

# INFECTIOUS DISEASES

## LACK OF FUNDS JEOPARDIZES DISEASE DETECTION

### 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.
- Increase support for the Epidemiology and Laboratory Capacity (ELC) Program, to assist state laboratories in providing:
  - Capacity to identify and monitor the occurrence of infectious diseases of public health importance
  - Capacity to detect new emerging infectious diseases 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 provides 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 Giardia) and arboviruses (such as West Nile)
- 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

### CDC FUNDING

(Dollars in millions)

#### Office of Infectious Diseases:

**FY 2012 \$184 (Enacted)**

**FY 2013 \$184 (APHL Required Amount)**

#### Pandemic Influenza:

**FY 2012 \$159 (Enacted)**

**FY 2013 \$159 (APHL Required Amount)**

- the most advanced testing technologies, including nucleic acid amplification testing and fourth-generation immunoassays;
- Improve laboratory capacity to monitor and confirm HIV-2 infections.
- 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 address extensively 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.

An estimated 10 million to 15 million US citizens have latent tuberculosis infection, and about 10% of these individuals will develop tuberculosis at some point in their lives. Approximately 13,500 new cases of tuberculosis disease were diagnosed in 2007 in the US. Costly tuberculosis outbreaks still occur, and multi-drug resistant tuberculosis continues to spread. To reach the goal of the elimination of tuberculosis in the US, improvements in laboratory testing must be maintained and translated into improvements in the treatment, prevention and control of tuberculosis. Despite advances in laboratory methods, lack of coordination for referral of specimens and cultures continues to lead to unnecessary delays in laboratory testing, reporting and initiation of treatment.

## PREPAREDNESS, DETECTION AND CONTROL OF INFECTIOUS DISEASES

The CDC 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 re-emerging vaccine preventable diseases. A recent outbreak of Measles in Minnesota demonstrates how one person can acquire a disease while traveling abroad and transmit the virus to their home country. This outbreak resulted in 21 people becoming ill. Public health laboratory capacity was critical to identify and rule out infection in exposed individuals.

Recent domestic infectious disease threats include:

- CA-MRSA,
- arbutenem-resistant Enterobacteriaceae and other antibiotic-resistant bacteria,
- Tamiflu-resistant H1N1 and avian influenza,
- SARS,
- monkeypox,
- Hepatitis C,
- bacterial meningitis,
- West Nile Virus,
- malaria,
- and dengue fever.

Over the past few years, there have been several large, multi-state outbreaks of pertussis (whooping cough), mumps, and measles; diseases now re-emerging in children and adults.

## VECTOR-BORNE DISEASES

Federal funding for vector-borne diseases supports surveillance that determines the level of disease risk to people and gets this message out to providers, responders and the public to allow for implementation of appropriate interventions. These vector-borne diseases cause encephalitis or dengue, and are medically important vector-borne diseases that have already emerged, or may emerge, in the US. Surveillance is key to prevention.

Proposed funding reductions will force some states to choose between keeping laboratory staff to perform tests or the materials needed to support these activities. Other states may be required to fundamentally change the scope of their testing programs, reducing the information that is necessary for successful intervention strategies—which will lead to increased illness in humans and animals. ■

## CONTACT

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An influenza outbreak similar to the 1918 outbreak would cause an estimated one million deaths in the US. The recent 2009 H1N1 influenza emerged in North America and rapidly spread into more than 200 countries. In addition to the human impact of these diseases, there is a tremendous economic impact. Estimates indicate that infectious diseases have an economic cost in the US of more than \$120 billion each year.