

## Control of Influenza and Pneumococcal Disease in Long-Term Care Facilities 2010 - 2011

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### ***New!*** Key Influenza Recommendations

- Vaccinate all residents against influenza every year. Begin vaccinating as soon as vaccine is available.
- Ensure that all residents have received a dose of pneumococcal vaccine; 2 doses if the first dose was before their 65<sup>th</sup> birthday.
- The Centers for Medicaid and Medicare Services (CMS) require nursing homes to offer all residents flu and pneumococcal vaccines. Vaccinate residents unless contraindicated, the resident or legal representative refuses or there is a vaccine shortage.  
<http://www.cms.hhs.gov/NursingHomeQualityInits/downloads/NHQIVaccinationSupplement.pdf>
- Use only oseltamivir or zanamivir for the treatment and prophylaxis of influenza.

### Massachusetts Regulation Requires LTC Facilities to offer Flu Vaccine to Employees

Regulation [105 CMR 150.002(D)(8)] requires that long-term care facilities (LTCF):

- Provide every employee with information about the risks and benefits of influenza vaccine;
- Offer influenza vaccine to every employee no later than December 15. All employees should be vaccinated unless the vaccine is medically contraindicated; vaccination is against the employee's religious beliefs; or the employee refuses the vaccine.
- Arrange for the vaccination of employees hired between December and April 1 who cannot provide proof of current immunization against influenza,  $\leq 2$  weeks commencing employment.
- Require employees who do not get vaccinated to sign a statement certifying that he /she received information about the risks and benefits of influenza vaccine. A sample Declination of Influenza Vaccination form is found at  
[http://www.mass.gov/Eeohhs2/docs/dph/quality/hcq\\_circular\\_letters/flu\\_all\\_attachment\\_b.pdf](http://www.mass.gov/Eeohhs2/docs/dph/quality/hcq_circular_letters/flu_all_attachment_b.pdf).
- Maintain in each employee's personnel file a certificate of annual influenza vaccination or a signed declination statement. The MDPH Adult Vaccine Documentation Record can be found at  
[http://www.mass.gov/Eeohhs2/docs/dph/cdc/immunization/record\\_vaccine\\_admin.pdf](http://www.mass.gov/Eeohhs2/docs/dph/cdc/immunization/record_vaccine_admin.pdf).
- Maintain a central system to track the vaccination status of every employee.

For more information, see the MDPH Circular Letter: DHCQ 06-11-468 at

[www.mass.gov/Eeohhs2/docs/dph/quality/hcq\\_circular\\_letters/ltc\\_facilities\\_0611468.pdf](http://www.mass.gov/Eeohhs2/docs/dph/quality/hcq_circular_letters/ltc_facilities_0611468.pdf).

Influenza is often introduced into and spread throughout a facility by staff or visitors. Flu vaccine may be less effective in the very elderly and some vaccinated LTC residents may remain susceptible. It is important to reduce their exposure to flu. HCP vaccination reduces mortality in elderly patients.

Flu vaccination of health care workers protects the health care workers,  
their patients, and their families.  
Flu vaccination is an occupational health and patient safety issue.

An updated *Employee Immunization Campaign Toolkit* is available online at [www.massmed.org/AM/Template.cfm?Section=Flu](http://www.massmed.org/AM/Template.cfm?Section=Flu), or by calling 781-419-2749.

**Where to purchase vaccine:** During flu season, go to <http://www.preventinfluenza.org/ivats/> for a list of distributors with flu vaccine to sell. Vaccine may also be available directly from the manufacturers below.

### Approved Influenza Vaccines for Different Age Groups

Manufacturer	Trade Name	Dose/ Presentation	Thimerosal (mcg Hg/0.5 mL dose)	Age Group
sanofi pasteur 800-822-2463 <a href="https://www.vaccineshoppe.com/">https://www.vaccineshoppe.com/</a>	Fluzone® Inactivated	0.25 mL prefilled syringe	0	6 – 35 mos
		0.5 mL prefilled syringe	0	≥ 36 mos
		0.5 mL vial	0	≥ 36 mos
		5.0 mL multidose vial	25	≥ 6 mos
	<b>New formulation!</b> Fluzone® High-Dose	0.5 mL prefilled syringe	0	≥ 65 yrs
Novartis 800-244-7668 <a href="https://www.novartisvaccinesdirect.com/index">https://www.novartisvaccinesdirect.com/index</a>	Fluvirin® Inactivated	0.5 mL prefilled syringe	≤ 1.0	≥ 4 yrs
		5.0 mL multidose vial	25	≥ 4 yrs
	<b>New vaccine!</b> Agriflu, Inactivated	0.5 mL prefilled syringe	0	≥ 18 yrs
GlaxoSmithKline 866-475-8222 <a href="https://www.gskvaccinesdirect.com/gsk/en/US/adirect/gsk">https://www.gskvaccinesdirect.com/gsk/en/US/adirect/gsk</a>	Fluarix®, Inactivated	0.5 mL prefilled syringe	0	≥ 3 yrs
	FluLuval™, Inactivated	5.0 mL multidose vial	25	≥ 18 yrs
CSL Biotherapies 888-435-8633	Afluria®, Inactivated	0.5 mL prefilled syringe	0	≥ 9 yrs
MedImmune 877-358-6478	FluMist®, Live attenuated intranasal	0.2 mL sprayer	0	2 – 49 yrs

**State-supplied Tetanus/diphtheria (Td) Vaccine:** DPH provides Td for all Massachusetts residents for whom it is recommended, including residents of LTC facilities. To order state-supplied Td, contact the DPH Vaccine Unit at 617-983-6828. Tdap (tetanus, diphtheria and acellular pertussis vaccine) should replace a single dose of Td for adults ages 19 – 64 years who have not received a dose of Tdap previously

### Influenza Prevention and Control Measures

Strategies for the prevention and control of influenza in long-term care facilities include:

- Annual influenza vaccination of all residents and health-care personnel
- Standard and droplet precautions with suspect or confirmed influenza cases
- Active surveillance and influenza testing for new illness cases
- Restriction of ill visitors and personnel
- Administration of antiviral medications for prophylaxis and treatment
- Handwashing and respiratory hygiene/cough etiquette programs

### Vaccination

**Vaccination of Residents:** Use a systematic approach to vaccination, with checklists, to increase immunization levels:

- Vaccinate residents against flu when vaccine is available. Vaccinate residents admitted from September through March on admission.
- Ensure that written policies include annual flu vaccination for residents and staff, and pneumococcal polysaccharide vaccine (PPV23) and Td vaccination for residents.
- Include Vaccine Information Statements (VIS) for PPV23, Td and flu vaccines in the admission packet. Obtain consent for vaccination from the resident or a family member on admission.
- Implement standing orders for administration of flu, PPV23 and Td vaccines. These vaccines are safe and effective when administered simultaneously in separate syringes at different anatomical sites.
- Chart audits should ensure that there is documentation in every chart that the resident has been offered PPV23 and Td vaccines and annual influenza vaccine.

**Pneumococcal polysaccharide vaccine (PPV23):** Pneumococcal pneumonia is the most common nursing home-acquired pneumonia. The case fatality rate is 5-7% and may be much higher in elderly persons. Pneumonia is the primary reason LTC residents require hospitalization. Increasing antimicrobial resistance complicates treatment of pneumococcal disease. PPV23 protects against pneumococcal meningitis and bacteremic pneumococcal pneumonia, a complication of influenza.

Administer PPV23 to all unvaccinated residents  $\geq 2$  years of age on admission. Administer a second dose to previously vaccinated residents who are  $\geq 65$  years of age if it has been  $\geq 5$  years since their first dose and they were  $< 65$  years of age when they received the first dose. Local reactions at the injection site may follow both first PPV23 vaccination and revaccination. These reactions are self-limiting and are not a contraindication to vaccination.

**Td vaccine:** More than 50% of tetanus cases in the U.S. are people age  $\geq 60$  years; one fourth of these are associated with chronic wounds, such as decubiti. Administer Td on admission to all residents without immunization records, and to those for whom it has been  $\geq 10$  years since their last dose.

Consider residents with uncertain immunization histories NOT immunized and vaccinate accordingly. The benefits of vaccination far outweigh any concerns about revaccination.

**Medicare Reimbursement for Administration of Influenza and Pneumococcal Vaccines:** Medicare reimburses both for the cost of influenza and pneumococcal vaccines and for administration of the vaccines. Medicare reimbursement for administration of flu and pneumococcal vaccines for 2009-2010 was \$25.21/dose in metro-Boston and \$22.41/dose in the rest of the state. For more information, see [www.cms.hhs.gov/AdultImmunizations/](http://www.cms.hhs.gov/AdultImmunizations/)

**Vaccination of Family Members and Visitors:** Inform family members and other visitors about their role in the transmission of flu to patients and encourage them to get vaccinated. To find flu vaccine, they can call their health care provider or local board of health, visit the MassPRO website at <http://flu.masspro.org> for a list of flu vaccination clinics by town, or call MDPH at 1-866-627-7968.

### **Surveillance, Testing and Reporting**

**Surveillance:** Conduct surveillance for respiratory illness and use influenza testing to identify outbreaks so infection control measures can be promptly initiated in all settings, including inpatient and outpatient settings. Call MDPH at 617-983-6800 for guidance and assistance with surveillance and control measures.

**Influenza testing:** Diagnostic testing for influenza can aid clinical judgment and guide treatment

decisions and control measures. Diagnostic tests for influenza performed at the Hinton State Laboratory Institute (SLI) include viral culture and influenza RNA detection by polymerase chain reaction (PCR). Point of care rapid antigen testing capable of detecting influenza A and B virus infections is not routinely performed at the SLI but is widely available at hospitals, private providers and other healthcare settings. Rapid influenza diagnostic tests have limited sensitivity and false negative results are common. False positive tests can also occur and are more likely when flu is rare in the community. When laboratory confirmation is desired, testing by RT-PCR and/or viral culture is recommended. PCR and viral culture testing also provide essential information on circulating influenza subtypes and strains. For information on influenza specimen collection and transportation, or to speak with an immunization epidemiologist, call MDPH at 617-983-6800. For specimen collection kits, call the kit room at the SLI at 617-983-6640.

**Reporting:** Per 105 CMR 300, influenza-associated pediatric deaths and illness due to novel influenza A viruses and should be reported immediately to the local board of health or to the MDPH at 617-983-6800 or 888-658-2850. Providers and facilities must also report all outbreaks of influenza-like illness (ILI) to their local board of health and to the Division of Healthcare Quality at 800-462-5540 x8150, and all outbreaks should be reported to the MDPH within 24 hours of outbreak recognition. Providers should notify MDPH immediately of all ICU admissions and deaths in pregnant women with any type of influenza. All influenza cases confirmed with diagnostic testing are reportable to MDPH. For specific information about reporting, see the *MDPH Reportable Diseases, Surveillance and Isolation & Quarantine Requirements website* at [http://www.mass.gov/Eeohhs2/docs/dph/cdc/reporting/rdiq\\_reg\\_summary.rtf](http://www.mass.gov/Eeohhs2/docs/dph/cdc/reporting/rdiq_reg_summary.rtf).

Additional information on the prevention and control of influenza can be found in the influenza chapter of the *MDPH Guide to Surveillance, Reporting and Control*, at [http://www.mass.gov/Eeohhs2/docs/dph/disease\\_reporting/guide/influenza.rtf](http://www.mass.gov/Eeohhs2/docs/dph/disease_reporting/guide/influenza.rtf).

### **Infection Control**

Promptly implement the outbreak control measures described below and contact MDPH at 617-983-6800 and the Division of Healthcare Quality at 800-462-5540 x8150 in the event of any one of the following:

- Influenza is confirmed by laboratory testing in at least one resident
- More than one resident in the facility or an area of the facility (e.g., separate unit) develops influenza-like illness (ILI) during a 1-week period.

ILI is defined as fever $\geq 100^{\circ}$ F with cough and/or sore throat, in the absence of a known cause.
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### **MDPH epidemiologists can facilitate testing and provide control recommendations in the event of an outbreak.**

To prevent the transmission of all respiratory infections, including flu, implement the infection control measures listed below at the first point of contact with a potentially infected person. Incorporate these measures into infection control practices as one component of standard precautions. Find tools to help promote and implement these recommendations at [www.cdc.gov/flu/professionals/infectioncontrol](http://www.cdc.gov/flu/professionals/infectioncontrol).

**Active surveillance and testing for new illness and cases:** Educate staff about the signs and symptoms of influenza-like illness. The ILI line list found on the last page of this document can be used to collect and manage relevant information about ill residents and staff.

**Respiratory hygiene/cough etiquette:** Post visual alerts in appropriate languages at the entrance to outpatient facilities (e.g., emergency departments, physician offices) instructing patients and people who accompany them (e.g., family, friends) to inform health care personnel of symptoms of a respiratory infection when they first register for care and to practice respiratory hygiene/cough etiquette. Posters,

brochures and fact sheets promoting cough etiquette and handwashing in multiple languages are available from MDPH by calling 617-983-6800 or they can be downloaded from [www.mass.gov/handwashing](http://www.mass.gov/handwashing).

**Use standard precautions** (<http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html>) with all patients and implement droplet precautions (<http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html>) when caring for patients with suspected or confirmed influenza.

For more information and up-to-date recommendations for influenza infection control, visit the CDC website at: [www.cdc.gov/flu/professionals/infectioncontrol](http://www.cdc.gov/flu/professionals/infectioncontrol).

**Antiviral drugs** are an adjunct to, not a substitute for, vaccination for preventing and controlling influenza. The neuraminidase inhibitors oseltamivir (Tamiflu®) and zanamivir (Relenza®) are currently recommended for use against circulating influenza viruses. The adamantanes (amantadine and rimantadine) are not recommended because of high levels of resistance to these drugs among recently circulating influenza A (H3) and 2009 H1N1 pandemic viruses.

Clinical judgment is an important factor in treatment decisions for patients presenting with influenza-like illness. Prompt empiric antiviral treatment with influenza antiviral medications is recommended while results of definitive diagnostic tests are pending, or if diagnostic testing is not possible, for patients with clinically suspected influenza illness who have:

- Illness requiring hospitalization,
- Progressive, severe, or complicated illness, regardless of previous health status, and/or
- Patients at increased risk for severe disease (see page 3).

Do not delay antiviral treatment, when clinically indicated, pending definitive laboratory confirmation of influenza. Influenza antiviral medications are most effective when initiated within 2 days of illness, but these medications may also provide benefits for severely ill patients when initiated even after 2 days.

Point of care rapid tests capable of detecting influenza A and B virus infections are available, but health care providers and public health personnel should be aware that rapid influenza diagnostic tests have limited sensitivity and false negative results are common. Thus, negative results from rapid influenza diagnostic test should not be used to guide decisions regarding treating patients with influenza antiviral medications. In addition, false positive tests can occur and are more likely when influenza is rare in the community. When laboratory confirmation is desired, testing by RT-PCR and/or viral culture is recommended.

Guidance on use of antivirals may change depending upon resistance data. Consult CDC's latest recommendations on antiviral use at [www.cdc.gov/flu/professionals/](http://www.cdc.gov/flu/professionals/). ACIP recommendations are not yet available. When they are, they will be available at [www.cdc.gov/vaccines/recs/acip/default.htm](http://www.cdc.gov/vaccines/recs/acip/default.htm)

Clinicians should be alert to changes in antiviral recommendations that might occur as additional antiviral resistance data becomes available during the 2010-2011 season.

### **Additional Information**

CDC. Prevention and control of influenza with vaccines: recommendation of the ACIP, 2010. MMWR Early Release 2010;59 July 29, 2010:1-62. <http://www.cdc.gov/mmwr/pdf/rr/rr59e0729.pdf>

CDC. Influenza vaccination of health-care personnel: recommendations of the Healthcare Infection Control Practices Advisory (HICPAC) and the Advisory Committee on Immunization Practices (ACIP) 2006:55(No. RR-2). <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5502a1.htm>.

CDC. Prevention of pneumococcal disease: recommendations of the ACIP. MMWR 1997;46 (No. RR-8). <http://www.cdc.gov/mmwr/preview/mmwrhtml/00047135.htm>

Package inserts for all 2010-2011 approved influenza vaccine formulations:

[http://www.immunize.org/fda/pa\\_influenza.asp](http://www.immunize.org/fda/pa_influenza.asp)

Vaccine Information Statements (VISs) for all vaccines in many languages: [www.immunize.org/vis](http://www.immunize.org/vis).

Visit the MDPH web site [www.mass.gov/dph/flu](http://www.mass.gov/dph/flu). Hard copies and technical consultation are available by calling MDPH at 617-983-6800 or 888-658-2850.

**INFLUENZA-LIKE ILLNESS (ILI)  
LINE LIST**

**Facility Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

	Name	Patient (P) or Staff (S)	Age	Wing/ Unit	Flu Vax?	Pneumo Vax?	Date of Onset	Symptoms (check box)							CXR? Findings?	Hospitalized?	Died?	Flu Dx test and result	Other tests and results	Anti-viral?
								Fever (temp)	Cough	Sore throat	URI	Muscle Aches	Weakness	Vomiting						
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