Screening K-12 Students for Symptoms of COVID-19: Limitations and Considerations

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This document provides guidance to K-12 schools on COVID-19 symptom screening as part of a school reopening process. The guidance detailed here is intended only for **students in K-12** school settings. The number of reported children with SARS-CoV-2 (the virus that causes COVID-19) infection who experience symptoms, the types of symptoms they experience, and the severity of those symptoms differs from adults. Additionally, the consequences of excluding students from essential educational and developmental experiences differ from excluding individuals from other settings. Therefore, the considerations described here are different than those for other settings and populations. For guidance related to screening of teachers and staff, please refer to CDC's Interim Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 and the "Prevent Transmission Among Employees" section of CDC's Resuming Business Toolkit .

We learn more about COVID-19 every day, and as more information becomes available, CDC will continue to update and share information. As our knowledge and understanding of COVID-19 evolves, this guidance may change. **However, based on the best available evidence at this time:**

- **CDC does not currently recommend universal symptom screenings (screening all students grades K-12) be conducted by schools.**
- **Parents or caregivers should be strongly encouraged to monitor their children for signs of infectious illness every day.**
- **Students who are sick should not attend school in-person.**

COVID-19 is a newly identified disease caused by the virus, SARS-CoV-2. Scientists are still learning about how it spreads, how it impacts children, and what role children may play in its spread. Limited data about COVID-19 in children suggest that children are less likely to get COVID-19 than adults, and if they do contract COVID-19, they generally have less serious illness than adults. While uncommon, deaths and rare illness such as multisystem inflammatory syndrome in children (MIS-C) may still occur.

People with COVID-19 have had a wide range of reported symptoms – ranging from mild symptoms to severe illness. Symptoms may appear **2-14 days after exposure to** SARS-CoV-2. Symptoms can include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

This list does not include all possible symptoms and children and youth with SARS-CoV-2 infection may experience any, all, or none of these symptoms. (See Symptoms of Coronavirus for more information).

Given the wide range of symptoms and the fact that some people with SARS-CoV-2 infection (the virus that causes COVID-19) are asymptomatic, there are limitations to symptom screening conducted by schools for the identification of COVID-19.

Limitations of Symptom Screenings as Part of a School Reopening Strategy

- **Symptom screenings will fail to identify some students who have SARS-CoV-2 infection**. Symptom screenings are not helpful in identifying individuals with SARS-CoV-2 infection who are asymptomatic or pre-symptomatic (they have not developed signs or symptoms yet but will later). Others may have symptoms that are so mild, they may not notice them. In fact, children are more likely than adults to be asymptomatic or to have only mild symptoms. [1], [2], [3] The exact percentage of children with SARS-COV-2 infection who are asymptomatic is still unknown, but recent large studies have suggested around 16% of children with SARS-CoV-2 infection do not develop symptoms. [4] This means that even when schools have symptom screenings in place, some students with SARS-CoV-2 infection, who can potentially transmit the virus to others, will not be identified.

- **Symptom screenings will identify only that a person may have an illness, not that the illness is COVID-19.** Many of the symptoms of COVID-19 are also common in other childhood illnesses like the common cold, the flu, or seasonal allergies. The table below illustrates some of the overlap between the symptoms of COVID-19 and other common illnesses.

Table. Many symptoms of COVID-19 are also present in common illnesses

Symptoms of COVID-19	Strep Throat	Common Cold	Flu	Asthma	Seasonal Allergies
Fever or chills	X		X		
Cough		X	X	X	X
Sore throat	X	X	X		X
Shortness of breath or difficulty breathing				X	
Fatigue		X	X	X	X
Nausea or Vomiting	X		X		
Diarrhea	X		X		
Congestion or Runny Nose		X	X		X
Muscle or body aches	X	X	X		

Note: The table above does not include all COVID-19 symptoms

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The overlap between COVID-19 symptoms with other common illnesses means that many people with symptoms of COVID-19 may actually be ill with something else. This is even more likely in young children, who typically have multiple viral illnesses each year. For example, it is common for young children to have up to eight respiratory illnesses or “colds” every year. [1]Although COVID-19 and illnesses like colds or the flu have similar symptoms, they are different disease processes.

Some studies have tried to identify which symptoms may best predict whether an individual has COVID-19, although these studies have primarily focused on those over 18-years-old. [6], [7], [8], [9] In children, fever has been the most frequently reported symptom. However, fever is common in many other illnesses, and temperatures can be taken improperly and falsely interpreted as fever. Additionally, there is no symptom or set of symptoms that only occurs in children diagnosed with COVID-19.

Additionally, students with chronic conditions like asthma or allergies may have symptoms like cough or nasal congestion without having any infection at all. As a result, symptom screenings have the potential to exclude some students from school repeatedly even though they do not have COVID-19 or any contagious illness. This in turn may worsen disparities in students who already miss school frequently because of chronic medical conditions.

Students who are sick with contagious illnesses should not attend school, but most illnesses do not require the same level or length of isolation that COVID-19 does. Excluding students from school for longer than what is called for in existing school policies (e.g., fever free without medication for 24-hours) based on COVID-19 symptoms alone risks repeated, long-term unnecessary student absence.

Symptom screenings alone are inadequate to reduce SARS-CoV-2 transmission because of the limitations mentioned. Even when symptom screenings are implemented, other mitigation strategies (such as promoting healthy behaviors, maintaining healthy environments, maintaining healthy operations, and preparing for when someone gets sick) are still needed to help protect students, teachers, and staff from COVID-19.

The exact level of effectiveness of symptom screening in schools is not known at this time. While screening may reduce some SARS-COV-2 transmission in schools, transmission may still occur because of asymptomatic, pre-symptomatic, and mildly symptomatic students. Additionally, because symptom screenings will likely identify individuals who have symptoms that are unrelated to COVID-19 and, at times, unrelated to any infectious illness, students may be inappropriately excluded from school, which may cause unintended harm. It is because of these limitations that CDC does not currently recommend that universal symptom screenings be conducted at schools.

Considerations If Symptom Screenings Are Used in School Settings

For schools that choose to implement on-site symptom screenings, CDC offers the following considerations:

- Consider the scientific evidence outlined above and weigh the risks and benefits to students, staff, and the larger community.
- Consider how school policies regarding symptom screenings can balance the resources required and feasibility of implementation and the risk of transmission in schools.
- Consider ways to reduce the likelihood of excluding students who do not have COVID-19 from essential instructional and critical developmental experiences.
- Before sharing personally identifiable information on students concerning COVID-19, consider Federal, state, and local requirements, including provisions in the Family Educational Rights and Privacy Act (FERPA).

Some of the factors schools may weigh include:

Feasibility

- If symptom screenings are implemented by the school, are there enough staff who are sufficiently trained in screening procedures as well as in putting on and taking off personal protective equipment (PPE)?
- How will results of screening be verified (e.g., temperatures taken improperly can lead a falsely elevated temperature to be interpreted as a fever)?
- Is proper equipment (e.g., thermometers, PPE) available in sufficient quantities?
- How will proper cleaning of the screening area and equipment be ensured?
- Will processes be in place to ensure screeners and students maintain safe distance during screening?
- If symptom screenings are conducted by parents, guardians, or caregivers, will results be reported and verified?
- Will processes be used to follow-up if parents, guardians, or caregivers do not report screening results?
- What training for teachers and other school personnel will be provided regarding how to have conversations with parents about conducting home symptom screening? What protections will be included for staff who are more susceptible to COVID-19?

Harm mitigation

- What strategies are needed to reduce the harms to students and their families when students are excluded from school, such as students who rely on school meals or impact on parental ability to work, when screenings falsely identify their chronic symptoms as symptoms of COVID-19?
- How will students with chronic conditions or special health care needs be accommodated to minimize the risk of symptom screenings falsely identifying chronic symptoms as symptoms of COVID-19?
- How will stigma be reduced for students who are identified as having symptoms of COVID-19, regardless of whether they actually have COVID-19?
- What is the emotional impact of daily screenings on young children and how can fear of new mitigation protocols, such as adults wearing personal protective equipment (PPE), be reduced?
- How will ill students be afforded the opportunity to make up any missed classwork without penalty to reduce mental or physical anxieties about missed academic opportunities when screening falsely identifies their chronic symptoms as symptoms of COVID-19?

Level of community transmission in the area where the school is located

- If there is minimal COVID-19 transmission in the community, symptom screenings will be more likely to identify people with symptoms who have something other than COVID-19. Symptom screening in this scenario will be more likely to identify other things, not SARS-CoV-2/COVID-19, including certain chronic symptoms, some of which may not require staying home.
- When there is more community transmission, the likelihood that individuals with symptoms actually have COVID-19 is higher. Therefore, symptom screenings may be more helpful when COVID-19 transmission in the community is high.

Recommendations of local public health authorities

- Regardless of above factors, schools should ensure that their policies follow the recommendations of local public health officials and are consistent with Federal, state, and local laws, including FERPA.
- Schools that chose to conduct symptoms screening should contact their local health departments with questions regarding practices and implementation.

Uses of symptom screening

Schools should also understand what symptoms screening does and does not do. When implemented, the purpose of symptom screening is to identify individuals who may have COVID-19 and exclude those individuals from a setting to reduce the risk of transmission to others. Symptom screening **does not** assess whether it is safe for an individual student to attend school or whether a student has an increased risk for severe illness if they develop COVID-19. Symptom screenings also do not provide enough information to diagnose someone with COVID-19.

There is not a single symptom that is uniquely predictive of a COVID-19 diagnosis. A COVID-19 viral test is needed to confirm if someone has a current infection. Schools may already have illness management criteria in place for school admittance; this is an opportunity to review that criteria and consider recommending stricter adherence to their existing illness management criteria.

Although CDC does not currently recommend conducting universal symptom screening at school, students should not attend school when they are sick. Home symptom screenings rely on students and their parents, guardians, or caregivers initially identifying when the student may have signs and symptoms of illness and to take action (such as staying home). This process can also be followed by school staff by monitoring children for overt symptoms of any infectious illness that may develop during the school day and helping the student and family take needed actions.

It is essential for schools to reinforce to students, parents or caregivers, and staff **the importance of students staying home when sick** until at least 24 hours after they no longer have a fever (temperature of 100.4 or higher) or signs of a fever (chills, feeling very warm, flushed appearance, or sweating) without the use of fever-reducing medicine (e.g., Tylenol). Policies that encourage and support staying home when sick will help prevent the transmission of SARS-CoV-2 (and other illnesses including flu) and help keep schools open.

Symptom screening at home can be helpful to determine if a student:

1. currently has an infectious illness that could impair their ability to learn, or

1. currently has an infectious illness that could impair their ability to learn, or
2. is at risk of transmitting an infectious illness to other students or to school staff.

What content should schools include in a home screening process for parents or caregivers?

Schools that elect to encourage parents, guardians, or caregivers to conduct daily home screenings should ask parents to report their answers on two topics: **Symptoms** and **Close Contact/Potential Exposure** (see below). Parents, guardians, and caregivers can self-report the answers to these questions through existing school health portals or school communication platforms in the morning before the student leaves for school. Schools can use the template below to share with parents and aid in daily reporting.

Daily Home Screening for Students

Parents: Please complete this short check each morning and report your child's information [INSERT YOUR SCHOOL REPORTING INSTRUCTIONS] in the morning before your child leaves for school.

Daily Home Screening for Students [1 page]

SECTION 1: Symptoms

If your child has any of the following symptoms, that indicates a possible illness that may decrease the student's ability to learn and also put them at risk for spreading illness to others. Please check your child for these symptoms:

- ☐ Temperature 100.4 degrees Fahrenheit or higher when taken by mouth
- ☐ Sore throat
- ☐ **New** uncontrolled cough that causes difficulty breathing (for students with chronic allergic/asthmatic cough, a change in their cough from baseline)
- ☐ Diarrhea, vomiting, or abdominal pain
- ☐ New onset of severe headache, especially with a fever

SECTION 2: Close Contact/Potential Exposure

- ☐ Had close contact (within 6 feet of an infected person for at least 15 minutes) with a person with confirmed COVID-19
- ☐ Traveled to or lived in an area where the local, Tribal, territorial, or state health department is reporting large numbers of COVID-19 cases as described in the Community Mitigation Framework
- ☐ Live in areas of high community transmission (as described in the Community Mitigation Framework) while the school remains open

Return-to-School Policies

If the student/parent/caregiver answers YES to any question in Section 1 but NO to all questions in Section 2, the student would be excused from school in accordance with existing school illness management policy (e.g., until symptom-free for 24 hours without fever reducing medications).

If the student or parent or caregiver answers YES to any question in Section 1 and YES to any question in Section 2, the student should be referred for evaluation by their healthcare provider and possible testing. CDC strongly encourages local health departments to work with local school systems to develop a strategy to refer symptomatic individuals to an appropriate healthcare provider or testing site. State, Tribal, territorial, and local health officials and/or healthcare providers will determine when viral testing for SARS-CoV-2 is appropriate. Schools should not require testing results as a part of return to school policies. Students who have received a negative test result should be allowed to return to school once their symptoms have otherwise improved in accordance with existing school illness management policies.

Students diagnosed with COVID-19 or who answer YES to any question in Section 1 and YES to any question in Section 2 without negative test results should stay home, isolate themselves from others, monitor their health, and follow directions from their state or local health department. Students and their families should be advised that the local health department may contact the family for contact tracing. If contacted, families should notify the contract tracer that the student attended school.

Students diagnosed with COVID-19 or who answer YES to any component of Section 1 AND YES to any component of Section 2 without negative test results should be permitted to return to school should be in line with current CDC recommendations in "When Can I Be Around Others". A negative test or doctor's note should **not** be required for return. Questions regarding return to school should be jointly decided in consultation with parents or caregivers, school personnel, and the student's healthcare provider.

Students who are excluded from school should be afforded the opportunity, as soon as feasible when they are well enough to participate in classwork, to make up any missed classwork without penalty in order to reduce mental or physical anxieties about missed academic opportunities.

School Isolation Protocols

Some students may develop symptoms of infectious illness while at school. Schools should take action to isolate students who develop these symptoms from other students and staff.

- Students with any of the symptoms in Section 1 should follow their school's current illness management policy to minimize transmission to others, to optimize learning opportunities, and to allow for these symptoms to resolve (at least 24 hours without fever reducing medications or in accordance with existing school illness policy).

- Students who develop any of the symptoms in Section 1 while at school should be placed in an isolation area separate from staff and other students:
  - School staff (e.g., workers, teacher aides, school health staff) who interact with a student who becomes ill while at school should use Standard and Transmission-Based Precautions when caring for sick people.
  - Students who are sick should go home or to a healthcare facility depending on how severe their symptoms are, and follow CDC guidance for caring for oneself and others who are sick.

- Students identified at school who develop any of the symptoms in Section 1 AND answer YES to any of the questions in Section 2 should be placed in an isolation area separate from staff and other students (e.g., a nurse's office) and then sent home or to a healthcare facility if symptoms indicate a need for further evaluation:
  - If a school needs to call an ambulance or bring a student to the hospital, they should first alert the healthcare staff that the student may have been exposed to someone with COVID-19.
  - After the student is placed in an isolation area, school staff who work in the isolation area should follow CDC's Considerations for Cleaning and Disinfecting your Building or Facility.
  - **Note:** In developing plans for placing students with symptoms in an isolation area, schools should be mindful of appropriate safeguards to ensure that students are isolated in a non-threatening manner, within the line of sight of adults, and for very short periods of time.

References

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