APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES™

Analysis. Answers. Action.

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Building Biosafety and Biosecurity across Public Health Laboratories

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Senior Specialist, Biosafety and Biosecurity
Association of Public Health Laboratories
November 6th, 2019

Objectives

- APHL Overview and our role in Biosafety and Biosecurity
- APHL Biosafety Community of Practice
- Unmet Biosafety and Biosecurity Needs identified
- Ideas/Concerns for the future

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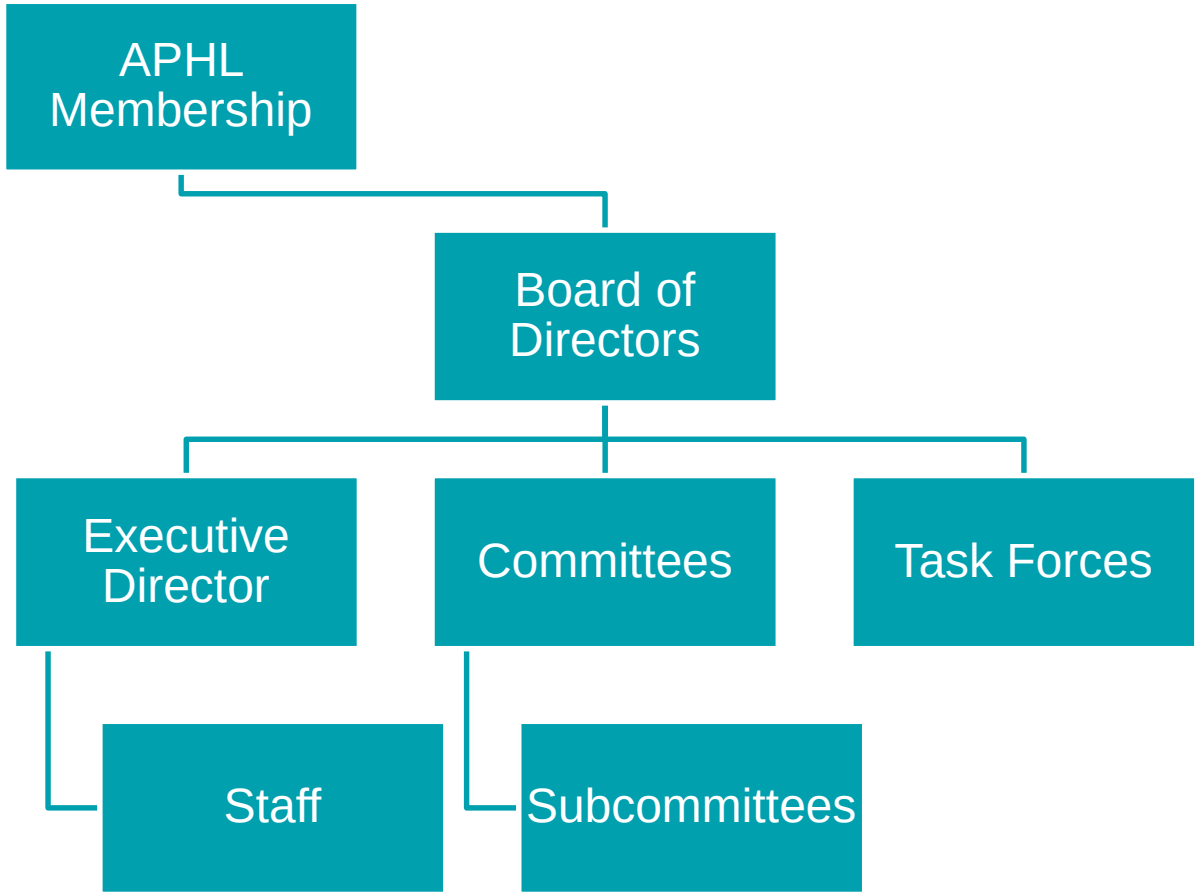
About APHL

- A non-profit, non-governmental US based organization
- Over 900 members from state and local public health laboratories, state environmental and agricultural labs and others federal agencies and academic institutions.
- Advocates at the national level to shape public health policy and to secure increased support and resources for member labs
- Provides training, model practices, technical assistance domestically and internationally

APHL Organizational Structure



Committees (many have subcommittees)

- Public Health Preparedness and Response
- Environmental Health
- Environmental Lab Science
- Finance
- Food Safety
- Global Health
- Infectious Diseases
- Informatics
- Newborn Screening and Genetics in Public Health
- Knowledge Management
- Laboratory Systems and Standards
- Local Laboratory Committee
- Workforce Development
- National Legislative Review Work Group
- Biosafety and Biosecurity

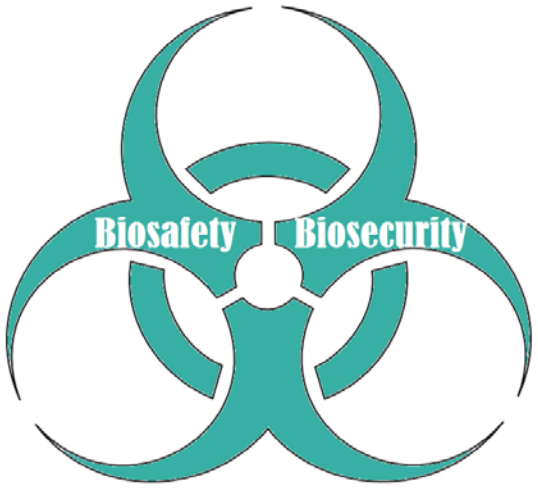
Biosafety Cooperative Agreement Overview

- May 2015: APHL was awarded a $2.2 million CoAg by the Centers for Disease Control and Prevention (CDC) for Domestic Laboratory Biosafety for Ebola and other Highly Infectious Diseases.
- Funded for three years (May 2015 - May 2018)*
- Linked to the $21 million funding opportunity awarded to 62 PHLs via the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Ebola Supplemental project B-Enhanced Laboratory Biosafety and Biosecurity Capacity.

**One Year Extension to 2019*

Biosafety Charge

- Serve as Subject Matter Expert (SME), providing guidance and support for public health labs (PHLs)
- Coordinate national efforts to improve biosafety in PHLs and support outreach to clinical laboratories



APHL Major Biosafety and Biosecurity Accomplishments

Biosafety Comm Practice

- Two ColLABorat 250+)
- BSO Peer Netw s Paired)
- Bi
- T Webina 50+)
- PHLs with 37

Hire Biosafety Officers

Provide Training and Tools for BSOs (Risk Assessments, Workshops and Biosafety Checklists)

- Build a Community of Practice

de training and resources for Clinical Labs

ntinue assisting PHL and Clinical Labs

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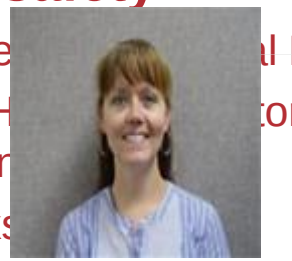
Awareness at the Natio l Level

ical Labora ry Biosafety

Biosafety Practices and Ne l Laboratories Survey

- Biosafety Forums: Public H tory Outreach, Clinical Laboratory Engagement ar
- Biorisk Management Works



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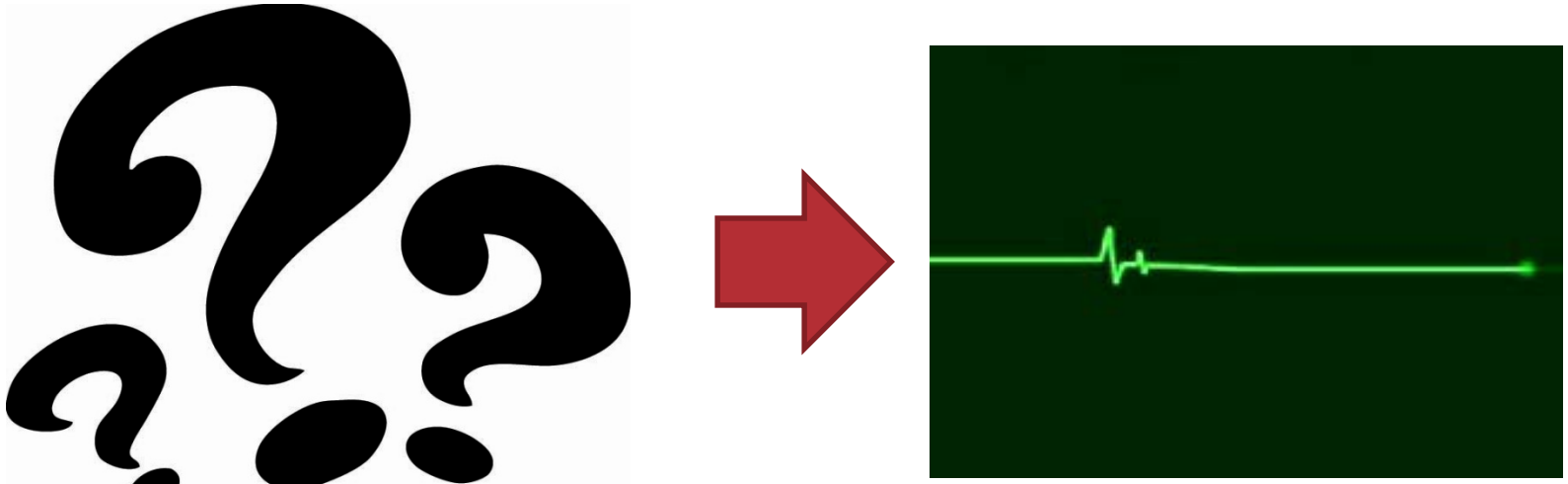
Biosafety and Biosecurity ColLABorate Communities

- **Biosafety and Biosecurity Community**
  - Currently includes PHLs BSOs (~140), Biosafety Outreach Officers, and other pertinent Biosafety personnel

- **Laboratory Biosafety and Biosecurity Community**
  - Currently includes PHLs BSOs (~190), Biosafety Outreach Officers along with clinical laboratory staff
    - Public Health Lab - 65
    - Private Clinical Lab - 115
    - National Organization - 10
    - Federal Agency - 1

Public Health Laboratory Biosafety Officer (BSO) Technical Knowledge in 2015



Workshop Series

- Technical Workshop Series (2016 – 2017)
  - Recognizing the needs of the newly hired BSOs, APHL convened regional workshops to provide training on biosafety and biosecurity fundamentals
  - Two day technical workshops were held at 4 state and local PHLs: MA, HI, FL and Los Angeles County
  - 51 BSOs from 47 PHLS
  - Core Curriculum: **Risk Assessments, Biosafety Competencies, Biosecurity, Donning and Doffing, Components of a Biosafety Plan, Decontamination, Engineering Controls, Outreach to Sentinel Clinical Labs, Buying into Biosafety, Ethical Issues, Leadership in Biosafety**

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Workshop Series

- Leadership Workshop Series (2017 – 2018)
  - Due to an ever changing and increasingly complex environment, PHLS need biosafety leaders who embrace change, manage people and processes efficiently and anticipate future needs.
  - 37 BSOs from 34 PHLs
  - Goal: Shape BSOs into future leaders within the laboratory system.
  - 4 day leadership workshops were held at 3 state PHL: HI, FL and AZ

DEMOGRAPHICS

Leadership Workshop Participants' Takeaways

"I plan to use RACI charts in project management areas in the workplace. This will help with defined roles and responsibilities."

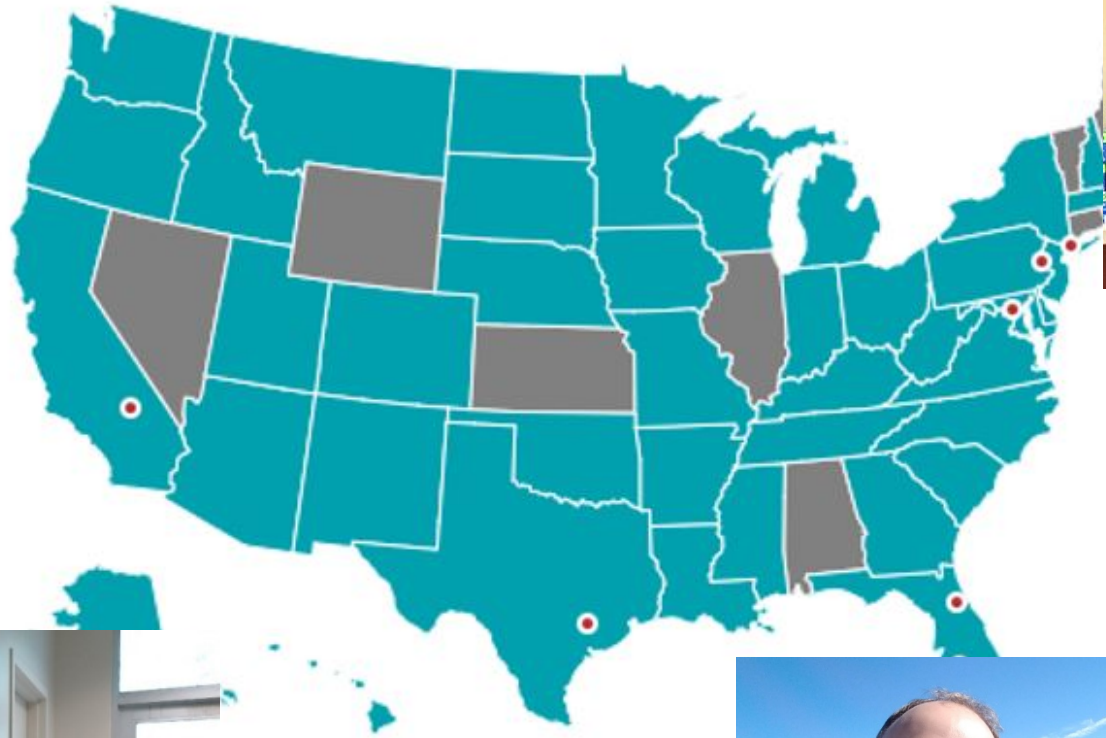
"Helped focus the biggest challenges facing BSOs and provided opportunities to network and build relationships with peers."

"The SOCO training was very effective in identifying communication strengths and weaknesses."

"The past few days rejuvenated the passion for the safety of our employees and community that lay dormant for the past few years."

BSO Peer Network Program

Deliverables: Peer Network Posters, PowerPoints, Trip Reports and [Lab Culture Podcast]



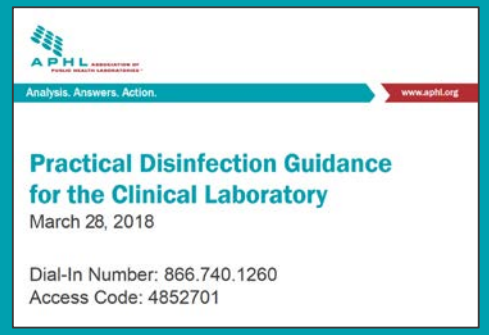
The Network utilizes a twinning concept, pairing BSOs from two PHLs who alternately visit the other's institution. Laboratories are paired based on responses to an application.

ion.

Community of Practice Takeaways

1. Highly successful workforce development tool
2. Provided BSOs exceptional training and tools where they can perform their duties effectively
3. Network of biosafety professionals in both PHLs and clinical laboratories where they can interact **daily, monthly and in person**
4. Created a highly engaged community of biosafety professionals
5. Plan to continue to evolve and build this community

aphl.org/biosafety



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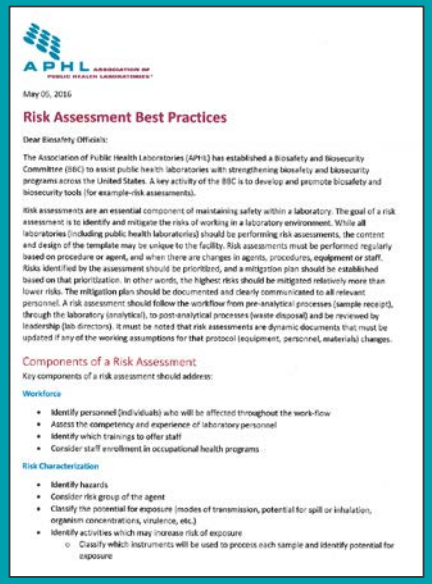
Practical Disinfection Guidance for the Clinical Laboratory

March 28, 2018

Dial-In Number: 866.740.1260
Access Code: 4852701



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May 05, 2016

Risk Assessment Best Practices

Dear Biosafety Officials:

The Association of Public Health Laboratories (APHL) has established a Biosafety and Biosecurity Committee (BBC) to assist public health laboratories with strengthening biosafety and biosecurity programs across the United States. A key activity of the BBC is to develop and promote biosafety and biosecurity tools (for example–risk assessments).

Risk assessments are an essential component of maintaining safety within a laboratory. The goal of a risk assessment is to identify and mitigate the risks of working in a laboratory environment. While all laboratories (including public health laboratories) should be performing risk assessments, the content and design of the template may be unique to the facility. Risk assessments must be performed regularly based on procedure or agent, and when there are changes in agents, procedures, equipment or staff. Risks identified by the assessment should be prioritized, and a mitigation plan should be established based on that prioritization. In other words, the highest risks should be mitigated relatively more than lower risks. The mitigation plan should be documented and clearly communicated to all relevant personnel. A risk assessment should follow the workflow from pre-analytical processes (sample receipt), through the laboratory (analytical), to post-analytical processes (waste disposal) and be reviewed by leadership (lab directors). It must be noted that risk assessments are dynamic documents that must be updated if any of the working assumptions for that protocol (equipment, personnel, materials) changes.

Components of a Risk Assessment

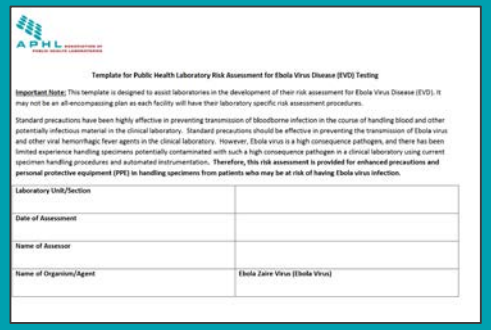
Key components of a risk assessment should address:

Workforce

- Identify personnel (individuals) who will be affected throughout the work-flow
- Assess the competency and experience of laboratory personnel
- Identify which trainings to offer staff
- Consider staff enrollment in occupational health programs

Risk Characterization

- Identify hazards
- Consider risk group of the agent
- Classify the potential for exposure (modes of transmission, potential for spill or inhalation, organism concentrations, virulence, etc.)
- Identify activities which may increase risk of exposure
  - Classify which instruments will be used to process each sample and identify potential for exposure



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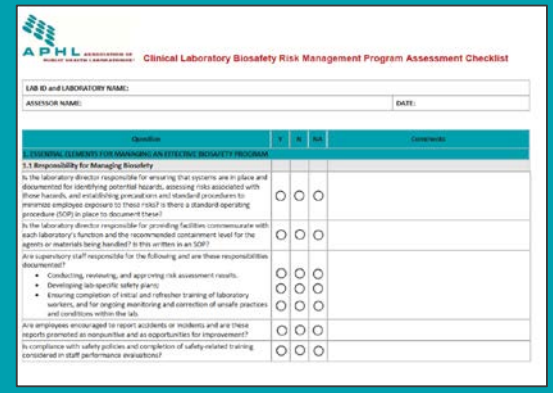
Template for Public Health Laboratory Risk Assessment for Ebola Virus Disease (EVD) Testing

Important Note: This template is designed to assist laboratories in the development of their risk assessment for Ebola Virus Disease (EVD). It may not be an all-encompassing plan as each facility will have their laboratory specific risk assessment procedures.

Standard precautions have been highly effective in preventing transmission of bloodborne infection in the course of handling blood and other potentially infectious material in the clinical laboratory. Standard precautions should be effective in preventing the transmission of Ebola virus and other viral hemorrhagic fever agents in the clinical laboratory. However, Ebola virus is a high consequence pathogen, and there has been limited experience handling specimens potentially contaminated with such a high consequence pathogen in a clinical laboratory using current specimen handling procedures and automated instrumentation. **Therefore, this risk assessment is provided for enhanced precautions and personal protective equipment (PPE) in handling specimens from patients who may be at risk of having Ebola virus infection.**

Laboratory Unit/Section	
Date of Assessment	
Name of Assessor	
Name of Organism/Agent	Ebola Zaire Virus (Ebola Virus)



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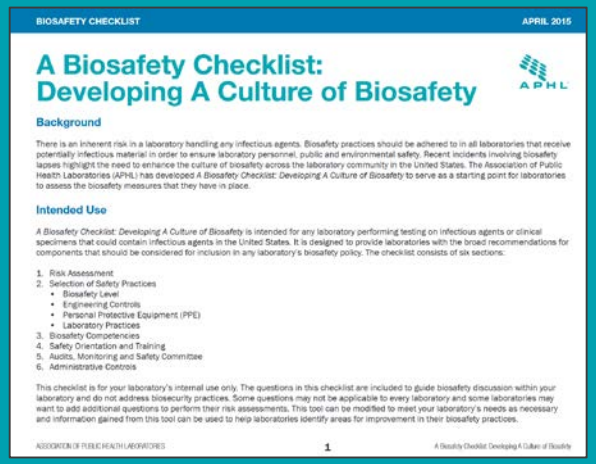
Clinical Laboratory Biosafety Risk Management Program Assessment Checklist

LAB ID and LABORATORY NAME:	
ASSESSOR NAME:	DATE:

Question	Y	N	NA	Comments
ESSENTIAL ELEMENTS FOR MANAGING AN EFFECTIVE BIOSAFETY PROGRAM				
1.1 Responsibility for Managing Biosafety				
Is the laboratory director responsible for ensuring that systems are in place and documented for identifying potential hazards, assessing risks associated with those hazards, and establishing precautions and standard procedures to minimize employee exposure to these risks? Is there a standard operating procedure (SOP) in place to document these?	○	○	○	
Is the laboratory director responsible for providing facilities commensurate with each laboratory's function and the recommended containment level for the agents or materials being handled? Is this written in an SOP?	○	○	○	
Are supervisory staff responsible for the following and are these responsibilities documented?				
• Conducting, reviewing, and approving risk assessment results.	○	○	○	
• Developing lab-specific safety plan(s)	○	○	○	
• Ensuring completion of initial and refresher training of laboratory workers, and for ongoing monitoring and correction of unsafe practices and conditions within the lab.	○	○	○	
Are employees encouraged to report accidents or incidents and are these reports promoted as nonpunitive and as opportunities for improvement?	○	○	○	
Is compliance with safety policies and completion of safety-related training considered in staff performance evaluations?	○	○	○	



BIOSAFETY CHECKLIST APRIL 2015

A Biosafety Checklist: Developing A Culture of Biosafety

APHL

Background

There is an inherent risk in a laboratory handling any infectious agents. Biosafety practices should be adhered to in all laboratories that receive potentially infectious material in order to ensure laboratory personnel, public and environmental safety. Recent incidents involving biosafety lapses highlight the need to enhance the culture of biosafety across the laboratory community in the United States. The Association of Public Health Laboratories (APHL) has developed *A Biosafety Checklist: Developing A Culture of Biosafety* to serve as a starting point for laboratories to assess the biosafety measures that they have in place.

Intended Use

A Biosafety Checklist: Developing A Culture of Biosafety is intended for any laboratory performing testing on infectious agents or clinical specimens that could contain infectious agents in the United States. It is designed to provide laboratories with the broad recommendations for components that should be considered for inclusion in any laboratory's biosafety policy. The checklist consists of six sections:

1. Risk Assessment
2. Selection of Safety Practices
   - Biosafety Level
   - Engineering Controls
   - Personal Protective Equipment (PPE)
   - Laboratory Practices
3. Biosafety Competencies
4. Safety Orientation and Training
5. Audits, Monitoring and Safety Committee
6. Administrative Controls

This checklist is for your laboratory's internal use only. The questions in this checklist are included to guide biosafety discussion within your laboratory and do not address biosecurity practices. Some questions may not be applicable to every laboratory and some laboratories may want to add additional questions to perform their risk assessments. This tool can be modified to meet your laboratory's needs as necessary and information gained from this tool can be used to help laboratories identify areas for improvement in their biosafety practices.

ASSOCIATION OF PUBLIC HEALTH LABORATORIES 1 A Biosafety Checklist: Developing A Culture of Biosafety

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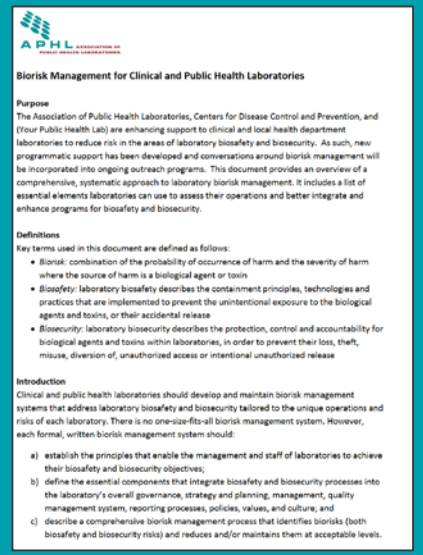
Enhancing Biosafety and Biosecurity in the Nation's Public Health Laboratories

A Report of the APHL 2015 Biosafety and Biosecurity Survey



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Biorisk Management for Clinical and Public Health Laboratories

Purpose

The Association of Public Health Laboratories, Centers for Disease Control and Prevention, and (Your Public Health Lab) are enhancing support to clinical and local health department laboratories to reduce risk in the areas of laboratory biosafety and biosecurity. As such, new programmatic support has been developed and conversations around biorisk management will be incorporated into ongoing outreach programs. This document provides an overview of a comprehensive, systematic approach to laboratory biorisk management. It includes a list of essential elements laboratories can use to assess their operations and better integrate and enhance programs for biosafety and biosecurity.

Definitions

Key terms used in this document are defined as follows:

- *Biorisk*: combination of the probability of occurrence of harm and the severity of harm where the source of harm is a biological agent or toxin
- *Biosafety*: laboratory biosafety describes the containment principles, technologies and practices that are implemented to prevent the unintentional exposure to the biological agents and toxins, or their accidental release
- *Biosecurity*: laboratory biosecurity describes the protection, control and accountability for biological agents and toxins within laboratories, in order to prevent their loss, theft, misuse, diversion of, unauthorized access or intentional unauthorized release

Introduction

Clinical and public health laboratories should develop and maintain biorisk management systems that address laboratory biosafety and biosecurity tailored to the unique operations and risks of each laboratory. There is no one-size-fits-all biorisk management system. However, each formal, written biorisk management system should:

a) establish the principles that enable the management and staff of laboratories to achieve their biosafety and biosecurity objectives;
b) define the essential components that integrate biosafety and biosecurity processes into the laboratory's overall governance, strategy and planning, management, quality management system, reporting processes, policies, values, and culture; and
c) describe a comprehensive biorisk management process that identifies biorisks (both biosafety and biosecurity risks) and reduces and/or maintains them at acceptable levels.

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Knowledge Retention Toolkit

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Introductory Memorandum: Recruiting Biosafety Officers

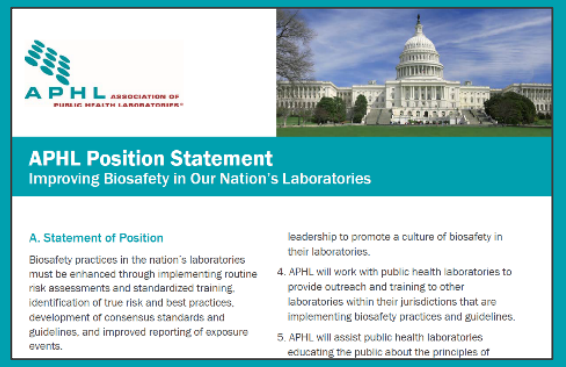
The Association of Public Health Laboratories (APHL) developed the enclosed **competency-based Biosafety Officer Position Description (PD) Template** to assist state and local public laboratories with their recruitment efforts. Utilizing funds from the Centers for Disease Control and Prevention (CDC) Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement and if applicable other sources, state and local public health laboratories will recruit Biosafety Officers with the ultimate goal of improving safety across the jurisdiction. While the term Biosafety is frequently used in the position description, APHL envisions that the Biosafety Officer will work in concert with other personnel to address safety across the public health laboratory and in sentinel clinical laboratories.

The majority of the competency statements used in the Biosafety Officer (PD) Template are from the Safety, Workforce Training, Security and Communications domains found in the *Competency Guidelines for Public Health Laboratory Professionals*.[1] To complete the expected duties and responsibilities of this unique position, additional competencies from the Microbiology, Emergency Management and Response, Quality Management Systems and General Laboratory Practice domains were also included. The competency tier levels selected from these eight domains are marked at the end of each competency statement (i.e., C = Competent, P = Proficient, E = Expert). Users may interchange tier levels to better fit the position responsibilities in their respective agencies. **APHL recommends reviewing the competency guidelines referenced above for additional tier levels and/or other competencies important to the specific position.**

Please note that in most instances, the competencies listed here are verbatim from the Competency *Guidelines for Public Health Laboratory Professionals*. **Users of the APHL Biosafety Officer PD Template may want to condense and/or combine competencies to meet their requirements and needs.**

The following may vary with the agency electing to use the Biosafety Officer PD Template: position title; recommended education and experience; agency organizational structure and reporting requirements; and weights (%) for each domain/topic area.

APHL thanks the Workforce Development Public Health Laboratory Competency Implementation Workgroup for developing the PD Template and appreciates the feedback provided by the Biosafety and Biosecurity Committee. In the coming months, APHL will work closely with CDC and other partners to create a Community of Practice for Biosafety Officers. For questions pertaining to APHL's biosafety activities, please contact biosafety@aphl.org.



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APHL Position Statement

Improving Biosafety in Our Nation's Laboratories

A. Statement of Position

Biosafety practices in the nation's laboratories must be enhanced through implementing routine risk assessments and standardized training, identification of true risk and best practices, development of consensus standards and guidelines, and improved reporting of exposure events.

leadership to promote a culture of biosafety in their laboratories.

4. APHL will work with public health laboratories to provide outreach and training to other laboratories within their jurisdictions that are implementing biosafety practices and guidelines.
5. APHL will assist public health laboratories educating the public about the principles of

Building Biosafety Awareness

- Advocacy: need continued federal funding
- Connection with Academia: Biosafety Curricula
  - ➢ Kirkwood Community College

Building Biosafety Awareness

- Biosafety Month

WEBINAR

Biosafety: Out of the Box!

Thursday, October 31, 2019 | 2:00 — 3:00 pm ET

APHL

APHL Celebrates Biosafety and Biosecurity Month

Photo and Success Story Contest

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In celebration of #biosafety_biosecurity month, APHL is pleased to present a photo and success story competition among state, local and territorial public health laboratory biosafety officers (BSO). APHL will use these photos and success stories to showcase the importance of biosafety and biosecurity in ensuring the safety of laboratorians and the public.

Win 2 coach airline tickets on Delta to anywhere in the continental US!

Biosafety Officer Spotlight Series

APHL

Peter Davis

Responsible Official/BT Coordinator/Biosafety Officer
Colorado Department of Public Health and Environment

When you were a kid, what did you want to be when you grew up?
Well the first thing I ever remember wanting to be was a stegosaurus. But realistically (or unrealistically) a professional athlete.

How did you come to work in a public health lab and in the field of biosafety and biosecurity?
I was shadowing physicians before going to medical school and generally, they didn't seem happy with their careers. Several of them directly recommended not following in their footsteps. I then took a job in toxicology at the Colorado Department of Public Health and Environment, I then was promoted into a safety position, then the ELC grant provided funding and I was awarded the position of biosafety officer for our laboratory.

What do you like most about being a Biosafety Officer?
Supporting the staff. Doing what I can to provide them the tools to help themselves, but assist them when a need develops.

What is a challenge you face as a Biosafety Officer?
A lack of authority makes implementation and behavior correction difficult for laboratory workers and research scientists.

Biosafety Forum: Public Health Laboratory Outreach Clinical Laboratory Engagement and Needs

Focus: Discuss the current and unmet biosafety needs and challenges of both public health and clinical laboratories, define a successful outreach program and discuss solutions to enhance biosafety.

Biosafety Forums: Public Health Laboratory Outreach, Clinical Laboratory Engagement and Needs

Forum locations:

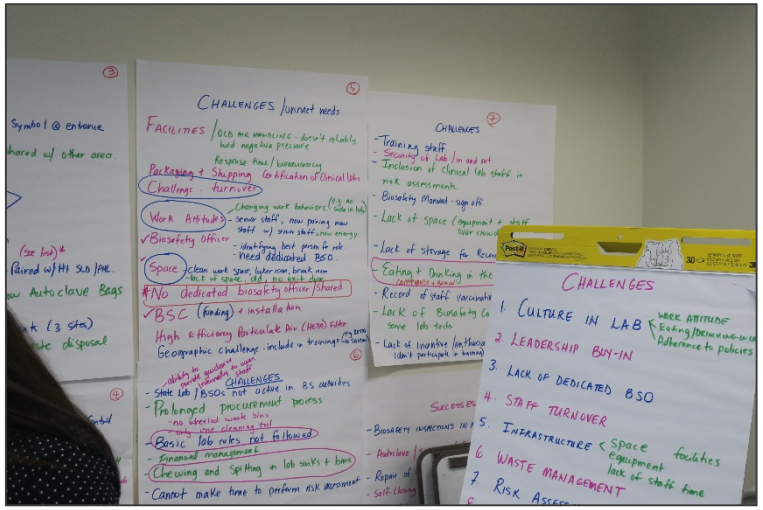
- Minnesota Department of Health Public Health Laboratory
- Hawaii State Laboratories Division
- North Carolina State Laboratory of Public Health
- California Department of Public Health State Public Health Laboratory

84 clinical laboratory representatives	**28 hosting PHL representatives**	**12 local PHL representatives (CA forum)**	**5 APHL staff**	**6 CDC staff (5 DLS, 1 DPEI/ELC)**	**1 Retired LabCorp Participant**

Biosafety Forums: Public Health Laboratory Outreach, Clinical Laboratory Engagement and Needs

Focus:

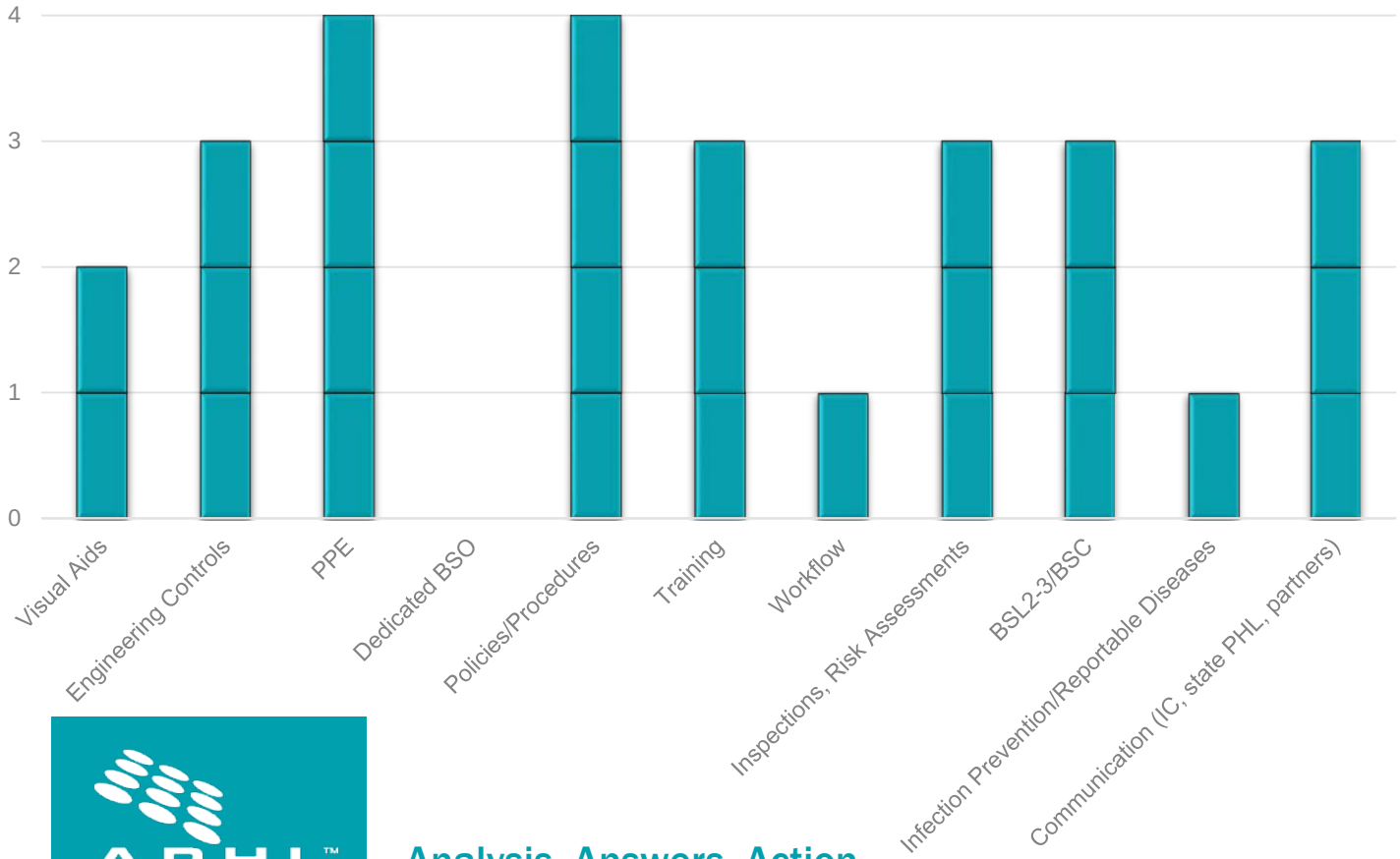
1. Describe Laboratory biosafety successes and unmet needs.
2. Define outreach and characteristics of a model outreach program.
3. Participate in an affinity exercise and perform a root cause analysis to capture and prioritize laboratory biosafety needs



Biosafety Forums: Public Health Laboratory Outreach, Clinical Laboratory Engagement and Needs

Top Successes: Policies and Procedures, PPE

Lacking Dedicated BSO

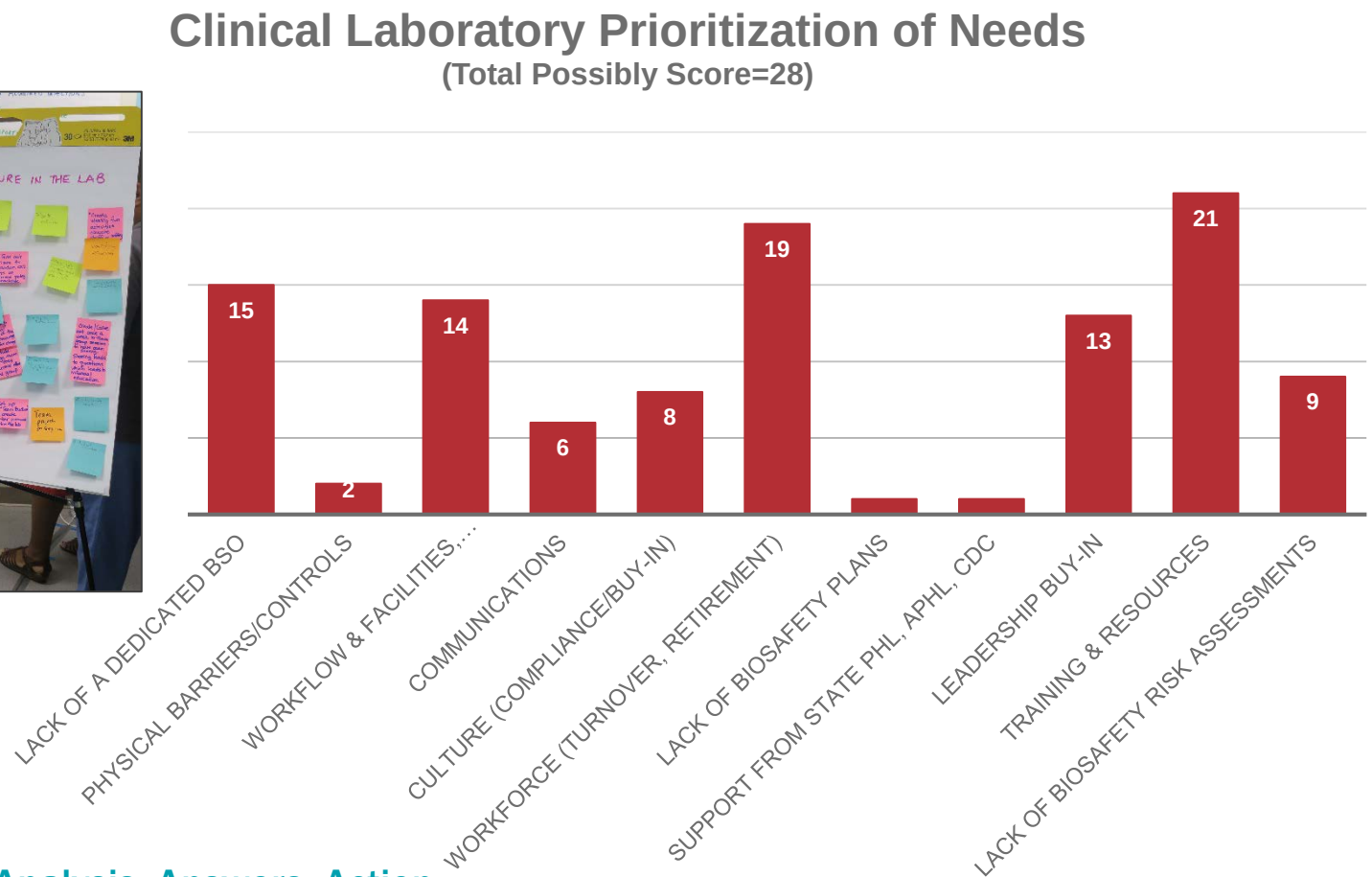


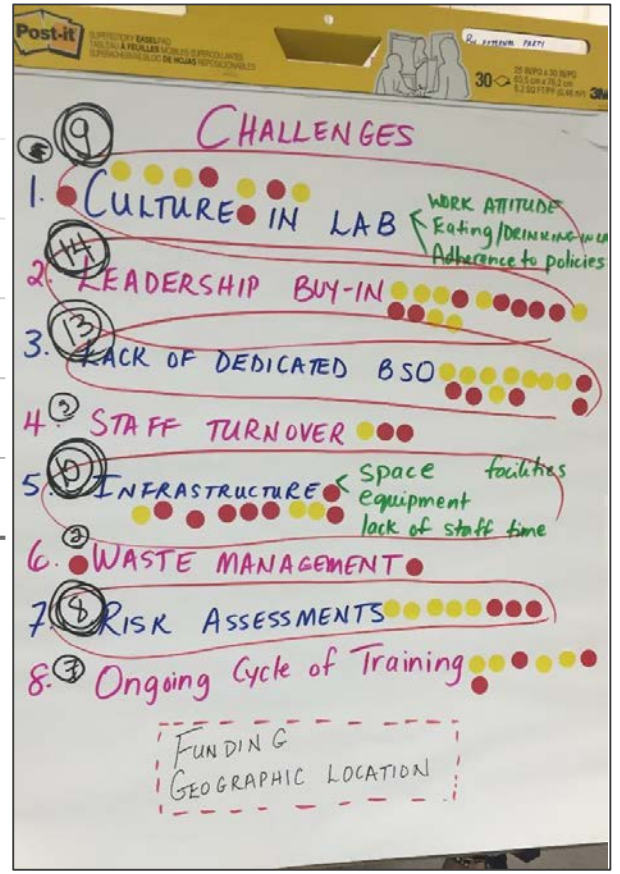
Biosafety Forums: Public Health Laboratory Outreach, Clinical Laboratory Engagement and Needs

Characteristics of a Successful Outreach Program: Face-to-face and networking and the availability of training and access to resources

Biosafety Forums Continued

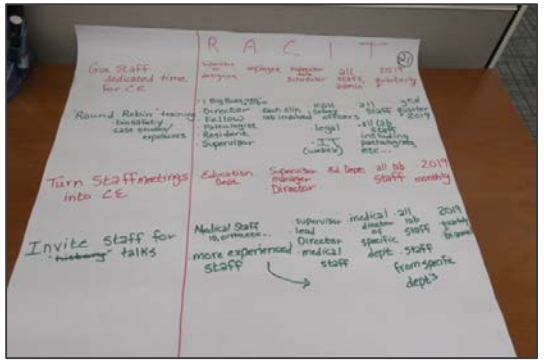
Challenges and Needs: Training and Resources, Workforce, and Lack of a Dedicated BSO followed by Leadership Buy-In and Improvement in Workflow, Facilities, and their Infrastructure





Biosafety Forums Continued

Solutions



Identified Needs	Proposed Solutions
Training & Resources	• Develop round robin trainings focused around various **LAI case studies** intended for all laboratory staff in biosafety to have a larger audience and to gain more buy-in. • In order for staff to have the opportunity to receive trainings, participants stressed to schedule trainings either at the start of the day or during lunch break hours. • Establish a routine for rounding where bench staff would be able to communicate with upper management on potential training opportunities along with implementing biosafety and biosecurity meetings between staff • **Cross train laboratory staff** so they can become familiar with multiple roles in the workplace. Participants recommended using a train the trainer approach along with including show and tell learning to showcase how laboratory staff perform specific testing safely. • Identify all the training needs from laboratory staff and review resources that were available to them online through organizations such as APHL, CDC and PHLs to review the remaining training gaps. Once these gaps are identified, the laboratory can develop specific trainings.
Workforce (turnover & retirement)	• Participants recommended convening career days at local high schools to recruit possible laboratory staff along with **recruiting** through the state Medical Technician and Medical Laboratory Technician programs. • Participants also recommended partnering with clinical laboratory science schools to **train students** on the potential hazards in the workplace and to become familiar with best practices to reduce the risk of LAIs. • Participants recommended including biosafety **discussions during monthly staff meetings** to address safety as a daily priority in the laboratory workplace. • Working with academic institutions and national organizations to build biosafety in current graduate, undergraduate and professional development **curricula** and to promote the value of biosafety to the emerging workforce.
Lack of a dedicated BSO	• Human Resources should develop a **position description for BSOs** and distribute across jurisdictions to hire and fill the BSO position. APHL mentioned they have developed a competency based BSO positon description that is housed on their biosafety website (www.aphl.org/biosafety) which attendees can utilize. The BSO should also **report directly to the laboratory director to influence buy-in from staff**.

Training and Resources Needs Identified

- Risk Assessments
- Packaging and Shipping
- BSL-2&3 Practices

9a. If public health laboratory training was available to you at no cost, would you choose the following areas/ topics?

Question	Yes	
	%	n
Biological Risk Assessment	89.8%	439
Biosecurity Plan	87.1%	426
Certification in packaging/shipping of IATA Division 6.2 infectious substances (Category A)	84.9%	415
BSL-2 safe practices (fundamentals of biological materials safety practices, excluding bloodborne pathogen training)	80.8%	395
Continuous Quality Improvement (review, improvement, and implementation)	76.5%	374
Select Agent Regulations	76.3%	373
Emergency Management and Response	75.3%	368

9. Has your staff received training on the following topics?

Question	Yes	
	%	n
Sharps Hazard	99.6%	487
Bloodborne Pathogens	99.4%	486
Personal Protective Equipment (PPE)	99.2%	485
Spill Prevention, Control, and Countermeasure	97.5%	477
Chemical Hazards	95.9%	469
Biological Safety Cabinets (BSCs) and other Engineering Controls	92.6%	453
BSL-2 safe practices (fundamentals of biological materials safety practices, excluding bloodborne pathogen training)	91.6%	448
Regulated Waste Management	90.8%	444
Emergency Management and Response	90.2%	441
Continuous Quality Improvement (review, improvement, and implementation)	90.2%	441
Certification in packaging/shipping of IATA Division 6.2 infectious substances (Category A)	89.4%	437
Decontamination	87.5%	428
Biological Risk Assessment	69.3%	339
Select Agent Regulations	67.1%	328
Biosecurity Plan	64.6%	316
BSL-3 safety practices	44.4%	217
Safe Handling and Use of Cryogenic Liquids	30.5%	149

Unmet Needs and Issues across Laboratories

- Dedicated Biosafety Officers
- Clinical laboratory biosafety practices
- Lack of biosafety buy in from leadership
- Biosafety not seen as a priority across laboratories
- Hands on training
  - Risk Assessments
- Mentorships across laboratories
- BSL-2&3 Practices

Mentorships across laboratories

- In person site assessments with four US-Affiliated Pacific Islands PHLs
  - FSM, Guam, Northern Marianas Islands, American Samoa
  - Included Virtual Leadership Exercise with Safer Behaviors
  - Utilized BBC membership
  - Provided summary reports for APHL and CDC
  - Invited staff to attend Biorisk Management Workshop

Hands on training/Risk Assessment

- Colter Instructional Design Series
- Biorisk Management Workshop
  - PHL and Clinical Lab Attendees

BSL-2&3 Practices

- Eagleson BSL-3 Seminar Series
  - BSL3 Facilities: Design and Operation, Advanced BSL3 Practices and Procedures
  - 18 PHL staff

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Unmet Needs and Issues across Laboratories

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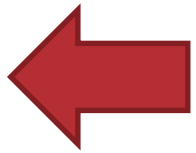

APHL BBC Priorities

Unmet Needs and Issues across Laboratories

- Dedicated Biosafety Officers
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Concerns for the Future

- Sustainable Federal Funding
- BSOs leaving for other biosafety careers for private/academic institutions
  - Other bench role duties at PHL
  - Loosing subject knowledge
- Relationships built across laboratories
- Are we prepared for the next Ebola?

10. Based on the training and knowledge of your laboratory staff, do you believe they are prepared to respond to an emerging threat comparable to Ebola Virus Disease?

Answer	%	n
Yes	60.5%	296
No - Please provide a brief explanation as to why staff are not prepared to respond to an emerging threat	39.5%	193

Explanations included lack of specific knowledge and training on how to respond to an emerging threat, institutions not having the proper resources including facilities, equipment and staff necessary, and lack of documented laboratory procedures. Individual responses are on file with APHL.

Thank you!

Questions?

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