Integrated Tick Management – How Do We Pay For It?

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Why are there not more funding initiatives for TBD IPM?

A. It has not yet been demonstrated to be effective
B. Better tools are needed
C. A strong case has not yet been made based on the cost-savings associated with effective prevention
D. All the above
Introduction & Conclusion

• Tick-borne diseases in humans are increasing in numbers and distribution in the U.S.
• Safe and effective prevention tools are badly needed
• Effective prevention requires cooperation and collaboration involving multiple partners
• Greater emphasis must be placed on a national prevention strategy AND on the cost savings associated with disease prevention
Before we ask the question of where the funding will come from, we first need to know how much it will cost?
“The estimated cost of discovery, development, and registration to bring a new pesticide active ingredient to the marketplace exceeds $180 million (and...8 to 10 years), not including the capital cost associated with building and operating highly specialized production facilities.”

“These days, the development of just one new vaccine requires a capital investment ranging from $500 million for the least complex to $1 billion or more for the most complex, including construction of facilities for manufacture.”

<table>
<thead>
<tr>
<th>Personal Protection Measures</th>
<th>Treatment/Vaccination in Humans</th>
<th>Landscape/Vegetation Management</th>
<th>Killing of Host-Seeking Ticks</th>
<th>Rodent-Targeted Approaches</th>
<th>Deer-Targeted Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance of tick habitat</td>
<td>Antibiotic prophylaxis after tick bite</td>
<td>Xeroscaping/Hardscaping</td>
<td>Synthetic chemical acaricide</td>
<td>Topical acaricide bait box</td>
<td>Topical acaricide feeding station</td>
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<tr>
<td>Physically protective clothing</td>
<td>Human vaccine</td>
<td>Keep grass short, remove weeds</td>
<td>Natural product-based acaricide</td>
<td>Oral vaccine</td>
<td>Deer reduction</td>
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<tr>
<td>Regular tick checks &amp; Prompt removal</td>
<td></td>
<td>Remove leaf litter and brush</td>
<td>Fungal acaricide</td>
<td>Oral antibiotic bait</td>
<td>Deer fencing</td>
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<tr>
<td>Synthetic chemical repellent</td>
<td></td>
<td>Remove rodent harborage</td>
<td></td>
<td>Oral tick growth regulator</td>
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<td>Natural product-based repellent</td>
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<tr>
<td>Natural product-based acaricidal soap/lotion</td>
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</table>

Note: Yellow text denotes intervention that is not currently available but under development.
Development and evaluation of tick-borne disease prevention tools

**Intervention Evaluations**

- **Concept**
  - Initial laboratory trials
    - Can it work?

- **Small-scale controlled intervention trials**
  - Can it work?

- **Large-scale controlled intervention trials**
  - Can it work?

- **Pragmatic intervention trials**
  - Will it work?

- **Programmatic evaluation**
  - Does it work?

**Recommendations & education**

**Licensing/registration**

What is the cost of post-market evaluation and what is the fallout if the product “doesn’t work”?!
Development and evaluation of tick-borne disease prevention tools

Question: How much does it cost?
Answer: Its complicated!

Question: How do we pay for it?
Funding for Lyme and TBD Prevention – *Field of Dreams* approach…

*If you build it, they will come.*
A *Field of Dreams* approach…

*If you build it they will come…*

- Detailed knowledge of the burden of illness (numbers of cases and cost to patients and society)
- Effective disease prevention tool or tools
- Effective communication of the cost savings associated with prevention
- A well-thought out national prevention plan
Conclusion

It’s a terrible thing to see and to have no vision. Helen Keller

There is great power in a soundly formulated and clearly articulated vision!
Thank you for your time and interest!

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The findings and conclusions in this report have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy.