

BIO SAFETY & BIOSECURITY

UNMET NEEDS

- Increase funding to the US Centers for Disease Control and Prevention (CDC) for public health laboratories to sustain biosafety and biosecurity programs to protect laboratory workers and the public
- Provide resources to support public health laboratory outreach and training to clinical laboratories
- Provide resources to build and maintain a competent public health laboratory biosafety and biosecurity workforce, ensuring at least one full-time biosafety officer in each public health laboratory
- Bridge the lack of connectivity between healthcare and public health systems

BACKGROUND

Biosafety and biosecurity are an integral part of a quality laboratory system. Issues such as incorrect packaging and shipping of biological agents, discovering long forgotten smallpox samples stored in freezers, inappropriate inactivation of anthrax potentially exposing workers and the response to the Ebola outbreak have shown serious gaps within existing biosafety and biosecurity programs. The Ebola outbreak alone resulted in 25,000 cases and over 10,000 deaths worldwide. Specific gaps such as the inability to correctly package and ship samples exposed unmet needs within the laboratory system.

To address the concerns observed during the response to Ebola, the US Centers for Disease Control and Prevention (CDC) provided funds to state and local health departments via the Domestic Ebola Supplement to Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) - Building and Strengthening Epidemiology,



Laboratory and Health Information Systems Capacity in State and Local Health Departments.

Specifically, **CDC allocated \$21 million over the course of FY16, FY17 and FY18 to enhance laboratory biosafety and biosecurity across the nation.** This funding reaches 62 state, local and territorial public health laboratory awardees.

PUBLIC HEALTH LABORATORY EFFORTS TO STRENGTHEN BIOSAFETY AND BIOSECURITY

With CDC funds public health laboratories:

1. Hire biosafety officers; these professionals play a key role across public health and sentinel clinical laboratories (e.g. hospitals) to lead biosafety and biosecurity activities and depend on federal funding.
2. Update biosafety guidelines and plans.
3. Conduct risk assessments to ensure highly infectious specimens can be safely handled and disposed.
4. Identify gaps and implement mitigation strategies.
5. Collaborate with other public health laboratory staff and clinical partners to develop and ensure access

to biosafety tools and training for sentinel clinical labs. In 2016, 44 public health laboratories provided over 150 biosafety training courses, reaching over 1,000 clinical laboratorians, and 52 public health laboratories provided packaging and shipping certification to clinical laboratories in their jurisdiction.

APHL'S EFFORTS TO STRENGTHEN BIOSAFETY AND BIOSECURITY

Through the Cooperative Agreement, *Domestic Laboratory Biosafety for Ebola and Other Highly Infectious Diseases*, APHL is working closely with CDC to strengthen biosafety and biosecurity in the nation's laboratories by providing:

1. Subject matter experts who develop and provide guidance and tools to public health laboratories and maintain a community of practice for over 130 public health biosafety professionals.
2. Laboratory coordination and outreach to ensure a more robust public health system capable of safely responding to all threats. This encompasses convening workshops, covering all 62 CDC-funded jurisdictions; providing tools such as risk assessment templates to assist public health laboratories with outreach to clinical laboratories; and direct engagement of key clinical partners.
3. Education and outreach to key policy makers, such as through the development of the position statement *Improving Biosafety in Our Nation's Laboratories*.
4. Leadership through the Biosafety and Biosecurity Committee, which has representatives from public health laboratories, private clinical laboratories, partner organizations, and other biosafety experts.

The Committee:

- Collaborates with the CDC to evaluate and assist public health laboratories
- Develops and promotes a culture of safety within public health and clinical laboratories

CDC FUNDING

LABORATORY SAFETY AND QUALITY

FY 2016: \$5.0
FY 2017: \$10.0 (requested)
FY 2017/18: \$10.0 (necessary)

(Dollars in millions)

- Develops tools and collaborates with APHL to host them within an online repository
 - Designs and delivers a biosafety and biosecurity training curriculum
 - Promotes a community of practice to generate collaboration among biosafety officers
5. Support for CDC and other partners to strengthen global health security in the multi-sectorial effort to:
- **Prevent** and reduce the likelihood of natural, accidental or intentional outbreaks
 - **Detect** threats early to save lives
 - **Respond** rapidly and effectively using multi-sectorial, international coordination and communication

FUTURE DIRECTIONS AND SUPPORT

Public health and clinical laboratories play a pivotal role in surveillance, outbreak response and disease detection. To ensure that laboratories can safely and quickly detect threats, it is imperative to have a long-term sustainable funding strategy for biosafety and biosecurity. ■

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