Suggested Communicable Disease Vignettes

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Target Audience: California Court System Personnel

Upon completion of viewing these vignettes, the attendee should be able to:

- Describe communicable disease scenarios that are disruptive to safe Court operations
- Identify health benefits of various precaution methods (e.g., quarantine vs. isolation of exposed and ill persons, respectively)
- Define factors that result in infectious disease transmission

BACKGROUND – Phases of Pandemic Influenza

In 1999, World Health Organization (WHO) published guidance for pandemic influenza and defined the phases of a pandemic. Revisions were made in 2005 http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf.[1]

Interpandemic Period

Phase 1 No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.

Phase 2 No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

Pandemic Alert Period

Phase 3 Human infection(s) with a new subtype but no human-to-human spread or at most rare instances of spread to a close contact.

Phase 4 Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.

Phase 5 Larger cluster(s) but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible (substantial pandemic risk).

Pandemic Period

Phase 6 Pandemic phase: increased and sustained transmission in the general population.

Postpandemic Period

Return to the Interpandemic period (Phase 1).

Suggested VIGNETTES:

1. *Background: Avian influenza (H5N1) has become transmissible between humans predominantly by respiratory droplet transmission in very localized and limited cases in Asia [WHO Phases 3 - 4, Pandemic Alert Period][2]. It has been reported that human susceptibility to H5N1 is universal. Effective antiviral medications are available for prevention and treatment but in limited supply in the health care system; however, no effective vaccine is currently available.*

   It is now October and today is a State Holiday. "Breaking news" on local television and radio stations is reporting that local members of a martial arts tour group returned from Asia three days ago and at 2am today were hospitalized in critical condition with suspected Avian influenza in the local community hospital. Laboratory confirmation is pending.

   A local public health disease investigation follows; as a result at 5pm the local health officer issues a large number of isolation orders to sick contacts of the tour group. The local health officer has also been compelled to issue quarantine orders to the following exposed entities: entire families, the entire active membership of a Catholic parish (in which the priest became infected and was isolated following Mass in which he administered holy communion), an entire apartment complex (in which multiple and recent cases of pneumonia have been reported and isolated), and the entire staff of the local hospital where multiple staff members have been exposed.

   The next day petitions for writs of habeas corpus have been filed by:
   a. A head of household who must work or face loss of employment and eviction from his home.
   b. Parishioners who claim they did not take communion or otherwise have contact with the priest.
   c. Residents of the apartment complex who are concerned that their confinement in the apartment complex will increase their chances of contracting avian influenza.
   d. Staff of the obstetrics unit of the hospital who claim they work in the portion of the hospital furthest from the emergency room and had no exposure to any members of the martial arts tour group or their families.

   What procedures can the court take to resolve these claims without spreading the disease to court, public health and law enforcement personnel?

Furthermore, the court continues to issue jury summons and a potential juror balks at jury service because she does not want to sit in an “enclosed room” and risk exposure. How does the court respond?

2. *Background: Avian influenza (H5N1) has become transmissible between humans predominantly by respiratory droplet transmission in localized and limited clusters in the United States [WHO Phase 5, the Substantial Pandemic Alert Period - large clusters but still limited human-to-human transmission; sustained community transmission possible]. It has been reported that human susceptibility to the H5N1 is universal. Effective antiviral medications are available for treatment of severe hospitalized human cases only and are in limited supply in the health care system; an effective vaccine will be available in 4 months and then only to pre-designated human target populations.*

   It is now November. A large avian influenza outbreak in commercial and backyard poultry has been confirmed in your County this past month. Breaking news reports laboratory confirmation of three human cases of avian influenza in a small farming town of 2000 people in your County, and numerous court staff, including judges, are reporting in sick, either because they are sick or are afraid of becoming sick. Local hospital intensive care units are short of beds. Emergency departments are overwhelmed with patients with respiratory complaints and fever.

   The local health officer has ordered the quarantine of the entire farming town of 2000 people, the closure of all schools, theatres, and churches, including all sporting events, public gatherings and convention center events. The convention center anticipates hosting a large State Political Convention this week. Various promoters of sporting events and public gatherings, church officials, and political party leaders seek an injunction against the closure order as it applies to them on constitutional grounds. The residents of the quarantined town have petitioned for a writ of habeas corpus out of concern that the quarantine or rather *cordon sanitaire* would accelerate the spread of disease within their community (since many non-exposed individuals would be confined to town)[3].

   In light of the court's diminished staffing, what procedures will the court take to organize, assign and resolve these cases?

3. *Background: Avian influenza (H5N1) has become transmissible between humans predominantly by respiratory droplet transmission in localized and limited clusters in the United States [WHO Phase 5, the Substantial Pandemic Alert Period - large clusters but still limited human-to-human transmission; sustained community transmission possible]. It has been reported that human susceptibility to the H5N1 is universal. Effective antiviral medications are available for treatment of severe hospitalized human cases only and are in limited supply in the health care system; an effective vaccine will be available in 3 months and then only to pre-designated human target populations.*

   It is now mid-December. Human cases of avian influenza have been reported in your county, and numerous court staff, including judges, are reporting in sick, either because they are sick or are afraid of becoming sick. Local hospital intensive care units are short of staff and beds. Emergency departments are overwhelmed with patients with respiratory complaints and fever.

   The local health officer has ordered 3 consecutive "snow days" (*instructing all persons other than emergency responders to remain at home as for a major snowstorm when offices, schools and transportation systems are cancelled*), and the closure of all buildings open to the public (other than hospitals and medical offices), including the courthouse.

   Numerous persons have filed petitions for writs of habeas corpus following the issuance of more specific and targeted quarantine and isolation orders by the local health officer.

   What procedures will be instituted to resolve these claims in a timely fashion with the courthouse closed?

4. *Background: Avian influenza (H5N1) has become easily transmissible between humans by both respiratory droplet and airborne transmission [WHO Phase 6, Pandemic Period[4] - many of the "community" and social distancing measures such as quarantine and closing down schools and such may not be pushed or enforced as much anymore, as in the phases leading up to Phase 6]. It has been reported that human susceptibility to H5N1 pandemic is universal. Neither effective antiviral medications nor vaccines are available to either prevent or treat new cases.*

   It is now the first week of January. Confirmed human cases of avian influenza have been reported in your County. It is reported that among working adults in your County that an average of 20% have become ill – including health care professionals and court personnel. Of those that have become ill, 1% are dying[5]. Hospitals have no further capacity for critical patients and there are no additional mechanical ventilators in the state for patients in respiratory distress. Other strains of influenza, and rhinoviruses, are also active in the county. The initial symptoms of all these strains are similar (coughing, sneezing, runny nose, and fever), making it impossible to distinguish between persons with avian influenza and persons with colds or less virulent strains of influenza.

   Persons with flu-like symptoms are reporting to the courthouse on Monday morning, either as jurors, or to appear in matters pending before the court as attorneys, parties, or witnesses. Many court staff are requesting time off due to illness or to attend to sick family members. Also, some court staff with flu-like symptoms have reported for work because (1) they cannot afford the time off, (2) have too heavy a workload to stay off work unless they are too ill to come in, or (3) do not want to use up their sick leave.

   What procedures can the court take to prevent persons in each of these groups from possibly spreading disease within the courthouse?

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3. *HHS Pandemic Influenza Plan*, U.S.H.H. Services, Editor. 2005. p. S8-21.
4. *Pandemic Influenza*. Key Facts 2005 May 12, 2005 [cited; Centers for Disease Control and Prevention Fact Sheet]. Available from: http://www.cdc.gov/flu/pandemic/keyfacts.htm.
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Glossary

Airborne transmission - microorganism is spread by very small respiratory aerosol (fine mist) particles or dust, which can be breathed in by another person. Small aerosol particles can remain in the air and travel over a greater distance than larger respiratory droplets. Examples of viruses spread by the airborne route are influenza and measles viruses.

Avian Influenza – influenza A viruses found chiefly in birds, but infections with these viruses can occur in humans

Avian Influenza A (H5N1) – influenza A virus subtype that occurs mainly in birds, is highly contagious among birds and can be deadly to them

Communicable disease – any disease that can be transmitted from one person to another

Disease Cluster – The occurrence of cases of disease close together in space, time, or both space and time

Epidemic – The occurrence in a community or region of cases of an illness, specific health–related behavior, or other health-related events clearly in excess of normal expectancy. The community or region and time period in which the cases occur are specified precisely.

Influenza – a highly contagious virus infection that affects the respiratory system (nose, throat and lungs) in humans

Isolation – the (physical) separation of a person with an infectious disease from noninfected people

Pandemic – an epidemic so widely spread that vast numbers of people in different countries are affected

Quarantine – the separation and restriction of movement of persons who, while not yet ill, have been or may have been exposed to an infectious agent and therefore may become infectious

Respiratory droplet transmission - the spread of microorganisms (e.g., viruses) contained in relatively large respiratory droplets that people cough or sneeze. Because of their large size, droplets travel only a short distance (usually 3 feet or less) before they settle. Droplet transmission can occur either directly when droplets are inhaled by another person, or indirectly when droplets land on an object or surface (such as a doorknob or telephone) which is then touched by another individual.

Virulence – the disease-producing ability of a microorganism