

Lyme diagnoses up 21% this year

By Chelsea Rice | June 23, 2017

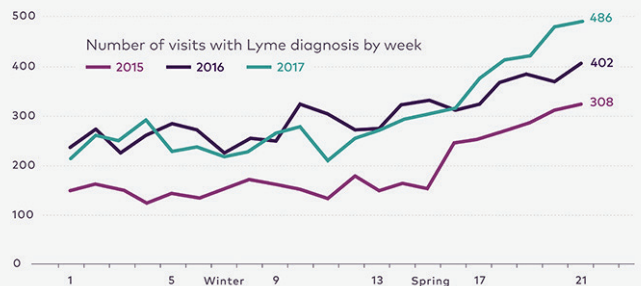
Last winter, Richard Ostfeld, Ph.D., a disease ecologist at the Cary Institute of Ecosystem Studies, predicted that 2017 would be a particularly bad year for Lyme disease, at least in the Northeast.

The basis of that prediction? Acorns.

Ostfeld researches the relationship between acorn crops, the white-footed mice that eat them, and the population of blacklegged ticks – colloquially known as “deer ticks” – who attach to the mice and become vectors for Lyme disease. A peak acorn crop in the fall of 2016 led to the highest population of white-footed mice in 25 years – 90 percent of which carry the bacteria that cause Lyme.

Now, data from the athenahealth network suggest that Ostfeld’s prediction was right. In the last week of May 2017, the number of doctor visits with a Lyme diagnosis were 21 percent higher nationwide than at the same time last year. The numbers were even more dramatic in a handful of Northeastern and mid-Atlantic states: 25 percent higher than this time last year in Massachusetts and Connecticut, and 50 percent higher in New York, Pennsylvania, and Virginia.

Lyme diagnoses rate climbs through spring 2017



Source: athenaResearch
 Sample: 700k visits per week to primary care providers, pediatricians, dermatologists, neurologists, and infectious disease specialists at over 1,600 practices on athenaNet

Researchers analyzed patient visits with a Lyme diagnosis to primary care providers, pediatricians, dermatologists, neurologists, urgent care providers, and infectious disease specialists at more than 1,600 practices across the athenahealth network from January to May over the past three years. Researchers say in light of these initial findings, they expect this summer to be particularly severe for Lyme disease, and will continue to track the disease throughout the season.

Public health officials have long been aware of Lyme's increasing prevalence, particularly in the Northeast. The Centers for Disease Control and Prevention says that since the 1990s, reported cases of Lyme disease nationwide have tripled to approximately 30,000 each year.

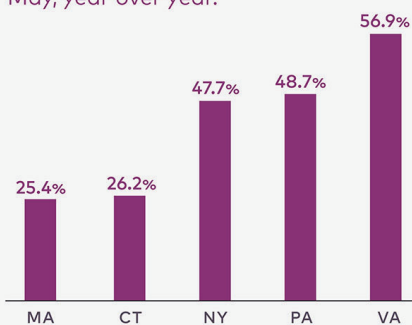
Lyme diagnosis rates peak in the summer, Ostfeld says, because it takes approximately 48 hours for a tick to transmit the bacteria that causes the disease. In the winter, ticks are larger and easier to spot and remove, so the risk of transmission is smaller. In the summer, when ticks are in their nymphal stage, they are harder to see, more likely to stay on their hosts longer, and therefore more likely to transmit the bacteria.

In the Northeast and Mid-Atlantic states, populations of nymph blacklegged ticks are at their highest in May and June.

There is typically a two-to-four-week delay between peak exposure to Lyme and peak reporting in doctor's offices, so researchers expect a peak of Lyme cases in June and July.

Top 5 states with increase in Lyme diagnoses, May 2017

Relative change in Lyme visits in May, year over year.



Source: athenaResearch
Sample: 700k visits per week to primary care providers, pediatricians, dermatologists, neurologists, and infectious disease specialists at over 1,600 practices on athenaNet

"The next month to six weeks will determine how the season plays out," says Ostfeld. "Things aren't over at all in the Northeast. It's a good time to inform people and make sure they are protecting themselves."

Impact on healthcare

Experts say it's unclear whether the rise in Lyme diagnoses stems from greater awareness and improved tick testing resources, or from environmental changes such as increased acorn crops.

But public health officials worry that panic over Lyme disease could also lead to increased pressure from patients on their providers for treatment – increasing the chances of misdiagnoses. Thomas Mather, director of the University of Rhode Island's Center for Vector-Borne Disease, says his office's TickEncounter Resource Center encourages people to send in ticks for identification. Recently, Mather says, he's seen a huge increase in submissions of American dog ticks, which are hard to distinguish from blacklegged ticks, but don't transmit Lyme.

"Unfortunately, when people are left to self-identify, they are quick to associate ticks in general with Lyme disease, which isn't necessarily the truth," says Mather. "This usually means they come to the doctor worried about Lyme when it's not certain that the tick that bit them is even a carrier."

The costs of misdiagnosis can be enormous to both the patient and the healthcare system, Mather says. Misdiagnosed patients receive unnecessary care and treatment. And since Lyme disease can linger for years, symptoms of other conditions could mistakenly be attributed to a false case of Lyme.

Ostfeld says doctors on the receiving end of ticks in jars and anxious patients should educate themselves about identifying ticks – and understand the seasonal nature of tick activity.

"Pathogens are very specific to the tick, so being able to appropriately identify ticks can go a long way to really narrow the window of illnesses you're looking for," says Ostfeld.

Clinicians and patients can also take advantage of tick testing programs, such as Mather's organization.

"Knowing the real risk for Lyme disease is what could best serve the health system," Mather says.

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