Recommendations for the Prevention and Control of Influenza in Nursing Homes
Virginia Department of Health

Settings such as nursing homes that house persons at high risk for influenza-related complications need contingency plans for rapid diagnostic testing for influenza and for the use of antiviral medications for prophylaxis and treatment. Clinicians should maintain a high degree of suspicion for influenza when respiratory illness occurs during the influenza season, even when illness occurs in vaccinated persons. Typically, influenza is characterized by the sudden onset of fever, headache, myalgia, dry cough, and malaise; subsequently, the respiratory signs of sore throat, nasal congestion, and cough become more prominent. In elderly persons, particularly those who have received influenza vaccine, characteristic signs and symptoms may be altered or absent. Predominant symptoms may include cough and congestion with a low-grade/no fever. During influenza season, any increase in respiratory disease in a nursing home should be considered influenza until that diagnosis is ruled out.

In advance of influenza season, health districts should contact nursing homes in their jurisdictions to discuss the recommendations listed below.

Residents

- All nursing home residents should receive the current **inactive** influenza vaccine each fall immediately prior to the influenza season.[1] The live, attenuated influenza vaccine (FluMist™) cannot be administered to persons at high-risk for complications resulting from influenza infection.
- Since October 2005, the Centers for Medicare and Medicaid Services (CMS) has required nursing homes participating in the Medicare and Medicaid programs to offer all residents influenza and pneumococcal vaccines and to document the results. Each resident should be vaccinated unless contraindicated medically, the resident or legal representative refuses vaccination, or the vaccine is not available because of a shortage.[1]
- Nursing homes should implement standing orders programs for influenza vaccination and antiviral medications. Standing orders programs authorize nurses and pharmacists to administer vaccinations and/or medications without a physician's exam according to an institution or physician-approved protocol.[2] See Attachment 1 for a related memo from the Department of Health and Human Services.
- The optimal time for an organized vaccination program is usually mid-October through December. Persons admitted to nursing homes during the winter months after completion of the vaccination program should be vaccinated at the time of admission through March.

Staff

- All staff should receive the influenza vaccine each fall. Healthy staff members under age 50 who are not contacts of severely immunosuppressed persons (e.g., patients with hematopoietic stem cell transplants) can receive either live, attenuated influenza vaccine or inactivated influenza vaccine.[†] All other staff should receive the inactivated influenza vaccine.
- Staff must be educated that, as caretakers of a high-risk population, they need to be vaccinated to prevent the transmission of a potentially life threatening illness to their patients. In addition, vaccination will protect them from acquiring influenza and also from transmitting it to their families. Staff should also encourage nursing home visitors to receive the influenza vaccine.
- Nursing home administrators should consider the level of vaccination coverage among their healthcare providers to be one measure of a patient safety quality program. Signed declinations from staff who decline influenza vaccination for reasons other than medical contraindications should be obtained.
- When there is influenza activity in the surrounding community, staff should advise visitors to the facility (e.g., via posted notices) that adults with respiratory symptoms should not visit the facility for 5 days following the onset of illness; children should be excluded for 10 days following the onset of respiratory illness.
- Nursing home staff should call the health department if an increase in cases of respiratory illness is observed, especially if it is associated with an increase in hospitalizations and/or deaths. Nursing homes should have contact information for health district staff available to respond to outbreaks.

[†] Use of inactivated vaccine is preferred for healthcare workers (HCW) caring for severely immunosuppressed persons who require care in a protective environment. If such a HCW receives live, attenuated influenza vaccine, he should refrain from contact with severely immunocompromised patients for 7 days after vaccine receipt but should not be restricted from visiting less severely immunosuppressed patients.

When health departments receive reports of increased respiratory illness from nursing homes, the steps listed below should be followed.

1. During an outbreak, nursing homes must maintain heightened surveillance for febrile and respiratory illness among residents and staff. Respiratory symptoms should be noted in the Flu and Respiratory Symptoms Log (See Attachment 3). Ill residents should be cohorted together, away from the well, as much as possible. Staff should be assigned to work with either sick or well patients, but not circulated among both groups.
2. The health department should coordinate the submission of specimens to the Division of Consolidated Laboratory Services (DCLS). Laboratory confirmation of the etiology of the outbreak is critical. DCLS provides "flu kits", which include materials for the collection and transport of specimens (e.g., nasopharyngeal swabs, viral transport media). Appropriate samples for influenza testing include nasopharyngeal swabs, nasal washes, or nasal aspirates, collected within the first two days of illness. Nasal wash specimens are often difficult to obtain from elderly persons, therefore, the specimens of choice for nursing home residents are nasopharyngeal swabs.
3. In the event of an influenza outbreak, nursing homes should be prepared to rapidly administer antiviral medications to residents and staff. At the present time, oseltamivir (Tamiflu®) and zanamivir (Relenza®) are the only choices for influenza prophylaxis and treatment. Guidelines are noted in Table 1, but the dosage for each resident should be determined individually. Standing orders in residents' charts will facilitate rapid administration. Patients for whom antiviral drugs are contraindicated should have this noted in their charts.
4. Prophylaxis should be administered to all residents who have not had influenza symptoms, regardless of whether they received influenza vaccinations in the fall and should continue for a minimum of 2 weeks. If surveillance indicates that new cases continue to occur, prophylaxis should be continued until approximately 7-10 days after illness onset in the last patient. Persons receiving antiviral prophylaxis should be actively monitored for potential adverse side effects and for possible infection with influenza viruses that are resistant to antiviral medications.
5. Prophylaxis should be offered to unvaccinated staff who provide care to persons at high risk. If there are indications that the outbreak is caused by a strain of influenza that is not well-matched by the vaccine, consider prophylaxis for all staff, regardless of immunization status. Such indications might include multiple documented break-through influenza virus infections among vaccinated persons or studies indicating low vaccine effectiveness.
6. For patients who are symptomatic, antivirals should be administered as treatment. Administer within first 48 hours of symptom onset according to the guidelines in Table 1.
7. In the event of an influenza outbreak, any unvaccinated residents and staff should be vaccinated. Anyone who is vaccinated during an outbreak should take antivirals for two weeks after vaccination. Vaccination history of residents should be noted in the Flu Vaccine Log (See Attachment 2).
8. Staff should be reminded that they can spread the virus via their hands or through fomites (e.g., towels, medication cart items, etc.). Handwashing should be emphasized.
    - Healthcare personnel should adhere to **Standard Precautions** during the care of a resident with symptoms of a respiratory infection. Gloves should be worn if hand contact with respiratory secretions or potentially contaminated surfaces is anticipated. Gowns should be worn if soiling of clothes with a resident's respiratory secretions is anticipated. Hands should be decontaminated after coming into contact with the patient and his/her environment, whether or not gloves are worn.
    - Healthcare workers should adhere to **Droplet Precautions** during the care of a resident with suspected or confirmed influenza for 5 days after the onset of illness. Staff should wear a surgical or procedure mask upon entering an ill patient's room. The mask should be removed and disposed of when leaving the resident's room. If resident movement or transport is necessary, have the resident wear a surgical or procedure mask, if possible.

9. Ill residents should be placed in a private room or cohorted together, away from the well, as much as possible. Staff should be assigned to work with either sick or well patients, but not circulated among both groups.

10. Cancel group activities and consider serving all meals in rooms.

11. Staff should not work while ill. Exclude staff with symptoms from patient care for 5 days following onset of symptoms, when possible.

12. New admissions should be halted and visitation restricted until the outbreak is over (i.e., at least 3 consecutive days without any new cases). When admissions resume, any new admissions should receive antivirals prophylactically until one week after the outbreak is over. If possible, they may begin taking the antivirals prior to admission to the nursing home.

If a health district receives a report of a single case of confirmed influenza by any testing method in a nursing home, VDH recommends that the health district and the nursing home together consider implementing the above outbreak control measures. At a minimum, the following steps should be taken:

- Implement heightened surveillance for respiratory illness, especially among the roommate(s) of the patient and healthcare workers providing care for the patient. If any additional cases are detected, all of the outbreak control measures listed above should be implemented.
- Antiviral prophylaxis should be considered, at a minimum, for the roommate(s) of the patient and healthcare workers providing care for the patient.
- The patient should receive appropriate treatment with an antiviral medication. Administer within first 48 hours of symptom onset according to the guidelines in Table 1.
- If the initial test result was from a rapid influenza test, confirmatory testing should take place through DCLS.

[1]Centers for Disease Control and Prevention. Prevention and Control of Influenza; Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2008;57 (No. RR-7).
[2]Centers for Disease Control and Prevention. Adult immunization programs in nontraditional settings: quality standards and guidance for program evaluation—a report of the National Vaccine Advisory Committee and Use of standing orders programs to increase adult vaccination rates: recommendations of the Advisory Committee on Immunization Practices. MMWR 2000;49(No. RR-1):[15-26].

Table 1. Recommendations for the Use of Antiviral Medications During Nursing Home Outbreaks
For the 2008-09 Influenza Season
Virginia Department of Health

ACIP recommends that neither amantadine nor rimantadine be used for the treatment or chemoprophylaxis of influenza A in the United States for the 2008-09 influenza season because of recent data indicating high levels of resistance of the influenza virus to these medications. Until susceptibility to adamantanes has been re-established among circulating influenza A viruses, ***oseltamivir or zanamivir should be prescribed if antiviral treatment or chemoprophylaxis of influenza is indicated****.*

While some Influenza A (H1N1) viruses with a mutation that confers resistance to oseltamivir were identified in the United States and other countries during the 2007-08 season, neuraminidase inhibitor medications continue to be the recommended agents for treatment and prophylaxis of influenza in the United States. However, clinicians should be alert to changes in antiviral recommendations that might occur as additional antiviral resistance data becomes available during the 2008-09 season (www.cdc.gov/flu/professionals/antivirals/index.htm) [±]

Antiviral Medications	Trade Name	Flu type	Prophylaxis for Outbreak Control	Treatment of Patients with Influenza	Form	Contraindications and Side Effects	Dosage for ≥65 years	Cost for 5-day course**	Effectiveness
Oseltamivir	Tamiflu®	A and B	Oseltamivir is recommended. Administer for a minimum of 2 weeks. If new cases occur, continue until ~ 7 to 10 days after illness onset in the last patient.	Initiate treatment within 48 hours of onset of illness. Treat for 5 days	Capsule	Side effects include nausea and vomiting. Transient neuro-psychiatric events have been reported.	75 mg once daily for prophylaxis and twice daily for treatment*	$60	Reduce duration of illness by 1 day when given within 48 hours of onset of symptoms. Effectiveness in preventing influenza-zanamivir, 84%; oseltamivir, 82%
Zanamivir[§]	Relenza®				Dry powder administered through an inhaler	Not recommended for people with underlying respiratory or cardiac disease	10 mg (two inhalations) once daily for prophylaxis and twice daily for treatment	$48	

[±] Centers for Disease Control and Prevention. Prevention and Control of Influenza; Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2008;57 (No. RR-7).
[§]Zanamivir is administered through oral inhalation by using a plastic device included in the medication package. Patients will benefit from instruction and demonstration of the correct use of the device.
* For patients with creatinine clearance of 10-30mL/min, a reduction of the treatment dosage to 75 mg once daily and in the chemoprophylaxis dosage to 75 mg every other day is recommended. No treatment or prophylaxis dosing recommendations are available for patients undergoing routine renal dialysis treatment.
**Dollar amount shown is approximate and is wholesale cost and not patient cost.

Attachment 1. Standing Orders Memo

DEPARTMENT OF HEALTH & HUMAN SERVICES Centers for Medicare & Medicaid Services

7500 Security Boulevard
Baltimore, MD 21244-1850

Ref: S&C-03-02

DATE: **October 10, 2002**

FROM: Director
Survey and Certification Group
Center for Medicaid and State Operations

SUBJECT: Change in requirement for signed physician's order for influenza and pneumonia vaccine

TO: Associate Regional Administrator
Division of Medicaid & State Operations
Region I–X
State Survey Agency Directors

The purpose of this program memorandum is to provide information and guidance to regional offices, and state survey agency personnel regarding a new regulation that will remove the federal barrier requiring nursing home providers, home health agencies and hospitals to have individually signed physician's order for influenza and pneumococcal vaccines.

The Survey Procedures and Interpretive Guidelines for Long Term Care Facilities, Home Health Agencies and Hospitals require physicians to sign and date all orders. The new regulation allows nursing home providers, home health agencies and hospitals to adopt strategies to increase influenza and pneumonia vaccination rates such as institution or physician-approved protocols i.e., standing orders, that do not require individually signed physician orders. Accordingly, surveyors should not be citing providers that have adopted standing orders for influenza and pneumococcal vaccinations for the failure to have individually signed physician orders.

As a result of this issuance, effective immediately CMS is altering the guidance to states and regions. For long term care facilities, physicians must sign and date all orders with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician-approved facility policy after an assessment for contraindications. For home health agencies, drugs and treatments are administered by agency staff only as ordered by the physician with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per agency policy developed in consultation with a physician and after an assessment for contraindications. For hospitals, all orders for drugs and biologicals must be in writing and signed by the practitioner or practitioners responsible for the care of the patient as specified under §482.12© with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician approved hospital policy after an assessment for contraindications.

CMS is supportive of practices of that improve influenza and pneumococcal immunization

coverage in long-term care facilities.

Regional offices and state survey agencies should encourage nursing home facilities to provide residents with the opportunity to receive influenza and pneumococcal vaccinations.

Effective date: This guidance is effective immediately.

Training: This memorandum should be shared with all survey and certification staff, surveyors, their managers, the state/regional training coordinators.

Steven A. Pelovitz

Attachment 2. Flu Vaccine Log

RESIDENT	ROOM	DATE OF VACCINE

Attachment 3. Flu and Respiratory Symptoms Log

Facility:_____ Floor: _____ Wing:_____ Date:_____

Resident	Age	Room No.	Date of Vaccine	Date of Culture	Culture Results	Onset Date	Symptoms	Hospital (dates)	Death Y/N	Antiviral Drug and Dates