

Statement of

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Roundtable: *Public Health Preparedness in the 21st Century*

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Chairman Burr, Senator Kennedy and other distinguished Senators, Good Morning. My name is Dr. Michael C. Caldwell, MD, MPH and I am the Commissioner of Health in Dutchess County, NY, home of Franklin & Eleanor Roosevelt, and I serve under County Executive William R. Steinhaus. I come before you today as an internal medicine physician and a public health officer with twelve years of experience in local public health practice. I also currently serve as the Immediate Past President of the National Association of County & City Health Officials (NACCHO) and so my views are informed from my contacts with my colleagues from across our country. I'm pleased to present you with some of my thoughts and insights today as you prepare to reauthorize the *Public Health Security and Bioterrorism Preparedness & Response Act of 2002*. Strengthening our public health infrastructure (local, state and federal) is essential to our preparation for and response to health threats to our citizens. Expanding our public health capabilities will serve to protect the overall health of our nation.

Paramount to this effort should be the investment in the expansion and continued training of our public health workforce. As this workforce is strengthened, it also needs to train and be further integrated with our traditional emergency response partners in police, fire, emergency medical services, as well as our colleagues in the broader health-care, educational, business, intelligence and criminal justice communities. Public health practitioners cannot and do not work alone. Public health departments are the community leaders in improving preparedness for public health emergencies but they are wholly dependent on the participation of a full range of community partners who will be engaged in the local response to such an emergency. This includes the partners noted above as well as local emergency managers, elected officials, hospitals, physicians and other health care providers. Overall, the functionality of a public health infrastructure in protecting communities is highly dependent on skilled, trained people from many disciplines who plan and exercise their plans together and engage in a process of continuous relationship building and improvement based on the outcomes of each exercise or each real event. I have responded to the three specific questions that the Subcommittee has requested below.

How do we best make progress towards a national public health infrastructure with real-time situational awareness?

No disease surveillance system can work without our workforce of clinicians as a core foundational component. The astute clinician is the source of most pertinent data on the occurrence of symptoms and the diagnosis of disease, regardless of how that data are subsequently reported and analyzed. Clinicians are often the first persons in a position to set off a public health alarm if they note an unusual finding. One of the best-known examples of the benefits of strong clinician/public health department relationships was the early identification of the first case of anthrax in Palm Beach County, Florida in October 2001. An alert physician who treated the first victim was immediately suspicious and alerted the director of the county health department, who expedited a laboratory diagnosis and the initial response, which then led to prompt activation of the local emergency response system. This was a success resulting from conscious efforts to develop good working relationships between clinicians and public health. It did not happen by chance. More common is a call that my staff or I will receive from an infection control nurse or doctor at one of our local emergency rooms about suspected infectious diseases such as meningitis. This happened to us in Dutchess County two times since November. Our most notable case was when we lost a young 19 year-old student from Marist College. This resulted in a swift and comprehensive public health investigation and response not only in our community but in the student's hometown over 100 miles away. We reacted quickly with well-practiced communication and coordination. These skills will be put to use in any similar or more challenging incident that our County may face.

The elements of situational awareness, including lab and hospital reporting, interconnected surveillance systems, consistent epidemic monitoring and reporting, are all important tools and we fully support their further development. Local, state and federal public health practitioners alike would benefit from improvement in the availability and analysis of real-time information on the occurrence of symptoms and diagnoses. However, we must be mindful not to rely on them exclusively. For instance, lab reporting is important to confirm clinical observations and track trends, but it usually comes too late to identify an outbreak early. Similarly, hospital reporting depends on personnel entering accurate clinical data on a timely basis. Some of the most effective local disease surveillance systems have made use of public health personnel who are out-stationed or in regular contract with hospital emergency rooms. They have the ability either to observe events or to discuss them directly with the ER staff. In some jurisdictions, they can then enter information into a system that aggregates the data and provides a real-time picture of the patterns of disease that are occurring in

the community. Hospital-based surveillance also has its limitations, however, because it does not detect disease until it has grown serious enough to require a hospital visit.

Physicians and other health care providers are essential in reporting clinical suspicions early. Until we have a universal electronic medical record, interoperable health information systems and accessibility by public health officials to real-time data that provides protections for patient's personal information, the astute clinician who knows when and how to notify the health department is our best defense. As a local practitioner, I believe strongly that skilled people and the relationships among them are the backbone of any disease surveillance system. Electronic systems are the tools that help them but cannot replace them. It is critical that we recognize that our human public health professionals and affiliated colleagues are the linchpin to make our growing dependence on sophisticated technology for biosurveillance both reliable and functional.

The health department itself must have sufficient trained personnel to receive and respond to disease reports 24/7. This represents a fundamental change for public health practice, which traditionally has been able to perform its duties during the work week. Unlike police and fire departments, which have always worked in shifts to enable 24-hour protection, public health has transformed dramatically over the past five years. We have changed the expectations of our workforce and we have found ways to stretch and augment existing personnel to provide 24-hour coverage. Federal funding has provided some assistance but not enough to get where we need to be.

As a local public health practitioner, I know that real-time situational awareness will always be dependent on trained people, effective relationships and easy, prompt communication among them. I urge the Subcommittee to give equal weight to this essential dimension of local situational awareness, as well as to the continued development of technologies that will facilitate the rapid acquisition and management of knowledge about disease in a community.

How do we recruit, train, and retain a prepared public health workforce with the ability to respond to national threats – whether acts of terrorism or by Mother Nature?

Expanding and improving the public health workforce has two dimensions. The first is the “pipeline” – the motivation and number of individuals wanting to enter a public health profession and the availability of mentors and an education to do so. The second, and often over-looked, is the training of persons who are already employed in health departments or in other sectors of the community.

In a public health emergency, the entire workforce of a public health department and many

other public sector employees will engage in a response, aided by volunteers and other community partners in the private sector. Locally, we need the flexibility to relieve all such potential responders of their normal duties long enough to train and exercise for emergencies. Police, fire and military personnel systems routinely plan for ongoing training and expansion of skills to prepare for the worst. Public health departments have traditionally been chronically understaffed and have not been able to do this. When personnel spend time preparing for their emergency roles, the work they would ordinarily do does not get done in a timely fashion, if at all.

Establishing a scholarship and loan forgiveness program for public health professionals who complete academic programs in shortage areas and enter public service is one approach to expanding the pipeline. The Public Health Preparedness Workforce Development Act proposed by Senators Hagel and Durbin is a good model. However, we cannot expect it to solve all shortages. Indeed, most local health department personnel have come to public service through routes other than professional training in public health. Therefore, we must in tandem rely on retraining and cross-training our current workforce. This will require extra funds for this purpose and some greater flexibility in the uses of our personnel.

The key to a prepared workforce is to define systematically the roles and responsibilities of each person in an emergency and the skills or competencies that they need to fill those roles. We must then set standards for achievement of those skills, train them in those skills and then test the training through exercises. We must recognize that gaining the competencies necessary for an emergency role should be an element of each health department employee's primary job, whether that job is restaurant inspector or clinic nurse.

How do we develop public health systems research, paramount for developing evidence-based best practices and benchmarks, for an all-hazards public health response?

There can be no substitute for public health system research based on real experience in real communities. Moreover, developing an evidence base for public health response requires examining not how the public health system operates in isolation but how it operates in the context of the entire community response.

The best way we know to develop evidence of what is needed for a successful public health response is an iterative process of planning and exercising. Such a process entails making a community-wide plan that involves all the relevant responders, training all responders for their role in executing the plan, exercising the plan on a large scale, doing an after-action report to identify where

and why the plan didn't work, changing the plan accordingly and exercising it again to determine whether the changes made a difference. It will then be possible to identify the inputs into the response that generated the outcome.

It is essential to recognize that the public health response never involves just public health and medical personnel. Our partners in police, fire, emergency management, schools, and businesses, as well as our community's health care providers, will have important roles in a large-scale event, such as widespread influenza. Best practices and benchmarks for public health performance will not be meaningful unless that performance is evaluated in the context where it will really happen – in an exercise that involves a community's entire emergency management system that is operating as required under the National Response Plan and is compliant with the National Incident Management System.

Public health systems research would benefit from involving other disciplines not commonly associated with public health. For instance, the health department in Montgomery County, Maryland engaged systems engineers from the University of Maryland in applying queuing theory to the problem of how to organize a mass vaccination clinic most efficiently. The result of their collaborative research and development was software that they and others are using to streamline their systems for mass dispensing of pharmaceuticals and mass vaccination.

Overall, our public health infrastructure has improved since 2001 but it still requires further investment, development and evaluation. I appreciate the thorough and serious effort that you are making to understand and strengthen our country's public health capacity and capability. Protecting and defending our citizens health is of paramount importance for our society to function in a time of crisis. The time to prepare and strengthen our public health infrastructure is now at hand.

I wish you all the very best as you work to improve the *Public Health Security and Bioterrorism Preparedness & Response Act of 2002*. Thank you for the opportunity to present my thoughts to you this morning.