

RECOMMENDATIONS FOR THE PREVENTION AND CONTROL OF INFLUENZA CALIFORNIA LONG-TERM CARE FACILITIES

DEPARTMENT OF PUBLIC HEALTH
CENTER FOR HEALTHCARE QUALITY
HEALTHCARE ASSOCIATED INFECTIONS PROGRAM

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Revised October 2016

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Recommendations for the Prevention and Control of Influenza

California Long-Term Care Facilities

Introduction

Influenza, more commonly known as “the flu” is a contagious respiratory illness caused by either a type A or type B influenza virus. These respiratory viruses circulate in North America during the fall and winter seasons. Each season the genetic structure of the influenza viruses changes slightly and a new vaccine must be developed to closely match the circulating viral strains. Although the risk of infection is high in all unvaccinated age groups, long-term care facility residents, especially those with chronic diseases, are at increased risk for influenza-related complications such as pneumonia, which can lead to death.

The California Department of Public Health (CDPH) has developed influenza prevention guidelines specifically for long-term care facilities, based on recommendations from the Centers for Disease Control and Prevention (CDC). These recommendations are for long-term healthcare facilities licensed by the California Department of Public Health, including skilled nursing and intermediate care facilities.

This revision includes updates consistent with the [2016-2017 CDC Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities](http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm) (<http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>), including definitions of a cluster of influenza-like illness and influenza outbreak. Guidance on laboratory testing is updated to emphasize polymerase chain reaction (PCR) as the preferred test method for establishing the diagnosis both during and outside of influenza season. The section on chemoprophylaxis has been expanded. Other minor editorial changes have also been made.

Symptoms

Influenza, other respiratory viruses, and some bacteria cause similar illnesses, particularly in elderly long-term care facility (LTCF) residents. Therefore, they are referred to as influenza-like illnesses (ILI). The difference between influenza and other acute respiratory infections cannot be determined on the basis of symptoms alone and laboratory testing is necessary to confirm the diagnosis of influenza because the treatment and management of outbreaks are different. In healthy non-elderly persons the onset of influenza illness is generally abrupt with constitutional and respiratory signs and symptoms such as fever of $\geq 100^{\circ}\text{F}$ (37.8°C), muscle aches, headache, fatigue, a nonproductive cough, sore throat, and runny nose. The symptoms in elderly persons can be atypical and subtle, such as a change in mental status and a temperature which may be below normal. Many elderly residents are unable to reliably report symptoms. In most infected persons the symptoms progressively resolve after 3 to 7 days; however, cough and fatigue can last for more than 2 weeks. Complications, especially in unvaccinated long-term care residents, include pneumonia, worsening of chronic health conditions, and dehydration.

Influenza Incubation and Communicability

The incubation period (i.e., the time from first exposure to onset of symptoms) is generally from 1 to 4 (average 2) days. Individuals are most infectious during the first 3 days of illness; however, the virus can be present in respiratory secretions, and shed beginning the day before and for 7 or more days after the onset of symptoms. Children and persons with severe deficiencies in immune system function may shed virus for longer periods. In addition, infected but asymptomatic persons can also shed viral particles and be infectious to others.

Influenza Transmission

Influenza can be introduced into the facility by new or returning residents, healthcare personnel, and visitors. The virus is primarily spread by viral particles coming into contact with the respiratory tract after they are expelled short distances into the air (approximately 6 feet or less) when an infected person coughs or sneezes (droplet transmission). The virus can survive for 24 to 48 hours on nonporous surfaces such as a table or a telephone, and for 8 to 12 hours on porous surfaces such as paper or cloth. Therefore, transmission may occur by direct or indirect (person-object-person) transfer of the virus from environmentally contaminated hands that touch the mucous membrane of eyes or nose of the uninfected person (self-inoculation). Airborne transmission (inhalation of small droplets expelled into the air when an infected person is coughing or during aerosol-generating procedures), may also occur. The degree to which airborne transmission contributes to influenza transmission is uncertain and has not been adequately studied.

Influenza Prevention and Control Program

Preventing transmission of influenza and other infectious agents within long-term care facilities requires a multi-faceted approach that includes vaccination, surveillance and testing, infection control, prompt antiviral treatment when influenza is suspected or confirmed, and antiviral chemoprophylaxis of non-ill residents during an outbreak of influenza at the facility.

Vaccinating residents and healthcare personnel (HCP)* is the only truly effective strategy for influenza control. Although vaccination may not be 100% preventative, studies have shown that an effective vaccination program reduces influenza-related complications and deaths, and can also lower HCP absenteeism.

***HCP** refers to all persons, paid and unpaid, working in healthcare settings who have the potential for exposure to residents and/or to infectious materials, including body substances, contaminated medical supplies and equipment, contaminated environmental surfaces, or contaminated air. HCP include, but are not limited to, physicians, nurses, nursing assistants, therapists, technicians, emergency medical service personnel, dental personnel, pharmacists, laboratory personnel, autopsy personnel, students and trainees, contractual personnel, home healthcare personnel, and persons not directly involved in patient care (e.g., clerical, dietary, housekeeping, laundry, security, maintenance, billing, chaplains, and volunteers) but potentially exposed to infectious agents that can be transmitted to and from HCP and residents.

An influenza prevention and control program should include the following:

- Annual review of the [CDC and CDPH influenza vaccination recommendations](#). For more detailed information see the Recommendations of the Advisory Committee on Immunization Practices (ACIP) available at: (<http://www.cdc.gov/flu/professionals/vaccination>).
- Well-defined influenza policies and procedures to be reviewed with the infection prevention committee prior to the influenza season, including:
 - Plans for accessing and prescribing antiviral medication on short notice. Having preapproved orders from physicians or plans to obtain orders for influenza antiviral medications on short notice can substantially expedite administration of antiviral medications for treatment and prophylaxis.
- A designated “Influenza Vaccination Week.” Choose one week where influenza vaccination is featured to vaccinate as many residents and HCP as possible. The CDC currently recommends that vaccination programs begin as soon as flu vaccine is available at the facility, even as early as August, and continue through the end of April of the following year.
- Education for all residents, visitors, and HCP concerning the importance of vaccination, recognizing symptoms of infection, facility policies regarding work restrictions when ill, visitor restrictions, appropriate respiratory precautions, hygiene, and cough etiquette.
- A campaign to encourage employees to vaccinate their family members.
- A campaign to encourage visitors to be vaccinated.
- Free influenza education materials, to be posted throughout the facility. Download free influenza education materials:
 - <http://www.cdc.gov/flu/freeresources/>
 - <http://www.cdc.gov/flu/protect/covercough.htm>
 - <http://www.cdc.gov/flu/protect/stopgerms.htm>

Recommendations for Long-Term Care Facilities

Vaccination of Healthcare Personnel

- Develop and distribute written information that describes the benefits of influenza vaccination and the possible side effects of the vaccine.
- Strongly encourage influenza vaccination for all HCP including administrative personnel.
- Vaccinate new employees or request proof of vaccination prior to their start date.
- Obtain a signed “Consent to be Vaccinated” form. California law requires that acute care hospitals offer influenza vaccine to HCP at no charge and requires those who choose not to be vaccinated to sign a declination form. Although not yet required, long-term care facilities are encouraged to implement vaccine

declination documentation. The following forms are available electronically and can be used as is or modified as needed:

- [Consent to be Vaccinated:](http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaVaxConsentForm_forwebsite.docx)
(http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaVaxConsentForm_forwebsite.docx)
- [Vaccination Declination:](http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaDeclination_forwebsite.docx)
(http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaDeclination_forwebsite.docx)
- [Influenza Vaccination Received Elsewhere:](http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaVaxElsewhere_forwebsite.docx)
(http://www.cdph.ca.gov/programs/hai/Documents/1112InfluenzaVaxElsewhere_forwebsite.docx)

Vaccination of Residents

- Vaccinate current residents during the designated seasonal influenza vaccination week.
- Vaccinate new admissions at any time between August and April, if not already vaccinated.
- Consider having residents or the resident's advocate (e.g., a family member, friend, or ombudsman) sign a "Consent to be Vaccinated" form.
- Assess immunization history and ensure that updated pneumococcal vaccination standing orders are in place for residents ≥ 65 years.

Respiratory Hygiene and Cough Etiquette

- During influenza season, post visual alerts instructing residents, staff, visitors and volunteers to report symptoms of respiratory infection to a designated person.
- Provide tissues or masks to residents who are coughing or sneezing so they can cover their nose and mouth, if possible.
- Encourage coughing persons to remain at least 3 feet away from others, if possible.
- Ensure that hand hygiene supplies are available where sinks are located and/or provide dispensers of alcohol-based hand rubs.
- Exclude HCP and visitors with symptoms of respiratory infection.

Visitor Precautions and Restrictions

- Post signs notifying visitors that adults with respiratory symptoms should not visit for 5 days and children with symptoms should not visit for 10 days following the onset of illness.
- Provide written information about influenza-like infections and seasonal influenza to visitors and why the infection control precautions are necessary.
- Provide visitors with written instructions (respiratory hygiene/cough etiquette) about the precautions implemented by the facility.

- Encourage visitors to get vaccinated for influenza.
- Ensure that hand hygiene supplies, tissues and masks are readily available.
- If visitation during an outbreak is necessary (e.g., visitation of a dying resident), instruct symptomatic visitors to: (1) wear a surgical or procedure mask over their mouth and nose while in the resident's room; (2) cough and sneeze into a tissue and discard contaminated tissues in a waste receptacle; and (3) sanitize their hands before entering the resident's room, before and after resident contact and upon leaving the resident's room
- Consider restricting all children from visiting during an outbreak.
- For more information consult [Prevention Strategies for Seasonal Influenza in Healthcare Settings](http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) (<http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>)

Influenza Definitions

- Influenza-Like Illness (ILI): Documented fever $\geq 100^{\circ}\text{F}$ (37.8°C) and cough and/or sore throat in absence of another cause.
- Cluster of ILI: Two or more cases of (ILI) occurring within 72 hours.
- Influenza Outbreak: One case of laboratory-confirmed influenza in the setting of a cluster of ILI within a 72 hour period.

Surveillance for Influenza

Implement daily active surveillance for ILI among all residents and HCP throughout the influenza season.

- Educate and instruct HCP to report signs and symptoms of possible influenza including fever, headache, muscle aches, sore throat, chills, fatigue, runny or stuffy nose, cough, and/or mental status changes occurring in residents.
- Initiate the use of a daily active surveillance case log (Appendix 1) and collect data on all newly symptomatic residents until at least one week after the last influenza case occurs.
- Monitor staff absenteeism due to respiratory symptoms in order to track facility influenza activity.
- Instruct HCP to self-report any influenza-like symptoms to their supervisor. Record new symptomatic HCP cases daily using the surveillance case log (Appendix 2).
- Exclude HCP with fever $\geq 100^{\circ}\text{F}$ (37.8°C) and other respiratory infection symptoms from work until at least 24 hours after they no longer have a fever (without the use of fever reducing medicines).
- Develop [HCP "working when ill" and sick leave policies](http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm). (<http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>)

Laboratory Testing

A true diagnosis of influenza cannot be based on symptoms alone. When a cluster of cases of acute respiratory illness with symptoms suggestive of influenza occurs, it is of critical importance to establish the diagnosis of influenza through laboratory testing.

In order of priority, the following influenza tests are recommended, if readily available: (1) real time RT-PCR (reverse-transcriptase polymerase chain reaction), (2) immunofluorescence, or (3) rapid influenza antigen tests. Real-time RT-PCR is the best way to confirm the diagnosis of influenza.

Rapid Influenza Diagnostic Tests (RIDT) can vary in their sensitivity and specificity (ranging ~ 50-70%) when compared with RT- PCR. Several commercial rapid diagnostic tests are available that can detect influenza viruses within 15 minutes. These rapid tests differ in the types of influenza viruses they can detect and whether they can distinguish between influenza types. The types of specimens acceptable for use also vary by test. These tests are not very sensitive; they may only detect influenza when it is present half of the time, and are only really useful when they are positive.

False negative rapid influenza antigen tests and immunofluorescence tests can occur, especially when influenza prevalence is high. Therefore, if influenza is suspected and rapid influenza diagnostic test result or immunofluorescence is negative, perform confirmatory testing using RT-PCR. Similarly, false-positive rapid test results can occur, especially when influenza prevalence is low. Because an influenza outbreak can occur outside of the normal influenza season, perform confirmatory testing using RT-PCR if immunofluorescence or rapid antigen test results are positive.

To access appropriate laboratory testing, notify your local health department as soon as possible of a cluster of ILI. If RT-PCR testing is not readily available to confirm the diagnosis, the local health department can coordinate prompt influenza testing by RT-PCR at a regional public health laboratory. Your local health department can provide information about diagnostic specimen collection and submission processes for influenza testing. For outbreaks of ILI that test Influenza Negative by RT-PCR, contact the local health department for further tests for other respiratory virus.

Other laboratory tests such as viral cultures for strain subtyping and antiviral resistance are available at public health laboratories if indicated. For additional information: <http://www.cdc.gov/flu/professionals/diagnosis/>

Influenza Antiviral Treatment

Antiviral medications with activity against influenza viruses are an important adjunct to influenza vaccine in the control of influenza, and can be used to treat or prevent influenza.

- Antiviral therapy should be started as soon as possible for all long-term care facility residents with suspected or confirmed influenza. Treatment should not wait for results of influenza testing. Clinical judgment should be an important component of resident treatment decisions.
- Maximum benefit occurs when started within 48 hours of symptom onset but may still be effective when given more than 48 hours after onset of symptoms.

- Notify the local health department if a resident with influenza does not respond to treatment or a resident becomes ill with influenza after starting chemoprophylaxis. In these instances, further tests at the public health laboratory might be done to test for antiviral resistance.
- For current recommendations on antiviral dosing for treatment, chemoprophylaxis, contraindications, side effects, and adverse events see: <http://www.cdc.gov/flu/professionals/antivirals/index.htm>

Influenza Antiviral Chemoprophylaxis in Long-term Care Facilities Experiencing Influenza Outbreaks

- As soon as an influenza outbreak is determined, all non-ill residents should receive antiviral chemoprophylaxis, regardless of influenza vaccination status. Antiviral chemoprophylaxis should continue for a minimum of 2 weeks and for at least 7-10 days after the last known case is identified.
- Priority should be given to residents living in the same unit or floor as an ill resident.
- Consider providing antiviral chemoprophylaxis to unvaccinated staff.
- Consider providing antiviral chemoprophylaxis to all staff regardless of vaccination status if the outbreak is caused by a strain of influenza virus that is not well matched by the vaccine. Monitoring staff for ILI and initiating early antiviral treatment is an alternative to chemoprophylaxis.
- For additional information on dosing for anti-viral chemoprophylaxis see: <http://www.cdc.gov/flu/professionals/antivirals/index.htm>

Infection Control Precautions for Residents with Influenza-Like Illness

Enhanced Standard Precautions for residents with suspected or confirmed influenza includes Standard Precautions and Droplet Precautions (use of mask and eye protection) as recommended by CDC. Recommendations for Enhanced Standard Precautions (ESP) were developed by CDPH specifically to prevent the transmission of infectious agents in California long-term care facilities. ESP integrates and consolidates the CDC recommendations for standard precautions with many of the recommendations for transmission-based precautions (Contact or Droplet) and Intensified Interventions. This [guideline](#) is available electronically at:

(<http://www.cdph.ca.gov/programs/hai/Documents/AFL10-27AttachmentIncluded.pdf>).

Implement the following precautions for any resident with suspected or confirmed influenza for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer.

- Confine first symptomatic resident and exposed roommate(s) to their room, restrict them from group activities and serve meals in their rooms.
- If other residents become symptomatic, cancel group activities and serve all meals in resident rooms.
- If symptomatic resident is in a semi-private room, maintain a spatial separation of at least 3 feet between residents and draw a curtain between resident beds.
- If residents are ill on specific wards, do not move residents to other units.

- Limit new and returning residents during a suspected or confirmed outbreak.
- If admissions are necessary, ensure new or returning residents do not have acute respiratory illness or not transferring from a facility with an outbreak.
- Admit asymptomatic new or returning residents to unaffected units.
- Assign staff to work on only one unit, if possible. Restrict staff movement from areas of the facility having outbreaks to areas without symptomatic residents.
- Place a surgical mask on symptomatic residents during transport, if possible.
- Instruct residents to “cover their cough” or use tissues when coughing and sneezing.
- Assist residents with hand hygiene, especially before leaving and entering rooms and after contact with respiratory secretions and contaminated tissues.
- Perform hand hygiene:
 - Before and after resident contact.
 - If contact is made with potential infectious material or contaminated surfaces.
 - Before putting on and after removal of personal protective equipment, including gloves.
- Hand hygiene can be performed by:
 - Washing with soap and water.
 - Using alcohol-based hand rubs.
 - Soap and water if hands are soiled.
- Wear gown and gloves when providing direct care to a symptomatic resident or in contact with contaminated surfaces. Change gowns and gloves after each encounter with symptomatic resident and perform hand hygiene.
- Wear a surgical mask when entering a resident’s room with suspected or confirmed influenza; remove and dispose of mask in a waste container when leaving the room.
- Consider allowing use of fitted N95 respirators based on HCP preference, for added protection.
- Use routine cleaning and disinfecting strategies during influenza season. Focus on cleaning frequently touched surfaces in common areas and resident rooms. Special handling of soiled linens and dietary trays is not necessary.
- Communicate information with appropriate personnel before transferring symptomatic residents to other departments or facilities.
- Notify transporting personnel and receiving facility of a suspected or confirmed outbreak prior to transfer.
- Assess potential transfer for influenza vaccination history and symptoms of current respiratory symptoms.
- For additional information, consult [Guidelines and Recommendations: Prevention Strategies for Seasonal Influenza in Healthcare Settings](http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm) (http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm)

Influenza Outbreak Control:

If a facility is experiencing an influenza outbreak (one or more cases of laboratory-confirmed influenza in the setting of a cluster (two or more cases) of ILI within a 72 hour period):

- Ensure that infection control precautions for residents with ILI have been implemented.
- Initiate antiviral treatment as soon as possible for all residents with suspected or confirmed influenza. Treatment should not wait for results of influenza testing.
- Initiate antiviral chemoprophylaxis for all non-ill residents, prioritizing, residents living in the same unit or floor as an ill resident.
- Conduct daily active surveillance for ILI among residents, staff, and visitors to the facility until at least one week after the last confirmed influenza case occurred.
- Conduct influenza testing in residents and staff with ILI who live or work in affected units as well as previously unaffected units in the facility.
- Test residents and staff who develop acute ILI symptoms more than 72 hours after beginning antiviral chemoprophylaxis for influenza.
- Offer influenza vaccine to residents and staff who previously declined vaccination.

Influenza Outbreak Reporting

Report all suspected and confirmed outbreaks to the following:

- Long-term Care Facility Medical Director
- Local Public Health Department
- [Licensing and Certification \(L&C\) district office](http://www.cdph.ca.gov/certlic/facilities/Pages/LCDistrictOffices.aspx)
(<http://www.cdph.ca.gov/certlic/facilities/Pages/LCDistrictOffices.aspx>).

Appendix 2 - Sample Surveillance Case Log of Staff with Acute Respiratory Illness and/or Pneumonia

Staff identification		Staff position and location		Influenza Vaccine	Illness description							Influenza test results		Antiviral drugs		Illness outcomes	
Name	Age	Job title	Location	Influenza (Y/N)	Date onset	Highest temperature	Cough (Y/N)	Malaise/fatigue (Y/N)	Chills/rigors (Y/s/N0)	Sore throat (Y/N)	Arthralgia/myalgia (y/N)	Rapid antigen (+/-/ND)	Viral culture	Date started/Date ended	Date resolved	Date returned to work	