

Recommended school responses to influenza for the 2009–2010 school year

Source: Centers for Disease Control and Prevention (CDC) - <http://www.cdc.gov/>

Basic foundations of infection control in school settings should always be promoted and facilitated, not only during an influenza pandemic. During flu season, schools should be particularly vigilant about keeping sick students and staff home. Schools should be proactive, develop contingency plans to cover key positions (for example, school nurses) when staff are home ill, and regularly remind parents and staff of the exclusion recommendations. **Plans should focus on protecting people at high risk for influenza complications as these groups are frequently found in schools.** For example, asthma alone affects nearly one in ten school-aged youth.

For a list of groups at high risk for influenza complications, see [Novel H1N1 Flu and You](#).

For general guidance on infection control in schools, see the American Academy of Pediatrics' [*Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide, 2nd Edition*](#) (2009).

How does 2009 H1N1 virus spread?

Spread of 2009 H1N1 virus is thought to occur in the same way that seasonal flu spreads. Flu viruses are spread mainly from person to person through coughing or sneezing by people with influenza. Sometimes people may become infected by touching something – such as a surface or object – with flu viruses on it and then touching their mouth or nose.

What are the signs and symptoms of this virus in people?

The symptoms of 2009 H1N1 flu virus in people include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. A significant number of people who have been infected with this virus also have reported diarrhea and vomiting. Severe illnesses and death has occurred as a result of illness

<http://www.cdc.gov/h1n1flu/qa.htm>

Recommended responses under conditions with similar severity as in spring 2009

1. Stay home when sick

CDC recommends that individuals with influenza-like illness remain at home until at least 24 hours after they are free of fever (100° F [37.8° C] or greater), or signs of a fever, without the use of fever-reducing medications.

This recommendation is based on epidemiologic data about the overall risk of severe illness and death and attempts to balance the risks of severe illness from influenza and the potential benefits of decreasing transmission through the exclusion of ill persons with the goal of minimizing social disruption.

Epidemiologic data collected during spring 2009 found that most people with 2009 H1N1 flu who were not hospitalized had a fever that lasted 2 to 4 days; this would require an exclusion period of 3 to 5 days in most cases. Those with more severe illness are likely to have fever for longer periods of time. Although fever is a component of the case definition of influenza-like illness, the epidemiologic data collected during spring 2009 found that a minority of patients infected with 2009 H1N1 flu with respiratory symptoms did not have a fever.

Sick individuals should stay at home until the end of the exclusion period, to the extent possible, except when necessary to seek required medical care. Sick individuals should avoid contact with others. Keeping people with a fever at home may reduce the number of people who get infected since elevated temperature is associated with increased shedding of influenza virus. CDC recommends this exclusion period whether or not antiviral medications are used. People on antiviral treatment may shed influenza viruses that are resistant to antiviral medications.

Many people with influenza illness will continue shedding influenza virus 24 hours after their fevers go away, but at lower levels than during their fever. Shedding of influenza virus, as detected in laboratory tests, can be detected for 10 days or more in some cases. **Therefore, when people who have had influenza-like illness return to school they should continue to practice good respiratory etiquette and hand hygiene when they return to school and avoid close contact with people they know to be at increased risk of influenza-related complications.**

Because some people may shed influenza virus before they feel ill, and because some people with influenza will not have a fever, it is important that all people cover their cough and wash hands often. To lessen the chance of spreading influenza viruses that are resistant to antiviral medications, adherence to good respiratory etiquette and hand hygiene is as important for people taking antiviral medications as it is for others.

Fever-reducing medications, that is, medications containing acetaminophen or ibuprofen, are appropriate for use in individuals with influenza-like illness. **Aspirin (acetylsalicylic acid) should not be given to children or teenagers who have influenza; this can cause a rare but serious illness called Reye's syndrome. The determination of readiness to return to school should be made when at least 24 hours have passed since the ill person's temperature first remained normal without the use of these medications.**

For more information on caring for sick persons in the home, see [Taking Care of a Sick Person in Your Home](http://www.cdc.gov/h1n1flu/guidance_homecare.htm). (http://www.cdc.gov/h1n1flu/guidance_homecare.htm)

2. Separate ill students and staff

Sick students and staff should always be required to stay home. **CDC recommends that students and staff who appear to have an influenza-like illness at arrival or become ill during the day be promptly separated from other students and staff and sent home.** Schools should regularly update contact information for parents so that they can be contacted more easily if they need to pick up their ill child. Recognizing that space is often in short supply, early planning on the location for a sick room is essential. This room should not be one commonly used for other purposes for example, the lunchroom during non-meal times. Nor should it be a space through which others regularly pass. It is not necessary for this room to have a separate air supply (HVAC) system. Ill persons should be placed in well ventilated areas and placed in areas where at least 6 feet of distance can be maintained between the ill person and others.

A limited number of staff should be designated to care for ill persons until they can be sent home. When possible, these should be people with limited interactions with other students and staff and therefore decreased risk of spreading influenza. These persons should not be at increased risk of influenza complications (for example, pregnant women) and they should be familiar with infection control recommendations to prevent spread of influenza. When possible and if the sick person can tolerate it, he or she should wear a surgical mask when near other persons.

School nurses, and other staff who act in this capacity, are likely to come into close contact with students and staff with influenza-like illness. **CDC recommends that staff who provide care for persons with known, probable or suspected influenza or influenza-like illness use appropriate personal protective equipment.**

For more information on caring for sick persons in the home, see [Taking Care of a Sick Person in Your Home](http://www.cdc.gov/h1n1flu/guidance_homecare.htm). (http://www.cdc.gov/h1n1flu/guidance_homecare.htm)

See [Interim Recommendations for Facemask and Respirator Use to Reduce Novel Influenza A \(H1N1\) Virus Transmission](http://www.cdc.gov/h1n1flu/masks.htm) (<http://www.cdc.gov/h1n1flu/masks.htm>) or www.flu.gov for more information on personal protective equipment and how to recommend it to employees.

3. Hand hygiene

Influenza may spread via contaminated hands or inanimate objects that become contaminated with influenza viruses. **CDC recommends that students and staff be encouraged to wash their hands often with soap and water, especially after coughing or sneezing.** Alcohol-based hand cleaners are also effective at killing flu germs, but may not be allowed in all schools. If soap and water are not available, and alcohol-based products are not allowed in the school, other hand sanitizers that do not contain alcohol may be useful however, there is less evidence on their effectiveness compared to that on hand washing and alcohol-based sanitizers.

Schools should provide the time needed for all students and staff to wash their hands whenever necessary, especially after coughing or sneezing into hands, before eating, and after using the restroom. Soap, paper towels and sanitizers are critical for proper hand hygiene and should be readily available in schools. If it is necessary to provide supervision to students as they wash hands in rest rooms, schools should consider timing and staffing as they plan for the fall. Schools also should educate families, students and staff about the importance of good hand hygiene and proper methods for cleaning hands.

Visit Clean Hands Save Lives (<http://www.cdc.gov/cleanhands/>) for more information on hand hygiene.

4- Respiratory etiquette

Influenza viruses are thought to spread mainly from person to person in respiratory droplets of coughs and sneezes. This can happen when droplets from a cough or sneeze of an infected person are propelled through the air and deposited on the mouth or nose or are inhaled by people nearby. **CDC recommends covering the nose and mouth with a tissue when coughing or sneezing and throwing the tissue in the trash after use.** Wash hands promptly after coughing or sneezing. If a tissue is not immediately available, coughing or sneezing into one's arm or sleeve (not into one's hand) is recommended. To encourage respiratory etiquette, students and staff should have access to tissues and must be educated about the importance of respiratory etiquette, including keeping hands away from the face.

Visit Cover Your Cough (<http://www.cdc.gov/flu/protect/covercough.htm>) for more information on respiratory etiquette.

5- Routine cleaning

The American Academy of Pediatrics provides guidance for school cleaning and sanitizing which is appropriate for influenza. **Schools should regularly clean all areas and items that are more likely to have frequent hand contact** (for example, keyboards or desks) and also clean these areas immediately when visibly soiled. Use the cleaning agents that are usually used in these areas.

Some states and localities have laws and regulations mandating specific cleaning products be used in schools. School officials should contact their state health department or department of environmental protection for additional guidance. Schools should ensure that custodial staff and others (such as classroom teachers) who use cleaners or disinfectants read and understand all instruction labels and understand safe and appropriate use. Instructional materials and training

should be provided in languages other than English as locally appropriate. CDC does not believe any additional disinfection of environmental surfaces beyond the recommended routine cleaning is required.

See the *American Academy of Pediatrics' Managing Infectious Diseases in Child Care and Schools: A Quick Reference Guide, 2nd Edition (2009)*⁵

(<http://aapredbook.aappublications.org/resources/midsheets.dt>) for guidance on cleaning and sanitizing in schools.

The EPA provides a [list of EPA-registered products effective against flu](http://www.epa.gov/oppad001/influenza-disinfectants.html)⁶
(<http://www.epa.gov/oppad001/influenza-disinfectants.html>)

6- Early treatment for high-risk students and staff

People at high risk for influenza complications who become ill with influenza-like illness should speak with their health care provider as soon as possible. Early treatment with antiviral medications is very important for people at high risk because it can prevent hospitalizations and deaths. **CDC recommends that schools encourage ill staff and parents of ill students at higher risk of complications from influenza to seek early treatment.**

High-risk students and staff who have had close contact with others who are sick with an influenza-like illness should contact their health care provider to discuss whether they may need to take influenza antiviral medications that require a prescription

People on antiviral treatment may still shed influenza viruses and therefore may still transmit the virus to others. These influenza viruses may develop resistance to antiviral medications. To lessen the chance of spreading influenza viruses that are resistant to antiviral medications, adherence to good respiratory etiquette and hand hygiene is as important for people taking antiviral medications as it is for others.

For more information on antiviral medications, see [Interim Guidance on Antiviral Recommendations for Patients with Novel Influenza A \(H1N1\) Virus Infection and Their Close Contacts](http://www.cdc.gov/h1n1flu/recommendations.htm). (<http://www.cdc.gov/h1n1flu/recommendations.htm>)

7 - Selective school dismissals

Selective school dismissals may be considered based on the population of an individual school.

Although there are not many schools where all or most students are at high risk (for example, a school for medically fragile children or for pregnant students) a community might decide to dismiss such a school to better protect these high-risk children. The decision to selectively dismiss a school should be made locally and should balance the risks of keeping the students in school with the social disruption that school dismissal can cause. School officials should work closely and directly with their local and state public health officials when deciding whether or not to selectively dismiss a school or schools. Selective school dismissals are not likely to have a significant effect on community-wide transmission: Instead, this strategy aims to protect

students and staff at high risk of severe illness and death. Information on reactive and preemptive school dismissals is provided in the next section.

Recommended additional responses during times of increased influenza severity

Decisions to add strategies should be based on information on the severity of illness reported in national and global assessments, local goals, epidemiology, health care system capacity, and feasibility and acceptability of the strategies under consideration. The strategies which follow use a variety of methods for increasing social distance, while attempting to maintain operability of most schools. Feasibility and acceptability of these strategies will vary considerably across communities. Except for school dismissals, the following strategies have not been scientifically tested. But CDC wants communities to have tools to use that may be the right measures for their community and circumstances.

1- Active screening for illness

If influenza severity increases, schools should consider instituting active fever and respiratory infection symptom screening of students and staff when they arrive at school. At the beginning of the school day, all students and staff should be asked about suggestive symptoms such as fever, cough, runny nose, and sore throat during the previous 24 hours. Some persons with laboratory-confirmed influenza do not have a fever (between 10% and 40% of people). Therefore, absence of fever does not indicate absence of infection. In a higher severity situation, schools should send home persons with symptoms of acute respiratory infection (that is, any two of the following: sore throat, cough, runny nose [new and unexplained by allergies], or fever). As always, parents should be aware of their child's health status and monitor them for illness every morning before school.

Throughout the day, staff should be vigilant in identifying students and other staff who appear ill. These students and staff should be further screened by the school nurse, or other school-based health care worker, by taking their temperature and inquiring further about symptoms. Students and staff who develop symptoms of acute respiratory infection at school should be separated from others until sent home. When possible and if the sick person can tolerate it, he or she should wear a surgical mask until sent home.

2- Permit high-risk students and staff to stay home

If influenza severity increases, students and staff at high risk for influenza complications may consider staying home from school while influenza transmission is high in their community if they, or their families, are concerned about their ability to avoid influenza at school. The decision about whether to stay home should be made in consultation with their health care provider. People who elect to stay home from school should also attempt to decrease their

exposure in other ways for example, by avoiding large public gatherings. Well students should be expected to continue their education while at home as much as possible.

Schools should prepare for discussions with parents about school safety and should consult with school boards and legal counsel about policy accommodations that might be necessary to allow students and staff at high risk for influenza complications to stay home. Local and state laws and policies also might need to be reviewed for applicability. Policies to be reviewed may be official or unofficial, such as school principals' awards for students with perfect attendance. Schools should plan now for ways to continue educating students who stay home through methods such as instructional telephone calls, homework packets, internet-based lessons, and other distance-based learning approaches.

3- Students with ill household members stay home

If influenza severity increases, school-aged children who live with people with influenza-like illness should remain home for 5 days from the day the first household member got sick. This is the time period they are most likely to get sick themselves. The greatest risk of transmission is during the first 5 days of illness of the first ill household member (about 90%), with the largest transmission risk by Day 1 of this person's illness (about 40%). Keeping all the children in the household at home during this time period may also keep the flu virus from being spread to others outside the home. If a household member develops an acute respiratory illness during this time, the recommendations for exclusion of persons with influenza-like illness should be implemented. The five-day period does not need to start again for other well children in the household.

4- Increase social distances within the school environment

If influenza severity increases, schools should explore innovative methods for increasing social distances within the school environment. The goal should be to keep distance between people at most times or to cluster students in small, consistent groups. This is not a simple or easy strategy for most schools. Implementing any of the following options would require considerable flexibility and willingness to change among students, staff, and families. Some possible options to increase the amount of space between students or to keep consistent groups of students include:

- rotate teachers between classrooms while keeping the same group of students in one classroom (in middle and high school);
- cancel classes that bring students together from multiple classrooms (in elementary school);
- postpone class trips that bring students together from multiple classrooms or schools in large, densely-packed groups;
- hold classes outdoors;
- discourage use of school buses and public transit;
- divide classes into smaller groups;
- move desks farther apart; and

- move classes to larger spaces, when available, to allow more space between students.

5- Extended exclusion period

If influenza severity increases, individuals with influenza-like illness should remain at home for at least 7 days, even if symptoms resolve sooner. Individuals who are still sick 7 days after they become ill should continue to stay home until at least 24 hours after symptoms have resolved.

This recommendation is based on viral shedding information. Influenza virus shedding generally occurs for 5 to 7 days for seasonal influenza infection. This period may be longer for persons with 2009 H1N1 flu and among young children and people who are immunocompromised. Longer periods of exclusion also may be considered based on setting- and population-specific characteristics. Schools also might prefer a longer period so that students and staff feel able to fully function at school after recovery from their illness.

Sick individuals should stay at home until the end of the exclusion period, to the extent possible, except when necessary to seek required medical care. Sick individuals should avoid contact with others. CDC recommends this exclusion period whether or not antiviral medications are used. People on antiviral treatment may shed influenza viruses that are resistant to antiviral medications.

When people who have had influenza-like illness return to school they should continue to practice good respiratory etiquette and hand hygiene and avoid close contact with people likely to be at increased risk of influenza-related complications. To lessen the chance of spreading influenza viruses that are resistant to antiviral medications, adherence to good respiratory etiquette and hand hygiene is as important for people taking antiviral medications as it is for others.

For more information on caring for sick persons in the home, see [Taking Care of a Sick Person in Your Home](http://www.cdc.gov/h1n1flu/guidance_homecare.htm) (http://www.cdc.gov/h1n1flu/guidance_homecare.htm).

6- School dismissals: reactive and preemptive

In case influenza severity increases, CDC recommends that communities review and prepare to implement their school dismissal plans according to the guidelines outlined below. School and health officials should balance the risks of influenza in their community with the disruption dismissals will cause in both education and the wider community. **School officials should work closely and directly with their local and state public health officials to make sound decisions, based on local conditions, and to implement strategies in a coordinated manner.**

When communities choose to use school dismissal, education and public health officials should clearly state to parents and their communities the reason for dismissing students and the type of

school dismissal they are implementing. There are three types of school dismissals: selective (described above), reactive, and preemptive.

Reactive dismissals might be appropriate when schools are experiencing excessive absenteeism among students or staff, a large number of children are visiting the school health office or being sent home from school during the school day with documented fever, the school is not able to keep potentially infectious people out, or for other reasons that decrease the ability to maintain school functioning. Reactive dismissals might reduce the burden on the local health care system.

As with selective dismissals, the decision to dismiss students should be made locally and should balance the goal of reducing the number of people who become seriously ill or die from influenza with the goal of minimizing social disruption. School officials are encouraged to work collaboratively and communicate with neighboring districts or schools to keep others in the region aware of actions that are taken. Officials might decide to dismiss or not dismiss students from their own schools based on the experiences of their neighbors. The risk to students and staff from an ongoing school-based outbreak if potentially infectious individuals cannot be excluded from school may also lead some jurisdictions to decide to close schools. In this case, school-related mass gatherings also should be cancelled or postponed.

Preemptive dismissals can be used to decrease the spread of influenza virus or to reduce demand on the health care system. If global or national risk assessments indicate an increased level of severity compared with the spring 2009 H1N1 influenza outbreak, CDC might recommend preemptive school dismissals. If schools are dismissed, school-related mass gatherings should be cancelled or postponed. This would include sporting events, school dances, performances, rallies, commencement ceremonies, and other events that bring large groups of people into close proximity with one another.

School dismissal is likely to be more effective in decreasing the spread of influenza virus in the community when used *early* in relation to the appearance of the virus in the community and when used in *conjunction* with other strategies (for example, cancellation of community sporting events and other mass gatherings). Cancellation or postponement of community events is a decision of event organizers, local public health officials and other government agencies and should be part of a coordinated community process.

A vaccine for 2009 H1N1 flu will likely become available in fall 2009. For children, at least, protective immunity will require 2 doses of vaccine, separated by at least 3 weeks and an additional 2 weeks for the immune response to develop (that is, approximately 5 weeks after the first vaccination). If an increase in community-wide transmission occurs shortly before vaccine-induced immunity is anticipated, or before a scheduled vacation, some jurisdictions may consider preemptive dismissals.

Resuming classes after a dismissal

The length of time students should be dismissed from school will vary depending on the type of school dismissal as well as the severity and extent of illness. **When the decision is made to dismiss students, CDC recommends doing so for 5 to 7 calendar days.** Reactive school dismissals are likely to be of shorter duration than selective or preemptive dismissals. Because the goals of selective dismissals (to protect students and staff at high risk of severe illness or death) and

preemptive dismissals (to decrease the spread of influenza virus) are usually different from those of reactive dismissals, the length of time schools are dismissed might be longer.

On a regular basis (for example, weekly) communities that have dismissed students from school should reassess the epidemiology of the disease, the benefits of keeping students home, and the societal repercussions of doing so. Based on this reassessment, communities may decide either to extend the school dismissal or to reopen schools. In the event that CDC recommends preemptive school dismissals, this recommendation also might include a modification to the suggested length of dismissal, based on the severity observed across the nation and globally. Therefore, schools and school boards should plan for more prolonged periods of school dismissal. If schools attempt to continue educational services to all students during a lengthy school dismissal, students with disabilities should receive comparable access to education.

The authority for decision-making regarding school dismissal may reside in multiple sectors of state and local government; these entities must work in a coordinated manner. National, regional, or local data, and the decision-making guidance included in this document, may be useful for determining whether to dismiss schools.

Reducing adverse effects from school dismissal

As part of a community planning process, school dismissal plans should address possible secondary effects on the community. The planning process should include communicating these plans with all community members affected by school dismissal. These might include effects on critical infrastructure, parents' job security and income loss, school funding due to funding calculations based on attendance, child nutrition due to the loss of access to the school meals program, loss of access to health services, educational progress, and child safety due to possibly increased unsupervised time. Communities should prepare to address these secondary effects so as to increase the acceptability of and participation in school dismissal. Parents should plan for child care while schools are dismissed, as these decisions may be made very quickly.

Communities should also plan to allow school staff to use school facilities while students are dismissed. Keeping school facilities open may allow teachers to develop and deliver lessons and materials (for example, by using school teleconference lines or other distance-based education delivery systems) and other staff to provide essential services (such as preparation of meals) keeping in mind basic infection control practices.