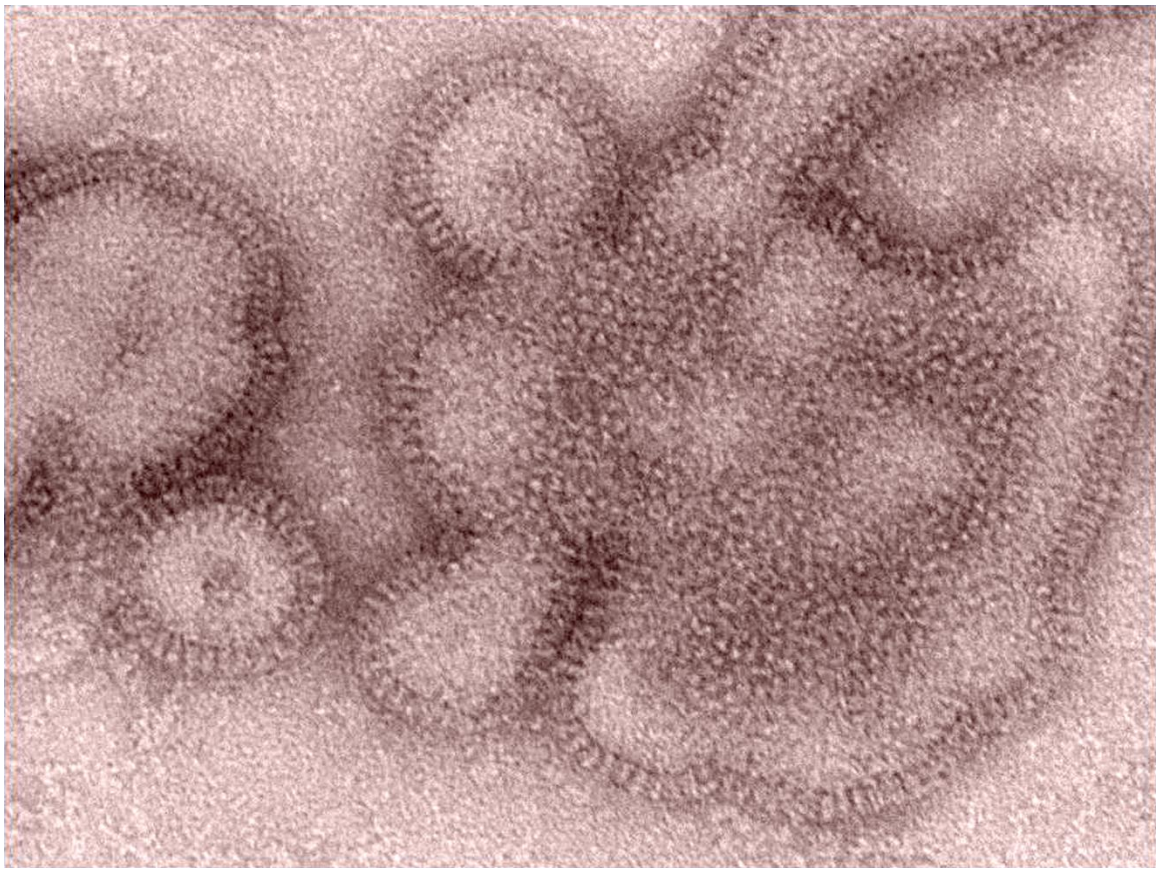


Influenza-like-Illness Outbreak Toolkit

INDIANA STATE DEPARTMENT OF HEALTH
EPIDEMIOLOGY RESOURCE CENTER

| September 2018 |

Indiana State Department of Health
An Equal Opportunity Employer

Eric J. Holcomb
Governor

Kristina Box, MD, FACOG
State Health Commissioner

Guidelines for the Management of Influenza Outbreaks in a Long-Term Care Facility

Thank you for contacting the Indiana State Department of Health (ISDH) or your local health department to report your facility's influenza-like illness (ILI) outbreak. The attached checklists and forms represent the ISDH recommendations for managing an influenza outbreak in any healthcare facility. The contents of this packet are designed to simplify the complexity of managing ILI outbreaks by providing one source for the materials required to control an influenza outbreak in a health care facility.

The attached forms include:

- ISDH Influenza Quick Facts
- Facility Administrator/Director of Nursing: ILI Checklist for a Health Care Facility
- ISDH Respiratory Illness Outbreak Line List
- Template door sign to notify arriving visitors, staff, and residents
- ISDH Virology Specimen Submission Form
- CDC's Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities
- CDC Cover Your Cough Poster
- CDC Handwashing Poster

Additional Notifications
If you have not already done so, please contact the ISDH Division of Long-Term Care to report your facility's outbreak at (317) 233-7442 or online through the ISDH Incident Reporting System. Information for online reporting of incidents to ISDH can be found at the following webpage; https://www.in.gov/isdh/23638.htm.

Laboratory Testing
Influenza testing should occur when any resident has signs and symptoms that could be due to influenza, and especially when two or more residents develop respiratory illness within 72 hours of each other. The local health department or ISDH will recommend the collection of specimens when appropriate.

Please contact the Indiana State Department of Health Epidemiology Resource Center at (317) 233-7125 between 8:15 a.m. and 4:45 p.m. Monday through Friday if you have any questions.

Table of Contents

Indiana State Department of Health
Epidemiology Resource Center

Quick Facts

About…Influenza

What is influenza (flu)?

Flu is an illness caused by influenza viruses that infect the respiratory tract. The illness can be mild to severe and can cause death in some people. Although anyone can become infected with flu, the elderly, young children, or anyone with other health problems are at more risk for hospitalizations and complications. Every year 3,000-49,000 people die of influenza and the problems of the disease. About 90% of influenza-associated deaths occur in people aged 65 years and older.

Flu is not a reportable disease in Indiana so the number of cases is not tracked.

What are the symptoms of influenza?

Symptoms usually include:

- Fever
- Chills
- Headache
- Cough
- Sore throat
- Muscle aches
- Diarrhea and nausea occasionally in children

Symptoms usually start about 1-4 days after being exposed and can last 2-7 days. Complications may include pneumonia, hospitalization and death.

How is influenza spread?

Flu is spread from close contact with persons who are sick with flu or from touching surfaces or objects that have flu virus on them. Infection can occur when flu viruses contact the eyes, mouth, or nose, and through breathing in droplets from a sneeze or cough. People may be able to spread the virus to others about one day before they show symptoms and up to seven days after becoming sick. **That means that**

you may be able to spread the flu to someone else before you even know you are sick, as well as while you are sick.

Who is at risk for getting influenza?

In the United States, on average 5% to 20% of the population gets the flu and more than 200,000 people are hospitalized from seasonal flu-related complications. Some people, such as older people, young children, pregnant women, and people with certain health conditions, are at high risk for serious flu complications. These health conditions include:

- Asthma
- Neurological and neurodevelopmental conditions
- Chronic lung disease
- Heart disease
- Blood disorders
- Endocrine disorders (i.e., diabetes)
- Kidney and liver disorders
- Metabolic disorders
- Weakened immune systems due to medication or disease, such as HIV/AIDS
- People younger than 19 years of age receiving long-term aspirin therapy
- People who are morbidly obese

How do I know if I have influenza?

A health care professional may be able to diagnose a flu infection by looking at your symptoms. Sometimes your nose will be swabbed and tested for the influenza virus.

How is influenza treated?

Flu is usually treated with medicine to bring down the fever, throat or cough drops, water, and plenty of rest. If the diagnosis is made at the very beginning of the illness, a doctor may prescribe influenza antiviral medicine (i.e., oseltamivir, zanamivir, or peramavir).

How is influenza prevented?

The best way not to get flu is to get a flu shot every year before the flu season starts. Since flu viruses change over time, it is important to get a shot each year.

Each year the vaccine is remade to include the types of flu viruses scientist think will be around to cause illness during the flu season. The vaccine begins to protect you within a few days after you get the flu shot, but the vaccine is not fully effective until about 14 days after the shot.

Good respiratory hygiene is important to prevent the spread of ALL respiratory infections, including the flu:

- Use your elbow or upper arm, instead of your hands, or a tissue to cover your mouth and nose or when you cough or sneeze. Immediately throw used tissues into the trash can. Try not to touch your eyes, nose, or mouth. Many diseases often spread this way.
- To clean your hands after coughing or sneezing, wash with soap and water, or clean with alcohol-based hand cleaner if water is not available.
- Avoid close contact with people who are sick.
- If you get flu, stay home from work, school, and social gatherings. This will help others from catching your illness and gives your body the rest it needs to get better.

All information presented is intended for public use. For more information, please refer to: http://www.cdc.gov/flu/ or the ISDH influenza website located at http://www.in.gov/isdh/25462.htm.

This page was last reviewed July 1, 2016.

Long-Term Care Facility (LTCF) Influenza-Like Illness (ILI) Outbreak Checklist

Communication

- ☐ Inform the Indiana State Department of Health (ISDH) Long-Term Care Division (317-233-7442) and your local health department (LHD) of the possible outbreak
    - An outbreak is defined as at least three residents with the same infection in one defined area (such as hall, unit, neighborhood, street, pod, secured unit, vent unit) in a 48-hour period or 10% or more of the current building census with the same infection.
- ☐ Complete the ILI Line List
    - Be sure to include all requested information.
- ☐ Submit the line list at the end of the outbreak
    - The outbreak is over after two incubation periods during which no cases are detected.
    - Return it to the individual you have been working with (the LHD or ISDH Field Epidemiologist) during the outbreak.
    - Fax it to ISDH Epidemiology Resource Center (ERC) at (317) 234-2812.

Control Measure Recommendations

- ☐ Post a door sign (template included) at the facility entrance to inform staff, residents, and visitors of outbreak.
- ☐ Limit visitation and exclude ill persons from visiting the facility via posted notices mentioned above.
- ☐ Ill staff should be excluded from patient contact until at least 24 hours after they no longer have a fever without the use of fever-reducing medication.
- ☐ All eligible residents in the entire facility (not just currently impacted wards) should receive antiviral chemoprophylaxis as soon as an influenza outbreak is determined.
- ☐ Have symptomatic residents stay in their own rooms as much as possible, including restricting them from common activities
    - This includes having meals served in their rooms when possible.
- ☐ Avoid new admissions or transfers to wards with symptomatic residents.
- ☐ Restrict staff movement from areas of the facility having illness to areas not affected by the outbreak.

- ☐ Administer the current season's influenza vaccine to unvaccinated residents and staff as per current vaccination recommendations.

Environmental Infection Control

- ☐ Standard cleaning and disinfection procedures are adequate for influenza virus environmental control in all settings within the healthcare facility.

Specimen Collection

- ☐ Request specimen containers from the LHD or ISDH Field Epidemiologist
- ☐ Collect specimens
    - Specimens may be collected for up to three symptomatic patients/staff who haven't already received influenza antivirals
    - Label each specimen with patient name, date of birth, and collection date
        - Unlabeled or incorrectly labeled specimens will not be tested.
- ☐ Complete the paper specimen form for each specimen
- ☐ Coordinate shipping/transporting specimens with the LHD or ISDH Field Epidemiologist
    - ISDH Lab must receive the specimens within 5 days of collection.
    - Refrigerate specimens until they are ready for transportation.
- ☐ Provide completed paper specimen forms and refrigerated specimens to the LHD of ISDH Field Epidemiologist upon pick-up

Indiana State Department of Health Respiratory Illness Line List

Note: Please notify your local health department or the Indiana State Department of Health as soon as an outbreak is suspected.
After the outbreak is over please fax the completed line list to ISDH ERC at (317) 234-2812 or your outbreak contact.

Patient/Staff Demographics						Clinical						Laboratory						Outcome		
	Name	Patient (P) Staff (S)	Age	Sex (M/F)	Received flu vaccine this season	Date of illness onset (mm/dd/yy)	Fever (Y/N)	Cough (Y/N)	Sore Throat (Y/N)	Pneumonia (Y/N)	CXR Diagnosed(Y/N)	Nasopharyngeal (NP) specimen collecteed (Y/N)	Other specimen type if not NP	Date of specimen collection (mm/dd\yy)	Test Type	Result (+/-/NA)	Influenza Antivirals prescribed (Y/N/NA)	Antibiotics prescribed (Y/N/NA)	Hospitalized (Y/N/Unk)	Died (Y/N/Unk)
EX	*Jake Smith*	*P*	*55*	*M*	*Y*	*1/1/2014*	*Y*	*Y*	*Y*	*Y*	*Y*	*Y*	*n/a*	*1/2/2014*	*PCR*	*+*	*Y*	*Y*	*N*	*N*
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Reporting Facility _____ **Facility Contact Name** _____ **Total Number of Residents in the Facility** _____

Street Address _____ **Facility Phone Number** _____ **Total Number of Staff at the Facility** _____

Average Duration of Illness (Days) _____

Last updated 10/2017

NOTICE: PLEASE READ PRIOR TO ENTERING

Dear Residents, Staff, Families, and Visitors:

This is to inform you that there are many cases of **influenza-like illness (ILI)** occurring at this facility. This type of illness is usually spread through direct contact from sneezing and coughing. It can also be spread through nose and throat secretions.
The signs and symptoms of **ILI** may include:

- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue

The best ways to prevent the spread of ILI is practicing **good handwashing and cough and sneeze etiquette**. Anyone entering the facility needs to wash his or her hands frequently – especially upon leaving the facility. Hands should be washed for 20 seconds using soap and water.

If you have any questions, please call the _____ Health Department at _____.

VIROLOGY

State Form 35212 (R6/9-09)
CLIA Certified Laboratory #15D0662599

Indiana State Department of Health Laboratories
550 W. 16th Street, Suite B
Indianapolis, IN 46202
(317) 921-5500

Use a separate form for each specimen. Complete form entirely. Specimens without a name will not be analyzed.

Section 1. Patient Demographics

Last Name _____ First Name _____ MI ____ Date of Birth ____/____/_____

Number & Street Address _____ City _____ State _____ ZIP Code _____

County of Residence _____ Telephone Number ____-____-_____

Race:
☐ Asian ☐ White
☐ Black or African American ☐ Multiracial
☐ American Indian or Alaska Native ☐ Other
☐ Native Hawaiian or Other Pacific Islander ☐ Unknown

Ethnicity:
☐ Hispanic or Latino ☐ Not Hispanic or Latino ☐ Unknown

Sex:
☐ Male ☐ Female ☐ Unknown

Name of ☐ Employer ☐ School ☐ Care Facility ☐ Institution _____ Facility Telephone Number ____-____-_____ Occupation _____

Institution Resident ? ☐ Yes ☐ No Institution Type ☐ Prison ☐ Nursing Home ☐ Other *(specify)* _____

Hospitalized? ☐ Yes ☐ No Location _____ ____/____/_____ Date Hospitalized

Deceased? ☐ Yes ☐ No Date of Death ____/____/_____

Section 2. Clinical Information

Date of Collection ____/____/_____ Date of Illness Onset ____/____/_____

Specimen Information:
☐ Swab *(Anatomical Source)* _____ ☐ Tissue *(Anatomical Source)* _____ ☐ Stool
☐ Fluid *(Anatomical Source)* _____ ☐ Isolate *(Anatomical Source)* _____ ☐ Other: _____

Clinical Diagnosis

State of Illness ☐ Asymptomatic ☐ Symptomatic ***(If patient is symptomatic, please check all signs/symptoms that apply)***

General Symptoms
☐ Fever ____ °F
☐ Headache
☐ Sore Throat
☐ Cough

CNS
☐ Encephalitis
☐ Meningitis

Ocular
☐ Conjunctivitis
☐ Photophobia

Rash
☐ Maculopapular
☐ Papular
☐ Hemorrhagic
☐ Vesicular
☐ Petechial

Respiratory
☐ Upper Resp. Inf.
☐ Lower Resp. Inf.
☐ Pneumonia
☐ ARDS

Gastrointestinal
☐ Vomiting
☐ Diarrhea

Cardiovascular
☐ Heart Inflammation

Miscellaneous
☐ Parotitis

Other Symptoms*(please specify)*

Pregnant ? ☐ Yes ☐ No Immunocompromised? ☐ Yes ☐ No

Section 3. Virus Suspected

☐ Adenovirus
☐ Influenza
☐ Parainfluenza
☐ Respiratory Syncytial Virus
☐ Enterovirus
☐ Measles
☐ Mumps
☐ Varicella
☐ Herpes Simplex
☐ Community-Acquired Pneumonia
☐ Other _____

Section 4. ISDH Lab Use

For ISDH Lab. Use ONLY

____/____/_____
Date Received

Place Label here

VIROLOGY
State Form State Form 35212 (R6/9-09)

Place ISDH Lab Label Here

Section 5. Influenza Submission Information

Last Name _____ First Name _____ MI ___ Date of Birth ___/___/_____

Influenza Rapid Test: ☐ Positive ☐ Negative ☐ Not Performed **If positive:** ☐ Type A ☐ Type B ☐ Type A/B ☐ Not Typed

Seasonal influenza vaccine type given: _____ Date 1st Dose ___/___/_____ Date 2nd Dose ___/___/_____ ☐ None

Pandemic influenza vaccine type given: _____ Date 1st Dose ___/___/_____ Date 2nd Dose ___/___/_____ ☐ None

Patient Received/Receiving Antivirals? ☐ Yes ☐ No **Date Administered:** ___/___/_____

Which antiviral prescribed? _____

Patient Contact with *(check all that apply):* ☐ Respiratory Disease Outbreak ☐ Ill Person ☐ Birds ☐ Animals

Section 6. Travel History

Travel history for the past 60 days:

Traveled to/from: _____

Date of Departure ___/___/_____ Date of Return ___/___/_____

Section 7. Provider Information

Healthcare Provider's Name _____

E-Mail Address _____

Telephone Number ___-___-_____ Fax Number ___-___-_____ Influenza Sentinel Physician Number _____

Section 6. Submitter Information *(Reports Will go ONLY to this Facility)*

Submitting Facility Name _____

Number & Street Address _____

City _____ State _____ ZIP Code _____

Telephone Number ___-___-_____ Fax Number ___-___-_____

Collect specimen for virus culture and PCR testing as early as possible in the acute stage of illness. Acceptable specimens may include the following: isolates, NP swabs or throat swabs, stools or rectal swabs, body fluids, lesion swabs or scrapings, biopsy tissue (no preservative), and postmortem tissues (no preservative) depending on the suspected virus. Swabs must be placed in 2-3 mL of viral transport media such as M4, M4-RT, UTM-RT, etc.

Refrigerate specimens for virus culture and PCR testing immediately after collection. Ship specimens for next day delivery using ice packs in a heavily insulated box. Pack specimens to prevent breakage or spillage and to conform to shipping regulations.

Viral recovery may be complicated if specimens are not shipped refrigerated immediately after collection. If immediate shipment, for delivery within 24 hours, is not possible, refrigerate or freeze specimens at -70° C or below. Do not store at -20° C. Ship frozen specimens on dry ice in a heavily insulated box. Do not ship on Friday, hold for Monday shipping. Specimens should be be received by the ISDH laboratory within 5 days of collection.

Interim Guidance for Influenza Outbreak Management in Long-Term Care Facilities

The following guidance is current for the 2016-2017 influenza season. Please see Recommendations of the Advisory Committee on Immunization Practices – United States, 2016-17 Season for the latest information regarding recommended influenza vaccines. Please see Antiviral Drugs: Information for Health Care Professionals for the current summary of recommendations for clinical practice regarding the use of influenza antiviral medications.

Long-term care facilities may be defined as institutions, such as nursing homes and skilled nursing facilities that provide health care to people (including children) who are unable to manage independently in the community. This care may represent custodial or chronic care management or short-term rehabilitative services.

Influenza can be introduced into a long-term care facility by newly admitted residents, health care workers and by visitors. Spread of influenza can occur between and among residents, health care providers, and visitors. Residents of long-term care facilities can experience severe and fatal illness during influenza outbreaks.

Preventing transmission of influenza viruses and other infectious agents within health care settings, including in long-term care facilities, requires a multi-faceted approach that includes the following:

- Vaccination
- Testing
- Infection Control
- Antiviral Treatment
- Antiviral Chemoprophylaxis

Before an Outbreak Occurs

Influenza vaccination should be provided routinely to all residents and health care workers of long-term care facilities.

Residents

If possible, all residents should receive trivalent inactivated influenza vaccine (TIV) annually before influenza season. In the majority of seasons, TIV will become available to long-term care facilities beginning in September, and influenza vaccination should commence as soon as vaccine is available. Informed consent is required to implement a standing order for vaccination, but this does not necessarily mean a signed consent must be present.

In the event that a new patient or resident is admitted after the influenza vaccination program has concluded in the facility, the benefits of vaccination should be discussed, educational materials should be provided, and an opportunity for vaccination should be offered to the new resident as soon as possible after admission to the facility. Since October 2005, the Centers for Medicare and Medicaid Services (CMS) has required nursing homes participating in Medicare and Medicaid programs to offer all residents influenza and pneumococcal vaccines and to document the results. According to requirements, each resident is to be vaccinated unless contraindicated medically, the resident or legal representative refuses vaccination, or the vaccine is not available because of storage. This information is to be reported as part of the CMS Minimum Data Set, which tracks nursing home health parameters.

Health Care Personnel

CDC and the Advisory Committee on Immunization Practices (ACIP), recommend that all U.S. health care personnel get vaccinated annually against influenza.

- Health care personnel who get vaccinated help to reduce the following:
- Transmission of influenza
- Staff illness and absenteeism
- Influenza-related illness and death, especially among people at increased risk for severe influenza illness
- Higher vaccination levels among personnel have been associated with a lower risk of health care facility-associated influenza cases.
- Influenza outbreaks in hospitals and long-term care facilities have been attributed to low influenza vaccination coverage among health care personnel.
- Higher influenza vaccination levels among health care personnel can reduce influenza-related illness, and even deaths, in settings like nursing homes.

Surveillance

When there is influenza activity in the local community, active daily surveillance (defined below) for influenza illness should be conducted among all new and current residents, staff, and visitors of long-term care facilities, and continued until the end of influenza season. Ill residents, personnel, and visitors should be excluded from the facility until illness has resolved.

Testing

Even if it's not influenza season, influenza testing should occur when any resident has signs and symptoms of influenza-like illness. More information about testing is included below.

When there is a confirmed or suspected influenza outbreak (2 or more ill residents)

If there is one laboratory-confirmed influenza positive case along with other cases of respiratory infection in a unit of a long-term care facility, an influenza outbreak might be occurring.

While unusual, an influenza outbreak can occur outside of the normal influenza season; therefore, testing for influenza should be added to testing for other respiratory pathogens during non-influenza season periods.

Even if it's not influenza season, influenza testing should occur when any resident has signs and symptoms that could be due to influenza *, and especially when two residents or more develop respiratory illness within 72 hours of each other.

- Determine if influenza virus is the causative agent by performing influenza testing on respiratory specimens (i.e. nasal swabs, throat swabs, nasopharyngeal swab, or nasopharyngeal or nasal aspirates) of ill residents with recent onset of signs and symptoms suggestive of influenza.
- In order of priority, the following influenza tests are recommended: reverse transcription polymerase chain reaction (RT-PCR); immunofluorescence; rapid influenza diagnostic tests.
- Because of the possibility of false negative results during influenza season, if influenza is suspected and immunofluorescence or rapid influenza diagnostic test results are negative, perform confirmatory testing using RT-PCR or viral culture. Information on influenza diagnostic testing is available online or by contacting your state public health laboratory.
- Because of the possibility of false positive results, especially outside of influenza season, perform confirmatory testing using RT-PCR or viral culture if immunofluorescence or rapid influenza diagnostic test results are positive.
- Viral culture should be performed if additional information on influenza viruses, such as influenza A virus subtype, antigenic characterization to compare with vaccine strains, or antiviral resistance data, are needed. Additionally, viral culture can be used to confirm results from rapid diagnostic testing (as mentioned above)
- Determining influenza virus type or subtype of influenza A virus can help inform antiviral therapy decisions.
- Test for other respiratory pathogens as well if it's not influenza season.
- Once an outbreak has been identified, outbreak prevention and control measures should be implemented immediately.

Implement daily active surveillance for respiratory illness among ill residents, health care personnel and visitors to the facility.

- During an outbreak, once a single laboratory-confirmed case of influenza has been identified, it is likely there are other cases among exposed persons.
- Conduct daily active surveillance until at least 1 week after the last confirmed influenza case occurred.
- Test for influenza in the following:
- Ill persons who are in the affected unit as well as previously unaffected units in the facility
- Persons who develop acute respiratory illness symptoms more than 72 hours after beginning antiviral chemoprophylaxis
- Note that elderly persons and other long-term care residents, including those who are medically fragile and those with neurological or neurocognitive conditions, may manifest atypical signs and symptoms with influenza virus infection, and may not have fever.
- Ensure that the laboratory performing the tests notifies the facility of tests results promptly.

- The local health and state health departments should be notified of every suspected or confirmed influenza outbreak in a long-term care facility, especially if a resident develops influenza while on or after receiving antiviral chemoprophylaxis.

Implement Standard and Droplet Precautions for all residents with suspected or confirmed influenza.

CDC's guidance titled Prevention Strategies for Seasonal Influenza in Healthcare Settings contains details on the prevention strategies for all health care settings. Specific recommendations are highlighted below.

Standard Precautions are intended to be applied to the care of all patients in all health care settings, regardless of the suspected or confirmed presence of an infectious agent. Implementation of Standard Precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and health care personnel.

Examples of standard precautions include:

- Wearing gloves if hand contact with respiratory secretions or potentially contaminated surfaces is anticipated.
- Wearing a gown if soiling of clothes with a resident's respiratory secretions is anticipated.
- Changing gloves and gowns after each resident encounter and performing hand hygiene
- Perform hand hygiene before and after touching the resident, after touching the resident's environment, or after touching the resident's respiratory secretions, whether or not gloves are worn. Gloves do not replace the need for performing hand hygiene.

Droplet Precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions. Droplet Precautions should be implemented for residents 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, while a resident is in a health care facility.

Examples of Droplet Precautions include:

- Placing ill residents in a private room. If a private room is not available, place (cohort) residents suspected of having influenza residents with one another;
- Wear a facemask (e.g., surgical or procedure mask) upon entering the resident's room. Remove the facemask when leaving the resident's room and dispose of the facemask in a waste container.
- If resident movement or transport is necessary, have the resident wear a facemask (e.g., surgical or procedure mask), if possible.
- Communicate information about patients with suspected, probable, or confirmed influenza to appropriate personnel before transferring them to other departments.

These Precautions are part of the overall infection control strategy to protect against influenza in health care settings and should be used along with other infection control measures, such as isolation or cohorting of ill residents, screening employees and visitors for illness, furloughing ill health care personnel, and discouraging ill visitors from entering the facility.

In some cases, facilities may choose to apply Standard Precautions and Droplet Precautions for longer periods based on clinical judgment, such as in the case of young children or severely immunocompromised residents, who may shed influenza virus for longer periods of time.

Because residents with influenza may continue to shed influenza viruses while on antiviral treatment, infection control measures to reduce transmission, including following Standard and Droplet Precautions, should continue while the resident is taking antiviral therapy. This will also reduce transmission of viruses that may have become resistant to antiviral drugs during therapy.

Administer influenza antiviral treatment and chemoprophylaxis to residents and health care personnel according to current recommendations.

All long-term care facility residents who have confirmed or suspected influenza should receive antiviral treatment immediately.

Treatment should not wait for laboratory confirmation of influenza.

Antiviral treatment works best when started within the first 2 days of symptoms. However, these medications can still help when given after 48 hours to those that are very sick, such as those who are hospitalized, or those who have progressive illness.

Three influenza antiviral drugs approved by the U.S. Food and Drug Administration are recommended for use in the United States: oral oseltamivir (available as a generic version or under the trade name Tamiflu®), as a pill or suspension; zanamivir (trade name Relenza®), available as an inhaled powder using a disk inhaler device; and intravenous peramivir (trade name Rapivab®). It should be noted that some long-term care residents may have difficulty using the inhaler device for zanamivir.

Amantadine and rimantadine are **NOT** recommended for use because of high levels of antiviral resistance among circulating influenza A viruses.

The recommended dosing and duration of antiviral treatment is twice daily for 5 days. Longer treatment courses for patients who remain severely ill after 5 days of treatment can be considered. Dosage adjustment may be required for children and persons with certain underlying conditions. Clinicians should consult the manufacturers' package insert for recommended drug dosing adjustments and contraindications.

Having preapproved orders from physicians or plans to obtain orders for antiviral medications on short notice can substantially expedite administration of antiviral medications.

For more information on the antiviral agents see Recommended Dosage and Duration of Treatment or Chemoprophylaxis for Influenza Antiviral Medications.

All eligible residents in the entire long-term care facility (not just currently impacted wards) should receive antiviral chemoprophylaxis as soon as an influenza outbreak is determined.

When at least 2 patients are ill within 72 hours of each other and at least one resident has laboratory-confirmed influenza, the facility should promptly initiate antiviral chemoprophylaxis to all non-ill residents, regardless of whether they received influenza vaccination during the previous fall. Priority should be given to residents living in the same unit or floor as an ill resident. However, since staff and residents may spread influenza to residents on other units, floors, or buildings of the same facility, all non-ill residents are recommended to receive antiviral chemoprophylaxis to control influenza outbreaks.

Antiviral chemoprophylaxis is recommended for all non-ill residents, regardless of their influenza vaccination status, in long-term care facilities that are experiencing outbreaks.

Antiviral chemoprophylaxis is meant for patients and residents who are not exhibiting influenza-like illness but who may be exposed or who may have been exposed to an ill person with influenza, to prevent transmission.

Use of antiviral drugs for chemoprophylaxis of influenza is a key component of influenza outbreak control in institutions that house residents at higher risk of influenza complications. While highly effective, antiviral chemoprophylaxis is not 100% effective in preventing influenza illness.

CDC recommends antiviral chemoprophylaxis for a minimum of 2 weeks, and continuing for at least 7 days after the last known case was identified.

Persons whose need for chemoprophylaxis is attributed to potential exposure to a person with laboratory-confirmed 2009 H1N1, influenza A (H3N2), or influenza B should receive oseltamivir or zanamivir. Zanamivir should be used when persons require chemoprophylaxis as a result of exposure to influenza virus strains that are suspected of being oseltamivir-resistant.

(For more information see Recommended Dosage and Duration of Treatment or Chemoprophylaxis for Influenza Antiviral Medications or the IDSA guidelines)

Antiviral chemoprophylaxis can be considered or offered to unvaccinated personnel who provide care to persons at high risk of complications.

While CDC recommends judicious use of antiviral medications for chemoprophylaxis to reduce the possibility of development and spread of antiviral resistant influenza viruses, chemoprophylaxis may be considered for all employees, regardless of their influenza vaccination status, if the outbreak is caused by a strain of influenza virus that is not well matched by the vaccine.

Antiviral chemoprophylaxis should also be considered in personnel for whom influenza vaccine is contraindicated.

An emphasis on early treatment is an alternative to chemoprophylaxis in managing certain persons who have had a suspected exposure to influenza virus. Health care personnel who have occupational exposures can be counseled about the early signs and symptoms of influenza and advised to contact their health-care provider immediately for evaluation and possible early treatment if clinical signs or symptoms develop.

For newly vaccinated staff, antiviral chemoprophylaxis can be administered up to 2 weeks following influenza vaccination with TIV. Persons receiving antiviral chemoprophylaxis should not receive live attenuated influenza virus vaccine (LAIV), and persons receiving LAIV should not receive antiviral treatment or chemoprophylaxis until 14 days after LAIV administration.

The latest CDC antiviral recommendations are available on CDC's influenza antiviral drugs page for health professionals.

Be Aware of the Possibility of a Drug-Resistant Virus

Residents receiving antiviral medications who do not respond to treatment or who become sick with influenza after starting chemoprophylaxis might have an infection with an antiviral-resistant influenza virus.

To limit the potential transmission of antiviral drug-resistant influenza virus, whether in chronic or acute-care settings or other closed settings, measures should be taken to reduce contact between ill persons taking antiviral drugs for treatment and other persons, including those receiving antiviral chemoprophylaxis.

Infection-control measures are especially important for patients who are immunocompromised to reduce the risk for transmission of oseltamivir-resistant viruses.

Notify the health department if a resident develops influenza while on or after receiving antiviral chemoprophylaxis.

Consider the following additional measures to reduce transmission among residents and health care personnel:

- Have symptomatic residents stay in their own rooms as much as possible, including restricting them from common activities, and have their meals served in their rooms when possible.
- Limit the number of large group activities in the facility and consider serving all meals in resident rooms if possible when the outbreak is widespread (involving multiple units of the facility).
- Avoid new admissions or transfers to wards with symptomatic residents.
- Limit visitation and exclude ill persons from visiting the facility via posted notices. Consider restricting visitation by children during community outbreaks of influenza.
- Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from work until at least 24 hours after they no longer have a fever.
- Restrict personnel movement from areas of the facility having illness to areas not affected by the outbreak.
- Administer the current season's influenza vaccine to unvaccinated residents and health care personnel as per current vaccination recommendations. For the latest information on influenza vaccination, see CDC's seasonal influenza vaccination resources for health professionals page.

*Patients with illness associated with influenza virus infection often have fever or feverishness with cough, chills, headache, myalgias, sore throat, or runny nose. Some patients, such as the elderly, children with neuromuscular disorders, and young infants, may have atypical clinical presentations.

Resources

Vaccine

Seasonal Influenza Vaccination Resources for Health Professionals (https://www.cdc.gov/flu/professionals/vaccination/index.htm)

Prevention and Control of Influenza with Vaccines. Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010: Nursing Homes and Other Long-Term Care Facilities. MMWR 2010:59(RR08);1-62

CDC. Immunization of Health-Care Personnel. Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2011:60(RR07);1-45

Antiviral Drugs

2011-2012 Influenza Antiviral Medications: Summary for Clinicians (https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm)

Seasonal Influenza in Adults and Children—Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management: Clinical Practice Guidelines of the Infectious Diseases Society of America

Recommendations of the Advisory Committee on Immunization Practices (ACIP): Antiviral Drug Information for Health Care Professionals (https://www.cdc.gov/flu/professionals/antivirals/index.htm)

Recommendations of the Advisory Committee on Immunization Practices (ACIP): Antiviral Drug Information for Health Care Professionals: Control of Influenza Outbreaks in Institutions. MMWR 2011:60(RR01);1-24

Testing

Guidance for Clinicians on the Use of Rapid Influenza Diagnostic Tests (https://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm)

Infection Control

Prevention Strategies for Seasonal Influenza in Healthcare Settings (https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm)

Health care-associated infections and long-term care settings (https://www.cdc.gov/longtermcare/index.html)

Reported Outbreaks in Long-Term Care Facilities

CDC. Outbreaks of 2009 Pandemic Influenza A (H1N1) Among Long-Term Care Facility Residents --- Three States, 2009. MMWR 2010:59(03):74-77

Additional References

Apisarnthanarak A, Uyeki T, Puthavathana P, Kitphati R, Mundy L. Reduction of seasonal influenza transmission among healthcare workers in an intensive care unit: A 4-year intervention study in Thailand. Infect Control Hosp Epidemiol 2010; 31(10);996-1003.

Turnberg W, Daniell W, Duchin J. Influenza vaccination and sick leave practices and perceptions reported by health care workers in ambulatory care settings. Am J Infect Control 2010; 38(6):486-8.

CDC. Influenza vaccination of health-care personnel: recommendations of the Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Advisory Committee on Immunization Practices (ACIP). MMWR 2006;55(No. RR-2).

Salgado CD, Giannetta ET, Hayden FG, Farr BM. Preventing nosocomial influenza by improving the vaccine acceptance rate of clinicians. Infect Control Hosp Epidemiol 2004;25:923--8.

Saito R, Suzuki H, Oshitani H, Sakai T, Seki N, Tanabe N. The effectiveness of influenza vaccine against influenza A (H_3N_2) virus infections in nursing homes in Niigata, Japan, during the 1998--1999 and 1999--2000 seasons. Infect Control Hosp Epidemiol 2002;23:82--6.

Cunney RJ, Bialachowski A, Thornley D, Smaill FM, Pennie RA. An outbreak of influenza A in a neonatal intensive care unit. Infect Control Hosp Epidemiol 2000;21:449--54.

Carman WF, Elder AG, Wallace LA, et al. Effects of influenza vaccination of health-care workers on mortality of elderly people in long-term care: a randomised controlled trial. Lancet 2000;355(9198): 93--7.

Saxen H, Virtanen M. Randomized, placebo-controlled double blind study on the efficacy of influenza immunization on absenteeism of health care workers. Pediatr Infect Dis J 1999;18:779--83.

Wilde JA, McMillan JA, Serwint J, Butta J, O'Riordan MA, Steinhoff MC. Effectiveness of influenza vaccine in health care professionals: a randomized trial. JAMA 1999;281:908--13.

Potter J, Stott DJ, Roberts MA, et al. Influenza vaccination of health care workers in long-term-care hospitals reduces the mortality of elderly patients. J Infect Dis 1997;175:1--6.

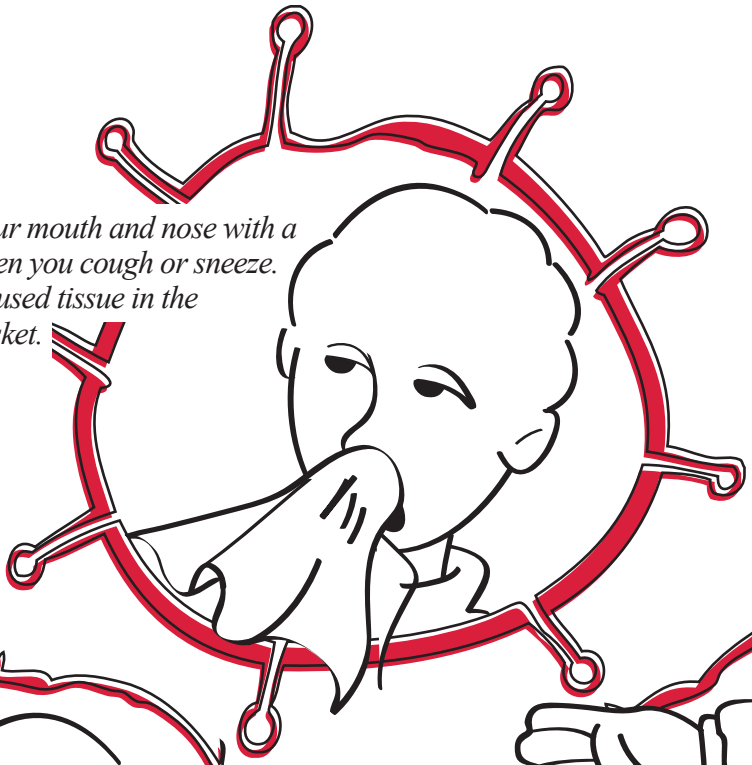
Page last reviewed: February 2, 2017

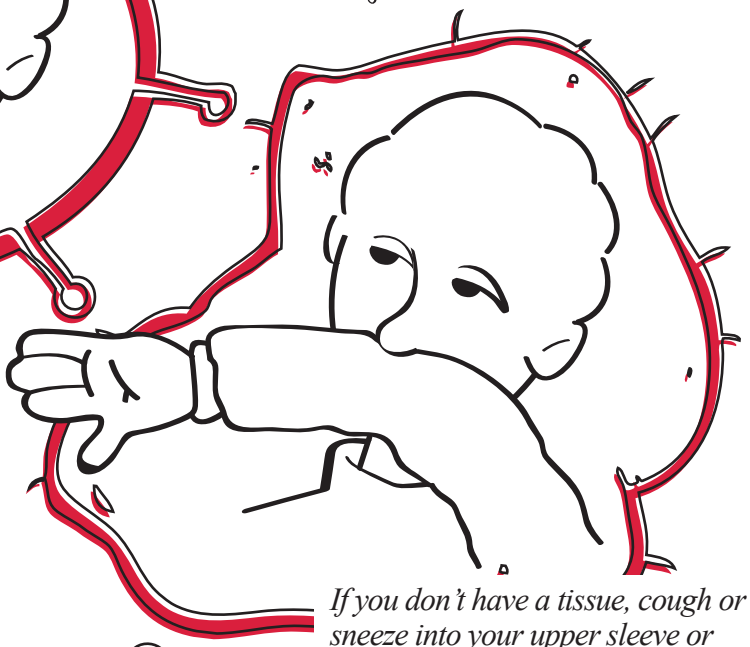
Page last updated: February 2, 2017

Cover your Cough

Stop the spread of germs that can make you and others sick!

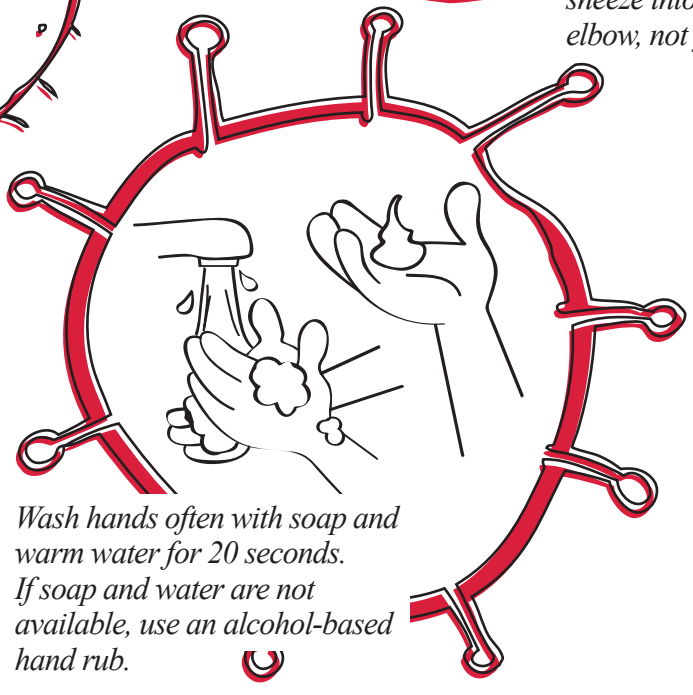
Cover your mouth and nose with a tissue when you cough or sneeze. Put your used tissue in the waste basket.





If you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands.

You may be asked to put on a facemask to protect others.



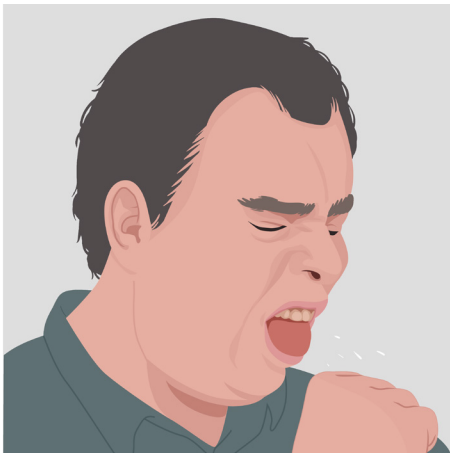
Wash hands often with soap and warm water for 20 seconds. If soap and water are not available, use an alcohol-based hand rub.

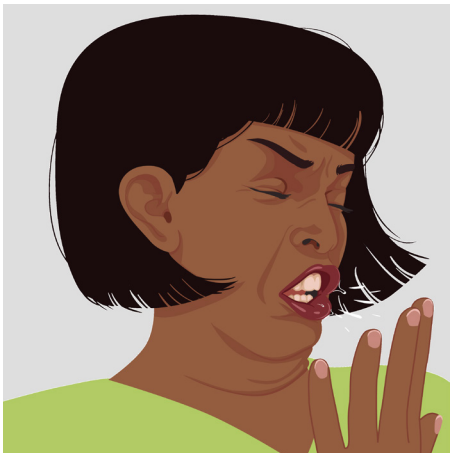
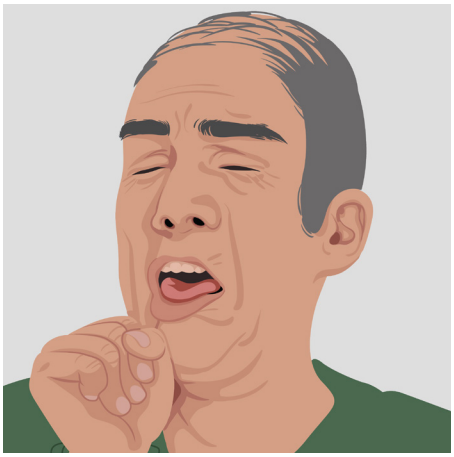
DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

CS208322

Spreading germs is OUT. Handwashing is IN!



Handwashing is one of the most important things we can do to avoid getting sick and spreading germs to others.

Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

www.cdc.gov/handwashing

CS267337-A