Executive Summary

The Council of State and Territorial Epidemiologists (CSTE), in collaboration with the Centers for Disease Control and Prevention (CDC), hosted four in-person vector-borne disease (VBD) regional meetings to bring together epidemiologists, public health entomologists, veterinarians, communications specialists, researchers and other partners involved in vector-borne disease surveillance and control activities. The goals of the meetings were to facilitate information sharing on best practices and emerging issues and to increase VBD epidemiologic and surveillance capacity.

Due to the variation in vector-borne disease burden in different regions of the country, CSTE hosted four regional meetings to allow for the priority diseases, challenges, and public health actions in each part of the country to be discussed thoroughly. CSTE invited jurisdictional participants to attend a regional meeting based on the American Mosquito Control Association’s regions [https://www.mosquito.org/page/regions](https://www.mosquito.org/page/regions).

CSTE assembled four separate planning committees to assist with planning each regional meeting. Planning committee members included: CSTE VBD Subcommittee members, local mosquito control officials, CDC subject matter experts, and representatives from the CDC-sponsored Vector-borne Disease Regional Centers of Excellence (CoEs). Planning committee members were instrumental in developing meeting agendas, suggesting speakers, and actively participating in the overall planning and execution of each regional meeting.

The focus of each meeting varied based on the regional nature of vector-borne diseases (see Appendix A for meeting agendas). However, all meetings included presentations on mosquito and tick surveillance and risk communication. A brief description of each meeting is below.

**North and Mid-Atlantic VBD Regional Meeting**

CSTE hosted 36 attendees at the North and Mid-Atlantic Regional Meeting in Arlington, VA on November 28–29, 2017. Ninety percent of those that completed the meeting evaluation (n = 29) rated the meeting’s ability to support collaboration among STLT health agencies, CoEs, and CDC on initiatives to evaluate current VBD surveillance practices as excellent or good.

Two important discussions during this session were: 1) surveillance goals when the pathogen/disease is endemic, such as Lyme Disease or West Nile Virus and 2) the strategies to determine habitat and environmental conditions necessary for *Aedes albopictus* to over-winter in a New England state. Presentations were given on: communicating risks and prevention of vector-borne diseases, novel case investigations, notable vector-borne outbreaks, and the US Army and CoEs surveillance and testing programs.
South Central and Atlantic VBD Regional Meeting

CSTE hosted 38 attendees at the South Central and Atlantic Regional Meeting in New Orleans, LA on December 5–6, 2017. Over 90% of the attendees that completed the meeting evaluation (n = 29) reported the meeting’s ability to provide VBD surveillance capacity recommendations to work towards building a sustainable vector management program for STLT agencies as excellent or good.

The South Central and Atlantic meeting primarily focused on tickborne surveillance and testing, as well as best practices for mosquito-borne diseases. Mosquito control surveillance and control programs established the need to place emphasis on larvicidal activities as primary prevention followed by adulticiding, when needed. In addition, there was a specialized session for vector-borne response, surveillance, and testing during hurricane seasons where Texas, Florida, and Louisiana shared their experiences. Participants also discussed new and emerging infectious diseases, as well as novel case investigations and outbreaks such as Chagas, Japanese encephalitis, and Zika.

Pacific and West Regional Meeting

CSTE hosted 75 attendees at the Pacific and West Regional Meeting in Denver, CO on April 3–4, 2018. All attendees that completed the meeting evaluation (n = 46) rated the meeting’s ability to support collaboration among STLT health agencies, CoEs, and CDC on initiatives to evaluated current VBD surveillance practices as excellent or good.

The Pacific and West meeting emphasized testing and surveillance for both mosquito and tickborne diseases. Key discussions included new and novel mosquito control techniques, use of drones and smart traps, insecticide resistance, testing procedures, and data integration. There were additional sessions on managing partnerships and opportunities for collaboration with examples from Colorado, Washington, and Hawaii.

North Central Regional Meeting

CSTE hosted 54 attendees at the North Central Regional Meeting in Chicago, IL on May 1–2, 2018. More than 95% of the attendees that completed the meeting evaluation (n = 32) reported the meeting’s ability to support collaboration among STLT health agencies, CoEs, and CDC on initiatives to evaluate current VBD surveillance practices as excellent or good.

A primary focus for this meeting was the importance of having a robust surveillance system in place, for both mosquito and tickborne diseases, to identify and recognize new or invasive emerging threats. Another key point at this meeting was the integral partnership between mosquito abatement districts and local public health for surveillance and control efforts. Additional sessions included talks on strategies for surveillance, predictive modeling, and communications.

Participants from all four meetings mentioned the value in being able to network with a variety of individuals involved in vector-borne disease, learning about the surveillance strategies and methods being implemented by other jurisdictions, and being able to participate in data visualization and GIS sessions. Attendees reported they would use the information presented to inform colleagues, collaborate with other organizations and jurisdictions, and implement the information into their own
programs and workflow. In addition, many stated they would use the knowledge gained to work towards building capacity and improving surveillance in their jurisdictions.

**Recommendations**

Participants suggested having future in-person meetings focused on:

- Addressing gaps in VBD surveillance and control
- Sustained funding for vector-borne diseases
- Data methods
- Fostering more collaboration of health departments with vector control staff and the Centers of Excellence
- Workforce development
- Emerging pathogens and pathogen evolution

This meeting series demonstrated the value of bringing together VBD stakeholders to share best practices and lessons learned, and the need to continue to provide these forums to enhance public health practice.

**Acknowledgments**

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CSTE is grateful to each regional meeting planning committee volunteer for their time and expertise. CSTE would like to acknowledge Dr. Dennis Lenaway, CSTE consultant, for his contribution to this report and facilitation of the four regional meetings.
CSTE North and Mid-Atlantic Vector-Borne Diseases Regional Meeting
November 28-29, 2017, Le Méridien, Arlington, VA

Tuesday, November 28, 2017

8:30 am – 10:00 am  Welcome and Introductions
- Welcome remarks from our Moderator, Dr. Dennis Lenaway
- Council of State and Territorial Epidemiologists (CSTE) welcome remarks - Dr. Jeff Engel, Executive Director
- Centers for Disease Control and Prevention (CDC) welcome remarks - Dr. Lyle Petersen, Director, Division of Vector-Borne Diseases
- Attendee introductions
  - Name, title, and affiliation

10:00 am – 10:15 am  Break

10:15 am – 11:00 am  Session 1: Medical Entomology 101
Description: The basics of entomology from an epidemiology perspective
- Dr. Dennis White, Northeast Regional Center of Excellence in Vector-Borne Diseases
- Q/A and discussion

11:00 am – 12:30 pm  Session 2: Tickborne Disease Surveillance and Testing
Description: A combination of presentation(s) and a panel discussion by state VBD programs with additional information about support from Centers of Excellence and the Centers for Disease Control and Prevention
- "Rethinking Surveillance for a High Volume Endemic Disease." Dr. Catherine Brown, Massachusetts Department of Public Health
- "Surveillance for Tickborne Pathogens in the Southeastern US and Beyond: Challenges and Opportunities." Dr. Katherine Sayler, Southeastern Center of Excellence in Vector-Borne Diseases
- "Tick and Tickborne Disease Surveillance in Virginia." Dr. David Gaines, Virginia Department of Health
- "Reconciling Rickettsiae: New Developments in Tickborne Rickettsial Disease Surveillance." Naomi Droxler, Centers for Disease Control and Prevention, Division of Vector-Borne Diseases
- Jenn White, New York State Department of Health
12:30 pm – 1:30 pm  

Lunch (on your own)

1:30 pm – 3:00 pm  

Session 3: Mosquito-borne Disease Surveillance and Testing
Description: A combination of presentation(s) and a panel discussion by state VBD programs with additional information about support from Centers of Excellence
- “Over-wintering Capacity of Aedes albopictus at the Northern Edge of its Range.” Dr. Catherine Brown, Massachusetts Department of Public Health
- Kim Cervantes, New Jersey Department of Health
- Judie Hyun, Maryland Department of Health
- Dr. Dennis White, Northeast Regional Center of Excellence in Vector-Borne Diseases
- Q/A and discussion

3:00 pm – 3:15pm  

Break

3:15 pm – 4:45 pm  

Session 4: Communicating with the Public About the Risks and Prevention of VBDs: State and Federal Experiences, Best Practices and Resources
Description: A combination of presentation(s) and a panel discussion of risk communication strategies, tools and effective methods for community stakeholders
- “Education and Outreach for Vector-Borne Diseases in Maine.” Catie Peranzi, Maine Center for Disease Control & Prevention
- Dr. Abigail Mathewson and Carolyn Fredette, New Hampshire Department of Public Health
- Amy Lockwood, Centers for Disease Control and Prevention, Division of Vector-Borne Diseases
- Q/A and discussion

4:45 pm – 5:00 pm  

End-of-day Wrap up and Adjourn
- Meri Phillips, CSTE

Wednesday, November 29, 2017

8:45 am – 9:00 am  

Welcome Back and Reflections on day 1
- Dr. Dennis Lenaway, Moderator

9:00 am - 10:30 am  

Session 5: GIS for VBD Programs
Description: Presentations by state programs and Centers of Excellence on the tools, techniques and uses for GIS-VBD modeling
• “GIS Applications for Vector-Borne Disease Surveillance in West Virginia.” Dr. Miquella Mark Carew, West Virginia Department of Public Health
• “Examples of GIS use in VBD Surveillance and Response.” Dr. Sally Silvinski, New York City Department of Health and Mental Hygiene
• “GIS and VBD: A Needs Assessment.” Dr. Sadie J. Ryan, Southeastern Center of Excellence in Vector-Borne Diseases
• Q/A and discussion

10:30 am – 10:45 am  Break

10:45 am – 12:00 pm  Session 6: Novel Case Investigations and Notable VBD Outbreaks  
  Description: Discuss novel VBD cases and notable outbreak investigations at state and local health jurisdictions
  • “POW!: How NYSDOH Handled a Tickborne Disease Cluster in 2017.” Jenn White, New York State Department of Public Health
  • “Increasing Reports of Anaplasmosis in Vermont.” Bradley Tompkins, Vermont Department of Public Health
  • “Surveillance of Zika in Florida: Lessons Learned From 2016.” Kirtana Ramadugu, Florida Department of Health
  • Q/A and discussion

12:00 pm – 1:15 pm  Lunch (on your own)

1:15 pm – 2:30 pm  Session 7: US Army and VBD Centers of Excellence: Learning From our Network of VBD Partners  
  Description: Learn about the surveillance and testing programs underway by the US Army and Centers of Excellence and how these programs might be resources for state and local VBD programs
  • Dr. Robyn Nadolny, US Army Public Health Center
  • LTC Jeffrey Clark, US Army Public Health Center
  • Dr. Dennis White, Northeast Regional Center of Excellence in Vector-Borne Diseases
  • Dr. Sadie J. Ryan, Southeastern Center of Excellence in Vector-Borne Diseases
  • Q/A and discussion

2:30 pm – 2:45 pm  Break

2:45 pm – 3:30 pm  Session 8: CDC Training: Learning About ELC Grants and What Makes a Successful Grant Application
Description: CDC will provide a brief overview of the ELC grant program and provide information on how states and locals can improve their applications and chances of success in securing ELC funding.
- Tracy Hasvold, Centers for Disease Control and Prevention, Division of Vector-Borne Diseases
- Q/A and discussion

3:30 pm – 3:45 pm  
Closing Remarks
- Meri Phillips, CSTE

3:45 pm  
Adjourn
CSTE South Central and Atlantic Vector-Borne Diseases
Regional Meeting
December 5-6, 2017, New Orleans, LA

Tuesday, December 5, 2017

8:30 am -10:00 am Welcome and Introductions
- Welcome remarks from our Moderator, Dr. Dennis Lenaway
- Council of State and Territorial Epidemiologists (CSTE) welcome remarks- Dr. Jeff Engel, Executive Director
- Centers for Disease Control and Prevention (CDC) welcome remarks- TBD
- Attendee introductions
  - Name, title, and affiliation

10:00 am -10:15 am Break

10:15 am – 11:00 am Session 1: The Epidemiology of Vector-Borne Diseases: An Entomological Perspective
Description: The basics of entomology from an epidemiology perspective
- Dr. Derrick Mathias, CDC Southeastern Center of Excellence in VBD/FMEL
- Dr. Dawn Wesson, Tulane University
- Q/A and discussion

11:00 am – 12:30 pm Session 2: Tickborne Disease Surveillance and Testing
Description: A combination of presentations and a panel discussion by state VBD programs with additional information about support from Centers of Excellence and the Centers for Disease Control and Prevention
- “Texas DSHS-Tick Submission and Testing” - Bonny Mayes, Texas DSHS
- “Rickettsial and Ehrlichiosis Current Surveillance Practices and Challenges in Oklahoma” - Rachel Clinton, Oklahoma State Department of Health
- “Tick and Tickborne Disease Surveillance in Texas” - Dr. Saravanan Thangamani, Western Gulf Center of Excellence, University of Texas Medical Branch Galveston
- “Reconciling Rickettsiae: New Developments in Tickborne Rickettsial Disease Surveillance” – Dr. Amy Peterson Centers for Disease Control and Prevention, Division of Vector-Borne Diseases
- Q/A and discussion
12:30 pm – 1:30 pm  
**Lunch** (on your own)

1:30 pm – 3:00 pm  
**Session 3: Mosquito-borne Disease Control Programs: Tools, Techniques and Best Practices**
Description: Presentations by state VBD programs to learn about what constitutes an effective vector management program
- "Operational Mosquito Control in Southwest Louisiana" - Harff M.P. Jones, Iberia Parish Mosquito Abatement District
- "Florida Mosquito Control from a State Perspective" - Adriane Rogers, CDC Southeastern Center of Excellence in VBD/Florida Department of Agriculture and Consumer Services
- "A Short Tour of the Collier Mosquito Control District" - Dr. Mark Clifton, CDC Southeastern Center of Excellence in VBD/Florida Department of Agriculture and Consumer Services
- Q/A and discussion

3:00 pm – 3:15 pm  
**Break**

3:15 pm – 4:45 pm  
**Session 4: Communicating with the Public About the Risks and Prevention of VBDs: State and Federal Experiences, Practices and Resources**
Description: A combination of presentations and a panel discussion of risk communication strategies, tools and effective methods for community stakeholders
- "Zika, Naled, and Mosquito Control: Why Preparation is the key to Communicating with the Public" - Dr. Mark Clifton, CDC Southeastern Center of Excellence in VBD/Collier Mosquito Control District
- "No Island is an Island" - Christopher Tittel, Florida Department of Health
- "Zika Communication: Research and Resources" - Dr. Victoria Carter, Centers for Disease Control and Prevention, Division of Vector-Borne Diseases
- Dr. Claudia Riegel, Director of Mosquito, Termite, and Rodent Control, City of New Orleans
- Q/A and discussion

4:45 pm – 5:00 pm  
**End-of-day Wrap up and Adjourn**
- Meri Phillips, CSTE

**Wednesday, December 6, 2017**

8:45 am – 9:00 am  
**Welcome Back and Reflections on day 1**
- Dr. Dennis Lenaway, Moderator
9:00 am - 10:30 am  
**Session 5: 2017 Atlantic Hurricane Season: Lessons Learned During Vector Response, Surveillance and Testing**  
Description: Learn about state responses to Hurricanes Harvey, Irma and Maria including results from pre-and post-hurricane vector surveillance and testing  
- "Post Hurricane Harvey Mosquito Control Response Coordinated by the Texas Department of State Health Services" - Dr. Whitney Qualls, Texas DSHS  
- "Hurricane Irma Mosquito Control Incident Response Team Deployment in Florida" - Adriane Rogers, CDC Southeastern Center of Excellence in VBD/Florida Department of Agriculture and Consumer Services  
- "Hurricane Harvey: Harris County Public Health Mosquito and Vector Control Division Response and Evaluation" - Kyndall Oye-Braumuller, Western Gulf Center of Excellence and Harris County Public Health  
- Kyle Moppert, Louisiana Department of Health  
- Q/A and discussion

10:30 am – 10:45 am  
**Break**

10:45 am – 12:00 pm  
**Session 6: GIS for VBD Programs**  
Description: Presentations by state programs and Centers of Excellence on the tools, techniques and uses for GIS-VBD modeling  
- "Using GIS for Zika Case Investigations in Florida" - Dr. Andrea Morrison, Florida Department of Health  
- "GIS and VBD: A Needs Assessment" - Dr. Sadie Ryan, CDC Southeastern Center of Excellence in VBD/UF  
- Q/A and discussion

12:00 pm – 1:15 pm  
**Lunch (on your own)**

1:15 pm – 2:30 pm  
**Session 7: New and Emerging Infectious Diseases**  
Description: Presentations by state and local jurisdictions on new and emerging infectious diseases  
- "Chagas Disease in Texas- Data, Case Classification, and Testing Guidance" - Bonny Mayes, Texas Department of State Health Services  
- "Jamestown Canyon Virus in Mississippi and Louisiana- Underscored or Emerging?" - Sheryl Hand, Mississippi State Department of Health and Chrissie Scott-Waldron, Louisiana Department of Health  
- "Looking for Trouble: Zika’s Impact on Dengue Reporting in Georgia, 2016" - Shawna Stuck and Skylar Brennan, Georgia Department of Public Health
2:30 pm – 2:45 pm  
Q/A and discussion

2:45 pm – 4:15 pm  
**Session 8: Novel Case Investigations and Notable VBD Outbreaks**
Description: Discuss notable outbreak investigations at state and local health jurisdictions
- "Public Health Impact of Zika Virus in Florida" - Dr. Andrea Morrison, Florida Department of Health
- "Zika, Chikungunya and Dengue in the Rio Grande Valley and Prospects for Future Activity in the U.S." - Dr. Scott Weaver, Western Gulf Center of Excellence, University of Texas Medical Branch Galveston,
- "Louisiana’s First Imported Case of Japanese Encephalitis" - Julius Tonzol, Louisiana Department of Health
- Q/A and discussion

4:15 pm – 4:30 pm  
**Closing remarks**
- Meri Phillips, CSTE

4:30 pm  
**Adjourn**
CSTE Pacific and West Vector-Borne Diseases Regional Meeting
April 3-4, 2018
The Brown Palace Hotel
Central City and Cripple Creek
321 17th Street
Denver, CO

Tuesday, April 3, 2018

8:30 am - 10:00 am  Welcome and Introductions
- Welcome remarks from our moderator, Dr. Dennis Lenaway
- Council of State and Territorial Epidemiologists (CSTE) welcome remarks (Dr. Jeff Engel, Executive Director)
- Centers for Disease Control and Prevention (CDC) welcome remarks (Dr. Lyle Petersen, Director, Division of Vector-borne Diseases, NCEZID, CDC)
- Attendee introductions
  - Name, title, and affiliation

10:00 am - 10:15 am  Break

10:15 am - 11:00 am  Session 1: Medical Entomology 101 for Epidemiologists
Description: The presentation will focus on the basics of medical entomology to include the biology and ecology of medically important insects and their impact on public health from an epidemiology perspective.
- Jason Kinley, AMCA President-Elect and Director of Gem County Mosquito Abatement District, Idaho
- Q&A and discussion (15 minutes)

11:00 am - 12:30 pm  Session 2: Mosquito-borne Disease Surveillance and Testing
Description: A combination of presentations and a panel discussion by state/local VBD programs
- North Dakota Dept. of Health Mosquito Surveillance Program (Laura Cronquist, North Dakota Dept. of Health)
- California’s program for mosquito-borne disease surveillance and testing (Anne Kjemtrup, CA Dept. of Public Health)
- Q/A and discussion (30 minutes)

12:30 pm – 1:30 pm **Lunch** (on your own)

1:30 pm – 3:00 pm **Session 3: Tick-borne Disease Surveillance and Testing**
Description: A combination of presentations and a panel discussion by state VBD programs with additional information from the Centers for Disease Control and Prevention
- Tick surveillance as a public health tool (Becky Eisen, Division of Vector-borne Diseases, CDC)
- Tick Testing and Surveillance in California (Anne Kjemtrup, CA Dept. of Public Health)
- Polar Bears in the Desert: *Rickettsia parkeri* Rickettsiosis in Arizona (Kara Tarter, Arizona Dept. of Health Services)
- Washington Tick Surveillance Program (Liz Dykstra, WA State Dept. of Health)
- Q/A and discussion (30 minutes)

3:00 pm – 3:15 pm **Break**

3:15 pm – 4:45 pm **Session 4: Communications**
Description: A combination of presentations and a panel discussion of risk communication strategies, tools and effective methods for interacting with community stakeholders
- Getting to Yes: The Public’s Struggle to Protect Themselves from Vector-borne Diseases (Anna Pere, Policy and Communications Lead, Bacterial Diseases Branch, Division of Vector-borne Diseases, CDC)
- Invasive *Aedes* Outreach in California: micro-targeting the message (Jill Oviatt, Public Information Manager, Coachella Valley Mosquito and Vector Control District)
- Q/A and discussion (45 minutes)

4:45 pm – 5:00 pm **End-of-day Wrap up and Adjourn**
- Becky Lampkins, CSTE
Wednesday, April 4, 2018

8:30 am – 8:45 am  Welcome Back and Reflections on Day 1
  • Dr. Dennis Lenaway, Moderator

8:45 am – 10:15 am  Session 5: Vector Control Technologies/Techniques
  Description: Presentations by CDC and vector control organizations related to existing and novel vector control efforts and strategies
  • Novel control technologies (Dr. Janet McAllister, Division of Vector-borne Diseases, CDC)
  • Insecticide Resistance and Adult Control (Dr. Janet McAllister, Division of Vector-borne Diseases, CDC)
  • Exploring the use of drones and “smart traps” in surveillance and control strategies (Joel Buettner, Placer Mosquito and Vector Control District)
  • Q/A and discussion (30 minutes)

10:15 am – 10:30 am  Break

10:30 am – 12:00 pm  Session 6: Data Visualization for VBD Programs
  Description: Presentations by state/local jurisdictions and Center of Excellence on data visualization techniques
  • “Real-Time” Infectious Disease Surveillance Data Visualization for Public Health Response Using SQL Server and Tableau Server (Taylor Jones Pinsent, Multnomah County)
  • Colorado’s West Nile Virus Public Data Portal (Loren Speer, Colorado Dept. of Public Health & Environment)
  • California’s “Gateway” project of integrated data and display (Chris Barker, UC Davis)
  • Q/A and discussion (30 minutes)

12:00 pm – 1:00 pm  Lunch (on your own)

1:00 pm – 1:30 pm  Informal Networking Session

1:30 pm – 3:00 pm  Session 7: New, Novel or Emerging VBD Surveillance, Testing and Response
  Description: Presentations by state and local jurisdictions on new and emerging infectious disease issues.
  • Epidemiology of Tickborne Diseases in Washington State: Surveillance Challenges in a Low Incidence Setting (Hanna Oltean, WA State Dept. of Health)
  • Onchocerca lupi infections and surveillance for potential hosts in Arizona (Heather Venkat, Arizona Dept. of Health Services)
• 2017 Utah West Nile Virus Surge (Dallin Peterson, Utah Department of Health)
• Q/A and discussion (30 minutes)

3:00 pm – 3:15 pm Break

3:15 pm – 4:40 pm Session 8: Managing VBD Partnerships and Opportunities for Collaboration
Description: Presentations and panel discussion on managing existing partnerships and exploring new opportunities for collaboration to enhance VBD capacity and surveillance
• Description of Pacific Southwest Regional Center of Excellence in VBD and supporting public health efforts (Chris Barker, UC Davis)
• Washington State digital library agreements (Liz Dykstra, WA State Dept. of Health)
• Vector Surveillance and Control Collaborations following Hawaii’s 2015-16 Dengue Outbreak (Lincoln Wells, Hawaii Dept. of Health)
• Hawaii’s Interagency project to prevent spread of invasive species including vectors (Dr. Leyla Kaufman, Hawaii Invasive Species Council)
• Q/A and discussion (25 minutes)

4:40 pm – 4:45 pm Closing remarks
• Becky Lampkins, CSTE

4:45 pm Adjourn
CSTE North Central Vector-Borne Diseases Regional Meeting
May 1–2, 2018

Hyatt Centric Chicago Magnificent Mile
Lakeshore Ballroom East
635 North Saint Clair Street
Chicago, IL

Tuesday, May 1, 2018

8:30 am – 10:00 am  Welcome and Introductions
- Welcome remarks from our Moderator, Dr. Dennis Lenaway
- Centers for Disease Control and Prevention (CDC) welcome remarks (Dr. Chris Braden, Deputy Director, NCEZID and Angelica O’Connor, ELC Program Manager, NCEZID)
- Council of State and Territorial Epidemiologists (CSTE) welcome remarks (Dr. Jeff Engel, Executive Director)
- Attendee introductions
  - Name, title, and affiliation

10:00 am – 10:15 am  Break

10:15 am – 11:00 am  Session 1: Entomology 101 for Epidemiologists
Description: The basics of entomology from an epidemiology perspective.
- Global climate change and what history tells us about the risk of new pathogens being introduced into the United States (Mike Turell, VectorID LLC)
- Q/A and discussion (15 minutes)

11:00 am – 12:30 pm  Session 2: Mosquito-borne Disease Surveillance and Testing
Description: A series of brief presentations by VBD programs engaged in mosquito-borne surveillance and testing. A networking lunch follows this session for further follow-up and discussion.
- Tennessee’s Mosquito Surveillance Program (Kelly Orejuela, Tennessee Department of Health)
- Mosquito-borne Disease in Minnesota (Elizabeth Schiffman, Minnesota Department of Health)
- Mosquito Surveillance and Control in Michigan (Erik Foster, Michigan Department of Health & Human Services)
- Mosquito Surveillance in Indiana (Jeanette McGavic, Indiana State Department of Health)
• Ohio's Mosquito Program (Kimberly Machesky, Ohio Department of Health)
• Mosquito-borne Disease Surveillance in Iowa (Julie Coughlin, Iowa Department of Public Health)
• Mosquito-borne Disease Surveillance in Illinois (Jonathan Popovitch, Illinois Department of Public Health)
• Q/A and discussion (time permitting)

12:30 pm – 1:45 pm  
*Optional Networking Lunch – Mosquito-borne VBD Programs (on your own)*

1:45 pm – 3:15 pm  
**Session 3: Tick-borne Disease Surveillance and Testing**
Description: A series of brief presentations by VBD programs engaged in tick-borne surveillance and testing. A networking break follows this session for further follow-up and discussion.
• Tennessee’s Tick Surveillance Program (Kelly Orejuela, Tennessee Department of Health)
• Tickborne Disease Surveillance in Wisconsin (Christine Muganda, Wisconsin Division of Public Health)
• Ticks and Tickborne Disease Surveillance in Minnesota (Jenna Bjork, Minnesota Department of Health)
• Using Tick Surveillance to Estimate Lyme Disease Risk and Drive Public Health Action in Michigan (Jennifer Sidge, Michigan Department of Health and Human Services)
• Adding Tick Surveillance to a Well-Established State Mosquito Surveillance Program (Jen Brown, Indiana State Department of Health)
• Ohio’s Tick Program (Kimberly Machesky, Ohio Department of Health)
• Tick-borne Disease Surveillance in Illinois (Jonathan Popovitch, Illinois Department of Public Health)
• Q/A and discussion (time permitting)

3:15 pm – 3:45 pm  
*Networking Break – Tick-borne VBD programs*

3:45 pm – 5:15 pm  
**Session 4: Communications**
Description: A combination of presentations and a panel discussion of risk communication strategies, tools and effective methods for interacting with community stakeholders.
• Community Educational Event on Vector-borne Diseases (Taryn Stevens, Indiana State Department of Health)
• Mosquito University: Communicating Surveillance and Control Strategies to the Front Lines (Abelardo Moncayo, Tennessee Department of Health)
• Vector-borne disease communication: What people want to know & how to help them help themselves (Anna Perea, Division of Vector-Borne Diseases, CDC)
• Q/A and discussion (30 minutes)

5:15 pm – 5:20 pm  
End-of-day Wrap up and Adjourn
• Jordan Peart, CSTE

Wednesday, May 2, 2018

8:30 am – 8:45 am  
Welcome Back and Reflections on Day 1
• Dr. Dennis Lenaway, Moderator

8:45 am – 10:15 am  
Session 5: Vector Surveillance Strategies
Description: How to engage with MADs or other partners who engage in vector surveillance and control methods that support PH objectives.
• Mosquito Abatement Districts: What Do We Do? (Patrick Irwin, Chicago-area Northwest Mosquito Abatement District)
• Vector Control: The Local Perspective (James Sayers, Saint Louis County Department of Public Health)
• Using surveillance data to drive mosquito control operations (Rajeev Vaidyanathan, Clarke)
• Q/A and discussion (30 minutes)

10:15 am – 10:30 am  
Break

10:30 am – 12:00 pm  
Session 6: Visual and Predictive Modeling for VBD Programs
Description: Presentations by local, state, and academic programs on the tools, techniques and uses for GIS and VBD modeling.
• Utilizing Mapping and Spatial Tools in Vectorborne Disease: The Minnesota Experience (Elizabeth Schiffman, Minnesota Department of Health)
• Spatial Epidemiology and GIS to predict, prevent and control vector-borne diseases (Marilyn O'Hara Ruiz, University of Illinois at Urbana)
• Real time WNV predictions in the City of Chicago using open data (Gene Leynes, City of Chicago)
• Q/A and discussion (30 minutes)
12:00 pm – 1:00 pm  
*Lunch (on your own)*

1:00 pm – 2:30 pm  
**Session 7: New, Novel or Emerging VBD Surveillance and Response**  
Description: Presentations on new, novel and emerging vector-borne diseases.
- Blacklegged Tick Populations Infected with *Borrelia burgdorferi* sensu stricto are Emerging in the Tennessee Valley (Graham Hickling, University of Tennessee)
- Emerging Tickborne Disease and Unusual Arboviral Activity in Minnesota and Wisconsin (Elizabeth Schiffman, Minnesota Department of Health and Christine Muganda, Wisconsin Division of Public Health)
- Novel Tick-borne Infections in Missouri (George Turabellize, Department of Health and Senior Services)
- *Q/A and discussion (30 minutes)*

2:30 pm – 2:45 pm  
*Break*

2:45 pm – 4:15 pm  
**Session 8: Leveraging VBD Partnerships and Opportunities for Collaboration**  
Description: Examples of leveraging VBD partnerships and other opportunities to collaborate.
- Introducing the Midwest Center of Excellence for Vector-Borne Disease (Susan Paskewitz, Midwest Center of Excellence for Vector-Borne Disease)
- Opportunities for Collaboration through TickNET: A Perspective from the Minnesota Department of Health (Jenna Bjork, Minnesota Department of Health)
- Partnering with Zoos in Outbreak Investigations and Surveillance Activities (Abelarde Mencayo, Tennessee Department of Health)
- *Q/A and discussion (30 minutes)*

4:15 pm – 4:30 pm  
**Closing remarks**
- Jordan Pearl, CSTE

4:30 pm  
*Adjourn*