

UNMET NEEDS

- Enhance the nation’s ability to respond to emerging disease outbreaks by increasing capacity building at CDC, develop and deploy diagnostic tests to state and local public health laboratories, and provide technical assistance and training to state and local public health laboratory professionals.
- Continued support for the Advanced Molecular Detection (AMD) and Response to Infectious Disease Outbreaks Initiative (\$30 million annually) to modernize and accelerate infectious disease detection and surveillance. In 2014, AMD technologies were used to identify foodborne disease outbreaks during the 2014-15 season and to identify a new, deadly tick-borne disease, Bourbon virus.
- Support the proposed FY 16 funding to Combating Antibiotic Resistant Bacteria (CARB) including increased resources for detection and surveillance of antibiotic resistant bacteria and improved integration of existing systems.
- Increase support for the Epidemiology and Laboratory Capacity (ELC) Program to assist public health laboratories in providing:
 - Capacity to identify and monitor the occurrence of infectious diseases of public health importance
 - Capacity to detect new emerging infectious diseases such as Ebola and MERS-CoV and respond to outbreaks
 - Genetic fingerprinting for foodborne diseases through PulseNet, which facilitates rapid detection of outbreaks of foodborne illnesses to expedite public health interventions
 - Laboratory detection of influenza viruses which contributes to national surveillance efforts; detection of new strains and pandemics; and important information for vaccine production



- Laboratory detection of drug resistant bacteria (such as MRSA) which contributes to national surveillance and local control efforts
- Laboratory detection and surveillance of parasites such as cyclospora and *Giardia*
- Enhance national capacity to detect and prevent outbreaks of new infectious diseases through the Emerging Infections Program.
- Provide HIV/AIDS funding to:
 - Enable laboratories to detect HIV infections in their earliest (and most infectious) stages by supporting the most advanced testing technologies, including nucleic acid amplification testing and fourth-generation immunoassays
 - Improve laboratory capacity to monitor and confirm HIV-2 infections

The 2014 West African Ebola outbreak with over 20,000 cases, including four in the United States, demonstrates that infectious disease threats are a plane ride away. As a result of the collaboration among public health officials such as CDC, WHO, and other US government agencies, the spread of Ebola in the US was limited. In addition to controlling the outbreak, coordination between CDC, USAMRIID, FDA and public health laboratories ensured access to testing for suspect cases was rapidly available across the US.

CDC's Advanced Molecular Detection Initiative (AMD) aims at improving diagnostic and bioinformatics capabilities in order to better diagnose known and unknown emerging infections, detect disease outbreaks, understand and control antibiotic resistance and to develop and target measures to protect the nation's health. Successes thus far of the AMD initiative include identifying enterovirus in children with respiratory illness during the August 2014 enterovirus D68 outbreak, applying whole genome sequencing to detect an outbreak of hepatitis A linked to pomegranate seeds and applying state of the art technologies to detect an emerging tick-borne virus named Bourbon virus. Continued funding is essential to ensure the public's health is protected.

- Increase funding for tuberculosis laboratory infrastructure to:
 - Implement and maintain capacity for the latest testing technology to identify tuberculosis and screen for drug resistance
 - Develop a plan of action that will extensively address drug resistant tuberculosis (XDR-TB) to prevent it from becoming prevalent in the US
 - Train new laboratory staff in tuberculosis testing procedures in light of a rapidly aging workforce
- Increased funding to address biosafety gaps in knowledge and practices within diagnostic laboratories.

PREPAREDNESS, DETECTION AND CONTROL OF INFECTIOUS DISEASES

CDC's Infectious Diseases Control Program funds critical laboratory improvements that allow federal and state programs to maintain early warning detection capabilities for known diseases and provide quick identification of unknown diseases. Increased funding is essential to preserve existing capacity, enhance surveillance for emerging diseases and provide improved responsiveness to the growing problem of reemerging vaccine preventable diseases like measles, mumps and pertussis (whooping cough). In January 2015, 17 states and Washington, DC reported cases of the once eradicated measles. Public health laboratory capacity is critical to outbreak investigations in order to identify and rule out infection in exposed individuals.

Recent domestic infectious disease threats include CA-MRSA; Carbapenem-resistant Enterobacteriaceae and other antibiotic-resistant bacteria, Tamiflu-resistant H1N1, MERS-CoV, enterovirus D-68, Hepatitis C, bacterial meningitis, chikungunya virus, West Nile Virus, malaria and dengue fever. Over the past few years, there have been several large, multi-state outbreaks of

CDC FUNDING

(Dollars in millions)

Emerging and Zoonotic Infectious Diseases

2015 \$405

2016 \$699 (requested)

2016 \$699 (APHL required)

Immunization and Respiratory Diseases

2015 \$798

2016 \$748 (requested)

2016 \$798 (APHL required)

HIV, Hepatitis, STIs and TB

2015 \$1.11b

2016 \$1.16b (requested)

2016 \$1.16b (APHL required)

pertussis, outbreaks of mumps and most recently a multi-state measles outbreak associated with a theme park. These preventable, diseases are now re-emerging in children and adults.

ANTIMICROBIAL RESISTANT ORGANISMS

Antimicrobial resistant (AR) organisms, such as Carbapenem-resistant Enterobacteriaceae (CRE), *Clostridium difficile*, *Neisseria gonorrhoeae* and multidrug-resistant acinetobacter, cause approximately 2 million cases of illness and 23,000 deaths annually in the US. The FY 16 budget proposal includes support for full implementation of activities in the National Strategy for Combatting Antibiotic-Resistant Bacteria (\$264 million for CDC specific activities) in order to bolster the existing surveillance system for such pathogens. This funding is essential to building the infrastructure to detect, prevent and treat these infections. ■

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