Andrew Donovan:

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Announcer:

In this episode of Sustainable Healthcare, the earlier arrival of ticks each spring in Maine, and how it affects public health.

Tim Doak:

Welcome podcast listeners to this edition of Sustainable Healthcare. I'm your host, Tim Doak. Sustainable Healthcare is part of our healthy, happy, and wise podcast series designed to heal, inspire, and inform you. Thanks for being here. Today, we're talking about a tiny but dangerous threat, ticks. If you've spent any time outdoors in Maine, you know ticks are more than just a nuisance. They carry disease like Lyme disease, which we often hear about, but other serious diseases as well like anaplasmosis and babesiosis. In recent decades, tick populations have exploded and climate change is playing a major role. Joining me today to help unpack this is Andrew Donovan, Associate Vice President of Infection Prevention for Northern Light Health. Andrew, thanks for being here.

Andrew Donovan:

Hey, thanks for having me.

Tim Doak:

Sure. So let's start with the basics. How is climate change fueling the rise of tick populations in Maine?

Andrew Donovan:

Yeah, I think the biggest factor really is warming temperatures. Ticks can be quite resilient to climate. Warmer weather typically means that the ticks are surviving through the colder months. Months that we have heavier snowfall sometimes we'll insulate the ticks and allow them to live throughout the winter as well. Quite a few years ago, growing up in Aroostook County, we really didn't hear much about ticks in the central Northern Maine region. But certainly that has changed where we're hearing about them pretty much throughout the entire state of Maine.

Tim Doak:

That is a huge shift, and I think you know I'm also from Aroostook County, born and raised in Caribou. And you're right, ticks were not a concern as we grew up as kids. It was an out-of-state issue or maybe an extreme southern Maine issue. That's definitely changed. And so I imagine this means more people are being exposed to tick-borne diseases, but also to other vector-borne diseases too, right?

Andrew Donovan:

Absolutely. Maine has one of the highest Lyme disease rates in the country. Cases have really increased dramatically over the last several years. Back in 2008, the Maine CDC had reported just less than a 1000 cases of Lyme disease, but as of 2021 that rate had increased to over 1500. So we're definitely seeing increases of those events take place here in Maine. Ticks can also infect with other diseases such as anaplasmosis and Powassan encephalitis. They're also mosquito-borne illnesses that we now have to keep in mind as well.

Things like eastern equine encephalitis or EEE, West Nile virus is also a threat. There's been recent concerns around the rashes that many of us are familiar with, the brown-tailed moth being associated with

climate change as well. And of course, there's other issues such as things like rabies that can be vector-borne or animal-based as well. These can really be quite concerning as they can be deadly. In 2023, we had a case of Powassan virus that was fatal here in the US. And they also can worsen the health of residents with pre-existing conditions and complicate that treatment.

Tim Doak:

Sure. So from a public health perspective, how do you think this is affecting communities right here in Maine?

Andrew Donovan:

I definitely think it's putting more strain on healthcare providers. Lyme disease can be difficult to diagnose. Symptoms are very vague and can be commonly associated with other common diseases. So things like fatigue, fever, muscle aches are very much issues of other conditions as well. So it's very difficult to associate those issues with Lyme disease. Other long-term complications of Lyme disease are a bit more specific, so things like joint pain, neurological issues, can be precursors to really causing one to believe Lyme may be involved in diagnosis. There's also an economic impact as well, so as we're seeing more cases of these, we're seeing more individuals seek out medical care which can cause an increase in costs, especially when managing some of those more significant complications. There's also the impact to the individual as well when they have to be out of work due to not feeling well, especially when these physical ailments can be debilitating in later stages of Lyme disease.

Tim Doak:

Right. So that sounds like a large and growing health challenge. Are there any specific groups that are particularly at risk?

Andrew Donovan:

Yeah, certainly children who tend to be outside playing in tall grass, wooded areas where you would typically find ticks, outdoor workers of industries like farmers, loggers, landscapers, they all have prolonged exposure, which of course increases their risk as well. Older adults are more susceptible to some of the more severe complications, which can pose a unique risk to that population as well.

Tim Doak:

So what's being done at a public health level to address all this?

Andrew Donovan:

Public health agencies are increasing awareness, which I think is incredibly important. Some schools and workplaces put in programs that will help with surveilling and implementing safety measures to prevent these exposures from taking place. There's better surveillance being done as well as far as tracking tick populations and diseases that they cause so that we have better understanding of those complications.

Tim Doak:

So what about public policy, are there any state efforts to combat this?

Andrew Donovan:

Yeah, absolutely. Maine has extended their tick testing programs and public awareness campaigns. I think we're pretty familiar with the University of Maine at Orono program that helps with identification of ticks and whether or not there's risks associated with Lyme disease. There's also vaccines that are being studied

by researchers. Northern Light Health is part of that campaign as well, so that's really exciting and poses a real possibility of being a game changer in the health of individuals who are eligible for that vaccine. On a larger scale, I think tackling climate change itself, so reducing carbon emissions and protecting our forest ecosystems could help slow tick populations in the state of Maine as well.

Tim Doak:

Sure. So the clinical trials are definitely very exciting. I've been watching those progress with tremendous interest, it'll be interesting to see the results coming out of that. What do you think hospitals and healthcare organizations like ours can do?

Andrew Donovan:

I think we can ensure that providers are well-educated as to the expansion of vector-borne diseases in our regions and the signs and symptoms that are related to those illnesses. Public health education campaigns to help inform Maine residents of these risks are also important. Topics to include risk management, mitigation of risks associated with these diseases, utilizing existing resources whenever possible. We can also collaborate with local partners, share education and outreach with other healthcare and non-health care organizations within the at-risk communities as well.

Tim Doak:

Sure. For those of us who live here and enjoy being in Maine's outdoors, what can we do to protect ourselves?

Andrew Donovan:

There's a few things that we can do to protect ourselves. One is to conduct regular tick checks, especially after being outside in the wooded areas or high grass. A great method to conduct this check, even before going inside is to utilize one of those sticky lint rollers that'll really take the ticks off your person, your clothing, even if they're not able to be seen. Some of these ticks can be really tiny, and this is a way of grabbing them and taking them off your clothing. You can also wear protective clothing as well, so long sleeves and pants, tucking your pants into your socks is a good way of avoiding ticks from traveling up into your pant leg or into your leg in that way. You can also use insect repellent with DEET or permethrin. Try to avoid utilizing permethrin around waterborne areas, so lakes and rivers, as it is a bit toxic to those entities within that area, so fish and the wildlife that lives in the waters of Maine.

But those products do prevent those exposures from having it because it really deters the tick from becoming involved with that person. Also, keeping grass short, removing leaf litter. If you do find yourself with a tick, removing it properly, utilizing tweezers, pulling straight back without twisting so that you can maintain that tick in one piece, because if you're allowing the head to remain attached, that can also increase risk for transmission of any diseases should that tick be infected with any.

Tim Doak:

Okay, that's great advice. Before we wrap up, any final thoughts on the future of this issue?

Andrew Donovan:

I just think that tick-borne diseases are going to continue to become more common, especially if we aren't taking action in the immediate future. I think we need to continue to educate Maine residents and healthcare providers, improving prevention measures and addressing root causes. The more we know now, the better that we can protect public health in the future.

Tim Doak:

Sure. Andrew, thank you so much for sharing your insights. This has really been an eye-opening conversation.

Andrew Donovan:

Hey, thanks for having me.

Tim Doak:

Sure. Thank you to our podcast listeners as well. Until next time, I'm Tim Doak asking you to think sustainably.

Announcer:

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