Biosafety Outreach and Education in Small Town America

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Objectives

1. Review strategies to define the biosafety needs of sentinel laboratory partners throughout South Dakota.

2. Review strategies used to successfully promote and deliver biosafety training.

3. Define the top barriers and challenges to biosafety training and program implementation.

4. Review South Dakota’s roadmap for future biosafety outreach and education efforts.
South Dakota Public Health Laboratory

- Fee-for-service laboratory
- Located in Pierre, SD
- 29 FTEs
- Testing services:
  - Medical Microbiology
  - Environmental Chemistry
  - Forensic Chemistry
- 31 Sentinel Laboratories
- Over 300 laboratories in SD
Laboratory Biosafety Front and Center!!

- Large Ebola outbreak in west Africa
- Treatment of Ebola patients in the US
- Robust public health response
- Biosafety lapses at US laboratories
Supplemental ELC and PHEP funds were provided to support laboratory biosafety initiatives:

- Equipment and infrastructure improvements
- Biosafety Officer
- Outreach and education
  - Packaging and shipping
  - Risk assessments
  - Biosafety plans
  - BSL3 competency
Critical Questions

1. How do we define specific laboratory biosafety needs of our laboratory partners?

2. How do we use our limited resources to provide laboratory biosafety education and training?

3. What are the most effective tools for biosafety training?

4. How do we “deliver the message”?

5. How do we help our partner laboratories maintain a culture of biosafety?
Biosafety Needs Assessment: Outreach Tools of the trade

To determine clinical laboratory biosafety education and training needs we engaged our laboratory partners at multiple levels.

1. Leveraged existing contact lists - LRN-B Sentinel Lab List
2. Alert partner labs of our biosafety initiatives - Email and Listservs
3. SurveyMonkey to help direct efforts - Short and to the Point!!
   - Interest
   - Location
   - Employer support
   - Biosafety education needs
Biosafety Needs Assessment: What We Learned from our Sentinel Labs

- 22 of 30 Sentinel laboratories responded to the survey
- 14 or 65% indicated they would attend a biosafety workshop
- 12 or 85% indicated they had institution/manager support
- Highest ranked biosafety topics of interest are as follows:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Ranking</th>
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</thead>
<tbody>
<tr>
<td>Laboratory Biosafety Assessments</td>
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<td>Risk Assessment</td>
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<td>Emergency Planning</td>
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<td>Effective Use of Biosafety Cabinets</td>
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<tr>
<td>Shipping Guidelines</td>
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<tr>
<td>Personal Protective Equipment</td>
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<tr>
<td>Receiving, Unboxing, and...</td>
<td>5</td>
</tr>
<tr>
<td>Storage in the Laboratory</td>
<td>4</td>
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<tr>
<td>Analysis of Aerosol Producing...</td>
<td>4</td>
</tr>
<tr>
<td>Liquid and Solid Waste Management</td>
<td>3</td>
</tr>
</tbody>
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Making the Most of Our Biosafety Training Budget

Critical Question: DIY or Contract-out?

- Cost analysis + Program Development ≠ DIY biosafety workshop
- Contracted with Eagleson Institute = excellent decision!!
  - World class biosafety experts
  - Top-notch educators
  - Flexibility to accommodate South Dakota needs
  - Adapted to SDPHL resources
  - Willingness to provide two back-to-back workshops
Delivering the Biosafety Message

**Didactic Lectures:** Power Point driven lectures that facilitated discussion and provided ample time for Q&A

**Small-Group Discussion:** Activities designed to reinforce lecture material
Delivering the Biosafety Message

**Hands-On Activities:** SDPHL mobile laboratory was on-site for both workshops giving participants access to a working laboratory environment.
Biosafety Outreach and Education: Delivering the Message

**Quality Print Materials:** Participants took back to their laboratory a new edition of the SDPHL Bench Guide and all Eagleson course material.
Likes:
Mix of lecture and hands-on learning
Diverse topics
Fun, informative, upbeat speakers
Good locations
Mobile laboratory
Networking opportunities

Dislikes:
Geared to large labs
Geared to high-risk labs
Summer is busy
Two day course
Travel cost and time
Same content as other courses

Most “liked” topics:
Biosafety cabinet review
Personal Protective Equipment

Top Suggestions:
Webinar format
Fewer but longer sessions
Barriers and Challenges to Biosafety Training and Program Implementation

**Staffing/Time:** Many labs are either LEAN by design or are understaffed preventing participation in off-site training courses

- Avera = 25 vacancies
- Sanford = 12 vacancies (including laboratory director)
- Regional = 8 vacancies
- USAJobs = 11 advertisements

**Resources:** Some laboratorians do not have financial support from their institution to support travel, lodging, meals and other expenses associated with off-site training

**Relevance:** Many labs did not believe they needed biosafety training because they “do not perform microbiology”
Laboratory Biosafety in South Dakota
Breaking Down Barriers

**Staffing/Time:**
- Offer multiple 1-day high-impact workshops
- Diversify workshop location
- Minimize travel and associated costs
- Complement workshops with on-site visits

**Resources:**
- Advocate for annual biosafety funds through the ELC cooperative agreement
- Advocate for state general funds to support the SDPHL and its initiatives
- Outcomes-based approach to biosafety outreach

**Relevance:**
- Specific outreach to non-microbiology laboratories
- Reiterate the importance of biosafety to all clinical laboratory disciplines
Laboratory Biosafety in South Dakota Vision for the Future

The SDPHL will continue to offer annual Biosafety Workshops that feature topics relevant to the needs of our laboratory partners and that address CDC biosafety goals.

2017: 3 one-day Eagleson workshops to target laboratorians and infection control and prevention staff.

2018: 8-10 regional workshops in coordination with the SDPHL LRN-B and LRN-C programs.

2019 and Beyond: ???
In Review:

1. The SDPHL is a small public health laboratory with 31 sentinel laboratory partners.

2. In 2016 we coordinated and delivered a series of successful biosafety workshops.

3. Upon follow-up with attendees we defined workshop strengths as well as opportunities for improvement.

4. We also determined top barriers and challenges that prevent laboratorians from participating in biosafety training.

5. Future efforts will better accommodate the needs of our laboratory partners by providing access to relevant biosafety education and by breaking down barriers to training.
Thanks!

- Whitney Lutkemeier – SDPHL Biosafety Officer
- Danette Hoffman – SDPHL Biosafety Team Lead

Staff of Eagleson Institute

South Dakota Laboratorians