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I. Overview

The intent of this document is to assist healthcare settings in the planning for pandemic influenza (PI) and to enhance infection control precautions according to the current global and local epidemiology of influenza. Covered in this section are basic infection control principles, infection control management of infectious patients, occupational health guidance, and setting specific guidance. Since the infectious characteristics of pandemic influenza will not be known until after it emerges, infection control guidance is adapted to the current knowledge of transmission and updated as new information becomes available. Users of this document should also refer to the vaccine and antiviral, healthcare planning, and clinical guidelines sections of the New York State Department of Health (NYSDOH) Pandemic Influenza Plan.

Guidance for infection control and prevention for seasonal influenza is developed and updated yearly by the NYSDOH, and can be found on the NYSDOH Public Web site at <http://www.health.state.ny.us/diseases/communicable/influenza/guidelines/index.htm> or the NYSDOH Health Provider Network at https://commerce.health.state.ny.us/hpn/ctrldocs/alrtview/postings/doc061010_0.pdf.

Influenza virus circulates yearly, with the season in the United States identified as October through May. Early identification of novel influenza strains is integral for early identification and intervention to prevent a global epidemic, or pandemic.

II. Background

Despite the prevalence of influenza every year, the amount of empirical data on influenza transmission is very limited. Based on observed epidemiologic patterns, it is thought that influenza is primarily transmitted from person-to-person via large virus-laden droplets (particles >five micrometers in diameter) that are generated when infected persons cough or sneeze; these large droplets can then settle on the mucosal surfaces of the upper respiratory tracts of susceptible persons who are near (e.g., within approximately three to six feet¹) infected persons. Special air handling and ventilation are not required to prevent droplet transmission, as large-particle droplets do not remain suspended in the air and generally travel only short distances (within approximately three to six feet) through the air.

Transmission may also occur through direct contact or indirect contact with respiratory secretions such as when touching surfaces contaminated with influenza virus and then touching the eyes, nose, or mouth. The significance of direct contact, indirect contact, and airborne transmission has not been well established. Therefore, these modes of transmission remain theoretical in nature. Conservatively, these modes of transmission should be considered if host factors (i.e., diarrhea) or treatments (i.e., aerosolizing procedures) are present, which increases the theoretical potential risk of transmission.

¹ CDC Guidelines and Recommendations “Infection Control Guidance for the Prevention and Control of Influenza in Acute-Care Facilities, November 15, 2007.” This document defines close contact as a distance of up to approximately 6 feet.

The typical incubation period for seasonal influenza is one to four days, with an average of two days. Adults can be infectious from the day before symptoms begin through approximately five days after illness onset. Children can be infectious for ≥ 10 days after the onset of symptoms, and young children also can shed virus seven days before their illness onset. Severely immunocompromised persons can shed virus for weeks or months.

Uncomplicated seasonal influenza illness is characterized by the abrupt onset of constitutional and respiratory signs and symptoms (e.g., fever, myalgia, headache, malaise, nonproductive cough, sore throat, and rhinitis). Among children, otitis media, nausea, and vomiting also are commonly reported with influenza illness. Uncomplicated influenza illness typically resolves after three to seven days for the majority of persons, although cough and malaise can persist for two weeks or more. However, among certain persons, influenza can exacerbate underlying medical conditions (e.g., pulmonary or cardiac disease), lead to secondary bacterial pneumonia or primary influenza viral pneumonia, or occur as part of a co-infection with other viral or bacterial pathogens.

Young children with influenza virus infection can have initial symptoms mimicking bacterial sepsis with high fevers, and febrile seizures have been reported in up to 20% of children hospitalized with influenza virus infection. Influenza virus infection also has been uncommonly associated with encephalopathy, transverse myelitis, myositis, myocarditis, pericarditis, and Reye syndrome. See Section 5: Clinical Guidelines of the NYSDOH Pandemic Influenza Plan for additional information on the clinical presentation of influenza.

Because vaccine for seasonal influenza is developed using strain characterization from the previous influenza season, it can be assumed that vaccine will provide little if any protection from developing infection during a PI outbreak. Given this, adherence to infection control principles to prevent transmission of influenza and initiation of antiviral medication for treatment and prophylaxis will be paramount to control the spread and reduce morbidity and mortality during an influenza pandemic.

The level of surveillance and infection control recommendations will depend on the global, regional, and local epidemiology of the influenza season. During a pandemic, specifically if a pandemic reaches the local area (Pandemic Period/Initiation through Resolution Intervals – Affected State), implementing aggressive infection control strategies for containment (e.g., screening healthcare workers and visitors for illness, initiating cohorts of patients and staff, and establishing separate triage areas) may be indicated.

The specific characteristics of a new PI virus, including virulence, transmissibility, incubation period, period of communicability, and drug susceptibility, will remain unknown until the pandemic gets under way. The NYSDOH will continue to work with their national and world public health partners (i.e., the CDC and the World Health Organization (WHO)) to assess differences in any of these aspects and to revise infection control guidance as appropriate.

A. Seasonal Influenza

Seasonal influenza, avian influenza, and pandemic influenza are not the same. Seasonal (or common) influenza is a respiratory illness that is transmitted primarily from person to person through coughing or sneezing of people with influenza. Most people have some immunity, and a vaccine is available. Seasonal influenza incubation is usually one to four days, but novel influenza viruses may have longer incubation periods, possibly up to ten days.

B. Avian or Highly Pathogenic Avian Influenza (HPAI)

Avian (or bird) influenza (AI) is caused by influenza viruses that occur naturally among wild birds. Low pathogenic AI is common in birds and causes few problems. Highly pathogenic H5N1 is deadly to domestic fowl, can be transmitted from birds to humans, and is deadly to humans. There is virtually no human immunity and human vaccine availability is very limited.

Patients with a history of travel within 10 days to a country with avian influenza activity and are hospitalized with a severe febrile respiratory illness, or are otherwise under evaluation for avian influenza, should be managed using isolation precautions identical to those recommended for patients with known Severe Acute Respiratory Syndrome (SARS) (See Appendix 4-A: Interim Recommendations for Infection Control in Health-Care Facilities Caring for Patients with Known or Suspected Avian Influenza for additional information regarding isolation precautions for patients with known or suspected SARS).

C. Pandemic Influenza (PI)

Pandemic influenza is virulent human influenza that causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease can spread easily from person to person.

III. Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza

The infection control recommendations in this section are applicable throughout all of the pandemic intervals as developed by the Centers for Disease Control and Prevention (CDC). They have been used successfully by facilities for the control of seasonal epidemic influenza. The key to successfully controlling transmission of influenza (and other communicable respiratory infections) is the early identification of potentially infectious patients, and the immediate implementation of control measures for containment.

All patients who present to a health-care setting with fever and respiratory symptoms should be managed according to recommendations for Respiratory Hygiene and Cough Etiquette.

Respiratory Hygiene/Cough Etiquette

- Provide facemasks to all patients with symptoms of a respiratory illness. Provide instructions on the proper use and disposal of facemasks.
- For patients who cannot wear a facemask, provide tissues and instructions for when to use them (i.e., when coughing, sneezing, or controlling respiratory secretions), how and where to dispose of them, and the importance of hand hygiene after handling this material.
- Provide hand hygiene products/ materials in waiting room and common areas, and encourage patients with respiratory symptoms to perform hand hygiene.
- Designate an area in waiting rooms where patients with respiratory symptoms can be segregated (ideally by at least three to six feet) from other patients.
- Place patients with respiratory symptoms in a private room or cubicle as soon as possible for further evaluation.
- Implement use of facemasks and gloves by healthcare personnel during the evaluation of patients with respiratory symptoms.
- Patients should be questioned about their travel history as part of triage. If they meet the criteria for suspect avian influenza, airborne precautions should be implemented. (Pandemic Alert Period/Investigation, Recognition, and Initiation Intervals)
- Consider the installation of clear plastic barriers at the point of triage or registration to protect healthcare personnel from contact with respiratory droplets.
- If no barriers are present, instruct registration and triage staff to remain at least three to six feet from unmasked patients, use facemasks when within three to six feet of unmasked patients with respiratory symptoms, and perform hand hygiene before and after contact with patients or their secretions/excretions.

A. Basic infection control principles for preventing the spread of PI (Pandemic Alert and Pandemic Periods/ All Pandemic Intervals)

- Implement respiratory hygiene/cough etiquette at all times in all healthcare settings and points of entry into the healthcare delivery system (e.g., emergency departments, admissions department, outpatient clinics, and physician offices). Key points for successful implementation of respiratory hygiene/cough etiquette include:
 - Early detection of patients with undiagnosed transmissible respiratory symptoms (this can take place at the first point of contact such as triage areas, reception areas, or during the scheduling of appointments).

- Include posting visual alerts to inform healthcare personnel if they have symptoms of respiratory infection, providing tissues or masks, providing dispensers of alcohol-based hand rubs (ABHRs), providing space for coughing persons to sit at least three to six feet away from others, if feasible.
- Limit exposure to infectious/potentially infectious persons (i.e., febrile respiratory symptoms).
 - Identify potentially infectious individuals and physically isolate if possible/indicated for the setting;
 - Promote spatial separation in common areas (i.e., maintain at least three to six feet from symptomatic persons).
- Use facemasks and respirators as indicated for the setting and potential exposure to PI.
 - While the degree of protection offered by these devices in a pandemic is unknown at this time, use of these devices during a PI is a recommended part of a comprehensive strategy of personal protection.
 - The primary consideration in selecting between a facemask and respirator (N95 or higher respirator) is whether close contact is expected with someone who has PI.
- Assure adequate cleaning of the patient care environment.
 - Assess the protocols used within the facility for daily and patient discharge/transfer cleaning to assure adequacy. This should minimally include:
 - Daily cleaning.
 - Visibly soiled vertical surfaces (e.g., walls, curtain dividers);
 - Horizontal surfaces (e.g., over-bed table, night stand);
 - Frequently touched surfaces (e.g., bed rails, telephone, call bell);
 - Lavatory surfaces.
 - Cleaning of patient room after discharge.
 - Surfaces described above;
 - All surfaces that were in contact with the patient or might have become contaminated during patient care;
 - Follow procedures for post discharge cleaning of an isolation room.
 - Assure the products used for daily routine and discharge cleaning of patient areas are Environmental Protection Agency (EPA) registered low- or intermediate-level disinfectants and are used as per the manufacturer's instructions.
 - Assess compliance with daily and discharge cleaning by identifying a person(s) in the facility to perform daily rounds to inspect cleanliness.

Additional information on maintaining a safe environment for patients can be found in the *CDC Guideline for Environmental Infection Control in Health-Care Facilities*, 2003 at http://www.cdc.gov/ncidod/dhqp/gl_envoinfection.html.

B. Management of patients with suspected or Confirmed PI (Pandemic Alert and Pandemic Periods/All Pandemic Intervals)

- Place patients in a private room, if feasible. Patients may be cohorted if necessary. As patients may be infected with different strains of influenza virus or other infectious agents, care must be taken to prevent transmission within the cohort (i.e., spatial separation of at least three to six feet). See setting-specific cohorting sections of this document for recommendations on establishing and implementing cohorts.
- Negative pressure isolation is not required for routine patient care of individuals with PI.
- Protect healthcare workers (HCWs) from exposure while delivering care to care persons suspected or confirmed to be infected with a PI virus. Additional information can be found in the CDC *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007* at <http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf>.
 - Implement Standard Precautions.
 - Wear additional personal protective equipment (PPE) (i.e., gloves, gowns, face, and eye protection) if contact with respiratory secretions to skin, mucous membranes, and clothing is anticipated;
 - Follow standard facility practices for care of the deceased. Practices should include standard precautions for contact with blood and body fluids.
 - Implement Droplet Precautions including,
 - Donning a facemask upon room entry. The practice of donning a facemask upon room entry may increase compliance and prevent unnecessary exposures.
 - Discarding the facemask after leaving the patient room. If the healthcare worker is attending multiple patients in the same room (e.g., in a cohort situation), the same facemask may be utilized until the healthcare worker leaves the room.
 - Implement Contact Precautions if the pandemic virus is associated with diarrhea.
 - Implement Airborne Precautions, if possible, when performing aerosol-generating procedures.
 - Healthcare workers should wear the following personal protective equipment (PPE):
 - Gloves;
 - Gown;
 - Face/eye protection;
 - N95 or higher rated particulate respirator;
 - Respirators should be used within the context of a respiratory protection program that includes fit-testing, medical clearance, and training.
 - Use an airborne isolation room.
 - If work flow, timing, resources, availability, or other factors prevent the use of airborne infection isolation rooms, it is prudent

to conduct these activities in a private room (with the door closed) or other enclosed area.

- Limit personnel in the room to the minimum number necessary to perform the procedure properly.
- Utilize closed systems for suctioning to prevent splattering/spraying of potentially infectious secretions.
- If the procedure is performed outside of the patient room (e.g., the bronchoscopy suite), perform as the last case of the day and transfer to procedure room immediately before the procedure (to prevent possible exposures while waiting).
- Follow standard facility and laboratory practices for the collection, handling, and processing of laboratory specimens. Follow airborne precautions when engaging in aerosol-generating procedures for specimen collection, such as diagnostic sputum induction.
- If there is the expectation of close contact with a symptomatic individual, every effort should be made to limit the duration of exposure to as short a period as possible.
- Use respirators (such as N95 or higher)²:
 - Use is prudent when conducting direct patient care activities (e.g., examination, bathing, feeding);
 - Use is prudent when support staff has direct contact with PI patients;
 - Use is recommended during medical activities that have a high likelihood of generating infectious respiratory aerosols or when contact with infectious fluids is anticipated (e.g., sputum induction, bronchoscopy, resuscitation of a patient with confirmed or suspected PI, providing direct care for patients with confirmed or suspected PI-associated pneumonia).

If supplies of N95 (or higher) respirators are not available, face masks can provide protection against large droplet exposure and should be worn for all health care activities for patients with confirmed or suspected PI or PI-associated pneumonia. Additional information can be found in CDC's *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings during an Influenza Pandemic* (October, 2006) at:

<http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html> and in Section 3: Healthcare Planning of the NYSDOH Pandemic Influenza Plan.

- Perform hand hygiene after contact with all patients and their immediate environment. Reinforce compliance with hand hygiene by:
 - Teaching the importance of hand hygiene for the prevention of transmission of infectious agents;
 - Providing easy access to hand hygiene products at the point of care.Additional information and guidance and suggestions for improving adherence can be found in the CDC *Guideline for Hand Hygiene in Health Care Settings* at <http://www.cdc.gov/handhygiene/>.
- Instruct healthcare workers to avoid touching their eyes, nose, or mouth with contaminated hands (gloved or ungloved) while delivering care and until they perform hand hygiene.

- Prohibit consumption of food and drink by healthcare workers in patient care areas where contamination is likely. Negative pressure isolation is not required for routine patient care of individuals with PI.
- When handling linen and laundry,
 - 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 handle soiled linen and laundry in a manner that might create an opportunity for disease transmission or contamination of the environment.
 - Place soiled linen directly into a laundry bag in the patient's room. Contain linen in the bag and prevent from opening or bursting during transport and while in the holding area.
 - Perform hand hygiene after removing gloves.
 - Wash and dry linen according to routine standards and procedures (see *CDC Guideline for Environmental Control in Health-Care Facilities*, 2003 at http://www.cdc.gov/ncidod/dhqp/gl_envirinfection.html).
- When handling dishes and eating utensils,
 - Wear gloves when handling pandemic influenza patients' tray, dishes, and utensils;
 - Wash reusable dishes and utensils in a dishwasher at recommended water temperature;
 - Non-reusable/disposable dishes and utensils should be discarded with other general waste.
- When handling patient care equipment,
 - Wear gloves when handling and transporting used patient care equipment;
 - Wipe heavily soiled equipment with a U.S. Environmental Protection Agency (EPA)-approved disinfectant before removing it from the patient's room and follow current recommendations for cleaning and disinfection or sterilization of reusable patient care equipment;
 - Wipe external surfaces of portable equipment with an EPA-approved disinfectant upon removal for the patient's room.
- When cleaning and disinfecting patient-occupied rooms,
 - Wear gloves in accordance with facility policies for environmental cleaning.
 - Wear a surgical mask in accordance with droplet precautions. Use a respirator when airborne precautions are warranted by the circumstances.
 - Wear a gown if soiling of the employee's clothes or uniform with blood or other potentially infectious materials may occur.
 - Wear a facemask and eye protection if cleaning within three to six feet of a coughing patient.
 - Keep areas within three feet of the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
 - Use an EPA-registered hospital detergent-disinfectant.

- Give special attention to frequently touched surfaces (bedrails, TV controls, call buttons, telephones, safety/pull-up bars) in addition to floors and other horizontal surfaces.
- For disposal of solid waste.
 - Wear disposable gloves when handling waste and perform hand hygiene after removal of gloves;
 - Contain and dispose of contaminated waste in accordance with NYS Public Health Law (PHL §1389 aa-gg);
 - Discard routine waste used patient-care supplies that are not likely to be contaminated (e.g., paper wrappers).
- When conducting postmortem exams, use airborne precautions, as noted above. Additionally, the exhaust systems around the autopsy table should direct air (aerosols) away from healthcare workers performing the procedure. Use containment devices whenever possible (e.g. biosafety cabinets for the handling of smaller specimens).

C. Occupational health

- Pandemic Alert and Pandemic Periods/All Pandemic Intervals
 - Facilities should designate those responsible for the monitoring of employee health concerns in regard to respiratory infections. The most appropriate entity would be an employee health/occupational health service. If such a service is not available, a medical director, infection control professional, or other qualified/trained person should be designated.
 - Offer influenza vaccine to healthcare personnel according to Section 6: Vaccine Procurement, Distribution, and use in the NYSDOH Pandemic Influenza Plan.
 - Administer antivirals for treatment of ill healthcare personnel and for prophylaxis of exposed healthcare personnel according to Section 7: Antiviral Medication Procurement, Distribution, and use in the NYSDOH Pandemic Influenza Plan. Personnel at high risk for complications of PI (e.g., pregnant women, immunocompromised persons) should be informed of their medical risk and offered an alternate work assignment away from PI influenza-infected patients and cohorts (e.g., care of patients in the well, non-exposed cohort).
 - Facilities should have the capacity to obtain patient care assignments of the PI cohorts for any designated time period for the purpose of an epidemiologic investigation.
 - HCWs with significant clinical exposure to PI should be evaluated; counseled about the risk of transmission to others; and monitored for fever, respiratory symptoms, sore throat, rhinorrhea, chills, rigors, myalgia, headache, and diarrhea.
 - Closely monitor HCWs with direct contact with suspected or confirmed PI patients for early identification of secondary transmission to contain local spread. The following recommendations may facilitate monitoring:
 - Limit patient contact to essential staff.
 - Eliminate or minimize floating.
 - Consider a daily sign in sheet for patient contact.

- Have staff complete a daily self-assessment to document symptoms and provide guidance for symptomatic individuals (i.e., how, when, and where to report symptoms).
- Report symptoms consistent with influenza to designated person.
- **Pandemic Period/Initiation through Resolution Intervals – Affected State**
 - Implement a healthcare worker ILI surveillance system, including encouragement for self-reporting;
 - Instruct all healthcare personnel to report ILI to the facility designee immediately;
 - If onset of employee illness occurs while working, instruct the healthcare personnel to don a facemask and report to the designated area;
 - If onset of illness occurs at home, instruct the employee to contact the designated facility entity and not report to work until symptoms resolve;
 - Investigate any clusters of ILI identified in healthcare personnel and report to the NYSDOH Regional Epidemiology Program according to Section 4 III.E: Infection Control: Nosocomial influenza outbreak management.
- **Pandemic Period/Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State**
 - Screen all personnel for ILI before they come on duty.
 - Symptomatic personnel should be sent home until they are physically ready to return to duty.
 - Keep a register of HCWs who have provided care for PI patients (confirmed or suspected).
 - Keep a register of HCWs who have recovered from PI (confirmed or suspected).
 - These HCWs may be prioritized for care of PI patients and for patients who are at risk for serious complications from influenza (e.g. transplant patients and neonates). However be aware that subsequent “waves” of influenza infection may be caused by a different influenza strain.
 - Develop system for providing antivirals to HCWs exposed to PI patients according to Section 7: Antiviral Medication Procurement, Distribution, and use in the NYSDOH Pandemic Influenza Plan.
 - Personnel who are at high risk for complications of PI (e.g., pregnant women, immunocompromised persons) should be provided with appropriate education and training and policies to adequately protect them.
 - When possible, HCWs who are ill should not be involved in direct patient care. However, severe staffing crises may necessitate HCWs to work while ill.

D. Reducing exposure of persons at high risk for complications of influenza (Pandemic Period/ Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- 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 PI patients (i.e. do not visit patients, postpone nonessential medical care).

E. Nosocomial influenza outbreak management

Healthcare facilities should conduct internal surveillance to monitor for nosocomial transmission of influenza to other patients/residents and staff. Internal surveillance for nosocomial transmission could be used to identify inadequate infection control practices/procedures.

- During the Pandemic Alert and Pandemic Period/Investigation and Recognition Intervals – Unaffected State:
 - Perform syndromic surveillance (patients/residents and staff) for respiratory illness on all units to identify any clusters of ILI.
 - If a cluster of ILI is identified in an Article 28 facility (i.e., hospitals, residential healthcare facilities and diagnostic and treatment centers), report to the NYSDOH, Bureau of Communicable Disease Control, Regional Epidemiology Program by:
 - Electronically reporting on the Nosocomial Outbreak Reporting Application (NORA) on the following NYSDOH Health Provider Network (HPN) Website link: <https://commerce.health.state.ny.us/hpn/infecontrol/forms.html> (note: access to HPN is by permission only; contact your facility HPN coordinator for access);
 - OR
 - Faxing an Infection Control (Nosocomial) Report Form (DOH form 4018) to 518-408-1745 (Diagnostic and treatment centers do not have access to NORA and are required to fax their report).
 - If a cluster of ILI is identified in a non-Article 28 facility or a community setting, report to the local health department in the county where the facility is located.
 - If a cluster of ILI is identified in a NYS operated facility (e.g., Office of Mental Retardation and Developmental Disabilities (OMRDD) or Office of Mental Hygiene (OMH), report to their NYSDOH Regional Epidemiologist.
 - Follow routine NYSDOH outbreak investigation and control measures.
- During the Pandemic Period/ Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State, in addition to the above,
 - Designate personnel who have received enhanced infection control training to screen/triage patients/residents, visitors, and employees.
 - Designating specific influenza patient/resident-flow routes that minimize contact with employees, visitors, and other patients.
 - Provide antivirals for prophylaxis for patients/residents and staff according to Section 7: Antiviral Medication Procurement, Distribution, and use in the NYSDOH Pandemic Influenza Plan.
 - Implement Standard and Droplet Precautions for patients with PI and those exposed to PI.
 - Include Contact and Airborne Precautions according to Section 4 III.B: Infection Control: Recommendations for Infection Control in Healthcare

Settings for Pandemic Influenza, Management of patients with suspected or confirmed PI.

- Establish cohorts of patients and staff according to Section 4 IV.D, 4 IV.E, 4 V.E and 4 V.F: Infection Control. Ensure all personnel and visitors wear a facemask when entering the ill cohort area. Facemasks are to be changed when moist with condensation or visibly soiled.
- Utilize N95 or other high filtering facepiece according to Section 4 III.B: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza, Management of patients with suspected or confirmed PI.
- Designate personnel who have received enhanced infection control training to perform direct patient care for patients with confirmed or suspected PI.
- Ill staff needed for work should be assigned to the ill cohort (Check with Ernie on reference).
- Restrict new admissions (except for other PI patients/residents) to the affected unit(s).
- Restrict visitors to the affected unit(s) to those who are essential for patient/resident care and support.
- If PI influenza transmission occurs locally (Pandemic Period/ Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State), the following additional control measures should be implemented:
 - Restrict all non-essential persons from entering the facility;
 - Restrict admissions to those not related to PI or to those who are essential for patient/resident care and support;
 - Cancel elective surgeries/procedures.

F. Visitor Guidance

- For healthcare facilities during all Pandemic Periods/all Intervals
 - Devise a plan to screen visitors for symptoms of respiratory infections. Family members and visitors may also be needed to assist facility staff members in delivering care during a severe staffing shortage due to the pandemic. Since the organizational and physical structure of each facility varies, facilities will need to devise their own plan.
 - All healthcare facilities should review or develop and institute visitation policies to assure that visitors, residents, HCWs, and the general public are protected from transmission of communicable diseases. The following areas should be covered:
 - Delineating where visiting is allowed and visiting hours.
 - Delineating precautions a visitor must take if visiting a resident in a high-risk area or if being trained to assist in providing care.
 - Identifying and excluding visitors with communicable diseases.
 - Instructing visitors to practice hand hygiene.

- Reinforcing respiratory hygiene/cough etiquette for those visitors with an upper respiratory infection who must enter the facility (limited to critical situations only).
 - Posting signs in languages appropriate to the populations served at entrances enforcing key points of your visitor policy (e.g., hand hygiene, respiratory hygiene/cough etiquette, exclusion of visitors with communicable diseases).
 - Identifying high risk units where patients are at the most risk for developing severe complications of influenza (e.g., frail elderly and HIV units).
 - Identifying what tasks could be delineated to visitors.
 - Identifying a plan to provide education to visitors to assist in patient care if staffing necessitates.
- For healthcare facilities during the Pandemic Period/Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State
 - Screen visitors for signs and symptoms of influenza before entry into the facility. Symptomatic family members or visitors should be evaluated for ILI.
 - Limit visitors to persons who are necessary for the patient's/resident's emotional well-being and care and advise them about the possible risks of acquiring infection. Legal guardians of pediatric patients/residents should be allowed to accompany the patient throughout the hospitalization.
 - Parents/relatives/legal guardians may assist in providing care in special situations such as lack of resources, pediatric parents, etc., if adequate training and supervision of PPE use and hand hygiene is ensured.
 - Family members who accompany patients with suspected or confirmed PI are assumed to have been exposed to influenza and should wear facemasks.
 - Instruct visitors to wear facemasks while in a PI patient's/resident's room.
 - Instruct visitors on hand-hygiene practices prior to entry of the PI patient/resident isolation room/area.
 - When the patient/resident has poor hygienic habits, contaminates the environment, or cannot assist in maintaining infection control precautions (e.g., children, patients/residents with altered mental state, or elderly persons) visitors for such patients/residents should be managed on a case-by-case basis, balancing the rights of the patient/resident with the risk they may present to others.
 - Home setting during Pandemic Period/ Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State
 - Visitors who have not been exposed to PI and who are not necessary for the patient's well-being and care should not enter the home while persons are actively ill with PI.
 - If unexposed visitors must enter the home, they wear a facemask, use proper hand hygiene practices and avoid close contact with the patient.

IV. Specific Hospital Infection Control Guidance

A. Early detection and source control to prevent transmission of PI (All Pandemic Periods/Investigation, Recognition, and Initiation – Unaffected State)

- Designate a person(s) to routinely access (at least weekly during routine epidemic influenza season) the NYSDOH Influenza Activity Surveillance Reports on the NYSDOH Public Website at <http://www.health.state.ny.us/diseases/communicable/influenza/surveillance.htm> to obtain current information on the epidemiology of epidemic and pandemic influenza. Communicate this information to all clinical staff and direct care providers.
- Post signs containing the following information in languages appropriate to the populations served at all entrances and strategic locations.
 - Signs and symptoms of influenza and any current epidemiologic risk factors for a PI strain, if identified;
 - Visitors with ILI should not visit the facility;
 - Persons entering the hospital seeking care for respiratory symptoms should immediately inform the receptionist/triage personnel of their symptoms and follow respiratory hygiene/cough etiquette.
- Early detection of patients with respiratory symptoms can take place at triage areas, reception areas, or during the scheduling of appointments.
 - Identify and train those personnel who are first points of contact to screen patients for respiratory symptoms.
 - Communicate to triage staff on a regular basis the status of the pandemic. The frequency of updates will depend on the epidemiology of the pandemic and the location of your area (e.g., areas that border other states/countries and large urban areas may need more frequent updates due to increased tourism and world travel).
- Screen all patients presenting with respiratory illness for epidemiologic links to areas affected by the pandemic, such as:
 - Travel to an affected area within 10 days of illness onset;
 - Recent contact with an ill person known to have had recent travel to an affected area.
- Prioritize placement of persons meeting the suspected PI criteria.
 - If triaged over the phone, instruct the patient on infection control measures to limit transmission in the home and when traveling to necessary medical appointments (i.e., respiratory hygiene/cough etiquette);
- Place in a private exam room with Standard and Droplet Precautions. Include Contact and Airborne Precautions according to Section 4 III.B: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza, Management of patients with suspected or confirmed PI.
 - Notify the local health department.
- Respiratory hygiene/cough etiquette should be utilized at all points of entry into the healthcare delivery system:
 - Emergency departments

- Admissions department
 - Outpatient clinics
 - Physician offices.
- Health care providers and non-licensed personnel will play an important role in early identification and should all be familiar with and incorporate respiratory hygiene/cough etiquette into their practice.

B. Early detection and source control to prevent transmission of PI (Pandemic Period/ Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- Screen all patients and visitors for respiratory illness at all points of entry into the healthcare system.
- Develop a plan to segregate or use spatial separation for patients with respiratory illness from patients without respiratory illness presenting to the emergency department:
 - Include a plan for numbers of patients that exceed normal capacity of the emergency department.
 - Consider a separate triage when PI has been identified locally. This could be the urgent care center or a temporary triage center (e.g., trailers or other temporary structure, or nearby outpatient clinics).
 - Consider a telephone triage system or “triage officer” for managing patient flow or to adequately direct those with less critical needs away from the emergency department.
- Mask all family members and visitors accompanying patients with ILI, as they may be incubating disease.
- Consider the following infection control issues when triage or admission capacity is exceeded, leading the facility to initiate non-traditional sites for the care of patients (e.g., cafeterias, conference rooms, etc.):
 - Prevent patients with respiratory illness from contact with non-symptomatic patients;
 - Encourage coughing persons to sit as far away as possible (three to six feet) from other persons;
 - Provide hand hygiene products at the point of care and in waiting areas;
 - Ensure adequate supplies of PPE at the point of care;
 - Ensure adequate disposal of infectious wastes;
 - Provide trained ancillary staff to support the temporary structure (e.g., housekeeping).
- Instructions for healthcare workers and ancillary staff working in the PI triage area should include:
 - Appropriate selection, use, and disposal of:
 - Facemasks (these should be worn when entering the triage area and changed when soiled or moist with condensation);
 - Gloves and gowns per Standard Precautions;
 - Avoid hand (regardless of glove use) to mucous membrane contact (face, eyes, nose, mouth, etc.);

- Use of Contact Precautions (i.e., gloves, gown, and dedicated equipment; face/eye protection if splashing anticipated) when caring for patients with diarrhea.

C. Infection control measures for hospitalized patients with confirmed or suspected PI (All Pandemic Periods/ Investigation, Initiation, Accel, Peak, Decel, and Resolution Intervals)

- Limit admission of PI patients to those with severe complications of influenza who cannot be cared for outside of the hospital setting.
- Follow general infection control guidance according to Section 4 III: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza.
- If numbers of suspected and confirmed PI cases exceed private room availability, attempt to cohort patients.

D. Cohorting in the hospital setting (All Pandemic Periods/ Investigation, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

Cohorting in the hospital setting is indicated when the numbers of patients admitted with ILI exceeds the facility's capacity to isolate patients given their routine means (i.e., lack of sufficient private rooms), or if there was an uncontrolled nosocomial outbreak (rare in acute care settings). Utilize the following measures to operationalize cohorting in a hospital setting:

- Identify an area in the facility that could be utilized for cohorting patients with PI. Ideally, this area should be comprised of single patient rooms. If this is not feasible, identify an area that provides the best spatial separation of patients. Respiratory viruses (e.g., non-PI such as respiratory syncytial virus, parainfluenza) or other infectious agents may be circulating concurrently in the community. Therefore, cohorting of patients should be prioritized as follows:
 - Patients with laboratory-confirmed PI.
 - Suspect PI patients with a well established epidemiologic link to a known case (e.g., household member of a case).
 - Patients with ILI without a well-established epidemiologic link to a known PI case.
- Asymptomatic contacts (i.e., roommates of a PI case) should be monitored closely, and if possible, maintained in a private room for the entire incubation period and placed on Standard and Droplet Precautions.
- Reinforce adherence to infection control practices (i.e., hand hygiene, Standard Precautions) to prevent the transmission of influenza and other healthcare associated infections within the cohort.
- Whenever possible, HCWs assigned to cohorted patient care units should be experienced HCWs and should not float or be assigned to other patient care areas.
- Limit the number of HCWs assigned to the PI cohort. The number of persons entering the cohorted area should be limited to the minimum number necessary for patient care and support.

- Facilities should have the capacity to obtain patient care assignments of the cohorts for any designated time period for the purpose of an epidemiologic investigation.

E. Cohorting in the hospital setting (Pandemic Period/Accel, Peak, and Decel Intervals - Affected State)

- Because of the high patient volume anticipated, cohorting should be implemented early in the course of local PI activity.
- Laboratory testing for confirmation is likely to be limited and/or not timely. Cohorting should be based on symptoms consistent with PI.
- Personnel who have recovered from PI should be prioritized for assignment to the cohort of patients with active PI.
- If staffing crises necessitate HCWs work while ill, they should be assigned to the ill cohort of patients (See III.D, Occupational health issues for a local pandemic).

F. Patient transport for patients with suspected or confirmed PI (All Pandemic Periods/ Investigation, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- Limit patient movement and transport outside the isolation area/room for only medically necessary purposes.
- Consider having portable X-ray equipment available in areas designated to the pandemic influenza cohort unit.
- If transport or movement is necessary, ensure the patient wears a facemask. If a facemask cannot be tolerated, provide the most practical way to prevent exposures to other healthcare workers, patients, and or visitors. Some suggestions include:
 - Ensure all healthcare workers transporting the patient don a facemask for transport;
 - Provide tissues for patient to contain respiratory secretions and encourage respiratory hygiene/cough etiquette;
 - Identify a transport route that is restricted to visitors and non-accompanied patients;
 - Use an oxygen mask rather than nasal cannula for transport, if the patient requires supplemental oxygen.

V. Specific Long-Term Care Facility (LTCF) Infection Control Guidance

Residents of LTCFs are a vulnerable population for the acquisition and development of complications of influenza due to advanced age, co-morbidities, regular close contact with other at-risk persons, and decreased response to the influenza vaccine. LTCFs are often an epidemiologic microcosm of their community, with outbreaks of influenza being identified before or concurrently with community case identification of circulating influenza. Personnel, visitors, or resident/patient transfers from another LTCF or hospital can introduce influenza into a LTCF. Once influenza is introduced into a facility, it is often very difficult to control transmission.

PI presents additional challenges. A pandemic may occur any time of the year. There would be an increased susceptibility in the community, further impacting on potential exposures in the LTCF setting. Additionally, acute medical management of residents in the LTCF setting should be anticipated and planned for, as hospitals may be unable to meet all of the medical needs of the community. All of these factors would pose additional challenges and unusual infection prevention concerns for the LTCF setting (e.g., device-related infections, multi-drug resistant organisms) that are more commonly seen in the acute care setting.

The following guidance is intended to address setting-specific infection control issues in the LTCF setting.

A. Prevention or delay of PI virus entry into the facility (All Pandemic Periods/ Investigation, Initiation, Accel, Peak, Decel, and Resolution Intervals – Unaffected State)

- Designate a person(s) to routinely access (at least weekly during routine epidemic influenza season) the NYSDOH Influenza Activity Surveillance Reports on the NYSDOH Public Website at <http://www.health.state.ny.us/diseases/communicable/influenza/surveillance.htm> (note: access to HPN is by permission only; contact your facility HPN coordinator for access) to obtain current information on the epidemiology of epidemic and pandemic influenza. Communicate this information to all clinical staff and direct care providers.
- Post signs containing the following information in languages appropriate to the populations served at all entrances and strategic locations detailing:
 - The signs and symptoms of influenza and any current epidemiologic risk factors for a PI strain, if identified.
 - Visitors with ILI should not visit the facility.
- Enhance visitor restrictions by actively screening visitors if there is an increase in local influenza illness in the community (i.e., nosocomial reports of influenza in your county/bordering counties, laboratory-confirmed influenza reported in your county).
- Implement respiratory hygiene/cough etiquette at all entry points into the facility and in common areas.
- Perform careful screening for respiratory infections of residents being admitted to the LTCF. Admit residents with a respiratory infection of unknown etiology on Standard and Droplet Precautions, and to a private room, if feasible.
- See Occupational health parts Section 4 III.C: Infection Control, Occupational Health for personnel surveillance and restrictions.

B. Prevention or delay of PI virus entry into the facility (Pandemic Period/ Investigation, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

During local PI activity, the facility should enhance control over persons entering the facility. Those entering should be limited to essential staff and a few select persons who are necessary for resident's emotional support or care. The following additional measures should be incorporated:

- Post visual alerts at all entrances restricting entry by symptomatic persons.
- Implement a system to screen all personnel and visitors for influenza-like symptoms before they enter the facility.
- Require personnel monitoring entry into the facility to wear a surgical or procedural mask for this task. Masks are to be changed when moist with condensation or visibly soiled.
- Limit visitors to a few select persons who can act as advocates or caregivers for each resident according to Section 4 III.F: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza, Visitor Guidance.
- Non-essential symptomatic personnel or visitors should be sent home until they are physically able to return to duty.
- Carefully screen new admissions for PI exposure and symptoms.
- Perform resident placement of new admissions with the following considerations:
 - Residents with respiratory symptoms who require admission to the facility (e.g., acute care facilities beyond patient capacity, persons in the community in need of extended care, etc.) should preferably be admitted to a private room on Standard and Droplet Precautions for the duration of illness, and for a minimum of five days. If a private room is not available, cohort residents according to Section 4 V.F: Infection Control: Cohorting for LTCFs.
 - Residents with exposure to PI (e.g., stay in a hospital with an identified PI outbreak, household exposure) requiring admission to the facility should be admitted to a private room on Standard and Droplet Precautions for the duration of the PI strain incubation period. If a private room is not available, cohort during a local pandemic according to Section 4 V.F: Infection Control: Cohorting for LTCFs.
 - When there is no suspected or confirmed local PI in the community, new asymptomatic admissions from the community or a hospital with no known exposure may be admitted into the general resident population with caution. Perform careful screening for respiratory symptoms for the entire PI strain incubation period.
 - When there is suspected or confirmed PI in the community, establish cohorts and place all new admissions on Standard and Droplet Precautions for entire PI strain incubation.

C. Monitoring residents for PI and instituting appropriate infection control measures (Pandemic Alert Period/Investigation and Recognition Intervals – Unaffected State)

- Follow general guidance according to Section 4 I: Infection Control: Overview and Section 4 III.E: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza, Basic infection control principles for preventing the spread of PI.

D. Monitoring residents for pandemic influenza and instituting appropriate infection control measures (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

Despite aggressive efforts to prevent the introduction of PI virus, persons in the early stages of PI could introduce it to the facility. Residents returning from a hospital stay, outpatient visit, or family visit could also introduce the virus. Early detection of the presence of PI in a facility is critical for ensuring timely implementation of infection control measures.

Early in the progress of a pandemic in the region, increase resident surveillance for influenza-like symptoms. Notify state or local health department officials if a PI case(s) is suspected.

- If symptoms of PI are apparent, implement Droplet Precautions in addition to Standard Precautions for the resident and roommates, pending confirmation of PI virus infection. Patients and roommates should not be separated or moved out of their rooms unless medically necessary. Once a patient has been diagnosed with PI, roommates should be treated as exposed cohorts.
- Cohort residents and staff on units with known or suspected cases of PI.
- Limit movement within the facility (e.g., temporarily close the dining room and serve meals on nursing units, cancel social and recreational activities).
- Administer traditional group therapies (e.g., physical, occupational, and recreational therapy) individually to residents or within the cohorts.
- Curtail floating of direct care staff as feasible.

E. Cohorting for LTCFs: Pre-planning (Pandemic Alert Period/Investigation and Recognition Intervals – Unaffected State)

Pre-planning for how and when cohorts should be established in the LTCF is integral to successfully attaining the goal of minimizing transmission. Cohorting in LTCFs should be done with great care as moving residents who may have been exposed will further complicate control measures. Cohorting is a special circumstance in the LTCF that may be helpful for safely admitting new residents to the facility during a local pandemic, when exposure may be uncertain. The following issues should be addressed when developing a facility-specific cohorting plan for the LTCF setting:

- Assess units that can easily be physically segregated from the rest of the facility, if possible. Private resident rooms are preferred for an ill or exposed cohort, if feasible.
- Assess how residents would be able to perform activities of daily living in a cohort (e.g., eating in rooms, bathing in only cohorted facilities, therapies to be provided in rooms or in a cohort).
- Assess the numbers of direct patient care and essential ancillary staff needed to staff the cohort.

F. Cohorting for LTCFs (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- Cohorting can be a considered control measure when there is local PI. Establish cohorts (symptomatic and asymptomatic) for **all new admissions** into the facility for the duration of the PI strain incubation period, or illness, if symptomatic. These cohorts should be established early in the local pandemic.
- Whenever possible, HCWs assigned to cohorted patient care units should be experienced healthcare workers and should not float or be assigned to other patient care areas.
- Limit the number of personnel assigned to the PI cohort. Facilities should have the capacity to obtain resident care assignments of the cohorts for any designated time period for the purpose of an epidemiologic investigation.
- Reinforce adherence to infection control practices (i.e., hand hygiene, Standard and Droplet Precautions) to prevent the transmission of healthcare-associated infections within the cohort.
- Laboratory testing for confirmation is likely to be limited and/or not timely during a local pandemic, in which case cohorting should be based on having symptoms consistent with PI.
- HCWs who have recovered from PI should be prioritized for the cohort of residents with active known or suspect PI.
- HCWs should be provided with antiviral medications as described in the antiviral section of the NYSDOH Pandemic Influenza Plan.

VI. Specific Adult Care Facilities (ACFs) Infection Control Guidance (All Pandemic Periods/Intervals)

The adult care facility population represents a unique challenge when considering infection control precautions for PI. Residents live in congregate settings often sharing common facilities such as kitchens, dining areas, laundries, bathrooms, lounges, and bedrooms. Residents are often mobile and have significant contact with the community outside the facility. However, unlike long term care facilities, hospitals, and home care, supervision by a healthcare provider is not commonplace. Therefore, this section is designed to assist the administrators of adult care facilities in developing policies and procedures to address pandemic influenza infection prevention and control in this population.

PI prevention and control in the adult home setting consists of the following activities:

- Respiratory Hygiene/Cough Etiquette. Residents and staff should be instructed in the procedures outlined in Appendix 4-B of this plan. Common areas should have tissues available. Hand hygiene should be encouraged and hand hygiene products should be available in common living areas.
- Social Distancing. Persons at high risk for complications of influenza should try to avoid public gatherings (e.g., movies, religious services, public meetings) when PI is in the community. This includes avoiding gatherings within the adult living facility setting when not absolutely necessary. Residents who are ill with ILI (defined in II. Background of this section) should practice voluntary isolation while they are most likely to be infectious five days after symptoms start. Residents should be instructed in voluntary restriction of movement outside the home. When movement outside the home is necessary (e.g., for medical care), the resident should follow respiratory hygiene/cough etiquette, be encouraged to wear face masks if available, and be diligent with hand hygiene by washing hands with soap and water and/or alcohol based hand sanitizers.
- Environmental cleaning. Although no changes to products used in routine cleaning are necessary, enhanced attention to “high touch” areas (e.g., door handles, light switches, elevator buttons, faucet handles, hand rails, telephones, computer keyboards, etc.) can significantly reduce transmission of influenza virus and other microorganisms. Persons responsible for the cleaning of common and resident areas should be instructed in these enhanced cleaning measures.
- Facility Employees. Facility employees who perform services in these homes should practice according to the guidance outlined in the home care section of this plan.

VII. Specific Home Healthcare Infection Control Guidance (All Pandemic Periods/Intervals)

Home healthcare personnel face considerable challenges when attempting to implement standard infection control practices in the home setting. Unlike hospitals and LTCFs, home care settings often lack access to sufficient hand hygiene facilities, space is often limited, and environmental cleanliness is not under the control of the care provider. Thus the home is an uncontrolled and unpredictable environment in which to provide care. Given this challenge, those working in the home setting must be prepared for the most hazardous infection control setting, and take appropriate action to prevent transmission of infection to themselves and to other patients for whom they care.

A. Home healthcare infection control preparedness planning for pandemic influenza (Pandemic Alert Period/Investigation and Recognition Intervals – Unaffected State)

Home healthcare agencies can expect an increased demand for services in the event of an influenza pandemic. In addition to the routine case load, more patients will require services. Hospitals may be restricting admissions to the most acutely ill individuals, private practice settings and emergency departments may be overwhelmed. Moderate to low risk individuals may need home health care and support services. Given this premise, more acutely ill patients may be discharged to home, yielding a large home health population base at greater risk for infection. Home healthcare staff should be prepared to care for those patients with influenza, as well as patients with other potentially infectious diseases in the home. The following issues should be addressed by home healthcare companies and associations in planning for an influenza pandemic:

- Home care providers/managers should ensure that there is a qualified individual(s)/designee specifically assigned responsibility for infection control and occupational health.
- Designate a person to routinely access influenza surveillance information on the NYSDOH Influenza Website <http://www.health.state.ny.us/diseases/communicable/influenza/surveillance.htm> and disseminate information regarding local influenza activity to healthcare workers.
- Designate a person to regularly access NYSDOH HPN and the CDC Website (<http://www.pandemicflu.gov/>) to obtain updated information on the epidemiology of the pandemic, and to share with healthcare personnel.
- Establish a chain of command/process for the rapid dissemination of infection control information to staff.
- Assess infection control and occupational health policies and procedures to assure they are consistent with current guidelines.
- Develop strategies to assess possible transmission risk to the healthcare worker in the home based on referral information received:
 - Assure referrals from discharge planners or primary care providers address the presence or absence of communicable diseases, especially influenza or ILI.
 - Develop a communication plan to notify staff going into the home when precautions beyond standard precautions are indicated.
- Assure PPE is accessible to staff.
 - Reinforce the need for staff to be prepared for any potential infectious situation.
 - Staff should have an ample supply of gloves for all patient care visits. Additionally, gowns, facemasks and/or face shields should be in easy access for the healthcare worker (e.g., in their vehicle or in their nursing bag).
 - The organization should also have certain staff fit-tested for an N-95 or higher rated respirator, to care for PI patients and those who meet the criteria for Airborne Precautions.
 - Identify a plan to increase needs if a pandemic strain is identified before it affects the local area.
- Assure hand hygiene materials are accessible.
 - Alcohol-based hand rubs, antimicrobial soap, and paper towels should be in easy access for the healthcare worker at the point of care.

- Plan and develop a system for rapid distribution of antiviral medication and/or influenza vaccine, in the event they are recommended.
- Procedures for making appropriate referrals for treatment and laboratory testing should be in place to facilitate identification of the causative agent, and implementation of treatment and control measures.

B. Infection control practices for home healthcare (Pandemic Alert Period/Investigation and Recognition Intervals – Unaffected State)

- Reinforce strict hand hygiene and prompt implementation of respiratory hygiene/cough etiquette by all home healthcare staff and patients when caring for all patients with respiratory illness in the home. All staff should wear a surgical or procedure mask as per droplet precautions.
- Instruct patients and family members/caregivers in the home on proper hand hygiene and respiratory hygiene/cough etiquette. Emphasis should be placed on instructing patients to use disposable tissues for wiping noses and to cover their mouth and nose when coughing or sneezing; performing hand hygiene after coughing, sneezing, or using and disposing tissues; and the importance of keeping hands away from the mucous membranes of the eyes and nose.
- Home healthcare providers should identify those patients who are at high risk for complications from influenza and coordinate the ordering and administration of the vaccine. High risk individuals for complications of influenza are published annually in the NYSDOH guidance, Influenza Prevention and Control, located at: http://www.health.state.ny.us/diseases/communicable/influenza/guidelines/2006-2007_influenza_guidelines.htm
- Home care personnel should be considered high risk for influenza and receive influenza vaccine annually.
- Instruct all healthcare workers to screen/assess clients and their household contacts for respiratory illness and ILI and report respiratory/flu like symptoms either to the patient's physician and/or to their home healthcare supervisor depending on level of skill, training, or expertise.
- Any reusable medical equipment should be properly cleaned and disinfected or sterilized, as the medical device indicates (see CDC Website: http://www.cdc.gov/ncidod/dhqp/bp_sterilization_medDevices.html), before use with another patient. Close attention to cleaning protocols should be paid to equipment that comes in contact with respiratory secretions. Oral electronic thermometers, if used, should be used with plastic sheaths, and the entire surface should be cleaned and disinfected after use.
- Any surfaces in the home contaminated with secretions from patient or household contacts should be thoroughly cleaned by using a household disinfectant and following the manufacturer's directions.

C. Infection control practices for home healthcare (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- When PI is in the community, home health agencies should consider contacting patients before the home visit to determine whether persons in the household have an ILI.
- If patients with PI are in the home, consider:
 - Postponing nonessential services;
 - Assigning providers who are not at increased risk for complications of PI to care for these patients.
- Home care providers who enter homes where there is a person with PI should follow Standard and Droplet Precautions as delineated above. If diarrhea is associated with the PI, Contact Precautions should be added.
- Enter every household wearing a surgical or procedure mask until patient and all household contacts are assessed as free of respiratory illness. Assess the risk of influenza in the patient or household contacts and utilize respiratory hygiene/cough etiquette.
- Instruct patients and household contacts to avoid unnecessary visits to hospital, clinics, or physicians offices.
- Ensure ill patients and household contacts wear facemasks if a visit to hospital, physician, or clinic becomes necessary and to phone ahead to notify the healthcare provider of respiratory symptoms prior to visit.
- Advise patients and household contacts to avoid public gatherings or unnecessary visits to other households to avoid or minimize exposure.
- Administer pandemic strain vaccine to home care patients as recommended, if medically indicated and available (See Section 6 on vaccine prioritization).
- Administer antiviral medication, if medically indicated and available (See Section 7 on antiviral prioritization).
- Minimize staffing changes to the extent possible (assign same staff to same patients).
- Provide infection control education to community resources and volunteers if utilized to assist with patient care.

VIII. Specific Prehospital Care - Emergency Medical Services (EMS) Guidance (All Pandemic Periods/Intervals)

Patients with severe PI or disease complications are likely to require emergency transport to the hospital. The following information is designed to protect EMS personnel during transport of suspected or confirmed PI.

- Screen patients requiring emergency transport for symptoms of influenza.
- Follow Standard and Droplet Precautions when transporting symptomatic patients.
 - Consider routine use of facemasks by all transport personnel for all patient transport when PI is in the community (Pandemic Period/Initiation through Resolution – Affected State).
- If possible, place a procedure or surgical mask on the patient to contain droplets expelled during coughing. If this is not possible (i.e., would further compromise

respiratory status, difficult for the patient to wear), have the patient cover the mouth/nose with tissue when coughing, or use the most practical alternative to contain respiratory secretions.

- Oxygen delivery with a non-rebreather face mask can be used to provide oxygen support during transport. If needed, positive-pressure ventilation should be performed using a resuscitation bag-valve mask.
- Unless medically necessary to support life, aerosol-generating procedures (e.g., suctioning, intubation, or delivering nebulized medications) should be avoided during prehospital care.
- If aerosol-generating procedures are necessary, staff should wear a properly fitted, N95 or higher rated respirator. See the CDC's *Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings during an Influenza Pandemic* at <http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html>
- Optimize the vehicle's ventilation to increase the volume of air exchange during transport. When possible, use vehicles that have separate driver and patient compartments that can provide separate ventilation to each area.
- Notify the receiving facility that a patient with possible PI is being transported.
- Follow standard operating procedures for routine cleaning of the emergency vehicle and reusable patient care equipment.

A. EMS and 9-1-1 workforce protection strategies (All Pandemic Periods/Intervals)

EMS and 9-1-1 agencies play a vital role in responding to requests for assistance, triaging patients, and providing emergency treatment to patients during a pandemic. Strategies to protect the EMS and 9-1-1 workforce and their families are essential.

- Promote educational and operational strategies for infectious disease control and prevention that contribute to employee health and safety.
- Establish internal surveillance protocols and tracking systems to monitor the health of workers and to determine whether ongoing strategies of ensuring workplace safety and operational continuity are successful or need to be revised as pandemic evolves.
- Include labor and non-labor representatives whenever possible in planning efforts intended to protect the workforce.
- Consider mechanisms that could be sustained throughout a pandemic period to maintain physical and mental capabilities of personnel.
- Develop methods for providing prophylaxis/treatment to EMS personnel.
- Establish policies for isolation of employees who have been exposed to PI or ahev suspected or confirmed PI. (Pandemic Period Stages 4 through 6/Investigation through Resolution Intervals)
- Establish clear employee illness policy that staff do not come to work when symptomatic.
- Establish polices on when previously ill employee is no longer infectious and can return to work after illness.

IX. Specific Infection Control Guidance for Outpatient Medical Offices

Patients with nonemergency symptoms of an ILI may seek care from their medical provider. Implementation of infection control measures when these patients present for care will help prevent exposure among other patients and clinical and nonclinical office staff.

A. Detection of patients with possible PI (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

- Triage patients calling for medical appointments for influenza symptoms:
 - Discourage unnecessary visits to medical facilities;
 - Instruct symptomatic patients on infection control measures to limit transmission in the home and when traveling to necessary medical appointments.
- Post visual alerts (in appropriate languages) at the entrance to outpatient offices instructing persons with respiratory symptoms (e.g., patients, persons who accompany them) to:
 - Inform reception and healthcare personnel of their symptoms when they first register for care;
 - Practice respiratory hygiene/cough etiquette (see <http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>;
 - Sample visual alerts may be found on CDC's website <http://www.cdc.gov/flu/protect/covercough.htm>

B. Management of infectious/potentially infectious patients (All Pandemic Periods/Intervals)

- Post signs containing the following information in languages appropriate to the populations served that promote respiratory hygiene/cough etiquette in common areas (e.g., elevators, waiting areas, cafeterias, lavatories) where they can serve as reminders to all persons in the healthcare facility. Signs should instruct persons to:
 - Cover the nose/mouth when coughing or sneezing;
 - Use tissues to contain respiratory secretions;
 - Dispose of tissues in the nearest waste receptacle after use;
 - Perform hand hygiene after contact with respiratory secretions.
- Facilitate adherence to respiratory hygiene/cough etiquette. Ensure the availability of materials in waiting areas for patients and visitors.
 - Provide tissues and no-touch receptacles (e.g., waste containers with pedal-operated lid or uncovered waste container) for used tissue disposal;
 - Provide conveniently located dispensers of alcohol-based hand rub;
 - Provide soap and disposable towels for hand washing where sinks are available.
- Promote the use of facemasks and spatial separation by persons with symptoms of influenza.

- Offer and encourage the use of either procedure masks or surgical masks by symptomatic persons to limit dispersal of respiratory droplets;
- Encourage coughing persons to sit at least three to six feet away from other persons in common waiting areas.
- Patient placement (Pandemic Alert and Pandemic Periods/All Intervals)
 - Where possible, designate separate waiting areas for patients with symptoms of pandemic influenza or provide space for coughing persons to sit at least three to six feet away from others, if feasible. Place signs indicating the separate waiting areas.
 - Place symptomatic patients in an evaluation room as soon as possible to limit their time in common waiting areas.
 - Designate a location and staff for care of pregnant women and their newborns, separate from those used by patients on the basis of pregnancy stage and symptoms to ensure that pregnant women most in need of attention receive care, but avoid the risk of influenza exposure when that risk might be greater than the benefit of care.

X. Specific Infection Control Guidance for Other Ambulatory Settings (Pandemic Alert and Pandemic Periods/All Intervals – Affected State)

A wide variety of ambulatory settings provide chronic (e.g., hemodialysis units) and episodic (e.g., freestanding surgery centers, dental offices) healthcare services. When pandemic influenza is in the region, these facilities should implement control measures similar to those recommended for outpatient physician offices. Other infection control strategies that may be utilized include:

- Screening patients for ILI by phone or before coming into the facility and rescheduling appointments for those whose care is non-emergent.
- Canceling all non-emergency services when there is PI in the community.

XI. Care of Suspected and Confirmed PI Patients in the Home (Pandemic Alert and Pandemic Periods/All Intervals)

Most patients with PI will be able to remain at home during the course of their illness and can be cared for by other family members or others who live in the household, provided their home is a suitable location for them during their illness. The decision to remain at home when ill with influenza will best be made in consultation with the person's/family's health care provider. Voluntary home confinement by symptomatic persons will limit their contact with uninfected persons and help slow the spread of influenza. Anyone residing in a household with an influenza patient during the incubation period and illness is at risk for developing influenza. A key objective in this setting is to limit transmission of PI within and outside the home.

All persons in the household should carefully follow recommendations for hand hygiene (i.e., hand washing with soap and water or hand sanitizing with an alcohol-based hand

rub; see Appendix 4-A, Respiratory Etiquette/Cough Hygiene) after contact with an influenza patient or the environment in which care is provided.

A. Infection Control Measures in the Home (Investigation to Resolution –Affected State):

When care is provided by a household member, basic infection control precautions should be emphasized. This includes:

- Physically separating the patient with influenza from non-ill persons living in the home as much as possible.
- Keeping the patient at home at all times during the period when they are most likely to be infectious to others (i.e., five days after onset of symptoms).
 - When movement outside the home is necessary (e.g., for medical care), the patient should follow respiratory hygiene/cough etiquette (i.e., cover the mouth and nose when coughing and sneezing; see Appendix 4-B) and wear procedure or surgical masks if available.
 - Although no studies have assessed the use of facemasks at home to decrease the spread of infection, use of a facemask by the patient and/or caregiver during interactions may be of benefit. If there is the expectation of close contact with a symptomatic individual, every effort should be made to limit the duration of exposure to as short a period as possible. When providing direct patient care activities (e.g. bathing, feeding), the use of N95 or higher rated respirators would be considered prudent.
- Soiled dishes and eating utensils should be washed either in a dishwasher or by hand with warm water and soap. Separation of eating utensils for use by a patient with influenza is not necessary.
- Laundry
 - Handle soiled clothing and linens during collection with a minimum amount of agitation and fluffing;
 - Handwashing or hand hygiene should be done in the home after sorting laundry and adding the clothing and linens to the washer.
 - Use detergents, laundry additives, and appropriate water temperature as per routine laundry procedures. Follow manufacturer instructions for detergent and bleach use.
 - Use a temperature setting for drying clothes and linens appropriate for the fabrics in the load. Line- or air-drying can be used to dry items when machine drying is not indicated.
 - Clean your hands before removing clean laundry from the washer or dryer, especially if you have coughed or sneezed onto your hands.
- Tissues used by the ill patient should be placed in a separate bag but can subsequently be disposed with other household waste. Consider placing a bag for this purpose at the bedside.
- Normal cleaning of environmental surfaces in the home should be followed.

The management of other persons in the home should include:

- Persons who have not been exposed to PI and who are not essential for patient care or support should not enter the home while persons are actively ill with PI.
- If unexposed persons must enter the home, they should avoid close contact with the patient (i.e., within three to six feet).
- Persons living in the home with the PI patient should limit contact with the patient to the extent possible; consider designating one person as the primary care provider.
- Household members should monitor themselves closely for the development of influenza symptoms (including using a thermometer to check for fever) and contact a telephone hotline or medical care provider if symptoms occur.

XII. Care of Pandemic Influenza Patients at Alternative Sites (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

If an influenza pandemic results in severe illness that overwhelms the capacity of existing healthcare resources, it may become necessary to provide care at alternative sites (e.g., schools, auditoriums, conference centers, hotels). Existing “all-hazard” plans have likely identified designated sites for this purpose. The same principles of infection control apply in these settings as in other healthcare settings. Careful planning is necessary to ensure that resources are available and procedures are in place to adhere to the key principles of infection control.

Respiratory protection programs and infection control programs will need to be developed and implemented before the facilities are opened to the public. Primary care providers who have clinics in the community will need to be trained in the use of PPE and infection control practices. HHS has developed a checklist to help clinics develop pandemic disaster plans at <http://www.pandemicflu>.

Consider the following infection control issues when triage or admission capacity is exceeded, leading the facility to initiate non-traditional sites for the care of patients (e.g., cafeterias, conference rooms, etc.):

- Prevent patients with respiratory illness from contact with non-infectious patients.
- Designate areas for cohorting patients with PI.
- Provide hand hygiene products at the point of care and in waiting areas.
- Ensure adequate supplies of PPE at the point of care.
- Provide for adequate disposal of infectious wastes.
- Provide ancillary staff with training to support the temporary structure (e.g., housekeeping).

XIII. Recommendations for Infection Control in Schools and Workplaces (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

In schools and workplaces, infection control for PI should focus on:

- Excluding sick students, faculty, and workers while they are infectious.

- The adherence to good personal hygiene, proper hand hygiene, respiratory hygiene, and cough etiquette is especially important for preventing the spread of influenza in non-healthcare settings in the community.
- Promoting respiratory hygiene/cough etiquette and hand hygiene as for any respiratory infection. The benefit of wearing masks in these settings has not been established. *For more information on the use of respiratory protection in the non-occupational setting, see:*
<http://www.pandemicflu.gov/plan/community/maskguidancecommunity.html>
- School administrators and employers should ensure that materials for respiratory hygiene/cough etiquette (i.e., tissues and receptacles for their disposal) and hand hygiene are available.
- While historically there has been a clear distinction between pandemic strains of influenza viruses and seasonal influenza viruses based on antigenic specificity, there is no new evidence to suggest that pandemic influenza viruses are biophysically or biochemically different than seasonal influenza virus. Although pandemic influenza viruses may cause severe disease, influenza viruses are among the least resistant microorganisms to chemical disinfection. Therefore, routine cleaning and disinfection strategies used during influenza seasons could be applied for the environmental management of pandemic influenza.
 - Cleaning with soap or detergent in water is the first step in surface treatment. Cleaning will remove soil and organic matter that would otherwise reduce the effectiveness of the disinfection step that follows. There is no indication for cleaning procedures that differ from what is done routinely. Any commercially available soap or detergent can be used. Water can be cold or warm, or as recommended on the label of the cleaning product used (if a specific temperature is listed).
- Influenza viruses can be inactivated by many low- or intermediate level disinfectants containing any of the following ingredients:
 - chlorine or hypochlorite,
 - aldehydes,
 - quaternary ammonium compounds [quats],
 - phenolics,
 - alcohols,
 - peroxygen compounds.
- While school remains in session and when businesses reduce onsite staffing, environmental infection control for non-healthcare settings focuses on regular cleaning for most surfaces and targeted use of disinfection for surfaces touched frequently by hand:
<http://www.pandemicflu.gov/plan/healthcare/influenzaguidance.html>
 - Keep housekeeping surfaces and countertops clean of visible soil by cleaning with detergents and water or proprietary cleaners, followed by rinsing with water. Repeated application of disinfectants to table and desktop surfaces is unnecessary. Frequent use of room air deodorizers to disinfect the air is not recommended.

- Follow label instructions carefully when using disinfectants and cleaners, noting any hazard advisories and indications for using personal protective items (such as household gloves). Do not mix disinfectants and cleaners unless the labels indicate it is safe to do so. Combining certain products (such as chlorine bleach and ammonia cleaners) can be harmful, resulting in serious injury or death.
- Clean and disinfect bathroom surfaces on a regular basis using EPA-registered detergent/disinfectants. Alternatively, clean surfaces first with detergent and water and then disinfect with an EPA-registered disinfectant in accordance with manufacturer instructions. (Note: Disinfectant products available in grocery stores or hardware stores are all EPA-registered.)
- If EPA-registered disinfectants are not available, use a dilute solution (1:100 volume/volume, approximately 600 parts per million [ppm]) of household chlorine bleach (sodium hypochlorite) to disinfect bathroom surfaces. To prepare this solution, add ¼ cup of bleach to a gallon of clean water, or 1 tablespoon of bleach to a quart of clean water. Apply to a cleaned surface, preferably with a cloth moistened with the bleach solution, and allow the surface to remain wet for minimally 3 – 5 minutes (13).
- Clean and disinfect commonly touched surfaces in the home with a detergent/disinfectant in accordance with label instructions (e.g., microwaves, refrigerator door handles, door handles).
- Wipe frequently touched electronic items (e.g., remote controls, hand-held gaming devices) with hand-sanitizer cloths.
- Carry hand-sanitizer cloths in cars to use on hands and surfaces in cars.
- Use of disinfectants registered by the U.S. Environmental Protection Agency (EPA) is recommended whenever these are available. Lists of all registered disinfectants can be found at <http://www.epa.gov/oppad001/chemregindex.htm>. Many, if not all, of these products indicate potency for several target pathogens on the label. There are approximately 400 registered disinfectants with human influenza A and/or B listed on the product label, and all will inactivate influenza viruses when used according to manufacturer instructions.
- Educational messages and infection control guidance for pandemic influenza are available for distribution. (See CDC's Individuals & Families Planning web site at <http://www.pandemicflu.gov/plan/individual/index.html>)

XIV. Recommendations for Infection Control in Community Settings (Pandemic Period/Investigation, Recognition, Initiation, Accel, Peak, Decel, and Resolution Intervals – Affected State)

Infection control in the community should focus on “social distancing” and promoting respiratory hygiene/cough etiquette and hand hygiene to decrease exposure to others. This could include the use of masks by persons with respiratory symptoms, if feasible.

Information on the use of facemasks and respirators for the control of PI in community settings is extremely limited. Thus, it is difficult to assess their potential effectiveness in controlling influenza in these settings. In the absence of clear scientific data, the interim recommendations below have been developed on the basis of public health judgment and the historical use of facemasks and respirators in other settings.

During an influenza pandemic, the risk for influenza can be reduced through a combination of simple actions. No single action will provide complete protection, but an approach combining the following steps may help decrease the likelihood of infection: hand hygiene, isolation and treatment with antiviral medications of persons with confirmed or probable influenza, voluntary home quarantine of members of households with confirmed or probable influenza cases, reduction of unnecessary social contacts, and avoidance whenever possible of crowded or congested social settings.

When it is absolutely necessary to enter a crowded setting or to have close contact with persons who might be infectious, the time spent in that setting should be as short as possible. If used correctly, facemasks and respirators may help prevent some exposures, but they should be used along with other preventive measures, such as social distancing and hand hygiene. When crowded settings or close contact with others cannot be avoided, the use of facemasks or respirators should be considered as follows:

- Facemasks should be considered for use by individuals who enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others.
- Respirators should be considered for use by individuals for whom close contact with an infectious person is unavoidable. This can include selected individuals who must care for a sick person (e.g., family member with a respiratory infection) at home.

These interim recommendations may be revised as new information about the use of facemasks and respirators in the setting of PI becomes available. For up-to-date information about PI, visit www.pandemicflu.gov.

XV. Activities by WHO Pandemic Period and CDC Interval

All Pandemic Periods/Intervals

State Health Department:

- Develop, update, and provide materials for basic and setting specific infection control training materials to local health departments (LHDs) and healthcare facilities.
- Provide updated information on the epidemiology and clinical characteristics of novel influenza or identified PI virus to the LHDs and healthcare providers through the NYSDOH Health Alert Network (HAN).
- Update PI infection control guidance as indicated according to the virulence, transmissibility, incubation period, period of communicability, and drug susceptibility

of the identified PI strain. Communicate these changes to the LHDs and healthcare providers through the NYSDOH HAN.

- Provide epidemiologic assistance and infection control consultation for the prevention and control of PI in Article 28 healthcare facilities (i.e., hospitals, nursing homes, and diagnostic and treatment centers).
- Provide epidemiologic assistance and infection control consultation to LHDs for the prevention and control of PI in non-Article 28 facilities and within the community, as needed.
- Adhere to recommended infection control practices to prevent exposure to, and transmission of, PI when performing duties within healthcare settings or health-related functions (e.g., point of distribution sites).
- Provide weekly reports of the epidemiologic presentation of influenza in NYS to the Centers for Disease Control and Prevention (CDC).

Local Health Departments:

- Provide epidemiologic assistance and infection control consultation for the prevention and control of PI in non-Article 28 facilities and community settings.
- Report confirmed or suspected PI cases and outbreaks according to Section 2: Surveillance and Laboratory Testing of the NYSDOH Pandemic Influenza Plan) that have been identified in non-Article 28 facilities and community settings to the Regional Office of the NYSDOH, Regional Epidemiology Program.
- Adhere to recommended infection control practices to prevent exposure to, and transmission of, PI when performing duties within healthcare settings or health-related functions (e.g., point of distribution sites).
- LHDs that have clinics and home healthcare agencies will incorporate infection control guidance in their policies and procedures as applicable.
- Identify geographic areas (border states/regions/counties) that would trigger the initiation of more conservative infection control measures.

Healthcare Providers:

- Identify persons within the facility responsible for infection control and occupational health and assure adequate training, support, and access to resources (e.g., computer, internet). Assess number of persons capable of performing these associated tasks and plan for cross training other staff for these duties as appropriate.
- Review and revise infection prevention and control policies and visitation policies to assure up-to-date guidance for PI is incorporated.
- Provide education to healthcare workers on the basic infection control principles for preventing the spread of influenza and the management strategies for the containment of PI.
- Monitor and reinforce adherence to recommended infection control practices to prevent exposure to, and transmission of, PI within the healthcare setting.
- Communicate to clinicians and direct patient care staff updated information on the epidemiology, clinical characteristics, and additional control measures for PI provided on the NYSDOH Health Advisory Network (HAN).
- Plan for how cohorting (if applicable within the individual healthcare setting) would be operationalized.

- Establish and implement surveillance systems for cases of ILI and confirmed influenza among patients/residents and healthcare workers.
- Establish and implement surveillance systems for confirmed and suspected cases of PI among patients/residents and healthcare workers.
- Report suspected and Confirmed cases of PI influenza and influenza outbreaks according to Section 2: Surveillance and Laboratory Testing of the NYSDOH Pandemic Influenza Plan) and Section 4 III.E: Infection Control: Recommendations for Infection Control in Healthcare Settings for Pandemic Influenza, Nosocomial outbreak management.
- Assess current triage settings and other common patient areas and plan for source control strategies to contain transmission from potentially infectious patients.
- Establish with the local health department geographic areas (border states/regions/counties) that would trigger the initiation of more conservative infection control measures.

Pandemic Period (*Initiation through Resolution Intervals*)

State Health Department:

- Provide information on the evolution of the pandemic in the world and any specific changes or additions to current infection control guidance to LHDs and healthcare providers through the HAN.
- Alert LHDs and healthcare facilities when the pandemic nears bordering states and advise on the implementation of additional conservative infection control measures (e.g., active screening of healthcare workers, implementation of non-traditional triage sites, cohorting of patients/residents) as indicated.
- Provide consultation to LHDs and healthcare facilities for complex situations that necessitate alterations of infection control practices (e.g., shortages of PPE, failure of routine outbreak control measures to interrupt transmission).

Local Health Department:

- Regularly access the HAN for new information and changes in guidance for pandemic influenza and disseminate to healthcare providers and community as appropriate (e.g., those without access to the HAN).
- Communicate the need for the initiation of conservative infection control measures to facilities within the local jurisdiction when the pandemic reaches the geographic borders identified during pandemic planning.
- Provide consultation to non-Article 28 facilities and community settings for complex situations that necessitate alterations of infection control practices (e.g., shortages of PPE, failure of routine outbreak control measures to interrupt transmission). Seek consultation from the NYSDOH as necessary.

Healthcare Facilities:

- Regularly access the HAN for new information and changes in guidance for pandemic influenza and disseminate to direct care providers.
- Initiate conservative infection control measures to when the pandemic reaches the geographic borders identified during pandemic planning.

- Report to appropriate public health entity (i.e., Article 28 facilities to the NYSDOH; non-Article 28 facilities to the local health department) when complex situations necessitate alterations of infection control practices (e.g., shortages of PPE, failure of routine outbreak control measures to interrupt transmission).

Appendix 4-A: Interim Recommendations for Infection Control in Health-Care Facilities Caring for Patients with Known or Suspected Avian Influenza

<http://www.cdc.gov/flu/avian/professional/pdf/infectcontrol.pdf>

Objective

This document provides interim guidance for protection of health-care workers involved in the care of patients in the United States with known or suspected avian influenza. Depending upon where avian influenza is active in the world, such patients may be recently returning travelers entering U.S. health-care facilities or individuals who have had close contact with domestic poultry infected with avian influenza in the United States. For information regarding the clinical and epidemiologic criteria to be used in screening patients for possible avian influenza, see the “Update on Influenza A(H5N1) and SARS: Interim Recommendations for Enhanced U.S. Surveillance, Testing, and Infection Control” (www.cdc.gov/flu/han020302.htm) and “Interim Recommendations for Persons with Possible Exposure to Avian Influenza During Outbreaks Among Poultry in the United States” (www.cdc.gov/flu/han022404.htm).

Background

Influenza viruses that infect primarily birds are called “avian influenza viruses” (www.cdc.gov/flu/avian/facts.htm). These type A influenza viruses are genetically distinguishable from influenza viruses that usually infect people. There are many subtypes of avian influenza A viruses, including H7 and H5. Avian influenza viruses can be distinguished as “low pathogenic” and “highly pathogenic” forms based on genetic features of the virus and the severity of the illness they cause in poultry. Avian influenza viruses do not usually infect humans; however, several instances of human infections and outbreaks of avian influenza have been reported since 1997 (for more information, see “Basic Information About Avian Influenza” at www.cdc.gov/flu/avian/facts.htm). In 2003, influenza A (H7N7) infections occurred in the Netherlands among persons who handled infected poultry and among their families during an outbreak of avian flu among poultry. More than 80 cases of H7N7 illness were confirmed by testing (the symptoms were mostly confined to eye infections, with some respiratory symptoms), and one patient died (a veterinarian who had visited an H7N7 influenza-affected farm). Although there was evidence of limited person-to-person spread of infection, sustained human-to-human transmission did not occur in this or other outbreaks of avian influenza. It is believed that most cases of avian influenza infection in humans have resulted from contact with infected poultry or contaminated surfaces. However, other means of transmission are also possible, such as the virus becoming aerosolized and landing on exposed surfaces of the mouth, nose, or eyes, or being inhaled into the lungs.

Infection and disease in people caused by highly pathogenic avian influenza H5N1 infection have been identified recently in Vietnam and Thailand. On February 1, 2004, the World Health Organization (WHO) reported that laboratory test results had confirmed two fatal cases of human H5N1 infection in Vietnam in which human-to-human transmission may have occurred. The cases occurred in two sisters who were part of a cluster of four cases of severe respiratory illness in a single family. According to WHO, a

detailed investigation of this cluster concluded that limited human-to-human transmission was one possible explanation, but direct poultry-to-human transmission could not be ruled out.

The following interim recommendations are based on what are deemed optimal precautions for protecting individuals involved in the care of patients with highly pathogenic avian influenza from illness and for reducing the risk of viral reassortment (i.e., mixing of genes from human and avian viruses). The ability of low pathogenic avian influenza viruses to cause infection and serious disease is less well established, but appears to be lower than that of highly pathogenic viruses based on available information. Nonetheless, it is considered prudent to take all possible precautions to the extent feasible when caring for patients with known or possible avian influenza.

Rationale for Enhanced Precautions

Human influenza is thought to transmit primarily via large respiratory droplets. Standard Precautions plus Droplet Precautions are recommended for the care of patients infected with human influenza. However, given the uncertainty about the exact modes by which avian influenza may first transmit between humans additional precautions for healthcare workers involved in the care of patients with documented or suspected avian influenza may be prudent. The rationale for the use of additional precautions for avian influenza as compared with human influenza includes the following:

- The risk of serious disease and increased mortality from highly pathogenic avian influenza may be significantly higher than from infection by human influenza viruses.
- Each human infection represents an important opportunity for avian influenza to further adapt to humans and gain the ability to transmit more easily among people.
- Although rare, human-to-human transmission of avian influenza may be associated with the possible emergence of a pandemic strain.

Recommendations for Avian Influenza

All patients who present to a health-care setting with fever and respiratory symptoms should be managed according to recommendations for respiratory hygiene and cough etiquette (www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) and questioned regarding their recent travel history.

Patients with a history of travel within 10 days to a country with avian influenza activity and are hospitalized with a severe febrile respiratory illness, or are otherwise under evaluation for avian influenza, should be managed using isolation precautions identical to those recommended for patients with known Severe Acute Respiratory Syndrome (SARS). These include:

- Standard Precautions
 - Pay careful attention to hand hygiene before and after all patient contact or contact with items potentially contaminated with respiratory secretions.
- Contact Precautions
 - Use gloves and gown for all patient contact.
 - Use dedicated equipment such as stethoscopes, disposable blood pressure cuffs, disposable thermometers, etc.
- Eye protection (i.e., goggles or face shields)
 - Wear when within 3 feet of the patient.
- Airborne Precautions
 - Place the patient in an airborne isolation room (AIR). Such rooms should have monitored negative air pressure in relation to corridor, with 6 to 12 air changes per hour (ACH), and exhaust air directly outside or have recirculated air filtered by a high efficiency particulate air (HEPA) filter. If an AIR is unavailable, contact the health-care facility engineer to assist or use portable HEPA filters (see “Environmental Infection Control Guidelines” at www.cdc.gov/ncidod/dhqp/gl_enviroinfection.html) to augment the number of ACH.
 - Use a fit-tested respirator, at least as protective as a National Institute of Occupational Safety and Health (NIOSH)-approved N-95 filtering facepiece (i.e., disposable) respirator, when entering the room.¹

For additional information regarding these and other health-care isolation precautions, see the “Guidelines for Isolation Precautions in Hospitals” (www.cdc.gov/ncidod/dhqp/gl_isolation.html). These precautions should be continued for 14 days after onset of symptoms or until either an alternative diagnosis is established or diagnostic test results indicate that the patient is not infected with influenza A virus. Patients managed as outpatients or hospitalized patients discharged before 14 days with suspected avian influenza should be isolated in the home setting on the basis of principles outlined for the home isolation of SARS patients (see www.cdc.gov/ncidod/sars/guidance/i/pdf/i.pdf).

Vaccination of Healthcare Workers against Human Influenza

Health-care workers involved in the care of patients with documented or suspected avian influenza should be vaccinated with the most recent seasonal human influenza vaccine. In addition to providing protection against the predominant circulating influenza strain, this measure is intended to reduce the likelihood of a healthcare worker’s being co-infected with human and avian strains, where genetic rearrangement could take place, leading to the emergence of potential pandemic strain.

Surveillance and Monitoring of Healthcare Workers

Instruct healthcare workers to be vigilant for the development of fever, respiratory symptoms, and/or conjunctivitis (i.e., eye infections) for 1 week after last exposure to avian influenza-infected patients.

Healthcare workers who become ill should seek medical care and, prior to arrival, notify their healthcare provider that they may have been exposed to avian influenza. In addition, employees should notify occupational health and infection control personnel at their facility.

With the exception of visiting a health-care provider, health-care workers who become ill should be advised to stay home until 24 hours after resolution of fever, unless an alternative diagnosis is established or diagnostic tests are negative for influenza A virus. While at home, ill persons should practice good respiratory hygiene and cough etiquette (www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm) to lower the risk of transmission of virus to others.

¹ Respirators should be used in the context of a complete respiratory protection program as required by the Occupational Safety and Health Administration (OSHA). This includes training, fit-testing, and fit-checking to ensure appropriate respirator selection and use. To be effective, respirators must provide a proper sealing surface on the wearer's face.