SAND2013-2491P

Guided Exercise
Sample Transport

Goal: This exercise focuses on identifying biosafety and biosecurity mitigation measures during transport of a sample from the field into a public health laboratory for analysis. The students will be prompted to identify current mitigation measures, which will familiarize them with common mitigation measures as well as the sample transport process in general. This exercise will allow the students to think about making risk-based mitigation decisions. This exercise is intended for students who have a basic understanding of biosafety and biosecurity and common risk mitigation strategies (engineering controls, administrative controls, practices and procedures, and PPE).

Know:

- The difference between biosafety and biosecurity mitigation measures during sample transport.
- Examples of mitigation measures that address biosafety and biosecurity.

Feel

- Confident identifying risk mitigation measures and knowing how they reduce risk.

Do

- Identify biosafety and biosecurity mitigation measures during sample transport.

Materials:

- Instructor notes
- Public Health Laboratory Access
- Field Station (mock if a real one is not available)
- Transportation
- Pen
- Paper
- One flip chart and marker for instructor to record answers (if possible)
- Interpreter for discussion, if needed

Instructor Notes:

This exercise will primarily be inquiry driven, meaning that the students will work on the activity and the instructor will be there to help (not just give them the answers, but instead provide guidance or examples if necessary). This exercise will be held in conjunction with a tour of a public health facility.

The students will be divided into two teams: 1. Biosafety and 2. Biosecurity. There will be three main stations (Field, Sample Receiving, Laboratory) in which each team will identify

key biosafety and biosecurity mitigation measures. Each team will be responsible for identifying 3 mitigation measures at each station and state how it reduces risk. (if three mitigation measures cannot be identified, then the group should suggest a mitigation measure and state how it reduces risk) Note: 3 was chosen for the sake of time as this will result in 6 reports per station – if more time allows, increasing the number of mitigation measures is possible – also, the instructor can add any that the groups did not capture as part of their 3. The students should be prepared to defend how their identified mitigation measure reduces risk. This will allow them to better understand the function of risk mitigation. As the students report out, the instructor should capture the results on a flip chart (or sheet of paper) to review with the students when they return to the classroom.

It is expected that not all of the students will be very familiar with the details of sample transport or specialized mitigation measures, so the instructors are encouraged to explain this information to them as they work through the exercise.

A key point for the instructor to highlight is how a risk assessment led to the mitigation measures that are identified and that some mitigation measures may be more effective than others, and when one mitigation strategy doesn't work, there are other options to choose from that may work better. The overall goal is to have an in depth conversation about risk mitigation strategies in the context of sample transport in a public health setting. How in depth this conversation gets will depend on the background and student interest.

Time	**Step: Description of Activity**	**Notes**
5 min	1. Introductions. Review Goals, Objectives, timeframe	Verbally review the goals of the exercise, objectives and instructions for the activity listed above - read
20 min	2. Field Station 3. Visit a "Field Station" or have a mock Field Station set up to allow students to see what the field, where samples are collected, looks like – including mitigation strategies that would be in use. This could include samples, collection tubes, transport boxes, transportation, PPE, a secure area cordoned off, trained personnel etc. 4. Allow 10 minutes for the teams to identify their respective mitigation measures and how those mitigation measures reduce risk. 5. Ask the biosafety team to identify 3 biosafety mitigation measures	Expected responses (Biosafety) • PPE – decreases the likelihood of exposure to the agent • Sample collection tubes, boxes, packaging (engineering controls) – contains the agent decreasing the likelihood of exposure to the individual and environment. • Disinfection/decontamination of the workspace (practice & procedure) – decreases the likelihood that others, or the environment will get exposed to the agent. Expected responses (Biosecurity) • Restricted area – (engineering or practice & procedure) decreases

	and the biosecurity team to identify 3 biosecurity mitigation measures. And know how they reduce risk. 6. After 10 minutes, allow each group to report out their answers. 7. The instructor should record these results and prompt a discussion about additional mitigation measures and make sure that the reasons how risk is reduced is correct.	the likelihood of unauthorized people entering the area, decreases the likelihood that others will be exposed. • Chain of custody (practice & procedure) – decreases the likelihood that the sample will fall into the wrong hands. • Locks (engineering controls) – decreases the likelihood that the sample will fall into the wrong hands.
40 min	8. Repeat the above activity at the "Sample Receiving" and "Laboratory" stations during the tour of the Public Health Laboratory. 9. Expected responses may vary depending on what mitigation measures are identified.	Additional examples of mitigation controls that may be found at the other stations: Biosafety – various forms of PPE, SOPs, Lab Aids, Hand washing, waste handling, containment, communication, training, etc. Biosecurity – trusted personnel, locks, containment, verification, communication, SOPs, access controls, monitoring, cameras, etc.
10 min	10. Back in classroom: 11. Post on a flip-chart the mitigation measures identified at each station for biosafety and biosecurity. 12. Review Plenary Discussion – Ask the students what they learned, what it means, and where to go from here?	Instructors will ask for any additional questions and answer them. If additional questions exist – they can be put in the parking lot and addressed at a later time.
75 min total + actual tour time	Evaluation - Dismiss	Pass out Level 1 evaluations KFD for the students. After activity Instructors will fill out Level 2 evaluations.