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This Infection Prevention and Control plan is a part of the hospital-wide Pandemic Influenza Plan. When a pandemic flu event occurs, the facility will follow the guidelines from the federal, state and location health authorities and work closely with public health officials.

#### Flu Terms Defined

- H<sub>1</sub>N<sub>1</sub> (referred to as "swine flu" early on) is a new influenza virus causing illness in people. This new virus was first detected in people in the United States in April 2009. Other countries, including Mexico and Canada, have reported people sick with this new virus. This virus is spreading from person-to-person, probably in much the same way that regular seasonal influenza viruses spread.
- Seasonal (or common) flu is a respiratory illness that can be transmitted from person to person. Most people have some immunity and a vaccine is available
- Avian (or bird) flu is caused by influenza viruses that occur naturally among wild birds.
- H<sub>5</sub>N₁ variant is deadly to domestic fowl and can be transmitted from birds to humans.
   There is no human immunity and no vaccine is available.
- Pandemic flu is a virulent human flu that causes a global outbreak, or pandemic, of serious illness. An influenza pandemic occurs when a new influenza virus emerges for which there is little or no immunity in the human population, begins to cause serious illness and then spreads easily from person-to-person worldwide. Currently, there is no pandemic flu.

See appendix A regarding information on the comparison of seasonal, avian, and pandemic influenza.

### The flowing definitions are from the Los Angeles Hospital Pandemic Influenza Guidelines, March 2006:

#### **Clinical Case Definition of Influenza**

When influenza is circulating in the community, the presence of fever and cough of acute onset are good predictors of influenza. The positive predictive value increases when fever is higher than 38 °C and when the time of onset of the clinical illness is acute (less than 48 hours after the prodromes). Other symptoms, such as sore throat, rhinorrhea, malaise, rigors or chills, myalgia and headache, although unspecific, may also be present.

#### **Confirmed Case of Influenza**

Confirmed cases of influenza are those with laboratory confirmation (i.e., virus isolation from respiratory tract secretions, identification of viral antigens or nucleic acid in the respiratory tract, or a significant rise in serum antibodies) or clinical cases with an epidemiological link to a laboratory confirmed case.

#### Influenza-Like-Illness (ILI)

For surveillance purposes, the ILI definition currently used in Canada says:

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Acute onset of respiratory illness with fever (>38\_ C) and cough and with one or more of the following: sore throat, arthralgia, myalgia or postration, which could be due to influenza virus.

#### World Health Organization (WHO) Definition of Preparedness Levels

Stages of Pandemic Influenza						
Pandemic Phase		Definition				
Interpandemic Stage	Phase 1.	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. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.				
Pandemic Alert Period	Phase 3.	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 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 general population.				
Postpandemic Period	Return to	interpandemic period.				

#### **Mode of Transmission:**

Influenza is transmitted person to person through close contact. Transmission occurs through multiple routes, including large droplets, and direct and indirect contacts. Fine droplet inhalational transmission may also occur.

• Droplet transmission:

Based on epidemiologic patterns of disease transmission, large droplet transmission has been considered a major route of influenza transmission. CDC

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indicated that data directly demonstrating large droplet transmission of influenza in human outbreaks is indirect and limited

Contact transmission:

Contact transmission of influenza may occur through either direct skin-to-skin contact or through indirect contact with virus in the environment

Airborne transmission:

The relative contribution of airborne transmission to influenza outbreaks is uncertain. Transmission may occur at shorter distances through inhalation of small-particle aerosols (droplet nuclei), particularly in shared air spaces with poor air circulation.

#### Incubation:

The typical incubation period for influenza is 1-3 days, with an average of 2 days.

#### Clinical:

The period of communicability (duration of viral shedding) continues for up to 7 fays after the onset of illness: probably 3-5 days from clinical onset in adults and up to 7 days in children. Young children can also shed the virus before the onset of their illness. Severely immunocompromised persons can shed the virus for weeks or months.

Symptoms of flu include:

fever (usually high) runny or stuffy nose headache muscle aches

extreme tiredness Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more

sore throat common in children than adults

See Appendix B for Influenza Like Illness Assessment Tool.

#### Diagnosis:

- Influenza surveillance information and diagnostic testing can aid clinical judgment and help guide treatment decisions.
- Diagnostic tests available for influenza include viral culture, serology, rapid antigen testing, polymerase chain reaction (PCR), and immunofluorescence assays.

#### **Treatment**

As of fall 2005, the recommendation for treatment includes the use of oseltamivir or zanamivir, administered as early as possible and ideally within 48 hours after onset of symptoms.

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#### **Prophylaxis Treatment**

When deemed necessary by public health authorities, CDC recommend that the close contacts may receive post-exposure prophylaxis with oseltamivir, as zanamivir is not currently indicated for prophylaxis. Close contacts may include family, schoolmates, workmates, healthcare providers, and fellow passengers if the patient has been traveling.

#### **Infection Prevention and Control**

Infection Prevention and Control practices for pandemic influenza are the same as for other human influenza viruses and primarily involve the application of standard and droplet precautions during patient care in healthcare settings (e.g., hospitals, nursing homes, outpatient offices, emergency transport vehicles). During a pandemic, conditions that could affect Infection Prevention and Control may include shortages of antiviral drugs, decreased efficacy of the vaccine, increased virulence of the influenza strain, shortages of single-patient rooms, and shortages of personal protective equipment. These issues may necessitate changes in the standard recommended Infection Prevention and Control practices for influenza. CDC will provide updated Infection Prevention and Control guidance as circumstances dictate.

A set of well established strategies that Outbreaks of influenza have been prevented or controlled through include: vaccination of patients and healthcare personnel; early detection of influenza cases in a facility; use of antivirals to treat ill persons and, if recommended, as prophylaxis; isolation of infectious patients in private rooms or cohort units; use of appropriate barrier precautions during patient care, as recommended for Standard and Droplet Precautions; and administrative measures, such as restricting visitors, educating patients and staff, and cohorting healthcare workers assigned to an outbreak unit. Refer to the Outbreak Investigation Policy (IC# 105) for outbreak management. Keep a surveillance list of patients and employees that are sick with the pandemic flu using the Pandemic Influenza Line List in Appendix C and D.

Early in a pandemic, it may not be clear that a patient with severe respiratory illness has pandemic influenza. Therefore, it is necessary to combine the use of airborne and contact precautions, in addition to standard precautions, until a diagnosis is established.

The following basic Infection Prevention and Control principles for preventing pandemic flu transmission in the hospital will be applied at Rancho for pandemic influenza:

#### 1. Limit contact between infected and non-infected persons:

- Isolate infected persons (i.e., confine patients to a defined area as appropriate for the healthcare setting).
- Limit contact between nonessential personnel and other persons (e.g., social visitors) and patients who are ill with pandemic influenza.
- Promote separation of infected and non-infected persons in common areas to sit or stand at least 3 feet from potentially infectious persons to limit contact between symptomatic and non-symptomatic persons.

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### 2. Protect persons caring for influenza patients in healthcare settings from contact with the pandemic influenza virus. Persons who must be in contact should:

- Healthcare workers should wear surgical masks with other forms of personal protective equipment (PPE) such as gloves, gowns and goggles in conjunction with Standard and Droplet Precautions for close contact(s) with infectious patients.
- Use contact and airborne precautions, including the use of N-95 respirators during activities that have a high likelihood of generating infectious respiratory aerosols:
  - a. Aerosol –generating procedures
  - b. Resuscitation of a confirmed or suspected pandemic influenza
  - c. Providing direct care for patients with confirmed or suspected pandemic influenza-associated pneumonia
- Wear gloves (gown if necessary) for contact with respiratory secretions.
- Perform hand hygiene after contact with infectious patients.

#### 3. Contain infectious respiratory secretions:

- Instruct persons who have "flu-like" symptoms (see below) to use respiratory hygiene/cough etiquette.
- Instruct symptomatic persons to wear a mask in common areas, such as in clinic waiting rooms or when being transported.

#### Management of infectious patients

#### A. Patient placement and droplet precautions

Negative pressure isolation is **not** required for routine patient care of individuals with pandemic influenza. If possible, airborne isolation rooms should be used when performing high-risk aerosol-generating procedures (CDC, October 2006). Patients with known or suspected pandemic influenza should be placed on droplet precautions for a minimum of 5 days from the onset of symptoms. Because immunocompromised patients may shed viruses for longer periods, they may be placed on droplet precautions for the duration of their illness. Healthcare personnel should wear the appropriate PPE. The placement of patients will vary depending on the healthcare setting. If the pandemic virus is associated with diarrhea, contact precautions (i.e., gowns and gloves for all patient contact) should be added.

To minimize the number of personnel required to come in contact with suspected or confirmed pandemic influenza patients and reduce the personnel exposure and demand of respirators, the following measures are recommended by CDC:

Establish specific wards for patients with pandemic influenza.

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 Assigning dedicated staff to provide care for pandemic influenza patients (i.e. health care workers and environmental services workers) and restricting those staff from working with non-influenza patients.

Dedicating entrances and passageways for influenza patients.

#### B. Personal protective equipment (PPE)

- 1. PPE For standard and droplet precautions
  - Masks (surgical or procedure)
    - Wear a mask when entering a patient's room. A mask should be worn once and then discarded. If pandemic influenza patients are cohorted in a common area or in several rooms on a nursing unit, and multiple patients must be visited over a short time, it may be practical to wear one mask for the duration of the activity; however, other PPE (e.g., gloves, gown) must be removed between patients and hand hygiene performed.
    - Change masks when they become moist.
    - o Do not leave masks dangling around the neck.
    - o Upon touching or discarding a used mask, perform hand hygiene.

#### Gloves

- A single pair of patient care gloves should be worn for contact with blood and body fluids, including during hand contact with respiratory secretions (e.g., providing oral care, handling soiled tissues). If possible, latex-free gloves should be available for healthcare workers who have latex allergy.
- o Gloves should fit comfortably on the wearer's hands.
- Remove and dispose of gloves after use on a patient; do not wash gloves for subsequent reuse.
- o Perform hand hygiene after glove removal.
- o If gloves are in short supply (i.e., the demand during a pandemic could exceed the supply), priorities for glove use might need to be established. In this circumstance, reserve gloves for situations where there is a likelihood of extensive patient or environmental contact with blood or body fluids, including during suctioning.
- Use other barriers (e.g., disposable paper towels, paper napkins) when there is only limited contact with a patient's respiratory secretions (e.g., to handle used tissues). Hand hygiene should be strongly reinforced in this situation.

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#### Gowns

- Wear an isolation gown, if soiling of personal clothes or uniform with a patient's blood or body fluids, including respiratory secretions, is anticipated.
- Most patient interactions do not necessitate the use of gowns.
   Procedures such as intubations and activities that involve holding the patient close (e.g., in pediatric settings) are examples of when a gown may be needed when caring for pandemic influenza patients.
- Gowns should be worn only once and then placed in a waste or laundry receptacle, as appropriate, and hand hygiene performed.
- o If gowns are in short supply (i.e., the demand during a pandemic could exceed the supply) priorities for their use may need to be established. In this circumstance, reinforcing the situations in which they are needed can reduce the volume used. Alternatively, other coverings (e.g., patient gowns) could be used. It is doubtful that disposable aprons would provide the desired protection in the circumstances where gowns are needed to prevent contact with influenza virus, and therefore should be avoided. There are no data upon which to base a recommendation for reusing an isolation gown on the same patient. To avoid possible contamination, it is prudent to limit this practice.

#### Goggles or face shield

In general, wearing goggles or a face shield for routine contact with patients with pandemic influenza is **not** necessary. If sprays or splatter of infectious material is likely, goggles or a face shield should be worn as recommended for standard precautions.

#### 2. PPE for special circumstances

During procedures that may generate increased small-particle aerosols of respiratory secretions (e.g., endotracheal incubation, nebulizer treatment, bronchoscopy, suctioning), healthcare personnel should wear **gloves**, **gown**, **face/eye protection**, **and a N95 respirator** or other appropriate particulate respirator. Healthcare workers should use of N-95 respirators, in addition to Standard Precautions in following circumstances:

- a. Aerosol –generating procedures
- b. Resuscitation of a confirmed or suspected pandemic influenza
- c. Providing direct care for patients with confirmed or suspected pandemic influenza-associated pneumonia
- d. Other direct care activities involving patients with confirmed or suspected pandemic influenza such as a nurse entering a room to take vital signs or

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an environmental service worker entering multiple rooms to mop floors or clean patient equipment.

Respirators should be used within the context of a respiratory protection program that includes fit-testing, medical clearance, and training. If possible and when practical, use of an airborne isolation room may be considered when conducting aerosol generating procedures.

#### 3. PPE for managing pandemic influenza with increased transmissibility

The addition of airborne precautions, including respiratory protection (an N95 filtering face piece respirator or other appropriate particulate respirator), may be considered for strains of influenza exhibiting increased transmissibility, during initial stages of an outbreak of an emerging or novel strain of influenza, and as determined by other factors such as vaccination/immune status of personnel and availability of antivirals. As the epidemiologic characteristics of the pandemic virus are more clearly defined, CDC will provide updated Infection Prevention and Control guidance, as needed.

If supplies of N-95 (or higher) respirators are not available, surgical masks can provide benefits against large droplet exposure and should be worn for all health care activities for patients with confirmed or suspected pandemic-influenza.

#### Important instruction for persons who wear surgical masks or respirators:

- a. Surgical mask or respirator use should not take the place of preventive interventions, such as respiratory etiquette and hand hygiene.
- b. To offer protection, surgical masks and respirators must be worn correctly and consistently throughout the time they are used.
- c. Wearing a surgical mask or respirator incorrectly, or removing or disposing of it improperly, could allow contamination of the hands or mucous membranes of the wearer or others, possibly resulting in disease transmission.
- d. Proper surgical mask or respirator use and removal includes the following:
  - Prior to putting on a respirator or surgical mask, wash hands thoroughly with soap and water or use an alcohol-based hand sanitizer to reduce the possibility of inadvertent contact between contaminated hands and mucous membranes.
  - If worn in the presence of infectious persons, a respirator or surgical mask may become contaminated with infectious material; therefore, avoid touching the outside of the device to help prevent contamination of hands.
  - Once worn in the presence of a patient with pandemic influenza, the surgical mask or disposable N-95 respirator should be removed and

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discarded appropriately. Do not re-use, or wear around the neck, forehead or crown.

#### Attention:

While caring for patients with pandemic influenza, the healthcare personnel should be particularly vigilant to avoid:

- Touching their eyes, nose or mouth with contaminated hands (gloved or ungloved)
- Contaminating environmental surfaces that are not directly related to patient care (e.g., door knobs, light switches).

After the surgical mask or respirator has been removed and discarded, wash hands thoroughly with soap and water, or use an alcohol-based hand sanitizer.

#### C. Patient Triage/Cohorting

- 1. When Pandemic Phase 6 is declared (see Appendix I) open the following specified *cohort areas/units* in the hospital:
  - Influenza-Like-Illness (ILI), Assessment Area (See Appendix B for an ILI Assessment tool)
  - Non ILI Assessment Area (patients require acute care assessment for other conditions)
  - c. Suspected/Exposed to ILI, In-patient Units
  - d. Confirmed Influenza, In-patient Units
  - e. Not Exposed/Immune\* to Influenza, In-patient Units
  - f. Not Exposed to ILI but at very high risk of complications, In-patient Units (e.g., intensive care areas; nurseries<sub>13-15</sub> or units with severely immunocompromised patients, e.g., transplant recipients hematology/oncology patients, patients with chronic heart or lung disease or patients with HIV/AIDS and dialysis patients).

Note: \*Immune are those that have recovered from the pandemic strain of influenza or those immunized against the pandemic strain of influenza (see Section 3.2.4). As noted, the influenza vaccine may not be 100% efficacious in providing immunity.

- 2. In acute care settings (hospitals), triage ILI patients promptly to a separate designated influenza assessment area onsite, to minimize transmission to others in the waiting room.
- 3. In acute care settings, (hospitals), triage non ILI patients (but requiring acute care assessment) promptly to specific non ILI waiting and examining areas physically separate from the ILI assessment area to prevent their exposure to ILI.

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#### D. Patient Admission

- 1. When Pandemic Phase 6 is declared (see Appendix I), eliminate or curtail elective medical and surgical acute care (hospital) admissions and restrict cardiovascular and pulmonary surgery to emergency cases.
- 2. Patients who have recovered from influenza can be moved into the "Non Influenza" cohort areas after the period of communicability of the pandemic strain has passed.
- 3. As the pandemic progresses, the "Suspect/Exposed" Cohort and the "Confirmed Influenza" cohort may be merged.
- 4. Maintain cohort principles until the pandemic wave has been declared over.
- 5. Follow standard facility procedures for care of the deceased. Practices should include standard precautions for contact with blood and body fluids.

#### E. Patient Activity Restrictions

- 1. Limit movement/activities of patients including transfers within the hospital, unless the patient has recovered from pandemic influenza.
- 2. Patients with ILI who are coughing should only leave their room for urgent/necessary procedures.
- Patients with ILI who are coughing should wear a surgical mask whenever they need to be out of their room until the period of communicability of the pandemic strain has passed.

#### F. Visitor Restrictions

- There are no restrictions for asymptomatic visitors who have recovered from pandemic influenza or who have been immunized against the pandemic strain of influenza.
- 2. Visitors with ILI should not visit until they are asymptomatic. Close relatives of terminally ill patients can be exempt, but should put a mask on upon entry into the facility and their visit shall be restricted to that patient only.
- 3. Visitors should be informed when the acute care facility has influenza activity. Those who have not yet had the pandemic strain of influenza or who have not been immunized against the pandemic strain should be discouraged from visiting. Close relatives of terminally ill patients can be exempt, but they should restrict their visit to that individual only and they should wash their hands upon exit from the patient's room. Wearing a mask upon entry to the facility is only useful if there is no influenza in the community.

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#### G. Patient Teaching

- a. Instruct the patient to cover his/her nose and mouth with a tissue when coughing or sneezing.
- b. Instruct the patient regarding the importance of remaining in the isolation room.
- c. Respiratory and Contact Precautions for Visitors.
- d. The nurse caring for the patient should instruct the visitors as follows:
  - Only one family member may visit at a time
  - Wear a mask, gown, and gloves the entire time you are visiting
  - Remove your mask, gloves, and gown before leaving the room
  - Wash your hands before you leave the room
  - Do not go to other areas of the unit, such as the kitchen. If you need something, please contact the nurse
  - If your or other family members have flu-like symptoms, do not come to the hospital until you are better.

#### Respiratory hygiene/cough etiquette

Promote respiratory hygiene/cough etiquette as a strategy to contain respiratory viruses at the source and to limit their spread in areas where infectious patients might be awaiting medical care (e.g., outpatient clinic appointment).

The respiratory hygiene/cough etiquette includes:

- Cover the nose/mouth when coughing or sneezing.
- Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use.
- Perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.
- Offer masks to persons who are coughing.
- Encourage coughing persons to sit at least three feet away from others in the common waiting area.
- Education of healthcare facility staff, patients, and visitors on the importance of containing respiratory secretions to help prevent the transmission of influenza and other respiratory viruses.
- Post signs in languages appropriate to the populations served with instructions to patients and accompanying family members or friends to immediately report symptoms of a respiratory infection as directed.

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#### Hand hygiene

- If hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap (either non-antimicrobial or antimicrobial) and water, rub hands for 15 seconds
- In the absence of visible soiling of hands, use approved alcohol-based products, rub hands until dry.
- Always perform hand hygiene between patient contacts and after removing PPE.

#### **Supplies**

Supplies important to Infection Prevention and Control and supportive care that may be in short supply and should be monitored during a pandemic influenza include the following:

Hand hygiene

Gloves

Gowns

Goggles

Surgical masks

N-95 respirators

Disposable tissues

Pharmaceuticals (i.e.antivirals and antibiotics to treat secondary bacterial infections)

Stethoscopes and BP cuffs

Sanitary wipes

#### Disposal of solid waste

Standard precautions are recommended for disposal of solid waste (medical and non-medical) that might be contaminated with a pandemic influenza virus:

- Contain and dispose of contaminated medical waste in accordance with facility-specific procedures and/or local or state regulations for handling and disposal of medical waste, including used needles and other sharps and non-medical waste.
- Discard used patient-care supplies that are not likely to be contaminated (e.g., paper wrappers) as routine waste.
- Wear disposable gloves when handling waste. Perform hand hygiene after removal of gloves.

#### Linen and laundry

Standard precautions are recommended for linen and laundry that might be contaminated with respiratory secretions from patients with pandemic influenza:

- Place soiled linen directly into a laundry bag in the patient's room. Contain linen in a manner that prevents the linen bag from opening or bursting during transport and while in the soiled linen holding area.
- Wear gloves and gown when directly handling soiled linen and laundry (e.g., bedding, towels, personal clothing) as per standard precautions. Do not shake or otherwise

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handle soiled linen and laundry in a manner that might create an opportunity for disease transmission or contamination of the environment.

- Wear gloves for transporting bagged linen and laundry.
- Perform hand hygiene after removing gloves that have been in contact with soiled linen and laundry.

#### Dishes and eating utensils

Standard precautions are recommended for handling dishes and eating utensils used by a patient with known or possible pandemic influenza:

- Disposable dishes and utensils (e.g., used in an alternative care site set-up for large numbers of patients) should be discarded with other general waste.
- Wear gloves when handling patient trays, dishes, and utensils.

#### Patient-care equipment

Follow standard practices for handling and reprocessing used patient-care equipment, including medical devices:

- Wear gloves when handling and transporting used patient-care equipment. Wipe heavily soiled equipment with an EPA-approved hospital disinfectant before removing it from the patient's room. Follow current recommendations for cleaning and disinfection or sterilization of reusable patient-care equipment.
- Wipe external surfaces of portable equipment for performing x-rays and other procedures in the patient's room with an EPA-approved hospital disinfectant upon removal from the patient's room.

#### **Environmental cleaning and disinfection**

Environmental cleaning and disinfection for pandemic influenza follow the same general principles used in healthcare settings.

#### a. Cleaning and disinfection of patient-occupied rooms

- Wear gloves in accordance with facility policies for environmental cleaning and wear a surgical mask in accordance with droplet precautions. Gowns are not necessary for routine cleaning of an influenza patient's room.
- Keep areas around the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
- Use any EPA-registered hospital detergent-disinfectant. Follow manufacturer's recommendations for use-dilution (i.e., concentration), contact time, and care in handling.
- Follow facility procedures for regular cleaning of patient-occupied rooms. Give special attention to frequently touched surfaces (e.g., bedrails, bedside and overbed tables, TV controls, call buttons, telephones, lavatory surfaces including

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safety/pull-up bars, doorknobs, commodes, ventilator surfaces) in addition to floors and other horizontal surfaces.

• Clean and disinfect spills of blood and body fluids in accordance with Infection Prevention and Control Policy.

#### b. Cleaning and disinfection after patient discharge or transfer

- Follow standard facility procedures for post-discharge cleaning of an isolation room.
- Clean and disinfect all surfaces that were in contact with the patient or might have become contaminated during patient care. No special treatment is necessary for window curtains, ceilings, and walls unless there is evidence of visible soiling.
- Do not spray (i.e., fog) occupied or unoccupied rooms with disinfectant. This is a potentially dangerous practice that has no proven disease control benefit.

#### **Patient Transport**

- 1. Transporting a probable/suspect Avian influenza patient should be avoided if possible.
- 2. If the patient must be transported to another area such as x-ray or other test, the area must be notified that the patient is a probable/suspect Avian influenza so healthcare personnel can use appropriate Infection Prevention and Control Precautions. Place a surgical mask on the patient when he/she must leave the isolation room or must be transported to other departments. The person transporting the patient needs to wear a mask.

#### **Ambulatory Care Setting**

- 1. Targeted screening questions, including travel history are asked when a patient arranges an appointment.
- 2. A Public Health Alert is posted at check-in counters and lobby. Staff reinforce that the patient has read the alert.

#### Postmortem care

Follow standard facility practices for care of the deceased. Practices should include standard precautions for contact with blood and body fluids.

#### Laboratory specimens and practices

Follow standard facility and laboratory practices for the collection, handling, and processing of laboratory specimens.

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#### Occupational health issues

- Implement a system to educate personnel about occupational health issues related to pandemic influenza.
- Screen all personnel for influenza-like symptoms before they come on duty.
  - Symptomatic personnel should be sent home until they are physically ready to return to duty.
- Healthcare personnel who have recovered from pandemic influenza and should develop antibody against future infection with the same virus, and therefore should be prioritized for the care of patients with active pandemic influenza and its complications. These workers would also be well suited to care for patients who are at risk for serious complications from influenza (e.g., transplant patients and neonates).
- Personnel who are at high risk for complications of pandemic influenza (e.g., pregnant women, immunocompromised persons) should be informed about their medical risk and offered an alternate work assignment away from influenza patient care or considered for administrative leave until the pandemic influenza has abated in the community.

Reducing exposure of persons at high risk for complications of influenza

Persons who are well, but at high risk for influenza or its complications (e.g., persons with

underlying diseases), should be instructed to avoid unnecessary contact with healthcare facilities caring for pandemic influenza patients (i.e., do not visit patients, postpone nonessential medical care).

Occupational health management of health care workers during an influenza pandemic Healthcare personnel are at risk for pandemic influenza through community and healthcare related exposures. Once pandemic influenza has reached a community, healthcare facilities must implement systems to monitor for illness in the facility workforce and manage those who are symptomatic or ill.

- Implement a system to educate personnel about occupational health issues related to pandemic influenza.
- Screen all personnel for influenza-like symptoms before they come on duty:
  - Symptomatic personnel should be sent home until they are physically ready to return to duty (Unfit to Work).
- Fit to Work.
  - Healthcare personnel who have recovered from pandemic influenza and developed antibody against future infection with the same virus, should therefore be prioritized for the care of patients with active pandemic influenza and its complications. (These workers would also be well suited to care for patients who are at risk for serious complications from influenza (e.g., transplant patients and neonates).
- Personnel who are at high risk for complications of pandemic influenza (e.g., pregnant women, immunocompromised persons) should be informed about their medical risk and

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offered an alternate work assignment, away from influenza patient care, or considered for administrative leave until pandemic influenza has abated in the community.

#### **Pandemic Influenza Advisory Team**

- Administration
- Nursing Administration
- Medical Administration
- Infection Preventionist
- Safety Officer
- Employee Health Services
- Pharmacy
- Respiratory Therapy Services
- Supply Chain Operations
- Environmental Services
- Laboratory
- Public Relations
- Risk Management
- Facilities Management

During a pandemic, contact will need to be made with Los Angeles County Public Health officials. This will provide linkages with community and/or regional task forces that will be responsible for coordinating health care activities. These groups will issue public health advisories, ensure communication with medical care providers and potentially request real-time data to monitor the impact of the pandemic on healthcare facilities. In addition, they will be a source for identifying and allocating critical resources.

#### Contact information for key agencies should include:

- Local Public Health Department, (213) 240-7941 after hours (213) 974-1234
- State Public Health Department after hours phone number
- Centers for Disease Control and Prevention
- Harbor U.C.L.A. Medical Center Administration (310) 222- 2106

### Comparison of seasonal, avian and pandemic influenza

	Seasonal Flu	Flu Avian A (H5N1) Flu	Pandemic Flu	IMPLICATIONS
Transmission	Large droplet and fomites.	Direct, prolonged contact with infected birds.	Large droplet and fomites.	
Infectious Period	Adults=1 day prior to symptom onset, 5 days post illness     Children=10 days     Immune compromised shed for weeks to months	No human-to-human spread.	??? Likely similar to seasonal flu, but unknown.	Complicates the use of quarantine and isolation and use of masks for protection.
Prevention & Treatment	Annual vaccination     Respiratory hygiene     Four antivirals for treatment and prophylaxis (However, viral strains are becoming resistant.)	Avoid infected birds     Antivirals—two types currently effective, but resistance is a pending issue.	??? No vaccine currently exists; the effectiveness of antivirals is unknown.	Still using a 1950's model for vaccine production. Availability and effectiveness of antivirals for pandemic flu are uncertain.
When occur and how spread?	Winter seasons; Northern/Southern Hemispheres	Following migratory pattern. The number of countries identifying infected birds is constantly increasing.	??? Year-round without warning; rapid worldwide spread.	Most important differentiating factor; pandemic flu will be unpredictable!
Who seriously affected?	Elderly     Young children     Chronic conditions	Those with contact with infected birds: Poor, young, rural areas. Most have been from Viet Nam and Indonesia.	EVERYONE! Including the young and healthy.	Could greatly impact Community infrastructure.
How many affected?	In US Varies each season, on average 36,000 excess deaths and 200,000 hospitalizations each year.	Since 2003, 169 cases and 91 deaths (WHO report, as of 2/13/06)	In US 314,000–734,000 hospitalizations and 89,000–207,000 deaths.*	Can have a devastating impact on hospitals, funeral homes, etc.

Source: Los Angeles County Pandemic Influenza Guidelines: Acute Settings. (2006).

### An Influenza-like Illness (ILI) Assessment Tool

An ILI assessment tool is to be used for immediate triage of patients or staff and for accommodation/cohort of patients prior to further Occupational Health (OH) or clinical management. This is not intended to be used as a clinical management tool. Please check the following.

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	In the general population is determined by the presence of 1, 2 and 3 which could be due to influenza virus:
☐ 1. Acute ons☐ 2. Fever (>3☐ 3. Cough	set of respiratory illness 8 C)*
□ a □ b □ c □ d □ e	ore of the following:  a. sore throat  b. arthralgia  c. myalgia or prostration  d. diarrhea**  c. vomiting**  abdominal pain*

Source: Los Angeles County Pandemic Influenza Guidelines: Acute Settings. (March 2006.

<sup>\*</sup> May not be present in elderly people

<sup>\*\*</sup> May be present in children

### Rancho Los Amigos National Rehabilitation Center Pandemic Influenza Patient Line List Form

Date:	Unit/Area

Date of Admission	Patient Name and MDRU#	Date of Onset	Date Isolation/ Precautions	Signs and Symptoms				Patient Disposition		
	Initiated	Symptoms	Symptom	Symptom	Other (specify)	Diagnosti c test done	Treatmen t given?	H – Home T = Transferred M = Morgue N = Nursing home O = Other		

# Rancho Los Amigos National Rehabilitation Center Pandemic Influenza Employee Line List Form

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Date:	Unit/Area

Date of Admission	Patient Name and MDRU#	Date of Onset	Date Isolation/ Precautions	Signs and Symptoms			Patient Disposition			
	Initiated		Symptoms	Symptom	Symptom	Other (specify)	Diagnostic test done	Treatmen t given?	H – Sent home C= Called in sick A = Admitted in hospital D= Deceased F= Family sick, not working	

### **Cleaning Procedures for Common Items**

Horizontal surfaces such as over bed tables, work counters, baby weigh scales, beds, cribs, mattresses, bedrails, call bells	Thorough regular cleaning     Cleaning when soiled     Cleaning between patients/clients and after discharge	Special procedures sometimes called carbonizing are not necessary. Some environmental surfaces may require low level disinfection (e.g., in nurseries, pediatric settings, critical care, burn units, emergency rooms, operating rooms and bone marrow transplantation facilities).
Walls, blinds, curtains	Should be cleaned regularly with a detergent and as splashes/visible soil occur.	
Floors	<ol> <li>Thorough regular cleaning</li> <li>Cleaning when soiled</li> <li>Cleaning between patients/ clients and after discharge.</li> <li>Damp mopping preferred</li> </ol>	Detergent is adequate in most areas. Blood/body fluid spills should be cleaned up with disposable cloths followed by disinfection with a low level disinfectant.
Carpets/upholstery	Should be vacuumed regularly and shampooed as necessary.	
Toys	Should be regularly cleaned, disinfected with a low level disinfectant, thoroughly rinsed, and dried (between patients in acute care setting).	For pediatric settings, toys should be constructed of smooth, nonporous (i.e., not plush) materials to facilitate cleaning and decontamination. Do not use phenolics.
Toilets and commodes	<ol> <li>Thorough regular cleaning</li> <li>Cleaning when soiled</li> <li>Clean between patients/ clients and after discharge.         Use a low level disinfectant     </li> </ol>	These may be the source of enteric pathogens such as <i>C. difficile</i> and <i>Shigella</i> .

### **Directions for Preparing and Using Chlorine-based Disinfectants**

Product	Intended Use	Recommended Dilution	Level of Available chlorine
Household bleach (5% sodium hypochlorite solution with 50,000 ppm* available chlorine	Cleanup of blood spills	Use concentrations ranging from 1 part bleach to be mixed with 99 parts of tap water (1:100) or one part of bleach to be mixed with 9 parts of tap water (1:10), depending on the amount of organic material (e.g., blood or mucus) present on the surface to be cleaned and disinfected.	0.05% or 500 ppm 0.5% or 5,000 ppm
	To add to laundry water	One part (one 8 ounce cup) of bleach to be mixed with about 500 parts (28 gallons) of tap water	0.01% or 100 ppm
	Surface cleaning Soaking of glassware or plastic items	One part (one 8 ounce cup) to be mixed with about 50 parts (2.8 gallons) of tap water	0.1% or 1,000 ppm
NaDCC (Sodium dichloroisocyanurate) powder with 60% available chlorine	Cleanup of blood spills	Dissolve 2 Teaspoons in 33 ounces of tap water	0.85% or 5,000 ppm
Chloramine-T powder with 25% available chlorine	Cleanup of blood spills	Dissolve 1 Tablespoon and 1 Teaspoon in 33 ounces of tap water	2.0% or 5,000 ppm

† Imperial gallon (4.5 liters)

Source: Los Angeles County Pandemic Influenza Guidelines: Acute Settings. (2006).

<sup>\*</sup> Parts per million

#### References

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