

Case Study II – Anthrax in Florida

Objectives / Topics for Case Study II

1. Understanding public health investigations, including:
 - Defining exposed population(s)
 - Providing prophylaxis to exposed persons
 - Identifying the source (i.e., perpetrators / reservoir)
2. Understanding how a public health investigation differs from and is similar to a criminal investigation
3. Addressing communication challenges, including media relations and risk communication (including public health needs vs. law enforcement restriction)
4. Addressing interagency communication
5. Maintaining simultaneous epidemiologic and criminal investigations
6. Defining jurisdictional issues
7. Understanding issues related to the law surrounding entry into and sampling of homes and workplaces

Facts and Questions

Facts I: On October 2, 2001, the Palm Beach Health Department was notified by an infectious disease physician about unusual test results using gram stain (a special dye used to identify bacteria) for a patient with meningitis (bacterial infection of the tissues covering the brain); the patient was a county resident. The State Epidemiologist was contacted and a team of local epidemiologists began an investigation. The state made arrangements for further laboratory testing in the state laboratory. On October 3, specimens were sent to the state laboratory and further information suggested that this case could be a suspect case of systemic anthrax (i.e., anthrax bacteria in the blood). The State Epidemiologist notified the CDC about this case according to established protocol. The CDC notified the FBI Headquarters in Washington D.C. of the situation in Florida, and the FBI field office in Miami dispatched personnel to assist in assessing this unfolding situation.

Question 1: What are the implications of one or more suspected or confirmed cases of anthrax in the United States?

Question 2: How is a suspected case of anthrax confirmed and where are human samples sent?

Facts II: Early on the morning of October 4, the state laboratory, part of the U.S. Laboratory Response Network (LRN), determined that the organism in the patient's specimen was anthrax bacteria – *Bacillus anthracis*, or *B. anthracis* for short. Although the tests were deemed to be conclusive, this rare finding needed independent confirmation. Arrangements were made for samples to be transported to CDC's national reference laboratory in Atlanta, which later verified the Florida results. That same morning, state and federal investigators joined the local staff to conduct an intense investigation of the possible source of the patient's infection. From the public health perspective, this single case of confirmed anthrax is considered to be an epidemic because this form of infection is so rare.

Question 3: What are the goals of this phase of a public health investigation of an epidemic?

Question 4: At this point, how should the investigators handle media relations in terms of what the public needs to know?

Facts III: Because the patient's medical condition had deteriorated such that he could not be interviewed, public health and FBI investigators interviewed his wife and daughter. Investigation of the patient's history revealed that he had traveled by car from Florida to North Carolina and back to Florida in the week prior to his admission to the hospital. The incubation period (i.e., the time interval between the initial infection and the onset of clinical features of disease) for systemic anthrax is believed to range from 1 to 60 days, but is usually from 3 to 7 days. The information collected to this point suggested that the patient's potential exposure could have occurred in either state or any point in between. This information led to environmental investigations (including outdoor activity locations, and residential and work settings) in both North Carolina and Florida in an attempt to identify the possible source of the patient's infection. In addition, because of the potential for this case to have resulted from a criminal act, by October 4, law enforcement officials in both states had been notified. In Florida, local and state law enforcement, the FBI, and public health were now joined in the investigation.

Question 5: Based on the information above, at this stage of the investigation what are the roles of public health officials and law enforcement authorities in the investigation, and under what circumstances might the respective roles of public health and law enforcement officials change?

Question 6: What is the law surrounding entry into and sampling of homes and workplaces?

Question 7: What are the requirements for training and protection of those who may be asked to enter facilities to collect environmental samples?

Facts IV: From October 5-8, public health and law enforcement officials continued the investigation, defining the patient's activities in greater detail and conducting additional environmental testing for the presence of *B. anthracis*. On October 8, the Florida Department of Health's laboratory reported the detection of *B. anthracis* from environmental samples obtained from a mailbox in the patient's workplace, the surfaces in the workplace mailroom, and the patient's computer workstation keyboard. Based on this information, mail was implicated as the potential source of the patient's infection.

Question 8: Does this investigation now become a criminal investigation and, if so, how does this change the role of public health and law enforcement investigators?

Question 9: Who is responsible for determining whether a building should be evacuated and sealed and, if so, when it can be re-entered?

Question 10: What are responsibilities of law enforcement in protecting such a crime scene for the purposes of further investigations and possible prosecution?

Question 11: What are the responsibilities of public health authorities in preventing further cases of anthrax in workers in and visitors to the original case's workplace?

Question 12: Who is in charge of the investigation at the patient's workplace and residence?

Facts V: On October 8, the Palm Beach County Health Department issued an order closing the building in which the patient worked. The building's management voluntarily closed the building when informed of the impending order. Within hours, the FBI declared the building a crime scene and took control of the building.

Based on building plan information, the building's air supply system, and the incubation period of anthrax, the decision was made to offer antibiotic prophylaxis from the National Pharmaceutical Stockpile to all employees and visitors who had been in the patient's workplace building during August 1 through October 7 (this number was approximately 1,114 persons). On October 12, the New York City Department of Public Health reported a suspected case of cutaneous anthrax in an office worker at a large broadcast media outlet in New York City. The onset of illness in that worker appeared to pre-date that of the case in Florida, and the New York City patient recalled having received a letter with suspicious contents approximately 11 days prior to onset of disease. The letter was retrieved by the FBI, and its contents were confirmed to include *B. anthracis* spores.

Question 13: How does the FBI coordinate among local, state, and federal law enforcement efforts during a national investigation?

Question 14: How does public health coordinate among local, state, and federal public health efforts during a national investigation?