



Seacoast Public Health Network Year-End Report  
**Tick Safe Practices in the Seacoast**  
SFY2020

The Seacoast Public Health Network (SPHN), with funding provided by Health Services Building Resilience Against Severe Weather and Climate Effects grant, has successfully completed year two of the three year grant.

**Year Two Goal** (May 2019 - June 2020) was to improve both the prevention and treatment of tick-borne disease among youth, caregivers and clinicians in high-risk areas of the Seacoast PHN region.

**Strategy** included partnering with a clinical expert (Dr. Aparna Dave), a subject matter expert on ticks (Rachel Maccini), and other leaders to implement training programs for childcare providers and healthcare providers. This year we also implemented an additional training for the general public on the NH Seacoast. All trainings were held online via Zoom due to the Covid-19 pandemic.

**Evaluation** included the development of survey instruments that would measure knowledge levels and likely behaviors relative to tick-borne disease and tick-safe practices. The workgroup met and created a modified version of the tools we used the year prior. These updated survey tools were shortened to accommodate the online platform Survey Monkey. For the healthcare provider training, we used survey questions that are consistent with Southern NH Area Health Education Center's continuing education post-survey questions.

**Results:** Evaluation results from all three trainings showed a positive increase in knowledge and confidence of those in attendance when dealing with ticks and tick related disease.

**Next Steps:** In year three we plan to hold trainings for the same target populations. Whether these trainings are in person or via Zoom is TBD depending on the state of the Covid-19 pandemic. Additional activities in the coming year include converting the healthcare provider training into an online module on the Southern NH Area Health Education Center's website to increase training access to more clinicians. SPHN's Program Coordinator, Julia Meuse will also be recording a module for the general public that will be available on the Seacoast Public Health Network's website.

## Action Plan: Intervention Updates

### 1. Education and training of childcare providers in tick-safe knowledge, skills, and abilities.

- 28 childcare workers participated in the training “Tick Safe Practices for Childcare Providers.” The majority of the participants were from Great Bay Kids Company, but staff from Marie’s Daycare, Primetime Daycare, and Southern NH Services Head Start Program were also in attendance.
- Job titles of attendees included Teachers, Site Directors, Daycare Providers, and Afterschool Program Coordinators.

#### Survey Result Highlights:

- On the Pre-Test, **3.1%** of respondents reported feeling “**Very Knowledgeable**” about tick identification and prevention. This number jumped to **61.9%** of respondents feeling “**Very Knowledgeable**” on the post-test.
- Before the training, **15.2%** of attendees reported feeling “**Very Comfortable**” removing a tick on another person. On the post-test, **57.1%** reported feeling “**Very Comfortable**”
- See **Appendix 1** for full Childcare Worker Training Pre/Post-Test Data Comparisons

### 2. Education of general public

- 44 people participated in the General Public Training “Tick Safe Practices: An Educational Session for All.” Participants were recruited through outlets such as SPHN’s social media, and postings in the Children’s Museum of New Hampshire’s newsletter.
- In addition to these 44 people, one participant used presentation materials created by Rachel Maccini to educate her daughter’s Girl Scout Troop. Seven girls aged 10-13 years old and four Girl Scout Troop Leaders were trained.

#### Survey Result Highlights:

- Participants were asked verbally on the training to complete the post-test, and SPHN followed up by email twice. SPHN offered a chance to win an Amazon gift card as an incentive to complete the post-test. Despite efforts, only 48% of participants completed the post-test.
- Participants were much more knowledgeable about which ticks are common in NH after the training. On the pre-test, **41%** of respondents either reported they were “**Not Sure**” or **skipped the question** about commonly found ticks in NH. On the Post-Test, **100%** of respondents were able to identify the Deer Tick, and **57%** were able to identify the American Dog Tick as the two most commonly

encountered ticks. 0% of participants answered “Not Sure” or skipped the question on the post-test.

- See **Appendix 2** for full General Public Training Pre/Post-Test Data Comparisons

**3. Continuing education for clinicians on prevention and the timely diagnosis and treatment of Tickborne Diseases (TBDs).**

- 21 Clinicians were trained through Dr. Aparna Dave’s clinician training.
- Participant’s titles included Nurse Practitioner, Dental Hygienist, EMT, Nurse, Veterinarian, and clinical student.

**Survey Result Highlights:**

- After the training, **92.8%** of participants either “**Agree**” or “**Strongly Agree**” they learned prevention strategies that they could share with their patients.
- After the training, **92.8%** of participants either “**Agree**” or “**Strongly Agree**” they learned strategies for testing and diagnosis of tickborne illness.
- See **Appendix 3** for more clinical training data.

**4. Policy change related to insect repellent use by targeted camps and after-school programs.**

- All participating childcare providers were given access to Tick Free NH’s sample policy.

**5. Environmental control measures to reduce the tick habitat by targeted camps and after-school programs.**

- Rachel Maccini completed one tick sweep this year at Camp Tricklin Falls. The camp originally expressed interest in our trainings, but due to the Covid-19 pandemic they were unable to open for the summer. The tick sweep was still completed and no ticks were found.

## Appendix 1

### Childcare Worker Training Pre/Post Test Data Comparisons

**Overall Summary:** Childcare respondents are more knowledgeable and comfortable about tick information after the training. They had a better understanding of how to identify ticks, what to do if they find a tick, how to remove a tick, how to apply repellent and knowing what ticks should be sent for testing. There was more confusion, however, around checking oneself as a way of avoiding tick bites. They felt that was not as significant an option as other actions. More emphasis on that behavior may be warranted during discussion.

#### Specific Findings:

1. Training increased how knowledgeable respondents felt about ticks in general (Q1).

Overall, how knowledgeable do you feel about tick identification and prevention at THIS point in time?	Pre Test		Post Test	
	Respondents	Percentage	Respondents	Percentage
Very Knowledgeable	1	3.1%	13	61.9%
Somewhat Knowledgeable	20	62.5	7	33.3
Not Very Knowledgeable	9	28.1	1	4.8
Not Knowledgeable At All	3	9.4	0	--
<b>Total Responses</b>	<b>33</b>		<b>21</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents; Fewer Responded to Post-Test Than Pre-Test*

2. Respondents were fairly knowledgeable about what to do to prevent tick bites to start. Some were unclear on the best colored clothing to wear before the training, but understood light colored clothing was preferable after. However, a fair number felt inspecting themselves after being outdoors was *less* useful compared to other options after training (Q2).

What steps should you take to prevent a tick bite?	Pre Test		Post Test	
	Respondents	Percentage	Respondents	Percentage
Avoid going out at times when tick populations are high	14	42.4%	13	61.9%
Avoid walking through woody brush	28	84.8	18	85.7
Wear dark colored clothing with long sleeves/pants and socks	15	45.5	3	14.3
Use effective repellents (particularly those approved by the EPA)	24	72.7	17	80.1
Inspect yourself every time you have been outdoors in tick habitat	32	97.0	2	9.5

Tuck pants into socks	27	81.8	14	66.7
<b>Total Responses</b>	<b>140</b>		<b>67</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents*

3. Options for what to do if they find a tick on a child were varied prior to the training. Respondents were much more focused on proper corrective action after training (Q3).

If you find a tick on another person (child or staff), What's the first thing you should do to reduce the risk of infection?	Pre-test		Post-test	
	Respondents	Percentage	Respondents	Percentage
Call the child's parents to have the child picked up immediately	8	24.2%	--	--
Try to remove the tick yourself with the right device	15	45.5	13	61.9%
Take the child right away to the nurse or whomever is responsible for medical care	25	75.8	14	66.7
Wait until the end of the day to inform supervisor	--	--	--	--
<b>Total Responses</b>	<b>48</b>		<b>27</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents*

4. Respondents were more comfortable after the training as far as knowing what actions to take to prevent and remove ticks (Q4).

With what you know right now, how comfortable would you feel with applying insect repellent to yourself, another adult, or a child?	Pre Test		Post Test	
	Respondents	Percentage	Respondents	Percentage
Very Comfortable	19	57.6%	18	85.7%
Somewhat Comfortable	12	36.4	3	14.2
Not Very Comfortable	2	6.1	0	--
Not Comfortable At All	0	--	0	--
<b>Total Responses</b>	<b>33</b>		<b>21</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents*

5. Respondents are much more comfortable with removing a tick after going through the training (Q5)

With what you know right now, how comfortable would you feel removing a tick on another person?	Pre Test		Post Test	
	Respondents	Percentage	Respondents	Percentage
Very Comfortable	5	15.2%	12	57.1%
Somewhat Comfortable	13	39.4	7	33.3
Not Very Comfortable	14	42.4	2	9.5
Not Comfortable At All	2	6.1	0	--
<b>Total Responses</b>	<b>34</b>		<b>21</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents*

6. Respondents have a better understanding of the type of ticks that should be sent for further testing after training (Q6).

Which of the following ticks, if found on a child, would you want to send for follow-up testing for Lyme Disease?	Pre Test		Post Test	
	Respondents	Percentage	Respondents	Percentage
Lonestar Tick	2	6.1%	0	--
American Dog Tick	8	24.2	0	--
Black-legged or Deer Tick	27	81.8	21	100.0%
<b>Total Responses</b>	<b>37</b>		<b>21</b>	
<b>Total Respondents*</b>	<b>33</b>		<b>21</b>	

*\*Percentages Based on Total Respondents*

**Methodology:** 33 people signed up for the webinar, 28 participated. Participants were recruited from local childcare agencies with whom SPHN had previous relationships. Respondents received an email encouraging them to register for the session. Registration was done through Eventbrite. As part of registration, participants were required to answer the six questions. Participants were asked verbally during the webinar to complete the post test; then SPHN followed up by email twice. There was a 75% response rate on the post test. 100% for the pre-test.

## Appendix 2

### General Public Training Pre/Post Test Data Comparisons

**Overall Summary:** Training significantly increased participants' knowledge of types of ticks and how to identify, move and prevent them. Participation through online zoom webinar increased ability to get the general public to participate in the training and pre-training survey. Post evaluations were more difficult to obtain. In future sessions, consider integrating post-evaluation into the webinar itself at transition points with a follow-up short behavioral survey sent later (and possibly administered by phone).

#### **Specific Findings:**

- Participants were much more knowledgeable about which ticks are most common in NH after training (Q1)

What are the two most commonly encountered ticks in NH? Pick two	Pre-test		Post-test	
	Respondents	Percentage	Respondents	Percentage
Brown Dog Tick	39	42.4%	9	42.9%
American Dog Tick	74	80.4	12	57.1
Deer Tick	30	32.6	21	100.0
Lone Star Tick	3	3.3	0	--
Not Sure	14	15.2	0	--
No Response	24	26.1	0	--
<b>Total Responses</b>	184		42	
<b>Total Respondents*</b>	92		21	

*\*Percentages Based on Total Respondents*

- After participating in the training, respondents were just as knowledgeable as they had been about when ticks are most active (Q2)

In what month are ticks most active?	Pre-test		Post-test	
	Respondents	Percentage	Respondents	Percentage
January	2	2.8%	2	2.2%
March	10	10.9	10	10.9
April	27	29.4	27	29.4
May	73	79.4	73	79.4
October	16	17.4	16	17.4
<b>Total Responses</b>	128		128	
<b>Total Respondents*</b>	92		21	

*\*Percentages Based on Total Respondents*

- After participating in the training, respondents are much more knowledgeable about all the places to look for “hot spots”

Where should a homeowner look in their yard for tick “hot spots”? Select all that apply	Pre-test		Post-test	
	Respondents	Percentage	Respondents	Percentage
Places where rodents hang out	43	46.74%	18	85.71%
Places where deer feed	64	69.57%	18	85.71%
Overgrown shrubbery and grass	75	81.52%	21	100.00%
Outdoor structures (stone walls)	25	27.17%	17	80.95%
Leaf litter	69	75.00%	20	95.24%
Under bird feeders	26	28.26%	13	61.90%
Gardens (both vegetable and flower)	34	36.96%	7	33.33%
<b>Total Responses</b>	336		114	
<b>Total Respondents*</b>	92		21	

*\*Percentages Based on Total Respondents*

- Respondents were more knowledgeable about the best circumstances for spraying a yard after the training (Q4).

True or False: If you are going to spray your yard for ticks, it is best to do it on a dry day	Pre-test		Post-test	
	Respondents	Percentage	Respondents	Percentage
True	69	75%	18	85.71%
False	23	25%	2	9.52%
			1	4.76%
<b>Total Responses</b>	92		21	
<b>Total Respondents*</b>	92		21	

*\*Percentages Based on Total Respondents*



- Respondents were more knowledgeable about what *they* could do to reduce ticks. Interestingly, this knowledge made them less apt to choose “select hiring outsiders to come spray” (Q5).

The following are actions you can take to reduce the number of ticks in your backyard. Check all that apply	Pre-test		Post-Test	
	Respondents	Percentage	Respondents	Percentage
Erect a deer fence	46	50.00%	14	66.67%
Trim back shrubbery	75	81.522%	21	100.00%
Place birdfeeders away from your home	32	34.78%	18	85.71%
Create a boundary between your yard and the forested area in your backyard using bark mulch	59	64.13%	15	71.43%
Place tick tubes in your backyard	49	53.26%	17	80.95%
Hire a professional company to spray in May or early June	55	59.78%	6	28.57%
<b>Total Responses</b>	316		91	
<b>Total Respondents*</b>	92		21	

*\*Percentages Based on Total Respondents*

- Respondents had a better grasp on techniques used for personal protection after the workshop. They gravitated away from doing tick sweeps and increased only slightly as to their use of natural pesticides (Q6).

The following are actions you can take for personal protection. Check all that apply	Pre-test		Post test	
	Respondents	Percentage	Respondents	Percentage
Spray your clothes with permethrin	71	77.17%	21	100.00%
Use clove and peppermint oils if you do not want to use pesticides	56	60.87%	15	71.43%
Wear light clothing	74	80.43%	21	100.00%
Do a tick check every time you come in from being outdoors	75	81.52%	21	100.00%
Tuck your pants into socks	87	94.57%	21	100.00%
Do a tick drag to find hotspots	38	41.3%	5	23.81%
<b>Total Responses</b>	401		104	
<b>Total Respondents*</b>	92		21	

**Methodology:** Training participants were recruited through a variety of local sources including postings in newsletters from the Children’s Museum of New Hampshire. As part of registration for the workshop, respondents had to complete the six pre-test questions. 92 people signed up, 44 participated. Participants were asked verbally on the webinar to do the post test, then SPHN followed up by email twice. There was a 48% completion rate on the post-test by those who attended the workshop. There was a 100% completion rate on the pre-test.

## Appendix 3



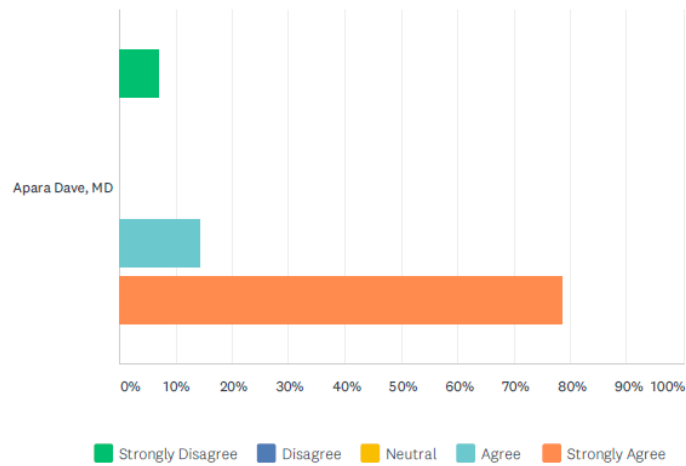
### Clinician Training: “Strategies for Preventing and Managing Tickborne Illness”

#### Summary Data 2020

Total Attendees:	21
Post-Test Responses:	14

#### Q1 The presentation of the training material was effective

Answered: 14 Skipped: 0



	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
Apara Dave, MD	7.14%	0.00%	0.00%	14.29%	78.57%	14
	1	0	0	2	11	14

#### Q2 The objectives of this session were achieved:

Answered: 14 Skipped: 0

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
Identify different types of ticks and the prevalence of tick borne illness in NH	7.14%	0.00%	0.00%	21.43%	71.43%	14
	1	0	0	3	10	14
Discuss strategies for testing and diagnosis of tick-borne illness	7.14%	0.00%	0.00%	14.29%	78.57%	14
	1	0	0	2	11	14
Describe treatment options for tick borne disease	7.14%	0.00%	0.00%	7.14%	85.71%	14
	1	0	0	1	12	14
Address prevention strategies to share with patients	7.14%	0.00%	0.00%	7.14%	85.71%	14
	1	0	0	1	12	14

### Q3 To what extent do you agree with each of the following statements?

Answered: 14 Skipped: 0

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE	TOTAL
The objectives were relevant to the activity goals/purpose	7.14% 1	0.00% 0	0.00% 0	14.29% 2	78.57% 11	14
The teaching strategies and resources were effective	7.14% 1	0.00% 0	0.00% 0	21.43% 3	71.43% 10	14
The information presented in this training is important	7.14% 1	0.00% 0	0.00% 0	14.29% 2	78.57% 11	14
The content was presented without bias toward any commercial product or drug	7.14% 1	0.00% 0	0.00% 0	7.14% 1	85.71% 12	14
My knowledge has increased on the topic(s) presented	7.14% 1	0.00% 0	0.00% 0	7.14% 1	85.71% 12	14
The time frame was appropriate for the activity/topic	7.14% 1	0.00% 0	0.00% 0	7.14% 1	85.71% 12	14
I prefer webinar-style learning to in-person training	14.29% 2	14.29% 2	21.43% 3	28.57% 4	21.43% 3	14

### Q4 What was most helpful about the webinar?

Answered: 14 Skipped: 0

#	RESPONSES	DATE
1	All	8/27/2020 10:29 AM
2	informative slides, ability to ask questions during the presentation	7/2/2020 10:35 AM
3	Clear presentation with practical slides	7/1/2020 10:14 PM
4	Good reminder that ticks are still a threat, and should not be forgotten about during Covid-19.	7/1/2020 2:09 PM
5	The explanation of all the tick borne illness. Not just Lyme	7/1/2020 10:14 AM
6	the content	7/1/2020 9:58 AM
7	The Life span and habits of the black legged tick.	6/30/2020 12:41 PM
8	thoroughly explained the topic materials	6/30/2020 11:24 AM
9	Great information	6/29/2020 9:56 PM
10	Dr. Dave's thoroughness and encouraging questions to be asked during her presentation.	6/29/2020 8:33 PM
11	Access to an excellent resource	6/29/2020 8:04 PM
12	The clinical presentation of tick borne illnesses and the treatment was the most helpful information	6/29/2020 7:21 PM
13	test specifics for various disease	6/29/2020 7:20 PM
14	The slides corresponding to Dr. Dave's discussion	6/29/2020 7:11 PM

## Q5 What part of the webinar could have been better? Please explain.

Answered: 9 Skipped: 5

#	RESPONSES	DATE
1	Would prefer in person training	8/27/2020 10:29 AM
2	By the end of the presentation the audio quality became pure so it was hard to follow. I'm not sure it's something you have control of.	7/2/2020 10:35 AM
3	None	7/1/2020 10:14 PM
4	Would love to have the handouts ahead of time.	7/1/2020 2:09 PM
5	Better assess to log in	6/29/2020 9:56 PM
6	Possibly more examples of real cases	6/29/2020 8:04 PM
7	When the presenter was being introduced I would have liked her video to have been on so I could have been able put a face to the voice.	6/29/2020 7:21 PM
8	I thought everything was well done	6/29/2020 7:20 PM
9	nothing	6/29/2020 7:11 PM

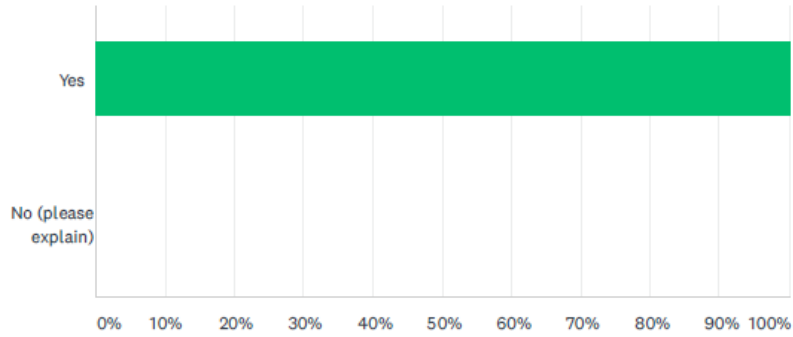
## Q6 List up to two changes you plan to make as a result of this session. Examples include making a change in the way you do your work, educating others, learning more about the topic, etc.

Answered: 14 Skipped: 0

#	RESPONSES	DATE
1	Educating others, being more aware of one's surroundings before, during, and after	8/27/2020 10:29 AM
2	more prepared to provide up to date education for my patients and answer multiple question Pt and their family members can come up with.	7/2/2020 10:35 AM
3	Look at tick borne illness as alternative to COVID- some similar s/six, provide tick borne prevention, identification , treatment education to our community and at work (as Occ health nurse)	7/1/2020 10:14 PM
4	Will print off resources to share with colleagues.	7/1/2020 2:09 PM
5	Since I'm a wellness nurse this has given me info to give my clients	7/1/2020 10:14 AM
6	wear deet	7/1/2020 9:58 AM
7	person habits enjoying the woods and the Teaching of others in my Red Cross Classes	6/30/2020 12:41 PM
8	1. when to treat prophylactically for lyme 2. discussing tick prevention	6/30/2020 11:24 AM
9	What to look for lyme disease	6/29/2020 9:56 PM
10	Encourage/educate people regarding the environments that they enter and leave.	6/29/2020 8:33 PM
11	Helping others understand the importance of tick safety Explaining to folks to be more proactive in their own backyards in regards to tick safety	6/29/2020 8:04 PM
12	The way I remove a tick. Also to consider tick borne illness when a patient present late with Bell's palsy	6/29/2020 7:21 PM
13	I need to research the various test	6/29/2020 7:20 PM
14	I will continue to educate myself as I see there is so much more to learn. Encouraging others to do the same	6/29/2020 7:11 PM

## Q7 Would you recommend this session to others?

Answered: 14 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	100.00%	14
No (please explain)	0.00%	0
TOTAL		14

#	NO (PLEASE EXPLAIN)	DATE
	There are no responses.	