Guidelines for Investigating Outbreaks of Influenza-Like Illness or Respiratory Disease

Arizona Department of Health Services

Office of Infectious Disease Services

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Scope of these Guidelines

These guidelines have been created to assist local health departments in Arizona with the investigation of respiratory outbreaks. This document will focus primarily on the investigation and control of influenza and influenza-like illnesses, but will also provide links to resources for the investigation of other respiratory illnesses. Depending on the particular respiratory infection, individual cases may or may not be reportable and/or have public health implications. Outbreak or case control guidelines have been previously created and disseminated for various, specific respiratory infections.

The table below lists some of the reportable morbidities that may have respiratory manifestations. If the etiology of the respiratory outbreak or cluster is known or suspected to be one of these morbidities, please contact the Arizona Department of Health Services (ADHS) program listed for guidance on investigation and control of that cluster, or reference the materials made available on the ADHS website (http://www.azdhs.gov) for those particular morbidities. This list is not meant to be exhaustive of all reportable morbidities with respiratory manifestations; if in doubt about whether a particular communicable morbidity is reportable, please check the Arizona Administrative Code (AAC), R9-6-202 through 205, or the guidelines at http://www.azdhs.gov/phs/oids/reporting/index.htm.

Morbidity (Suspected or Confirmed)	ADHS Program	Contact Information
Tuberculosis	Tuberculosis Control Program	(602) 364-4750
Anthrax Brucellosis Hantavirus Legionellosis Q Fever Pertussis (Whooping cough) Plague Psittacosis Severe Acute Respiratory Syndrome (SARS) Tularemia	Infectious Disease Epidemiology Program	(602) 364-3676

Purpose of Outbreak Investigations for Respiratory Outbreaks

Health care providers, schools, and laboratories are all required to report individual cases, suspected cases, or laboratory reports of specific morbidities to the local or state health departments, as listed in AAC R9-6-202 through 204. The morbidities with respiratory manifestations that are listed in the "Scope" section of this document are included in these reporting rules and should always be reported and investigated. However, there may be additional times when the etiology of a respiratory disease outbreak is unknown, yet has the potential to cause serious, and perhaps preventable, morbidity or mortality.

The purposes of investigating outbreaks of respiratory illness include:

- Identifying respiratory disease outbreaks that can be controlled with public health measures;
- Confirming the etiology of an outbreak, which can facilitate applying appropriate treatment and control measures; and
- Implementing control measures to decrease further disease spread and prevent additional cases.

When to Investigate

Respiratory illnesses are very common at certain times of year, and not every respiratory illness, nor every respiratory illness outbreak, can be investigated. Prioritizing reported cases and outbreaks is critical to ensuring that limited public health resources are used effectively. The investigation of individual cases is required for many reportable morbidities with respiratory manifestations; for many of these morbidities, there are known public health interventions that can make a difference to the community because severe outcomes could occur without public health intervention. However, for outbreaks of other or unexplained respiratory illnesses, there are several factors to examine when deciding if an investigation is warranted, or how to prioritize an investigation. These include:

- **Setting:** Is the outbreak in a setting with a population at increased risk for severe complications to influenza or other respiratory illnesses, such as a long-term care facility, neonatal intensive care unit, or assisted living facility? Is the outbreak among an otherwise vulnerable population?
- **Severity:** Does the illness seem to be particularly severe? Some indicators of severity are: three or more hospitalizations among an outbreak associated with a group setting, two or more deaths, or pneumonia of unknown etiology confirmed by chest x-ray in three or more epidemiologically linked individuals.
- **Timing:** Is the outbreak in the summer or at some other time that is unusual given the respiratory infections known to be circulating?
- **Unusually high morbidity:** Is there high health-related absenteeism (for example greater than 10% absenteeism for three or more days) in a setting such as school, preschool, or childcare center?

Ultimately, the decision of whether to investigate a respiratory disease outbreak must be made on a case-by-case basis, weighing the setting, severity, timing, impact of confirming an etiology, and opportunity for public health intervention.

Definitions

The definitions below may be helpful in describing the type of respiratory outbreak occurring, important settings of respiratory outbreaks, what to consider as an outbreak, and how to classify individual cases. These are intended to be guidelines and can be adapted as needed to a situation. Also, it may be useful to create an outbreak-specific *case* definition for a particular outbreak, with details such as location, facility, timing or other determining factors.

Categories of Respiratory Infections

Acute febrile respiratory infection (AFRI) is defined as an illness with a fever of at least 100°F accompanied by one or more respiratory symptoms (runny nose, sore throat, laryngitis, bronchitis, cough) in the absence of a known cause.

Influenza-like illness (ILI) is defined as an illness with a fever of at least 100°F accompanied by cough or sore throat in the absence of a known cause.

Influenza (or flu) must be laboratory-confirmed by any of a variety of testing methods (rapid influenza diagnostic test (RIDT), direct fluorescent antigen (DFA), viral culture, or reverse-transcriptase polymerase chain reaction (RT-PCR)). Confirmation of compatible clinical symptoms is not necessary for the case definition for influenza, though presumably testing was requested because the patient has an AFRI or ILI. If the case occurs outside of the period with known (laboratory-confirmed) circulation of influenza in the state, confirmation by RT-PCR or culture may be required.

Settings of Importance for Respiratory Outbreaks

The settings listed below are generally considered higher priority for investigation due to the populations involved. However, respiratory outbreaks can occur in other settings and the decision to investigate should be based on the affected population and the resources available.

School, preschool or childcare center: For the purposes of these guidelines, any setting that considers itself a school, preschool, or child care; licensing status is not relevant in defining the outbreak setting. This category is intended to represent settings involving children, group activities, prolonged exposures, and likely sub-optimal personal hygiene in the youngest groups. Young children also tend to have the most viral shedding when infected and can spread virus to the broader community.

Hospitals and medical facilities: For the purposes of these guidelines, the medical facilities of most concern are those licensed medical facilities offering inpatient or overnight care, such as hospital inpatient wards or hospices. This category is intended to represent settings with the extensive presence of medical personnel, and which are congregate facilities with many people who may be unable to respond well to a respiratory infection. Within this category, some facilities or parts of facilities may have persons at much higher risk than in other units; additional types of facilities beyond those listed here may also be important settings for outbreaks, depending on the situation. Licensed facilities that wish to be reimbursed by Medicare or Medicaid are subject to the Centers for Medicare and Medicaid Services (CMS) regulations; for both hospitals and hospices this includes maintaining an active infection control program.

Assisted living facility: An assisted living facility provides supervision or assistance to residents for daily activities and coordinates services with outside health care providers. Assisted living facilities are licensed by the state and must operate under state rules and statutes (A.A.C. 10). They are not eligible for Medicare funding and thus are not subject to CMS regulations. They are not required to have a medical director or to have medical staff; medical care for residents is coordinated with the residents' primary care providers. In Arizona, most facilities are licensed for 10 beds or fewer.

Long-term care facility: A long-term care facility provides supervision and assistance to residents for daily activities, and offers various medical and nursing services in-house. Long-term care facilities are licensed by the state; most participate in and are reimbursed by Medicare and thus are subject to the CMS regulatory requirements. These include requirements for an infection control plan that includes how the facility will investigate, control and prevent infection in the facility. A facility must have a licensed physician designated as the medical director and have sufficient nursing staff to meet the needs of the residents.

Outbreak Definitions

The definition of an outbreak of AFRI, ILI or influenza varies somewhat by setting. The local health department may choose to consider additional scenarios as outbreaks, based on their own judgment of the situation.

- *School, preschool, or childcare center*:
  An outbreak in a school or childcare center is a sudden increase of cases over the normal background rate, OR five cases in one week in an epidemiologically linked group (such as a single classroom, sports team, or after school group).
- *Hospitals and medical facilities*:
  An outbreak of AFRI or ILI in an acute-care hospital is one or more *health care facility-associated* case(s) of confirmed influenza in patient(s), OR three or more *health care facility-associated* cases of AFRI or ILI among health care workers and patients of a facility on the same unit within 72 hours.
- *Assisted living facility*:
  An outbreak of AFRI or ILI in an assisted living home (10 or fewer residents) is three or more cases occurring within 72 hours, OR a sudden increase of cases over the normal background rate. In assisted living centers (11 or more residents), an outbreak is three or more cases of AFRI or ILI occurring within 72 hours in residents who are in close proximity to each other (e.g., in the same area of the facility), OR a sudden increase of cases over the normal background rate. **One case of confirmed influenza by any testing method along with other cases of respiratory infection in an assisted living facility resident is also an outbreak.**
- *Long-term care facility*:
  An outbreak of AFRI or ILI in a long-term care facility is three or more cases occurring within 72 hours in residents who are in close proximity to each other (e.g., in the same area of the facility), OR a sudden increase of cases over the normal background rate. **One case of confirmed influenza by any testing method along with other cases of respiratory infection in a long-term care facility resident is also an outbreak.**

Case classification

In an outbreak in any setting, a confirmed case is a case with laboratory confirmation of the respiratory agent; a probable case is a case that is part of the outbreak but without positive laboratory confirmation.

Initiating the Outbreak Investigation

When the local health department is notified of a potential respiratory outbreak, some basic information should be collected from the reporting facility, which will help determine whether an outbreak exists and how to prioritize an investigation. This basic information includes: symptom profile, how many people are ill, the setting of the outbreak (and any details that will help identify if a vulnerable population is involved), some indication of the severity of the illness, and whether the cases appear to be linked. In answering the last question, the investigator may want to find out if the cases all have similar symptoms, close enough onset dates, and enough potential contact with each other directly or indirectly for the ill cases to reasonably be part of the same outbreak. The local health department will use the information collected from the reporting facility to prioritize the investigation and start the outbreak investigation.

Once an outbreak has been reported to the local health department, the local health department should notify ADHS within 24 hours of the report, using the initial outbreak report form provided by ADHS or another method of notification containing the following information:

- Location/setting of outbreak
- Number of ill cases and susceptible cases (if known)
- Infectious disease etiology suspected
- Date the outbreak was reported to the local health department
- Investigator's contact information

This notification can be used to request ADHS resources, if desired, and also enters the outbreak into the statewide outbreak management tracking which can help identify trends in outbreaks over time and suggest infection control education opportunities, policy needs and other public health measures.

Identifying the Etiology of the Outbreak

While the outbreak control measures for many respiratory diseases are similar, it can be helpful to know the etiology of the outbreak in order to apply disease-specific control measures. Influenza-like illness is defined above; numerous viral illnesses fit that definition and testing can be coordinated through ADHS. Several resources are also available that provide more detail about a broad range of respiratory diseases, which may help in creating a differential diagnosis or a suspect etiology for the outbreak. Please note that testing for some of these respiratory agents may not be available through ADHS.

The **CDC Unexplained Respiratory Disease Outbreak** website provides extensive information about the epidemiology, clinical profile, and risk factors of numerous respiratory diseases, at http://emergency.cdc.gov/urdo/.

The **Oregon Health Services Compendium of Acute Respiratory Diseases** lists symptom profile, incubation period, and mode of transmission for many respiratory illnesses. http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/Outbreaks/Documents/respcompendium.pdf

Creating a Line List of Cases

Creating a line list of outbreak cases is an important step in gathering information, finding out more about the severity and extent of the outbreak, identifying the most likely etiology, and guiding control measures. The line list can be started with the initial cases reported and can then expand as the facility helps fill out information or as more cases become sick. After the outbreak is over, the information collected will also be used to compile an outbreak summary and ultimately can help guide future public health recommendations.

The line list should include basic information about each ill person in the outbreak, their symptoms, and other relevant information. The line list should be tailored to meet the needs of the outbreak. ADHS has created a template line list for respiratory and influenza-like illness outbreaks to help collect critical information for the outbreak (See the Appendix). The template is also coordinated with the outbreak module of the surveillance database (in development) and with the outbreak summary form to facilitate outbreak tracking and wrap-up.

The line list template includes:

- Case identifiers: Case name; MEDSIS ID number; whether the case is a staff, resident, patient, child, or student (depending on the type of facility); age or date of birth; gender; and room/unit or school grade.
- Healthcare visits and outcome: Whether the case visited a health care provider, an emergency department, and/or was hospitalized; the admission date and hospital name, if hospitalized; and whether the case died.
- Laboratory testing: Whether the case had any relevant laboratory testing; whether specimens were sent to the ADHS lab; the collection date and specimen type; and the laboratory results.
- Symptom profile: Onset date; fever; chills; myalgia; cough; runny nose; sore throat; and chest x-ray or CT scan indicative of pneumonia.
- Prophylaxis/vaccination: Antiviral given and date; whether flu vaccine was received this season; and date of vaccination.

Specimen Collection and Laboratory Testing

For an outbreak of influenza-like illness in a medical, assisted living, or long-term care facility in which an etiology has not been identified or for which all influenza confirmation is by rapid diagnostic testing, ADHS requests that respiratory specimens be submitted to the Arizona State Public Health Laboratory (ASPHL). The purpose of the testing is to confirm the etiology of the outbreak, not to test every individual. Local health departments should coordinate with the facility to obtain respiratory specimens for up to six outbreak-associated cases. Once positive test results match for two individuals, additional testing is not necessary. Also, if specimens have been sent to another laboratory for testing, it may be possible to have the same samples sent to ASPHL, rather than redrawing specimens or collecting specimens from additional patients.

As of November 2012, ASPHL offers influenza testing by RT-PCR on all specimens submitted for influenza testing, and viral culture on all specimens that were RT-PCR-negative for influenza and a subset of the PCR-positive specimens. Both testing methods differentiate influenza A (H3), 2009 influenza A (H1N1), and influenza B. Viral culture will also identify parainfluenza, enterovirus, and adenovirus. For outbreaks, additional respiratory viral culture may be available which can identify respiratory syncytial virus (RSV), rhinovirus and cytomegalovirus (CMV).

The following guidelines apply:

- All specimen submissions *must* follow the guidelines in the ASPHL Guide to Laboratory Services: Microbiology, available at http://www.azdhs.gov/lab/microbiology/index.htm, including the Sample Submission Guidelines and Specimen Rejection Policy.
- Each specimen *must* be accompanied by a Microbiology Submission Form, available at http://www.azdhs.gov/lab/documents/microbiology/micro-submission-form.pdf.
- Acceptable specimens for influenza testing include nasopharyngeal swabs, throat swabs, nasal aspirate, bronchial wash, tracheal aspirate, and sputum. Nasopharyngeal swabs are preferred because testing for non-influenza respiratory viruses is restricted to nasopharyngeal and throat swabs only.
- Specimens should be submitted in universal viral transport media, and should be kept cold but not be frozen.
- Turn-around time is 14 days, though results may be available sooner.
- The ideal specimens are from cases with recent onset (generally within the last 48 to 72 hours) and who have not received antivirals. (Do not delay treatment in order to collect specimens, however.)
- Notify ADHS epidemiologists that specimens will be sent to ASPHL, and the names and dates of birth of the cases for whom specimens are being submitted. This will help ensure communication with the local health department about specimen receipt and results, coordination with ASPHL, and also facilitates obtaining additional respiratory virus testing.

Control Measures for Outbreaks of Influenza-like Illness

General Control of Respiratory Illness Outbreaks

The following measures can be applied in a variety of settings and are useful for reducing infections due to influenza and other respiratory illnesses.

- Reinforce good hand hygiene among all (including visitors, staff, residents, students, the public).
- Emphasize respiratory etiquette (cover cough and sneezes with tissue or elbow, dispose of tissues properly, and wash hands for 20 seconds with soap and warm water).
- Provide posters and health education about hand hygiene respiratory etiquette, and flu prevention. There are several posters available to print at http://www.cdc.gov/flu/protect/covercough.htm, http://www.cdc.gov/Features/HandWashing/, and http://www.cdc.gov/flu/freeresources/print.htm.
- Emphasize the importance of early detection of illnesses spread person-to-person and reducing the contact between ill persons and others.
- Encourage regular environmental cleaning with an Environmental Protection Agency (EPA)-registered disinfectant (See http://www.epa.gov/oppad001/influenza-disinfectants.html).
- Encourage high-risk persons and their close contacts (e.g., family members, healthcare staff) to be immunized against influenza according to recommendations from the Advisory Committee on Immunization Practices (ACIP). High-risk persons should also be immunized against pneumococcal disease according to ACIP recommendations (See http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumo.html).
- Promote practicing good personal hygiene, avoiding symptomatic persons during outbreaks, and not working or going to school when ill with a respiratory disease. Cases may return to work/activities 24 hours after fever resolves while off anti-pyretic (fever-reducing) medications (e.g., ibuprofen, acetaminophen).
- Make sure that anyone who may be supervising ill children knows not to give aspirin to children with influenza or other acute respiratory viral illnesses.

See the resource listings at the end of this document for links to current CDC guidelines for influenza, including infection control, antiviral treatment, and laboratory diagnosis.

Schools, Preschools, and Child Care Centers

Influenza and influenza-like illnesses can spread easily among young children, and viral respiratory infections such as respiratory syncytial virus (RSV) and parainfluenza are most prevalent among young children. The control measures for influenza-like illnesses in the school, preschool and child care setting are largely the same as for the general public. When outbreaks are reported from these settings, some of the additional control measures to recommend are listed below. Handouts that can be provided to the schools or child care facilities are included in Appendix 2.

- Encourage students, parents and staff to stay home when sick, until at least 24 hours after they no longer have a fever or signs of a fever (such as chills, flushed appearance, or sweating) without the use of fever-reducing medicine (e.g., ibuprofen, acetaminophen).

- Contacts of ill children or staff should be advised to watch for respiratory disease signs and symptoms, especially fever ("fever watch"), and to notify a designated individual if these develop. In child care settings, young children should be observed for symptoms of respiratory illness.
- Ill individuals should be isolated and kept away from well individuals until they can leave school or child care.
- Consider canceling group activities when significant numbers of participants are ill.
- Discourage sharing water bottles.
- Encourage good hand hygiene (washing with soap and water or use of alcohol-based hand sanitizer) and respiratory hygiene practices (covering nose and mouth when coughing or sneezing) and provide resources for posters and other materials.
- Encourage routine cleaning of surfaces and objects, especially those frequently touched, such as desks, countertops, doorknobs and toys.
    - Closing the facility to clean or disinfect is not generally recommended since most studies have shown that influenza viruses are only infectious on surfaces for two to eight hours.

  The school and/or local health department may, however, decide to close the facility for a short period of time in order to interrupt the chain of transmission if there are many individuals ill, or because there are not enough staff and/or students in attendance to make schooling feasible.

See http://www.cdc.gov/flu/school/ for additional resources on preventing influenza in school and child care settings, guidelines on cleaning and disinfecting in schools, and educational materials.

Hospitals and Medical Facilities

Infection Control

All licensed hospitals and medical facilities that wish to be reimbursed by Medicare or Medicaid must follow the CMS requirements. Each category of licensed medical facility (e.g., hospital, home health agency, end-stage renal disease facility, hospice) has its own specific requirements. Hospitals and hospices are discussed here; the Medicare State Operations Manual located at http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/som107_Appendicestoc.pdf has more complete details on these and additional types of facilities.

Hospitals must have an active infection control program for preventing, controlling and investigating communicable diseases, with a designated person or persons to develop and implement policies to control communicable diseases. The regulations mention the need to address the following in the event of a communicable disease outbreak: transmission among patients, personnel and visitors; identifying exposed or infected persons; providing treatment or prophylaxis. Influenza vaccination is not mandatory for health care workers in Arizona.

Hospices must “maintain and document an effective infection control program” that includes using standard precautions and following accepted standards of practice to prevent transmission of infections; maintaining a program for identifying, preventing and controlling communicable diseases; and providing infection control education to employees, patients and family members.

The following sections should complement the policies and procedures of medical facilities, but are not part of the licensing regulations discussed above.

Prevention Strategies for Seasonal Influenza in Healthcare Facilities

Basic infection control practices such as vaccination, standard precautions, good hand and respiratory hygiene, and restriction of visitors ill with respiratory symptoms should help prevent healthcare-associated outbreaks. CDC recommends the following strategies for preventing influenza in healthcare facilities of all kinds:

- Promote and administer the current season's influenza vaccine to patients and health care personnel, following current vaccination recommendations for the use of nasal and intramuscular influenza vaccines.
- Minimize potential exposures in waiting areas and other parts of the facility. Promote good hand and respiratory hygiene and provide the necessary supplies.
- Monitor and manage ill healthcare personnel. Ensure that healthcare personnel who develop fever and respiratory symptoms are excluded from work until at least 24 hours after fever has resolved (without the use of fever-reducing medicines such as acetaminophen or ibuprofen). It may be beneficial to create leave policies that account for individuals who may not have enough leave to take days off of work at time of illness.
- Adhere to standard precautions for all patients and implement droplet precautions for all patients with suspected or confirmed influenza.
- Use caution when performing aerosol-generating procedures.
- Manage visitor access and movement within the facility, with consideration for protection of both patients and visitors.
- Monitor influenza activity in the community and in the facility. Work with local and state health authorities if an outbreak is detected in the facility.
- Implement environmental and engineering controls to eliminate or reduce exposures to influenza. Examples include standard cleaning and disinfection procedures and the installation of partitions or curtains in shared areas.
- Train and educate healthcare personnel on preventing transmission of infectious agents.
- Administer influenza antiviral chemoprophylaxis and treatment to patients and health care personnel according to current recommendations, when appropriate.

See http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm for additional information.

Identifying and defining an outbreak of influenza or influenza-like illness in an acute care hospital or medical facility may be difficult, since patients ill with influenza may go to the hospital to be diagnosed and treated. An outbreak is defined by transmission within the facility.

In the event of an outbreak or suspected outbreak within a facility, facilities should contact their local health department and review the prevention strategies above to identify areas that can be reinforced. Also, rapid influenza virus testing of patients and personnel with recent onset of symptoms suggestive of influenza may be performed. In the event of transmission with a facility, obtain viral cultures from a subset of patients to determine the infecting virus type and subtype and to confirm the results of rapid tests since most rapid tests are less specific than cultures.

Assisted Living Facilities

The outbreak control measures described below should be implemented whenever there is an outbreak or cluster of influenza-like illness identified in an assisted living facility, *or* if any laboratory-confirmed cases of influenza are identified in these settings along with at least one other respiratory illness. While the involvement of the local health department in controlling these outbreaks may vary across the state, all local health departments can make available laboratory confirmation at the Arizona State Public Health Laboratory (in coordination with ADHS epidemiologists) and recommend control measures to the facility. All licensed assisted living facilities are required under Arizona statute to make influenza and pneumonia vaccinations available on-site annually (Arizona Revised Statute 36-406-1.d). Note: The guidelines below are not part of licensing regulations for the facilities. Handouts that can be provided to the assisted living facilities are included in Appendix 3.

- Encourage laboratory confirmation of the etiological agent of the outbreak. If none of the outbreak cases have been confirmed by RT-PCR or culture, work with ADHS and the facility to offer additional laboratory testing, following the specimen collection and testing section in this document. When possible, specimens should be collected from those patients with recent onset and before receiving antiviral treatment, in order to increase the chances of getting a positive result. (Do not delay treatment in order to collect specimens, however.) Try to collect specimens for three to six ill staff or residents; once several cases of influenza or a different causative agent have been confirmed, additional testing of all ill persons is not necessary.
- Recommend the following infection control guidelines to the facility and work with them as needed for their implementation:
    - Conduct daily active surveillance for new respiratory illness among all residents, and staff with contact with residents, until at least one week after the last confirmed influenza case occurred.
    - Limit the first symptomatic resident and exposed roommate to their room, restrict them from common activities, and serve meals in their rooms, as feasible.
    - If other residents become symptomatic, cancel common activities and serve all meals in resident rooms.
    - Limit visitation, exclude ill visitors, and consider restricting visitation of children via posted notices.
    - Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from resident care until at least 24 hours after they no longer have a fever without the use of fever-reducing medications.
    - If the facility is large, restrict personnel movement from areas of the facility having outbreaks to areas without residents with respiratory symptoms, if possible.
    - Make available the current season's influenza vaccine to unvaccinated residents and personnel with resident contact, as per current CDC and ACIP vaccination recommendations for nasal and intramuscular influenza vaccines (see http://www.cdc.gov/flu/professionals/acip/2013-summary-recommendations.htm for recommendations).
    - Suggest that residents consult their health care provider about obtaining influenza antiviral chemoprophylaxis and treatment. Antiviral treatment or prophylaxis in

residents at high risk for complications of influenza should not be delayed while waiting for test results.

- Consider antiviral chemoprophylaxis for all personnel with resident contact, regardless of their vaccination status, if the health department has announced that the outbreak is caused by a variant of influenza virus that is a sub-optimal match with the vaccine.
- Encourage regular environmental cleaning with an Environmental Protection Agency (EPA)-registered disinfectant (See http://www.epa.gov/oppad001/influenza-disinfectants.html).

Long-Term Care Facilities and Nursing Homes

Infection Control

All licensed long-term care facilities and nursing homes that wish to be reimbursed by Medicare are required under federal regulations to establish an infection control program under which the facility must investigate, control and prevent infections in the facility. Several components and activities are explicitly listed in the regulations as part of an effective infection prevention and control program, including: having policies and procedures consistent with evidence-based infection control practices; conducting surveillance to identify infections that are causing or could cause an outbreak; and educating or training staff on infection control practices. The regulations also state that it is important that facilities know how to recognize and contain infectious outbreaks, and offer three potential ways to define an outbreak:

- One case of an infection that is highly communicable;
- Trends that are 10 percent higher than the historical rate of infection for the facility that may reflect an outbreak or seasonal variation and therefore warrant further investigation; or
- Occurrence of three or more cases of the same infection over a specified length of time on the same unit or other defined areas.

All licensed long-term care facilities are required to offer their residents influenza vaccination annually, between October 1 and March 31, unless medically contraindicated (See http://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm) or the resident has already received the vaccine. The resident's medical record must document that the vaccination was received or that it was not received due to refusal or medical contraindication. The same is true for pneumococcal vaccinations, though on a one-time basis.

Per CDC, health care personnel (e.g., all paid and unpaid workers who have contact with residents and visitors, including volunteer workers) and persons at high risk for complications from influenza, including all residents of long-term care facilities, are recommended to receive annual influenza vaccination according to current national recommendations. The National Healthy People 2020 goal for annual influenza vaccination coverage of residents of all long-term care or nursing home facilities is 90%. Vaccination of health care personnel or staff is not mandatory, though facilities must prohibit employees with a communicable disease from direct contact with residents if the contact will transmit the disease. Some additional information about influenza vaccination:

- Vaccination is the primary measure to prevent influenza, limit transmission, and prevent complications from influenza in long-term care facilities.
- Vaccination of persons 65 years and older does not prevent 100% of influenza infection, but can reduce serious complications from influenza in this population.
- Vaccination rates of 80% and higher among residents have been shown to decrease influenza outbreaks in long-term care facilities.
- Inactivated influenza vaccine or live attenuated influenza vaccine may be used to vaccinate most health care personnel (See http://www.azdhs.gov/flu/documents/influenze-vaccines-licensed.pdf).

The following guidelines for controlling outbreaks of influenza or influenza-like illness are derived from recommendations from CDC and other public health agencies. These should complement the policies and procedures in place within the long-term care facilities, but are not part of the licensing regulations discussed above.

Control Measures for a Suspected or Confirmed Outbreak or Cluster of Influenza

The outbreak control measures described below should be implemented whenever there is an outbreak or cluster of influenza-like illness identified in a long-term care facility or nursing home, *or* if any laboratory-confirmed cases of influenza are identified in these settings along with at least one other respiratory illness . While the involvement of the local health department in controlling these outbreaks may vary across the state, all local health departments may be able to make available laboratory confirmation at the Arizona State Public Health Laboratory (in coordination with ADHS epidemiologists) and recommend control measures to the facility. Handouts that can be provided to the long term care facilities are included in Appendix 4.

- Encourage laboratory confirmation of the etiological agent of the outbreak. If none of the outbreak cases have been confirmed by RT-PCR or culture, work with ADHS and the facility to offer additional laboratory testing, following the specimen collection and testing section in this document. When possible, specimens should be collected from those patients with recent onset and before receiving antiviral treatment, in order to increase the chances of getting a positive result. (Do not delay treatment in order to collect specimens, however.) Try to collect specimens for three to six ill staff or residents; once several cases of influenza or a different causative agent have been confirmed, additional testing of all ill persons is not necessary.
- Recommend the following infection control guidelines to the facility and work with them as needed for their implementation:
    - Conduct daily active surveillance for respiratory illness among all residents, and staff with contact with residents, until at least one week after the last confirmed influenza case occurred.
    - Implement droplet precautions for all residents with suspected or confirmed influenza; maintain standard precaution for all residents.
    - Limit the first symptomatic resident and exposed roommate to their room, restrict them from common activities, and serve meals in their rooms, as feasible.
    - If other patients become symptomatic, cancel common activities and serve all meals in patient rooms.
    - Limit new admissions, and do not admit new residents to units where residents are ill. If all ill patients are on specific wards, do not move patients to other wards.

- Limit visitation, exclude ill visitors, and consider restricting visitation of children via posted notices.
- Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from resident care until at least 24 hours after they no longer have a fever without the use of fever-reducing medications.
- Restrict personnel movement from areas of the facility having outbreaks to areas without patients with respiratory symptoms, if possible.
- Administer the current season's influenza vaccine to unvaccinated residents and health care personnel as per current CDC and ACIP vaccination recommendations for nasal and intramuscular influenza vaccines (see http://www.cdc.gov/flu/professionals/acip/2013-summary-recommendations.htm for recommendations).
- Administer influenza antiviral chemoprophylaxis and treatment to residents and health care personnel according to current recommendations (See http://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm). Antiviral treatment or prophylaxis should not be delayed while waiting for test results.
- Consider antiviral chemoprophylaxis for all health care personnel, regardless of their vaccination status, if the health department has announced that the outbreak is caused by a variant of influenza virus that is a sub-optimal match with the vaccine.

See also: http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm and http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm.

Monitoring and Wrap-up

During the outbreak, the local health department should continue to work with the facility to:

- Identify whether there are new cases or continuing transmission;
- Maintain a line list;
- Implement additional control measures as needed;
- Submit additional specimens to ASPHL for untreated cases with new onset, if outbreak etiology has not yet been confirmed;
- Identify when two incubations (8 days) have passed since the last suspected exposure. At this point, consider the outbreak closed, though advise the facility to alert the health department if additional cases are discovered.

Continue to update ADHS about the outbreak status throughout the course of the outbreak, and advise when the outbreak is closed.

Submit the Outbreak Summary Form within 30 days after outbreak closure.

If desired, write up the outbreak. Write-up can be shared with ADHS but is not required. Submission of the line list is also not required.

Additional Resources

ADHS Outbreak and Investigation Resources

Infectious Disease Outbreak Investigation and Management website:

Reporting requirements, goals, forms, and links to other resources.
http://www.azdhs.gov/phs/oids/epi/outbreak-investigation-management.htm

Guide to Laboratory Services: Microbiology:

The official guide from the state public health laboratory regarding specimen submission and testing. http://www.azdhs.gov/lab/documents/microbiology/lab-guide.pdf

Outbreak Laboratory Manual:

Additional information about testing available at the state public health laboratory, and submission guidelines. http://www.azdhs.gov/phs/oids/epi/pdf/Outbreak_Lab_Manual.pdf

Foodborne and Waterborne Disease Outbreak Investigation Resource Manual:

Additional information about investigating outbreaks and some of the epidemiological principles involved, such as creating a line list or an epidemic curve.
http://www.azdhs.gov/phs/oids/pdf/manuals/AZOutbreakManual.pdf

Healthcare-Associated Infection Evidence-Based Guidance:

Compilation of infection prevention strategies, including a section for long term care facilities.
http://www.azdhs.gov/phs/oids/hai/Prevention.htm

Communicable Disease Reporting:

Complete information on which morbidities and laboratory tests are reportable in Arizona.
http://www.azdhs.gov/phs/oids/reporting/index.htm

Communicable Disease Resource List:

Information and resources available at ADHS for various communicable disease morbidities. Not all conditions on this list are reportable, but this list will help connect to more extensive investigation and control guidelines, when available. http://www.azdhs.gov/phs/oids/diseases.htm

Investigation Forms:

Investigation forms used in Arizona for various communicable diseases. Some of the forms are CDC forms; some were developed by ADHS and local health partners in Arizona. The Outbreak Summary Form is available here. http://www.azdhs.gov/phs/oids/investigations/forms.htm

Influenza, Respiratory Outbreak, and Infection Control Resources from CDC and other Federal Agencies

Many of the control recommendations in this document are derived from the material below. Additional CDC resources are also listed.

Infection Control

Health Care Facilities (including but not limited to: acute-care hospitals; long-term care facilities, such as nursing homes and skilled nursing facilities; physicians' offices; urgent-care centers, outpatient clinics; and home healthcare):

- Guidelines and educational materials: http://www.cdc.gov/flu/professionals/infectioncontrol/
- Infection control guidelines and recommendations from the Healthcare Infection Control Practices Advisory Committee: http://www.cdc.gov/HAI/prevent/prevent_pubs.html

Long-Term Care Facilities:

- Influenza outbreak management in long-term care facilities: http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm
- General infection control in long-term care facilities: http://www.cdc.gov/HAI/settings/ltc_settings.html
- Prevention of Influenza in Long-Term-Care Facilities: The position paper from the Society for Healthcare Epidemiology of America (SHEA), 1999, is available free by visiting the journal's website at http://www.jstor.org/stable/10.1086/iche.1999.20.issue-9.
  Bradley SF, The Long-Term-Care Committee of the Society for health-care Epidemiology of America. Infect Control Hosp Epidemiol 1999;20:629-37

Schools and Child Care Settings:

- Controlling influenza in child care settings: http://www.cdc.gov/flu/school/index.htm
- Educational materials for schools and child care settings, and information on cleaning and disinfecting: http://www.cdc.gov/flu/school/guidance.htm

Vaccination, Laboratory Diagnosis, and Antivirals

- **Influenza Vaccination** Resources (including vaccination recommendations): http://www.cdc.gov/flu/professionals/vaccination/index.htm
- **Pneumococcal Disease** Resources (including vaccination recommendations): http://www.cdc.gov/vaccines/vpd-vac/pneumo/default.htm
- **Laboratory Diagnosis of Influenza** (including guidance on the use of rapid influenza diagnostic tests): http://www.cdc.gov/flu/professionals/diagnosis/
- **Antiviral Drugs** (use of antiviral agents for treatment and chemoprophylaxis of influenza): http://www.cdc.gov/flu/professionals/antivirals/index.htm

Unexplained Respiratory Disease Outbreaks

- Background, guidance and resources for public health professionals investigating outbreaks of respiratory infections of unknown etiology. http://emergency.cdc.gov/urdo/

Medicare State Operations Manual

- Contains the Survey Protocol, Regulations and Interpretive Guidelines for state licensing agencies to use when assessing compliance with CMS regulations. Each type of facility (e.g., hospital, long-term care facility, hospice) has a separate section. http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/som107_Appendicestoc.pdf

Registered Environmental Cleaning Products

- Environmental Protection Agency (EPA) list of products registered for use against influenza A. http://www.epa.gov/oppad001/influenza-disinfectants.html or http://www.epa.gov/oppad001/influenza-a-product-list.pdf

Posters and other Educational Materials for Preventing the Spread of Flu

- http://www.cdc.gov/flu/freeresources/print.htm
- http://www.cdc.gov/flu/protect/habits/
- http://www.cdc.gov/flu/protect/covercough.htm
- http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm
- Hand hygiene information and posters are available at http://www.cdc.gov/handhygiene/index.html

Influenza or Respiratory Outbreak Resources from Other Health Departments

We would like to acknowledge the documents below as a source for many of the materials and concepts used to develop these guidelines. They can also serve as additional resources for those involved in investigating and controlling respiratory or influenza outbreaks.

Oregon Public Health Department

Respiratory Disease Outbreak Investigation website, including the Compendium of Respiratory Diseases and the Respiratory Disease Outbreak Investigation Guidance
http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/Outbreaks/Pages/respdisease.aspx

New York State Department of Health

Recommendations for Follow-up of Respiratory Disease Outbreaks of Influenza and Influenza-like Illness in Health Care Facilities
http://www.health.ny.gov/diseases/communicable/control/respiratory_disease_checklist.htm

County of Los Angeles (California) Public Health Department

Acute Communicable Disease Control Manual: see sections on Influenza and Respiratory Disease
http://www.publichealth.lacounty.gov/acd/procs/b73/B73Index.htm

Maryland Infectious Disease and Environmental Health Administration

Guidelines for the Prevention and Control of Upper and Lower Acute Respiratory Illnesses (including Influenza and Pneumonia) in Long Term Care Facilities
http://ideha.dhmh.maryland.gov/IDEHASharedDocuments/guidelines/Respiratory_guidelines.pdf

List of Acronyms

AAC: Arizona Administrative Code

The official rules for the state of Arizona that govern state agencies, boards, and commissions. Includes the reporting rules for communicable disease as well as rules for the licensing of health facilities. Published by the Secretary of State's Office. http://www.azsos.gov/public_services/table_of_contents.htm

ACIP: Advisory Committee on Immunization Practices

The group composed of 15 health professionals knowledgeable about vaccinations, public health, preventive medicine or other specified expertise, which advises CDC on the recommended use of vaccines in the civilian population. Non-voting representatives from various health-related federal agencies and professional organizations are also part of the committee. Recommendations include the population groups and/or circumstances for which a vaccine is recommended; appropriate route, dose, and frequency of administration; and contraindications or precautions. Recommendations approved by ACIP are published and disseminated by CDC. http://www.cdc.gov/vaccines/acip/index.html

ADHS: Arizona Department of Health Services

Arizona's state health department. Works closely with local health departments and CDC; develops state level rules and guidelines. The Office of Infectious Disease Services, Division of Licensing, and Bureau of State Laboratory Services are all part of ADHS. http://www.azdhs.gov

AFRI: Acute febrile respiratory infection

An illness with a fever of at least 100°F accompanied by one or more respiratory symptoms (runny nose, sore throat, laryngitis, bronchitis, cough) in the absence of a known cause.

ASPHL: Arizona State Public Health Laboratory

The Bureau of State Laboratory Services with the Arizona Department of Health Services serves as a reference laboratory for many of the hospital or commercial laboratories in the state, and can provide testing services that are critical to public health but may not be widely available commercially for numerous reasons (cost effectiveness, relevance for clinical care, etc.). http://www.azdhs.gov/lab/

CDC: Centers for Disease Control and Prevention

The federal agency within the Department of Health and Human Services that develops much of the public health guidelines and recommendations used nationally. http://www.cdc.gov

CMS: Centers for Medicare and Medicaid Services

The federal agency within the Department of Health and Human Services that oversees Medicare and Medicaid. Facilities that wish to be reimbursed for patients on either insurance must be able to show compliance with the CMS regulations for their facility type. http://www.cms.gov/

ILI: Influenza-like illness

An illness with a fever of at least 100°F accompanied by cough or sore throat in the absence of a known cause.

RT-PCR: Reverse-transcriptase polymerase chain reaction

A molecular laboratory testing methodology. Along with culture or viral isolation, RT-PCR provides more accurate results than some of the rapid diagnostic tests and is often used at the beginning of the influenza season to confirm the first cases or during outbreaks or for other cases when confirmation of results is particularly important. RT-PCR can be performed at the Arizona State Public Health Laboratory and a few other specialized laboratories in the state, and can provide information on the influenza subtype.

Appendix 1: Line List Template

Ideally, the line list will be created in a spreadsheet program, such as Microsoft Excel, with one row or line for each case/patient, and all variables lined up left to right. The line list is shown here in blocks for readability. An Excel version is available.

RESPIRATORY/INFLUENZA-LIKE ILLNESS OUTBREAK LINE LIST

Name of Facility:

Outbreak ID:

PATIENT/CASE IDENTIFIERS						HEALTHCARE VISITS AND OUTCOME					
Case Name	MEDSIS ID (if available)	Staff, Resident, Patient, Child, Student (S/R/P/C/Stu)	Age (years) or Date of Birth	Gender (F/M/U)	Room/ Unit Number or Grade	Visited Health Care Provider (Y/N/U)	Visited the ED (Y/N/U)	Hospitalized (Y/N/U)	Hospital Admit Date (mm/dd/yy)	Hospital Name	Died (Y/N/U)
OD	09-1052575	R	75	M	Unit 3A	Y	N	Y	11/29/09	My Hospital	N
QH	09-1056861	S	20	F		Y	Y	N			N

LABORATORY TESTING				
Lab Testing at Any Lab (Y/N/U)	Specimens sent to ADHS Lab (Y/N/U)	Collection Date (mm/dd/yy)	Specimen Type	Lab result
Y	Y	9/26/09	NP Swab	PCR Positive for Influenza A
Y	N	9/26/09	Nasal swab	Rapid test Negative for Influenza A and B

SYMPTOM PROFILE							
Symptom Onset Date (mm/dd/yy)	Fever (Y/N/U)	Chills (Y/N/U)	Myalgia (Y/N/U)	Cough (Y/N/U)	Runny Nose (Y/N/U)	Sore Throat (Y/N/U)	Chest X-Ray or CT Scan indicative of Pneumonia (Pos/Neg/NA)
9/20/09	Y	N	Y	Y	Y	Y	Pos
9/24/09	Y	Y	Y	Y	Y	N	NA

PROPHYLAXIS/ VACCINATION		
Antiviral & Date	Flu Vaccine this season (Y/N/U)	Date of Flu Vaccine this season
Tamiflu 9/26	N	
N	Y	9/10/09

Appendix 2: Handout: Influenza-Like Illness Outbreak Control Guidelines for Schools and Child Care Facilities

Appendix 3: Handout: Influenza-Like Illness Outbreak Control Guidelines for Assisted Living Facilities

Appendix 4: Handout: Influenza-Like Illness Outbreak Control Guidelines for Long-Term Care Facilities

The handouts for these three types of outbreak settings are provided on the next pages. These are intended to be provided to facilities that the local health departments may be assisting during outbreak investigations, or can be disseminated during other times as educational materials.

Influenza-like Illness Outbreak Control Guidelines

Schools and Child Care Facilities

What is Influenza-Like Illness?

Influenza-like illness (ILI) is an illness with a fever of at least 100°F accompanied by cough or sore throat in the absence of a known cause. Other symptoms of influenza (flu) may be runny or stuff nose, body aches, headache, chills, or tiredness.

What is an Influenza-Like Illness Outbreak in a school or child care facility?

- Five cases in one week in a group of individuals that are part of a common group, such as a single classroom, sports team, or after-school group, OR
- A sudden increase of cases over the normal background rate.

The school or child care facility should use its own judgment to identify a "sudden increase of cases". There may be many children absent because of influenza-like illness, or numerous parental reports of influenza, or many children who seem to have symptoms but did not have their temperature taken. If in doubt, consider it a possible outbreak, implement the control measures on the next page, and call the health department.

Whom should I call?

Please contact your local health department if you have an ILI outbreak in your facility, or if you are concerned about an increase in communicable illnesses of any kind. The health department may be able to suggest control measures or help identify the cause of the outbreak, and can facilitate laboratory testing in some situations. Local health department phone numbers can be found here: http://www.azdhs.gov/phs/oids/contacts.htm#L

What type of information should I collect?

When you speak to the health department, they will usually ask some of the questions below. Please call sooner rather than later, even if you don't know all the answers at first. The health department can start to work with you while you collect more information.

- How many people are sick? Are the ill students concentrated in one classroom or grade? Are they all part of the same group activity?
- What are their symptoms?
- Have any of the parents or students mentioned a specific diagnosis from a doctor?
- Do you know how many students are usually absent on a normal school day?
- What, if anything, have you done already to try to stop the spread of infection?

The health department may ask you to put this information into a "line list", which is a list of all the people who are sick and basic information such as their ages, their symptoms, and whether they received flu shots this year. They will provide you with a template to use and guide you through the process.

Control Measures for Schools and Child Care Facilities

Work with the local health department to determine the control measures most appropriate for your facility.

General Disease Control and Prevention

- Teach and reinforce good hand hygiene and respiratory etiquette among students and children, staff, and parents.
    - This means washing hands with soap and water, or using alcohol-based hand sanitizers if soap and water are not available, and covering nose and mouth with a disposable tissue or a sleeve when coughing or sneezing.
    - Printable posters designed for schools are available at http://www.cdc.gov/flu/school/.
    - Make sure that adequate supplies of soap and tissues are available and that everyone has access to them.
    - Encourage students and staff to keep their hands away from their eyes, nose and mouth.
- Encourage students, parents and staff to stay home when sick, until at least 24 hours after they no longer have a fever or signs of a fever (such as chills, flushed appearance, or sweating) without the use of fever-reducing medicine (e.g., ibuprofen, acetaminophen).
- Contacts of ill children or staff should be advised to watch for respiratory disease signs and symptoms, especially fever ("fever watch"), and to notify a designated individual if these develop. In child care settings, young children should be observed for symptoms of respiratory illness.
- Make sure that anyone who may be supervising ill children knows not to give aspirin to children with influenza or other acute respiratory viral illnesses.

Reducing Exposures

- Anyone who gets flu-like symptoms while at school or child care should go home or to a doctor. Sick individuals should be kept away from healthy individuals until they can leave school or child care.
- Consider canceling group activities when significant numbers of participants are ill.
- Discourage sharing water bottles or other similar items.
- Ensure that surfaces are routinely cleaned with an Environmental Protection Agency (EPA)-registered disinfectant. (See http://www.epa.gov/oppad001/influenza-disinfectants.html.) This is especially important for surfaces and objects that are frequently touched, such as desks, countertops, doorknobs, computer keyboards, phones, and toys.
    - Closing the facility to clean or disinfect is not generally recommended since most studies have shown that influenza viruses are only infectious on surfaces for two to eight hours.

Vaccination and Antiviral Medications

- Encourage parents and staff to get a yearly flu vaccination for themselves and their children. Annual flu vaccinations are now recommended for most people 6 months and older and are the best way to protect against flu. (See http://www.cdc.gov/flu/professionals/acip/2013-summary-recommendations.htm.)

See http://www.cdc.gov/flu/school/ for additional resources on preventing influenza in school and child care settings, guidelines on cleaning and disinfecting in schools, and educational materials.

Influenza-like Illness Outbreak Control Guidelines

Assisted Living Facilities

What is Influenza-Like Illness?

Influenza-like illness (ILI) is defined as an illness with a fever of at least 100°F accompanied by cough or sore throat in the absence of a known cause.

What is an Influenza-Like Illness Outbreak?

- In an assisted living home (10 or fewer residents), three or more cases occurring within 72 hours, or in an assisted living center (11 or more residents), three or more cases occurring within 72 hours among residents who are in the same area of the facility, OR
- A sudden increase of cases over the normal background rate, OR
- **One case of influenza confirmed by any laboratory testing method along with other cases of respiratory infection in the facility.**

Whom should I call?

Please contact your local health department if you have an ILI outbreak in your facility, or if you are concerned about an increase in communicable illnesses of any kind. The health department may be able to suggest control measures or help identify the cause of the outbreak, and may be able to facilitate laboratory testing. Local health department phone numbers can be found here: http://www.azdhs.gov/phs/oids/contacts.htm#L

What type of information should I collect?

When you speak to the health department, they will usually ask some of the questions below. Please call sooner rather than later, even if you don't know all the answers at first. The health department can start to work with you while you collect more information.

- How many people are sick? How many staff and how many residents? Approximately how many residents (ill and healthy) are in your facility at this time?
- What are their symptoms?
- Has anyone been hospitalized for this illness?
- Has anyone received laboratory testing, and were any infectious agents identified?
- What, if anything, have you done already to try to stop the spread of infection?

The health department may ask you to put this information into a "line list", which is a list of all the people who are sick and basic information such as their ages, their symptoms, and whether they received flu shots this year. The health department will provide you with a template to use and guide you through the process.

If the health department can provide laboratory testing, what specimens should I collect?

- Nasopharyngeal swabs are preferred, must be in viral transport media, and should be kept cold but not frozen.
- Specimens should be collected from three to six residents with recent onset (within 48-72 hours) who have not yet received antiviral treatment. Do not delay antiviral treatment in order to collect specimens.
- Wait until the health department says they can provide testing before collecting specimens.

Control Measures for Assisted Living Facilities

Work with the local health department to determine the control measures most appropriate for your facility.

General Infection Control

- Reinforce good hand hygiene and respiratory etiquette, such as washing hands thoroughly and covering coughs and sneezes, among visitors, staff, and residents. Printable posters are available in the Educational Resources at http://www.cdc.gov/flu/professionals/infectioncontrol/.
- Remind staff that they need to stay home when ill with a respiratory disease.
- Every day, look for new cases of respiratory illness among all residents and staff with contact with residents, until at least one week after the last case became sick.

Reducing Exposures

- Limit the first symptomatic resident and exposed roommate to their room, restrict them from common activities, and serve meals in their rooms, as feasible.
- If other residents become symptomatic, cancel common activities and serve all meals in resident rooms.
- Limit visitation, exclude ill visitors, and consider restricting visitation of children via posted notices.
- Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from resident care until at least 24 hours after they no longer have a fever without the use of fever-reducing medications.
- If the facility is large, restrict personnel movement from areas of the facility having outbreaks to areas without residents with influenza, if possible.
- Ensure that surfaces are routinely cleaned with an Environmental Protection Agency (EPA)-registered disinfectant. (See http://www.epa.gov/oppad001/influenza-disinfectants.html.) This is especially important for surfaces and objects that are frequently touched, such as desks, countertops, doorknobs, computer keyboards, and phones.

Vaccination and Antiviral Medications

- Make available the current season's influenza vaccine to unvaccinated residents and personnel with resident contact as per current CDC recommendations for influenza vaccines. High-risk persons should also be immunized against pneumococcal disease according to CDC recommendations. (See http://www.cdc.gov/flu/professionals/acip/index.htm and http://www.cdc.gov/vaccines/hcp/acip-recs/index.html).
- Suggest that residents consult their health care provider about obtaining influenza antiviral chemoprophylaxis and treatment. Antiviral treatment or prophylaxis in residents at high risk for complications of influenza should not be delayed while waiting for test results.
- Consider antiviral chemoprophylaxis for all personnel with resident contact, regardless of their vaccination status, if the health department has announced that the outbreak is caused by a variant of influenza virus that is a sub-optimal match with the vaccine.

Influenza-like Illness Outbreak Control Guidelines

Long-Term Care Facilities

What is Influenza-Like Illness?

Influenza-like illness (ILI) is defined as an illness with a fever of at least 100°F accompanied by cough or sore throat in the absence of a known cause.

What is an Influenza-Like Illness Outbreak in a long-term care facility?

- Three or more cases occurring within 72 hours in residents who are in close proximity to each other (e.g., in the same area of the facility), OR
- A sudden increase of cases over the normal background rate, OR
- **One case of influenza confirmed by any laboratory testing method along with other cases of respiratory infection in the facility.**

Whom should I call?

Please contact your local health department if you have an ILI outbreak in your facility, or if you are concerned about an increase in communicable illnesses of any kind. The health department may be able to suggest control measures or help identify the cause of the outbreak, and may be able to facilitate laboratory testing. Local health department phone numbers can be found here: http://www.azdhs.gov/phs/oids/contacts.htm#L

What type of information should I collect?

When you speak to the health department, they will usually ask some of the questions below. Please call sooner rather than later, even if you don't know all the answers at first. The health department can start to work with you while you collect more information.

- How many people are sick? How many staff and how many residents? Approximately how many residents (ill and healthy) are in your facility at this time?
- What are their symptoms?
- Has anyone been hospitalized for this illness?
- Has anyone received laboratory testing, and were any infectious agents identified?
- What, if anything, have you done already to try to stop the spread of infection?

The health department may ask you to put this information into a "line list", which is a list of all the people who are sick and basic information such as their ages, their symptoms, and whether they received flu shots this year. The health department will provide you with a template to use and guide you through the process.

If the health department can provide laboratory testing, what specimens should I collect?

- Nasopharyngeal swabs are preferred, must be in viral transport media, and should be kept cold but not frozen.
- Specimens should be collected from three to six patients with recent onset (within 48-72 hours) who have not yet received antiviral treatment. However, do not delay antiviral treatment in order to collect specimens.
- Wait until the health department says they can provide testing before collecting specimens.

Control Measures for Long-Term Care Facilities

Work with the local health department to determine which control measures are most appropriate for your facility.

General Infection Control

- Reinforce good hand hygiene and respiratory etiquette, such as washing hands thoroughly and covering coughs and sneezes, among visitors, staff, and residents. Printable posters are available in the Educational Resources at http://www.cdc.gov/flu/professionals/infectioncontrol/.
- Remind staff that they need to stay home when ill with a respiratory disease.
- Every day, look for new cases of respiratory illness among all residents, and staff with contact with residents, until at least one week after the last case became sick.
- Implement droplet precautions for all residents with suspected or confirmed influenza; maintain standard precaution for all residents.

Reducing Exposures

- Limit the first symptomatic resident and exposed roommate to their room, restrict them from common activities, and serve meals in their rooms, as feasible.
- If other patients become symptomatic, cancel common activities and serve all meals in patient rooms.
- Limit new admissions, and do not admit new residents to units where residents are ill. If all ill patients are in specific wards, do not move patients to other wards.
- Limit visitation, exclude ill visitors, and consider restricting visitation of children via posted notices.
- Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from resident care until at least 24 hours after they no longer have a fever without the use of fever-reducing medications.
- Restrict personnel movement from areas of the facility having outbreaks to areas without patients with influenza, if possible.
- Ensure that surfaces, especially those that are frequently touched, are routinely cleaned with an Environmental Protection Agency (EPA)-registered disinfectant. (See http://www.epa.gov/oppad001/influenza-disinfectants.html.)

Vaccination and Antiviral Medications

- Administer the current season's influenza vaccine to unvaccinated residents and health care personnel as per current CDC recommendations for nasal and intramuscular influenza vaccines. High-risk persons should also be immunized against pneumococcal disease according to CDC recommendations. (See http://www.cdc.gov/flu/professionals/acip/index.htm and http://www.cdc.gov/vaccines/hcp/acip-recs/index.html and http://www.azdhs.gov/flu/documents/influenze-vaccines-licensed.pdf).
- Administer influenza antiviral chemoprophylaxis and treatment to residents and health care personnel according to current recommendations. Antiviral treatment or prophylaxis should not be delayed while waiting for test results (See http://www.cdc.gov/flu/professionals/antivirals/index.htm).
- Consider antiviral chemoprophylaxis for all health care personnel, regardless of their vaccination status, if the health department has announced that the outbreak is caused by a variant of influenza virus that is a sub-optimal match with the vaccine.

See also: http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm, http://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm and http://www.cdc.gov/HAI/settings/ltc_settings.html