

# **Biosafety Training and Incident Reporting Practices: A Survey of Biosafety Professionals in the U.S.**

Allison Chamberlain, M.S.  
Duke University/  
Emory University



# Background

## Workshop held in January 2008

- Sponsored by SERCEB PEL/SERCEB Biosafety
- Purpose: to gather info on incident reporting practices among SERCEB schools
- Biosafety training and incident reporting practices vary widely
- Before best practices in either training or reporting can be discussed, more information needs to be gathered → survey

# Survey Design

- Biosafety professionals [vs. laboratory workers]
- Target population: practicing biosafety professionals within the US
- Anonymous, 50-question, web-based survey (SurveyMonkey)
- Pilot tested in April 2008
- Web-based version sent out to all ABSA members (~1700); open for 1 month
- IRB approved

# Survey Respondents

- 318 individuals took the survey
    - 258 eligible
    - 240 chose to participate
- 44% biosafety officers
- 13% EH&S officers
- 13% EH&S directors
- 30% other (includes biosafety advisors, IBC members, animal care and use directors, biosafety managers, etc.)

# Scope of Questions

- **Biosafety training practices**
- **Safety compliance and oversight practices**
- **Incident reporting**
- **Biosafety attitudes and culture**



# **Preliminary results on selected topics**

# Biosafety training requirements

| <b>Respondents from institutions without BSL-3/ABSL-3 labs (n=73)</b> | <b>Respondents from institutions with both BSL-2/ABSL-2 and BSL-3/ABSL-3 labs (n=154)</b> |                               |
|---|---|-------------------------------|
| BSL-2/ABSL-2 training (N=70)  | BSL-2/ABSL-2 training (n=142)   | BSL-3/ABSL-3 training (n=144) |
| 6% do not require training of any individuals                         | 9% do not require training of any individuals   | All require training          |

# Who is required to take biosafety training?

|                           | Respondents from institutions without BSL-3/ABSL-3 labs | Respondents from institutions with both BSL-2/ABSL-2 and BSL-3/ABSL-3 labs |                               |
|---------------------------|---|--|-------------------------------|
|                           | BSL-2/ABSL-2 training (n=66)                            | BSL-2/ABSL-2 training (n=129)  | BSL-3/ABSL-3 training (n=144) |
| Senior scientists/faculty | 91%   | 88%  | 95%                           |
| Lab staff/students        | 97%   | 95%  | 94%                           |
| Visiting scientists       | 74%   | 76%  | 83%                           |
| Custodial/maintenance     | 47%   | 56%  | 57%                           |



# Biosafety training mechanisms used most frequently by biosafety level

|   | <b>BSL-2/ABSL-2</b> | <b>BSL-3/ABSL-3</b> |
|---|---------------------|---------------------|
| <b>In-person instruction:<br/>BS/EH&amp;S officer</b> | 1                   | 2                   |
| <b>In-person instruction:<br/>PI or lab manager</b>   | 2                   | 1                   |

Online or e-educational modules: used more frequently at the BSL-2/ABSL-2 level than BSL-3/ABSL-3 level

# Hands-on training: biohazardous spills

|          | Respondents from institutions without BSL-3/ABSL-3 labs | Respondents from institutions with both BSL-2/ABSL-2 and BSL-3/ABSL-3 labs |                      |
|----------|---|--|----------------------|
|          | BSL-2/ABSL-2 (n=68)                                     | BSL-2/ABSL-2 (n=132)   | BSL-3/ABSL-3 (n=134) |
| Yes      | 18%   | 24%  | 60%                  |
| No       | 79%   | 68%  | 34%                  |
| Not sure | 2%  | 8%   | 7%                   |

# Primary responsibility for teaching biosafety training to new lab workers

|                           | Respondents from institutions without BSL-3/ABSL-3 labs | Respondents from institutions with both BSL-2/ABSL-2 and BSL-3/ABSL-3 labs |                      |
|---------------------------|---|--|----------------------|
|                           | BSL-2/ABSL-2 (n=69)                                     | BSL-2/ABSL-2 (n=141)   | BSL-3/ABSL-3 (n=140) |
| Lab PI or manager         | 39%   | 31%  | 31%                  |
| Biosafety or EH&S officer | 54%   | 55%  | 60%                  |
| Occup H&S officer         | 6%  | 6%   | 5%                   |

## Primary responsibility to train at the BSL-2/ABSL-2 level: perception of lab safety

- **Biosafety or EH&S officer (n=102)**
  - 91 (89%) indicated that they believe the labs they work with or oversee are safe
- **Lab manager or PI (n=64)**
  - 43 (67%) indicated that they believe the labs they work with or oversee are safe

## Primary responsibility to train at the BSL-3/ABSL-3 level: perception of lab safety

- **Biosafety or EH&S officer (n=76)**
  - 63 (83%) indicated that they believe the labs they work with or oversee are safe places to work
- **Lab manager or PI (n=39)**
  - 27 (69%) indicated that they believe the labs they work with or oversee are safe places to work

# Provide explicit instruction on incident reporting: perception of lab safety

- **YES:** n=154
  - 134 (87%) feel strongly to very strongly that the labs they oversee or work with are safe places to work
- **NO:** n=44
  - 21 (48%) feel strongly to very strongly that the labs they oversee or work with are safe places to work

# Summary

- The majority of scientists/students/staff at both the BSL-2/ABSL-2 and BSL-3/ABSL-3 levels receive biosafety training, but gaps remain
  - Attention to maintenance staff and visiting scientists
  - Hands-on training
- Biosafety and EH&S professionals who train new lab workers on biosafety and incident reporting practices are more likely to perceive the labs they work with as safe

# Acknowledgements

- **Ruth Berkelman, MD**---Emory University
- **LouAnn Burnett, MS, CBSP**---Vanderbilt University
- **Sean Kaufman, MPH, CHES**---Emory University
- SERCEB Policy, Ethics, and Law Core
- ABSA





Thank you