More than just talk: How the “Tick Talk” works for communicating risk awareness

Anne-Marie Nicol, PhD, KT Scientist, NCCEH

Presentation to the Atlantic Tick-Borne Disease Network
May 23rd 2018
Evidence-based knowledge synthesis and translation

Identify knowledge gaps

Foster networks, build capacity for Canada’s public health system
Outline

1. Risk communication and ticks: major challenges
2. The Tick Talk: origin and development
3. Program Evaluation
4. Next steps
Ticks: an emerging problem in some regions

- Climate change has both direct and indirect impacts on tick populations
  - Habitat shifts due to temperature changes
  - Migrating bird shifts, particularly thrushes (Ogden 2008, 2015)

- Urban development initiatives
  - More inner city green spaces
  - Changes in the interface between humans and natural world
Number of Lyme cases in Canada increasing

Reported number of disease

2009: 144 cases
2010: 143 cases
2011: 266 cases
2012: 338 cases
2013: 682 cases
2014: 522 cases
2015: 917 cases
2016: 841 cases* - dataset not complete

Variations by age and gender

Reference: National Lyme Disease Surveillance in Canada 2013
Clear seasonality
Major communication challenges

• Talking about ticks often intersects with the “outrage” over Lyme Disease
  – Negative cascade
  – De-incentivizes prevention

Reference: Aenishaenslin et al. 2017 Tick and Tick Borne Diseases
Public concern and media coverage

Patients living in Lyme disease 'medical limbo' push for federal strategy

Lack of awareness, diagnosis and treatment by doctors a problem in Lyme disease battle: advocates


Donna Lugar, founder of the Nova Scotia Lyme Disease Support Group, is seen at home in Bedford, N.S. on Friday, Sept. 2, 2016. (Andrew Vaughan/THE CANADIAN PRESS)
## Why does outrage vary?

<table>
<thead>
<tr>
<th>Less outrage</th>
<th>More outrage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary</td>
<td>Coerced/Involuntary</td>
</tr>
<tr>
<td>Natural</td>
<td>Industrial</td>
</tr>
<tr>
<td>Familiar</td>
<td>Exotic</td>
</tr>
<tr>
<td>Not dreaded</td>
<td>Dreaded</td>
</tr>
<tr>
<td>Chronic</td>
<td>Catastrophic</td>
</tr>
<tr>
<td>Knowable</td>
<td>Unknowable</td>
</tr>
<tr>
<td>Individually controlled</td>
<td>Controlled by others</td>
</tr>
<tr>
<td>Fair</td>
<td>Unfair</td>
</tr>
<tr>
<td>Trusted sources</td>
<td>Untrusted sources**</td>
</tr>
<tr>
<td>Responsive process</td>
<td>Unresponsive process</td>
</tr>
</tbody>
</table>

- Ticks: Lyme Disease
The “Tick Talk” Intervention program objectives

- Create education materials children
- Focus on prevention
- Use seasonality
- Harness the power of children to communicate back to parents
  - see. “Do Bugs need Drugs?” antibiotic campaign
Parameters of Intervention

Avoiding fear-based communication
  “alert not alarm”
Include concepts that children find fun
  “grossness”
humour
Identify with characters
Reflect cultural reality
Alex: "...with tweezers by the head, since it's attached to the skin."

Alex: "After careful removal, clean the spot up and store the little bug away."

Raji: "Ew, store it? But I'd just want to throw it out! Why keep it?"

Alex: "To give to your doctor! If the tick is still alive, put it in a container with a damp cotton ball. That way, they can run tests to make sure the..."

Alex: "...bug's bite won't make you sick. And if you can't remove the tick yourself, or if you get sick or a rash shows up where you got bitten, get to your doctor as soon as possible!"
 Tick Talk

Thanks to CIHR, Dr Karen Bartlett, Dr. Bonnie Henry and David Murphy

[Logos of BC Centre for Disease Control, CIHR IRSC, UBC, Simon Fraser University, and others]
Curriculum Development

• 4 mini-lessons and activities for children
  – Identification, habitat, bite prevention, removal
• Adapted for single contact at camps
  – Dress up clothes race, hand cut-outs art activity
  – I Spy a Tick Zone
  – Tick specimens (dead) in vials
Pilot Project
# Summer camps - 2 year evaluation

## Table 1. Camp Demographics (N=629 children)

<table>
<thead>
<tr>
<th>Type of Camp</th>
<th># camps</th>
<th># children total</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Centre based camp</td>
<td>12</td>
<td>308</td>
<td>Week longs camps offered with subsidies. Each week has a different theme, indoor and outdoor activities daily</td>
</tr>
<tr>
<td>University Summer Camp program</td>
<td>15</td>
<td>213</td>
<td>Week long day camp, theme based, i.e. tech camp. Offered through two different universities</td>
</tr>
<tr>
<td>Science camp</td>
<td>2</td>
<td>49</td>
<td>Day camps at Science World and Nature Centres</td>
</tr>
<tr>
<td>Camp based at a school</td>
<td>2</td>
<td>59</td>
<td>Week long day camp with a focus on wildness skills</td>
</tr>
</tbody>
</table>
Qualitative assessment of program

• Video very well received
  – 100% of children paid attention to entire video at every session
• Very few children articulated fear during video
• Multiple requests to repeat video
• Appropriate from 5-10 years
  • <5 too much detail
  • >10- “too babyish”
• Laughter at appropriate places
  • Falling out of tree
• Little fidgeting or talking
# Quantitative Evaluation of Video 2012

Table 2. Responses to post-screening question N=320

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Answer</th>
<th>% Corr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A tick is small enough to fit on your pinky nail.</td>
<td>True</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Ticks are found on short grass.</td>
<td>False</td>
<td>87</td>
</tr>
<tr>
<td>3</td>
<td>You can avoid ticks by walking on a clear path.</td>
<td>True</td>
<td>94</td>
</tr>
<tr>
<td>4</td>
<td>To avoid ticks you should wear short sleeves and shorts.</td>
<td>False</td>
<td>98</td>
</tr>
<tr>
<td>5</td>
<td>When removing a tick, use tweezers to grab the tick anywhere on its body.</td>
<td>False</td>
<td>77</td>
</tr>
</tbody>
</table>

Children asked questions using a Seven-Up style response set up (heads done, thumbs up)
- designed to try and control for peer pressure
- questions mixed as true or false
- Verbal rather than written
Quantitative Evaluation Summer 2013

• Post video quiz across age ranges  
  – >7 got 95% correct  
  – <5 got 50-70% correct  
    • Added a “thumbs middle category”

• Questions 2 had most variability  
  – Tick are found in tall grass- yes or no?

• No difference in response rates by camp type  
  – Camps spanned socio-economic and cultural divisions

• Most children spoke either English or Punjabi  
  – A few children had neither
Some fun questions from kids

• How do they get on dogs if their fur is fluffy?
• Are ticks sticky?
• What if a tick bit my goldfish?
• Can they fly?
• Check your undies for ticks!
• Can I squish them?
Camp Counsellor Feedback

• Great! We are teaching them about what to do in these types of situations (i.e. snake bites, spider bites) so fit in well
• Would be nice to have more live tick footage
• The fact that the cartoon was short was fantastic
• Video worked very well in the day camp setting as it included some laughs.
• Charge your battery before presentation!
• Positive and kid friendly
• Loved the dead ticks!
Challenges

- Outdoor camps don’t always have power
- Daylight makes screen viewing difficult
  - Screens a challenge- sheets and pegs
- Requires pre-planning and booking of camps
  - Often programming occurs in the spring
- Requires two people to implement
  - ~5,000 dollars for two students for the summer
In conclusion

• Tick endemic regions shifting
  – many Canadians are still unfamiliar with tick prevention

• Prevention focus side-steps outrage problems

• “Tick Talk” program appropriate for children 5-10 years old
  – education can last a lifetime...

• Program could be adapted to other languages
Acknowledgements: Lydia Ma NCCEH

Production of this presentation has been made possible through a financial contribution from the Public Health Agency of Canada.
Program adapted at Telus Science World in Vancouver