Leadership in Biosafety

October 2, 2018
Continuing Education Credits

The Association of Public Health Laboratories (APHL) is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® Program. Participants who successfully complete this program will be awarded 1 P.A.C.E. contact hour.
Presenters

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Wm Bryan Burk, BS
Utah Public Health Laboratory

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Florida Department of Health, Bureau of Public Health Laboratories

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pc Biosafety Consulting Services, LLC
Tools and Resources in Building Technical and Leadership Skills in Biosafety

Michael Marsico, MS
Senior Specialist, Biosafety and Biosecurity
Association of Public Health Laboratories
Biosafety Charge

• Biosafety and Biosecurity Initiatives
  – Housed under APHL’s Public Health Preparedness and Response Program; cross-organizational approach to strengthen biosafety domestically and globally

• Coordinate national efforts to improve biosafety in PHLs and support outreach to clinical laboratories
  – *CDC Funding: PHLs received $24 million over 3 years with a one-year extension to strengthen internal biosafety and assist clinical labs
  – **CDC Funding: APHL received $2.2 million to serve as a resource for laboratories and coordinate the strengthening biosafety initiatives.

*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

**APHL-CDC Cooperative Agreement Domestic Laboratory Biosafety for Ebola and Other Highly Infectious Diseases
What have we been doing?

- Serve as Subject Matter Experts
  - Biosafety and Biosecurity Committee
  - Biosafety and Biosecurity Partners Forum
- Provide Tools/Resources
- Ensure access to targeted educational and training opportunities
- Coordinate national efforts to improve PHL and clinical laboratory biosafety capacity
What are we doing?

- **Tools/Templates:** [aphl.org/biosafety](http://aphl.org/biosafety)
  - Checklists
  - Risk Assessment Templates (e.g. Ebola)
- Webinars and Site Visits
- Biosafety Community of Practice
Educational Efforts

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 high-risk and high-priority 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 biosafety practices and guidelines. Public health laboratories public about the principles of

During the Ebola virus outbreak in 2014, a four-year-old girl who had recently returned from West Africa arrived in the emergency room of a hospital in the US Northeast suffering from a high fever and severe dehydration. Out of concern that their young patient might be infected with Ebola, the hospital staff sought the advice of the state epidemiologist who informed them that the girl’s illness was most likely malaria. But this information did not allay their concerns. Fearing exposure to the virus, they refused to insert an IV or perform other laboratory tests until they had test results from the state public health laboratory.

So for over 10 hours the girl waited, receiving only popsicles, while a specimen was transported to the laboratory and analyses conducted. And the result? The girl was positive for malaria. With this diagnosis, the hospital finally initiated treatment.

The girl was fortunate—she lived—but others were not so lucky; at least two others died in similar cases. Had the US Ebola outbreak been widespread, there would have been more such deaths. Yet staff
Biosafety Community of Practice

- **Biosafety CoILABorate 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 (~180), Biosafety Outreach Officers along with clinical laboratory

- **Biosafety Peer Network**
  - Collaboration between APHL and Safer Behaviors (Sean Kaufman)
  - Program extended into Year 3
  - 120+ participants, including global community
  - Biosafety Officer Leadership Program
Workshop Series

  - 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
  - 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
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.
  ➢ Goal: Shape BSOs into future leaders within the laboratory system.
  ➢ 4 day leadership workshops were held at 3 state PHL: HI, FL and AZ
Workshop Series Demographics

- **Technical Workshops**
  - 51 BSOs from 47 PHLS

- **Leadership Workshops**
  - 37 BSOs from 34 PHLs
Biosafety Peer Network

• 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.
• To date, thirty-six PHLs have been selected and paired – for a total of eighteen pairs.
• Deliverables: Peer Network Posters, PowerPoints, Trip Reports and Lab Culture Podcast.

Blue represent the 6 pairings for 2016-2017
Red represent the 6 pairings for 2017-2018
Green represent the 6 pairings for 2018-2019
Questions/Contact

- biosafety@aphl.org
APHL: Biosafety Peer Exchange

Utah and Florida: October, 2017 and January, 2018
Who we are: Florida vs Utah

A tale of two States
COMPARE AND CONTRAST

Area: Utah~85,000 Florida~66,000 mi²

Population: Florida~21,000,000  Utah~3,000,000

Population Density: Florida=397  Utah=3.8 person/mi²

Public Health Laboratory: Florida=3 Utah=1

Hospitals: Florida=300+ Utah=46
WHO’S WHO?

Don’t judge a book…
What have I gotten myself into??

What were my expectations for this visit?

1. What could I steal?
2. What could I hide?
3. What could I bring?
4. What could I say?
What really happened

When expectation gives way to reality

1. What I stole!
2. What I hid.
3. What I took away.
4. What I said.
Florida BPHL signage!
Behavioral Cues Promote Biosafety
Are we really so different?
There is a unifying element to Biosafety that supersedes demographics and locale. Our mission and paradigm are consistent over any differences in appearance.
APHL Biosafety Peer Network Program

Florida visits Utah: January 2018
Bryan Burk – Utah Public Health Laboratory
Ed Kopp – Florida Department of Health, Bureau of Public Health Laboratories (BPHL) - Tampa
Objectives

• Gain understanding of Utah Public Health Laboratory (Utah PHL) facility and practices through conversation and touring, focusing on Biosafety
• Strengthen bond between ELC-funded biosafety officers, Ed and Bryan
• Learn ideas for how to approach training and outreach by observing Utah’s methods
The Interconnected Laboratory

• Testing, Quality, and Safety
• How is this done?
  – Instrumentation
  – Work practices
  – Policies and manuals
  – SOPs
  – Training
  – Competency assessment
Activities

• Attended QA meeting with laboratory leadership
• Toured relevant parts of the laboratory
  • Infectious disease testing areas (bacteriology, virology, molecular, immunology, etc.)
  • Newborn screening
  • CT
  • BSL-3 suite including TB and BT
  • Forensic toxicology
  • Mechanical area and roof
Activities

• Talked to staff to understand testing, practices, and policy
  • Focused on biosafety as it related to the bigger picture
• Accompanied BT, CT, biosafety, and training staff on outreach visits to two sentinel clinical laboratories
  • Timpanogos Regional Hospital
  • Brigham Young University Student Health Center
Activities

Strengthened bond during and after work
Lessons Learned

• Utah PHL and BPHL Tampa labs are similar in many functions (BT, Virology, Bacteriology, Immunology/Serology)
  • Utah has some departments not present in Tampa (like newborn screening and TB) or Florida’s BPHL at all (like forensic toxicology)
• Obvious physical differences (Utah has multiple floors vs Tampa’s one, Utah’s building is newer and a new build)
Lessons Learned

• Many similar instruments and SOPs (like Panther for immunology and many Virology instruments and SOPs) will make comparing and sharing biosafety practices easy.

• Some differences in instruments and layout demonstrate need for site-specific risk assessment, but ideas can be shared between Utah PHL and BPHL Tampa.
Lessons Learned

• Experience validated practices in both labs and gave ideas to consider
  – Eyewash checking policy
  – Fire drills – announced?
  – Disinfectants
  – Rabies testing policies
  – PPE similar yet different - new 3M PAPR
  – Autoclave verification
  – Battery-powered hands-free sinks

Some challenges are common
Lessons Learned

• No security guards in Utah PHL but key fobs are used extensively
  – Utah PHL requires staff to sign in and out of the building with key fob; BPHL Tampa only requires sign in
  – Utah PHL’s method makes it easier to know who is in building at any given time (useful for fires and incidents)

• Utah PHL scans all specimen demographics forms into the BMI System
  – Limits biohazard issue with potentially contaminated paperwork and improves organization
Lessons Learned

• Outreach methods similar/different
  – Utah uses site visits and LRN sentinel lab rule-out and refer workshop
    • Great relationship between public health and clinical labs
    • Opportunity to tour lab and see what is working well
  – Florida offers CAP LPX in lieu of hands-on workshop portion
    • Utah also offers
  – Packaging and shipping classes
  – Utah BT coordinator offers 4 hour PowerPoint presentation from workshop as standalone training by request
    • Florida offers similar albeit a bit longer
  – Florida offers 1 or 2 hour lab biosafety and biosafety risk assessment PowerPoint presentation by request with consultation as needed
Going Forward

• Ed shared observations of Utah PHL with Florida BPHL supervisors and staff
• Differences between labs were examined to see if beneficial changes could be made to Utah PHL or BPHL labs
• Communication has continued between Ed and Bryan to improve outreach, training, and internal biosafety
Ed and Bryan strengthened their bond and now have first-hand knowledge of each other’s public health labs. The bond and knowledge will help them improve biosafety practices and share knowledge in the future.

Thank you to Bryan and the Utah Public Health Laboratory!
Professional Development Opportunities From ABSA International

Patrick Condreay, PhD RBP
President, ABSA International
ABSA International

- 1506 members
  - 85 international members
  - 27 countries
  - 440 credentialed professionals

- Purpose:
  - To promote biosafety as a scientific discipline
  - To serve the growing needs of biosafety professionals around the world
  - Provide a forum for the continuous and timely exchange of biosafety information
A Volunteer Force

• 30 volunteer committees in 7 teams
  – Professional Development
  – Defining the Profession
  – Management
  – Membership Leadership
  – Accreditation
  – Regulatory & Technical Affairs
  – Conference Services

• Supported by the professional office staff
Annual Conference

• Networking
  – Public Health SIG
  – Sun, Oct 14 8:30pm

• Professional Development Courses
  – 26 courses over 3 days
  – An Evolving Culture: Biorisk Management in Clinical Laboratories

• Scientific Program
  – Public Health Session, Monday morning
International Session

• Sunday, Oct 14 1-5pm
  – Sustainable and Durable Biosafety and Laboratory Capacity Building In Resource Restricted Locations
    • Introduction by Martin Jones, Julie Fischer, Kevin Kyle
    • Posters from international attendees
    • Regional speakers on issues/challenges
    • Open discussion
Website (absa.org)

• Access point for multiple resources for biological safety professionals
  • Training tools & resources
  • Animal biosafety videos
  • ABSA/OSHA fact sheets
  • LAI and Risk Group databases
  • Biosafety links
  • ABSA Job Board
Principle & Practices of Biosafety

• Comprehensive, interactive 5-day course
  – Introduce the essential elements of biosafety
  – Designed for individuals with 0-3 years of experience
• Limited to 40 participants
• Next offerings:
  – Mar 2019: San Diego CA
  – July 2019: Pittsburgh PA
Distance Learning Opportunities

• 15 to 20 webinars/year by a variety of SMEs
  – Large-scale Biosafety (Oct30/Nov1)
  – Biosecurity for Lab Animal Programs (Nov7)
  – Research Occupational Health (Nov8)
  – Virus-based Gene Transfer Vectors (Nov13/15)

• Access to recorded webinar can be purchased

• On-demand module
  – Basic Biosafety
  – Others in development
Biosafety Professional Credentials

• Registered Biosafety Professional (RBP)
  – Assessment of education and professional biosafety experience

• Certified Biological Safety Professional (CBSP)
  – Assessment of education and professional biosafety experience
  – Requires passing CBSP Exam

• In 2019 ABSA International will fully take over administration of the CBSP exam
Biosecurity Credentialing

• Biosecurity Task Force 2.0
  – The risk-and threat-based control measures established to prevent the unauthorized access, misuse, loss, theft, diversion and intentional release of valuable biological materials, pathogens, toxins, information, expertise, equipment, technology and intellectual property that have the potential to cause harm to humans, animals, plants, the environment, public safety or national security
  – What would a Biosecurity credential look like
  – What criteria are needed to evaluate/award a credential
  – What resources are needed to support credentialing
  – How do we launch this new credential