.

Countries and territories in the Americas where [locally acquired] chikungunya cases have been reported: Anguilla, Antigua & Barbuda, British Virgin Islands, Dominica, Dominican Republic, French Guiana, Guadeloupe, Guyana, Haiti, Martinique, Puerto Rico, St. Barthelemy, St. Kitts & Nevis, Saint Lucia, Saint Martin, St. Vincent & the Grenadines, and Sint Maarten.

Source: <http://www.cdc.gov/chikungunya/geo/americas.html>