Introduction

The Public Health Emergency Preparedness (PHEP) cooperative agreement is a critical source of funding for state, local, and territorial public health departments. Since 2002, PHEP has provided $9 billion to health departments across the United States to build and strengthen their ability to respond to public health threats. The Centers for Disease Control and Prevention (CDC) provides funding through the PHEP program to 62 grantees, which include all 50 states, four major metropolitan areas (Chicago, Los Angeles, New York, and Washington, DC), and eight U.S. territories and freely associated states. This investment has enabled local health departments (LHDs) and their partners to build preparedness capacity and infrastructure. As a result, communities are more resilient and prepared to respond to a wide range of threats.

The National Association of County and City Health Officials (NACCHO) developed this report to help illustrate the impact that the PHEP program has had on LHDs’ ability to prepare for and respond to public health incidents. NACCHO interviewed six LHDs—Boston Public Health Commission, Knox County (OH) Health Department, New York City Department of Health and Mental Hygiene, Public Health - Seattle & King County, Snohomish (WA) Health District, and Tri-County (CO) Health Department—about their responses to real public health incidents between 2012 and 2014.

At the same time, the CDC measured how PHEP contributed to the development of state and local public health response systems over time. The CDC’s assessment gathered information from PHEP grantees about changes in preparedness capabilities, comparing their pre-9/11 and current capacities. Although the information that CDC collected represents aggregated information provided by states and grantees, the results of that assessment, coupled with NACCHO’s interview findings, indicate that PHEP has directly contributed to LHDs’ ability to anticipate, prepare for, and respond to public health incidents.

About PHEP

Since 2002, the CDC’s Office of Public Health Preparedness and Response, Division of State and Local Readiness, has provided funding and guidance to state and local public health systems through the PHEP cooperative agreement. PHEP helps LHDs build and strengthen their preparedness capabilities in 15 priority areas:

- Community Preparedness
- Community Recovery
- Emergency Operations Coordination
- Emergency Public Information and Warning
- Fatality Management
- Information Sharing
- Mass Care
- Medical Countermeasures Dispensing
- Medical Materiel Management and Distribution
- Medical Surge
- Non-Pharmaceutical Interventions
- Public Health Laboratory Testing
- Public Health Surveillance and Epidemiological Investigation
- Responder Safety and Health
- Volunteer Management
Building Emergency Preparedness Infrastructure

LHDs have used PHEP funding to develop structures, systems, technology, tools, and frameworks that support preparedness and response activities. This infrastructure allows LHDs to track resources, conduct surveillance, develop a common operating picture, and disseminate information to partners and the public.

Syndromic surveillance systems are technology and information-sharing infrastructures that support early detection of outbreaks and potential bioterrorism events through automated monitoring of disease trends, including their size, spread, and tempo. These systems collect and aggregate health data from multiple sources in real time, providing valuable information that LHDs use to analyze, interpret, and verify an incident of public health concern. Since PHEP was established, the percentage of awardees that use an electronic surveillance system has increased from 5% to 73% (Figure 1).

Establishing an emergency operations center (EOC) is another way that LHDs have built infrastructure that enables more coordinated and effective response operations. Prior to 9/11, only 20% of PHEP grantees had a primary and alternate EOC; according to the CDC’s assessment, that number has increased to 98% (Figure 1). Further, 81% of grantees’ emergency operations are funded through PHEP (Figure 2). The data suggest that PHEP has substantially contributed to an increase in emergency operations capability. NACCHO’s research and insights gleaned from interviews with LHDs and preparedness workgroups also suggest that PHEP has supported the establishment and maintenance of emergency operations at the local level.
FROM THE FIELD:
HOW LHDS HAVE USED PHEP FUNDING TO BUILD EMERGENCY PREPAREDNESS INFRASTRUCTURE

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

- The LHD established a dedicated EOC—a centrally located, state-of-the-art command center with technological tools and software to coordinate and manage an effective response. Today, the fully functioning EOC can be activated and set up within two hours. The city also established a functional alternate EOC in case the dedicated EOC were to be compromised.

- The LHD maintains emergency communication systems, including an automated notification system that can rapidly contact all staff (more than 6,000) by phone and e-mail. Additionally, the LHD created a toll-free emergency phone line to provide staff with instructions to carry out their emergency role.

- After Superstorm Sandy, the LHD provided the tools and operational structure to canvass buildings with residents who did not evacuate, conducted wellness checks on over 140,000 residential units, helped coordinate on-site medical care for over 600 people, and ensured over 1,300 residents received a follow-up visit from a nurse.

- In 2009, the LHD used syndromic surveillance systems to monitor the presence and progression of H1N1 influenza in the community, provided clinical and infection control guidance to healthcare providers, and launched an aggressive vaccination campaign in elementary schools via Points of Dispensing (PODs). The LHD administered over 200,000 doses of H1N1 vaccination to elementary school children and vaccinated almost 50,000 people via community-based PODs.

PUBLIC HEALTH - SEATTLE & KING COUNTY

- The LHD established information-sharing agreements with local hospitals, which allowed hospital emergency rooms to safely share information from electronic medical records with the LHD for surveillance purposes.

- The LHD has activated the emergency public information and warning system 33 times since the preparedness program’s inception in 2002, most recently to support message development and disseminate information to individuals affected by a local measles outbreak and to the general public.

- The LHD mobilized mass vaccination clinics for nine real-world responses since 2002, most recently to provide measles vaccines during the same outbreak.

TRI-COUNTY HEALTH DEPARTMENT

- The LHD developed internal and Emergency Support Function (ESF) #8 response checklists and templates that outline procedures and actions for LHD staff and partners. The agency uses the tools to coordinate and communicate with external partners and internal staff when activating in response to a public health emergency or any other incident. ESF #8 provides supplemental assistance to state, local, and tribal jurisdictions in identifying and meeting both the public health and medical needs of victims of major disasters, including public health, medical, behavioral, or human service emergencies.

- The LHD established a memorandum of understanding with United Way/2-1-1 to activate call centers quickly for family reunification in response to emergencies.
Building Emergency Preparedness Capacity

Having the capacity to prepare for, respond to, and recover from public health incidents requires dedicated and skilled preparedness professionals. Without local preparedness staff to develop response plans that are relevant to the community, build partnerships, organize trainings and exercises, and communicate with the public, the local and national capacity to respond to public health capabilities would not have significantly improved over the last decade. For this reason, LHDs use PHEP funding to support preparedness staff.

Local preparedness staff spend substantial amounts of time cultivating partnerships with community and state organizations including emergency management services (EMS), healthcare organizations, mental and behavioral health providers, community and faith-based partners, and state, local, and territorial agencies. Because natural disasters, terrorist attacks, and other public health emergency events have wide-ranging implications, building and sustaining these partnerships are critical to effective local response. With PHEP support, LHDs build and sustain partnerships through joint planning and participation in training, exercises, and drills. PHEP has also helped strengthen state and local preparedness capacity through assignment of advisors, assignees, and field staff to state and local health departments (Figure 3).

Sustaining Investments in Local Public Health Emergency Preparedness

LHDs are challenged to maintain a permanent state of readiness within their departments and among partner agencies, community organizations, and healthcare systems. As shown in Figure 4, federal funding for PHEP has been cut by more than 30% since FY07. With more than 55% of LHDs relying solely on federal funding for emergency preparedness, continued cuts to federal preparedness funding to state and local health departments directly decrease the nation’s ability to prepare for and respond to public health emergencies. For example, LHDs may have to decrease key emergency preparedness services, such as training with partners and community education. NACCHO surveys on budget cuts since 2009 have consistently found that emergency preparedness services are one of the most frequently reduced programs at LHDs.

LHDs may also experience reduced capacity to respond to public health incidents. As a result of dwindling resources, staff capacity at the Snohomish County Health District has decreased 44% over the past six to seven years; the LHD's workforce was cut by 27% in 2008–2009 alone. During a mudslide response in 2014, this lack of staff capacity made it difficult for Snohomish County to fill and sustain public health and medical services response functions under ESF #8, including behavioral health, over the multi-week response. The experience of Snohomish County Health

FROM THE FIELD:
HOW LHDS HAVE USED PHEP FUNDING TO BUILD AND MAINTAIN PREPAREDNESS CAPACITY

- Through the Delvalle Institute of Emergency Preparedness, Boston Public Health Commission trains and educates internal staff and external partners including EMS, healthcare, and public safety stakeholders. Recent trainings have included an overview of personal protective equipment and advanced decontamination exercises.

- Tri-County Health Department developed a Crisis and Emergency Risk Communications Team that includes trained staff who support public information officers in message development, social media, rumor control, and other communication responses, such as preparing health and medical partners for media interviews and triaging media calls during a response.

- Snohomish Health District conducted city readiness drills and exercises with law enforcement, hospitals, EMS, the Medical Examiner’s Office, and county, city, and tribal emergency management offices to test their ability to provide mass medication dispensing to large populations.

- Knox County Health Department built relationships and engaged with community members such as the large Amish population, which typically avoids modern technology, through alternative and culturally appropriate mechanisms.

- New York City Department of Health and Mental Hygiene conducted the largest no-notice emergency response exercise on record, the Rapid Activation for Mass Prophylaxis Exercise (RAMPEx). This exercise involved notifying and mobilizing over 1,500 city employees and setting up 30 PODs simultaneously. RAMPEx tested all components of NYC’s mass prophylaxis response and demonstrated its ability to open 30 PODs in less than eight hours, with some ready in six hours. RAMPEx also helped to identify critical planning gaps and solutions.
District reflects national reductions to preparedness programs, according to NACCHO’s 2013 Job Losses and Program Cuts survey. Reducing preparedness staff directly impacts LHDs’ ability to respond to public health incidents and their capacity to build and maintain partnerships and emergency preparedness coalitions.

While state and local health departments have substantially improved their preparedness infrastructure and capacity since 9/11, emerging threats such as Ebola, Middle East respiratory syndrome coronavirus (MERS-CoV), Chikungunya, and the impacts of climate change present new challenges. Continued funding and support from PHEP will assist LHDs to evaluate, improve, and sustain the work they have already accomplished to address all-hazard events.

Source: Centers for Disease Control and Prevention, Division of State and Local Readiness

Source: NACCHO
NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE RESPONDS TO EBOLA

The 2014 West African Ebola outbreak has been the largest Ebola outbreak in history, with the emergency response potentially continuing into 2016. On Sept. 30, 2014, the first case of Ebola was diagnosed in the United States, followed by the transmission to two healthcare workers who had cared for the affected individual. Shortly following these three cases, a medical aid worker who volunteered in Guinea returned home to New York and tested positive for Ebola.

Prior to the confirmed case, the LHD had been coordinating citywide to prepare for the Ebola response. The LHD worked closely with the New York State Department of Health, New York City Emergency Management, Fire Department of New York, EMS, hospitals, and other healthcare facilities. The LHD called partners daily to provide updates, coordinate the response, and share federal guidance. Many partnerships had been built over years of joint planning, exercises, and drills that were supported by PHEP.

Active monitoring of travelers who originated from one of the affected areas in West Africa was critical for the city’s Ebola response. As of mid-June, over 3,200 individuals had been screened at John F. Kennedy International Airport as they returned to the United States from the impacted countries. The LHD monitored more than 2,200 of those individuals, tested at least nine individuals who were considered persons of interest, confirmed one case of Ebola, and successfully quarantined at least three individuals. The LHD also worked with the New York State Department of Health to designate and prepare four Ebola treatment centers in the city.

To address community concerns, the LHD participated in over 116 community engagement and education events, which included attending town halls and speaking to community organizations, to help dispel fears and rumors. In addition, the LHD’s trained community outreach teams distributed over 100,000 “Am I at Risk” cards in nine languages. The outreach teams went door-to-door in 14 neighborhoods to answer questions about Ebola.

SNOHOMISH HEALTH DISTRICT RESPONDS TO 2014 WASHINGTON STATE MUDSLIDE

On March 22, 2014, a massive mudslide buried a rural town in Snohomish County, WA, 50 miles north of Seattle. This mile-long mudslide, one of the worst in U.S. history, piled 15 million cubic yards of mud, clay, and wood across the Stillaguamish River, on state Highway S30, and into a community of homes.

Immediately following the mudslide, administrative staff within the Snohomish Health District were notified, triggering the LHD’s participation in both the ESF #8 and the EOC. As part of the ESF #8, the LHD focused on health and medical response, including environmental health, mental health, and fatality management. The environmental health component of the LHD’s response included ensuring the safety of food for hundreds of responders, assisting search efforts, testing water for sanitation, and providing subject matter expertise about different environmental exposures.

To enable the coordinated response, the LHD drew upon partnerships that had been built previously through trainings, exercises, and drills. Partners included law enforcement, hospitals, Red Cross, EMS, Medical Examiner’s Office, and Emergency Management Offices.
BOSTON PUBLIC HEALTH COMMISSION’S OFFICE
OF PUBLIC HEALTH PREPAREDNESS RESPONDS
TO 2013 BOSTON MARATHON BOMBING

Each year on the day of the Boston Marathon, the Office of Public Health Preparedness (OPHP) activates the Medical Intelligence Center as the department’s EOC. During the 2013 Boston Marathon, two bombs exploded near the finish line, causing the LHD to transition from “usual” marathon activities, such as supporting injured runners, to fatality management.

OPHP’s communications department worked with the Mayor’s office to distribute to the community accurate information about what had occurred and resources for those affected by the explosions. The LHD also coordinated family reunification, working closely with healthcare partners to ensure patient information was accurately entered into appropriate systems.

Other partners that OPHP worked with included the Massachusetts Office of Victims Assistance, FBI Victims Support Program, Boston Police Department, Red Cross, and Department of Health and Human Services. With help from these partners, the LHD coordinated the distribution of resources, including dispatching over 200 mental health professionals to help those affected by the bombing. Resources included psychological first aid, post-traumatic stress management, and spiritual and emotional care. Those who used the resources included individuals within the community, healthcare employees, first responders, race volunteers, and law enforcement.

Following the response to the marathon bombings, many praised the remarkable and well-coordinated response of public health, healthcare, public safety, volunteers, and community members. Within an hour of the initial blasts, 236 patients were transported to nine area hospitals—all of whom survived their injuries. Over 800 people received care at a medical tent at the finish line, reducing the burden on emergency transport and hospitals. Many reviews have concluded that years of advanced planning, organizing, and exercising for similar mass-casualty incidents—the types of activities that PHEP supports—contributed to the courageous response.

To read more examples of how LHDs help communities prepare for and respond to public health emergencies, or to share a story, visit http://www.nacchostories.org.
Conclusion

Findings from the CDC’s PHEP Impact Assessment provide evidence of substantial improvements to preparedness public health systems in the post-9/11 environment. LHDs have used PHEP funding to strengthen local response systems and processes, train staff, educate partners, and create new community partnerships. Stories such as those highlighted in this report support the assertion that PHEP funding has positively affected the nation’s ability to respond to all-hazards events.

Although LHDs have invested considerable resources and effort into building preparedness capacity and improving infrastructure, they cannot maintain these advances alone. As new public health threats emerge, the entire preparedness community at federal, state, and local levels must prioritize continued investments in local public health preparedness. New threats mean that LHDs will need to identify gaps quickly and implement lessons learned from past events to improve their ability to respond. Adequate funding from PHEP will help LHDs build and maintain skilled staff and sustain and improve their emergency preparedness infrastructure.

References


Acknowledgments

This report was supported by Cooperative Agreement #U38OT000172 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the sponsor. NACCHO is grateful for this support.

The following NACCHO staff contributed to this report: Nicole Dunifon, MS; Tanya Maslak, MPH; and Katie Schemm, MSPH. NACCHO also thanks the following local public health representatives: Alison Jaffe-Doty and Carina Eisenbuss, Public Health - Seattle & King County; Atyia Martin, Boston Public Health Commission; Christopher Paquet and Prachee Patel, Office of Emergency Preparedness and Response, New York City Department of Health and Mental Hygiene; Julie Miller, Knox County Health Department; Michele Askennazi, Tri-County Health Department; and Nancy Furness, Snohomish Health District.

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