Written Testimony
House Energy and Commerce Committee, Subcommittee on Oversight and Investigations:
The State of U.S. Public Health Biopreparedness: Responding to Biological Attacks, Pandemics, and Emerging Infectious Disease Outbreaks

Statement of

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Chairman Harper, Ranking Member DeGette, and other members of the subcommittee. I am Rear Admiral Anne Schuchat, Principal Deputy Director of the Centers for Disease Control and Prevention (CDC). I appreciate the opportunity to be here today to discuss CDC's biopreparedness mission.

CDC is the eyes and ears of the biopreparedness complex, advancing the health security of the nation by helping communities prepare for, detect, and respond to, public health consequences of all hazards. These hazards include chemical, biological, radiological, and nuclear (CBRN) threats, natural disasters, and emerging (and re-emerging) infectious disease. For 72 years, this has been CDC's core mission.

CDC draws on expertise from across the agency, including world-class laboratory testing, public health surveillance (for disease detection), epidemiology, guidance to healthcare providers, incident management, logistics, emergency risk communication, disease control programs, distribution of medical countermeasures, human and animal medicine, and responder health and well-being. Our multidisciplinary workforce and integrated national and international systems broaden our capacity to detect and respond to any developing situation that could affect the health of people in the United States. This ability is enhanced by our long-standing relationships and close collaboration with federal, state, territorial, tribal, local, and global partners.

Prepare

The CDC's Public Health Emergency Preparedness Cooperative Agreement Program (PHEP) (which includes the Cities Readiness Initiative (CRI)) is central to CDC's programs to prepare communities across the nation for the next public health emergency. Additionally, CDC's role in the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) is critical to national preparedness for chemical, biological, radiological, nuclear threats, and emerging infectious diseases.

Public Health Emergency Preparedness Cooperative Agreement Program

The PHEP cooperative agreement program is the largest CDC state program and provided approximately $600 million to state, local and territorial public health departments in FY 2017. The program supports these jurisdictions to develop plans for public health preparedness and response, and has been instrumental in integrating state and local health departments into their jurisdictions' emergency response structures. PHEP currently supports 62 awardees – the 50 states, eight territories and freely associated states, and four directly funded cities (New York City; Washington, D.C.; Chicago; and Los Angeles). Funding is awarded according to a base-plus population formula prescribed by statute, which ensures a minimum amount of funding to each awardee. These funds support preparedness and response staff, enable exercises to test and validate capabilities, provide training, and pay for laboratory and communications equipment essential to maintaining preparedness. In addition, CDC personnel support PHEP awardees by helping to identify and address gaps in preparedness capabilities, providing planning resources to ensure the needs of vulnerable populations are incorporated into response strategies, and improving response capabilities from experience gleaned during public health responses.

Cities Readiness Initiative (CRI)

CRI, funded through the PHEP cooperative agreement, enhances preparedness in the nation's 72 largest population centers, where nearly 60% of the U.S. population resides. These cities use CRI funds to develop, test, and maintain, plans to quickly receive medical countermeasures (MCMs) from the Strategic National Stockpile (SNS) and distribute them to local communities. This program, which relies on local boots on the ground, enables effective response to large-scale public health emergencies that require life-saving medications and medical supplies.

Public Health Emergency Medical Countermeasures Enterprise (PHEMCE)

Through participation in the ASPR-led Public Health Emergency Medical Countermeasures Enterprise (PHEMCE), CDC works with other HHS agencies and other federal partners to enhance preparedness for chemical, biological, radiological and nuclear threats, and emerging infectious disease. CDC brings together its scientific expertise and its experience in public health practice to inform the use of preventative measures and treatment during a public health emergency. Specifically, CDC subject matter experts from various CDC centers:

- Develop clinical guidance on the use of PHEMCE medical countermeasures – crucial to ensure health departments and clinicians know the safest, most effective way to use medical countermeasures.
- Inform operational details for SNS deployment – this includes informing which products should be deployed first based on epidemiology and laboratory data and clinical guidance.
- Provide technical expertise to state and local partners for the development and execution of deployment and dispensing plans for PHEMCE medical countermeasures.
- Conduct regular operational readiness reviews and exercises with state and local partners to prepare them and build their capacity to receive and dispense PHEMCE medical countermeasures. (In FY 2017, CDC supported 12 full-scale and tabletop exercises, and trained 3,758 Federal, state, territorial, and local emergency responders representing 13 different jurisdictions, on how to receive and distribute products from the Strategic National Stockpile).
- Provide regulatory science expertise to inform legal mechanisms (Emergency Use Authorizations, Emergency Use Instructions, and Investigational New Drug Protocols) and guidance on the use of MCM that have not received FDA approval or the use of FDA approved MCMs for – indications other than those included in FDA approval.

Protecting Vulnerable Populations during Emergencies

CDC has expertise and programs to promote effective support and care prior to, during, and after a public health emergency, for a wide variety of vulnerable populations. CDC's PHEP program requires states to develop

emergency plans covering children, pregnant women, and other vulnerable populations such, as those isolated due to geography and individuals with disabilities. Subject matter experts within CDC's Children's Preparedness Unit champion the needs of children in public health emergencies and have supported 10 responses over the past 10 years. CDC also provides guidance to state and local health departments for dosage and administration of certain MCMs to certain populations. The Children's Preparedness Unit has recently completed a draft implementation plan for the pediatric use of Anthrax Vaccine Adsorbed (AVA) in the case of a large-scale event. AVA is the only FDA-licensed human anthrax vaccine in the U.S., but it is not currently approved for use in children. This implementation plan provides critical activities to ensure that programs are prepared to, and have the resources for, the efficient and safe administration of the vaccine to children.

Federal Select Agent Program

The nearly 300 entities in the U.S. that engage in laboratory research on biological select agents and toxins are regulated under the Federal Select Agent Program (FSAP), which is jointly managed by CDC and the Animal and Plant Health Inspection Service (USDA) to regulate the possession, use, and transfer of biological pathogens and toxins (e.g., anthrax, bubonic plague, smallpox, and ricin) that have the potential to pose a severe threat to human, animal, and/or plant health. The program aims to ensure that work with these dangerous agents is conducted in as safe and secure manner as possible, and that they are stored and transported safely and securely.

Detect

World-class scientific expertise in disease progression, epidemiology, and laboratory methods ensures CDC is ready and able to detect and develop a response to a broad range of threats, including highly hazardous and infectious diseases like Ebola, smallpox, Zika, anthrax, and H7N9 influenza.

CDC uses advanced molecular detection techniques that combine next-generation genomic sequencing, high-performance computing, and epidemiology to identify pathogens faster and more accurately. Laboratories from all over the world send specimens to CDC because they know CDC will be able to identify pathogens that other laboratories cannot.

Through Advanced Molecular Detection investments, CDC is able to detect outbreaks faster, before they have become widespread. These advances are applied in dozens of areas such as foodborne disease, influenza, antimicrobial resistance, hepatitis, pneumonia, and meningitis. Moreover, CDC shares genetic sequencing capabilities with state and local health departments, and funds them to acquire these tools that help them respond more quickly and effectively at the local level, lessening the chances that disease outbreaks will spread.

CDC also maintains unique laboratory capability to rapidly detect exposure to radionuclides and more than 150 chemical threat agents. This information about human exposure helps public health officials rapidly assess health risk, determine the most effective treatment, and reduce additional exposures.

A Strong Laboratory Response Network

Rapid identification of disease is critical to addressing public health threats before they become a crisis. This requires that high quality specialized laboratory testing be available around the country. CDC's Laboratory Response Network is an integrated system of federal, state, and local laboratories that provides early detection and characterization of biological, chemical and other public health threats. The linking of laboratories and close partnership between laboratorians, epidemiologists and clinicians at CDC, state and local health departments, and healthcare facilities ensures the most rapid detection and mitigation of health threats.

For example, in response to the MERS (Middle East Respiratory Syndrome), Ebola and Zika virus outbreaks, CDC provided Laboratory Response Network laboratories across the United States with assays authorized for Emergency Use to quickly identify cases of infection during these outbreaks.

Another important laboratory network, begun in 2016, is CDC's Antibiotic Resistance Laboratory Network, which supports nationwide laboratory capacity to rapidly detect antibiotic resistance in healthcare, food, and community settings, and inform local responses to prevent the spread of antibiotic resistant bacteria, and protect people. The Antibiotic Resistance Laboratory Network includes seven regional laboratories, the National Tuberculosis Molecular Surveillance Center, and laboratories in 50 states, five cities, and Puerto Rico.

Public Health Surveillance

Public health surveillance—the collection, analysis, and use of data to target public health prevention and intervention activities—is the foundation of public health practice at CDC, and continues to represent CDC's core work, whether as detective work in the field, or advanced analysis to understand disease transmission. CDC uses electronic data systems to monitor population health information around the clock to detect and track diseases. For example, following 9/11, CDC invested in using health-related data based on syndromic surveillance in Emergency Departments as an early warning system for a bioterrorist attack. Those investments are paying dividends, as this information technology system now allows officials to detect a wide range of health threats beyond biological attacks, from opioid overdoses to chemical exposures to disease outbreaks.

To ensure a nationwide surveillance capability, CDC supports surveillance infrastructure, including information technology systems, and practice at the state and local levels through the National Notifiable Disease Surveillance System, the National Syndromic Surveillance Program, the National Healthcare Safety Network, the Emerging Infections Program Active Bacterial Core Surveillance, and components of national influenza surveillance.

Beginning in fiscal year 2016, Congress recognized the large and growing threat of antibiotic resistance and appropriated funding for CDC to detect and respond to resistant pathogens, prevent the spread of resistant infections, and collaborate with partners to encourage innovation with respect to new prevention strategies.

CDC has multiple surveillance systems that can detect and track resistant threats across healthcare, food, and community settings.

CDC's Global Disease Detection Operations Center monitors outbreaks 24/7, assesses their potential risk to the United States and communities around the world, and improves global public health surveillance. Since 2017, CDC has tracked more than 170 unique diseases globally and identified outbreaks in more than 190 countries. CDC works with the 17 Phase 1 and the 14 Phase 2 Global Health Security Agenda partner countries to help them build the core public health capacities necessary for identifying and containing outbreaks before they become epidemics that could affect us all. The 17 Phase 1 countries receive direct financial support and technical assistance from CDC; the 14 additional countries receive only technical assistance from CDC. Our work through the Global Health Security Agenda emphasizes four critical areas: surveillance, laboratory, workforce development, and rapid response capability. In addition, CDC medical and public health officers staff United States Quarantine Stations that are located at 20 United States ports of entry and land-border crossings where the majority of international travelers arrive. These health officers are an important defense to prevent the introduction into, and spread of infectious diseases in, the United States.

Respond

CDC's number one priority during any public health emergency is to protect the health of the public. CDC subject matter experts respond regularly to events such as foodborne outbreaks, natural occurring anthrax and botulism cases, smallpox vaccine adverse event cases, and seasonal influenza. CDC's readiness activities, expertise, and infrastructure provides the foundation for all types of public health emergency responses and is scalable and can surge to respond to events such as the 2013 meningitis outbreaks. The expertise and systems used in such responses can be augmented further for larger public health emergency responses such as the 2009 H1N1 response, 2014 Ebola response, and the Zika response.

State and local public health agencies are the front lines of public health preparedness and response. CDC provides ongoing technical assistance and, where requested, on-the-ground personnel and materials to assist with response efforts. CDC's established relationships with state and local health departments ensure that day-to-day public health systems function effectively and efficiently, and that emergency response actions are appropriate to the threat. These continuous relationships, between and during emergency responses, ensure a level of trust and collaboration that cannot be overemphasized. During the stress of an emergency response, having a trusted partner you can turn to immediately can mean the difference between life and death for patients, and ensures the rapid delivery of public health services, such as vaccinations and clean water, for communities.

CDC experts lead and staff every activation of the agency's Emergency Operations Center (EOC), ensuring response activities are effective and efficient. CDC has activated its incident management system for 67 responses over the last 16 years. During a response, in coordination with and, sometimes at the direction/request of the Office of the HHS Assistant Secretary for Preparedness and Response, CDC's EOC rapidly deploys scientific experts, coordinates the delivery of supplies and equipment to the incident site, monitors response activities, provides resources to state and local public health departments, and disseminates timely and accurate information within government, to health care providers and to the public. During the agency's Ebola and Zika responses, 3,700 and 1,700 CDC staff participated in the response, respectively. During the Ebola response, CDC staff completed over 2,000 field deployments to West Africa. CDC also responds to public health events that do not require EOC support. In fiscal year 2017, CDC assisted state, local, and overseas public health authorities in 38 epidemiologic investigations of emerging infectious disease outbreaks. In addition, the Global Rapid Response Team, stood up following the 2014 Ebola outbreaks, has over 400 ready and rostered experts. Since its inception, that team has provided nearly 9,000 person-days of support for response activities.

We are committed to continuously improving our response capability. After each activation, whether for a real event or exercise, we conduct a thorough after-action review to identify strengths to sustain and areas for improvement. Use of this information is key to improving performance for the next incident or event.

Conclusion

I want to leave the Committee with three primary points about CDC's role in biopreparedness.

1. Our responses are built on our longstanding partnerships with state, local, and international public health authorities;
2. Our detection capabilities and surveillance programs are based on our broad and deep scientific, medical, and programmatic expertise; and
3. Our response capacity ensures timely aid to state and local public health systems in times of crisis.

CDC has 72 years of experience in bringing top scientific expertise to health emergencies and remains a trusted partner in the United States and around the world. CDC stands ready to do its part to protect the health and well-being of the American public and save lives. We cannot necessarily predict the next disaster, but we know that being prepared protects health, saves lives, and prevents economic losses.

Thank you for the opportunity to testify.