



Centers for Disease Control and Prevention



CDC Overview: Web-based and Classroom Resources for Vector Control Programs

2020 Mid-Atlantic Mosquito Control Association Meeting, February 2020

Nga Vuong

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Division of Vector-borne Diseases

National Center for Emerging Zoonotic and Infectious Diseases



Division of Vector-Borne Diseases

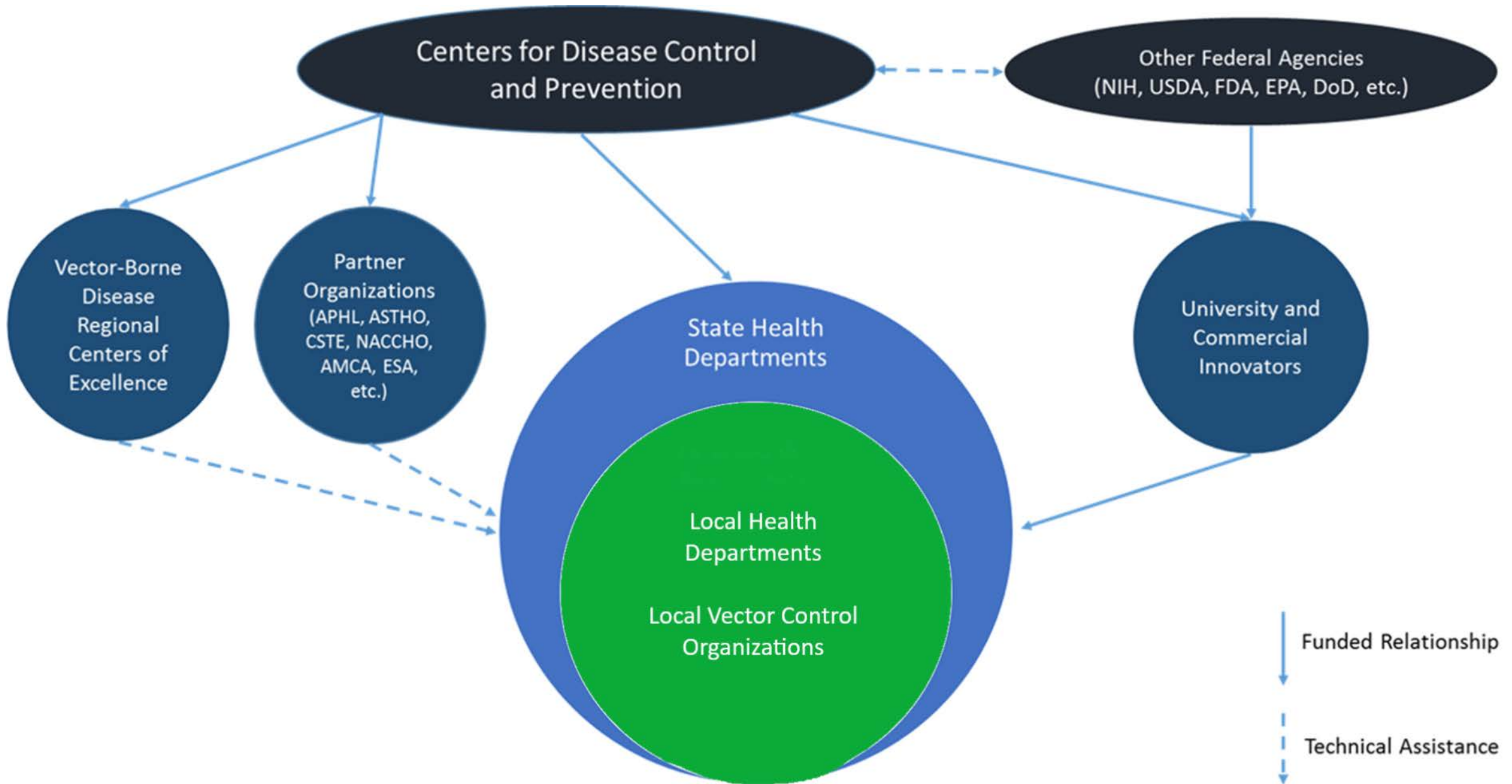
Mission statement: Reduce illness and death from vector-borne diseases

Vision: To create a future where vector-borne diseases no longer threaten public health

Branch	Location	Primary research vectors
Arboviral Diseases Branch	Colorado	Mosquitoes and Ticks
Bacterial Diseases Branch	Colorado	Ticks and Fleas
Dengue Branch	Puerto Rico	Mosquitoes
Rickettsial Zoonoses Branch	Georgia	Ticks



Vector-Borne Disease Prevention and Control - System Map



Collaborations with partners

Public Health Confronts the Mosquito

DEVELOPING SUSTAINABLE STATE AND
LOCAL MOSQUITO CONTROL PROGRAMS



Association of State and Territorial Health Officials (ASTHO)

- ✓ [Public Health Confronts the Mosquito, 2nd Ed.](#)
- ✓ [Technologies for Vector-Borne Disease Surveillance](#)
- ✓ [Communicating About Effective Mosquito Control](#)
- ✓ [Analysis of Express Legal Authorities for Mosquito Control in the United States, Washington, D.C., and Puerto Rico](#)
- ✓ [S/T Health Agency Organizational Structures and Partnerships for Mosquito Control Management](#)

National Association of County and City Health Officials (NACCHO)



[READ NOW](#)

NACCHO Report: Mosquito Control Capabilities in the U.S.

Read the national baseline assessment of mosquito control capabilities in the U.S.



[VIEW NOW](#)

Tickborne Diseases Webinar Recording

Find out the latest on tickborne diseases from the CDC's Dr. Grace Marx.

NACCHO Lyme Disease Toolkit

- **Info-sheets: What to do after a tick bite**
- **Tick surveillance guidance**
 - *Ixodes scapularis*
 - *Ixodes pacificus*
- **Scripted presentations**
 - Tickborne disease prevention & Lyme disease
 - Lyme disease surveillance in low incidence states: A resource for health departments

<http://toolbox.naccho.org/>
Search “Lyme disease”



CDC at the [2019 NACCHO Vector Control Summit](#)

Vector-borne Disease Regional Centers of Excellence

Mission: To support coordinated national partnership committed to building the tools, capacity, and framework to respond effectively to emerging vector-borne disease threats. Currently funded through 2021.

Goals:

- ✓ Training and equipping the next generation of public health entomologists
- ✓ Conducting research to inform operational decisions and identify effective VBD prevention tools
- ✓ Establishing local relationships that assure the capacity to respond effectively to VBD disease outbreaks of regional and national importance

Name of Center	City Location/Host	Website
Northeast	Ithaca, NY Cornell University	http://neregionalvectorcenter.com/
Southeast	Gainesville, FL University of Florida	http://cdcsercoevbd-flgateway.org/
Upper Midwest	Madison, WI University of Wisconsin	http://mcevbd.wisc.edu/
Western Gulf	Galveston, TX University of Texas, Medical Branch	https://www.utmb.edu/wgcvbd
Pacific Southwest	Davis, CA University of California at Davis	https://pacvec.us/

CDC Bottle Bioassay Kits

Kits are available free of charge to jurisdictions interested in implementing insecticide resistance testing activities.

- Technical grade insecticides, enzyme inhibitors to determine metabolic resistance mechanisms, materials, etc.

Request more information from: usbottleassaykit@cdc.gov

CDC Media Resources

- **West Nile**

- <https://www.cdc.gov/westnile/resourcepages/communication-resources.html>

- **Zika**

- <https://www.cdc.gov/zika/comm-resources/index.html>

- **Public Health Media Library**

- <https://tools.cdc.gov/medialibrary/index.aspx#/media/id/124577>

TOP 5 THINGS EVERYONE NEEDS TO KNOW ABOUT ZIKA

1 **Zika primarily spreads through infected mosquitoes. You can also get Zika through sex.**

Many areas in the United States have the type of mosquitoes that can spread Zika virus. These mosquitoes bite during the day and night. Zika can also be passed through sex from a person who has Zika to his or her sex partners, even if the person doesn't have symptoms.

Accessible Version: <https://www.cdc.gov/flu/about/news/newsroom.html>



Mosquito Bite Prevention (United States)

Not all mosquitoes are the same. Different mosquitoes spread different viruses and bite at different times of the day.

Mosquito life cycle

Aedes aegypti

It takes about 7-10 days for an egg to develop into an adult mosquito.

Mosquito Control: What You Need to Know About Truck Spraying

Mosquito control districts or local government departments track mosquito populations to learn where viruses, like Zika or West Nile, are spreading in a community. Spraying insecticides from a truck is one way to safely kill mosquitoes in an area, especially when people in the community are getting sick from mosquito bites. There are different types of sprayers that can be put on a truck.

Truck spraying is used to:

- Control and reduce the number of mosquitoes that can spread viruses.
- Reduce your chances of getting infected with viruses.

What are mosquito control trucks spraying?

Mosquito control trucks spray very small amounts of insecticide into the air to kill mosquitoes. This spray is a fine mist that acts as a fogger in the area. Mosquito control districts or local government departments will choose what type of insecticide to use in an area.

What does the insecticide spray do?

Adulticide sprays immediately kill flying mosquitoes. Larvicide sprays kill mosquito larvae that hatch from eggs and take longer than adulticide sprays. Both products will temporarily reduce mosquito populations in an area, but will not permanently get rid of them.

When does spraying occur?

Spraying takes place in the early evening when mosquitoes are more active. Often, local government agencies or mosquito control districts announce the dates and times of spraying in the local newspaper, on district websites, through public service announcements, by telephone, or through door-to-door notices.

How often do communities spray?

After spraying, mosquito control districts or local government departments will track mosquito populations and treat an area again as necessary to reduce the chances of people getting bitten by mosquitoes that can spread viruses.

Is the spray harmful to people, pets, animals, or the environment?

No, when done correctly, truck spraying will not harm people, pets, animals, or the environment.

What should I do during or after spraying?

Spraying is safe. You do not need to leave an area when truck spraying for mosquito control takes place. If you prefer to stay inside and close windows and doors when spraying takes place you can, but it is not necessary. If you are having any type of health problems after spraying, contact your doctor or healthcare provider. The spray does not harm pets, but you may choose to bring them inside when spraying occurs.

Information on Insecticides and Health:

- The US Environmental Protection Agency oversees the registration of these chemicals.
- The National Pesticide Information Center (NPIC) provides information online or through a toll-free number, 1-800-858-7378.

If you are experiencing health problems for any reason, see your doctor or healthcare provider.

Mosquito Control: You Have Options.

Learn more: <http://www.cdc.gov/zika/prevention/controlling-mosquitoes-at-home.html>

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CDC's Division of Vector-Borne Diseases' (DVBD) provides funding and technical assistance to state and territorial health departments through the [Epidemiology and Laboratory Capacity](#) (ELC) cooperative agreement.

The goal of the vector-borne ELC program is to build sustainable, locally relevant programs to identify, prevent, and respond to vector-borne disease threats. DVBD funding supports capacity for surveillance, diagnosis, response, and reporting of vector-borne diseases.

[Read More](#)



[About ELC Program H](#)

[Application Resources](#)

[Guidelines & Publications](#)

[Surveillance Resources](#)

[Laboratory Resources](#)

[Vector Control Resources](#)

[Stories From the Field](#)

[Resources From Partners](#)

[Communication Tools & Materials](#)

Vector-Borne Diseases

[Anaplasmosis](#)

[Powassan virus](#)

[Bourbon virus](#)

[Rocky Mountain spotted fever \(RMSF\)](#)

What's New in Guidelines & Publications

- [Dengue and Zika Virus Diagnostic Testing for Patients with a Clinically Compatible Illness and Risk for Infection with Both Viruses](#)
- [Updated CDC Recommendation for Serologic Diagnosis of Lyme Disease](#)

Tick Resources

Molecular testing for human disease-causing agents in *I. scapularis*

- Important considerations
 - Surveillance for *Ixodes scapularis* and pathogens found in this tick species in the United States, available at <https://www.cdc.gov/ticks/surveillance/index.html>
- Agents included in CDC testing
- How to submit ticks for testing
- How we are coordinating tick testing with ArboNET data entry

CDC offers tick testing for the following pathogens:

- *Borrelia burgdorferi* sensu stricto (ss)
- *Borrelia mayonii*
- *Borrelia miyamotoi*
- *Anaplasma phagocytophilum*
- *Babesia microti*

Tick Submission Process – Tick Identification and Pathogen Testing

- Contact us (ticksurveillance@cdc.gov)
 - Coordinate shipment of all ticks collected
- Complete tick surveillance and submission forms
 - “Tick surveillance” tab, ArboNET-compatible excel file (do not enter tick species)

CDC Tick Colony Resources

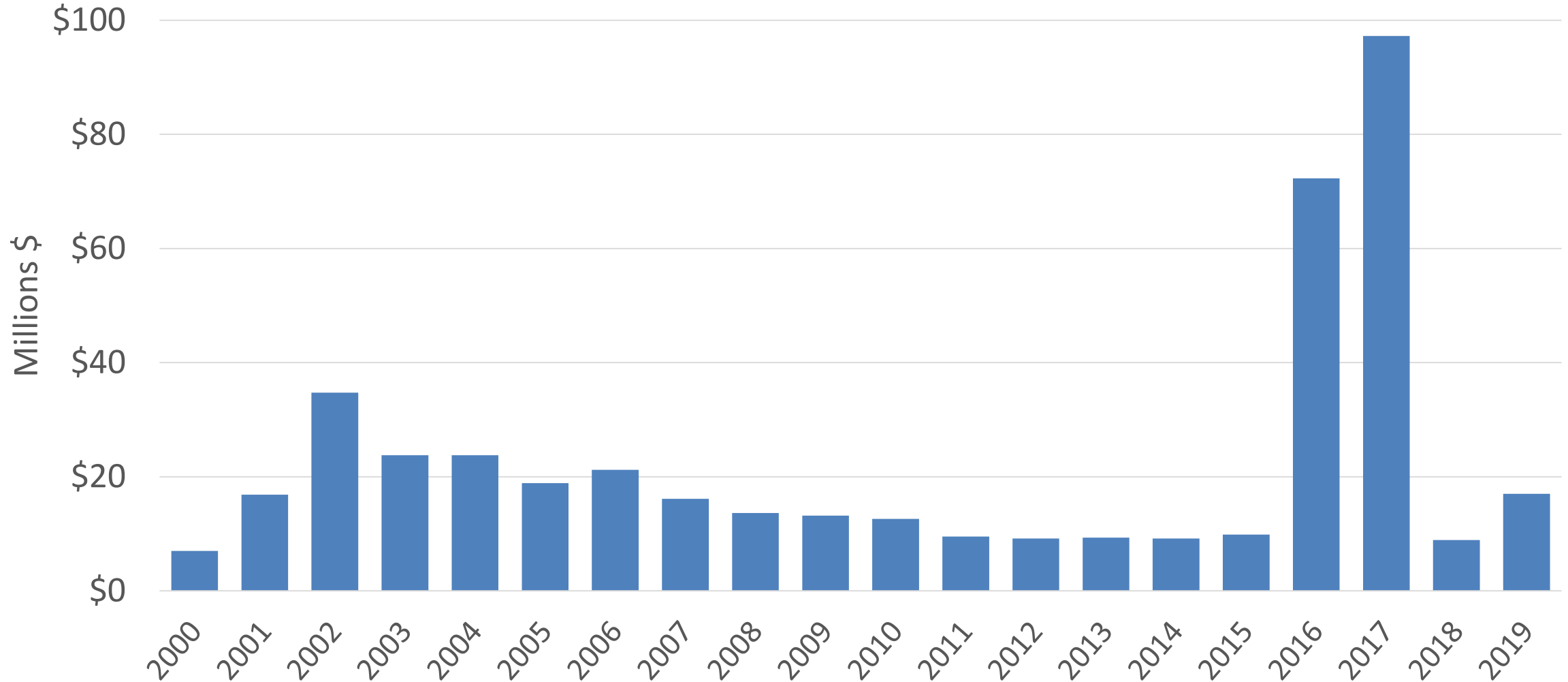
- Contact <https://www.beiresources.org>
 - Registration required
 - Demonstrate sufficient evidence of experience in working with live ticks
 - Demonstrate availability of an ACL-2 facility

What's next?

A decorative horizontal bar at the bottom of the slide, composed of several colored rectangular segments: dark grey, brown, teal, red, light blue, and white.

Cyclical Funding: A Challenge for All of Us

Total Funds Provided to ELC Recipients



A Call to Action for a National Strategy/National Action Plan

Am. J. Trop. Med. Hyg., 100(2), 2019, pp. 242–245
doi:10.4269/ajtmh.18-0841
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Perspective Piece

Combatting the Increasing Threat of Vector-Borne Disease in the United States with a National Vector-Borne Disease Prevention and Control System

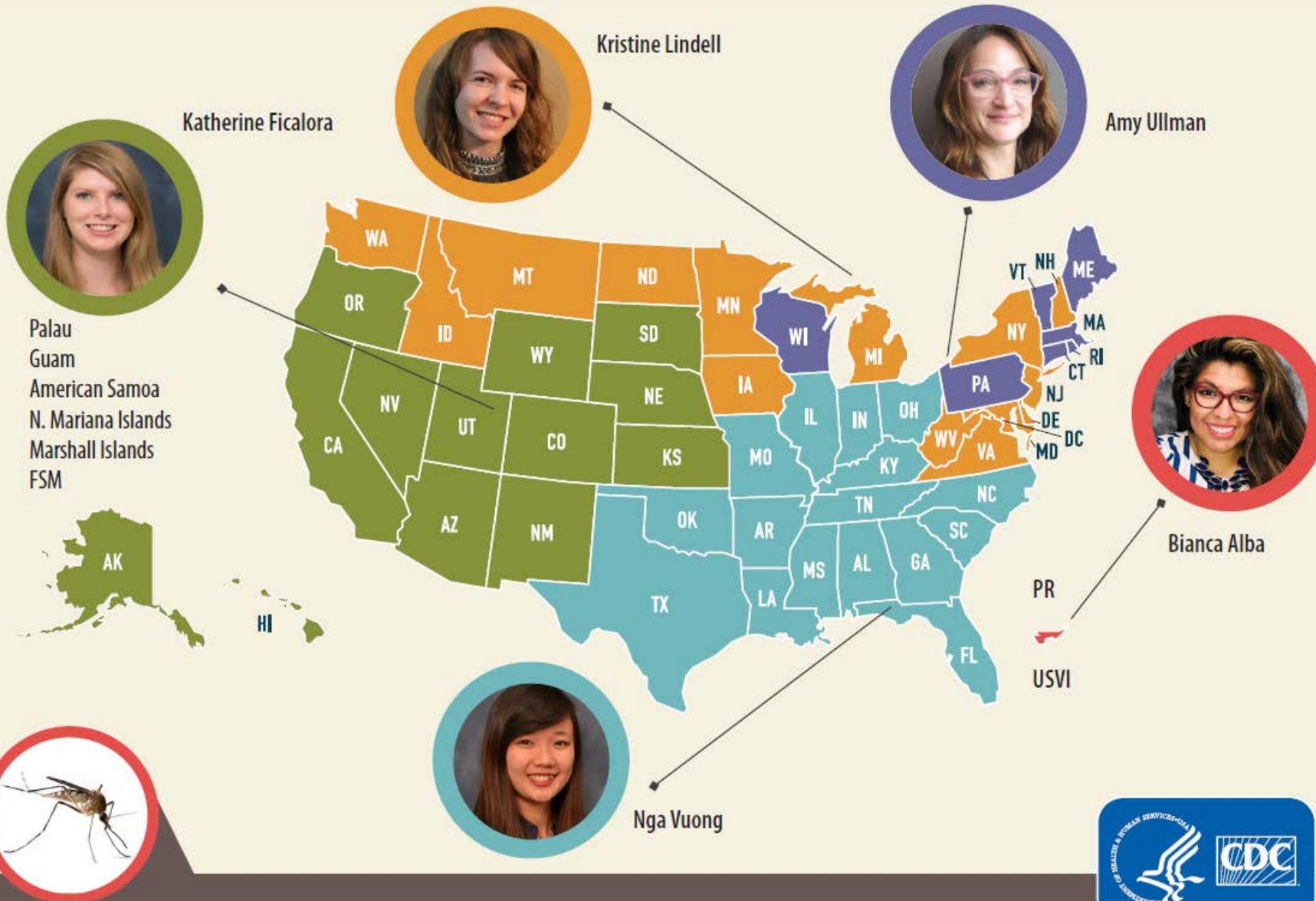
Lyle R. Petersen, Charles B. Beard, and Susanna N. Visser*

*Division of Vector-Borne Diseases, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease
Control and Prevention, Fort Collins, Colorado*

- Highlights the importance of sustaining health departments in their role of combating VBDs and the need for a common national strategy to protect the US from VBD threats



ELC M1 Grantee/Program Consultant Map





**Thank you!
Questions?**

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For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov
<https://www.cdc.gov>

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

