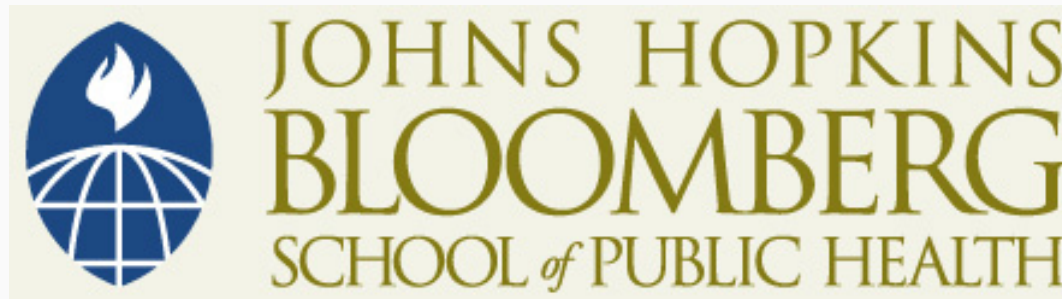


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BLOOMBERG  
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*Part 2 of 5*

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Microbial Characteristics of Interest to Perpetrators

# *Microbial Characteristics of Interest to Perpetrators*

- A primary characteristic perpetrators look for is an agent known for causing morbidity, possible mortality, and perhaps a disease that is difficult to diagnose and to treat.
  - The more severe the morbidity and mortality the greater the fear created.
- Other qualities of an agent include
  - Availability
  - Propagation
  - Stability
  - Dispersion

# *Availability*

- The organism must be available.
- Prior to 1996, many biological agents could be obtained from commercial sources
- New federal regulations have been instituted that make it illegal for biological supply companies to provide certain pathogenic organisms

# *Propagation*

- The agent, once obtained, has to be propagated
  - This takes knowledge, materials, and equipment.
- Purification may also be important.
- Once prepared, the agent has to be stable so that the desired characteristics do not change.
- The infecting dose of the agent is another important consideration and will vary according to the agent and the route of dissemination as well as by the host's susceptibility.

# *Dispersion*

- The route of dispersion will determine the number of people exposed to the agent.
- Aerosol dispersion can expose the greatest number of people over time, but it is very difficult to meet the criteria necessary for widespread distribution.
- The agent has to be infectious by the inhalation route unless the aim is to contaminate a food or water supply by an aerosol.
- Creating an aerosol takes a significant level of kinetic energy
  - Without an adequate energy force, a true aerosol cannot be created.

# *Dispersion*

- Other environmental factors that can influence the success of aerosol dispersion include the direction and velocity of the wind, humidity, sunlight, radiation, and the possibility of the presence of other airborne pollutants.
- However, as the recent anthrax bioterrorism event demonstrated, aerosol dispersion on a smaller scale can occur with an appropriately prepared agent.

## *Food or Water Dispersion*

- Dispersion through food or water allows a greater likelihood of reaching a specific group of people
- However, the dilution factor can be considerable resulting in an ineffective dose being delivered
- Intentional and unintentional dispersion of agents in food and water will be discussed in subsequent modules