# Biological Emergency

### Scenario 1

The Universal Adversary terrorist group disburses aerosol anthrax among the commuters using a concealed improvised spraying device. Twelve hours post-release, patients within and outside of the city present to emergency departments with influenza-like-illness complaints and symptoms. Many are seen and discharged, while a few are serious enough to require admission. Eighteen hours post-release, with large numbers of patients overwhelming emergency departments and clinics, and multiple fatalities, a diagnosis of respiratory anthrax is made. Law enforcement and CDC are notified.

### Scenario 2

The US Centers for Disease Control (CDC) has identified the particular strain as Type A H7N3, a subtype never before isolated from humans. The CDC also reports that the H7N3 virus has been isolated from ill airline passengers and large numbers of cases are now being reported in the United States. There is an increase in the number of persons presenting to emergency rooms with symptoms consistent with influenza. Personnel in key positions are absent due to illness. Estimates indicate that 10% of the population is ill with H7N3 influenza. Intensive care units are overwhelmed, and there is a shortage of mechanical ventilators for patients with severe respiratory syndromes or postoperative needs. All essential services have personnel shortages.

### Scenario 3

**Prior to [date]:**

The World Health Organization (WHO) reports ongoing influenza (H5N1) outbreaks in birds in Asian, European and African countries. There is no evidence of human-to-human transmission, and the alert level remains at WHO Pandemic Alert Period Phase 3, Federal Government Response Stage (FGRS) 0.

**[date]:**

WHO reports evidence of increased human-to-human transmission of H5N1 influenza in Indonesia, Egypt and Vietnam. These cases have been reported with no evidence of bird contact, and many cases are thought to be transmitted from person-to-person within households in both urban and rural areas. Many of the case reports were delayed as the countries’ public health systems are overwhelmed by the numbers of flu cases. For the purposes of this exercise, all reported and confirmed cases demonstrated resistance to all antiviral treatments. MDH has not yet developed a protocol for antiviral distribution.

WHO raises the alert level to Pandemic Alert Period Phase 5, FGRS 2-3. No cases have been reported in the United States or North America; however, the Minnesota Department of Health (MDH) schedules a multi-agency coordination system (MAC) conference call with members from each region throughout the state to discuss the change in Pandemic Alert Phase. Anticipating a potential outbreak in North American and perhaps Minnesota, the purpose of this conference call is to act proactively and begin sharing accurate, real-time situational information.

**[date]:**

Five days ago, Mrs. Germsa, a 42-year old international business woman, returned from a business trip to Indonesia. Last night she began having flu-like symptoms including high fever, cough, and shortness of breath. These symptoms continued through the morning. At 6:00 AM, she is taken to the emergency department (ED) at your hospital via ambulance.

At the ED room, her vitals were taken and chest x-rays show lower lobe infiltrates. Mrs. Germsa denies having tuberculosis and her last PPD was negative.

Based on the change in Pandemic Alert Phase, the attending physician considers H5N1 influenza in the diagnosis and as a precautionary measure, calls MDH Infectious Disease Epidemiology and MDH Public Health Laboratory for recommendations on specimen collection. The attending physician collects clinical specimens including nasopharyngeal and throat swabs and sends these to the MDH Public Health Laboratory. The lab will perform a PCR assay and have results back within 8 hours. Simultaneously, samples are sent to the Centers for Disease Control and Prevention (CDC) for confirmation. Mrs. Germsa is admitted to your hospital and placed in full barrier precautions.

**[date]:**

The analytical results collected from Mrs. Germsa are confirmed by CDC as positive for H5N1 and the attending physician is notified directly. The first human case of H5N1 is confirmed in your city. MDH issues a health alert.

**[date]:**

From home, Mr. Germsa calls 911 for an ambulance when he develops a fever and hacking cough, similar to his wife’s symptoms. Mr. Germsa is admitted to the hospital and immediately placed in full barrier precautions. The attending physician collects clinical specimens including nasopharyngeal and throat swabs and sends these to the MDH lab. MDH lab confirms that the specimens are positive and reports this directly to the hospital attending physician.

MDH works with Mr. and Mrs. Germsa and clinicians from your hospital to determine the close contacts of Mr. & Mrs. Germsa during their probable infectious period. Based on the gathered information, your hospital anticipates that an increased number of infected patients will arrive at the hospital within the next few days.

**[date]:**

Over the past several weeks, 20 patients, all from different parts of the city and not within contact with Mr. and Mrs. Germsa, have complained of similar symptoms which include respiratory complaints, including cough and difficult breathing. Hospital administration activates the hospital surge plan anticipating even more patients.

###  Scenario 4

A terrorist group releases pneumonic plague in three main areas of the twin cities. The release was carried out in the restrooms of the airport, the sports arena during a large event, and the main train station during rush hour. People in the cities are leaving the area and coming down to Rochester. The ED is becoming overwhelmed with potential victims as well as worried well.