

Tick and Mosquito Bite Prevention: Results from Focus Groups with At-Risk Audiences



BACKGROUND

Vector-borne diseases (VBDs) spread by ticks and mosquitoes are on the rise. Ranges of ticks are expanding, placing more people at risk for tick bites. Sporadic mosquito-borne disease outbreaks are also an ongoing public health concern. The best way to protect against VBDs is through personal protective behaviors (PPBs)—activities and habits like using Environmental Protection Agency (EPA)-registered insect repellents, emptying standing water, and avoiding brushy areas. The Division of Vector-Borne Diseases at CDC conducted several focus groups with different at-risk audiences to better understand which PPBs are being performed, and likely to be performed, and how to best communicate prevention of VBDs.

7 AT-RISK AUDIENCES

These groups were chosen because of their activities, behaviors, or geographic location that put them at higher risk of tick and mosquito bites, and therefore, VBDs:

- ◆ Parents
- ◆ Southeasterners
- ◆ Outdoor enthusiasts
- ◆ Older adults
- ◆ Outdoor workers
- ◆ Dog owners
- ◆ Hispanic identifying Spanish speakers

PERSONAL PROTECTIVE BEHAVIORS

Each audience was asked about PPBs and their likelihood to perform them. The table below shows overall likelihood of PPB performance across all audiences, which audiences were least likely to perform certain PPBs, and common barriers to performing each PPB.

Personal Protective Behaviors (PPBs)	Overall Likelihood of Performing	Noted Barriers to Performing
 Using EPA-registered insect repellent	Very likely	Concerns over the safety of repellents, when to use them, and questions about the need for EPA registration Older adults were less likely to perform this behavior than other respondents
 Performing tick checks	Very likely	Confusion around how to remove ticks and how quickly to remove after being bitten Outdoor workers reported a lower likelihood of performing this behavior compared to other groups
 Emptying standing water	Very likely	Southeasterners in particular felt this task seemed difficult given the wet and humid climate
 Wearing long, loose-fitting clothing	Somewhat likely	Clothing needs to be appropriate for the weather and activity
 Showering 2 hours post outdoor activity	Somewhat likely	Not often seen as a PPB, participants usually only shower if they are dirty
 Avoiding brushy areas	Not likely	When outdoors, it is not always possible to avoid brushy areas
 Tumble drying clothes	Not likely	Not often seen as a PPB, and it is difficult to perform when away from home
 Using permethrin	Not likely	Not many participants knew what permethrin was, how to use it, or if it was safe for application

AUDIENCE-SPECIFIC TAKEAWAYS



All Audiences Shared Concerns About Repellents

Although there was a general willingness to use insect repellents, most participants had concerns about insect repellents and often chose what they considered “natural repellents.” Messaging around EPA-registered repellents should describe their safety, how to apply, and when to use.

Use Caution When Translating Slogans

Many Spanish-speaking participants noted that slogans and materials did not make sense in Spanish. Directly translating English slogans into Spanish can lead to confusion or rejection of messages. Native Spanish speakers should review translated materials to ensure accuracy and cultural competency.

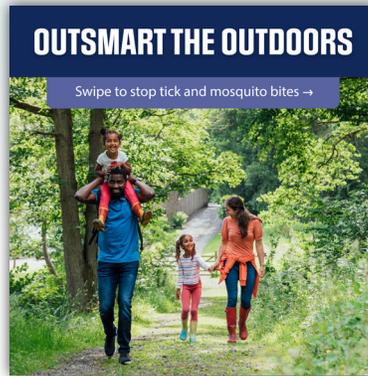
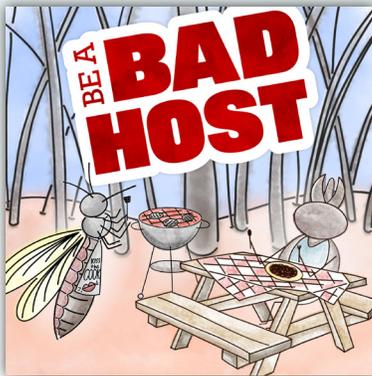
Older Adults Were Less Concerned

Older adults were less concerned about VBDs and were less likely to perform PPBs as a result. Guidance for older adults should focus on their increased risk for serious illness and the ease of performing different PPBs.

Parents Need Targeted and Actionable Tips

While parents were concerned about their children being bitten by ticks or mosquitoes, their general awareness of VBDs was low. Parents actively looked for and received much of their information from social media and word of mouth. Targeted messaging to this group should focus on simple behaviors that parents can perform with their kids to prevent specific VBDs important to their geographic location.

COMMUNICATION AND MEDIA CHANNEL PREFERENCES



Potential VBD prevention slogans and materials were tested among audiences to assess messages for clarity, resonance, acceptability, and ability to influence behavior change. Slogans and materials that were tested varied in sentiment and look and feel. Participants were also asked about how they seek out and receive health information.



Participants liked:

- ◆ Simple slogans that were catchy and easily interpretable
- ◆ Listing all information in one communication material, not multiple
- ◆ Slogans and illustrations relevant to audience
- ◆ PPBs relevant to audience and VBD risk



Participants disliked:

- ◆ Fearmongering images or phrases
- ◆ Slogans directly translated from English to Spanish
- ◆ Illustrations that were dull or too similar to other health materials
- ◆ Images that were unrelated to subject material

EFFECTIVE MEDIA CHANNELS

- ◆ Across all audiences, Facebook, Instagram, and Google searches were the most popular ways to access information. Twitter was rarely used.
- ◆ When posting to these platforms, participants said they would look at information from a verified or trustworthy account such as a government account.
- ◆ Participants also suggested placing print materials at locations associated with VBD risk or where patients seek care, such as trail heads, camping stores, or medical offices.

