

Lessons Learned at the Centers for Disease Control and Prevention- 2014

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11 June 2015



Department of Health and Human Services
Centers for Disease Control and Prevention

Laboratory Safety Improvements

- In July 2014, CDC imposed a moratorium on transfers of biological material out of BSL-3 and BSL-4 laboratories until processes were reviewed and approved:
 - Conducted a thorough review of all procedures for inactivation or depletion of pathogens from biological materials, viability testing, containment, contamination control, transport and shipping of biological materials
 - Implemented the use of checklists for procedural steps in protocols for inactivation of pathogens

Laboratory Safety Improvements

- Established requirements for segregation of materials and exclusivity testing to minimize risks for contamination
- Instituted a requirement for documented training plans with annual refresher training on inactivation and transfer procedures
- A total of 80 camera systems in BSL-3 and BSL-4 laboratories thus far to verify safety critical control points for inactivation of pathogens; evaluation of the camera systems is underway
- Moratorium resolution for 52 BSL-3 and BSL-4 laboratories completed in October 2014
- In January 2015, standardized disinfection practices across CDC's infectious diseases laboratories by developing new procedures for the use of disinfectants from an approved list

Leadership

- **Recommendation:**
 - Funding for laboratory safety programs and laboratory safety training should be established from a central funding source and should be considered a fundamental mission for the CDC.
- **Progress:**
 - Identified funding in FY 2015 for development of a new general safety and laboratory safety training curriculum
 - The FY 2016 budget requests an increase of \$20 million to help advance CDC's laboratory safety and capacity

Leadership

- **Recommendation:**
 - Create a position for a biomedical scientist in the Director's office to lead this (laboratory safety programs) effort.
- **Progress:**
 - Established an Associate Director for Laboratory Science and Safety (ADLSS), who will report to the CDC Director and provide agency-wide leadership and accountability for laboratory science, safety, and quality
 - The CDC Director is conducting interviews with candidates

Governance

- **Recommendation:**
 - Establish governance structures that provide accountability and oversight authority to a central entity for laboratory safety and compliance committees with ultimate authority at the level of the Office of the Director.
- **Progress:**
 - In March 2015, CDC established a Laboratory Safety Review Board to conduct safety reviews of laboratory protocols for work in BSL-3 and BSL-4 laboratories
 - The new Laboratory Safety Review Board has established criteria to conduct consistent and thorough reviews of laboratory protocols for safety elements
 - The board convened on 3/5/15 and 4/2/15 and will meet monthly to conduct reviews
- **Oversight and support is in the new Office of the ADLSS**
- **Members are from all centers with laboratory programs to ensure accountability and consistency of practices across the agency**

Risk Assessment

- **Recommendation:**
 - Risk assessments should be performed for experimental work being done at CDC. The benefits and risks of proposed experimental work should be documented before the work is undertaken.
- **Progress:**
 - Piloted a new Risk Assessment Course on 2/24/15 to teach staff how to conduct and document risk assessments:
 - Course evaluation completed on 3/9/15; revised course (based on evaluation data) taught on 4/15/15
 - Post-training evaluations are scheduled to assess competency and implementation
 - Development of new policy to require the use of risk assessments for experimental work is underway

Laboratory Safety Training

- **Recommendation:**
 - Establish a standardized lab safety training curriculum across CDC with standardized methods for competency skills mapping and refresher training.
- **Progress:**
 - CDC is working to establish a standardized, competency based, core safety training curriculum across CDC
 - Identified and documented competencies for core safety training (1/28/15)
 - Evaluated 23 CDC safety training courses to map competencies and identify gaps (3/6/15)
 - Developed a prioritized list of courses for a standardized safety training curriculum (3/20/15)
 - Developed learning objectives for priority courses (4/12/15)

Recognition

- **Recommendation:**
 - In this culture of safety response, ensure that scientists operating safe laboratories are recognized for their work.
- **Progress:**
 - Implemented a new program, Laboratory Safety Champion, to recognize staff (through a CDC Connects story) who promote laboratory safety and best practices.
 - The first Champion was featured on 3/12/15, and the second Champion was featured on 4/20/15.
 - Utilizing the Laboratory ListServ of more than 1600 staff to acknowledge and commend staff who demonstrated responsible and safe actions in the laboratory (e.g., CDC Lab Safety Update, 4/1/15)

Biosafety

- **Recommendation:**
 - Raise the stature of ESHCO in the CDC organization by staffing it with scientists with professional qualifications in research and/or laboratory safety as well as an understanding of requirements for compliance.
- **Progress:**
 - To raise the stature of biosafety in the CDC organization, in February 2015, CDC developed new standard position descriptions for Laboratory Quality Management and Safety & Occupational Health Specialists to accelerate staffing of scientists with professional qualifications
 - Potential organizational changes will be considered once the permanent ADLSS is on board

Safety Liaisons

- **Recommendation:**
 - Develop a division liaison program, where each division identifies individuals who can represent their needs to a centralized ESHCO committee.
- **Progress:**
 - Identified a representative from each of the infectious disease centers to represent program needs related to safety consultations and risk assessments to ESHCO

Thank you!

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



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