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Health Notification

Guidelines for Prevention and Control of Influenza in Long-Term Care (LTC) Facilities

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The Philadelphia Department of Public Health (PDPH) Division of Disease Control (DDC) is issuing the attached guidelines for Prevention and Control of Influenza in Long-Term Care (LTC) Facilities. These guidelines have been updated for the 2006-2007 influenza season. Several influenza outbreaks were reported in LTC facilities in Philadelphia last season. Therefore, we urge you to review these guidelines with appropriate staff and to review your institution's infection control protocol in advance of influenza season. Additional guidance can be found at www.cdc.gov/flu.

Summary of Guidelines:

- **Prevention of Influenza with Vaccination:** DDC strongly urges that all residents and staff of LTC facilities who have direct patient contact receive vaccination to prevent influenza.

- **Surveillance and Diagnosis of Influenza**: All facilities should have a surveillance program in place among residents and staff. A sample line list that can be used for monitoring influenza like illness among residents is included in the guidelines.

- **Infection Control Recommendations**: Strict adherence to hand-washing and respiratory hygiene is a vital component of any plan to prevent the spread of respiratory viruses in LTC Facilities

- **Management of Single Influenza Case or an Outbreak**: All staff should be familiar with influenza outbreak protocols should a single case or multiple cases occur in a LTC facility. These protocols should include but not be limited to plans for cohorting patients with influenza and influenza like illness, restricting visitors and new admissions, and furloughing employees with influenza until symptoms resolve.

- **Recommendations for Use of Antiviral Agents:** Antiviral agents can be used to prevent and treat influenza. The decision to use antiviral agents depends on several factors, including the extent of the outbreak. A complete description of the available antiviral agents is included in the guidelines.

- **Reporting to DDC:** ***All cases of influenza in a LTC Facility and clusters of respiratory illness or influenza like illness should be reported to DDC by calling 215-685-6741 during regular business hours or 215-686-1776 after-hours and on weekends and asking for the person on-call for the Division.***

Guidelines for Prevention and Control of Influenza in Long Term Care Facilities

The Division of Disease Control (DDC), Philadelphia Department of Public Health, is providing the following guidelines to assist your facility in prevention and control of influenza transmission this year. Long-term care facilities may be especially vulnerable, depending on the health status of their residents and their rate of influenza vaccination. Additional information may found at www.cdc.gov/flu, and in *Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP)* MMWR 2006;55(No. RR-10).

A. Prevention of Influenza with Vaccination of Residents and Staff

1. If possible, immunize all residents of long term care facilities with inactivated influenza vaccine. Vaccine should be offered to unimmunized persons throughout the influenza season, which extends through March.

2. Influenza vaccine should be offered to healthcare workers who have direct patient contact. If inactivated vaccine is unavailable, healthcare workers under the age of 50 years may be immunized with Flumist®. Flumist® is the live, attenuated influenza vaccine that is administered intra-nasally. It is appropriate for healthy individuals between the ages of 5-49 years who are not pregnant and are otherwise healthy. Flumist is ***not*** indicated for immunization of residents of long term care facilities.

3. Pneumococcal vaccine should be given to all long-term care residents who have not previously been immunized, and to those who have an indication for re-immunization. Guidelines for use of this vaccine are published in the Center for Disease Control and Prevention's publication, *Prevention of Pneumococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP).* MMWR 1997;46(No. RR-8).

B. Surveillance and Diagnosis of Influenza

1. Long-term care facilities should have a surveillance system in place to identify clinical illness that is consistent with influenza. Influenza-like illness (ILI) is defined by the Centers for Disease Control and Prevention (CDC) as follows:

   Fever of 100° F (37.8° C) or higher, and cough or sore throat, and no other obvious explanation for the illness.

   When appropriate, individuals with a compatible illness should be tested for influenza using an approved diagnostic method. If a facility has a cluster of patients with influenza-like illness, it is critical to establish a diagnosis through such laboratory tests. *(Note:* patients with respiratory illnesses and no evidence of influenza should be evaluated for other pathogens, as appropriate. In addition, patients in chronic care facilities may be at high risk for influenza-related complications, including both viral and bacterial pneumonia. Clinicians treating patients with suspected or confirmed influenza should be alert for these complications.)

2. Each facility should have a designated staff member who monitors the occurrence of febrile respiratory illness in both residents and staff. In addition, there should be a policy and procedure in place by which the results of surveillance are reported to key medical and administrative staff.

3. Clinical specimens appropriate for the diagnosis of influenza include nasopharyngeal or throat swabs, nasal wash or nasal aspirates, and bronchial washings. Rapid diagnostic tests are widely available at most hospital-based and commercial laboratories; several local laboratories also perform viral cultures.

   DDC can assist in provision of influenza testing for LTC facilities experiencing an outbreak of influenza or suspected influenza. Both a rapid test method and viral culture are available. For more information on influenza specimen collection and testing, call 215-685-6741 during business hours, or 215-686-1776 after-hours or on weekends, and ask to speak with the person on-call for PDPH Division of Disease Control.

4. A single case of laboratory-confirmed influenza and/or three or more cases of influenza-like illness must be reported to DDC within 24 hours of recognition.

C. Infection Control Recommendations for Preventing Influenza

1. Influenza transmission occurs predominantly by large respiratory droplets (particles > 5 microns in diameter) that are expelled during coughing or sneezing. These particles usually do not remain suspended in the air, so close contact (e.g., within 3 feet) is required for transmission. Transmission may also occur through direct hand contact with infectious droplets or secretions, followed by touching the hand to the nose or mouth.

2. To prevent residents, staff, and visitors from spreading influenza in long term care facilities, respiratory hygiene and cough etiquette programs should be implemented. Visual alerts (signs) should be posted at building entrances and in waiting or common-use areas, instructing residents, staff and visitors to:
   a. Cover nose/mouth when sneezing and coughing;
   b. Use tissues to contain respiratory secretions and dispose of them after use;
   c. Perform hand hygiene, either using soap and water or alcohol-based hand rubs or antiseptic hand wash, after having contact with respiratory secretions or contaminated materials
   d. Facilities should make tissues and handwashing stations available for residents, visitors and staff. Disposal containers should be readily available.

3. Discourage persons with symptoms of a respiratory infection from visiting residents.

4. Health-care personnel with influenza-like illness should be excluded from work for the duration of illness.

D. Management of a Single Case of Influenza

1. *Standard Precautions* should be observed during the care of patients with suspected or confirmed influenza:
   a. Gloves should be worn if hand contact with respiratory secretions or potentially contaminated surfaces is expected.
   b. Gowns should be worn if soiling of clothes with a patient's respiratory secretions is expected.
   c. Change gloves and gowns after each patient encounter and perform hand hygiene.
   d. Decontaminate hands after contact with the patient, the patient's environment, or after touching the patient's respiratory secretions, whether or not gloves or worn.
   e. When hands are visibly soiled or contaminated with respiratory secretions, wash hands immediately with soap and water.

f. If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands in clinical situations, or wash hands with an antimicrobial soap and water.

2. In addition to Standard Precautions, *Droplet Precautions* should be observed during the care of a patient with suspected or confirmed influenza:
   a. Patient should be placed into a private room. If no private room is available, patients may be cohorted with other patients suspected of having influenza.
   b. Wear a surgical mask upon entering the patient's room or when working within 3 feet of a patient with influenza. Remove the mask when leaving the patient's room and dispose of the mask in a waste container.
   c. If patient movement or transport is necessary, have the patient wear a surgical mask, if possible.

3. Residents with suspected or confirmed influenza should be restricted to their rooms. Participation in group activities should be restricted until symptoms have resolved. Restriction of symptomatic residents from group activities is a vital infection control component necessary to prevent the spread of influenza in your facility.

4. If influenza is confirmed by laboratory testing, and the patient's symptoms have been present for 48 hours or less, antiviral treatment (see below) may be initiated. In the case of an influenza outbreak (community-wide or institutional), antiviral treatment may also be considered for suspected cases while diagnostic tests are pending.

5. Antiviral chemoprophylaxis (see below) should be considered for roommates and other patients in the facility who are close contacts of the identified case. Roommates and other close contacts of a known influenza case should be observed for symptoms consistent with the disease and droplet precautions should be followed. If the index case remains the only confirmed or suspected case in the facility, chemoprophylaxis should be given for 7 days.

6. If influenza vaccine is available, immunize any unvaccinated roommates of the case, and other unvaccinated persons who have contact with the case, particularly those who share residential spaces and meals.

7. Employees with suspected or confirmed influenza should be excluded from work until no longer symptomatic.

E. Management of Influenza Outbreaks

1. An influenza outbreak may be defined as 2 or more cases of lab-confirmed influenza in residents or employees, or 3 or more cases of respiratory illness consistent with influenza. Influenza should be confirmed as the causative agent with appropriate laboratory tests early in an outbreak. *All outbreaks should be reported to DDC within 24 hours by calling 215-685-6741 during business hours, or 215-686-1776 after-hours and on weekends, and asking to speak to the person on-call for the Division.*

2. Document suspected or confirmed cases of influenza in employees and residents. A sample spreadsheet, or "linelist", for documenting the necessary information is provided on the last page of these guidelines.

3. Implement *Droplet Precautions* (see above) for all patients with suspected or confirmed influenza.

4. Separate asymptomatic patients from suspected or confirmed influenza patients. Cohort patients with confirmed or suspected influenza.

5. Restrict staff movement between units and buildings. Assign employees to care for the same group of patients during a shift, to the extent possible, including restricting the movement of staff between outbreak patients and non-outbreak patients.

6. Suspend new admissions to the facility. Based on the progression of the outbreak, new admissions may be allowed to an unaffected ward or unit. This decision should be made in conjunction with the Philadelphia Department of Public Health. Re-admissions may be allowed, although preferably to an unaffected ward or unit.

7. Offer influenza vaccine to all unvaccinated residents and staff, with roommates and close contacts as a priority.

8. Antiviral prophylaxis (see below) should be administered to all residents and employees, regardless of whether they received influenza vaccination, and should continue for a minimum of 2 weeks. Chemoprophylaxis should be continued until approximately 1 week after the end of the outbreak.

9. If previously unvaccinated staff are vaccinated at the time of an outbreak, they require chemoprophylaxis only for the 2-week period following vaccination. Vaccinated and unvaccinated residents should receive chemoprophylaxis for the duration of the outbreak.

10. For patients acutely ill with influenza, antiviral therapy should be initiated within 48 hours of illness onset. Patients suspected to have influenza should be started empirically on antiviral therapy, pending the results of diagnostic testing.

11. Exclude staff with active respiratory infections from work.

12. Visitors to the facility should be informed of the influenza outbreak, and respiratory hygiene stressed. Restricting visitors from the facility may be necessary, depending on the extent and progression of the outbreak.

13. Cancel group activities until resolution of the outbreak.

F. Recommendations for Use of Antiviral Agents

1. Antiviral agents (oseltamavir and zanamivir for influenza A and B) may be used to treat influenza when initiated within 48 hours of illness onset. These agents can reduce the duration of uncomplicated illness when given early. Note that CDC currently recommends that neither amantadine nor rimantadine be used for the treatment of influenza A due to the high level of resistance to these drugs in circulating viruses.

2. Antiviral agents (oseltamavir and zanamivir for influenza A and B) may also be used to prevent influenza. Note that CDC currently recommends that neither amantadine nor rimantadine be used for the prophylaxis of influenza A due to the high level of resistance to these drugs in circulating viruses.

3. Chemoprophylaxis may be considered for unvaccinated residents of long-term care facilities during community-wide outbreaks. In this situation, residents are likely to be exposed to influenza through visitors and staff at the facility.

4. Antiviral drugs may interfere with efficacy of *Flumist* vaccine. They should not be started for at least 2 weeks after and should be stopped at least 48 hours before *Flumist* administration.

5. A brief summary of the 4 licensed antiviral agents with activity against influenza follows. For further prescribing information, clinicians are referred to the Physicians Desk Reference and MMWR 2006;55 (No. RR-10), *Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP)*.

Summary of Antiviral Agents for Influenza Control

Antiviral Agent	Indication	Administration	Dosing	Adverse Events	Comments
Amantadine (Symmetrel®)	Not currently recommended for use in the USA due to high levels of resistance	Oral; approved for children and adults >1 year of age (tablet or syrup formulation)	Age 1-9 yrs: 5 mg/kg/ day up to 150 mg in 2 divided doses Age 10-64 yrs: 100 mg twice daily Age ≥65 yrs: <100 mg/day	CNS (anxiety, insomnia, concentration difficulties, lightheadedness) GI (nausea, anorexia). Rare: hallucinations, agitation, seizures. Drug interactions with other CNS-active medications	Dose reduction for children <10 yrs and <40 kg
Rimantadine (Flumadine®)	Not currently recommended for use in the USA due to high levels of resistance	Oral; treatment use only approved for adults; prophylaxis for adults and children >1 yr (tablet or syrup formulation)	Age 1-9 yrs: 5 mg/kg to 150 mg in 2 divided doses Age 10-64 yrs: 100 mg twice daily Age ≥65 yrs: 100 mg/day	Similar to amantadine, less frequent CNS events (serum concentration dependent). Drug interactions with other CNS-active medications	Dose reduction recommended for persons with severe hepatic or renal dysfunction
Zanamivir (Relenza®)	Treatment and prophylaxis of influenza A and B	Inhaled; approved for adults and children ≥5 yrs for prophylaxis; ≥7 yrs for treatment (dry powder administered using plastic device included in package)	10 mg (two 5 mg blisters per inhalation) every 12 hrs	Bronchospasm following administration	Proper method of administration should be ensured
Oseltamivir (Tamiflu®)	Treatment and prophylaxis of influenza A and B	Oral; treatment and prophylaxis approved for persons ≥1 year (capsule or oral suspension)	Pediatric dosing by weight. For treatment give following twice daily, for prophy give once daily: ≤15 kg=30 mg >15-23 kg=45 mg >23-40 kg=60 mg >40 kg=75 mg	GI (nausea, vomiting)	

For questions regarding these Guidelines, or other influenza-related concerns, please contact the Division of Disease Control, Philadelphia Department of Public Health, at 215-685-6740 during normal business hours, and 215-686-1776 after hours.

Facility: _____**Date:**___/___/____ **Contact Person:**

	Name	Room #	Flu Vaccine Received Yes/No	Temp	Cough Yes/No	Sore Throat Yes/No	Influenza Testing			Treatment (Tamiflu, Amantadine, Antibiotics)	Cohorted Yes/No	Hospitalized				Outcome (Recovered, Transferred, Deceased)
							Rapid, Culture, Other	Test Date	Result			Yes/No	Hospital	Admit Date	Discharge Date	
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