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**Report to  
The Vermont Legislature**

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**Lyme and Other Tick-Borne Diseases in Vermont:  
Report for the Legislature  
January 2015**

**In Accordance with Act 134, Section 4,  
*An Act Relating to Lyme Disease and Other  
Tick-Borne Illnesses***

**Submitted to:** House Committee on Health Care  
Senate Committee on Health and Welfare

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## **Introduction**

This report reviews the Vermont Department of Health's (VDH) tickborne disease surveillance data and summarizes educational efforts undertaken in 2014. This report is required by Act 134 (2014) Section 4.

Lyme disease is by far the most commonly reported tickborne disease in Vermont and the northeastern states. The disease has been diagnosed in residents from every county in Vermont. Lyme disease was first reported in Vermont in 1988, but the numbers of reported cases have increased dramatically over the past six years. The increase of reported cases is likely due to a combination of more disease, better recognition, improved diagnosis and increased reporting. Lyme disease is transmitted by the bite of the deer tick, *Ixodes scapularis*. The deer tick can also transmit the agents that cause anaplasmosis, babesiosis and Powassan Virus Disease. Anaplasmosis is the next most commonly reported tickborne disease but the number of cases reported is just a fraction of the reported cases of Lyme disease. Other tickborne diseases are only rarely reported in Vermont.

There is no vaccine against these diseases, and there are no proven ecological strategies to reduce the tick population. The current best tool available to prevent Lyme disease and other tickborne diseases is education. Education for the general public is focused on preventing tick bites. For healthcare providers, education is focused on early recognition, proper diagnosis and appropriate treatment of these diseases.

## Disease Surveillance

In 2013, the Vermont Department of Health (VDH) followed up on 1321 reports of possible Lyme disease. Out of these, 671 met the Centers for Disease Control and Prevention's<sup>1</sup> case definition for a confirmed case, and 219 were determined to be probable cases. This was the largest number of cases recorded in the state in a single year. As of November 6, 2014, VDH has recorded 378 confirmed and 122 probable cases, which is a significant decline from 2013. Infections continue to occur most commonly in residents of Bennington, Rutland, Windham and Windsor Counties, but illness has been reported in every county.

The number of cases of anaplasmosis has been steadily increasing since the first locally acquired case was confirmed in 2010. In 2013, 27 confirmed and 14 probable cases were reported to VDH. As of November 6, 2014, VDH has documented 41 confirmed and 8 probable cases. Most of these cases are reported in residents of Bennington and Rutland Counties.

Other tickborne diseases are reported sporadically. One confirmed case of babesiosis was reported in 2014, but this infection was acquired through a blood transfusion and not from a tick bite. No cases of the deer tick strain of Powassan Virus have been detected in Vermont.

Starting in 2013, VDH was able to provide a modest grant to a researcher at Lyndon State College to collect ticks and test them for the organisms that cause Lyme disease, anaplasmosis and babesiosis. The researcher has collected ticks from multiple sites in the state, six on the western side and six on the eastern side. To date, 546 deer ticks, *Ixodes scapularis*, have been collected and tested for tickborne diseases. Fifty-nine percent of adult ticks and 22% of nymphal ticks have tested positive for the organism that causes Lyme disease. Only 1%, four adult male ticks, have tested positive for the organism that causes anaplasmosis. No ticks have tested positive for the organism that causes babesiosis. Funding for this project is provided by the Climate Change grant awarded to VDH's Division of Environmental Health by the Centers for Disease Control and Prevention. If funding allows, this project will be continued.

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<sup>1</sup> For case definitions see <http://www.cdc.gov/nndss/>

## Education and Outreach

### General Public:

- Public outreach and education remains a key part of VDH's strategy to combat Lyme disease. The VDH website has up-to-date information about Lyme disease, other tickborne diseases, tick ecology and tick bite prevention. The VDH website is a cost-effective method for making information available.
- In September 2013, VDH launched the Vermont Tick Tracker website at <http://healthvermont.gov/ticktracker/index.aspx>. This website displays a map of Vermont for people to indicate where and when they find ticks so that others can learn where ticks have been found in Vermont. Most importantly, it provides links back to the VDH website so that people can get more information about ticks and tickborne diseases. In 2013, 260 reports were made to the site. The Tick Tracker website is currently active but the totals for 2014 are not yet available.
- In the spring of 2014, VDH sponsored the second annual Lyme disease prevention video contest for high school students. Nine excellent entries were received and small awards were given out for first, second and third places. The video contest will be repeated in 2015.
- A Lyme disease curriculum for elementary school students is posted on the VDH website. Efforts to promote the curriculum are ongoing.
- VDH staff gave multiple media interviews about Lyme disease and tickborne diseases to television, radio and print journalists throughout the year.
- VDH continues to look for organizations in Vermont to partner with to educate the public. For the third year in row, VDH partnered with Green Up Vermont to promote tick bite prevention on Green Up Day. VDH will work with Green Up Vermont again in 2015.

VDH also reached out to the Green Mountain Club, edited an article about tickborne diseases for their monthly newsletter and gave two presentations at their facility in Waterbury. VDH also wrote an article for farmers that was published in a Vermont Agency of Agriculture, Food and Markets newsletter. Educational information was also provided to the Four Winds Nature Institute for their volunteers as well as the UVM Master Gardener Program for dissemination to their members.

- VDH placed an advertisement in the *2013 Vermont Hunting, Fishing and Trapping Laws and Guide* to remind people to take precautions to prevent tick bites when they engage in these recreational activities. The ad was repeated in the 2014 edition.
- In May, VDH did a small advertising campaign. VDH paid for underwriting messages about ticks and Lyme disease on VPR. At the same time, ads were placed on Google and Facebook. These efforts increased page views to VDH's Lyme disease web page by over 300% compared to the same time period in 2013.
- In 2014, VDH staff gave 12 presentations about Lyme disease to the general public at venues around the state. Over 200 people attended these events. Presentations are given upon request.
- District Office staff provided information about Lyme disease at many health fairs, conferences and meetings around the state.
- VDH maintains an inventory of our "Be Tick Smart" informational booklet and our Tick Identification cards. Over 50,000 booklets and Tick ID cards have been given out since 2010. These materials can be ordered on our website. Printed materials are distributed by District Office staff at health fairs and conferences as well as at a variety of locations in their jurisdictions, including primary care practices, schools and libraries. Materials are also mailed directly to interested parties when requested.

## Health care providers:

- VDH participated in two continuing medical education sessions on tickborne diseases in 2014. One session occurred in Stowe in March at a conference for Nurse Practitioners. A staff member from VDH co-presented with an Infectious Disease Specialist from Fletcher Allen Health Care (FAHC). In September, VDH participated in a CME session in Berlin. This was organized by the Southern AHEC and the Vermont Medical Society. Presenters at this event included VDH staff, an Infectious Disease Specialist from FAHC and a community physician who has treated patients for suspected chronic Lyme disease. A similar event had been scheduled in Colchester in April but was canceled because of low registration by healthcare providers.
- The proper testing, diagnosis and treatment of Lyme disease was discussed at all of these sessions. The benefits of early treatment and the possible need to retest people if acute tests are negative were also discussed.
- VDH maintains a webpage for healthcare providers: <http://healthvermont.gov/prevent/lyme/provider.aspx>. The webpage includes links to the most current treatment guidelines for tickborne diseases and to the Centers for Disease Control and Prevention's (CDC) healthcare provider resource page.
- VDH printed copies of CDC's quick reference manual for healthcare providers on tickborne diseases. This 30-page manual was provided at the most recent educational sessions.
- All healthcare professionals are invited to attend the educational sessions that VDH participates in. It is unclear what role mental health professionals, clinical social workers and clinical mental health counselors would play in the diagnosis of Lyme disease. Therefore, these groups have not yet been targeted.

- VDH staff keeps up to date on recommendations regarding best practices for diagnosis and treatment of Lyme and other tickborne diseases. Staff participates in webinars and educational sessions at conferences whenever they are available. Staff is included on public health listserves where ticks and tickborne diseases are sometimes discussed. The VDH website is updated when recommendations are changed.
- Staff routinely consult with public health officials in other northeastern states to share information and strategies for preventing, diagnosing and treating Lyme Disease.
- VDH continues to encourage providers to report diagnoses of Lyme disease and other tickborne diseases. In 2013, a record number of reports were received, so the surveillance system is working. However, education and outreach about surveillance will continue. An on-line form for reporting is now available. VDH anticipates that this will encourage more providers to report as well as improve the quality of the information provided.
- VDH is working with CDC and the University of Vermont on a new educational initiative called Lyme Corps. Lyme Corps was created by Dr. Christina Nelson at CDC. It is a program which enlists medical, nursing and public health students to learn about Lyme and other tickborne disease and become educators in their communities. Dr. Nelson came to Vermont in October and gave a presentation to interested students at UVM. Students have been invited to apply to participate in the program. Participants will be trained before next spring and will launch their educational projects soon after.

## **Conclusion**

Lyme disease will continue to be prevalent in Vermont for the foreseeable future. Other tickborne diseases, such as anaplasmosis, may emerge. VDH will continue to conduct surveillance for these diseases using standardized national case definitions. VDH will continue to provide Vermonters the most up-to-date science-based information available on tickborne diseases.