

Guidance for the Prevention and Control of Respiratory Illnesses

Maryland Department of Health

Infectious Disease Epidemiology and Outbreak Response Bureau

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I. Introduction

Each year respiratory viruses, like influenza (flu), SARS-CoV-2 (COVID-19), and respiratory syncytial virus (RSV), are responsible for outbreaks, hospitalizations, and serious complications such as death. Respiratory infections can easily spread in healthcare facilities, residential facilities, and other settings where people are in close proximity, including schools, and detention centers. While there are many respiratory pathogens that cause infection, many respiratory illnesses share similar modes of transmission, risk factors, and infection prevention and control strategies.

Respiratory pathogens can make anyone sick, however, some people are at an increased risk of being affected by respiratory pathogens due to age, health conditions, and certain behaviors. Generally, people at higher risk of severe illness are adults 65 years or older, children younger than 5, people with compromised immune systems and other underlying health conditions (e.g., COPD, heart disease, asthma, diabetes), people with disabilities, and pregnant people. The prevention and rapid control of respiratory outbreaks in healthcare and community settings is important due to the elevated risk of severe disease.

The number of influenza and respiratory syncytial virus (RSV) outbreaks often increases during the fall and winter months, while other respiratory infections may occur year-round or at different times each year. COVID-19 activity also tends to increase during winter months, but surges can occur at other times of the year as well.

Similarly to influenza and RSV, pneumonia infections and outbreaks generally increase during the fall and winter seasons, but pneumonia infections may be caused by different viruses, bacteria, and fungi. Viral and bacterial infections that commonly cause pneumonia include human metapneumovirus, human parainfluenza virus, *Mycoplasma pneumoniae*, and *Streptococcus pneumoniae*. Healthcare providers are not always able to find out which pathogen caused someone to get sick with pneumonia and other respiratory illnesses.

Vaccines are the most effective tools for preventing infection and severe illness. Available vaccines for the prevention of respiratory infections in adults include COVID-19, influenza, pneumococcal, and RSV vaccines.

This document provides guidance on the prevention and control of respiratory illness outbreaks in residential and non-residential healthcare and community settings. This document applies to all upper and lower respiratory illness outbreaks, including those with unknown etiology. Respiratory illness outbreaks should be evaluated on an individual basis and in consultation with the local and state health departments to determine the appropriate steps for prevention and control.

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II. Disease Description

Mode of Transmission: Agents that cause respiratory infections are generally spread by respiratory droplets, which are released from the mouth and nose by coughing, sneezing, singing, and talking, and by indirect contact with contaminated hands or objects contaminated with respiratory secretions. Fecal-oral transmission also occurs with certain viruses that can cause respiratory illness.

Clinical Characteristics:

Infections with COVID-19, influenza, RSV, and other respiratory pathogens have similar and overlapping clinical presentations. Symptoms and signs of acute respiratory illness may include:

- Recent onset of new or worsening respiratory symptoms, such as cough, difficulty breathing, sore throat, runny nose, and blocked or stuffy nose
- Headache, muscle aches, fatigue, nausea or vomiting, and diarrhea
- Loss of smell, loss of taste, and loss of appetite
- Fever

Pneumonia can be a mild or severe illness. Signs and symptoms can include cough, shortness of breath, rapid breathing, chest pain, fever, fatigue, vomiting, and nausea. The duration of symptoms can vary. Pneumonias are usually, though not always, detectable by radiographs such as chest X-rays or chest CT scans. In people who have abnormal chest X-rays at baseline, X-ray changes indicating pneumonia can sometimes be difficult to discern. Early in illness, the chest X-ray can sometimes appear normal, so a “negative” chest radiograph does not always rule out pneumonia.

It is not possible to distinguish the causative agent of a respiratory illness based on clinical presentation alone. Laboratory testing can help differentiate the cause of one respiratory illness from that of another.

Incubation Period: Incubation periods of respiratory illnesses vary based on the causative agent (refer to Table 1) but generally range from 1 to 10 days.

Table 1. Incubation periods for common agents that cause respiratory illness

Causative Agent	Incubation period, average	Incubation period, range	Period of communicability
Influenza	2 days	1-4 days	The day before onset until 5 to 10 days after onset. The amount of virus shed is highest during the first 3 to 5 days of symptoms. Children and people who are immunocompromised may shed virus for a longer time period.
SARS-CoV-2	4-5 days	2-14 days	Still under investigation. Considered to be 2 days before until 10 days after the onset of symptoms (or date of specimen collection if asymptomatic) in most cases. Individuals with severe illness, a longer duration of symptoms and/or fever, or who are immunocompromised may be infectious longer.

Parainfluenza virus	3-5 days	2-7 days	Most contagious during the early stage of illness, but children with primary infection can shed virus up to 1 week before onset and up to 1 to 3 weeks after symptoms have ended.
Respiratory syncytial virus (RSV)	4-6 days	2 to 8 days	3 to 8 days, but can be 3 to 4 weeks in immunocompromised people
Human metapneumovirus	3-5 days	Possibly up to 9 days	1 to 2 weeks in healthy infants, can be weeks to months in immunocompromised people
Rhinovirus	2-3 days	Up to 7 days	Shedding is highest the first 2 to 3 days of infection and usually stops by 7 to 10 days but can last up to 3 weeks.
<i>Strep pneumoniae</i>	As short as 1 to 3 days	Unknown, infection can be preceded by asymptomatic carriage	No longer communicable within 24 hours after starting effective antibiotic therapy
<i>Legionella</i>	5-6 days	2-14 days	Not communicable from person to person
<i>Mycoplasma pneumoniae</i>	2-3 weeks	6-32 days	Probably less than 20 days. Treatment reduces carriage but the organism can still persist.

III. Outbreak Key Terms and Definitions

1) **Clinical Case Definitions:**

- **COVID-19:** An individual with laboratory confirmation of SARS-CoV-2 by an approved laboratory test for acute infections (i.e., antigen or PCR), regardless of the presence of signs and symptoms.
- **Influenza-like illness (ILI):** An individual with a temperature of 100°F (37.8°C) or greater orally **PLUS** cough or sore throat.
- **Influenza:** An individual with laboratory confirmation of influenza, and a clinically compatible illness.
- **Pneumonia:** A clinically compatible illness, **PLUS** a new X-ray finding of pneumonia or a new infiltrate that is not thought to be aspiration pneumonia.
 - In settings where a chest X-ray can't be done, a clinical diagnosis of pneumonia may be acceptable

2) **Facility Type:**

- **Healthcare settings:** hospitals, nursing homes, assisted living facilities, adult medical daycares, and outpatient healthcare providers

- **Community settings:** childcare programs, K-12 schools, camps and youth programs (e.g., sports), institutes of higher education, correctional facilities, shelters, drug treatment centers, group homes, and other non-healthcare facilities.

3) Contact Tracing:

- The process of identifying people who have recently been in contact with someone diagnosed with an infectious disease.
- A close contact is anyone who was close to a person who is infected and is therefore at higher risk of becoming infected themselves.

4) Outbreak Definitions: [Outbreak definitions by illness type and setting](#)

IV. Outbreak Reporting

When an outbreak is identified in a facility or setting, **immediately** notify the [local health department](#) (LHD). Notification to the LHD should be made within 24 hours of recognition per [COMAR 10.06.01](#). Please contact the LHD for an emergency telephone number for use during non-business hours, weekends, and holidays in the event of an outbreak.

Consult the LHD as needed to determine if an outbreak definition is met. Outbreaks of respiratory illness (i.e., colds, allergies) where no individuals have ILI, influenza, COVID, or pneumonia are not reportable to the LHD.

V. Testing/Laboratory Diagnosis

Promptly testing individuals with a respiratory illness is necessary to not only identify the etiology of the respiratory illness but also to inform prevention and treatment recommendations, (such as chemoprophylaxis during influenza outbreaks), transmission-based precautions, and cohorting decisions.

Testing should be done in accordance with local, state, and federal regulations. Facilities should procure their own testing support and supplies. There are various types of tests used to determine the type of respiratory infection. Refer to Table 2.

The local health department may request that a facility collect additional specimens for testing to determine the cause of an outbreak. If a private laboratory is used, immediately notify the LHD of the results.

For all respiratory outbreaks: Immediately test for COVID-19 and influenza (i.e., antigen test and/or PCR) even if it is not influenza season. If COVID-19 and influenza testing is negative for the majority of the cases, request respiratory viral panel testing for 3 to 5 symptomatic individuals.

For pneumonia outbreaks: In addition to testing for COVID and influenza, collect sputum and urine specimens from 3 to 5 individuals with confirmed pneumonia (i.e., via chest X-ray). Request the following tests as appropriate:

- Sputum culture
- Sputum *Legionella* culture (i.e., *Legionella* PCR if possible); *Legionella* are not detected by routine clinical respiratory cultures and must be specially ordered
- Urinary antigen tests for *Legionella* and *Streptococcus pneumoniae*

Table 2. Common laboratory tests for respiratory outbreaks

Tests to order	What to collect	Where testing can be done	Comment
For all respiratory outbreaks			
Rapid influenza diagnostic test (RIDT or antigen test)	Follow directions for the test kit (usually nasopharyngeal or nasal swab)	Some nursing homes, healthcare provider’s office, emergency department or urgent care, some school health rooms, hospital or private labs	
Influenza PCR test	Follow directions for the test kit (usually nasopharyngeal or nasal swab)	Many hospital and private labs	Testing can be done at MDH lab* in certain outbreak situations (consult outbreak epidemiologist prior to submitting specimens)
COVID-19 antigen test	Follow directions for the test kit (usually nasopharyngeal or nasal swab)	Some nursing homes, healthcare provider’s office, emergency department or urgent care, some school health rooms, hospital or private labs	COVID-19 PCR tests are recommended in outbreak situations. COVID-19 antigen testing is not offered at the MDH lab at this time.
COVID-19 PCR test	Follow directions for the test kit (usually nasopharyngeal or nasal swab)	Many hospital and private labs	Testing can be done at MDH lab in certain outbreak situations (consult outbreak epidemiologist prior to submitting specimens)

Respiratory PCR panel	Follow directions for the test kit (usually nasopharyngeal or nasal swab)	Many hospital and private labs	A respiratory panel that includes influenza can be done in place of a single agent influenza PCR; testing can be done at MDH lab in certain outbreak situations (consult outbreak epidemiologist prior to submitting specimens)
For patients with pneumonia			
X-ray or CT	Chest radiography	Some nursing homes, healthcare provider's office, radiology center, urgent care, or hospital	
Sputum gram stain, routine bacterial culture, <i>Legionella</i> culture[†], <i>Legionella</i> PCR	Sputum	Gram stains and cultures can be done at most hospital and private labs; <i>Legionella</i> PCR can be done at some hospital and private labs	Testing can be done at MDH lab in certain outbreak situations (consult outbreak epidemiologist prior to submitting specimens)
<i>Legionella</i> urinary antigen test (UAT), <i>Streptococcus pneumoniae</i> UAT	Urine	UATs can be done at most hospital and private labs	Testing can be done at MDH lab in certain outbreak situations (consult outbreak epidemiologist prior to submitting specimens)

*All specimens submitted to the MDH lab must have a properly completed [laboratory requisition slip](#); specimens must be collected, stored, and shipped following [MDH lab requirements](#); always ensure that all specimens are collected in the appropriate media, the media is not expired, and lids/containers are securely fastened/closed.

†*Legionella* bacteria are not detected by routine respiratory cultures; a separate, specific culture must be ordered.

VI. Antivirals and Chemoprophylaxis

For influenza

- If indicated, antiviral treatment should be given as soon as possible to all suspected and confirmed individuals according to [current recommendations](#). Treatment should not wait for laboratory diagnosis.
- Antiviral chemoprophylaxis treatment is recommended for the control of influenza outbreaks in residential and institutional settings. This includes healthcare facilities such as nursing homes,

assisted living facilities, behavioral health facilities, and non-healthcare settings, such as correctional facilities and group homes.

- In healthcare facilities with a confirmed influenza outbreak, antiviral chemoprophylaxis should be administered to all non-ill residents in affected units/wards, regardless of their influenza vaccination status. Antiviral chemoprophylaxis may also be extended to residents in unaffected units or wards based on factors such as unavoidable mixing of residents or healthcare personnel between affected and unaffected areas.
 - Continue chemoprophylaxis for at least 2 weeks, and for at least 7 days after the last known case was identified.
- In non-healthcare settings, consult with the LHD to determine which individuals should receive antiviral chemoprophylaxis.
- Antiviral chemoprophylaxis may also be recommended by the local health department under other circumstances, such as when influenza is suspected, but testing cannot be done right away.

For COVID-19

- In healthcare facilities, administer antiviral treatment to all suspected and confirmed individuals according to [current recommendations](#). Treatment should not wait for laboratory diagnosis.
- For all other settings, refer to the CDC's most up-to-date guidance for the treatment of COVID-19.

VII. Prevention of Outbreaks in All Settings

While there are many respiratory pathogens that cause infection, infection prevention and control standards generally apply in all settings and outbreaks. MDH recommends that all people use core prevention strategies in all settings to decrease the risk of spreading respiratory pathogens. These precautions are especially important for people at higher risk of severe illness. Refer to the [MDH guidelines](#) page for Legionnaires', measles, pertussis, and other disease-specific prevention and investigation recommendations.

Core respiratory prevention strategies to be used at all times:

- Encourage recommended vaccinations. Vaccines are the most effective tools for preventing infection, hospitalizations, serious complications, and deaths from respiratory infections. Vaccines are available for the prevention of COVID-19, influenza, pneumococcal, and RSV.
 - CDC: [Adult Immunization Schedule by Age](#)
 - CDC: [Child and Adolescent Immunization Schedule by Age](#)
- Encourage people to stay home if sick and take [precautions](#). People who are sick should stay away from others until at least 24 hours after both symptoms are getting better overall, **and** they have not had a fever (and are not using fever-reducing medication).
- Encourage people to seek health care promptly for testing and/or treatment.
- Encourage frequent hand [hygiene](#) through hand washing with soap and water and use of alcohol-based hand sanitizer. Ensure that supplies of soap, paper towels, and alcohol-based hand sanitizer are readily available.
- Promote respiratory etiquette by providing tissues in convenient locations throughout the building and encourage individuals to cover their cough by coughing into their elbow, followed by hand hygiene.
- Follow [CDC guidance for mask use](#). Facilities, workplaces, and local jurisdictions may have mask-use policies that are stricter than CDC guidance.

- Discourage people from touching their mouths, noses, and eyes with unwashed hands.
- Conduct routine cleaning and disinfection of frequently touched surfaces such as doorknobs, faucet handles, mobile devices, and toys. Utilize an [EPA registered disinfectant](#) effective against killing respiratory viruses (including COVID) and bacteria and adhere to the product's contact time (i.e., wet time).
- Consider making improvements to promote the [ventilation of clean air](#) in indoor spaces.
- Encourage facilities to have [masks](#) available for individuals who choose to wear a mask for additional protection.
- Consider implementing practices to promote [physical distancing \(i.e., spacing chairs and tables 6ft apart\)](#).

VIII. Additional Guidance for Healthcare Facilities

A. Outbreak Prevention:

Healthcare facilities should use a multi-faceted approach to decrease the risk of transmission of respiratory infections to residents/patients, staff, and visitors. In addition to all the above guidance and recommendations, additional guidance is available for healthcare facilities and described below.

Maintain a Facility Infection Prevention and Control Program:

- Assign one or more individuals with training in infection prevention and control to manage the facility's infection prevention program.
- The facility should maintain a respiratory protection program in compliance with the Occupational Safety and Health Administration (OSHA) respiratory protection standard (29 CFR 1910.134).
- All healthcare facilities should implement and maintain a vaccination program for residents, patients, and staff, ensuring compliance with applicable state and federal regulations. Additionally, consider offering all eligible residents, patients, and staff access to respiratory vaccines, including but not limited to influenza, pneumococcal, RSV, and COVID-19.

Surveillance for Respiratory Illness:

- Facilities should establish mechanisms and policies by which staff are promptly alerted about increased respiratory illness activity in the community.
- During periods of increased community transmission of respiratory viruses and in the event of an outbreak, implement active screening of visitors for signs and symptoms of respiratory virus infection.
- Implement a system for healthcare personnel (HCP) to report signs, symptoms, and diagnosed illnesses that may represent a risk to their residents/patients and other staff to their supervisor or healthcare facility staff who are responsible for occupational health.

Core Prevention Strategies:

- **Standard Precautions:** Healthcare personnel in every healthcare setting should adhere to standard precautions, which are the foundation for preventing the transmission of infectious agents in all healthcare settings.
- **Hand Hygiene:** Healthcare personnel should perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and upon

removal of personal protective equipment, including gloves. Alcohol-based hand sanitizer is an acceptable alternative to handwashing, as long as hands are not visibly soiled.

- Facilities should ensure that soap, paper towels, and alcohol-based hand sanitizer are readily available throughout the facility, including at the entrance for use by visitors.
- Posters may be used to encourage hand washing.
- **Respiratory Hygiene:** Respiratory hygiene and cough etiquette should also be followed. This includes covering the nose and mouth with a tissue while sneezing and coughing, prompt disposal of used tissues, and performing hand hygiene using soap and water or alcohol-based hand sanitizer after disposing of the tissue. Respiratory hygiene and cough etiquette can also include having people who are coughing stay at least 3 feet away from others and having them wear face masks while in common areas. Visual aids such as the “Cover Your Cough” poster may be used as reminders.
- **Cleaning and Disinfection:** Use standard cleaning and disinfection procedures in all settings within the healthcare facility. Management of laundry, food service utensils, and medical waste should also be performed in accordance with standard procedures. Clean and disinfect all reusable patient care items and equipment according to the manufacturer’s instructions. At a minimum, all reusable patient care items should be cleaned and disinfected after use, before use on the next patient, and when visibly soiled. Single-use items should not be reused and disposed of according to the manufacturer's recommendations.
 - Refer to [List N](#) on the EPA website for EPA-registered disinfectants that kill SARS-CoV-2; the disinfectant selected should also be appropriate for other pathogens of concern at the facility (e.g., a sporicidal agent is recommended to disinfect the rooms of patients with *C. difficile* infection).
- **Isolation Precautions:** Staff should follow standard and transmission-based precautions (gowns, gloves, fit-tested N95 respirator or face mask if a N95 respirator is not available, and eye protection) for any resident/patient with respiratory illness. Ensure staff have been trained on the proper use of PPE, including proper donning and doffing. Isolation precautions should not impede resident/patient care.
- **Consider Source Control:** Develop policies for source control masking with well-fitting face masks or respirators that cover a person’s mouth and nose to reduce respiratory virus transmission in healthcare settings. Consider implementing source control masking in the following situations:
 - During periods of increased community transmission.
 - If there are elevated resident/patient or HCP respiratory infections or HCP absenteeism.
 - During an outbreak by those residing and working on a unit/ward.
 - Facility-wide, when residents/patients and staff are unable to be cohorted.
 - When recommended by the local and/or state health department when respiratory virus-associated hospital admissions exceed 10 per 100,000 residents. (Refer to [the current Maryland weekly source control metric for healthcare settings.](#))

B. Outbreak Investigation and Management:

The following recommendations should be followed for all suspected and confirmed respiratory outbreaks. Outbreak control measures should be immediately applied while waiting for laboratory test results.

Management of a Resident/Patient Case of Respiratory Illness:

- Place residents/patients with undiagnosed respiratory illness in empiric transmission-based precautions (gowns, gloves, fit-tested N95 respirator or facemask if N95 respirator is not available, and eye protection) while laboratory tests are pending.
- Ensure the appropriate isolation signage is posted and clearly visible, indicating the type of precautions, hand hygiene, and PPE requirements.
- Ideally, place anyone with a suspected or confirmed respiratory pathogen in a single room with a private bathroom and with the door kept closed (if safe to do so). If limited single rooms are available, or if numerous residents/patients are simultaneously identified to have known exposures or symptoms of concern for the same respiratory infection, residents/patients should remain in their current location pending the return of test results. Consider the needs and risks of individual residents/patients.
- Refer to Table 3 for guidance on the recommended transmission-based precautions, PPE, and duration of precautions for HCPs caring for residents/patients with suspected/confirmed respiratory infections.
- For residents/patients with suspected or confirmed airborne disease (e.g., tuberculosis), an airborne infection isolation room (AIIR) with negative pressure should be used where available. If an AIIR is not available, use a single room ideally with a private bathroom and with the door kept closed (if safe to do so).
- Perform contact tracing to identify any close contacts of a new case of respiratory illness; this may be case-based, unit-based, or facility-wide.
- Test exposed contacts.
 - Test immediately (but not earlier than 24 hours after the exposure) and, if negative, again at 3 days and if negative, again at 5 days after the exposure.
 - In general, asymptomatic people do not require empiric use of transmission-based precautions pending laboratory results.
 - All asymptomatic individuals with close contact with a known positive resident/patient should wear source control (masks, if tolerated) for the duration precautions are recommended (Table 3).
 - Administer chemoprophylaxis or antiviral treatment if indicated (see page 8).
 - If additional cases are identified and outbreak criteria are met, immediately report the outbreak to the LHD.

Table 3. Transmission-based precautions for residents/patients suspected/confirmed with respiratory infection

Virus/Bacteria	Mask or Respirator	Eye Protection	Gown	Gloves	Duration of Isolation
Undiagnosed	N95 or higher-level respirator	Yes	Yes	Yes	10 days
COVID	N95 or higher-level respirator	Yes	Yes	Yes	10 days
Influenza	Surgical mask	Per standard precautions	Per standard precautions	Per standard precautions	≥7 days

RSV and other respiratory viruses	Surgical mask	Per standard precautions	Yes	Yes	≥7 days
Pneumonia (viral – adults)	Per standard precautions	Per standard precautions	Per standard precautions	Per standard precautions	Duration of illness
Pneumonia (bacterial)	Per standard precautions	Per standard precautions	Per standard precautions	Per standard precautions	48 hours of antibiotic therapy

Management of Staff with Respiratory Illness:

- Staff who develop signs or symptoms of respiratory illness should be isolated and sent home.
- Testing should be arranged for all ill staff (if appropriate).
- Staff may return to work based on the criteria in Table 4.
- Pneumonia in a healthcare worker resulting in hospitalization is a [reportable condition](#) under COMAR 10.06.01.03(b)(41-1).

Table 4. Healthcare personnel return to work recommendations

COVID-19 Test	Influenza Test	Return to Work
Positive	Positive Negative Not done	For Healthcare: Current return to work guidance For Community: at least 24 hours after both symptoms are getting better overall, and they have not had a fever (and are not using fever-reducing medication)
Not done*	Negative Not done	For Healthcare: Current return to work guidance For Community: at least 24 hours after both symptoms are getting better overall, and they have not had a fever (and are not using fever-reducing medication)
Not done*	Positive	For Healthcare: Current return to work guidance For Community: at least 24 hours after both symptoms are getting better overall, and they have not had a fever (and are not using fever-reducing medication)
Negative	Positive	At least 24 hours after, both symptoms are getting better overall, and they have not had a fever (and are not using fever-reducing medication)
Negative*	Negative Not done	At least 24 hours after, both symptoms are getting better overall, and they have not had a fever (and are not using fever-reducing medication)

*For ill staff with undiagnosed respiratory illness or if COVID-19 testing is not done, the staff member may return to work using the COVID-19 return to work criteria. If staff were initially suspected of having COVID-19 but, following evaluation, another diagnosis is suspected or confirmed, return to work decisions should be based on their other suspected or confirmed diagnosis.

Outbreak Control Strategies:

- **Surveillance:** During an outbreak, conduct active daily monitoring of ill individuals to identify signs or symptoms of respiratory illness and quickly manage any ill people.
 - Facility and disease-specific [line list templates](#) are available online
 - Monitor the progression of the outbreak
 - Provide daily updates to the LHD
- **Cleaning and Disinfection:** Adhere to standard cleaning and disinfection procedures. Consider increasing the frequency of environmental cleaning and disinfection with a focus on high-touch surfaces and common areas (e.g., nursing stations, cafeterias, break rooms). Management of laundry, food service utensils, and medical waste should also be performed in accordance with standard procedures.
- **Cohorting:** Cohorting should only be considered when appropriate facilities and staffing are available (refer to Table 5.). Consider designating specific staff members (which includes dietary staff, housekeeping, and therapy personnel) to a unit/ward consistently and across multiple shifts. If staffing shortages don't allow for such a designation, designate staff to care only for infected residents/patients.

Table 5. Summary of isolation/cohorting recommendations

COVID-19 Test	Influenza Test	Recommendations for cohorting
Not done	Not done	<p><u>For the ill resident:</u> Symptomatic residents should be placed in transmission-based precautions (gowns, gloves, fit-tested N95 respirator or facemask if N95 is not available, and eye protection) while laboratory tests are pending.</p> <p><u>For the roommate:</u> In general, asymptomatic residents do not require empiric transmission-based precautions; however they should wear a mask for source control and be tested for COVID-19 and influenza per the CDC's guidelines. Ideally, the roommate should be moved to a private room on the unit/ward. If a private room is not available, the exposed roommate may remain in their original room.</p>
Positive Not done	Positive Negative Not done	<p><u>For the ill resident:</u> Residents with laboratory-confirmed COVID-19, regardless of influenza test results, should remain in transmission-based precautions (i.e., gown, gloves, respirator, and eye protection).</p> <p><u>For the roommate:</u> In general, asymptomatic residents do not require empiric transmission-based precautions; however they should wear a mask for source control and be tested for COVID-19 and influenza per the CDC's guidelines. Ideally, the roommate should be moved to a private room on the unit/ward. If a private room is not available, consider:</p> <ul style="list-style-type: none"> ● keeping the exposed roommate in their original room ● cohorting the roommate with another exposed roommate of a COVID-19 positive/influenza negative case.
Negative	Positive	<p><u>For the ill resident:</u> Residents with influenza who do not have COVID-19 should</p>

		<p>be isolated on droplet precautions in a private room and should not be housed in the same location as residents with COVID-19. In general, such residents should remain on their unit/ward.</p> <p><u>For the roommate:</u> In general, asymptomatic residents do not require empiric transmission-based precautions; however they should wear a mask for source control and be tested for COVID-19 and influenza per the CDC’s guidelines. Ideally, the roommate of a COVID-19-negative/influenza-positive resident should be isolated in a private room and not be placed with new roommates. If a private room on the unit/ward is not available, consider:</p> <ul style="list-style-type: none"> ● keeping the exposed roommate in their original room. ● cohorting the roommate with another exposed asymptomatic roommate of another COVID-19 negative/influenza positive case.
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- **Resident/Patient Movement:** Ill residents/patients should remain in their room except for medically necessary purposes. If an ill resident/patient must leave their room, the resident/patient should wear a face mask, and steps should be taken to reduce the likelihood of transmission, such as:
 - Recommend the resident/patient perform hand hygiene upon exiting their room.
 - Practice physical distancing.
 - Schedule therapy or medically necessary appointments at the end of the day to allow for the appropriate terminal cleaning and limit wait times in lobby areas.
- **Visitation:** In general, visitation is not restricted, but a visitor who is ill and/or diagnosed with a respiratory illness, should refrain from visiting until they meet the criteria outlined in Table 4 to end isolation. Facilities should inform visitors of any current infection prevention and control practices that should be followed if visiting a facility where there is an active outbreak. Visitors should receive education on hand hygiene and PPE when entering the room of a resident/patient in precautions. During an outbreak, visitors should:
 - Reschedule any non-urgent visits if they are at high risk of severe illness
 - Perform hand hygiene before and after their visit
 - Wear a well-fitting mask while in the facility
 - Refrain from eating and drinking during their visit
 - Limit contact to only the resident/patient they have come to visit and minimize their time spent in other locations in the facility
- **Admissions:** Develop plans for managing new admissions, transfers, and readmissions of residents/patients with respiratory illness. Consult with the LHD to determine if the facility should limit new admissions during an outbreak.
 - **For non-COVID-19 outbreaks:** If the outbreak is restricted to one unit, close the affected unit to new admissions or transfers. If cases are dispersed throughout the facility the entire facility should be closed to new admissions. If the facility cannot cohort staff or if it is necessary to walk through affected units to get to unaffected units, or at the discretion of the LHD, admissions may be stopped to the entire facility. Readmissions are generally allowed, preferably to unaffected areas of the facility. If there are simultaneous respiratory disease outbreaks occurring in the facility (i.e., COVID and pneumonia), efforts should be made to cohort residents/patients and staff by pathogen and by unit/ward.

- **For COVID-19 only outbreaks:** Admissions are allowed however residents/patients with COVID-19 should be cohorted on a designated unit/ward if feasible with designated staff.
- **Transfers:** If a resident/patient is transferred to another unit/ward or facility (e.g., hospital), notify the receiving unit/ward or facility that the resident/patient is coming from a unit/ward or facility where a respiratory outbreak is occurring. Ensure the resident/patient wears a mask during transport (if tolerated).
- **Group Activities:** Limit the number of group activities in the facility. Activities should be limited to the smallest groups possible and be held within units/wards. If the outbreak continues to spread or is severe, it may be necessary to cancel activities. Ill residents/patients should not participate in group activities. For COVID-19 outbreaks, group activities should not occur among affected residents/patients/units/wards until the outbreak has resolved.
- **Dining:** Consider serving all meals in resident/patient rooms if possible when an outbreak is widespread (involving multiple units/wards of the facility).

IX. Additional Guidance for Community Settings

A. Outbreak Prevention:

Core Prevention Strategies:

- MDH recommends that all people use core prevention strategies in all settings to lower their chances of getting and spreading respiratory pathogens. Please refer to the core respiratory prevention strategies above in section VII for all community congregate settings, including groups homes, adult daycares, and treatment facilities.

Outbreak Control Strategies:

- **Surveillance:** Conduct active daily monitoring of ill individuals to identify signs or symptoms of respiratory illness and quickly manage and/or exclude any ill people.
 - Facility and disease-specific [line list templates](#) are available online
 - Monitor the progression of the outbreak
 - Provide daily updates to the LHD
- **Cleaning and Disinfection:** Adhere to standard cleaning and disinfection procedures and consider increasing the frequency of environmental cleaning and disinfection with a focus on high-touch surfaces and common areas (e.g., toys, cafeterias, break rooms). Management of laundry, food service utensils, and medical waste should also be performed in accordance with standard procedures.
- **Masking:** Consider universal masking to control and prevent further transmission.
- **Distancing:** Create physical distances and reduce movement wherever possible.

B. Special Settings:

Schools, Child Care, and Youth Camps:

- Schools, child care, youth programs, and camps are strongly encouraged to develop policies and protocols around reporting of positive cases, management of case follow-up, and notification of exposed persons in alignment with public health guidance.
- Schools, child care, youth programs, and camps should implement infection prevention strategies to the extent possible while also considering educational needs, the social and emotional well-being of children, and the importance of children's access to learning and care.

- In general, children should be excluded when they are not able to fully participate in the program, or when their level of care needed during an illness is not able to be met without jeopardizing the health or safety of others, or when there is a risk of spread to others that cannot be avoided with appropriate environmental or individual management.
 - For exclusion, all applicable COMAR regulations should be followed; for youth camps, specifically COMAR 10.16.07.12 “Exclusion for Acute Illness and Communicable Disease”.
- The LHD will recommend control measures in response to the outbreak, which may include exclusion of ill students/children and staff, mask usage for cases and contacts, increased handwashing, increased environmental cleaning, and parent/guardian notification.
- Schools, with support from the LHD, can provide parents and caregivers with information regarding symptom monitoring and exclusions.
- Clean and disinfect shared supplies, including toys
 - Clean toys regularly with cleaning wipes, commercially prepared disinfectants, or a bleach solution. Some plastic toys can also be cleaned in the top rack of the dishwasher. Refer to the manufacturer’s recommendations for cleaning.
- Promote [proper handwashing](#) throughout the day, specifically before/after eating, after using the restroom/changing diapers, and after recess.
- Consider moving large gatherings outside or rescheduling.
- Cohort as much as possible. Affected cohorts should consider eating lunch or having recess in their classroom(s) rather than mixing with unaffected cohorts.
- Consider temporarily suspending extracurricular activities (e.g. school trips, sporting practices and games, etc.) and before and after school/daycare activities (e.g. extended care, clubs, meetings, etc.)
- For overnight youth camps, consider closing bunks or the entire facility if there is a staff shortage, severe illness, or widespread transmission throughout the bunk or the facility.
- Additional guidance for common illnesses in school-aged children can be found on CDC’s website (e.g., [strep throat](#), [hand-foot-mouth disease](#), [norovirus](#), [head lice](#), [pink eye](#), [impetigo](#), [scabies](#), [measles](#), and [molluscum contagiosum](#)).

Colleges, Universities, and Other Institutes of Higher Education (IHE):

- Except for certain situations involving those at high risk of severe disease, colleges, and university settings should follow the CDC’s general respiratory guidance for isolation.
- During an outbreak, consider accommodations for students while sick such as alternative modes of course instruction.
- Ensure staff and students have access to medical resources on campus or in the community, including testing.

Correctional Facilities:

- Many people who are incarcerated are at risk for severe illness from respiratory viruses for a variety of reasons, and it is important to identify people at risk for severe illness early and provide access to treatment if indicated.
- Healthcare workers who provide care in these facilities should continue to follow CDC’s healthcare-specific guidance.

- Incarcerated individuals and staff depend on the facility for prevention and care services. Correctional facilities should:
 - Provide opportunities to stay up to date on vaccines
 - Provide access to supplies for everyday hygiene (soap, alcohol-based hand sanitizer, bathing, etc.,)
 - Ensure frequently touched surfaces are cleaned effectively
 - Take steps for cleaner air
 - Ensure access to healthcare during confinement, including treatment
 - Identify ways for people who are sick to put physical distance between themselves and others
 - Provide masks for people who want to use them

X. Local Health Department Actions

In the event of a potential respiratory outbreak, it is the LHD's responsibility to notify MDH about the outbreak. The LHD will then coordinate with MDH and the MDHPHL to collect specimens to be sent for testing if required. The LHD will continue to follow up on the outbreak and will provide guidance and prevention measures.

- LHDs, in coordination with MDH, are involved in all activities related to a respiratory infection outbreak. These activities include but are not limited to:
 - Review all submitted information about the outbreak.
 - Verify the existence and scope of an outbreak.
 - Verify that illnesses are not caused by non-infectious sources (e. g. aspiration pneumonia) and exclude anyone with such illnesses from the line list.
 - Inform MDH immediately, within 24 hours of outbreak recognition, by calling the Infectious Disease Epidemiology and Outbreak Response Bureau (IDEORB), Division of Outbreak Investigation, at 410-767-6700. When an outbreak is reported on a holiday or during the weekend, contact the MHD epidemiologist on-call at 410-795-7365.
 - Provide guidance to the facility with verbal and/or written control measures and educational materials, if needed.
 - Coordinate specimen collection for testing, including completing required [laboratory requisition slips](#) and ensuring the proper handling and transportation of specimens following [MDH lab requirements](#).
 - Communicate daily with facility IP. Review daily line lists. Update the lead MDH Epidemiologist.
 - After the outbreak is closed, complete the Outbreak Summary Report (OSR) form for Respiratory Illnesses found on the [Disease/Condition-Specific Forms page](#). For non-COVID outbreaks with more than 10 cases, include an Epidemic Curve (Epi-curve) with the OSR. Send a copy of OSR to the affected facility. Document that this was done in the cc list at the end of the OSR.
 - Email the completed OSR form to the lead MDH Epidemiologist within 2 months from the outbreak closure date.

XI. State Health Department Actions

When an outbreak is identified, MDH will:

- Provide an outbreak number to the LHD.
- Provide information about CDC's current recommendations on vaccination, chemoprophylaxis, and/or antiviral treatment options as requested.
- Provide guidance to LHD on the management and analysis of epidemiological data, infection control practices, and environmental control procedures as needed.
- Act as liaison to the MDH Laboratory Administration on inquiries about laboratory submission, testing procedures, and results.
- Become the lead epidemiologist for multi-jurisdictional outbreaks.
- Notify other state and federal agencies if necessary.
- Find additional information and materials to assist in the investigation.
- Assist the LHD and facility IP in the management and control of the outbreak if requested. This may include on-site assistance as approved by the Chief of the Division of Outbreak Investigation.

Activation and Deactivation of Emergency Response Operations

- IDEORB, in consultation with the Director and Deputy Director of the Prevention and Health Promotion Administration, will activate emergency response operations when one or more of the following criteria are met:
 - Existing staffing is inadequate to assign responsibilities to maintain critical operations for more than three operational periods.
 - Resources (financial, material, or operational) required to mount and/or sustain an ongoing emergency response are needed from outside of the Bureau or Administration.
 - A non-infectious disease event substantially disrupts critical operations of the unit.
- IDEORB, in consultation with the Director and Deputy Director of the Prevention and Health Promotion Administration, will deactivate emergency response operations when one or more of the following criteria are met:
 - Public health problem is contained or resolved.
 - Emergency response is incorporated into normal operations, and adequate resources are available to sustain all ongoing responses.
 - Non-infectious event is over, and disruption impacting critical operations no longer exists.

XII. Respiratory Illnesses Resources

Outbreak Reporting Guidance

- MDH: [MDH Reportable Disease page](#)
- MDH: [Local Health Departments](#)
- MDH: [Guidelines](#)

Testing Guidance

- MDH: [Respiratory Outbreak Recommendations Flowchart \(November 2021\)](#)
- MDH: [Maryland Laboratory Division Guidelines](#)
- CDC: [Testing and Respiratory Viruses](#)
- CDC: [Testing and Management Considerations for Nursing Home Residents with Acute Respiratory Illness Symptoms when SARS-CoV-2 and Influenza Viruses are Co-circulating](#)
- CDC: [Tests Authorized to Simultaneously Detect Influenza Viruses and SARS-CoV-2](#)

Treatment Guidance

- IDSA: [Infectious Disease Society of America \(IDSA\) Respiratory Illness Guidelines](#)
- CDC: [Flu Antiviral Medications](#)
- CDC: [Influenza Information for Health Professionals](#)
- CDC: [Interim Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities](#)
- CDC: [COVID-19 Antiviral Medications](#)
- CDC: [Management of Patients with Confirmed 2019-nCoV](#)
- CDC: [Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2](#)

Infection Prevention and Control Guidance

- CDC: [Respiratory Guidance](#)
- CDC: [Hygiene and Respiratory Virus Protection](#)
- CDC: [Preventing Spread of Respiratory Viruses When You're Sick.](#)
- CDC: [Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings](#)
- CDC: [Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2](#)
- CDC: [Appendix A: Type and Duration of Precautions Recommended for Selected Infections and Conditions](#)
- CDC: [Viral Respiratory Pathogens Toolkit for Nursing Homes](#)
- CDC: [Strategies to Mitigate Healthcare Personnel Staffing Shortages](#)
- CDC: [Preventing Spread of Infections in K-12 Schools](#)
- CDC: [Correctional Health Guidance and Resources](#)
- APIC: [Implementation Guides](#)

Respiratory Illness Metrics

- MDH: [Maryland weekly source control metric for healthcare settings](#)
- MDH: [Respiratory Pathogen Testing Surveillance Dashboard](#)

XIII. References

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