



NEWBD

**NORTHEAST REGIONAL CENTER FOR
EXCELLENCE IN VECTOR-BORNE DISEASES**

August 2017

Vector-Borne Disease Surveillance & Control Training Needs Assessment

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Executive Summary

A major goal of the Northeast Regional Center for Excellence in Vector Borne Diseases is to develop training and education tools for public health professionals. The purpose of this needs assessment survey was a first step in these education efforts. We sought to understand perceived gaps in training and workforce needs related to vector-borne disease and public health. Needs assessment content was targeted to public health practitioners, vector control districts and associations, integrated pest management researchers and educators, and state emergency preparedness staff working in the Northeast region of the US.

The analytic sample size for the needs assessment consisted of 137 respondents, and was largely representative of seasoned professionals from the central Northeast working within government and academic institutions, focused on the public education, community outreach, disease surveillance, sample collection and diagnostics, and policy development surrounding vector-borne disease and public health.

Opportunities for Training in Vector-Borne Disease and Public Health

Respondents indicated the following areas as priority needs for educational updates and increased training:

- Updates on emerging and existing vector-borne disease threats in the region
- Tick and mosquito vector ecology/biology
- Field techniques for collection, surveillance
- Vector control strategies and pesticide resistance monitoring
- Clinical presentation of infections and appropriate diagnostic tests
- Tools to share with the public for the prevention of exposure to ticks and mosquitoes
- Environmental factors that enhance vector presence and pathogen transmission
- Interpreting genetic and molecular results
- Review of state-level protocols for handling samples and responding to outbreaks

Preferred formats for delivering training were short one- to two-day in-person or in-field workshops and lectures, as well as brief (less than one hour) online training opportunities.

Communication and Resource Needs

The results of this needs assessment highlighted a desire to increase the communication and connectivity between public health units and researchers from academic institutions. Respondents emphasized the need for enhanced communication regarding the following:

- Updates on existing projects and investigations
- Results from investigations of vector competence and pathogen transmission
- Up-to-date information on disease cases
- Best practices for risk communication and engagement with the public.

Additionally, respondent feedback overwhelmingly indicated a need for the development of a technical infrastructure that can facilitate timely access to existing data and resources in the

region. The use of websites and online data clearinghouses, as well as email listserv communications, could be viable solutions to increased connectivity.

Our efforts at the Northeast Regional Center will address the needs and education formats gleaned from this survey. Additional information gathering in the form of interviews, focus groups are planned. More information and details on responses and data analysis for this needs assessment survey can be found within this document.

The Northeast Regional Center for Excellence in Vector-Borne Diseases is supported through Cooperative Agreement Number 1U01CK000509-01 between the Centers for Disease Control and Prevention (CDC) and Cornell University.

VECTOR-BORNE DISEASE SURVEILLANCE & CONTROL TRAINING NEEDS ASSESSMENT

Northeast Regional Center for Excellence in Vector-Borne Diseases

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Purpose and Methods

Background

The Northeast Regional Center for Excellence in Vector-Borne Diseases (NEVBD) was established in December 2016 through Cooperative Agreement Number 1U01CK000509-01 between the Centers for Disease Control and Prevention (CDC) and Cornell University.

One of the primary goals of the NEVBD is to train a cadre of public health entomologists with the knowledge and skills required to rapidly detect, prevent, and respond to vector-borne disease threats in the United States. One format through which the NEVBD will be supporting training and education is the provision of a Vector Biology Boot Camp, a Summer Short Course in Vector Biology, and brief regional vector biology workshops in continuing education for public health personnel.

The primary goal of the needs assessment summarized in this report is to inform the development of these programs, ensuring that the content provided addresses the most pressing needs and gaps in vector-borne disease training and practice.

The Northeast Regional Center for Excellence in Vector-Borne Diseases is supported through Cooperative Agreement Number 1U01CK000509-01 between the Centers for Disease Control and Prevention (CDC) and Cornell University.

Methods

Survey Development

After initial drafting of the needs assessment survey, the preliminary draft was beta tested by eight respondents working in various settings, including academic research, integrated pest management, and vector-borne disease public health. Feedback from the beta testing on question wording, clarification, and survey length were incorporated into the final draft for distribution.

The needs assessment content was targeted to public health practitioners, vector control districts and associations, integrated pest management researchers and educators, and state emergency preparedness staff working in the Northeast region of the US (Northeast region includes the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Pennsylvania, Vermont, and West Virginia).

Distribution

The needs assessment was developed and distributed using the online survey tool Qualtrics. All responses remained anonymous. The full survey script is presented in Appendix A.

The distribution of the needs assessment occurred in two waves. The first wave followed a snowball sampling approach wherein a generic survey link was distributed to targeted groups and contacts identified through professional society email listservs and NEVBD affiliated partners.

Recipients included:

- State, district, and municipal health departments, divisions/bureaus of environmental health, infectious disease, and emergency preparedness: Connecticut, New York State, Pennsylvania, and New York City
- Vector control associations: Associated Executives of Mosquito Control Work in New Jersey, New Jersey Mosquito Control, Northeastern Mosquito Control, Pennsylvania Vector Control, Virginia Mosquito Control
- Integrated pest management organizations: Cornell Cooperative Extension Pest Management Education Program, National Pest Management Association, Northeastern Integrated Pest Management Center, Pennsylvania Integrated Pest Management, New York Pest Management
- Regional Academic Institutions and Centers: Columbia University, Harvard University, Muhlenberg College, SUNY Adirondack, University of Rochester
- Independent Organization working in vector-borne diseases: Arnot Ogden Medical Center, Cary Institute of Ecosystem Studies, EcoLab, Entsalt Associates, Inc., RMC Consulting, Inc.

The second wave was initiated after conducting a preliminary assessment of the demographics of survey respondents, which indicated that several Northeast states had low representation among survey respondents. Customized email invitations were sent directly to individuals identified in each of these states with low representation. These individuals represented state, local, and tribal departments of public health, environmental conservation, and agriculture; infectious disease medicine; pest control associations and businesses; and academic vector-borne disease research programs.

Survey Results

While we are unable to confirm the true denominator of individuals invited to participate in the survey, 145 individuals accessed and completed the survey through the generic survey invitation link disseminated through the first wave of survey distribution. A total of 36 individuals were invited to participate in the survey via direct contact in the second wave of distribution, with 13 fully completing the survey; this is a response rate of 36% for the second distribution wave.

The resulting sample size was 158 respondents. Within this sample, 21 respondents indicated that their employment role does not directly involve working with vector-borne diseases; these 21 respondents were restricted from analysis. All results below are based on the 137 responses from individuals working directly with vector-borne diseases.

Respondent Demographics

Geographic and Organizational Affiliations

Respondents were asked to indicate the city/state/jurisdiction in which they work, with the option to either select a pre-populated response option or write in a response. The distribution of responses can be found below in Figure 1.

The location with the highest representation of respondents was New York State (29%), followed by Connecticut (23%) and New Jersey (15%). Several states had low representation, with only one to three individuals answering the survey from those areas. New York City was the only city-level jurisdiction listed as an answer choice for respondents, due to the unique characteristics of the city that differentiate it from the greater New York State jurisdiction; these responses were not counted under the New York State totals. Additionally, some respondents wrote in that they work in multiple Northeast states without further specifying the individual states jurisdictions.

Two respondents represented states not covered within the NEVBD network (Kentucky, Virginia); the authors chose to include the data provided by these respondents in analysis due to the close proximity of geographies to the Northeast region and overlap in vectors of concern.

Respondents were also asked to identify their organizational affiliations, selecting between a list of pre-populated responses or the option to write in a response. Figure 2 displays the response distribution for organizational affiliations.

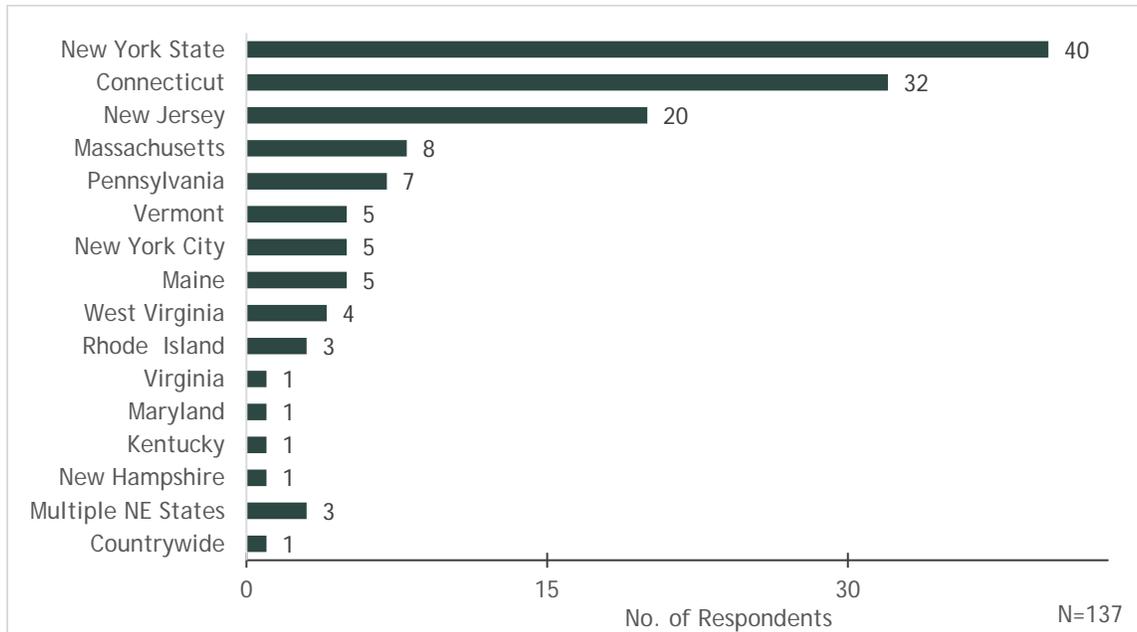
SECTION SUMMARY

Survey sample representative of:

- Seasoned professionals from the central Northeast
- Working within government and academic institutions
- Focused on the public education, community outreach, disease surveillance, sample collection and diagnostics, and policy development

Our results do not reflect the needs of less seasoned workers who may have different training needs.

FIGURE 1. DISTRIBUTION OF SURVEY RESPONDENTS BY STATE/JURISDICTION



The majority of respondents worked for city or county health departments or labs (34%), mosquito control districts (19%), or university/academic laboratories (17%). Respondents also represented state health departments, private sector pest control organizations, and state departments of environment and conservation.

The majority of respondents worked within a state- or county-level jurisdiction (see Figure 3 below). There was also a high representation of individuals working for cities or academic institutions.

FIGURE 2. SURVEY RESPONDENT ORGANIZATIONAL AFFILIATIONS

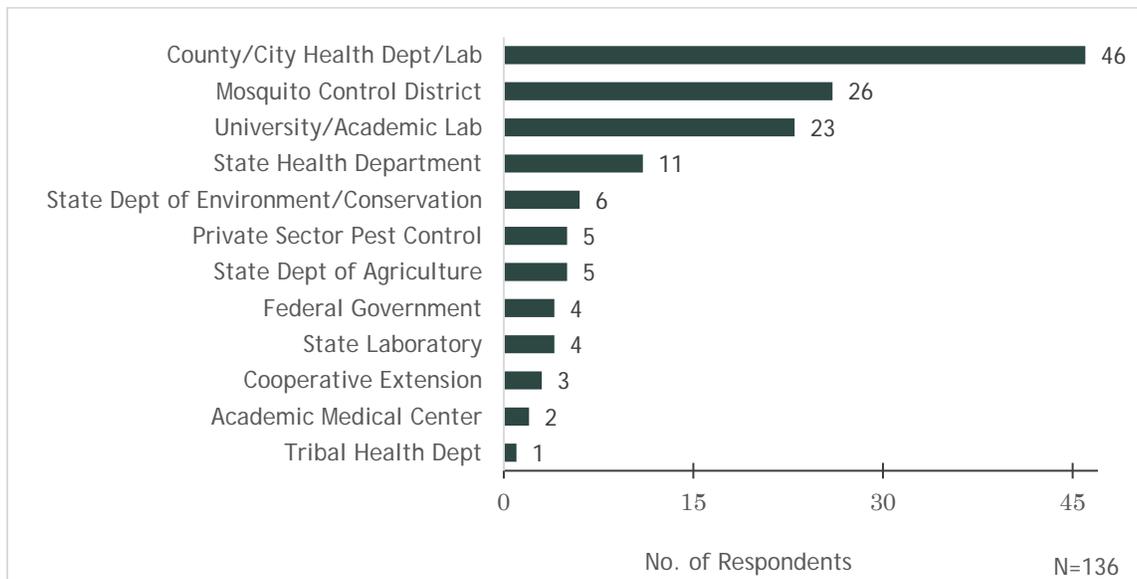
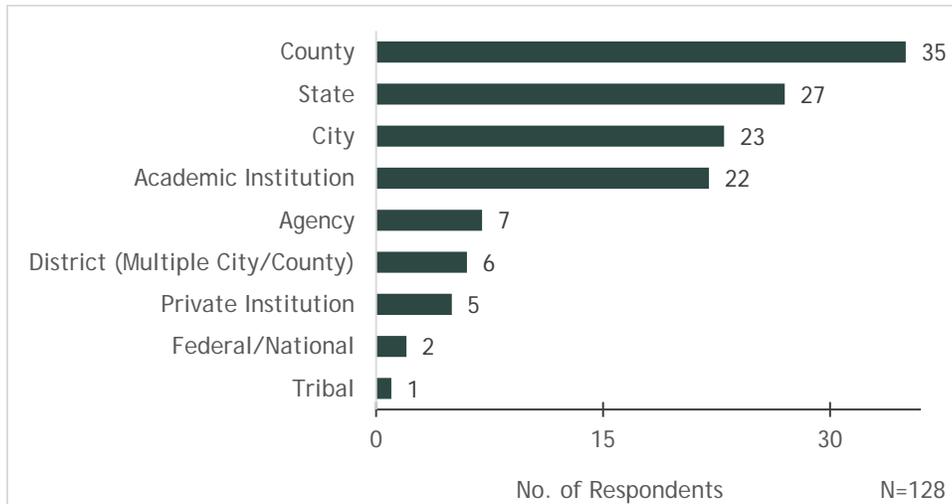


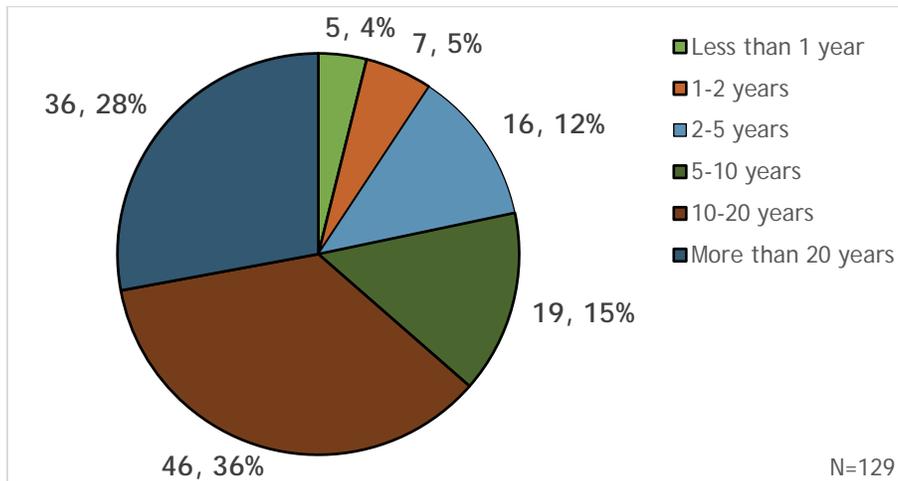
FIGURE 3. SURVEY RESPONDENTS OCCUPATIONAL JURISDICTION



Vector-Borne Disease and Occupation

Excluding time dedicated to education, most respondents had been working in vector-borne disease surveillance or control for over 10 years (Figure 4), with 28% working in the area for over 20 years.

FIGURE 4. RESPONDENTS' YEARS OF WORK EXPERIENCE IN VECTOR-BORNE DISEASE SURVEILLANCE OR CONTROL



The most commonly identified occupational position title or description was entomologist/ecologist/biologist (20%), followed by agency leader or commissioner (18%) and environmental health specialist (12%). Table 1 displays the full range of identified occupational positions. Within these roles, respondents identified their responsibilities in vector-borne disease and public health as primarily public education, community outreach, and disease surveillance (Table 2; note: respondents were able to select more than one role/responsibility).

TABLE 1. SURVEY RESPONDENT OCCUPATIONAL POSITION DESCRIPTIONS

OCCUPATIONAL POSITION	COUNT	% OF RESPONDENTS
ENTOMOLOGIST/ECOLOGIST/BIOLOGIST	26	20.2%
AGENCY LEADER OR COMMISSIONER	23	17.8%
ENVIRONMENTAL HEALTH SPECIALIST	16	12.4%
EPIDEMIOLOGIST/DISEASE CONTROL STAFF	12	9.3%
LABORATORY SCIENTIST OR TECHNICIAN	10	7.8%
VECTOR CONTROL STAFF	7	5.4%
PUBLIC HEALTH NURSE	7	5.4%
INSPECTOR	7	5.4%
PEST MANAGEMENT PROFESSIONAL/PESTICIDE APPLICATOR	5	3.9%
HEALTH EDUCATOR	5	3.9%
SANITATION OFFICER	3	2.3%
INFECTIOUS DISEASE PHYSICIAN	3	2.3%
PROGRAM REGULATION/OVERSIGHT	2	1.6%
FIELD SCIENTIST OR TECHNICIAN	2	1.6%
CLIMATE SCIENTIST/MODELER	1	0.8%
TOTAL	129	100.0%

TABLE 2. SURVEY RESPONDENT ROLE IN VECTOR-BORNE DISEASE AND PUBLIC HEALTH

ROLE IN VECTOR-BORNE DISEASE & PUBLIC HEALTH	COUNT	% OF RESPONDENTS
PUBLIC EDUCATION	103	75.18%
COMMUNITY OUTREACH	86	62.77%
DISEASE SURVEILLANCE	74	54.01%
SAMPLE COLLECTION	56	40.88%
POLICY DEVELOPMENT	49	35.77%
PESTICIDE APPLICATOR	34	24.82%
SAMPLE DIAGNOSTICS	26	18.98%
MEDICAL PROVIDER EDUCATION	22	16.06%
PROGRAM ADMINISTRATION	8	5.84%
ECOLOGY/VBD RESEARCH	8	5.84%
REGULATORY OVERSIGHT	4	2.92%
CLINICAL RESEARCH	2	1.46%
MEDICAL TREATMENT	2	1.46%
WILDLIFE MANAGEMENT	1	0.73%
NOTE: RESPONDENTS WERE ABLE TO SELECT MORE THAN ONE ROLE/RESPONSIBILITY		

Knowledge of Vector-Borne Disease in the Northeast Region

There are a variety of disease agents carried and transmitted by ticks and mosquitoes across the United States. However, not all of these impact animal and human populations in the Northeast. We asked a series of questions to gauge the level of awareness among our survey respondents of the vector-borne diseases of primary concern in the Northeast region. As a reference, the key tick-borne diseases that impact the Northeast include anaplasmosis, babesiosis, ehrlichiosis, Lyme disease. Important but rarer infections include Powassan virus disease and Rocky Mountain spotted fever (RMSF). The key mosquito-borne diseases in the region are West Nile virus (WNV) disease, eastern equine encephalitis (EEE), with some rarer viral infections such as La Crosse encephalitis (LAC). Zika virus is of potential concern based on the presence of *Ae. albopictus* in parts of the Northeast region.

Respondents were asked to indicate the vector-borne diseases they felt were important in their region. Figures 5A and 5B display the distribution of these responses, divided into mosquito- and tick-borne diseases. Respondents were then asked to narrow their responses to indicate the top two most important vector-borne diseases in terms of human impact (Figure 6).

Knowledge of Mosquito-Borne Diseases

The majority of respondents correctly identified WNV disease (98%) and EEE (82%) as mosquito-borne diseases of concern to their region. Only 17% of respondents indicated that LAC was a disease of concern, which may reflect the geographical context of this virus as being of concern in only some regions of the Northeast; additionally, a large proportion (38%) of respondents indicated uncertainty regarding the impact of this disease to human populations.

Seventy-two percent and 64% of respondents indicated dengue and chikungunya were not diseases of concern to the Northeast, respectively, and 50% of respondents indicated Zika was not a disease

SECTION SUMMARY

- Majority of respondents were generally up-to-date in their knowledge of relevant vector-borne diseases in the region, particularly for tick-borne diseases.
- High degree of uncertainty regarding the impact of La Crosse encephalitis to the region
- Potential misinformation on the impact of mosquito-borne diseases chikungunya, dengue, and malaria to the region
- Conflicting perceptions on impact of Rocky Mountain spotted fever to the region
- High levels of attention to Lyme disease could eclipse awareness of other tick-borne diseases that are of increasing concern to the region, such as babesiosis, anaplasmosis, and Powassan virus disease.

of concern to the region. Information provided by CDC-USGS Disease Maps^a indicates that in 2016, there were 204 and 58 travel-related human cases of dengue and chikungunya, respectively, reported in the states covered by the NEVBD. While there has been no documentation of local transmission of these disease, the presence of the vector *Aedes albopictus* in the Northeast region presents a risk for future local transmission of these viruses, as well as the Zika virus.

Detailed information on respondent mosquito-borne disease knowledge by state can be found in Appendix B.

Knowledge of Tick-Borne Diseases

The majority of respondents also correctly identified most of the tick-borne diseases of concern in the Northeast, including Lyme disease (100%), babesiosis (87%), Powassan virus disease (84%), anaplasmosis (74%), and ehrlichiosis (69%). RMSF was relatively split between ‘yes’ and ‘no’ responses, indicating a discordant understanding of the impact of this disease in the region. In 2014, Northeastern states experienced between 1.0 to over 6.6 cases of RMSF per million, with the highest incidence occurring in Delaware.^b

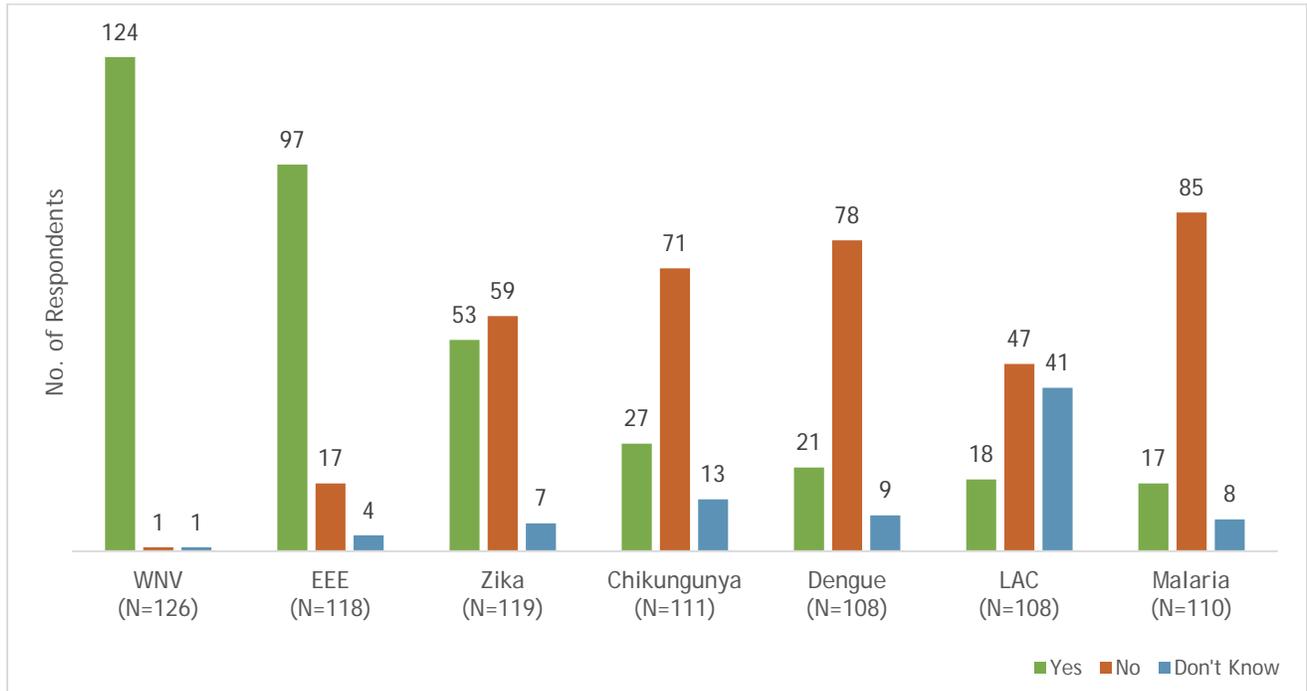
The tick-borne diseases of STARI and Heartland virus disease (both not important to the region) had notable levels of uncertainty among respondents, with 45% and 47%, respectively, indicating they did not know the impact of these disease on humans in the region. In addition, plague – typically acquired via flea bite or contact with infected animals – was accurately identified as unimportant in the region by 80% of respondents. Detailed information on respondent tick-borne disease knowledge by state can be found in Appendix B.

^a CDC-USGS Disease Maps. (2017). USA cumulative human disease cases reported to CDC ArboNET for 2016. <https://diseasemaps.usgs.gov/mapviewer/> [Accessed on 20 Sept 2017]

^b Centers for Disease Control and Prevention. (2017). Rocky Mountain spotted fever (RMSF): Statistics and epidemiology. <https://www.cdc.gov/rmsf/stats/index.html> [Accessed on 21 Sept 2017]

FIGURE 5. RESPONDENT-IDENTIFIED VECTOR-BORNE DISEASES OF CONCERN

A. MOSQUITO-BORNE DISEASES



B. TICK-BORNE DISEASES

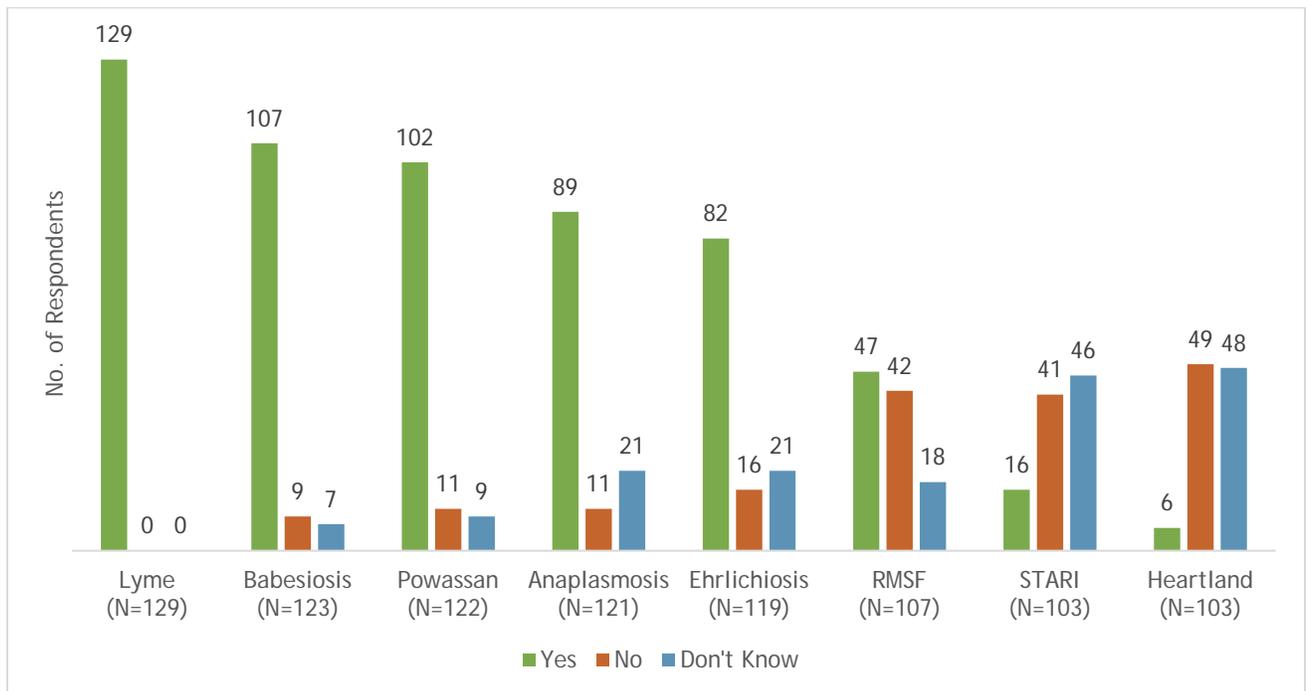
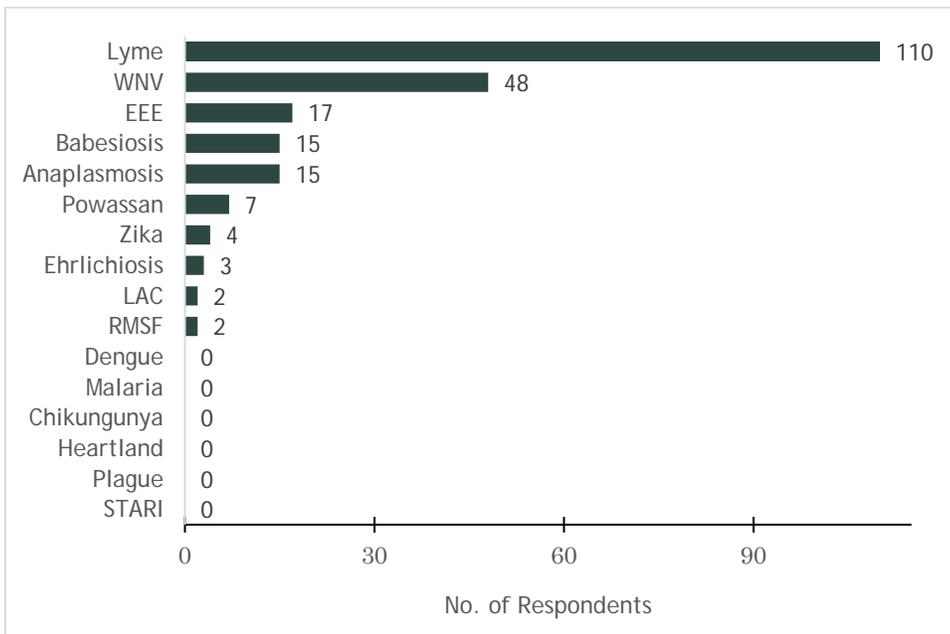


FIGURE 6. RESPONDENT-IDENTIFIED TOP VECTOR-BORNE DISEASES OF IMPORTANCE FOR HUMAN IMPACT



Resources and Needs - Vector-Borne Diseases and Public Health

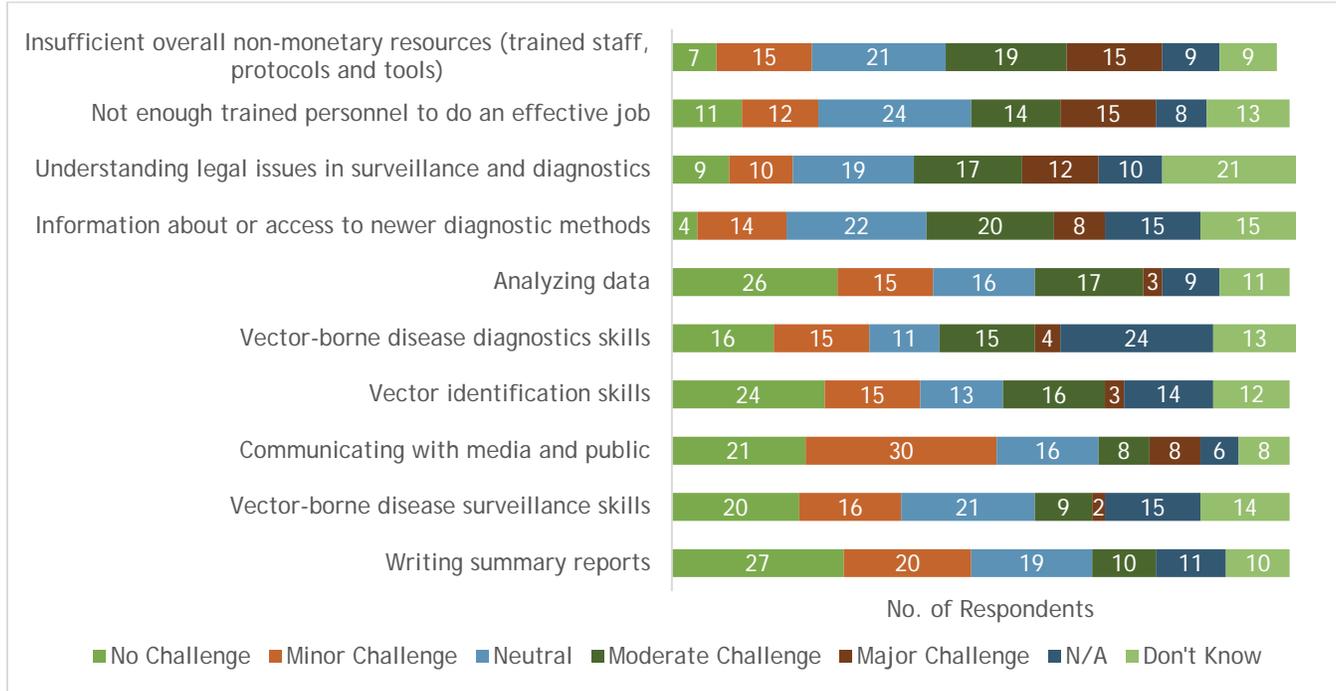
Challenges Conducting Vector-Borne Disease Surveillance & Diagnostics

Respondents were asked to rank the degree to which they felt a series of statements presented challenges to conducting vector-borne disease surveillance and diagnostics. Responses followed a Likert scale, with a response of 1 indicating no challenge and a response of 5 indicating a major challenge. Figure 7 displays the response distributions to this Likert scale series.

The lowest-ranked challenges were writing summary reports, analyzing data, identifying vectors, and communicating with the media and public. Responses indicate that the largest challenges center on non-monetary resources, inadequate volume of trained personnel, low understanding of legal issues in surveillance and diagnostics, and access to newer diagnostic methods. There was also a moderate degree of uncertainty around the level of challenge posed by legal issues in surveillance and diagnostics, as well as information on newer diagnostics methods.

Respondents were also provided the opportunity to give additional feedback on other challenges to conducting vector-borne disease surveillance and diagnostics not otherwise listed in the Likert scale statements; eight respondents provided additional comments. The majority of feedback centered on a general lack of capacity to do this work, including personnel, funding, and the ability to increase testing activities. Other comments reflected an issue with staff turnover, access to detailed surveillance data, as well as issues surrounding leadership.

FIGURE 7. SURVEY RESPONDENT OPINIONS ON CHALLENGES TO VECTOR-BORNE DISEASE SURVEILLANCE AND DIAGNOSTICS



Training and Non-Monetary Needs

Respondents were asked to rank the degree to which they agreed with a series of statements related to training and non-monetary needs regarding vector-borne diseases and public health. These questions were divided into four subject areas: general planning and preparedness needs; training and education needs; laboratory needs; and communication and reporting needs. Responses followed a Likert scale, with a response of 1 indicating strong disagreement and a response of 5 indicating strong agreement. Figures 8-11 display the response distributions to these questions. Detailed information on response distributions by state can be found in Appendix B

General Planning and Preparedness Needs

Overall, the majority of respondents (52%) positively ranked their unit’s level of general planning and preparedness. Most respondents agreed/strongly agreed that their unit regularly communicates with other groups in the region on vector-borne disease outbreaks, and that their unit had established methods and protocols for monitoring and reporting outbreaks (Figure 7).

While the majority of respondents agreed/strongly agreed that their unit communicates and collaborates with other groups regarding vector activity, surveillance and control, 28% of respondents indicated that there was a need for improved communication and 22% indicated there was a need for improved collaboration. In addition, 24% of respondents indicated their unit did not regularly engage in planning for novel and emerging diseases. These respondent groups were primarily from Connecticut, New York State, Massachusetts, Pennsylvania, Rhode Island, and Vermont.

Respondents were asked to provide commentary regarding any question items they ranked as ‘strongly disagree’ or ‘disagree’ to explain their ranking rationale; 30 respondents provided this commentary. Synthesis of respondent commentary indicates that the role of regional communication and planning for emerging disease emergencies and surveillance and control activities follows hierarchical lines of responsibility in some states, with state-level agencies carrying the majority of the duty for conducting these activities as compared to local and municipal agencies. Limited resources (financial and personnel) also appear to impede efforts to address gaps in communication and planning. A summary of the respondent commentary can be found below:

Nine respondents reflected that communication regarding vector-borne disease is typically handled by another agency or institution within their state, inhibiting their ability to answer many of the questions. Additionally, five respondents commented that it was the role of a state-level agency to disseminate information about disease outbreaks and tested vectors rather than local or municipal agencies.

Five respondents reflected that their agency/organization would only work directly on vector-borne disease planning during an outbreak or imminent threat to human health. One person mentioned that their role was more “boots on the ground” working directly with the public, rather than conducting interagency communication and planning. Several individuals also indicated that their role in vector-borne disease communication centered on public education. These responses may reflect the 24-26% of respondents who indicated their unit did not discuss protocols for disease emergencies or vector activity without human disease.

Five respondents felt that the lack of funding has limited, or in some instances, eliminated, surveillance activities conducted by their agency. Some respondents also mentioned that a lack of staffing inhibited the ability to develop plans and conduct efficient communication regarding vector-borne disease outbreaks and threats.

A small number of respondents made pointed comments regarding communication between agencies in their states. One respondent directly referenced a lack of communication between researchers and the department of health within their state, while another respondent stated that there was limited communication between the state laboratory and other agencies regarding tick-borne diseases. Similarly, one respondent mentioned that while the regional communication and planning regarding mosquito-borne diseases was strong, there was room for improvement in the communication and planning for tick-borne diseases in their state.

Respondents were also asked to describe any additional non-monetary resource needs for general planning and preparedness; 48 comments were provided. Table 3 below provides an overview of the resource needs listed by respondents.

FIGURE 8. SURVEY RESPONDENT OPINIONS ON GENERAL PLANNING & PREPAREDNESS NEEDS IN VECTOR-BORNE DISEASES AND PUBLIC HEALTH

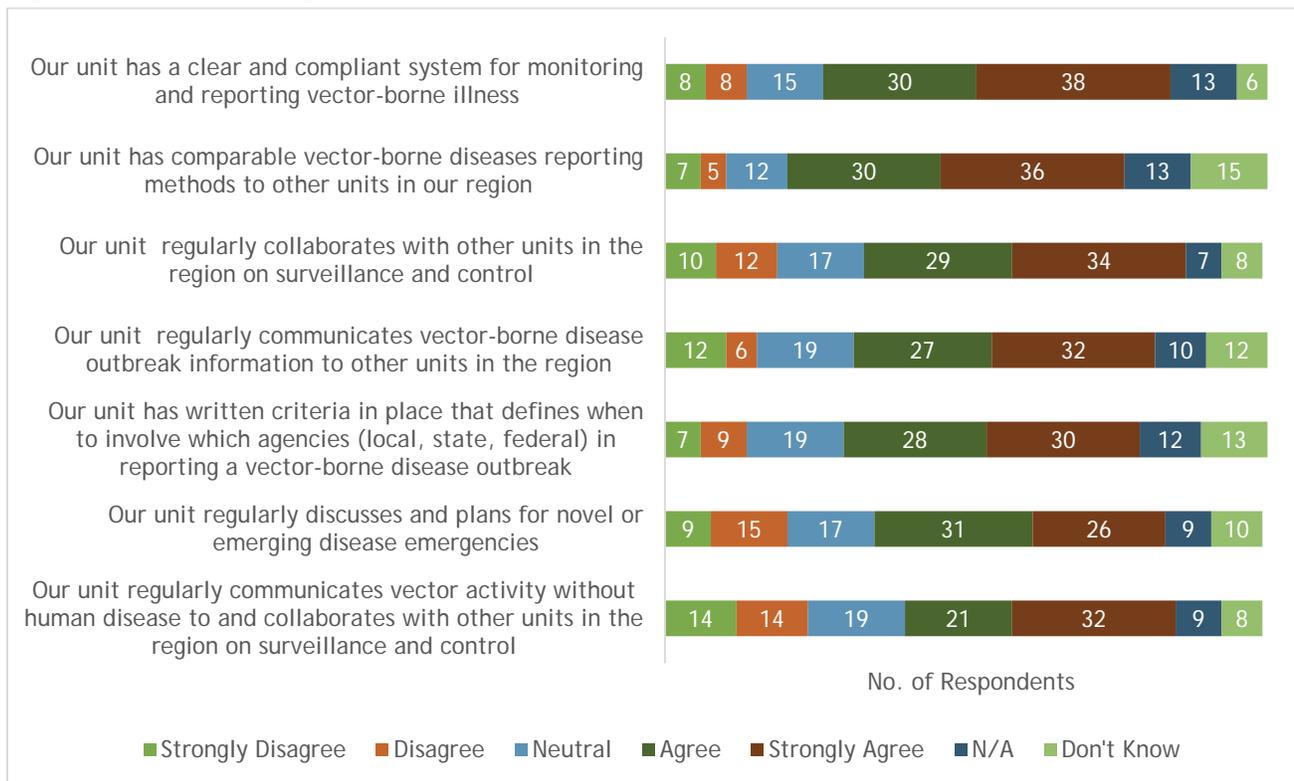


TABLE 3. ADDITIONAL NON-MONETARY RESOURCE NEEDS FOR GENERAL PLANNING AND PREPAREDNESS RESPONSE SUMMARY CATEGORIES COUNT (% RESPONSES)

RESPONSE SUMMARY CATEGORIES	COUNT (% RESPONSES)
<i>CONNECTIVITY, COLLABORATION, AND FIELD SUPPORT</i>	25 (52%)
Connectivity to existing resources	2
Centralized method for regional data aggregation	8
Continued partnership, assistance & guidance from regional academic & state institutions	5
Supplies and equipment to conduct surveillance, testing, & control	5
Updated technology/informatics systems	5
<i>TARGETED TRAININGS</i>	16 (33%)
General course tailored specifically to the region: diseases, vector biology, and prevention	5
Approaches for mitigating tick-borne disease	3
Vector surveillance & management	4
Residual health conditions from VBDS	1
Emerging diseases	2
Software training	1
<i>PERSONNEL</i>	11 (23%)
Public health educator	2
Employees to conduct surveillance	6
Public health entomologist	1
Public health veterinarian	1
Programs coordinator	1
<i>PUBLIC EDUCATION MATERIALS FOR DISTRIBUTION</i>	9 (18%)
Online "library of resources" that can be hosted on partner websites	2
Print materials/videos/small media	4
Information modules for schools & community-based organizations	2
Targeted tick-borne disease outreach	1

Training and Education Needs

The majority of respondents (61%) agreed/strongly agreed that their unit would benefit from training updates on emerging vector-borne diseases in the region, as well as specific staff training on tick-borne diseases (58%) and mosquito-borne diseases (52%). Responses also indicate that while most individuals felt their staff was well trained in vector biology, there exists room for improvement in updated training on emerging diseases and vector collection and surveillance.

Respondents were asked to provide commentary regarding any question items they ranked as 'strongly disagree' or 'disagree' to explain their ranking rationale; 24 respondents provided this commentary. Synthesis of the commentary indicated that, generally, respondents felt training was not offered regularly and that finding capacity to attend trainings was a barrier for their staff. Some respondents commented that the trainings on emerging threats would be best provided by state-level or regional agencies. A summary of the respondent commentary can be found below:

Three respondents directly referenced a lack of staff capacity to attend trainings as an issue; when there are limited staff in an agency or department, it is difficult to have those staff attend in-person or extended trainings that take time away from their daily responsibilities. One respondent also indicated that their state agencies are typically responsible for all vector surveillance and control activities, and shifting this work to local- or county-level agencies would require extensive time and investment. Similarly, another respondent stated that the training agendas on emerging diseases are set by the state, which they must follow.

One person mentioned it is easier to provide regular updates for their jurisdiction rather than state or regional updates. Relatedly, three comments reflected the concept that trainings or updates on regional vector-borne disease threats would be best conducted at regional meetings or trainings rather than at meetings held for state and local audiences.

Eight respondents mentioned that their agency or department receives little to no training on vector-borne disease surveillance, with one respondent stating they must "seek it out" on their own.

Some respondents indicated trainings on vector biology, surveillance, or control would not be useful for them, as they either do not collect vectors (three comments), work for private and academic institutions not involved in surveillance or control (3 comments), or are more involved in clinical care and testing (1 comment).

Two comments indicated that a lack of in-depth training or expertise in vector biology could complicate the ability of vector-borne disease staff to effectively communicate with the public and local leaders. One respondent felt training in mosquito vectors was strong, while a gap exists for a similar training in tick vectors. One respondent mentioned that training on transmission and vector biology would be beneficial for medical providers.

Respondents were also asked to describe any additional training needs that would benefit their unit or agency; 49 comments were provided. Table 4 below provides an overview of the additional training needs listed by respondents. Of note, 12 of the comments only referenced training targeting ticks. Additionally, two respondents indicated workforce capacity limited the feasibility of trainings.

FIGURE 9. SURVEY RESPONDENT OPINIONS ON TRAINING AND EDUCATION NEEDS IN VECTOR-BORNE DISEASES AND PUBLIC HEALTH

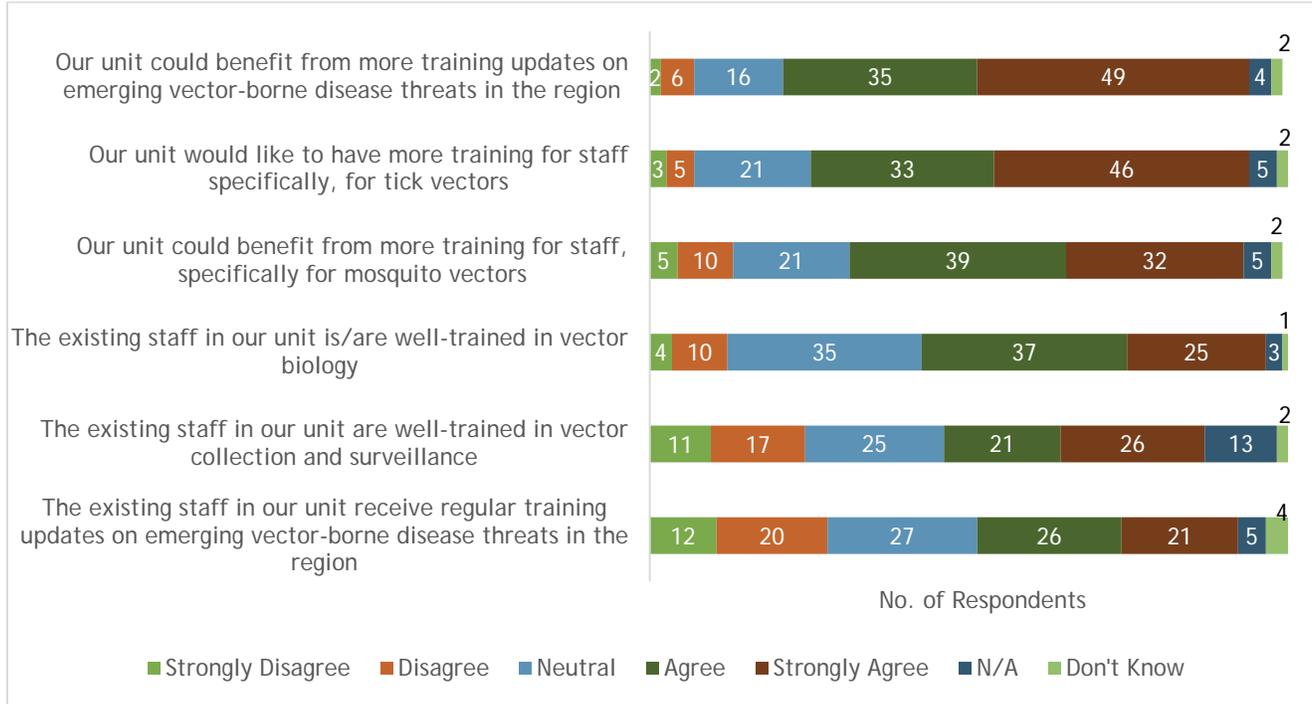


TABLE 4. ADDITIONAL TRAINING NEEDS AND AREAS FOR WORK IN VECTOR-BORNE DISEASES

RESPONSE SUMMARY CATEGORIES	COUNT
FIELD TECHNIQUES: COLLECTION, SURVEILLANCE, CONTROL	13
VECTOR ECOLOGY AND BEHAVIOR	11
EMERGING DISEASES	8
PATHOGEN/DISEASE INFORMATION & ILLNESS PRESENTATION	8
REGULAR GENERAL TRAINING AND UPDATES	7
VECTOR IDENTIFICATION	4
ONLINE RESOURCES ON VECTOR-BORNE DISEASES	3
TARGETED PUBLIC SERVICE CAMPAIGNS/OUTREACH MATERIALS	3
TRENDS IN VECTOR ACTIVITY	3
UPDATES ON EMERGING VECTORS TO THE REGION	2
ENGAGEMENT WITH REGIONAL VBD PARTNERS/DATA SHARING	2
EFFECTIVE PREVENTIVE MEASURES FOR THE PUBLIC	2
RISK COMMUNICATION	2
PATIENT COMMUNICATION APPROACHES & CLINICAL PROTOCOLS	1
ZOONOTIC VECTOR-BORNE DISEASES	1
IN-LAB TRAINING IN VECTOR-BORNE DISEASES	1

Laboratory Needs

Respondents generally indicated high agreement with the provision of guidance on vector identification and vector collection practices by their state. Respondents also generally agreed that their state has protocols for analyzing tissues and vectors for pathogens, as well as protocols for handling vectors. However, up to 18% of respondents indicated uncertainty in the presence of state protocols; these individuals were primarily from Connecticut, Massachusetts, New York, and New Jersey.

Respondents were asked to list the agents and diseases routinely tested at their units/organizations; there were 51 responses to this question. WNV, EEE, and Zika virus were the top three agents tested; 13 respondents indicated agent testing was not applicable to their unit/organization's scope of work. Table 5 displays the full results for tested agents/diseases.

FIGURE 10. SURVEY RESPONDENT OPINIONS ON LABORATORY NEEDS IN VECTOR-BORNE DISEASES AND PUBLIC HEALTH

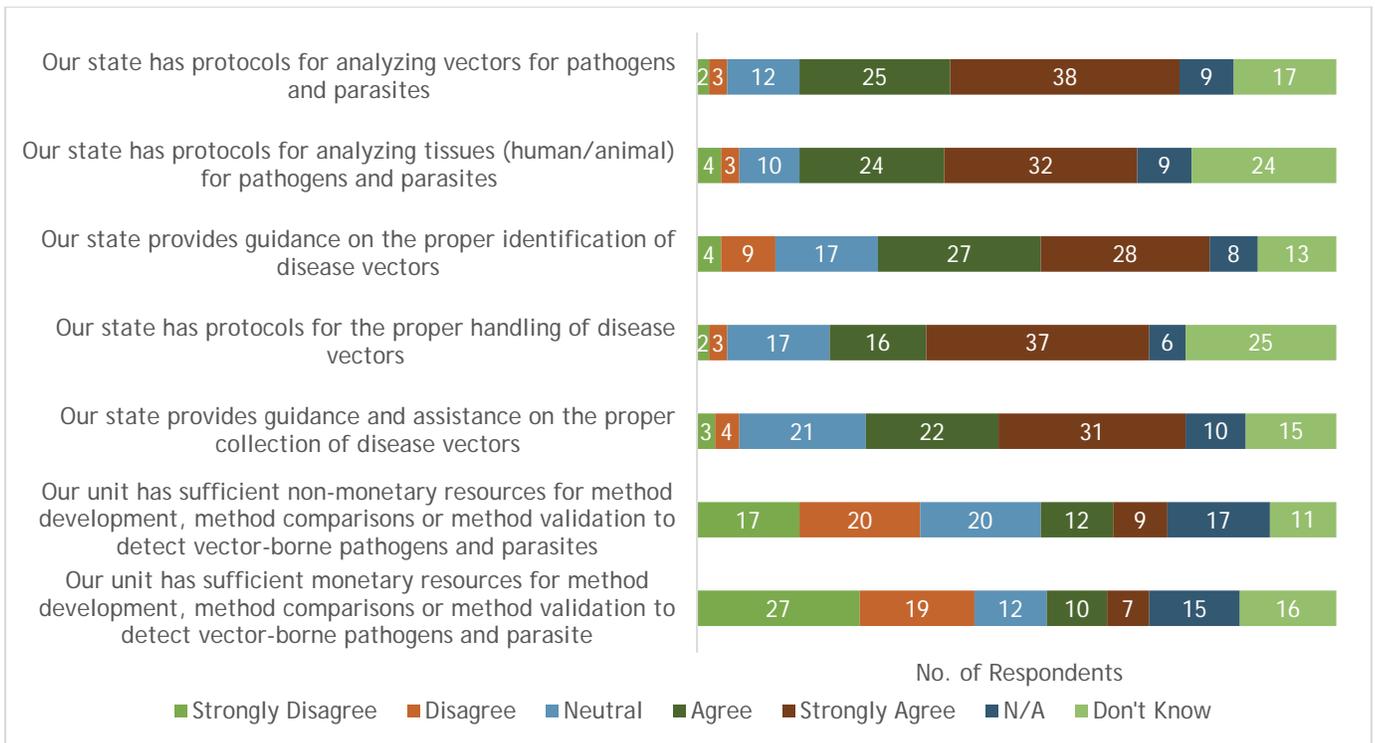


TABLE 5. AGENTS/DISEASES TESTED AT RESPONDENT UNITS/ORGANIZATIONS

AGENTS TESTED	COUNT (% RESPONSES)
WEST NILE VIRUS	25 (49%)
EASTERN EQUINE ENCEPHALITIS	17 (33%)
ZIKA VIRUS	14 (28%)
ST. LOUIS ENCEPHALITIS	8 (26%)
LYME DISEASE	7 (16%)
CHIKUNGUNYA	7 (16%)
DENGUE	7 (16%)
LA CROSSE ENCEPHALITIS	6 (12%)
ANAPLASMOSIS	5 (10%)
BABESIOSIS	5 (10%)
EHRlichiosis	4 (8%)
MALARIA	2 (4%)
POWASSAN	2 (4%)
BARTONELLA	1 (2%)
RICKESTTIAE	1 (2%)
RABIES	1 (2%)
OUTSOURCE TESTING OF SAMPLES	10 (20%)
Specifically mention state lab	8
NOT APPLICABLE	13 (25%)
Only conduct vector ID	2

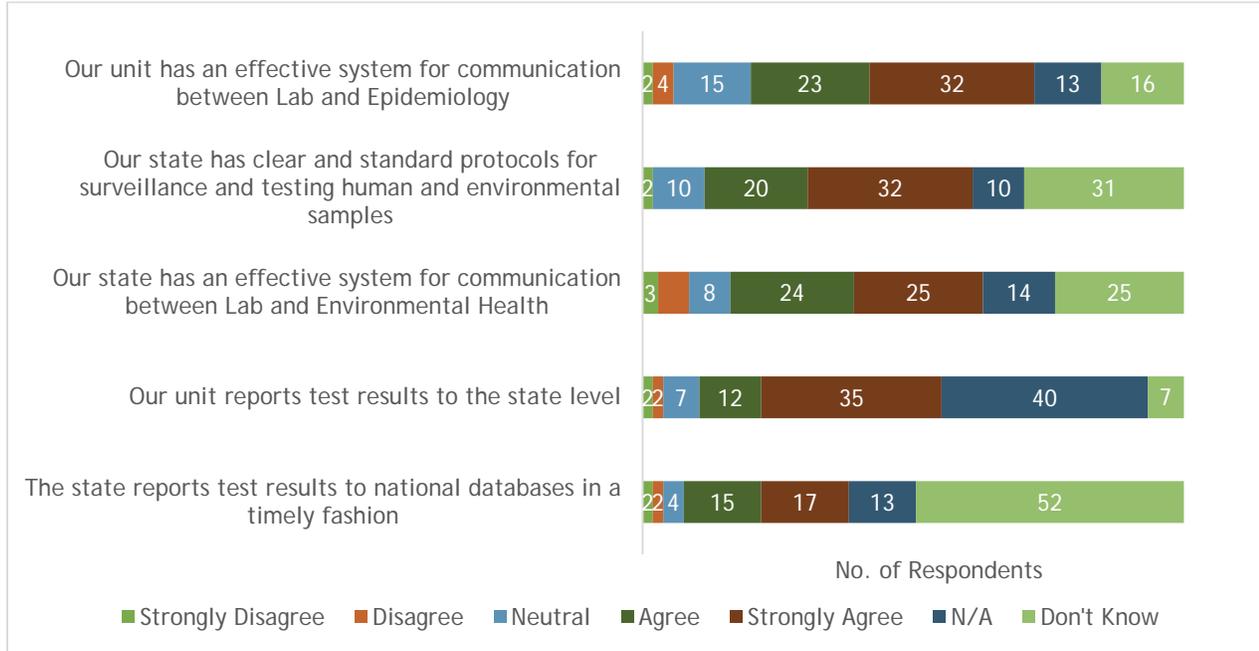
Communication and Reporting Needs

Most respondents indicated that their unit regularly reports test results to state agencies, when applicable (45%), and agreed/strongly agreed that the communication systems between laboratory and environmental health units and laboratory and epidemiology units are effective (47% and 52%, respectively). There was significant uncertainty in respondent knowledge of state reporting to national databases and state protocols for surveillance and testing of human and environmental samples, with 50% and 30% of respondents selecting ‘Don’t Know’ for these question items, respectively.

Respondents were asked to provide commentary regarding any question items for laboratory and communication/reporting needs that they ranked as ‘strongly disagree’ or ‘disagree’ to explain their ranking rationale; 13 respondents provided this commentary. Comments fell into six general categories, as listed below:

1. Communication issues and barriers exist between different agencies working with vector collection and testing (4 comments)
2. Communication between state lab and partner agencies can be slow and unreliable (3 comments)
3. Vector-borne disease infrastructure centers on mosquitoes and needs to be developed for ticks as well (1 comment)
4. Sample collection, testing, and reporting across state/region lacks technical sophistication and can introduce errors (1 comment)
5. Funding for supplies and personnel inhibit testing capabilities (1 comment)
6. Not applicable to scope of work (3 comments)

FIGURE 11. SURVEY RESPONDENT OPINIONS ON COMMUNICATION AND REPORTING NEEDS IN VECTOR-BORNE DISEASES AND PUBLIC HEALTH



Respondents were also asked to describe any additional training needs that would benefit their unit or agency; 14 comments were provided. These comments highlighted a need for increased funding to conduct testing and support personnel, as well as a need for improved laboratory space. Comments also reflected a need for improved methods for data management, reporting, and communication between state laboratories and partners.

Needs in Vector-Borne Disease Surveillance Competency Training

Respondents were asked to rank the degree to which they felt a series of statements presented a training need for state health departments in vector biology knowledge and outbreak investigations. These questions were broken into two subject areas: general vector-borne disease knowledge, and surveillance and epidemiology. Responses followed a Likert scale, with a response of 1 indicating no need, a response of 3 indicating possible need, and a response of 5 indicating major need. Figures 12A and 12B display the response distributions to the Likert scale series.

General Vector-Borne Disease Knowledge

Most statements were ranked at similar levels of need. The items ranked by the most participants as a moderate/major need for training included:

- Insecticide resistance management (49%)
- Environmental factors that enhance pathogen transmission (46%)
- Vector control strategies (46%)
- Vector behavior (41%)
- Environmental factors that contribute to vector presence (40%)

The need for training in general knowledge on regional vector-borne diseases was ranked as a low need by the most respondents (29%).

Respondents were also provided the opportunity to give additional feedback on other needs regarding general vector-borne disease knowledge and competencies not otherwise listed in the Likert scale options; six respondents provided additional comments. These comments focused on general training in vector-borne diseases, control methodologies, and addressing research gaps. Three comments reflected that county-level general training needs are typically addressed by the state.

Surveillance and Epidemiology

Overall, surveillance and epidemiology training needs were ranked lower compared to general vector-borne disease knowledge training needs. The surveillance and epidemiology statements also had a higher percentage of respondents indicating the needs as ‘don’t know’, indicating uncertainty with the subject matter.

The statements with the most respondents indicating a moderate/major need were:

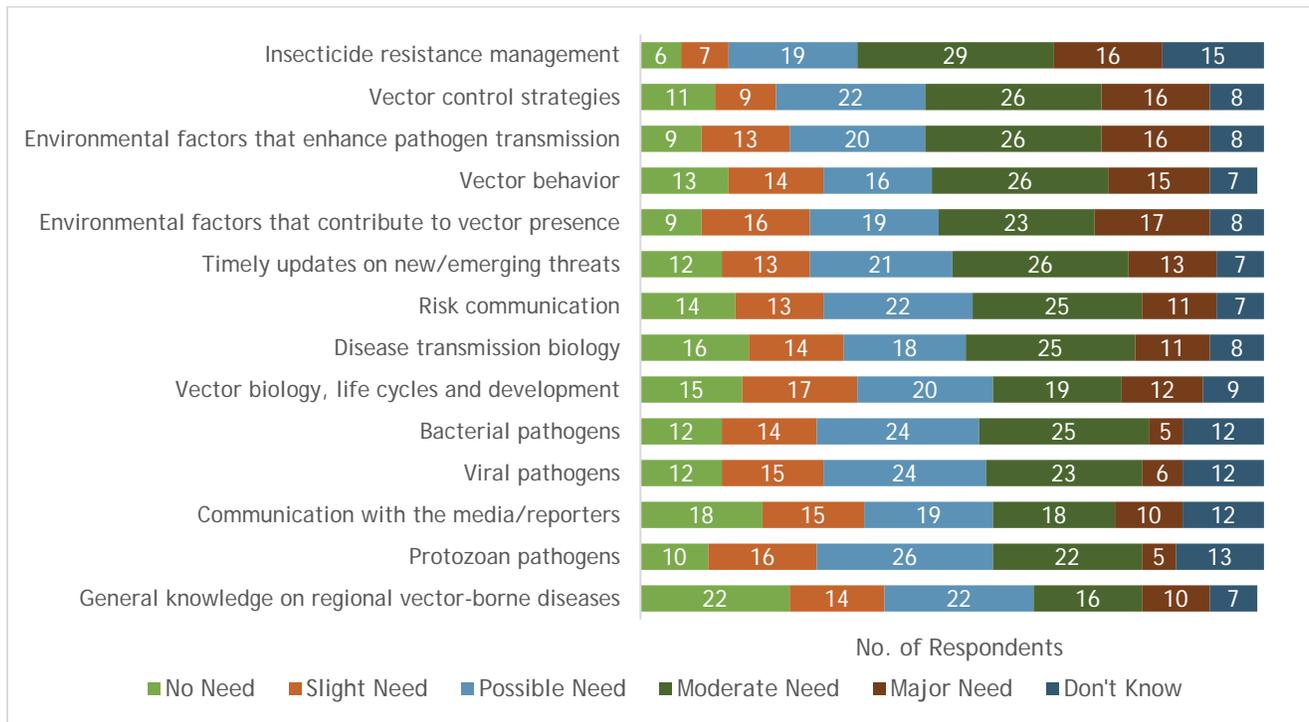
- Surveillance methods for vector-borne disease (29%)
- Familiarity with clinical tests for vector-borne disease threats in the Northeast (29%)
- Sample collection for vectors (28%)
- Interpreting molecular/genetic data results (28%)

Of the statements ranked ‘no need’, training in general epidemiology and routine epidemiological analyses received the most responses (27%, respectively).

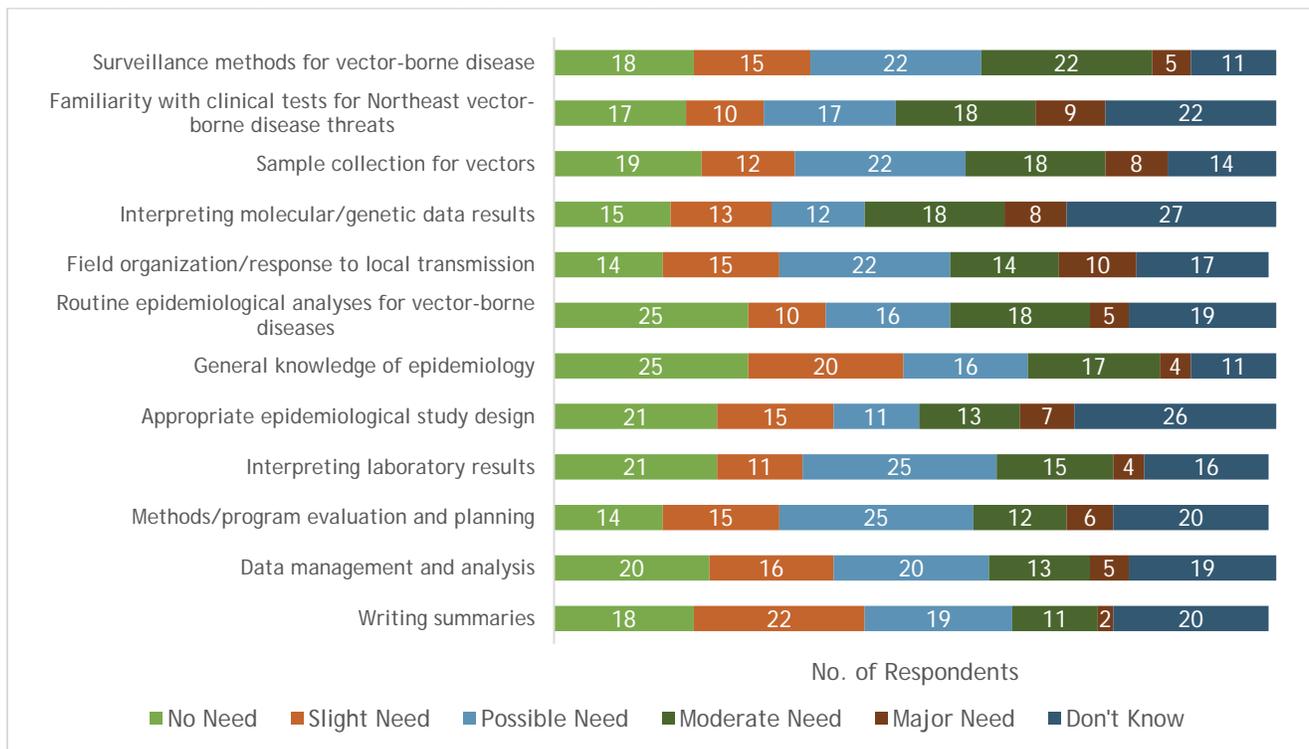
Respondents were also provided the opportunity to give additional feedback on other needs regarding vector-borne surveillance and epidemiology training not otherwise listed in the Likert scale options; five respondents provided additional comments. Three comments indicated that these questions would only apply to those working at the state level in vector-borne disease, and they thus could not comment on state-level training needs. The remaining comments highlighted methods to determine local transmission of vector-borne disease as well as general terms and techniques for those new to the subject matter area.

FIGURE 12. SURVEY RESPONDENT OPINIONS ON VECTOR-BORNE DISEASE SURVEILLANCE COMPETENCY TRAINING NEEDS

A. GENERAL VECTOR-BORNE DISEASE KNOWLEDGE TRAINING NEEDS



B. SURVEILLANCE AND EPIDEMIOLOGY TRAINING NEEDS



Training Methods and Formats

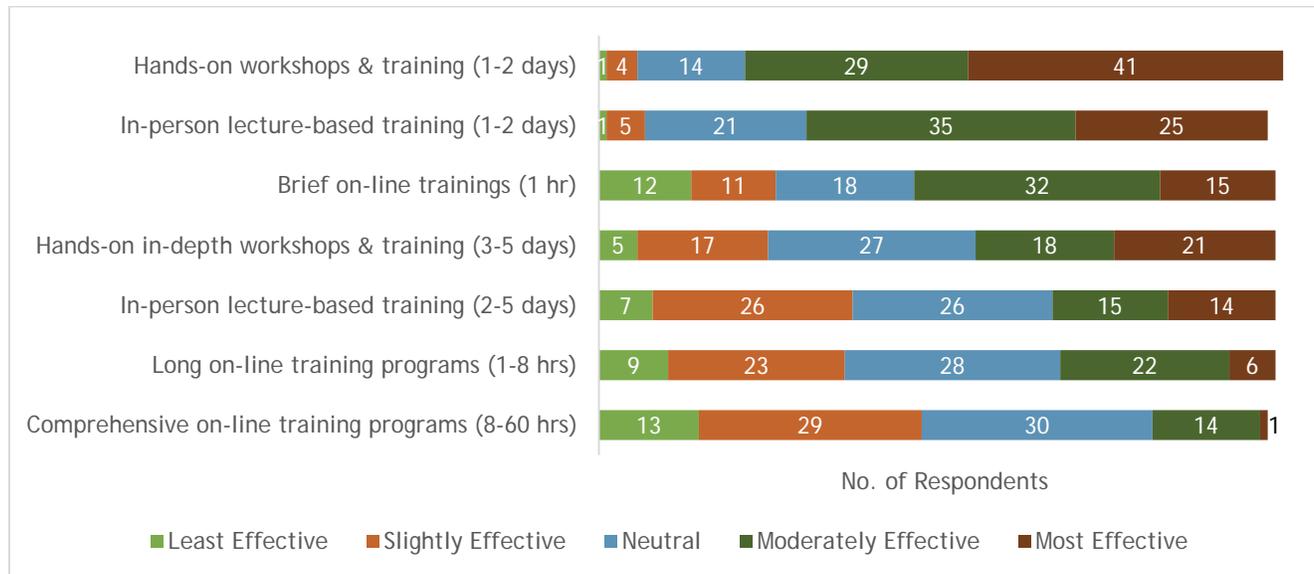
Respondents were asked to rank the effectiveness of a series of training formats. Question responses followed a Likert scale, with a response of 1 indicating least effective and a response of 5 indicating most effective. Figure 13 displays the response distributions to this Likert scale series.

Short hands-on workshops and training programs lasting 1-2 days were ranked as moderately/most effective by the most respondents (80%), followed by short in-person lecture-based training programs lasting 1-2 days (69%). Comprehensive online training programs completed over multiple weeks and months was ranked as least/slightly effective by the most participants (48%).

SECTION SUMMARY

- Preferred Training Modalities
 - 1-2 day in-person or in-field workshops
 - Brief online trainings
- Limited capacity to attend trainings driven by time constraints and personnel shortages
- Public health certification programs should target environmental health specialists, entomologists, and vector control staff

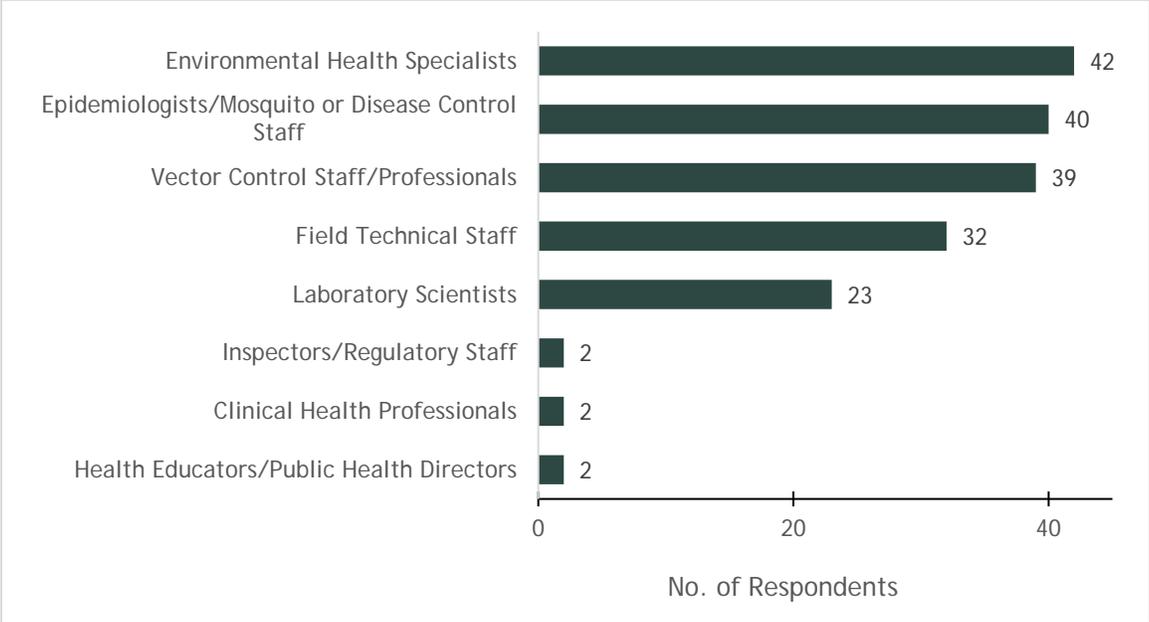
FIGURE 13. SURVEY RESPONDENT OPINIONS ON EFFECTIVE TRAINING FORMATS



Respondents were asked to provide additional comments on training formats that state health departments could provide for vector-borne diseases; six respondents provided additional feedback. Most responses highlighted that classroom and in-field settings for trainings were the best environment, but that finding time for staff to be out of the office to attend these trainings is difficult to achieve. Two comments highlighted the utility of online trainings that can be completed at any time, and one comment reflected a need to conduct trainings at a regional level with attendance from representatives across the region.

When asked if there was a need for certificate programs for public health professionals, 59 respondents (65%) indicated yes. These respondents were asked to indicate which target audiences would be appropriate for these certificate programs. Environmental health specialists, epidemiologists or mosquito/disease control staff, and vector control staff/professionals were the most frequently indicated target audiences (see Figure 14 for full results).

FIGURE 14. TARGET AUDIENCES FOR PUBLIC HEALTH PROFESSIONAL CERTIFICATE PROGRAMS



Communication Needs

Seventy-four respondents (82%) felt there was a need for more communication within and between county/district/state health units and university personnel regarding vector-borne diseases in the region. These respondents were then asked to describe the aspects of vector-borne disease biology that needed to be more readily communicated; there were 49 open-ended responses to this question. Table 6 displays a list of the targeted areas for improved communication listed by respondents.

The majority of comments indicate there is a need for increased communication regarding vector surveillance results and levels of vector abundance in the region. Several other comments centered on the need to share more on current and ongoing research, including what projects are ongoing in the region and results on transmission, emerging diseases, and vector life cycles.

Other comments highlighted a need for increased sharing of data and information relevant to public health, including control methods and tools, resistance monitoring, circulating pathogens and outbreak occurrence, information on human and animal cases, and prevention strategies.

SECTION SUMMARY

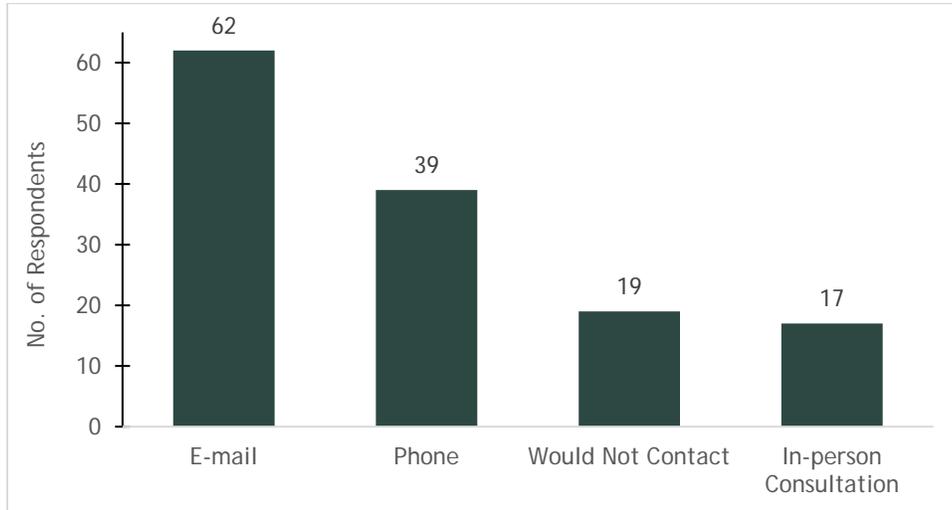
- Enhanced communication & connectivity between public health units and academic institutions:
 - Updates on existing projects and investigations
 - Latest results on investigations of vector competence & pathogen transmission
 - Up-to-date information on disease cases
 - Best practices for risk communication & engagement with the public

TABLE 6. AREAS FOR IMPROVED COMMUNICATION WITHIN AND BETWEEN COUNTY, DISTRICT, AND STATE HEALTH UNITS AND UNIVERSITY PERSONNEL

RESPONSE SUMMARY CATEGORIES	COUNT (% RESPONSES)
<i>UPDATES FROM RESEARCH COMMUNITY</i>	24 (49%)
Latest research: transmission	6
Updates on ongoing research activities and results	5
Latest research: emerging diseases	4
Impact of climate and weather on life cycles	4
Projects promoting collaboration among state agencies & university researchers	3
Vector competence	1
Unaware of what university offers	1
<i>INFORMATION RELEVANT TO PUBLIC HEALTH</i>	19 (39%)
Information on human cases (incidence, location, travel history)	5
Epidemiological summaries/risk communication	4
Control tools, methods, resistance	3
Information on circulating pathogens w/models possible increase	2
Rates of disease in animals	2
Methods for public education	1
Evidence-based prevention practices	1
Identification of disease symptoms	1
<i>VECTOR SURVEILLANCE RESULTS/VECTOR ABUNDANCE</i>	12 (24%)
Sharing of data collected by state/regional agencies	2

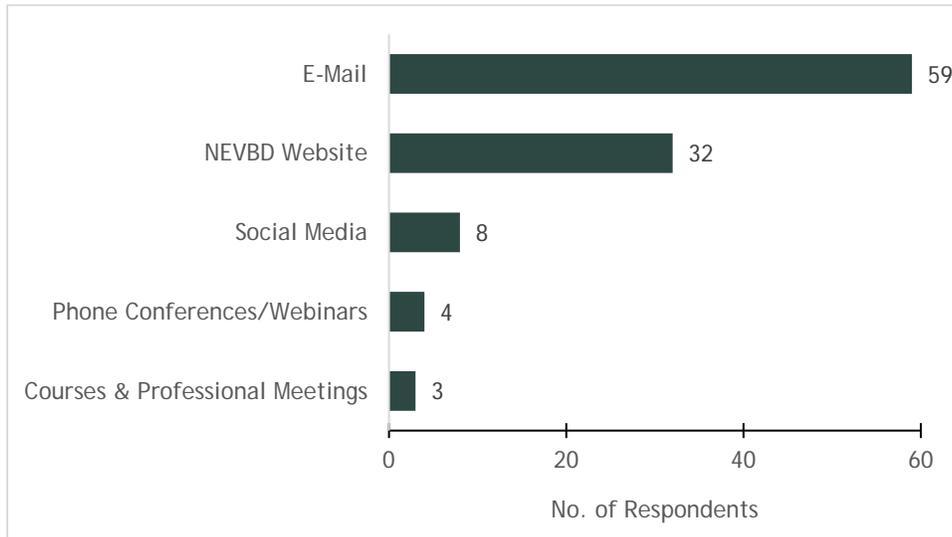
When asked if their state/local agency/unit would contact the NEVBD for real-time consultation, most respondents indicated that they would do so via email, followed by contact via phone (see Figure 15). Nineteen respondents felt their agency or unit would not contact the NEVBD

FIGURE 15. RESPONDENT-PREFERRED CONSULTATION CONTACT METHODS



Sixty-eight respondents (75%) felt they needed more current or timely information on vector-borne disease outbreaks and research efforts. These respondents indicated that the best methods through which to communicate this information are email and the NEVBD website (see Figure 16).

FIGURE 16. RESPONDENT-PREFERRED INFORMATION DISSEMINATION METHODS



The survey closed with an opportunity for respondents to provide open-ended feedback that would help prepare and enable the public health workforce to prevent, detect, and respond to vector-borne disease outbreaks in our region. Additional comments were provided by 16 respondents (Table 7). The comments can be grouped into the following categories:

- A need for increased communication and collaboration between different groups working on vector-borne disease surveillance, control, and prevention
- A need for increased training in and sharing of communication strategies to engage the public
- Increased resources to conduct work on vector-borne disease
- Targeted areas for increased focus in vector-borne disease research, surveillance, and control

TABLE 7. RESPONDENT FEEDBACK ON ADDITIONAL FACTORS TO PREPARE AND ENABLE THE PUBLIC HEALTH WORKFORCE PREVENT, DETECT, AND RESPOND TO VECTOR-BORNE DISEASE OUTBREAKS IN THE NORTHEAST REGION

INCREASED COMMUNICATION AND COLLABORATION BETWEEN DIFFERENT GROUPS WORKING ON VECTOR-BORNE DISEASE SURVEILLANCE, CONTROL, AND PREVENTION
<ul style="list-style-type: none"> • Better connection between mosquito control districts and disease prevention • Regular email blasts/newsletters to keep staff in the field aware of surveillance updates, available trainings, and resources • CDC training modules on vector-borne disease have been successful tools in the past, and would be worth investing in again • Improved general communication
INCREASED TRAINING ON TRANSMISSION AND RESPONDING TO PUBLIC INQUIRIES. NEED QUICK RESOURCES AND BACKGROUND INFO FOR WHEN DEALING WITH THE PUBLIC
<ul style="list-style-type: none"> • Helping local health provide services to the public (print materials to distribute) • Better risk assessment and public communication strategies regarding application of pesticides would help address community aversion • Increased training on transmission and responding to public inquiries. Need quick resources and background information for when dealing with the public • Increased training in and sharing of communication strategies to engage the public
INCREASED RESOURCES TO CONDUCT WORK ON VECTOR-BORNE DISEASE
<ul style="list-style-type: none"> • Funding for municipal and state governments to conduct vector control programs is an ongoing issue • Local public health is under-resourced, so additional training is welcome • Regional collaborations are a great resource for smaller states/localities that have fewer resources at hand
TARGETED AREAS FOR INCREASED FOCUS IN VECTOR-BORNE DISEASE RESEARCH, SURVEILLANCE, AND CONTROL
<ul style="list-style-type: none"> • Have a focus on management of vector-borne disease as well as surveillance/identification • Significantly more research needs to be conducted on ticks and tick-borne disease
GENERAL SURVEY FEEDBACK
<ul style="list-style-type: none"> • Survey was too long to complete • Categories within survey were black and white/not granular enough to provide pointed and consistent answers

Summary and Discussion

Respondent Characteristics

The purpose of this needs assessment survey was to highlight gaps in training and workforce needs related to vector-borne disease and public health. It is important to highlight the general characteristics of the respondents completing this survey, as the feedback that has been provided represents their views and experiences working in vector-borne disease and public health.

The majority of respondents work in three Northeastern states: New York, Connecticut, and New Jersey. While several other states were represented in the survey sample, much of the feedback provided in this needs assessment is reflective of the experiences of individuals working in the central Northeast.

A large proportion of respondents work within county and state jurisdiction levels at departments of health and laboratories; there was also strong representation of academic institutions and disease control districts. Within these organizations, most respondents worked within the fields of entomology/biology, epidemiology and disease control, environmental health, and laboratory services, and most respondents had been working in the area of vector-borne diseases for over 10 years.

Thus, we are able to describe our survey sample as representative of seasoned professionals from the central Northeast working within government and academic institutions, focused on the public education, community outreach, disease surveillance, sample collection and diagnostics, and policy development surrounding vector-borne disease and public health. Unfortunately, our results do not reflect the needs of less seasoned workers who may have different training needs.

Respondent Knowledge Concerning Vector-Borne Diseases in the Northeast

The results of this needs assessment indicate that the majority of respondents were generally up-to-date in their knowledge of relevant vector-borne diseases in the region, particularly for tick-borne diseases. However, the following trends in respondent knowledge highlight several targeted areas where increased training or clarified messaging is needed for both tick- and mosquito-borne diseases:

- High degree of uncertainty regarding the impact of La Crosse encephalitis to the region
- Potential misinformation on the impact of mosquito-borne diseases chikungunya, dengue, and malaria to the region
- Conflicting perceptions on impact of Rocky Mountain spotted fever to the region
- High degree of uncertainty regarding the impact of STARI and Heartland virus disease

Additionally, while Lyme disease was listed by all respondents as the largest threat in the Northeast (and does have the highest incidence rate in the region), this attention could eclipse awareness of other tick-borne diseases that are of increasing concern to the region, such as babesiosis, anaplasmosis, and Powassan virus disease.

Non-Monetary Resource and Planning Needs

Limitations in the capacity to conduct surveillance and diagnostics for vector-borne diseases, as reported by respondents, are driven in large part from non-monetary resource limitations. These limitations center on the following:

- Shortages of trained personnel
- Lack of access to newer methods and tools
- Lack of access to up-to-date regional surveillance data

The lack of non-monetary resources also inhibited the ability of laboratories to develop, compare, and validate vector and pathogen testing methods. In addition, it appears that there may be a limited capacity to test for tick-borne disease agents across the region, as compared to the capacity to test for mosquito-borne disease agents.

Feedback also revealed that there is a lack of knowledge/uncertainty regarding state-level protocols within the region addressing not only the handling, testing, and reporting of vectors, pathogens, and samples, but also in communicating and responding to emerging disease threats or outbreaks. Individuals working at jurisdiction levels below the state indicated that their agencies took direction from the state on how to conduct these activities, and that there was a need for increased planning and communication regarding tick-borne disease outbreaks in particular.

The results of this needs assessment highlighted a desire and need to increase the communication and connectivity between public health units/agencies and researchers from academic institutions. The following areas for improved communication and collaboration were emphasized by respondents across multiple question series:

- Updates on the projects that are underway and on-going at research institutions
- Latest results on investigations regarding pathogen transmission, vector competence, the impact of climate on vector biology, and insecticide resistance
- Up-to-date information on human and animal disease cases
- Information on the clinical presentation of diseases
- Best practices to engage with the public on prevention
- Risk communication

Respondent feedback overwhelmingly indicated a need for more access to existing data and resources in the region, and that the lack of technical infrastructure through which this information can be shared inhibits communication and collaboration. The use of websites and online data clearinghouses, as well as email listserv communications, could be viable solutions to increased connectivity.

Important Training Gaps and Opportunities

The primary subject matter areas highlighted by respondents for updates and training include:

- Emerging disease threats
- Tick and mosquito vector ecology/biology
- Field techniques for collection, surveillance
- Vector control strategies and pesticide resistance monitoring
- Clinical presentation of infections and appropriate diagnostic tests
- Tools to share with the public for the prevention of exposure to ticks and mosquitoes
- Environmental factors that enhance vector presence & pathogen transmission
- Interpreting genetic and molecular results

The preferred formats for delivering training were short one- to two-day in-person or in-field workshops and lectures, as well as brief (less than one hour) online training opportunities. However, the limited capacity for individuals to attend in-person trainings presents an important barrier to these training opportunities. This lack of capacity is driven by both time constraints and personnel shortages that restrict the ability for individuals to be out of office.

Public health certification programs were endorsed primarily for environmental health specialists, entomologists, and vector control staff.

Limitations

This needs assessment has limitations that are important to mention.

First, this survey was constructed for a targeted audience. Results should not be interpreted to reflect the viewpoints or opinions of under sampled groups, including individuals working within the medical community.

Additionally, the survey witnessed attrition of respondents across the length of the questionnaire. Of the 137 respondents included in the analytic sample, approximately 30% did not complete the Likert scale question series regarding competency training topics and formats appearing at the end of the survey questionnaire. A small number of comments were provided by respondents that indicated the length of the survey may have contributed to respondent attrition. The denominator for each individual question varied across the survey, as no question items were flagged as mandatory to respond. To address this issue, we provided denominator sizes and reported the percent of respondents answering questions when able.

Closing Remarks and Next Steps

Validation of Findings

The NEVBD will continue to engage with the audiences these training programs target to ensure that the content provided is useful, in a format amenable to work schedules and learning methods, and non-duplicative of existing resources.

The NEVBD will be implementing a targeted outreach plan to engage with individuals representing jurisdictions and occupations with low representation in the initial survey sample. These include individuals working in states with low representation (e.g., Vermont, New Hampshire, West Virginia, Delaware), as well as individuals working in areas including state cooperative extensions, and state departments of environmental conservation and agriculture. Outreach will consist of key information interviews, with the goal of engaging individuals working in these areas to corroborate the findings detailed in this report and/or provide additional insight into training needs for the field.

Additionally, key sectors working with vector-borne disease were not well represented in this survey sample. Specifically, feedback on important training needs for the medical community were not addressed through this needs assessment. The NEVBD has engaged with collaborators within our network to work on addressing the training and informational needs relevant to practicing medical professionals in our region.

Training Program Development

The NEVBD is in the process of developing training programs that will be provided to both students of medical entomology, as well as professionals currently working in vector-borne disease and public health. Feedback provided from this needs assessment will inform the development of educational programs and materials, including:

- Hands-on field training programs on vector biology and surveillance methods.
- Hands-on workshops in vector biology, surveillance, and control methods for public health practitioners
- A webinar series targeting key aspects of vector-borne disease surveillance and control

The hands-on field training and workshop programs will provide in-depth overviews of key concepts in vector biology and ecology, vector identification, and current best practices in surveillance and control techniques. The webinar series will be designed to provide information on targeted subjects, such as effective methods for engaging the public or current evidence in insecticide application; these series will be available online to accommodate the restrictions on travel and time out of office that may prevent individuals from attending in-person training events.

Results of this needs assessment will be shared with all NEVBD partners, and will be publicly accessible through the NEVBD website (neregionalvectorcenter.com).

Appendix A: Needs Assessment Survey Questionnaire

Northeast Regional Vector-borne Disease Center for Excellence Needs Assessment

Background. In December 2016, the Northeast Regional Center for Excellence in Vector-borne Diseases (NE Regional CoE) was one of 4 regional centers established by the CDC to address the challenges of emerging and exotic vector-borne diseases in the US such as Lyme disease, West Nile virus and Zika virus. The goals of the Northeast Regional CoE are to help prepare and enable the public health workforce to prevent, detect and respond to vector-borne disease outbreaks. In addition, we will be conducting research, gap analyses and impact assessments for the region. The Center aims to address the needs of the entire Northeast Region as broadly as possible to improve our research, surveillance and training activities.

Who we are. Our current team includes medical entomologists, virologists, epidemiologists, ecologists, modelers and molecular biologists across the spectrum of academic institutions (Cornell Department of Entomology, College of Veterinary Medicine, NYS Animal Health Diagnostic Laboratory, Columbia University and Fordham University), State Laboratories (Wadsworth Center), Experiment Stations (CAES), Departments of Health including laboratory resources (NYSDOH, CTDPH), and regional education and outreach programs (NYS IPM, Cornell Cooperative Extension). Membership in our regional center is growing continually.

Your help is essential! This survey should take approximately 30 minutes to complete. We ask that this assessment be returned **no later than June 30, 2017**. Contact information for questions are listed at the end of this document.

What you can expect from us. Your data will be entered into a coded database to remove all identifiers and ensure confidentiality, we will summarize the data and share results for validation and further refinement. This survey will provide the NE CoE with information for development and implementation of targeted training programs. We will post a schedule of training on our website and will contact our regional team members to follow up on the information we learn from this assessment.

Please complete this needs assessment no later than **June 30, 2017**. Any questions or concerns can be directed to Laura Harrington (lch27@cornell.edu, 607-255-4475).

Thank you for taking time to complete this survey! We will be sharing the compiled results on our website.

Authors of this assessment are: Harrington, LC; White D; Meredith G; Kramer L, Armstrong P; Diuk-Wasser M; Frye M, Daniels, T and T Andreadis.

Participant background and experience:

1. Which state, city or jurisdiction do you work in?

- | | | |
|--|---------------------------------------|---|
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Maine | <input type="checkbox"/> Massachusetts |
| <input type="checkbox"/> New Hampshire | <input type="checkbox"/> New Jersey | <input type="checkbox"/> New York State |
| <input type="checkbox"/> New York City | <input type="checkbox"/> Pennsylvania | <input type="checkbox"/> Rhode Island |
| <input type="checkbox"/> Vermont | | |

Other (please describe) _____

2. What is your current place of employment (check all that apply)?

- State Health Department
- State Department of Agriculture or equivalent
- State Laboratory
- State Department of Environment/Conservation
- County or City Health Department or laboratory
- County/city/district or regional mosquito control district
- University/Academic laboratory
- Other, specify: _____

3. Which degrees have you obtained? Please mark with an **X** and list the field of study corresponding to each degree obtained.

Degree	Obtained?	Field of Study
High School	<input type="checkbox"/>	
Associates Degree	<input type="checkbox"/>	
Bachelor's (BA, BS)	<input type="checkbox"/>	
Master's (MS, MPH)	<input type="checkbox"/>	
PhD	<input type="checkbox"/>	
DVM	<input type="checkbox"/>	
MD	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	

4. How long have you been working in the area of vector-borne disease surveillance and/or control (excluding time for education, if applicable)?

- Less than 1 year
- 1-2 years
- 2-5 years
- 5-10 years
- 10-20 years
- More than 20 years

5. Does your role involve working with disease vectors at all?

- Yes
- No

If no, please skip to question 8.

6. Which of the following most closely matches your position or role in vector-borne diseases and public health (mark all that apply)?

- Public Health Nurse
- Sanitation officer
- Laboratory Scientist or technician
- Field Scientist or technician
- Epidemiologist/Disease control staff
- Vector control staff
- Environmental Health Specialist
- Agency leader or Commissioner
- Entomologist/Ecologist/Biologist
- Inspector
- Pest management professional/Pesticide applicator
- Other, please specify: _____

7. What are your responsibilities in vector-borne diseases and public health (mark all the apply)?

- Public education
- Medical provider education
- Community outreach
- Policy development
- Disease surveillance
- Sample collection
- Sample diagnostics
- Pesticide applicator
- Other, please specify: _____

8. Please indicate which of the following are important vector-borne diseases in your region (include both those that are endemic and those that of potential risk for introduction); answer yes, no or don't know (D/K)

	Yes	No	D/K
Lyme disease			
Zika			
Dengue			
Malaria			
Chikungunya			
Eastern Equine Encephalitis			
Babesiosis			
Deer tick virus/Powassan			
Anaplasmosis			
Ehrlichiosis			

Lacrosse Encephalitis			
Heartland virus			
Rocky Mountain Spotted fever			
STARI			
West Nile Virus			
Plague			
Other (please specify):			

Of the diseases you checked “yes” next to above, which **one or two are the most important** as far as human impact in your region?

9. **Resources and needs related to vector-borne diseases and public health.** For the questions below, we define “monetary resources” as availability of money, materials and other tangible items. Examples of “non-monetary resources” are availability of expertise and trained staff, protocols and tools.

Given this definition of resources, please answer the following questions regarding your opinions on resources and other needs related to vector-borne disease and public health. Your answers will aid us in understanding where the Northeast Regional CoE can focus efforts and best assist you.

- a. **For the questions below, please indicate and answer in reference to the jurisdictional level of your unit or office where you work:**

- State
- County
- City
- Agency
- Academic Institution
- Private Institution
- Other (please specify) _____

Please respond to these questions focusing on needs that cover training and other non-monetary requirements for you to do your work (1=strongly disagree, 3= neutral (neither agree nor disagree), 5=strongly agree, D/K=don't know, N/A = not applicable).

	1	2	3	4	5	N/A	DK
b. General Planning and Preparedness							
Our unit has a clear and compliant system for monitoring and reporting vector-borne illness							
Our unit has written criteria in place that defines when to involve which agencies (local, state, federal) in reporting a vector-borne disease outbreak							
Our unit has comparable vector-borne diseases reporting methods to other units in our region							
Our unit regularly communicates vector-borne disease outbreak information to other units in the region							
Our unit regularly collaborates with other units in the region on surveillance and control							
Our unit regularly communicates vector activity without human disease to and collaborates with other units in the region on surveillance and control							
Our unit regularly discusses and plans for novel or emerging disease emergencies							
If you disagree with any of the above, why?							
What are some other general non-monetary resource needs? Given resources previously listed as needed, what additionally would be most helpful to you:							

Please respond to these questions focusing on needs that cover training and other non-monetary requirements for you to do your work (1=strongly disagree, 3= neutral (neither agree nor disagree), 5=strongly agree, DK=don't know, N/A = not applicable).

c. Training and education	1	2	3	4	5	N/A	DK
The existing staff in our unit is/are well-trained in vector biology							
Our unit could benefit from more training for staff, specifically for mosquito vectors							
Our unit would like to have more training for staff specifically, for tick vectors							
The existing staff in our unit are well-trained in vector collection and surveillance							
The existing staff in our unit receive regular training updates on emerging vector-borne disease threats in the region							
Our unit could benefit from more training updates on emerging vector-borne disease threats in the region							
If you disagree with any of the above, why?							
List specific training needs that would benefit for your unit:							

Please respond to these questions focusing on needs that cover training and other non-monetary requirements for you to do your work (1=strongly disagree, 3= neutral (neither agree nor disagree), 5=strongly agree, DK=don't know, N/A = not applicable).							
	1	2	3	4	5	N/A	DK
d. Laboratory							
Our state provides guidance and assistance on the proper collection of disease vectors							
Our state provides guidance on the proper identification of disease vectors							
Our state has protocols for the proper handling of disease vectors							
Our state has protocols for analyzing vectors for pathogens and parasites							
Our state has protocols for analyzing tissues (human/animal) for pathogens and parasites							
Our unit (specifically, the group you are working in; note: in some cases this might be the state) has sufficient monetary resources for method development, method comparisons or method validation to detect vector-borne pathogens and parasites							
Our unit has sufficient non-monetary resources for method development, method comparisons or method validation to detect vector-borne pathogens and parasites							
Please list the agents you routinely test for (if not applicable, please note as such):							

	1	2	3	4	5	N/A	DK
Our unit reports test results to the state level							
The state reports test results to national databases in a timely fashion							
Our state has clear and standard protocols for surveillance and testing human and environmental samples							
Our unit has an effective system for communication between Lab and Epidemiology							
Our state has an effective system for communication between Lab and Environmental Health							
If you disagree with any of the above, why?							
Other laboratory needs:							

10. Challenges conducting vector-borne disease surveillance and diagnostics

From your perspective, what are the major program needs in vector-borne disease surveillance and diagnostics for your unit?

(1= no challenge at all, 5= major challenge)	1	2	3	4	5	N/A
Insufficient overall non-monetary resources (trained staff, protocols and tools)						
Vector-borne disease surveillance skills						
Vector-borne disease diagnostics skills						
Vector identification skills						
Communicating with media and public						
Understanding legal issues in surveillance and diagnostics						
Information about or access to newer diagnostic methods						
Analyzing data						
Writing summary reports						
Not enough trained personnel to do an effective job						
Other challenges not mentioned:						

11. Needs in vector-borne disease surveillance competency training

The following section will ask questions regarding your opinion on training needs for state health departments in the areas of general vector biology knowledge and outbreak investigations. For each section, 1= no need, 3= possibly a need, 5= major need.

a. General vector-borne disease knowledge [1= no need, 3= possibly a need, 5= major need]

Training area	1	2	3	4	5	N/A
General knowledge on regional vector-borne diseases						
Timely updates on new/emerging threats						
Vector biology, life cycles and development						
Vector control strategies						
Insecticide resistance management						
Vector behavior						
Disease transmission biology						
Bacterial pathogens						
Viral pathogens						
Protozoan pathogens						
Risk communication						
Communication with the media/reporters						
Environmental factors that contribute to vector presence						
Environmental factors that enhance pathogen transmission						
Other topics:						

b. Surveillance and epidemiology [1= not a need, 3= possibly a need, 5= major need]

Training area	1	2	3	4	5	N/A
General knowledge of epidemiology						
Appropriate epidemiological study design						
Routine epidemiological analyses for vector-borne diseases						
Interpreting molecular/genetic data results						
Familiarity with clinical tests for Northeast vector-borne disease threats						
Surveillance methods for vector-borne disease						
Sample collection for vectors						
Field organization/response to local transmission						
Data management and analysis						
Writing summaries						
Interpreting laboratory results						
Methods/program evaluation and planning						
Other topics:						

12. Formats for training

The following section will ask questions regarding your opinion on training formats that **state** health departments could provide for vector-borne diseases. For each section, score the effectiveness of formats with **1 =least effective and 5 = most effective**, taking into account any extenuating circumstances (e.g., lack of travel support, unable to take time away from work, etc.).

1 =least effective and 5 = most effective	1	2	3	4	5	N/A
Training program format						
Brief on-line trainings (ad-hoc, less than 1 hour)						
Longer on-line training programs (1 to 8 h programs that can be completed over multiple sessions)						
Comprehensive on-line training programs (8-60 h, can be completed over multiple weeks and months)						
In person lecture-based training (short course, 1 to 2 days)						
In person lecture-based training (extended course, 2 to 5 days)						
Hands-on workshops and training (e.g., short course field training on surveillance and control (1 to 2 days))						
Hands-on in-depth workshops and training (e.g., extended field training on surveillance and control (3 to 5 days))						
Other training formats:						

Other questions related to training needs:

13. Do you feel there is a need for development of certificate programs for *public health professionals*?

- Yes
 No

13.1 If yes, please indicate the target audience for certificate programs (select all that apply)

- Epidemiologists/mosquito or disease control staff
 Environmental Health Specialists
 Laboratory Scientists
 Field technical staff
 Vector control staff/professionals

14. Do you feel there is a need for more communication within and between county/district/state health units and university personnel regarding vector-borne diseases in the region?

- Yes
 No

14.1 If yes, specifically what aspects of vector-borne disease biology should be more readily communicated?

15. Would your state/local agency/unit ever contact the Northeast Regional Center of Excellence for real-time consultation (select all that apply)?

- Yes, by phone
- Yes, by e-mail
- Yes, for an in-person consultation
- No

16. Do you feel you need more current or timely information on vector-borne disease outbreaks and research efforts?

- Yes
- No

If yes, how would you like to receive your information?

- Email
- Social media (e.g., Facebook, Tumblr, Twitter, LinkedIn)
- Website
- Other, please specify

Appendix B: Response Distributions by State

Respondent Knowledge of Tick-Borne Diseases, by State

RESPONDENT STATE	Anaplasmosis			Babesiosis			Ehrlichiosis			Heartland Virus			Lyme Disease		
	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K
Connecticut	21	1	8	29	1	1	24	2	3	1	12	11	32	--	--
Maine	5	0	0	5	0	0	3	2	0	0	3	1	5	--	--
Massachusetts	7	1	0	8	0	0	4	2	2	0	4	3	8	--	--
New Hampshire	1	0	0	1	0	0	0	1	0	0	0	1	1	--	--
New Jersey	6	3	7	12	3	2	8	2	6	2	8	5	19	--	--
New York State	27	3	5	28	4	3	26	4	4	3	12	15	36	--	--
New York City	4	0	0	4	0	0	4	0	0	0	1	1	4	--	--
Pennsylvania	5	1	1	6	0	1	3	2	2	0	5	2	7	--	--
Rhode Island	2	1	0	3	0	0	2	1	0	0	2	0	3	--	--
Vermont	3	1	0	3	1	0	1	0	3	0	0	3	4	--	--
Multiple NE States	2	0	0	2	0	0	1	0	1	0	0	2	3	--	--
Maryland	1	0	0	1	0	0	1	0	0	0	1	0	1	--	--
Virginia	1	0	0	1	0	0	1	0	0	0	0	1	1	--	--
West Virginia	3	0	0	3	0	0	3	0	0	0	1	2	4	--	--
Countrywide	1	0	0	1	0	0	1	0	0	0	0	1	1	--	--
TOTAL	89	11	21	107	9	7	82	16	21	6	49	48	129	--	--

RESPONDENT STATE	Plague			Powassan			Rocky Mountain Spotted Fever			STARI		
	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K
Connecticut	1	20	3	27	2	2	5	16	4	1	13	10
Maine	1	3	0	5	0	0	2	2	0	2	2	0
Massachusetts	0	5	2	8	0	0	1	4	2	1	0	6
New Hampshire	0	1	0	1	0	0	0	1	0	0	1	0
New Jersey	0	13	1	9	3	5	11	3	2	3	4	8
New York State	1	21	6	29	3	2	16	9	6	4	12	14
New York City	0	2	0	4	0	0	1	1	1	0	1	1
Pennsylvania	0	6	1	5	2	0	3	2	2	3	2	2
Rhode Island	0	2	0	2	1	0	0	2	0	0	2	0
Vermont	0	2	1	4	0	0	1	2	0	1	2	0
Multiple NE States	0	1	1	2	0	0	2	0	0	1	0	1
Maryland	0	1	0	1	0	0	1	0	0	0	1	0
Virginia	1	0	0	1	0	0	0	0	1	0	0	1
West Virginia	0	3	0	3	0	0	3	0	0	0	1	2
Countrywide	1	0	0	1	0	0	1	0	0	0	0	1
TOTAL	5	80	15	102	11	9	47	42	18	16	41	46

Respondent Knowledge of Mosquito-Borne Diseases, by State

RESPONDENT STATE	Chikungunya			Dengue			EEE			LAC			Malaria		
	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K	Yes	No	D/K
Connecticut	8	15	4	4	20	1	23	5	1	2	11	12	4	20	2
Maine	0	4	0	0	4	0	5	0	0	1	3	0	1	3	0
Massachusetts	0	6	0	0	7	0	8	0	0	0	5	2	0	7	0
New Hampshire	0	1	0	0	1	0	1	0	0	0	1	0	0	1	0
New Jersey	9	10	0	8	10	0	17	1	0	5	9	3	5	12	0
New York State	3	19	8	3	20	7	26	5	1	2	12	16	4	21	6
New York City	1	2	0	1	2	0	0	2	1	0	0	2	0	3	0
Pennsylvania	1	6	0	0	6	0	5	2	0	1	4	2	0	7	0
Rhode Island	0	2	0	0	2	0	3	0	0	0	2	0	0	2	0
Vermont	0	3	0	0	3	0	3	0	1	1	0	2	0	3	0
Multiple NE States	1	2	0	1	2	0	2	0	0	1	0	1	1	2	0
Maryland	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0
Virginia	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0
West Virginia	2	1	0	1	1	1	1	2	0	3	0	0	0	3	0
Countrywide	0	0	1	1	0	0	1	0	0	0	0	1	0	1	0
TOTAL	27	71	13	21	78	9	97	17	4	18	47	41	17	85	8

RESPONDENT STATE	WNV			Zika		
	Yes	No	D/K	Yes	No	D/K
Connecticut	32	0	0	14	11	3
Maine	4	1	0	1	2	1
Massachusetts	8	0	0	0	7	0
New Hampshire	1	0	0	0	1	0
New Jersey	19	0	0	12	7	0
New York State	35	0	0	13	19	3
New York City	4	0	0	1	2	0
Pennsylvania	7	0	0	3	4	0
Rhode Island	2	0	0	0	2	0
Vermont	3	0	1	1	2	0
Multiple NE States	2	0	0	1	2	0
Maryland	1	0	0	1	0	0
Virginia	1	0	0	1	0	0
West Virginia	4	0	0	4	0	0
Countrywide	1	0	0	1	0	0
TOTAL	124	1	1	53	59	7

Training and Non-Monetary Needs - General Planning and Preparedness Question Series

RESPONDENT STATE	OUR UNIT HAS A CLEAR AND COMPLIANT SYSTEM FOR MONITORING AND REPORTING VECTOR-BORNE ILLNESS							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
<i>Connecticut</i>	3	3	3	11	7	2	0	29
<i>Maine</i>	0	1	0	2	1	1	0	5
<i>Massachusetts</i>	2	1	0	1	4	0	0	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	0	0	2	4	9	1	1	17
<i>New York State</i>	1	1	7	6	9	5	4	33
<i>New York City</i>	1	0	1	0	1	1	0	4
<i>Pennsylvania</i>	0	2	1	1	1	0	0	5
<i>Rhode Island</i>	1	0	0	0	2	0	0	3
<i>Vermont</i>	0	0	1	1	1	1	0	4
<i>Multiple NE States</i>	0	0	0	0	0	2	1	3
<i>Maryland</i>	0	0	0	0	1	0	0	1
<i>West Virginia</i>	0	0	0	3	1	0	0	4
<i>Countrywide</i>	0	0	0	1	0	0	0	1
TOTAL	8	8	15	30	38	13	6	118

RESPONDENT STATE	OUR UNIT HAS WRITTEN CRITERIA IN PLACE THAT DEFINES WHEN TO INVOLVE WHICH AGENCIES (LOCAL, STATE, FEDERAL) IN REPORTING A VECTOR-BORNE DISEASE OUTBREAK							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
<i>Connecticut</i>	2	5	2	9	8	2	1	29
<i>Maine</i>	0	0	0	2	2	1	0	5
<i>Massachusetts</i>	2	1	0	2	3	0	0	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	0	2	6	2	3	1	3	17
<i>New York State</i>	0	1	9	7	6	3	7	33
<i>New York City</i>	1	0	0	0	1	1	1	4
<i>Pennsylvania</i>	1	0	2	1	1	0	0	5
<i>Rhode Island</i>	1	0	0	0	2	0	0	3
<i>Vermont</i>	0	0	0	3	0	1	0	4
<i>Multiple NE States</i>	0	0	0	0	0	2	1	3
<i>Maryland</i>	0	0	0	0	1	0	0	1
<i>West Virginia</i>	0	0	0	2	2	0	0	4
<i>Countrywide</i>	0	0	0	0	0	1	0	1
TOTAL	7	9	19	28	30	12	13	118

RESPONDENT STATE	OUR UNIT HAS COMPARABLE VECTOR-BORNE DISEASES REPORTING METHODS TO OTHER UNITS IN OUR REGION							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	3	4	11	6	2	2	29
<i>Maine</i>	0	0	1	2	1	0	1	5
<i>Massachusetts</i>	2	1	0	1	4	0	0	8
<i>New Hampshire</i>	0	0	0	0	0	0	1	1
<i>New Jersey</i>	1	0	1	3	10	0	2	17
<i>New York State</i>	0	1	5	8	8	5	6	33
<i>New York City</i>	1	0	0	0	1	1	1	4
<i>Pennsylvania</i>	1	0	1	2	1	0	0	5
<i>Rhode Island</i>	1	0	0	0	2	0	0	3
<i>Vermont</i>	0	0	0	1	1	2	0	4
<i>Multiple NE States</i>	0	0	0	0	0	2	1	3
<i>Maryland</i>	0	0	0	0	1	0	0	1
<i>West Virginia</i>	0	0	0	2	1	0	1	4
<i>Countrywide</i>	0	0	0	0	0	1	0	1
TOTAL	7	5	12	30	36	13	15	118

RESPONDENT STATE	OUR UNIT REGULARLY COMMUNICATES VECTOR-BORNE DISEASE OUTBREAK INFORMATION TO OTHER UNITS IN THE REGION							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
<i>Connecticut</i>	4	4	8	7	3	2	1	29
<i>Maine</i>	0	1	0	2	2	0	0	5
<i>Massachusetts</i>	3	0	0	1	4	0	0	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	1	0	0	5	8	0	3	17
<i>New York State</i>	2	0	8	7	6	4	6	33
<i>New York City</i>	1	0	1	0	1	0	1	4
<i>Pennsylvania</i>	0	1	1	2	1	0	0	5
<i>Rhode Island</i>	1	0	0	0	2	0	0	3
<i>Vermont</i>	0	0	0	1	1	2	0	4
<i>Multiple NE States</i>	0	0	0	1	0	1	1	3
<i>Maryland</i>	0	0	0	0	1	0	0	1
<i>West Virginia</i>	0	0	1	1	2	0	0	4
<i>Countrywide</i>	0	0	0	0	0	1	0	1
TOTAL	12	6	19	27	32	10	12	118

RESPONDENT STATE	OUR UNIT REGULARLY COLLABORATES WITH OTHER UNITS IN THE REGION ON SURVEILLANCE AND CONTROL							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	3	3	5	10	4	2	1	28
Maine	0	1	0	0	4	0	0	5
Massachusetts	2	0	0	2	4	0	0	8
New Hampshire	0	0	1	0	0	0	0	1
New Jersey	0	1	1	4	8	0	3	17
New York State	3	6	6	8	5	2	3	33
New York City	0	0	1	1	2	0	0	4
Pennsylvania	1	0	1	2	1	0	0	5
Rhode Island	1	1	0	0	1	0	0	3
Vermont	0	0	1	0	2	1	0	4
Multiple NE States	0	0	0	1	0	1	1	3
Maryland	0	0	0	0	1	0	0	1
West Virginia	0	0	1	1	2	0	0	4
Countrywide	0	0	0	0	0	1	0	1
TOTAL	10	12	17	29	34	7	8	117

RESPONDENT STATE	OUR UNIT REGULARLY COMMUNICATES VECTOR ACTIVITY WITHOUT HUMAN DISEASE TO AND COLLABORATES WITH OTHER UNITS IN THE REGION ON SURVEILLANCE AND CONTROL							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	4	4	6	10	1	3	1	29
Maine	0	1	0	0	4	0	0	5
Massachusetts	3	0	0	1	4	0	0	8
New Hampshire	0	0	0	0	1	0	0	1
New Jersey	1	0	2	3	9	0	2	17
New York State	2	7	7	4	5	4	3	32
New York City	0	0	1	0	2	0	1	4
Pennsylvania	1	1	0	1	2	0	0	5
Rhode Island	1	0	0	0	2	0	0	3
Vermont	0	1	1	0	1	1	0	4
Multiple NE States	0	0	0	1	0	1	1	3
Maryland	1	0	0	0	0	0	0	1
West Virginia	0	0	2	1	1	0	0	4
Countrywide	1	0	0	0	0	0	0	1
TOTAL	14	14	19	21	32	9	8	117

RESPONDENT STATE	OUR UNIT REGULARLY DISCUSSES AND PLANS FOR NOVEL OR EMERGING DISEASE EMERGENCIES							TOTAL
	1- strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	5	3	9	9	2	0	29
<i>Maine</i>	0	1	1	1	2	0	0	5
<i>Massachusetts</i>	3	1	0	3	1	0	0	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	0	1	2	6	6	0	2	17
<i>New York State</i>	3	5	5	6	4	3	7	33
<i>New York City</i>	0	0	1	0	1	1	1	4
<i>Pennsylvania</i>	0	0	0	3	2	0	0	5
<i>Rhode Island</i>	1	1	0	1	0	0	0	3
<i>Vermont</i>	1	0	1	0	0	2	0	4
<i>Multiple NE States</i>	0	0	1	0	0	1	0	2
<i>Maryland</i>	0	0	0	1	0	0	0	1
<i>West Virginia</i>	0	0	3	1	0	0	0	4
<i>Countrywide</i>	0	1	0	0	0	0	0	1
TOTAL	9	15	17	31	26	9	10	117

Training and Non-Monetary Needs - Training and Education Question Series

RESPONDENT STATE	THE EXISTING STAFF IN OUR UNIT IS/ARE WELL-TRAINED IN VECTOR BIOLOGY							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	2	2	12	6	7	1	0	30
Maine	0	1	1	1	0	0	0	3
Massachusetts	0	1	2	4	1	0	0	8
New Hampshire	0	0	0	1	0	0	0	1
New Jersey	1	0	2	9	4	0	1	17
New York State	1	4	10	10	6	1	0	32
New York City	0	0	1	1	2	0	0	4
Pennsylvania	0	1	0	2	2	0	0	5
Rhode Island	0	0	2	1	0	0	0	3
Vermont	0	0	2	1	0	1	0	4
Multiple NE States	0	0	0	1	2	0	0	3
Maryland	0	1	0	0	0	0	0	1
West Virginia	0	0	2	0	1	0	0	3
Countrywide	0	0	1	0	0	0	0	1
TOTAL	4	10	35	37	25	3	1	115

RESPONDENT STATE	OUR UNIT COULD BENEFIT FROM MORE TRAINING FOR STAFF, SPECIFICALLY FOR MOSQUITO VECTORS							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	0	3	6	9	11	1	0	30
Maine	0	0	0	1	2	0	0	3
Massachusetts	0	1	1	2	4	0	0	8
New Hampshire	0	0	0	0	1	0	0	1
New Jersey	0	2	3	8	3	0	1	17
New York State	3	2	7	13	5	2	0	32
New York City	0	0	2	0	0	1	1	4
Pennsylvania	1	1	0	3	0	0	0	5
Rhode Island	0	0	1	1	0	0	0	2
Vermont	0	1	0	0	2	1	0	4
Multiple NE States	1	0	0	0	2	0	0	3
Maryland	0	0	0	0	1	0	0	1
West Virginia	0	0	1	1	1	0	0	3
Countrywide	0	0	0	1	0	0	0	1
TOTAL	5	10	21	39	32	5	2	114

RESPONDENT STATE	OUR UNIT WOULD LIKE TO HAVE MORE TRAINING FOR STAFF SPECIFICALLY, FOR TICK VECTORS							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	1	2	5	9	13	0	0	30
Maine	0	0	0	1	2	0	0	3
Massachusetts	0	0	1	2	5	0	0	8
New Hampshire	0	0	0	0	1	0	0	1
New Jersey	0	1	3	5	5	2	1	17
New York State	2	1	7	12	10	0	0	32
New York City	0	0	1	0	1	1	1	4
Pennsylvania	0	1	1	1	2	0	0	5
Rhode Island	0	0	2	1	0	0	0	3
Vermont	0	0	0	1	2	1	0	4
Multiple NE States	0	0	0	0	2	1	0	3
Maryland	0	0	0	0	1	0	0	1
West Virginia	0	0	1	1	1	0	0	3
Countrywide	0	0	0	0	1	0	0	1
TOTAL	3	5	21	33	46	5	2	115

RESPONDENT STATE	THE EXISTING STAFF IN OUR UNIT ARE WELL-TRAINED IN VECTOR COLLECTION AND SURVEILLANCE							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	6	7	8	4	1	4	0	30
Maine	0	2	0	0	1	0	0	3
Massachusetts	1	1	0	1	5	0	0	8
New Hampshire	0	0	1	0	0	0	0	1
New Jersey	2	0	1	5	8	0	1	17
New York State	2	6	8	6	4	6	0	32
New York City	0	0	1	0	2	0	1	4
Pennsylvania	0	0	1	2	2	0	0	5
Rhode Island	0	0	2	1	0	0	0	3
Vermont	0	0	0	0	2	2	0	4
Multiple NE States	0	0	1	0	1	1	0	3
Maryland	0	1	0	0	0	0	0	1
West Virginia	0	0	2	1	0	0	0	3
Countrywide	0	0	0	1	0	0	0	1
TOTAL	11	17	25	21	26	13	2	115

RESPONDENT STATE	THE EXISTING STAFF IN OUR UNIT RECEIVE REGULAR TRAINING UPDATES ON EMERGING VECTOR-BORNE DISEASE THREATS IN THE REGION							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	3	9	9	7	2	0	0	30
Maine	0	1	0	1	1	0	0	3
Massachusetts	1	0	2	2	3	0	0	8
New Hampshire	0	0	1	0	0	0	0	1
New Jersey	1	1	4	2	8	0	1	17
New York State	5	5	5	10	4	1	2	32
New York City	0	0	1	1	0	1	1	4
Pennsylvania	0	0	1	1	3	0	0	5
Rhode Island	0	1	2	0	0	0	0	3
Vermont	1	1	0	0	0	2	0	4
Multiple NE States	1	1	0	0	0	1	0	3
Maryland	0	0	0	1	0	0	0	1
West Virginia	0	1	1	1	0	0	0	3
Countrywide	0	0	1	0	0	0	0	1
TOTAL	12	20	27	26	21	5	4	115

RESPONDENT STATE	OUR UNIT COULD BENEFIT FROM MORE TRAINING UPDATES ON EMERGING VECTOR-BORNE DISEASE THREATS IN THE REGION							TOTAL
	1-strongly disagree	2	3- neutral	4	5- strongly agree	N/A	Don't know	
Connecticut	0	2	5	9	14	0	0	30
Maine	0	0	0	1	2	0	0	3
Massachusetts	0	1	1	1	5	0	0	8
New Hampshire	0	0	0	0	1	0	0	1
New Jersey	0	0	3	7	6	0	1	17
New York State	1	2	5	10	13	1	0	32
New York City	0	0	1	0	1	1	1	4
Pennsylvania	0	1	0	2	2	0	0	5
Rhode Island	0	0	1	1	0	0	0	2
Vermont	1	0	0	1	1	1	0	4
Multiple NE States	0	0	0	0	2	1	0	3
Maryland	0	0	0	1	0	0	0	1
West Virginia	0	0	0	2	1	0	0	3
Countrywide	0	0	0	0	1	0	0	1
TOTAL	2	6	16	35	49	4	2	114

Training and Non-Monetary Needs - Laboratory Question Series

RESPONDENT STATE	OUR STATE PROVIDES GUIDANCE AND ASSISTANCE ON THE PROPER COLLECTION OF DISEASE VECTORS							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	0	6	10	4	6	3	30
<i>Maine</i>	0	1	2	0	0	0	0	3
<i>Massachusetts</i>	0	0	2	0	5	0	1	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	0	1	3	5	6	0	1	16
<i>New York State</i>	1	2	4	5	6	3	7	28
<i>New York City</i>	0	0	1	0	1	0	2	4
<i>Pennsylvania</i>	0	0	1	1	2	0	0	4
<i>Rhode Island</i>	0	0	1	0	2	0	0	3
<i>Vermont</i>	0	0	0	1	1	0	1	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	0	0	0	0	3	0	0	3
<i>Countrywide</i>	0	0	1	0	0	0	0	1
TOTAL	3	4	21	22	31	10	15	106

RESPONDENT STATE	OUR STATE PROVIDES GUIDANCE ON THE PROPER IDENTIFICATION OF DISEASE VECTORS							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	2	5	4	9	4	5	1	30
<i>Maine</i>	0	0	2	1	0	0	0	3
<i>Massachusetts</i>	0	0	2	3	1	0	2	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	1	1	1	5	7	0	1	16
<i>New York State</i>	0	3	3	7	7	2	6	28
<i>New York City</i>	0	0	1	0	1	0	2	4
<i>Pennsylvania</i>	0	0	2	0	2	0	0	4
<i>Rhode Island</i>	0	0	1	0	2	0	0	3
<i>Vermont</i>	0	0	0	1	1	0	1	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	0	0	0	1	2	0	0	3
<i>Countrywide</i>	0	0	1	0	0	0	0	1
TOTAL	4	9	17	27	28	8	13	106

RESPONDENT STATE	OUR STATE HAS PROTOCOLS FOR THE PROPER HANDLING OF DISEASE VECTORS							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	1	3	9	5	4	7	30
<i>Maine</i>	0	1	1	1	0	0	0	3
<i>Massachusetts</i>	0	0	0	1	5	0	2	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	0	0	3	2	10	0	1	16
<i>New York State</i>	0	1	6	3	7	1	10	28
<i>New York City</i>	0	0	1	0	1	0	2	4
<i>Pennsylvania</i>	0	0	1	0	3	0	0	4
<i>Rhode Island</i>	0	0	1	0	2	0	0	3
<i>Vermont</i>	0	0	0	0	1	0	2	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	0	0	0	0	2	0	1	3
<i>Countrywide</i>	0	0	1	0	0	0	0	1
TOTAL	2	3	17	16	37	6	25	106

RESPONDENT STATE	OUR STATE HAS PROTOCOLS FOR ANALYZING VECTORS FOR PATHOGENS AND PARASITES							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	0	2	9	8	5	5	30
<i>Maine</i>	0	0	1	0	2	0	0	3
<i>Massachusetts</i>	0	0	0	1	4	1	2	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	0	0	3	4	7	0	2	16
<i>New York State</i>	0	2	4	8	6	2	6	28
<i>New York City</i>	0	0	1	0	1	0	2	4
<i>Pennsylvania</i>	0	0	0	2	2	0	0	4
<i>Rhode Island</i>	0	0	1	0	2	0	0	3
<i>Vermont</i>	0	1	0	1	1	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	0	0	0	0	3	0	0	3
<i>Countrywide</i>	0	0	0	0	1	0	0	1
TOTAL	2	3	12	25	38	9	17	106

RESPONDENT STATE	OUR STATE HAS PROTOCOLS FOR ANALYZING TISSUES (HUMAN/ANIMAL) FOR PATHOGENS AND PARASITES							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	0	3	10	7	3	6	30
<i>Maine</i>	0	0	0	1	2	0	0	3
<i>Massachusetts</i>	0	1	0	0	3	1	3	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	0	0	1	3	6	1	5	16
<i>New York State</i>	0	2	3	7	7	3	6	28
<i>New York City</i>	0	0	1	0	1	0	2	4
<i>Pennsylvania</i>	0	0	1	2	1	0	0	4
<i>Rhode Island</i>	1	0	1	0	1	0	0	3
<i>Vermont</i>	1	0	0	0	1	0	1	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	0	0	0	0	2	0	1	3
<i>Countrywide</i>	0	0	0	1	0	0	0	1
TOTAL	4	3	10	24	32	9	24	106

RESPONDENT STATE	OUR UNIT HAS SUFFICIENT MONETARY RESOURCES FOR METHOD DEVELOPMENT, METHOD COMPARISONS OR METHOD VALIDATION TO DETECT VECTOR-BORNE PATHOGENS AND PARASITE							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	11	4	3	1	1	9	1	30
<i>Maine</i>	2	1	0	0	0	0	0	3
<i>Massachusetts</i>	3	0	0	1	2	2	0	8
<i>New Hampshire</i>	0	0	1	0	0	0	0	1
<i>New Jersey</i>	2	6	3	1	2	0	2	16
<i>New York State</i>	4	5	4	3	1	2	9	28
<i>New York City</i>	0	1	0	2	0	1	0	4
<i>Pennsylvania</i>	1	1	1	0	0	0	1	4
<i>Rhode Island</i>	2	0	0	0	1	0	0	3
<i>Vermont</i>	1	0	0	0	0	0	2	3
<i>Multiple NE States</i>	1	0	0	0	0	1	0	2
<i>West Virginia</i>	0	0	0	2	0	0	1	3
<i>Countrywide</i>	0	1	0	0	0	0	0	1
TOTAL	27	19	12	10	7	15	16	106

RESPONDENT STATE	OUR UNIT HAS SUFFICIENT NON-MONETARY RESOURCES FOR METHOD DEVELOPMENT, METHOD COMPARISONS OR METHOD VALIDATION TO DETECT VECTOR-BORNE PATHOGENS AND PARASITES							TOTAL
	1- strongly disagree	2	3-neutral	4	5-strongly agree	N/A	Don't know	
<i>Connecticut</i>	6	4	6	2	1	10	1	30
<i>Maine</i>	0	1	2	0	0	0	0	3
<i>Massachusetts</i>	1	1	1	1	2	2	0	8
<i>New Hampshire</i>	1	0	0	0	0	0	0	1
<i>New Jersey</i>	1	6	3	3	2	0	1	16
<i>New York State</i>	4	5	4	3	2	3	7	28
<i>New York City</i>	0	0	1	2	0	1	0	4
<i>Pennsylvania</i>	0	1	3	0	0	0	0	4
<i>Rhode Island</i>	2	0	0	0	1	0	0	3
<i>Vermont</i>	1	0	0	0	0	0	2	3
<i>Multiple NE States</i>	0	0	0	0	1	1	0	2
<i>West Virginia</i>	1	1	0	1	0	0	0	3
<i>Countrywide</i>	0	1	0	0	0	0	0	1
TOTAL	17	20	20	12	9	17	11	106

Training and Non-Monetary Needs - Communication and Reporting Question Series

RESPONDENT STATE	OUR UNIT REPORTS TEST RESULTS TO THE STATE LEVEL							TOTAL
	1 -strongly disagree	2	3-neutral	4	5 -strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	0	2	5	5	17	0	30
<i>Maine</i>	0	0	0	0	0	2	0	2
<i>Massachusetts</i>	1	0	0	1	3	3	0	8
<i>New Hampshire</i>	0	0	0	0	0	1	0	1
<i>New Jersey</i>	0	0	1	2	9	2	2	16
<i>New York State</i>	0	0	4	3	9	9	3	28
<i>New York City</i>	0	0	0	0	1	2	1	4
<i>Pennsylvania</i>	0	2	0	1	1	0	0	4
<i>Rhode Island</i>	0	0	0	0	3	0	0	3
<i>Vermont</i>	0	0	0	0	1	2	0	3
<i>Multiple NE States</i>	0	0	0	0	0	2	0	2
<i>West Virginia</i>	0	0	0	0	2	0	1	3
<i>Countrywide</i>	0	0	0	0	1	0	0	1
TOTAL	2	2	7	12	35	40	7	105

RESPONDENT STATE	THE STATE REPORTS TEST RESULTS TO NATIONAL DATABASES IN A TIMELY FASHION							TOTAL
	1 -strongly disagree	2	3-neutral	4	5 -strongly agree	N/A	Don't know	
<i>Connecticut</i>	0	1	0	4	3	3	19	30
<i>Maine</i>	0	0	0	0	1	0	1	2
<i>Massachusetts</i>	0	0	0	2	3	1	2	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	1	0	0	5	2	1	7	16
<i>New York State</i>	1	1	2	1	2	6	15	28
<i>New York City</i>	0	0	0	0	1	1	2	4
<i>Pennsylvania</i>	0	0	1	2	0	0	1	4
<i>Rhode Island</i>	0	0	0	0	3	0	0	3
<i>Vermont</i>	0	0	1	0	1	0	1	3
<i>Multiple NE States</i>	0	0	0	0	0	1	1	2
<i>West Virginia</i>	0	0	0	1	0	0	2	3
<i>Countrywide</i>	0	0	0	0	0	0	1	1
TOTAL	2	2	4	15	17	13	52	105

RESPONDENT STATE	OUR STATE HAS CLEAR AND STANDARD PROTOCOLS FOR SURVEILLANCE AND TESTING HUMAN AND ENVIRONMENTAL SAMPLES							TOTAL
	1 -strongly disagree	2	3-neutral	4	5 -strongly agree	N/A	Don't know	
<i>Connecticut</i>	1	0	3	9	7	3	7	30
<i>Maine</i>	0	0	1	0	1	0	0	2
<i>Massachusetts</i>	0	0	0	1	5	1	1	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	0	0	0	4	6	0	6	16
<i>New York State</i>	1	0	5	3	3	4	12	28
<i>New York City</i>	0	0	0	0	1	1	2	4
<i>Pennsylvania</i>	0	0	1	1	2	0	0	4
<i>Rhode Island</i>	0	0	0	0	3	0	0	3
<i>Vermont</i>	0	0	0	0	1	0	2	3
<i>Multiple NE States</i>	0	0	0	1	0	1	0	2
<i>West Virginia</i>	0	0	0	0	2	0	1	3
<i>Countrywide</i>	0	0	0	1	0	0	0	1
TOTAL	2	0	10	20	32	10	31	105

RESPONDENT STATE	OUR UNIT HAS AN EFFECTIVE SYSTEM FOR COMMUNICATION BETWEEN LAB AND EPIDEMIOLOGY							TOTAL
	1 -strongly disagree	2	3-neutral	4	5 -strongly agree	N/A	Don't know	
<i>Connecticut</i>	0	2	2	11	10	4	1	30
<i>Maine</i>	0	0	0	0	1	0	1	2
<i>Massachusetts</i>	0	0	1	1	3	1	2	8
<i>New Hampshire</i>	0	0	0	0	1	0	0	1
<i>New Jersey</i>	1	0	3	4	4	0	4	16
<i>New York State</i>	1	1	7	5	6	4	4	28
<i>New York City</i>	0	0	0	0	1	2	1	4
<i>Pennsylvania</i>	0	0	1	2	0	0	1	4
<i>Rhode Island</i>	0	0	0	0	3	0	0	3
<i>Vermont</i>	0	1	0	0	1	1	0	3
<i>Multiple NE States</i>	0	0	1	0	0	1	0	2
<i>West Virginia</i>	0	0	0	0	2	0	1	3
<i>Countrywide</i>	0	0	0	0	0	0	1	1
TOTAL	2	4	15	23	32	13	16	105

RESPONDENT STATE	OUR STATE HAS AN EFFECTIVE SYSTEM FOR COMMUNICATION BETWEEN LAB AND ENVIRONMENTAL HEALTH							TOTAL
	1 -strongly disagree	2	3-neutral	4	5 -strongly agree	N/A	Don't know	
<i>Connecticut</i>	0	3	3	11	6	4	3	30
<i>Maine</i>	0	0	0	0	1	0	1	2
<i>Massachusetts</i>	1	0	0	2	2	1	2	8
<i>New Hampshire</i>	0	0	0	0	0	1	0	1
<i>New Jersey</i>	1	2	1	4	4	0	4	16
<i>New York State</i>	0	1	3	6	4	4	10	28
<i>New York City</i>	0	0	0	0	1	2	1	4
<i>Pennsylvania</i>	0	0	1	0	2	0	1	4
<i>Rhode Island</i>	0	0	0	0	3	0	0	3
<i>Vermont</i>	0	0	0	0	1	1	1	3
<i>Multiple NE States</i>	0	0	0	1	0	1	0	2
<i>West Virginia</i>	1	0	0	0	1	0	1	3
<i>Countrywide</i>	0	0	0	0	0	0	1	1
TOTAL	3	6	8	24	25	14	25	105

Challenges Conducting Vector-Borne Disease Surveillance & Diagnostics

RESPONDENT STATE	INSUFFICIENT OVERALL NON-MONETARY RESOURCES (TRAINED STAFF, PROTOCOLS AND TOOLS)							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
<i>Connecticut</i>	2	3	5	6	7	4	1	28
<i>Maine</i>	0	0	1	1	0	0	0	2
<i>Massachusetts</i>	2	0	2	1	1	0	1	7
<i>New Hampshire</i>	0	0	1	1	0	0	0	2
<i>New Jersey</i>	1	6	5	1	0	0	2	15
<i>New York State</i>	0	1	7	7	7	6	6	34
<i>New York City</i>	0	1	0	0	1	0	1	3
<i>Pennsylvania</i>	0	1	0	1	0	0	0	2
<i>Rhode Island</i>	2	1	1	0	0	0	0	4
<i>Vermont</i>	0	1	1	0	0	1	0	3
<i>Multiple NE States</i>	0	0	0	1	0	0	0	1
<i>Delaware</i>	0	0	1	0	0	0	0	1
<i>West Virginia</i>	0	1	0	1	1	0	0	3
<i>Countrywide</i>	0	0	1	0	0	0	0	1
TOTAL	7	15	25	20	17	11	11	106

RESPONDENT STATE	VECTOR-BORNE DISEASE SURVEILLANCE SKILLS							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
<i>Connecticut</i>	1	5	8	7	0	7	1	29
<i>Maine</i>	0	1	0	0	1	0	0	2
<i>Massachusetts</i>	3	0	2	0	0	0	2	7
<i>New Hampshire</i>	1	0	0	1	0	0	0	2
<i>New Jersey</i>	8	4	2	0	0	0	2	16
<i>New York State</i>	2	4	6	3	1	9	9	34
<i>New York City</i>	1	0	0	0	0	0	2	3
<i>Pennsylvania</i>	0	0	2	0	0	0	0	2
<i>Rhode Island</i>	2	2	0	0	0	0	0	4
<i>Vermont</i>	2	0	0	0	0	1	0	3
<i>Multiple NE States</i>	0	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	1	0	0	0	0	1
<i>West Virginia</i>	0	1	2	0	0	0	0	3
<i>Countrywide</i>	0	0	0	0	0	0	1	1
TOTAL	20	17	23	11	2	18	17	108

RESPONDENT STATE	VECTOR-BORNE DISEASE DIAGNOSTICS SKILLS							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
<i>Connecticut</i>	2	2	4	6	1	12	2	29
<i>Maine</i>	0	1	0	0	1	0	0	2
<i>Massachusetts</i>	2	0	2	0	0	1	2	7
<i>New Hampshire</i>	0	0	1	0	0	1	0	2
<i>New Jersey</i>	5	5	0	1	0	3	2	16
<i>New York State</i>	4	3	3	6	2	9	7	34
<i>New York City</i>	0	0	2	0	0	0	1	3
<i>Pennsylvania</i>	0	2	0	1	0	0	0	3
<i>Rhode Island</i>	2	2	0	0	0	0	0	4
<i>Vermont</i>	1	0	0	1	0	1	0	3
<i>Multiple NE States</i>	0	0	0	1	0	0	0	1
<i>Delaware</i>	0	0	1	0	0	0	0	1
<i>West Virginia</i>	0	1	1	1	0	0	0	3
<i>Countrywide</i>	0	0	0	0	0	0	1	1
TOTAL	16	16	14	17	4	27	15	109

RESPONDENT STATE	VECTOR IDENTIFICATION SKILLS							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
<i>Connecticut</i>	3	3	3	10	1	7	1	28
<i>Maine</i>	0	0	2	0	0	0	0	2
<i>Massachusetts</i>	3	2	0	0	1	0	1	7
<i>New Hampshire</i>	0	0	1	0	0	1	0	2
<i>New Jersey</i>	10	4	0	0	0	0	2	16
<i>New York State</i>	3	3	7	6	2	6	7	34
<i>New York City</i>	1	0	0	0	0	0	2	3
<i>Pennsylvania</i>	1	1	0	1	0	0	0	3
<i>Rhode Island</i>	2	2	0	0	0	0	0	4
<i>Vermont</i>	1	0	0	0	0	2	0	3
<i>Multiple NE States</i>	0	0	0	1	0	0	0	1
<i>Delaware</i>	0	0	1	0	0	0	0	1
<i>West Virginia</i>	0	1	1	0	0	0	1	3
<i>Countrywide</i>	0	0	1	0	0	0	0	1
TOTAL	24	16	16	18	4	16	14	108

RESPONDENT STATE	COMMUNICATING WITH MEDIA AND PUBLIC							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
Connecticut	6	8	8	2	2	2	1	29
Maine	0	0	1	1	0	0	0	2
Massachusetts	1	4	1	0	0	0	1	7
New Hampshire	1	0	1	0	0	0	0	2
New Jersey	5	6	1	2	0	0	2	16
New York State	4	8	4	3	4	5	5	33
New York City	1	0	0	0	1	0	1	3
Pennsylvania	0	1	0	0	2	0	0	3
Rhode Island	2	2	0	0	0	0	0	4
Vermont	1	1	0	0	0	1	0	3
Multiple NE States	0	0	0	1	0	0	0	1
Delaware	0	1	0	0	0	0	0	1
West Virginia	0	1	2	0	0	0	0	3
Countrywide	0	0	0	1	0	0	0	1
TOTAL	21	32	18	10	9	8	10	108

RESPONDENT STATE	UNDERSTANDING LEGAL ISSUES IN SURVEILLANCE AND DIAGNOSTICS							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
Connecticut	3	3	5	6	4	4	4	29
Maine	0	1	0	0	1	0	0	2
Massachusetts	1	0	2	2	0	0	2	7
New Hampshire	0	1	0	1	0	0	0	2
New Jersey	1	3	5	0	4	0	3	16
New York State	0	2	4	5	2	8	13	34
New York City	1	0	0	1	0	0	1	3
Pennsylvania	0	0	2	0	1	0	0	3
Rhode Island	2	0	1	0	0	0	1	4
Vermont	1	0	0	0	0	1	1	3
Multiple NE States	0	0	0	1	0	0	0	1
Delaware	0	0	1	0	0	0	0	1
West Virginia	0	0	0	3	0	0	0	3
Countrywide	0	0	0	1	0	0	0	1
TOTAL	9	10	20	20	12	13	25	109

INFORMATION ABOUT OR ACCESS TO NEWER DIAGNOSTIC METHODS **TOTAL**

RESPONDENT STATE	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
Connecticut	0	2	8	5	3	8	3	29
Maine	0	0	1	0	1	0	0	2
Massachusetts	0	1	1	2	0	1	2	7
New Hampshire	0	1	1	0	0	0	0	2
New Jersey	0	7	3	4	0	0	2	16
New York State	2	1	5	8	4	7	7	34
New York City	0	0	1	0	0	0	2	3
Pennsylvania	0	1	1	1	0	0	0	3
Rhode Island	2	1	0	0	0	0	1	4
Vermont	0	0	1	1	0	1	0	3
Multiple NE States	0	0	0	0	0	1	0	1
Delaware	0	0	1	0	0	0	0	1
West Virginia	0	0	1	2	0	0	0	3
Countrywide	0	0	0	0	0	0	1	1
TOTAL	4	14	24	23	8	18	18	109

RESPONDENT STATE	ANALYZING DATA							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
Connecticut	5	3	8	5	0	5	2	28
Maine	0	1	0	0	1	0	0	2
Massachusetts	3	1	1	1	0	0	1	7
New Hampshire	1	0	1	0	0	0	0	2
New Jersey	6	3	0	5	0	0	2	16
New York State	6	3	6	4	2	6	7	34
New York City	1	1	0	0	0	0	1	3
Pennsylvania	1	0	1	1	0	0	0	3
Rhode Island	3	0	1	0	0	0	0	4
Vermont	1	1	0	0	0	1	0	3
Multiple NE States	0	0	0	1	0	0	0	1
Delaware	0	0	1	0	0	0	0	1
West Virginia	0	3	0	0	0	0	0	3
Countrywide	0	0	0	1	0	0	0	1
TOTAL	27	16	19	18	3	12	13	108

WRITING SUMMARY REPORTS

TOTAL

RESPONDENT STATE	1 -no challenge	2	3	4	N/A	Don't Know	
Connecticut	7	3	7	4	6	2	29
Maine	0	2	0	0	0	0	2
Massachusetts	2	1	3	0	0	1	7
New Hampshire	1	0	1	0	0	0	2
New Jersey	5	4	3	2	0	2	16
New York State	7	4	7	4	6	6	34
New York City	1	1	0	0	0	1	3
Pennsylvania	1	1	0	1	0	0	3
Rhode Island	3	1	0	0	0	0	4
Vermont	1	1	0	0	1	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	1	0	0	0	1
West Virginia	0	3	0	0	0	0	3
Countrywide	0	0	0	0	0	0	0
TOTAL	28	21	22	11	14	12	108

RESPONDENT STATE	NOT ENOUGH TRAINED PERSONNEL TO DO AN EFFECTIVE JOB							TOTAL
	1 -no challenge	2	3	4	5 -major challenge	N/A	Don't Know	
Connecticut	5	1	9	4	3	4	3	29
Maine	0	0	0	1	1	0	0	2
Massachusetts	2	1	2	1	0	0	1	7
New Hampshire	0	0	0	0	2	0	0	2
New Jersey	1	5	4	2	2	0	2	16
New York State	2	2	8	2	9	4	7	34
New York City	0	0	1	0	0	0	2	3
Pennsylvania	0	1	0	2	0	0	0	3
Rhode Island	2	2	0	0	0	0	0	4
Vermont	0	1	0	0	0	1	0	2
Multiple NE States	0	0	0	1	0	0	0	1
Delaware	0	0	0	0	1	0	0	1
West Virginia	0	0	1	2	0	0	0	3
Countrywide	0	0	0	0	0	1	0	1
TOTAL	12	13	25	15	18	10	15	108

Training Needs in General Vector-Borne Disease Knowledge

RESPONDENT STATE	GENERAL KNOWLEDGE ON REGIONAL VECTOR-BORNE DISEASES						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	7	3	7	6	2	2	27
<i>Maine</i>	0	0	2	0	0	0	2
<i>Massachusetts</i>	2	0	2	1	0	0	5
<i>New Hampshire</i>	1	0	1	0	0	0	2
<i>New Jersey</i>	5	4	2	2	0	1	14
<i>New York State</i>	3	5	9	8	4	4	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	2	0	1	0	0	3
<i>Rhode Island</i>	3	0	1	0	0	0	4
<i>Vermont</i>	2	0	0	0	1	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	1	0	0	0	1
<i>West Virginia</i>	0	0	1	0	2	0	3
<i>Countrywide</i>	0	0	0	0	1	0	1
TOTAL	24	14	26	18	11	9	102

RESPONDENT STATE	TIMELY UPDATES ON NEW/EMERGING THREATS						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	3	5	7	6	5	2	28
<i>Maine</i>	0	0	0	2	0	0	2
<i>Massachusetts</i>	0	1	3	1	0	0	5
<i>New Hampshire</i>	0	0	2	0	0	0	2
<i>New Jersey</i>	4	4	1	2	2	1	14
<i>New York State</i>	2	1	7	13	6	4	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	1	1	1	0	0	3
<i>Rhode Island</i>	3	1	0	0	0	0	4
<i>Vermont</i>	1	0	1	1	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	1	0	0	0	1
<i>West Virginia</i>	0	0	1	2	0	0	3
<i>Countrywide</i>	0	0	0	0	1	0	1
TOTAL	14	13	24	28	15	9	103

RESPONDENT STATE	VECTOR BIOLOGY, LIFE CYCLES AND DEVELOPMENT						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
Connecticut	5	4	6	8	3	2	28
Maine	0	0	1	1	0	0	2
Massachusetts	2	0	1	2	0	0	5
New Hampshire	0	0	2	0	0	0	2
New Jersey	2	4	1	2	4	1	14
New York State	3	6	8	6	4	6	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	2	1	0	0	0	3
Rhode Island	2	0	1	1	0	0	4
Vermont	1	0	1	0	1	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	0	1	0	1
West Virginia	0	1	1	1	0	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	16	17	23	21	14	12	103

RESPONDENT STATE	VECTOR CONTROL STRATEGIES						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
Connecticut	3	3	7	8	5	2	28
Maine	0	0	0	1	1	0	2
Massachusetts	1	1	3	0	0	0	5
New Hampshire	0	0	1	1	0	0	2
New Jersey	2	2	4	3	2	1	14
New York State	3	1	8	10	6	5	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	1	1	1	0	0	3
Rhode Island	2	0	0	2	0	0	4
Vermont	1	0	0	2	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	0	1	0	1
West Virginia	0	1	1	0	1	0	3
Countrywide	0	0	0	0	1	0	1
TOTAL	13	9	25	28	18	10	103

RESPONDENT STATE	INSECTICIDE RESISTANCE MANAGEMENT						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	0	4	6	10	2	6	28
<i>Maine</i>	0	0	1	0	1	0	2
<i>Massachusetts</i>	1	0	3	1	0	0	5
<i>New Hampshire</i>	0	0	1	0	1	0	2
<i>New Jersey</i>	2	1	1	1	7	2	14
<i>New York State</i>	1	1	7	13	3	8	33
<i>New York City</i>	0	0	1	0	0	2	3
<i>Pennsylvania</i>	0	0	1	1	1	0	3
<i>Rhode Island</i>	2	0	0	2	0	0	4
<i>Vermont</i>	1	0	0	2	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	1	0	1	1	0	3
<i>Countrywide</i>	0	0	0	1	0	0	1
TOTAL	7	7	21	33	17	18	103

RESPONDENT STATE	VECTOR BEHAVIOR						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	4	4	7	7	4	2	28
<i>Maine</i>	0	0	0	1	1	0	2
<i>Massachusetts</i>	1	1	2	1	0	0	5
<i>New Hampshire</i>	0	0	2	0	0	0	2
<i>New Jersey</i>	3	4	1	2	3	1	14
<i>New York State</i>	3	3	5	12	4	5	32
<i>New York City</i>	0	0	1	0	0	2	3
<i>Pennsylvania</i>	0	1	0	1	1	0	3
<i>Rhode Island</i>	2	0	0	2	0	0	4
<i>Vermont</i>	1	0	0	2	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	0	1	0	1
<i>West Virginia</i>	0	1	0	1	1	0	3
<i>Countrywide</i>	0	0	0	0	1	0	1
TOTAL	14	14	18	29	17	10	102

RESPONDENT STATE	DISEASE TRANSMISSION BIOLOGY						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	4	4	7	8	3	2	28
<i>Maine</i>	0	0	1	1	0	0	2
<i>Massachusetts</i>	1	1	1	2	0	0	5
<i>New Hampshire</i>	0	1	1	0	0	0	2
<i>New Jersey</i>	5	3	1	3	1	1	14
<i>New York State</i>	4	2	6	11	4	6	33
<i>New York City</i>	0	1	0	0	0	2	3
<i>Pennsylvania</i>	0	1	0	1	1	0	3
<i>Rhode Island</i>	2	1	1	0	0	0	4
<i>Vermont</i>	1	0	2	0	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	0	1	0	1
<i>West Virginia</i>	0	1	0	0	2	0	3
<i>Countrywide</i>	0	0	0	1	0	0	1
TOTAL	17	15	20	27	13	11	103

RESPONDENT STATE	BACTERIAL PATHOGENS						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	1	6	8	8	1	4	28
<i>Maine</i>	0	0	0	1	1	0	2
<i>Massachusetts</i>	1	1	3	0	0	0	5
<i>New Hampshire</i>	0	1	1	0	0	0	2
<i>New Jersey</i>	4	2	4	2	0	2	14
<i>New York State</i>	4	1	7	14	1	6	33
<i>New York City</i>	0	1	0	0	0	2	3
<i>Pennsylvania</i>	0	1	1	0	1	0	3
<i>Rhode Island</i>	2	1	1	0	0	0	4
<i>Vermont</i>	1	1	0	1	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	0	1	0	1
<i>West Virginia</i>	0	0	1	1	1	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	13	15	26	27	7	15	103

RESPONDENT STATE	VIRAL PATHOGENS					TOTAL	
	1-no need	2	3	4	5-major need		Don't know
Connecticut	1	6	8	7	2	4	28
Maine	0	0	0	1	1	0	2
Massachusetts	1	1	3	0	0	0	5
New Hampshire	0	1	1	0	0	0	2
New Jersey	4	2	4	2	0	2	14
New York State	4	2	7	13	1	6	33
New York City	0	1	0	0	0	2	3
Pennsylvania	0	1	1	0	1	0	3
Rhode Island	2	1	1	0	0	0	4
Vermont	1	1	0	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	0	1	0	1
West Virginia	0	0	1	1	1	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	13	16	26	25	8	15	103

RESPONDENT STATE	PROTOZOAN PATHOGENS					TOTAL	
	1-no need	2	3	4	5-major need		Don't know
Connecticut	2	5	10	7	1	3	28
Maine	0	0	0	1	1	0	2
Massachusetts	1	1	3	0	0	0	5
New Hampshire	0	1	1	0	0	0	2
New Jersey	2	3	4	2	0	3	14
New York State	4	2	7	13	1	6	33
New York City	0	1	0	0	0	2	3
Pennsylvania	0	1	1	0	1	0	3
Rhode Island	1	1	1	0	0	1	4
Vermont	1	1	0	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	0	1	0	1
West Virginia	0	1	1	0	1	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	11	17	28	24	7	16	103

RESPONDENT STATE	RISK COMMUNICATION					TOTAL	
	1-no need	2	3	4	5-major need		Don't know
Connecticut	4	4	8	6	4	2	28
Maine	0	0	0	1	1	0	2
Massachusetts	1	1	2	1	0	0	5
New Hampshire	1	0	1	0	0	0	2
New Jersey	3	4	4	1	1	1	14
New York State	3	3	6	13	3	5	33
New York City	0	1	0	0	0	2	3
Pennsylvania	0	0	2	0	1	0	3
Rhode Island	2	1	0	1	0	0	4
Vermont	1	0	1	0	1	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	0	1	0	1
West Virginia	0	0	0	3	0	0	3
Countrywide	0	0	0	1	0	0	1
TOTAL	15	14	24	27	13	10	103

RESPONDENT STATE	COMMUNICATION WITH THE MEDIA/REPORTERS					TOTAL	
	1-no need	2	3	4	5-major need		Don't know
Connecticut	4	4	9	5	3	3	28
Maine	0	0	1	0	1	0	2
Massachusetts	0	2	2	1	0	0	5
New Hampshire	1	0	1	0	0	0	2
New Jersey	3	3	3	3	1	1	14
New York State	6	5	2	7	4	9	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	1	1	1	0	3
Rhode Island	2	1	0	1	0	0	4
Vermont	1	1	0	1	0	0	3
Multiple NE States	0	0	0	1	0	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	1	1	1	0	0	3
Countrywide	0	0	0	0	1	0	1
TOTAL	18	17	20	22	11	15	103

RESPONDENT STATE	ENVIRONMENTAL FACTORS THAT CONTRIBUTE TO VECTOR PRESENCE						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	2	7	6	6	5	2	28
<i>Maine</i>	0	0	1	0	1	0	2
<i>Massachusetts</i>	0	2	2	1	0	0	5
<i>New Hampshire</i>	0	1	1	0	0	0	2
<i>New Jersey</i>	2	2	3	4	2	1	14
<i>New York State</i>	2	2	8	12	6	3	33
<i>New York City</i>	0	1	0	0	0	2	3
<i>Pennsylvania</i>	0	0	0	2	1	0	3
<i>Rhode Island</i>	2	1	0	1	0	0	4
<i>Vermont</i>	1	0	1	0	1	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	1	0	1	1	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	9	17	22	28	18	9	103

RESPONDENT STATE	ENVIRONMENTAL FACTORS THAT ENHANCE PATHOGEN TRANSMISSION						TOTAL
	1-no need	2	3	4	5-major need	Don't know	
<i>Connecticut</i>	2	6	7	6	5	2	28
<i>Maine</i>	0	0	1	0	1	0	2
<i>Massachusetts</i>	0	2	2	1	0	0	5
<i>New Hampshire</i>	0	1	1	0	0	0	2
<i>New Jersey</i>	2	1	4	4	2	1	14
<i>New York State</i>	2	1	7	13	5	5	33
<i>New York City</i>	0	1	0	0	0	2	3
<i>Pennsylvania</i>	0	0	0	2	1	0	3
<i>Rhode Island</i>	2	1	0	1	0	0	4
<i>Vermont</i>	1	0	1	1	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	1	0	1	1	0	3
<i>Countrywide</i>	0	0	0	1	0	0	1
TOTAL	9	14	23	31	16	10	103

Training Needs in Surveillance and Epidemiology

RESPONDENT STATE	GENERAL KNOWLEDGE OF EPIDEMIOLOGY						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	9	4	6	6	1	2	28
<i>Maine</i>	0	1	1	0	0	0	2
<i>Massachusetts</i>	1	3	1	0	0	0	5
<i>New Hampshire</i>	1	0	1	0	0	0	2
<i>New Jersey</i>	4	4	3	1	1	2	15
<i>New York State</i>	7	4	5	9	1	7	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	0	2	1	0	0	3
<i>Rhode Island</i>	3	1	0	0	0	0	4
<i>Vermont</i>	2	0	0	1	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	3	0	0	0	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	28	20	19	19	4	14	104

RESPONDENT STATE	APPROPRIATE EPIDEMIOLOGICAL STUDY DESIGN						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	8	1	8	4	0	7	28
<i>Maine</i>	0	1	0	0	0	1	2
<i>Massachusetts</i>	1	2	1	0	0	1	5
<i>New Hampshire</i>	1	0	1	0	0	0	2
<i>New Jersey</i>	4	4	1	1	1	4	15
<i>New York State</i>	5	4	3	5	3	13	33
<i>New York City</i>	0	1	0	0	0	2	3
<i>Pennsylvania</i>	0	0	0	2	1	0	3
<i>Rhode Island</i>	3	1	0	0	0	0	4
<i>Vermont</i>	2	0	0	0	1	0	3
<i>Multiple NE States</i>	0	0	0	1	0	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	1	0	1	1	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	24	15	14	15	7	29	104

RESPONDENT STATE	ROUTINE EPIDEMIOLOGICAL ANALYSES FOR VECTOR-BORNE DISEASES						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	9	2	8	6	0	3	28
Maine	0	1	0	0	0	1	2
Massachusetts	2	1	2	0	0	0	5
New Hampshire	1	0	1	0	0	0	2
New Jersey	5	1	3	2	1	3	15
New York State	5	3	3	7	3	12	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	0	3	0	0	3
Rhode Island	3	1	0	0	0	0	4
Vermont	2	0	0	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	1	2	0	0	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	28	10	19	20	5	22	104

RESPONDENT STATE	INTERPRETING MOLECULAR/GENETIC DATA RESULTS						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	4	4	5	5	0	10	28
Maine	0	0	1	0	1	0	2
Massachusetts	0	3	1	1	0	0	5
New Hampshire	0	0	0	1	0	1	2
New Jersey	6	3	2	1	1	2	15
New York State	4	1	2	9	3	14	33
New York City	0	1	0	0	0	2	3
Pennsylvania	0	0	1	1	1	0	3
Rhode Island	2	1	0	1	0	0	4
Vermont	1	0	1	1	0	0	3
Multiple NE States	0	0	0	1	0	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	0	1	0	2	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	17	13	14	22	8	30	104

RESPONDENT STATE	FAMILIARITY WITH CLINICAL TESTS FOR NORTHEAST VECTOR-BORNE DISEASE THREATS						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	2	3	9	4	1	9	28
Maine	0	1	0	0	0	1	2
Massachusetts	2	2	1	0	0	0	5
New Hampshire	0	0	2	0	0	0	2
New Jersey	5	2	3	1	1	3	15
New York State	5	2	3	10	4	9	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	0	2	1	0	3
Rhode Island	3	0	1	0	0	0	4
Vermont	2	0	0	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	0	1	1	1	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	20	10	20	20	9	25	104

RESPONDENT STATE	SURVEILLANCE METHODS FOR VECTOR-BORNE DISEASE						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	5	4	7	9	1	2	28
Maine	0	1	0	0	1	0	2
Massachusetts	3	0	1	1	0	0	5
New Hampshire	1	0	1	0	0	0	2
New Jersey	2	4	3	4	1	1	15
New York State	5	3	11	5	1	8	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	2	1	0	0	3
Rhode Island	3	1	0	0	0	0	4
Vermont	1	1	0	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	1	0	2	0	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	21	15	25	24	5	14	104

RESPONDENT STATE	SAMPLE COLLECTION FOR VECTORS						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	6	2	8	6	2	4	28
Maine	0	1	0	0	1	0	2
Massachusetts	3	0	1	1	0	0	5
New Hampshire	0	0	1	0	1	0	2
New Jersey	2	5	2	4	1	1	15
New York State	6	3	8	6	1	9	33
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	2	1	0	0	3
Rhode Island	3	1	0	0	0	0	4
Vermont	1	0	1	1	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	0	2	0	1	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	22	12	25	20	8	17	104

RESPONDENT STATE	FIELD ORGANIZATION/RESPONSE TO LOCAL TRANSMISSION						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
Connecticut	2	7	8	4	3	4	28
Maine	0	1	0	0	1	0	2
Massachusetts	3	0	1	1	0	0	5
New Hampshire	0	0	1	1	0	0	2
New Jersey	3	1	2	5	2	2	15
New York State	4	4	8	4	2	10	32
New York City	1	0	0	0	0	2	3
Pennsylvania	0	0	2	0	0	1	3
Rhode Island	3	1	0	0	0	0	4
Vermont	1	0	2	0	0	0	3
Multiple NE States	0	0	0	0	1	0	1
Delaware	0	0	0	1	0	0	1
West Virginia	0	1	0	1	1	0	3
Countrywide	0	0	0	0	0	1	1
TOTAL	17	15	24	17	10	20	103

RESPONDENT STATE	DATA MANAGEMENT AND ANALYSIS						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	5	5	7	6	0	5	28
<i>Maine</i>	0	1	0	0	1	0	2
<i>Massachusetts</i>	2	2	1	0	0	0	5
<i>New Hampshire</i>	1	0	1	0	0	0	2
<i>New Jersey</i>	3	1	6	2	1	2	15
<i>New York State</i>	5	6	4	4	2	12	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	1	1	0	1	0	0	3
<i>Rhode Island</i>	3	0	0	1	0	0	4
<i>Vermont</i>	2	0	1	0	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	1	0	0	0	1
<i>West Virginia</i>	0	0	3	0	0	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	23	16	24	14	5	22	104

RESPONDENT STATE	WRITING SUMMARIES						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	5	5	6	4	0	8	28
<i>Maine</i>	0	2	0	0	0	0	2
<i>Massachusetts</i>	2	2	1	0	0	0	5
<i>New Hampshire</i>	1	0	0	1	0	0	2
<i>New Jersey</i>	2	4	5	2	0	1	14
<i>New York State</i>	5	7	4	5	1	11	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	1	1	1	0	0	3
<i>Rhode Island</i>	3	0	1	0	0	0	4
<i>Vermont</i>	2	0	1	0	0	0	3
<i>Multiple NE States</i>	0	0	0	0	1	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	1	2	0	0	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	21	22	21	14	2	23	103

RESPONDENT STATE	INTERPRETING LABORATORY RESULTS						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	4	4	9	5	2	4	28
<i>Maine</i>	0	1	0	0	1	0	2
<i>Massachusetts</i>	2	2	1	0	0	0	5
<i>New Hampshire</i>	0	0	2	0	0	0	2
<i>New Jersey</i>	5	2	4	2	0	2	15
<i>New York State</i>	6	1	8	6	1	10	32
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	0	2	1	0	0	3
<i>Rhode Island</i>	2	2	0	0	0	0	4
<i>Vermont</i>	2	0	1	0	0	0	3
<i>Multiple NE States</i>	1	0	0	0	0	0	1
<i>Delaware</i>	0	0	0	1	0	0	1
<i>West Virginia</i>	0	0	1	2	0	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	23	12	28	17	4	19	103

RESPONDENT STATE	METHODS/PROGRAM EVALUATION AND PLANNING						TOTAL
	1- no need	2	3	4	5- major need	Don't know	
<i>Connecticut</i>	1	5	9	3	3	7	28
<i>Maine</i>	0	1	1	0	0	0	2
<i>Massachusetts</i>	2	2	1	0	0	0	5
<i>New Hampshire</i>	0	1	1	0	0	0	2
<i>New Jersey</i>	3	2	7	2	0	1	15
<i>New York State</i>	6	4	4	5	2	12	33
<i>New York City</i>	1	0	0	0	0	2	3
<i>Pennsylvania</i>	0	0	2	1	0	0	3
<i>Rhode Island</i>	2	1	1	0	0	0	4
<i>Vermont</i>	1	0	1	1	0	0	3
<i>Delaware</i>	0	0	1	0	0	0	1
<i>West Virginia</i>	0	0	1	1	1	0	3
<i>Countrywide</i>	0	0	0	0	0	1	1
TOTAL	16	16	29	13	6	23	103