

# 2018 NEVBD Annual Meeting Report

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**JANUARY 26, 2018**

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Northeast Regional Center for Excellence in Vector-Borne Diseases



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# Overview

The Northeast Regional Center for Excellence in Vector-Borne Diseases (NEVBD) membership convened 26 January 2018, at the Connecticut Agricultural Experiment Station campus in New Haven, Connecticut. Laura C. Harrington, Program Director, presided at this first annual meeting for the NEVBD network.

This meeting was comprised of three sessions: General Session, Networking Lunch, and Planning Session. The General Session focused on providing updates on NEVBD research and programming efforts. Updates were provided from each of the following:

- Centers for Disease Control and Prevention (CDC) Division of Vector-Borne Diseases
- Research Cluster 1: Evaluation of Trapping Methods
- Research Cluster 2: Modeling of Vector-Borne Pathogens
- Research Cluster 3: Vector-Pathogen Interactions
- Research Cluster 4: Field Biology and Climate, Diapause, and Overwintering Survival
- Research Cluster 5: Chemical Control and Resistance Monitoring
- Teaching and Education Cluster

Meeting attendees used the Networking Lunch period to meet NEVBD collaborators, review projects, and discuss future directions in an informal setting. A full listing of meeting attendees is reported in Appendix A.

The Planning Session included a smaller subset of meeting attendees. This portion of the meeting followed a break out group format, wherein attendees were split into the following four break out groups:

- Improving region-wide surveillance and control
- Gaps in knowledge of biology and disease transmission
- Academic training programs
- Professional training programs and building a community of practice

Each break out group reviewed current progress in each topic area, identify priorities for the NEVBD, and develop a list of three to six concrete recommendations for focused work in calendar year 2018. Full findings and recommendations from the planning session are reported in Appendix B.

Attendees were also asked to complete event evaluation forms. Summary responses to the event evaluation can be found in Appendix C.

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# 2018 Action Plan

The NEVBD will focus on the following objectives in calendar year 2018. These targets were identified through a synthesis of planning session outcomes as well as feedback generated through program evaluations completed by meeting attendees. Please reference Appendix B to review full details on planning group recommendations for 2018, as well as discussions on NEVBD long-term goals.

## 1. Standardization of Protocols

The NEVBD will work collaboratively to standardize protocols utilized in multiple efforts, including studies of vector competence and methodologies for field surveillance of tick and mosquito vectors in the Northeast. **Rationale:** standardization of protocols will enhance the ability to conduct projects and apply findings at a regional scale.

## 2. Establish Structures to Support Collaboration and Data Sharing

The NEVBD will explore opportunities to support engagement in activities across our region centered on applied research and training. These efforts include, but are not limited to, establishment of Memoranda of Understanding covering components of network collaboration, Data Sharing Agreements to facilitate the use of regional data by network partners, and exploration of available options to develop a resource “clearinghouse” available to NEVBD collaborators and stakeholders.

## 3. Continue Applied Research Efforts Prioritized in Cooperative Agreement

The NEVBD has several applied research projects addressing important questions and knowledge gaps in vector-borne disease, both ongoing and in development. Research collaborators will continue their current efforts on assessing vector competence, overwintering survival, and surveillance of geographic distribution and abundance. Areas identified for further development in 2018 include an exploration of the ability to incorporate various forms of surveillance data (e.g., human surveillance, veterinary surveillance, passive surveillance) into descriptive and predictive models; implementation of projects to understand mosquito and tick vector-host interactions; and implementation of projects focused on vector control and resistance testing and monitoring.

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## 4. Training Programs and Resources

The NEVBD will bring two new training programs online in 2018: the NEVBD Vector Biology Boot Camp and the NEVBD Master of Entomology program in vector biology at Cornell University. These two programs target both professional and academic audiences. Both programs will undergo evaluations to augment current efforts and enhance the programs for future iterations. In addition, the NEVBD will focus on developing targeted training resources for professionals working in the field of vector-borne disease and public health, including webinars and short courses providing in-depth review of targeted subjects (e.g., primers on vector-borne diseases for clinicians, use of descriptive and predictive modeling to inform risk communication, best practices for media and public communication).

## 5. Implement a Responsive Communication Program

The NEVBD will strengthen its connection to network stakeholders, including public health practitioners, the lay public and elected officials, through the development and implementation of a structured communication campaign. Concrete targets for 2018 include the development of a communication campaign employing several outreach methods (e.g., social media platforms, online newsletters, NEVBD listervs), and the organization of a roundtable group representing state and local agencies working on vector-borne disease issues across our region. The overarching goal of these efforts is to connect NEVBD partners with resources, research updates, program announcements, and foster continued collaboration across our network.

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# Appendix A. Meeting Participants

## NEVBD Principal Investigation Team

- **Laura C. Harrington**, Professor of Entomology, Cornell University
- **Theodore Andreadis**, Director, Connecticut Agricultural Experiment Station
- **Bryon Backenson**, Epidemiologist, Director, Investigations and Vector Surveillance Units, Bureau of Communicable Disease Control, New York State Department of Health
- **Maria Diuk-Wasser**, Associate Professor of Ecology, Evolution and Environmental Biology, Columbia University
- **Laura Kramer**, Director, Arbovirus Laboratory, Wadsworth Center, New York State Department of Health
- **Emily Mader**, Program Manager, NEVBD

## CDC Division of Vector-Borne Diseases

- **Christopher Gregory**, Chief, Arboviral Diseases Branch
- **Harry Savage**, Research Entomologist
- **Lars Eisen**, Technical Advisor and Collaborator for the Northeast Center of Excellence in Vector-Borne Diseases
- **Jeff Borchert**, Project Officer, Centers of Excellence in Vector-Borne Diseases

## NEVBD Trainees

- **James Burtis**, Postdoctoral Researcher, Cornell University
- **Gillian Eastwood**, Postdoctoral Researcher, Connecticut Agricultural Experiment Station
- **Maria del Pilar Fernandez**, Postdoctoral Researcher, Columbia University
- **Megan Linske**, Postdoctoral Researcher, Connecticut Agricultural Experiment Station
- **Eliza Little**, Postdoctoral Researcher, Connecticut Agricultural Experiment Station
- **Maria Onyango**, Postdoctoral Researcher, Wadsworth Center, NYSDOH
- **Kara Fikrig**, Doctoral Student, Cornell University
- **Pallavi Kache**, Doctoral Student, Columbia University
- **Max McClure**, Medical Student, Columbia University
- **Talya Shragai**, Doctoral Student, Cornell University
- **Meredith VanAcker**, Doctoral Student, Columbia University

## NEVBD Partners & Collaborators

Philip	Armstrong	Connecticut Agricultural Experiment Station
Mark	Baker	Philadelphia Vector Control
Monica	Brackney	Yale Emerging Infections Program
Doug	Brackney	Connecticut Agricultural Experiment Station
Gisella	Caccone	Yale University
Scott	Campbell	Suffolk County Health Department
Alexander	Ciota	Wadsworth Center, New York State Dept. of Health
Neeta	Connally	Western Connecticut State University
Scott	Crans	NJ State Mosquito Control Commission
Moses	Cucura	Suffolk County DPW, Division Vector Control
Oliver	Elison Timm	SUNY Albany
Rich	Falco	Fordham University
Matt	Frye	New York State IPM Program
Jody	Gangloff-Kaufmann	New York State IPM Program
Daniel	Gilrein	Cornell Cooperative Extension of Suffolk County

Andrea	Gloria-Soria	Connecticut Agricultural Experiment Station
AmberJean	Hansen	Yale Emerging Infections Program
Michael	Hutchinson	Pennsylvania DEP Vector Management
Nick	Indelicato	Mercer County Mosquito Control
Tom	Iwanejko	Suffolk County DPW, Division Vector Control
Malgorzata	Kawalkowski	Suffolk County DPW, Division Vector Control
Alexander	Keyel	Wadsworth Center, SUNY Albany
Rayda	Krell	Western Connecticut State University
Thomas	Mather	University of Rhode Island
Kathleen	McDonogh	SUNY Albany
Goudarz	Molaei	Connecticut Agricultural Experiment Station
Ángel	Muñoz	Columbia University
Sara	Niesobecki	Yale Emerging Infections Program
Matthew	Osborne	Massachusetts Dept. of Public Health
Nicholas	Piedmonte	New York State Dept. of Health
Evlyn	Pless	Yale University
Jeffrey	Powell	Yale University School of Public Health
Melissa	Prusinski	New York State Dept. of Health
Daniela	Quilliam	Rhode Island Dept. of Health
Ilia	Rochlin	Suffolk County DPW, Division Vector Control
Eli	Rosenberg	SUNY Albany
John	Shepard	Connecticut Agricultural Experiment Station
Sally	Slavinski	NYC Dept. of Health and Mental Hygiene
John	Soghigian	Connecticut Agricultural Experiment Station
Kirby	Stafford	Connecticut Agricultural Experiment Station
Madeleine	Thomson	Columbia University, IRI
Dennis	White	New York State Dept. of Health
Jennifer	White	New York State Dept. of Health
Gregory	Williams	Hudson Regional Health Commission
Scott	Williams	Connecticut Agricultural Experiment Station
Siyang	Xia	Yale University

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# Appendix B. Planning Session Findings and Recommendations

## GROUP 1: Improving Region-Wide Surveillance and Control

### Group Membership

FACILITATOR: Theodore Andreadis

NOTE TAKER: Gillian Eastwood

Philip	Armstrong	Alexander	Keyel
James	Burtis	Angel	Muñoz
Moses	Cucura	Harry	Savage
Maria	Diuk-Wasser	Madeleine	Thomson
Oliver	Elison Timm	Meredith	VanAcker
Tom	Iwanejko		

### Recommendations for 2018

1. STANDARDIZE PROTOCOLS ACROSS THE REGION FOR TRAPPING CONTAINER-BREEDING *Aedes* spp. MOSQUITOES
  - Address issues of under sampling human-biting vectors that develop in natural and artificial containers
  - Evaluate trapping methods through modification of existing traps and testing of new traps
2. ACTIVE TICK SURVEILLANCE - INCORPORATING A COST-EFFECTIVENESS ANALYSIS IN CONTRAST TO PASSIVE TICK SURVEILLANCE
  - Address question of whether the region should support efforts for more standardized active surveillance of ticks
    - Cost-effectiveness evaluation in contrast to passive surveillance programs
    - Explore options to increase the manpower necessary to conduct active surveillance
  - Share standardized methods across the Northeast region, with an aim to limit variation
3. EXPLORE THE PREDICTIVE VALUE & SKILL CAPACITY THAT EXISTS FOR THE USE OF SURVEILLANCE DATA ACROSS THE REGION, PRIORITIZING LONG-TERM DATA SETS AND DEVELOPING A STANDARDIZED ACTION THRESHOLD FOR CONTROL
  - Understand the predictive value of different types of surveillance data, including mosquito and tick abundance, pathogen prevalence, and human cases
  - Develop a standardized model of the probability of human infection based on surveillance findings that can be used as a tool to demonstrate risk
  - Develop framework to evaluate action thresholds for control efforts
4. EVALUATE THE EFFICACY OF METHODS FOR MOSQUITO AND TICK CONTROL, PARTNERING WITH KEY ORGANIZATIONS AND DEVELOPING REGIONALLY-RELEVANT AND TIMELY CONTROL STRATEGIES
  - Assess regional capacity for routine seasonal mosquito and tick control

- Evaluate efficacy of adulticide and larvicide applications for mosquito control, including impact of arbovirus amplification in mosquitoes and ideal timing to implement control efforts
  - Partner with key organizations, including vector control units, departments of health, and pest control companies
  - Test tick and mosquito control products in the field. Include cost evaluations and evaluations of non-target effects.
5. **AIM FOR A BETTER REGION-WIDE UNDERSTANDING OF EACH OTHER'S DATA AND ACQUISITION PROTOCOLS. DEMONSTRATE THE VALUE OF SHARING OUR COLLECTIONS OF DATA.**
- Identify the types of data currently being collected in the region, how data is being disseminated
  - Host a 'data sharing meeting' with regional partners
6. **RESISTANCE TESTING**
- Identify results of current efforts on resistance testing in the Northeast region
  - Conduct resistance testing for ticks and mosquitoes in the Northeast region

## GROUP 2: Gaps in Knowledge of Biology and Disease Transmission

### Group Membership

FACILITATOR: Laura Kramer  
 NOTE TAKER: Talya Shragai

Alexander	Ciota	Goudarz	Molaei
Lars	Eisen	Maria	Onyango
Maria	Fernandez	Scott	Williams
Andrea	Gloria-Soria	Melissa	Prusinski
Eliza	Little		

### Recommendations for 2018

1. **DEFINE BASELINE COMPETENCE OF LOCAL POPULATIONS**
  - Investigate baseline competence of *Ae. albopictus* in nature
    - Impact of temperature variation on vectorial capacity and transmission
  - Standardize protocols and share reagents across NEVBD partners
2. **VECTOR AND PATHOGEN BIOLOGY**
  - Survey variation in genotypes of arboviruses and vectors in the Northeast region
    - Investigate genetic evolution of ZIKV, WNV, EEEV, Cache Valley virus, LACV, and chikungunya virus
    - Understand impact of new variants associated with increased activity, how populations vary geographically and spatially, and transmission potential for *Ae. albopictus*
  - Investigate areas of basic biology, distribution, diapause, and winter survival for targeted vectors in Northeast
    - Conduct investigations of blood feeding frequency, preference, longevity, dispersal, and foraging behavior of *Ae. albopictus* in southern New York State and Pennsylvania
    - Continue current work on diapause of *Ae. albopictus* in southern New York State, and overwintering survival of *Ae. albopictus* in New York State and Connecticut

- Continue current investigations on overwintering survival of *A. americanum* and *I. scapularis* ongoing in Connecticut and Maine. Explore opportunities to expand this work to additional states.
  - Develop protocols to investigate host interactions of juvenile ticks.
3. INVESTIGATE BASIC BIOLOGY AND DISTRIBUTION OF NEGLECTED VECTORS IN THE NORTHEAST
- Characterize the genetic diversity and population structure of *Culiseta melanura* populations that correlate with variability in EEEV transmission
  - Derive entomological estimates of risk for LACV and assess the role of container-breeding *Aedes spp.* to serve as vectors in the Northeast
  - Expand surveillance efforts to understand true range of *A. americanum* in Northeast
4. FACILITATE COLLABORATIONS AND COMMUNICATION
- Identify empirical data that would be of most use to modelers
  - Identify potential collaborations with other regional centers of excellence working on vector biology and pathogen biology, particularly vector competence studies
  - Support routine cross-cluster research meetings within NEVBD

## GROUP 3: Academic Training Programs

### Group Membership

FACILITATOR: Laura Harrington  
 NOTE TAKER: Kara Fikrig

Jeff	Borchert	Thomas	Mather
Doug	Brackney	Max	McClure
Rich	Falco	Kathleen	McDonogh
Daniel	Gilrein	Nicholas	Piedmonte
Pallavi	Kache		

### Recommendations for 2018

#### 1. GRADUATE EDUCATION

- Enhance the current Master of Science in Entomology – Vector Biology program at Cornell University
  - Risk assessment and connection with policy and decision making
  - Data management skills
  - Science communication
  - Interpreting and communicating research results
  - Communication skills for multiple audiences
  - Social science research methods
  - Leadership and mentoring skills
- Share syllabi with and from other institutions and programs

#### 2. INFORMATION AND TRAINING FOR CLINICAL PROVIDERS

- Develop mechanisms to provide short-term information for clinical providers, including clinical decision support tools
- Explore collaboration potential with other Regional Centers of Excellence in Vector-Borne Diseases

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### 3. UNDERGRADUATE EXPERIENCES

- Host a clearinghouse for undergraduate internship and employment opportunities on the NEVBD website
- Develop a rotational undergraduate internship program in vector-borne diseases

## Areas for Potential Exploration in 2019-2021

### 1. GRADUATE EDUCATION

- Explore opportunities to create an online short course for a wider academic audience, including:
  - Development of a medical entomology online textbook
  - Development of a repository for relevant materials, such as influential papers, pictorial ID keys for the Northeast, and teaching case studies
- Share vector and/or vector-borne disease data sets for use in public health teaching/education programs

### 2. INFORMATION AND TRAINING FOR CLINICAL PROVIDERS

- Develop CME-accredited training opportunities

### 3. UNDERGRADUATE EXPERIENCES

- Survey lecturers on incorporating vector biology into course lectures
- Develop a vector-borne disease lesson plan for instructors to use in other courses (e.g., biology, social science, evolution and ecology)
- Develop a credit-based summer vector biology program

### 4. HIGH SCHOOL PROGRAMS

- Provide resources for high school teachers, including lesson plans and train the teacher programs
- Explore volunteer and research opportunities for high school students

### 5. ENGAGING ADDITIONAL AUDIENCES

- Conduct outreach with non-English speaking and immigrant communities
- Explore opportunities to partner with hunter licensing programs
- Engage with veterinary medicine programs
- Develop additional citizen science projects

## GROUP 4: Professional Training Programs and Building a Community of Practice

### Group Membership

FACILITATOR: Bryon Backenson

NOTE TAKER: Emily Mader

Scott	Campbell	Daniela	Quilliam
Matt	Frye	Kirby	Stafford
Jody	Gangloff-Kaufmann	Jennifer	White
Christopher	Gregory	Dennis	White
Megan	Linske	Matthew	Osborne

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## Recommendations for 2018

### 1. TRANSLATE RESEARCH TO PUBLIC HEALTH PRACTICE

- Host a clearinghouse of data, results of analysis, interpretation summaries, and best practices guides to be accessed by regional partners
- Develop targeted NEVBD training opportunities, including:
  - Modeling – what is can and cannot tell you
  - Public perceptions and health education tools

### 2. IDENTIFY STAKEHOLDER GROUPS AND EFFECTIVE COMMUNICATION STRATEGIES

- Develop communication and outreach strategies for the four following stakeholder groups:
  - Internal network partners
  - Practitioners (medical, professional services, public works, etc.)
  - Lay public
  - Elected officials

### 3. CREATE AND DISSEMINATE UNIVERSAL BEST PRACTICES

- Protocols for conducting field surveillance, data management, etc.
- Media communication ‘tip sheets’ and ‘push campaigns’ to disseminate information

### 4. ENGAGE MORE ACTIVE PARTICIPATION IN THE NEVBD BY PUBLIC HEALTH PARTNERS

- Create a public health working group, with representation from each state in the Northeast region
- Review organizational structure within states to better engage key partners
- Collaborate with public health partners on hypothesis-building for research endeavors and hosting students from/with academic centers

### 5. MECHANISMS TO FACILITATE COLLABORATIONS

- Development of Memoranda of Understanding (MOU) and Data Sharing Agreements (DUA)

## Areas for Potential Exploration in 2019-2021

### 1. CREATE AND DISSEMINATE UNIVERSAL BEST PRACTICES

- Standardized train the trainer toolkits
- Conduct a survey of licensed pesticide applicators to understand current practices in the Northeast region

### 2. MECHANISMS TO FACILITATE COLLABORATIONS

- Facilitate the connection to regional data from vector surveillance through the advertisement/notification of data availability among regional partners

# Appendix C. Summary of Annual Meeting Evaluations

## General Session Evaluations

Attendees were asked to complete an evaluation form assessing the General Session of the Annual Meeting; 42 attendees completed an evaluation form. The evaluation form included a series of Likert scale questions (see Table A) and open-ended questions. The majority of attendees reported that they were satisfied with the event and that it was worth their time to attend. The majority of respondents rated other aspects of the event, including the quality of the presentations, relevance of the material presented, and networking opportunities, at excellent and good quality.

Table A. Attendee Response Distributions for the General Session Evaluation

Question Item	Response Distributions				
	Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Very Dissatisfied
Please indicate your overall satisfaction with this event	27	12	0	0	1
	Extremely	Very	Moderately	Slightly	Not At All
To what extent was attending this meeting worth your time	20	15	3	0	0
	Excellent	Good	Fair	Poor	Very Poor
The relevance of presentation contents to my work	19	17	4	0	0
Quality of presentations	23	17	0	0	0
Providing a forum for information exchange with other participants	33	7	1	0	0
Quality of the material circulated by the organizers	21	20	0	0	0
Registration process	35	5	0	1	0
Event venue/facilities	27	11	2	0	0
Organizational arrangements for and during the event	32	8	1	0	0
Dates of the event	28	8	5	0	0
	A Lot	Quite a Bit	Some	A Little Bit	Not At All
To what extent do you think you can apply the information presented today to your work	13	18	6	1	0

Thirty-eight attendees provided feedback on what they considered to be the most valuable aspect of the 2018 NEVBD Annual Meeting. The majority (71%, 27 respondents) stated that the ability to personally interact with others and network with attendees was the most valuable aspect of the meeting. Attendees also indicated they appreciated the ability to learn about the wide variety of activities ongoing within the NEVBD, as well as learn about how the overall mission and goals of the NEVBD fit within the objectives of the CDC. Table B below provides a summary of attendee responses.

Table B. Attendee Responses: Most Valuable Aspect of 2018 NEVBD Annual Meeting

Response Category	# of Respondents	% of Respondents
Interactions with others and networking	27	71%
Exposure to ongoing activities	6	16%
Research presentations	6	16%
Overview of NEVBD mission and goals	4	11%
Diversity of attendees	2	5%
Collaborative break out groups	2	5%

Twenty-five attendees provided feedback on what they considered to be the least valuable aspect of the 2018 NEVBD Annual Meeting. The following response categories were most frequently mentioned:

- Time devoted to research presentations was too short (6 respondents, 24%)
- Lack of a dedicated poster session (4 respondents, 16%)
- Lack of question-answer time during research presentations (3 respondents, 12%)
- N/A (6 respondents, 24%)

Specific feedback in these responses also highlighted a desire for an increased engagement with vector-borne disease professionals not in attendance, a desire to increase the focus on the connection between entomological work and epidemiological work, and a desire to increase the focus on vector threats and wildlife management.

Meeting attendees were asked to provide feedback on topics and themes they would like to see addressed in the 2019 NEVBD Annual Meeting, with a total of 29 attendees providing responses. A wide variety of subjects were covered, and can be reviewed in Table C below.

Table C. Attendee Responses: Topics and Themes for the 2019 NEVBD Annual Meeting

Response Category	# of Respondents	% of Respondents
progress reports with updates on challenges	7	24%
Updates and discussion on collaborator research projects	6	21%
translating research into public health action and best practices	4	14%
data sharing and transparency	3	10%
vector threats in the region	3	10%
vector control and insecticide resistance updates	2	7%
gaps in nebvbd personnel	2	7%
health education tools and social ecological approaches	2	7%
purpose and goals of the nebvbd training programs	2	7%
stakeholder connection and communication	2	7%
climate change and range expansion	1	3%
new funding opportunities	1	3%

Additional feedback on the format of the 2018 NEVBD Annual Meeting highlighted a need to extend the meeting to a two-day event to allow for increased opportunities to present research findings and progress, and to allow attendees time for questions, discussion, and networking.

## Planning Session Evaluations

Attendees who participated in the Planning Session of the Annual Meeting were asked to complete an additional evaluation of that portion of the event; 39 participants completed evaluations for the Planning Session. The evaluation included a series of Likert scale questions (see Table D) and open-ended questions.

Table D. Attendee Response Distributions for the Planning Session Evaluation

Question Item	Response Distributions				
	Strongly Agree	Neutral	Strongly Disagree		
The objectives of the planning session were clear to me	27	10	2		
I felt comfortable with my break out group assignment	31	6	2		
I would have preferred being in a different break out group	6	9	22		
My break out group had the necessary people involved to complete our objectives	30	6	2		
My break out group facilitator encouraged participation	33	4	2		
My break out group facilitator respected my knowledge and experience	35	3	1		
My break out group facilitator helped the group build consensus	29	9	1		
My break out group facilitator helped the group establish priorities	31	7	1		
I feel my voice was heard in the break out group discussion	35	3	1		
I am comfortable with the recommendations provided by my break out group	36	2	1		
The break out group format was a useful way to gain feedback from NEVBD partners	33	5	1		
Question Item	Response Distributions				
	Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Very Dissatisfied
Please indicate your overall satisfaction with the planning session	27	11	0	1	0

Planning session attendees were generally satisfied with their break out group assignments, and viewed the exercise as a useful way to gain feedback from NEVBD partners. Attendees rated their break out group facilitators highly on several factors, including encouragement of participation, knowledge, and consensus building. Overall, attendees were generally satisfied with the planning session activities and outcomes.

Planning session attendees were asked to describe what actions they would take as a result of participating in the planning portion of the 2018 NEVBD Annual Meeting; 30 individuals provided feedback to this question. The top three response categories included increasing collaborative efforts (30%, 10 respondents), refocusing research activities (20%, six respondents) and increasing targeted outreach (17%, five respondents). The remaining responses are summarized in Table E below. Comments on refocusing research efforts highlighted the establishment of protocols, investigating mosquito vectorial capacity and control.

Table E. Attendee Responses: Intended Actions from Planning Meeting

Response Category	# of Respondents	% of Respondents
increase collaborative efforts	10	30%
Refocus research efforts and activities	7	20%
increase targeted outreach	5	17%
engage in NEVBD educational projects	4	13%
Discuss standardization of surveillance	2	3%
identify & leverage existing resources	2	3%

Planning session attendees were then asked to describe what actions they would like the NEVBD to take as a follow up to the planning portion of the event, with 28 individuals providing feedback. The majority of respondents (54%, 15 respondents) mentioned receiving a written summary of the planning session outcomes. Additionally, six respondents (21%) requested additional discussion of the priorities identified in the planning session using smaller team meetings. The remaining comments included a desire for the development of a data sharing workshop, the engagement of additional audiences and partners, a 6-month check-in on progress toward identified priorities, and an update from the CDC on the priorities of the other four Regional Centers of Excellence.

Additional comments regarding the priorities of the NEVBD for 2018 included the development of a promotional campaign to engage diverse audiences, with a specific focus on engaging elected officials in the region; a broadening of public health inclusion in NEVBD efforts; and the development of tools that can be used for public health action.