

CDC Forensic Epidemiology Case Study:

Strengthening the Coordination of Public Health and Law Enforcement during an Influenza Pandemic*

Objectives / Topics for Case Study

1. Develop a clear understanding of measures needed to ensure coordination between public health and law enforcement agencies, and between federal and state/local agencies, during the pre-event phase of an influenza pandemic.
2. Acquire knowledge about the coordination of public health and law enforcement in declared emergencies.
3. Understand the legal authorities of public health, law enforcement, and other agencies available for implementing pharmaceutical and non-pharmaceutical interventions in both declared and undeclared public health emergencies.
4. Recognize how implementation of selected interventions such as isolation, quarantine, restriction of movement, closure and cancellation of public places or events will be coordinated between public health and law enforcement agencies.
5. Develop a clear understanding of plans for ensuring continuity of operations between public health and law enforcement agencies during the event phase of an influenza pandemic.
6. Identify essential criteria and approaches for assessing agencies' preparedness for an influenza pandemic.
7. Identify basic personal protective measures and knowledge that will allow law enforcement personnel to function effectively in a pandemic setting

Background

Today is November 19. Within the past 2 weeks, the World Health Organization (WHO) has confirmed the isolation of a novel and highly virulent strain of influenza A (H5N1) from clinical specimens obtained from people on several continents. On November 16, the Centers for Disease Control and Prevention (CDC) confirmed the isolation of the same strain in three U.S. states.

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Question 1: What information will tribal, state, county, city, and other local public health and law enforcement agencies receive about an emerging disease threat, and what sources will provide this information?

Question 2: What is the difference between “quarantine” and “isolation”?

Notification of Probable Influenza Pandemic

Today is November 19; so far, there are no reported cases of influenza in (this state). Following the CDC’s announcement of the confirmation of pandemic influenza in the United States, the (this state) Communicable Disease Surveillance and Control Unit (CDSCU) fully activated its plan for intensified surveillance for influenza, including active daily surveillance for cases of influenza-like-illness (ILI) diagnosed in hospital emergency rooms, in outpatient facilities, and in health care providers’ offices located throughout the state.

The CDC has reported the following preliminary findings from epidemiological investigations:

- The illness typically presents as classical influenza with abrupt onset of fever, malaise, muscle aches, cough, and runny nose.
- In approximately 10% of cases, the illness rapidly progresses to a primary viral pneumonia, acute respiratory distress syndrome, and death.
- At-risk populations include people in all age groups regardless of their previous health (i.e., includes otherwise healthy people, as well as those with pre-existing health conditions).
- The average incubation period (i.e., time from the patient’s disease exposure to onset of initial symptoms) is approximately 36-48 hours.

No information is available yet regarding the effectiveness of an influenza vaccine administered to people before they become ill. Preliminary evaluation indicates that anti-viral agents (e.g., oseltamivir, zanamivir) administered both pre- and post-exposure are only partially effective in preventing or lessening the severity of illness.

Question 3: What limits are there on sharing disease-related information about patients between public health, law enforcement, corrections, and other agencies?

November 20: Governor Convenes Meeting of the Pandemic Influenza Response Group

Overnight and early this morning (November 20), the (this state) CDSCU received reports of influenza-like illness among people visiting emergency rooms, urgent care facilities, and health care providers' offices located in the metropolitan area of (the State capital), but also in other parts of the state. The CDSCU immediately informed the State Health Director, who then, according to his State's pandemic preparedness plan, notified the Governor's office. Within a short time, the Governor convened the (this state) Pandemic Influenza Response Group.

The Governor opens the meeting by asking the CDSCU to provide an update on the status of ILI reported throughout the state and other relevant information. The CDSCU reports the following information, based on calls to local public health agencies and health-care facilities, as well as additional reports the CDSCU has received from the CDC and the Governor's office.

- Cases of ILI have been reported among a small number of people of all age groups who live in both city and suburban neighborhoods.
- A cluster of cases has occurred among residents and staff of one large long-term care facility within (the State capital). The long-term care facility is affiliated with two local hospitals that often accept transfers of patients from that facility.
- Clusters of cases have occurred among students, teachers, and staff at local middle and high schools throughout the area.
- A small cluster of cases has been reported among city bus drivers and other transit workers who attended an in-service training a few days earlier.
- A cluster of cases has occurred among inmates in a state prison located on the outskirts of the city.

Question 4: What would be the make up of your State's Pandemic Influenza Response Group?

November 20: Governor Considers Declaring a Public Health Emergency

Given this information about the unfolding threat of an influenza pandemic within the state, the Governor has asked members of the Pandemic Influenza Response Group to offer opinions on the merits of declaring a public health emergency.

Question 5: Under what legal authorities and criteria can a state public health emergency be declared, and who can make the declaration?

Question 6: Following the declaration of a public health emergency, what are the effects on public health and law enforcement operations and coordination in response to the emergency?

November 20: Governor Requests A Review of Legal Authorities for Interventions

As part of the Pandemic Influenza Response Group's deliberations, the Governor is asking the Attorney General and the legal counsel for key agencies – including public health, law enforcement, and emergency management – to confirm legal authorities for intervention measures. The intervention measures that the Governor is considering include non-pharmaceutical interventions (NPIs) such as isolation (separation or movement restriction of ill people), quarantine (separation or movement restriction of exposed people), a general restriction of movement, and closure or cancellation of public places and events. The questions posed by the Governor include the following:

Question 7: What legal authorities authorize and empower public health agencies to implement NPIs during an influenza pandemic?

Question 8: How is the use of legal authorities of public health and public safety agencies coordinated between agencies and between federal and state agencies?

Question 9: What are the potential limitations on the capacity of public health and law enforcement agencies to exercise legal authority to implement NPIs during an influenza pandemic?

November 20: Governor Requests Review of Plans for Continuity of Coordination

The Governor now asks her staff and members of the Pandemic Influenza Response Group to create a list of social events planned throughout the state for the next week. These include:

- Statewide pre-Thanksgiving school events planned for this year to commemorate new historical discoveries about the first Thanksgiving.
- Traditional family and social Thanksgiving gatherings.
- A sold-out Thanksgiving Day basketball game to be played in an arena in the city.
- The opening of a new, nationally hyped film the day after Thanksgiving.
- Kickoff of the traditional post-Thanksgiving holiday shopping season.

Anticipating the urgent need for implementation of NPIs and other significant community safety measures, regardless of whether a public health emergency is declared, the Governor requests an update on the status of agencies' operations plans. Pre-event efforts to ensure continuity of coordination between public health and law enforcement agencies and the courts are key points of discussion.

Question 10: What should public health agencies include in their operations plans to ensure sufficient staff and other resources needed to implement control measures?

Question 11: What should law enforcement and other public safety agencies include in their plans to ensure sufficient staff and other necessary resources?

Question 12: What steps should the courts take to ensure continuity of operations during an influenza pandemic?

Question 13: How have public health and law enforcement agencies and the courts in your community coordinated with each other in the pre-event phase to ensure continuity of operations and effective interactions during an influenza pandemic?

Question 14: How should public health and law enforcement agencies communicate and cooperate with the media during a public health emergency? What are the key messages to convey?

November 21: Addressing Arriving Passengers and Crew at Airport
(Note: optional section if not considered highly relevant to jurisdiction)

As of November 21, the Governor still has not declared a public health emergency in (this state). However, near the conclusion of the Response Group's afternoon meeting, the Governor is interrupted to receive the following urgent message: the CDC Quarantine Station located at the nearby international airport has just communicated that the captains of two inbound transoceanic flights have radioed ahead to report that several passengers and crew aboard each plane have experienced acute onset of fever and respiratory tract symptoms while on the flight. Both flights have been airborne for more than 12 hours and both originated in countries where H5N1 has been isolated among residents. Both captains have conveyed information suggesting that some apparently well passengers are panicking and disorderly, and they may attempt to flee the airport immediately upon arrival. The international airport is situated near a major metropolitan area, but straddles areas in two counties and three separately incorporated municipalities.

Discussions among members of the Pandemic Influenza Response Group about this development highlight the need for implementing control measures for passengers and crew on incoming flights, and preserving operations and public order in the airport at large. The Governor's advisors recommend that both public health and law enforcement staff should be ordered to the airport to address this situation, which will also be covered by the media.

There are two federal air marshals on board one of the flights. Cabin crew members have asked the marshals to help control the passengers.

Question 15: What measures might be directed toward the ill passengers and crew to protect other people on board?

Question 16: At the airport, which sector – public health or law enforcement – will meet the arriving flights and what will their duties be?

Question 17: What are potential areas of confusion in regard to which levels of government (i.e., federal, state, local) are in charge?

Question 18: Which passengers who are exiting the aircraft might be contagious?

November 23: Implementing NPIs in Different Settings

Throughout November 22 and 23, the (this state) CDSCU has received increasing reports of influenza-like illness from health-care providers throughout the state. Moreover, preliminary reports indicate that at least 10% of the people with cases of influenza-like illness have progressed rapidly to catastrophic respiratory distress. Lab results have confirmed that the illness is caused by the influenza A (H5N1) virus. The Governor's Pandemic Influenza Response Group is now meeting daily. Based on this additional information about the apparent rapid spread of the pandemic strain, the Governor has declared a state of emergency, and members of the Response Group conclude that NPIs must be implemented immediately. Among the interventions now ordered by the Governor are:

- An advisory for people not to travel on Thanksgiving Day (Nov. 24) for family or social gatherings, and to undertake other travel only for emergencies.
- Cancellation of the Thanksgiving Day basketball game.
- Closure of shopping malls, movie theaters, restaurants, and other public venues for one week.

- Quarantine of all residents and staff of the large long-term care facility and the two hospitals that routinely receive patients from the facility.
- Group quarantine of all students, teachers, staff, and their immediate family members who attend or work at the middle and high schools reported to have experienced clusters of influenza-like illness.
- Group quarantine of all transit workers who attended in-service training within the previous week.

In addition, physicians at an Indian Health Service (IHS) clinic in the state report several cases of influenza in tribal members who live on the reservation where the clinic is located.

Question 19: Which agency or agencies will enforce NPIs such as mandatory quarantine and closures or cancellations?

Question 20: What level of force should be used to enforce a quarantine order?

Question 21: Which agencies would make and enforce quarantine orders for tribal members who live on tribal lands?

Question 22: Which agency should seek court orders for enforcement of NPIs and how will they obtain those court orders?

Question 23: What are the roles of public health and law enforcement agencies in the delivery of food, medicine, and other essentials to families and individuals subject to quarantine or isolation?

Question 24: What plans and approaches exist for providing personal protective equipment to public health and law enforcement professionals who will be in contact with community members while implementing NPIs during an influenza pandemic?

November 25: Coordination during Distribution of Vaccines and Anti-Virals

By November 25, the pandemic influenza strain has spread throughout the state, and some communities have reported violations of quarantine and other restrictions on movement ordered in those communities. On November 25, the decision is made to release (this state's) stockpile of anti-viral medications and vaccines. Determination of who will receive the medications and

vaccines is based on membership in priority categories determined by the Pandemic Influenza Response Group. Distribution will be done at a limited number of designated health-care facilities throughout the state. Officials for some of these facilities report that they have already been required to use security personnel to turn away large numbers of apparently healthy people who have aggressively demanded medications, food, and care, and they anticipate further problems with crowd control.

Question 25: What staffing plans are there for rationing, security, and communication of messages about points of distribution?

Epilogue: Assessing the Preparedness of Public Health and Law Enforcement Agencies

Question 26: In your community / jurisdiction, do all public health and law enforcement staff members possess a copy of the pandemic influenza plan? What steps have been taken and what trainings conducted to ensure that each has read and otherwise become familiar with the plan?

Question 27: What are three to five priority measures to focus on in order to strengthen your jurisdiction's coordination between public health and law enforcement agencies in the response to pandemic influenza?

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