Biosafety: Today and Tomorrow

Working With Clinical Laboratories to Improve Biosafety

Erin Bowles
Clinical Laboratory Network Coordinator and Co-Biosafety Officer
Communicable Disease Division,
Wisconsin State Laboratory of Hygiene,
School of Medicine and Public Health,
University of Wisconsin-Madison
erin.bowles@slh.wisc.edu
608-224-4251
Objectives

- Describe approaches biosafety officers have used when working with clinical laboratories to improve biosafety.
- Discuss work that remains to be done to advance a true culture of biosafety in clinical laboratories.
- Explain the benefits gained by public health laboratories in continuing biosafety outreach to clinical laboratories.
Biosafety Yesterday: Fall 2014

- What was in the news?
- How did it make us feel?
- What did we need to do?
Biosafety Yesterday: Late Winter and Spring 2015

Hospital Site Visits:

- Ebola preparedness assessment
  - Laboratory preparedness
    - Specimen collection
    - Non-Ebola supportive laboratory testing for patient care
  - Packaging and shipping
What I Found?

Let the nurses do it…

- Specimen collection
- Testing, QC, & instrument maintenance
- Packaging & shipping
Ebola Funding to the Rescue

Improve the Culture of Biosafety

- Hire or designate Biosafety Officers
- Train Biosafety Officers
  - Regional biosafety meetings
  - Biosafe360 program
  - Leadership training
  - Biosafety topics at APHL Annual Meeting
  - Peer to peer matching
- Biosafety listserv
- Tools and resources
Where Did We Begin?

**Biosafety Risk Assessment:**

- Within public health laboratory
- Outreach to clinical laboratories
  - Set overarching goal
  - Obtain support of Laboratory Technical Advisory Group (LabTAG)
- Role out plan to clinical labs
- Why do it – protect our workforce from LAIs
LabTAG Membership

- One member from each of the seven emergency preparedness regions in WI.
- Three or more additional at-large members.
- Need a mix of people reflective of the different types of clinical laboratories.
- Purposely engage Ph.D. level microbiologists.
- Meet annually for an all day face to face meeting.
- Have monthly, or as needed conference calls.
- Written mission, objectives, and expectations.
The Value of LabTAG

FOR WSLH:
- Provide insights into the clinical laboratories
- Valuable partners who support public health initiatives
- Help with educational events

LABTAG MEMBERS:
- Networking
- Focus Group
- Advocate for clinical microbiology profession and also for it’s role in public health
- Teaching opportunities
- LabTAG meetings are fruitful
- Personal Benefits
Biosafety Today: Accomplishments to Celebrate

Increased General Awareness of Biosafety:

- **Public Health Lab:**
  - Documenting performance of biosafety risk assessment
  - Incorporating biosafety into competency assessment

- **Clinical Labs:**
  - Completed a biosafety risk assessment
  - Increased focus on biosafety
  - Increased awareness of need for:
    - Laboratory specific biosafety plan
    - Employee biosafety competency assessment
  - Published data
    - [http://jcm.asm.org/content/56/1/e01569-17.full.pdf+html](http://jcm.asm.org/content/56/1/e01569-17.full.pdf+html)
Baseline Biosafety Risk Assessment Findings

- 68.7% of labs returned biosafety risk assessments that was analyzed for inclusion in the publication.
- Biosafety risk assessment tool assessed both the facility and tasks performed in the laboratory.
- **Facility assessment** primary gaps that were identified were:
  - Laboratories didn’t understand biosafety level concept and didn’t correctly identify the biosafety level of their laboratory.
  - When biosafety level was determined correctly labs did not have all the minimum biosecurity measures as listed in BMBL, 5th Edit. in place.

http://jcm.asm.org/content/56/1/e01569-17.full.pdf+html
Baseline Biosafety Risk Assessment Findings (cont.)

- **Task assessment** primary gaps that were identified were:
  - No written procedures or training for use of biosafety cabinet or fume hood
  - Lack of biosafety practices when using a centrifuge
  - No training or practice in safely donning and doffing PPE
  - Partially filled biohazardous waste container not covered
  - Biohazardous waste containers overfilled
  - Potential high risk pathogens not always worked with in a biosafety cabinet
  - Labs couldn’t identify how waste was decontaminated by waste disposal company
  - Packaging and shipping certification lacking documentation or not maintained
Biosafety Today: Work Still to be Done

- Dependent on relationships and trust
- Fight complacency
- Must wear biosafety glasses
- Risk assessment is continual
- Expansion beyond microbiology
- Biosafety ownership
Biosafety Tomorrow: Problems Ahead

Public Health Labs:
- Decreased funding for biosafety
- Dwindling Biosafety Officer positions
- Limited data to show effectiveness
- Limited vision

Clinical Labs:
- Don’t see a need for change
- Leadership unable to see the value
- Lack of time to plan and implement changes that improve the culture of biosafety
- Lack of ownership
- Limited biosafety regulations
Biosafety Tomorrow: Moving Forward

Required Biosafety Officer (Outreach) Skillset:

- Outgoing and likeable
- Ability to establish trust
  - Honest, polite, and respectful
- Persuasive and passionate
  - Well spoken
  - Knowledgeable
  - Ability to tailor their message
- Have a vision that inspires others to follow
- Ability to lead and build consensus
- Accept rejection and maintain motivation
- Similar background is helpful
Biosafety Tomorrow: Will We Be Prepared?

We can be prepared, but only if:

- Maintain and/or enhance biosafety culture
- Continue biosafety training and outreach
- Incorporate funding for biosafety efforts in routine budget
- Laboratories accept ownership
- Adopt regulations?
- Provide data

We continue to work to prevent back-sliding!
Biosafety Tomorrow?

What Are You Going To Do?