# From Ebola to Zika – Applying PHEP Capability Framework to Emerging Infectious Diseases Across Ten U.S. Jurisdictions

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BACKGROUND

In 2015, the Centers for Disease Control and Prevention awarded supplemental funding to 62 Public Health Emergency Preparedness (PHEP) awardees, including a portion to fund the placement of ten (10) Temporary Epidemiology Field Assignees (TEFAs) in state and local jurisdictions around the United States for up to a period of two years.

Temporary Epidemiology Field Assignees Assignment Locations
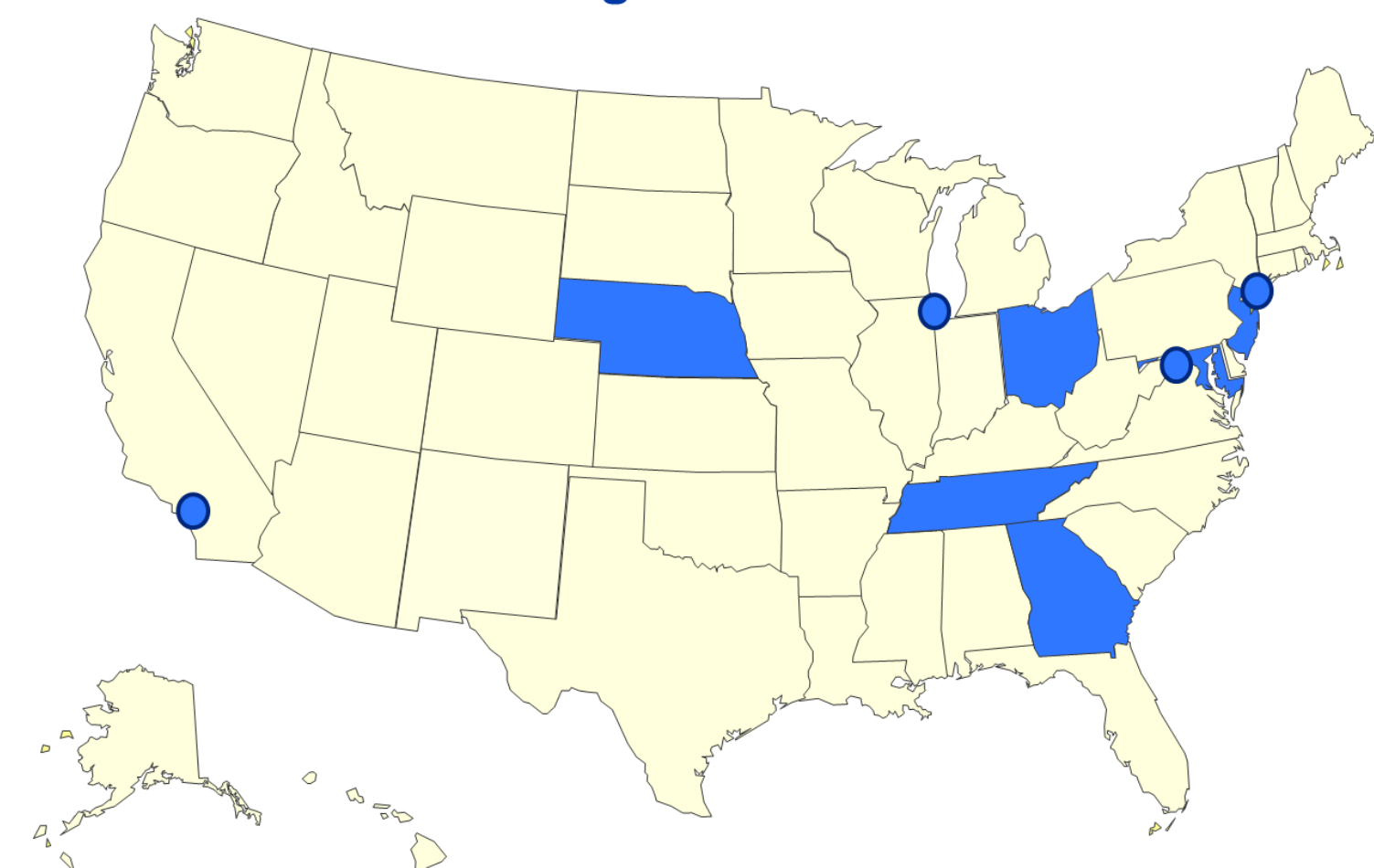
TEFAs provide technical assistance in a variety of areas, for example:

- Improving operational readiness for emerging infectious diseases;
- Strengthening existing partnerships with healthcare, epidemiology, and laboratory colleagues; and
- Supporting response efforts through incident management and surveillance.

TEFAs are uniquely positioned to provide a cross-sectional snapshot of success stories and lessons learned to strengthen the integration of public health preparedness planning and epidemiology.

OBJECTIVES

- Utilize the PHEP capability framework to distill success stories across the ten TEFA jurisdictions
- Describe commonalities and cross-cutting lessons learned from success stories
- Discuss how lessons learned may strengthen future responses

Methods

- TEFA success stories were collected through an online survey, one-on-one discussions, and a review of quarterly program reports from October 2015 – October 2016.
- Criteria for inclusion were: ability to affect large proportion of population, innovativeness, ease of adoptability by other jurisdictions, and cross-cutting applicability to multiple diseases.

RESULTS

CROSS-CUTTING INITIATIVES

Information Sharing

Utilize the Health Alert Network systems as a statewide notification system and various other tools for sharing with partners:

- In **Nebraska,** HAN evolved from fax to email, which improved efficiency, accessibility, and decreased cost and labor resources.
- In **Los Angeles County**, a thorough HAN evaluation was conducted around messaging and reach.
- In **Georgia,** a free online tool of infectious disease outbreaks, reporting guidelines, and infection control recommendations was created for infectious disease outbreaks in 231 countries, a page which has been visited over 2,000 times.
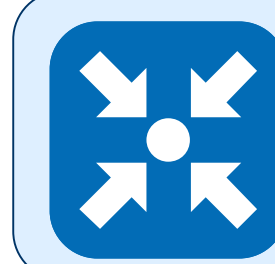
Emergency Operations Coordination

Support activations of public health emergency operations through the standing-up of an ICS during both Ebola and Zika:

- In **New York City**, CDC referred 6,045 travelers to the New York City Department of Health and Mental Hygiene's Ebola active monitoring program [10.25.2014–12.29.2015].
- In **Maryland**, 4,452 travelers were monitored by call center staff and through a smart phone application for active/direct active monitoring as an alternate option for daily phone calls [10.27.2014 – 12.2015].

While successful, the maintenance of the active monitoring programs required sustained efforts and resources drawn from core public health functions within health departments.
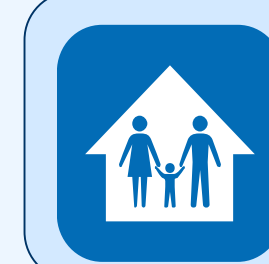
Community Preparedness

Engage with non-traditional partners across organizations to foster public health preparedness:

- In **Tennessee**, urban and rural communities conducted Community Assessments for Public Health Emergency Response to assess Zika-related knowledge, attitudes, and behaviors
- In **Maryland**, local health officers and emergency managers worked closely together and co-host trainings on infectious diseases and epidemiology

Public Health Surveillance and Epidemiological Investigation

Support and strengthen surveillance systems across jurisdictions:

- In **Georgia,** an Ebola Active Monitoring System enabled staff to monitor returning travelers through web and phone-based reporting, automated alerts, and a visual dashboard of traveler status.
- In **Los Angeles County**, a weekly internal dashboard reporting system improved communications by populating number of cases, onset month, age, gender, pregnancy status, race/ethnicity, travel country, and follow-up activities.

Public Health Laboratory Testing

Increase laboratory capacity to conduct testing:

- In **Tennessee,** an existing newborn screening specimens courier service contract was used to transport Zika specimens to the state lab when shipping costs were identified as a barrier to testing.
- In **New York City**, a Zika Testing Call Center completed laboratory requisition forms for providers and submitted forms to the local public health laboratory, thus mitigating testing delays.

HIGH IMPACT & INNOVATIVE INITIATIVES

Responder Safety and Health

Use technology to create automated alerts and dashboards for monitoring systems:

- In **Nebraska,** the alert process for a responder monitoring system was automated to send reminders via email or SMS when individuals either become symptomatic or do not report.
- In **Tennessee,** a data collection system (REDCap) integrated with a data visualization system (iDashboards) to create a responder monitoring system for Highly Pathogenic Avian Influenza, thus improving efficiency and adaptability for the monitoring process.

Medical Materiel Management and Distribution

Use existing response infrastructure and logistical systems:

- In **Maryland,** the Strategic National Stockpile infrastructure was utilized to assemble, box, and palletize 10,000 Zika Prevention Kits in less than 3 days for distribution to vulnerable populations across the state through partnering with Maryland Air National Guard, the Maryland Board of Pharmacy, Maryland Responds Medical Reserve Corps volunteers, the contracted shipping company, and all 24 local health departments.
- In **Chicago,** area hospitals the PPE needs were assessed via an online survey; purchased PPE products based on recommendations; and assembled and distributed PPE kits to hospital coalition members through a Strategic National Stockpile vendor.

Conclusions

Many PHEP awardees utilize a systematic process to measure progress towards public health preparedness planning through *public health preparedness capabilities*. The alignment of event capabilities, functions, and tasks provides a consistent system for evaluating and assessing public health and health care system preparedness. This poster utilizes the PHEP capability framework to review key lessons learned and success stories from the preparedness and response efforts encountered across the TEFA-assigned jurisdictions during the Ebola and Zika responses, highlighting those with implications for enhancing preparedness for future emerging infectious disease outbreaks.

References

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