Small Group Exercises[1]

Case A:
Chronic intracellular persistence has been postulated as the reason why mammalian hosts can remain infected for life. The understanding of virulence mechanisms used by *Brucella* remains sketchy. The purpose of your research is to identify eukaryotic targets for virulence factors produced by the organism *Brucella melitensis.* Your laboratory grows *Brucella melitensis* and then extracts, purifies, and characterizes various candidate molecules, such as cyclic β-1,2-glucan.

Case B:
On a family farm, a teenage son has become ill with a respiratory illness. He has responsibility for caring for the family chickens. Several of the chickens are ill and one died two days ago. A commercial poultry farm is located a few kilometers from the family farm. News of this incident has reached the Public and Agricultural Health Laboratories. They send your team to the family farm to collect samples for diagnostic testing. Your team collects specimens and transports them to the laboratory for presumptive testing. The testing is positive for the H5 strain of avian influenza. Your laboratory must now send the specimens for confirmatory testing. Please be sure to consider the issues related to collecting specimens in the field, conducting the diagnostic tests, and transport.

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Exercise 1: Risk Assessment

1. Assign a malicious use risk group to each organism in your case. Be prepared to justify your choice.

2. How do the proposed activities affect the risk of working with this organism?

3. What other information do you need for your security risk assessments? Are there other questions that you would ask to better perform a risk assessment?

4. What types of biosecurity measures would you recommend to mitigate the security risk? Consider physical security (access controls), personnel security, material control & accountability, and transport issues.