

“U.S. Government Response: Fighting Ebola and Protecting America”
Council of State and Territorial Epidemiologists
November 12, 2014

The Council of State and Territorial Epidemiologists (CSTE) welcomes the opportunity to provide this statement for the record on behalf of over 1,300 applied public health epidemiologists and more than 600 health departments and organizations. Applied epidemiologists work on the front lines of public health, investigating and controlling diseases.¹ The data that CSTE continually assesses and analyzes inform critical public services and long-term strategies from local health departments to the Centers of Disease Control and Prevention (CDC).

Successful Response to Ebola Virus Disease Shows Previous Federal Funding Was Well Placed

As Ebola Virus Disease has elevated public concern in the United States, the national network of applied public health epidemiologists continues to respond rapidly and effectively. Together, a unified network, including CDC, state and local health departments, and hospitals, has coordinated patient logistics and care, communicated clear and frequent public messages, and disseminated expert-level policy and procedures. Throughout the country, epidemiologists have dispelled misinformation and focused the public dialogue. Their workaday decisions have helped safeguard the public by managing incidents, aligning partnerships, and fast-tracking treatments. Some of our most seasoned epidemiologists remain at the helm of overseas infection control efforts, overseeing and directing personnel and resources.

Though the threat of Ebola Virus Disease remains ever present, it’s already evident that the collective actions of CDC and our nation’s epidemiology workforce have been appropriate, decisive, and effectual. From a health systems standpoint, the domestic Ebola response thus far has been a success. As these trying times continue to test our responsiveness, the government’s longstanding investment in epidemiology continues to pay off. To maintain control over this threat as the situation evolves, it is critical that Congress continues to support federal, state, territorial, and local epidemiology departments. More than a decade of epidemiological capacity assessments provides distinct evidence—when federal support wanes, it takes a demonstrable toll on applied epidemiology capacity.

Data-Informed Legislation Is Necessary to Expand and Equip Our Workforce

From 2001 to 2013, CSTE conducted Epidemiological Capacity Assessments² of essential epidemiology-related public health services across all 50 states and the District of Columbia. These assessments measured capacity, competencies, training levels, surveillance, and leadership. Assessment data trends reflect favorably upon how effectively strategic federal funding decisions five years ago have contributed to improvements in epidemiology workforce capacity.

¹ Epidemiologists are best known for detecting, monitoring, controlling, and preventing infectious disease outbreaks. Perhaps less known, but equally important, is epidemiologists’ work to monitor chronic disease, behavioral health, injuries, and environmental health threats; identify factors that put individuals at greater health risk; implement prevention strategies; and prepare for and respond to natural disasters.

² Reports from the 2001-2013 Epidemiology Capacity Assessments are published online at cste.org/members/group.aspx?id=106076 (or bit.ly/1vIKUf9).

From 2006 to 2009, epidemiology experienced a national workforce capacity crisis marked by a:

- 10-percent decrease in the national number of applied epidemiologists;
- 19-percent decrease in the workforce’s ability to monitor public health status; and
- 64-percent decrease in the effectiveness, accessibility, and quality of personal and population-based health services.

Taking action against these vulnerabilities, timely stimulus funding legislation appears to have strengthened all levels of health departments across the country. In 2010, the workforce capacity crisis stabilized, and by 2013 national epidemiology capacity had peaked at the highest level of the new millennium. Pronounced workforce capacity improvements included increases in overall job-specific training level, academic level, surveillance capacity, and modern technology.

While federal support of state and local health departments has driven remarkable boosts in national epidemiology workforce capacity, these successes don’t convey the complete scope of modern epidemiology. Even with stable funding for capacity development, America’s state and local health departments still cannot meet certain baselines of staffing and support for our “disease detectives.”

The foremost capacity gap is understaffing. Latest assessments estimate that the United States has a collective total of only 2,752 applied epidemiologists—that is one epidemiologist for every 1,300 square miles in the United States. The present-day reality is that states fund only 21 percent of epidemiologists across the country. State appropriations have declined to their lowest level since 2001, and declines are likely to continue. The 2013 Epidemiology Capacity Assessment identifies the need for *at least* 50 percent more epidemiologists nationally to meet capacity—that is 1,374 *additional* applied epidemiologists in state and local public health departments to sufficiently monitor and protect America’s health. According to another 2013 assessment, insufficient staffing of health departments was the number one barrier to full implementation of electronic laboratory reporting.³

Second, epidemiological incapacity puts in jeopardy at least two out of the four epidemiology-related essential public health services defined by CDC.⁴ Sixty-five percent of states reported less than substantial capacity to carry out effectiveness, accessibility, and quality evaluations for population health services. 71 percent of states reported less than substantial capacity for new insights and innovative solutions to health problems. Programmatically, more than half of states reported minimal to no capacity to carry out basic surveillance for oral health and occupational health while more than 88 percent of states had less than substantial capacity in substance abuse and mental health. These insufficiencies pose a significant threat to local disease preparedness and response.

More specifically, findings from another CSTE assessment of state and select local health departments on vector-borne disease surveillance capacity in 2012 show that epidemiology, laboratory, and mosquito monitoring capacity built at the state and local levels for West Nile Virus with federal Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement program funding from CDC has

³New, soon-to-be-published data from the CSTE 2013 National Electronic Laboratory Reporting Assessment identifies additional barriers in addition to understaffing: insufficient funding at health departments, inadequate technology interfaces, and conflicting IT implementation priorities.

⁴ The 10 essential public health services represent important core functions for local and state public health systems to fulfill: www.cdc.gov/nphsp/essentialservices.html.

eroded since last assessed in 2004.⁵ Specifically:

- The majority of these health departments indicate they lack sufficient epidemiology, laboratory and mosquito surveillance personnel to rapidly detect and respond to a new mosquito-borne disease threat.
- Once conducted by all mainland states, less than half now monitor bird mortality—important since birds are often the first sign of West Nile Virus—and fewer states conduct mosquito surveillance, compared to 2004.⁶
- Those that do, set fewer traps and do not test as many mosquito pools compared to years past.⁷

With states having cut back on mosquito surveillance, active surveillance for human disease and laboratory testing for WNV and other vector-borne viruses, ArboNET—a national surveillance system managed by CDC and state health departments that maintains data on human and veterinary disease—has also been compromised. This comes at a time when the need for a robust surveillance system is high, as West Nile Virus, dengue, and Chikungunya infections are on the rise.^{8,9,10}

Further, one third of states lack the necessary resources to obtain electronic laboratory reporting and modern statistical analysis software. More than half of states did not have an outbreak management system. Surveillance incapacity and outmoded technology across the board present major preparedness vulnerabilities that weaken nationwide data sourcing and limit federal strategic analysis. These factors hinder meaningful use of disease monitoring technologies and systems.¹¹ When protecting people's health, time is of the essence. Modern technology allows for more accurate, timelier disease detection, which allows for a faster response.

Finally, substantial improvement for disease surveillance and response at state and local levels ultimately relies on a robust cadre of qualified epidemiologists and laboratory scientists. In 2012 the workforce incurred a 10 percent loss in senior applied epidemiologists, so today it's imperative that special efforts are dedicated towards recruitment, retention, and training. Expanding the number of existing fellowship opportunities could play a principle role.

⁵ The Council of State and Territorial Epidemiologists. Assessment of Capacity in 2012 for the Surveillance, Prevention and Control of West Nile Virus and Other Mosquito-borne Virus Infections in State and Large City/County Health Departments and How it Compares to 2004. Available at <http://www.cste2.org/docs/VBR.pdf>. Accessed March 10, 2014.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ USGS. Dengue fever (imported, locally acquired) – Human. Available at: <http://diseasemaps.usgs.gov/index.html>. Accessed December 20, 2013.

⁹ *Ibid.*

¹⁰ World Health Organization, Global Alert and Response. Chikungunya in the French part of the Caribbean isle of Saint Martin. December 10, 2013. Available at http://www.who.int/csr/don/2013_12_10a/en/index.html. Accessed December 20, 2013.

¹¹ The Office of the National Coordinator of Health Information Technologies requires that eligible professionals and facilities make use of certified electronic health records technology to provide assurance of capability, functionality, and security. More information is available on the healthit.gov website at bit.ly/1EiEuK4.

CSTE Recommendations for Action

Beyond Ebola Virus Disease, the United States faces more pressing domestic threats. Alongside influenza, resurgent outbreaks of measles, pertussis (whooping cough), Enterovirus D68, and Chikungunya virus are serious and real concerns in many states. To outmaneuver ongoing and incoming threats in all domains of public health, further infrastructure development, including modern technology and human capital, can only be made possible through additional federal support. Maintaining and strengthening a unified national workforce requires that Congress take action to proactively champion our disease experts.

One major channel through which Congress can support our nation's epidemiological capacity is through the CDC's ELC Cooperative Agreement program. Over a yearly cycle, states individually receive ELC grant funding to support the most urgent epidemiologic needs and gaps in the specific states and localities. Other federal funding mechanisms, such as CDC's Federal Emergency Preparedness (FEP) grant and related directives, also allow for coordinated assistance to state and local governments. If further support is devoted to such evidence-based systems, states will be better prepared to analyze, anticipate, and respond to outbreaks.

Another channel to build capacity is through CDC's Public Health Workforce and Career Development program. Current funding levels for epidemiology and laboratory fellowships that provide high-quality, on-the-job training at state and local health agencies and labs within this program do not come close to meeting the increasingly high demand. In 2013, CSTE identified over 400 qualified applicants for its CDC/CSTE Applied Epidemiology Fellowship Program, but the budget allowed for only 30 fellows. In 2014, Congress eliminated \$15 million in Prevention and Public Health Fund support for these and other fellowships. Congress should reinstate and increase opportunities for the next generation of epidemiologists.

The Council of State and Territorial Epidemiologists appreciates the opportunity to submit this statement for the record and looks forward to working with the subcommittee as it seeks to strengthen the public health workforce and systems in the interest of our nation's citizens.

If you have questions about this statement, please do not hesitate to contact Dr. Jeff Engel, Executive Director of CSTE at:

2872 Woodcock Boulevard, Suite 250
Atlanta, Georgia 30341
Office: 770-458-3811
Fax: 770-458-8516
Email: JEngel@cste.org