# Managing Communicable Diseases

# in Schools

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MICHIGAN Department of Education

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## Disease Basics

Schools can play a major role in helping to reduce or prevent the incidence of illness among children and adults in our communities. Encouraging good hand hygiene, following cleaning recommendations, and adhering to the most up-to-date mask requirements and recommendations contribute to a safe and healthy learning environment for children. When schools report illness to their local health department (LHD), public health specialists can assist schools with disease prevention and control guidance. This document provides schools with general information on what steps they can take to prevent and control communicable disease.

### How Diseases are Spread

Understanding how diseases are spread can help prevent illness. Here are the most common routes of transmission:

- Fecal-oral: Contact with human stool; usually ingestion after contact with contaminated food or objects.
- Respiratory: Contact with respiratory particles or droplets from the nose, throat, and mouth.
- Direct skin-to-skin contact: Contact with infected skin.
- Indirect contact: Contact with contaminated objects or surfaces.
- Bloodborne: Contact with blood or body fluids.

#### Coughing and Sneezing

Teach children (and adults) to cough or sneeze into tissues or their sleeve and not onto surfaces or other people. If children and adults sneeze into their hands, hands should be washed immediately.

#### Handwashing Procedures

Washing your hands is one of the easiest and best ways to prevent the spread of diseases. Hands should be washed frequently including after toileting, coming into contact with bodily fluids (such as nose wiping), before eating and handling food, and any time hands are soiled. It is also important that handwashing occurs frequently throughout the day. Establish a process for immediate handwashing or the use of hand sanitizers prior to school building entry. Water basins and pre-moistened cleansing wipes are not approved substitutes for soap and running water. Alcohol-based hand sanitizers containing at least 60% alcohol may be used when soap and water are not available, and hands are not visibly soiled. However, sanitizers do not eliminate all types of germs so they should be used to supplement handwashing with soap and water. The general handwashing procedure includes the following steps:

- Wet hands under warm running water.
- Apply liquid soap. Antibacterial soap is not recommended.
- Vigorously rub hands together for at least 20 seconds to lather all surfaces of the hands. Pay special attention to cleaning under fingernails and thumbs.
- Thoroughly rinse hands under warm running water.
- Dry hands using a single-use disposable towel or an air dryer.
- Turn off the faucet with the disposable towel, your wrists, or the backs of your hands.

#### Bloodborne Exposures

Bloodborne pathogens, such as Hepatitis B virus (HBV), Hepatitis C virus (HCV) and human immunodeficiency virus (HIV), can be found in human blood and other body fluids. Bloodborne pathogens can be transmitted when there is direct contact with blood or other potentially infected material. This can include blood entering open cuts or blood splashing into mucous membranes (eyes, nose or mouth). All human blood should be treated as if it is infectious. If any bloodborne exposure occurs, contact your LHD to discuss the need for public health or medical follow-up. Carriers of bloodborne pathogens should not be excluded from school. For more information, see the Michigan Department of Education's "Bloodborne Pathogens and School Employees" website at http://www.michigan.gov/mde/0,4615,7-140-28753_64839_38684_29233_29803-241996--,00.html

## Responding to Disease in a School

Develop a written plan for school staff on how to address illnesses and reduce spread. Prompt action by staff may prevent a serious outbreak of communicable disease. Consider contacting your LHD for guidance on creating a plan. Within this plan, the following topics should be covered:

**Require sick students and staff to stay home.**

- Share resources with the school community to help families understand when to keep children home. The When to Keep Your Child Home guidance from the American Academy of Pediatrics can be helpful.

**Establish policies and procedures for students and staff who are sick at school.**

- Establish or update policies and procedures to ensure students and staff who become sick at school or arrive at school sick are sent home as soon as possible.
- Recommend that individuals at higher risk for severe illness from exposure to communicable disease consult with their medical provider to assess their risk and to determine if they should stay home if there is an outbreak in the community.
- Schools are not expected to screen students or staff to identify communicable disease. If a community (or more specifically, a school) has cases of a communicable disease, local health officials will help identify those individuals and will follow up on next steps.
    - Michigan Communicable Disease Rules state "Primary schools, secondary schools, preschools, camps, or child daycares **must** report to their local health department the suspected occurrence of any communicable disease [in the reportable disease list], along with any unusual occurrence, outbreak, or epidemic of any disease, infection, or condition, amongst those in attendance. Notification to the local health department should include symptoms, number of ill students and staff, affected facilities, and closings due to illness".
- Monitor and Plan for Absenteeism Among Your Staff.
    - Develop plans to cover classes in the event of increased staff absences. Coordinate with ISDs and reach out to substitutes to determine their anticipated availability if regular staff members need to stay home if they or their family members are sick.

**Isolation guidance for schools:**

Keep sick students and staff, particularly those with symptoms of respiratory illness or gastrointestinal distress, separate from well students and staff until they can leave. Plan to have areas where these individuals can be isolated from well students and staff until they can leave the school. CDC provides guidance on an isolation plan if someone arrives or becomes ill at school. Isolation "separates sick people with a contagious disease from people who are not sick" (CDC, 2017).

The school plan should include the following:

- Evaluate the current designated space for school health services and determine if there is an adjacent space for isolation.
- If an adjacent space is not available, consider moving the school health work area to another larger location with a separate adjacent space.
    - Consideration of ventilation such as windows and an outside door is preferable to reduce the spread of disease for isolated individuals exiting the building.
    - Computer, phone, internet, and restrooms with handwashing facilities are required in the school health designated space.
- Create a "*When to isolate and send students and staff home*" flow chart for unlicensed staff and school administrators to follow if the school nurse is not present or is not in the school 100% of the time.
- Train unlicensed assistive personal on the administration of this flow chart, proper temperature taking procedure, and the use of Personal Protective Equipment (PPE), including eye protection, gowns, gloves, and facemasks.

- N95 masks may be recommended for healthcare providers and must be fit-tested to ensure proper protection. If N95 masks are not available due to supply issues, other facemasks may be used. See CDC Strategies for Optimizing PPE.
- If not already wearing a facemask, a surgical or cloth mask should be provided to anyone with respiratory symptoms and fever over 100.4°F if available and tolerated by the person and developmentally appropriate.
  - Send ill staff immediately home with administrative support, and isolate students if caregivers are not present to immediately take them home.
  - Using a tracking form, track students with symptoms of communicable disease and report to local public health for follow up.
  - If a sick child has been isolated in your facility, clean and disinfect surfaces in your isolation room or area after the sick child has gone home:
    - Close off areas used by the person who is sick.
    - Open outside doors and windows to increase air circulation in the areas.
    - Wait 24 hours or as long as possible before you clean or disinfect to allow respiratory droplets to settle before cleaning and disinfecting.
    - Clean and disinfect all areas used by the ill person, such as offices, bathrooms, and common areas.
    - If more than seven days have passed since the person who is sick visited or used the facility, additional cleaning and disinfection is not necessary. Continue routine cleaning and disinfection.
- Work closely with local public health for procedures for re-entry when schools have been closed for more than two weeks.
- Refer parents of high-risk students to their healthcare providers to determine when school re-entry is recommended.

**Implement an Incident Command System to Identify Roles and Responsibilities**

Develop a standard strategy for handling all school related incidents, regardless of the agencies or partners involved.

**Communication Plan**

Partner with public health officials to develop a core set of symptoms to be distributed to families, via the parent handbook and the school website. If there is an identified cluster, depending on the scope of the incident, public health officials may send this guidance to media, doctors, and pharmacies to include key community stakeholders.

Timely and accurate communication is a critical component of the response and recovery phases of the emergency management plan. During a crisis or emergency, communication with parents, staff, families, students, and the media is important, and each group may require different, yet consistent, messages.
Messaging efforts should:

- Coordinate with the local health department to correct any inaccurate information released by the media.
- Counter potential stigma and discrimination.
- Share actions taken by school administration.
- Provide information about additional safety precautions in place.
- Stress the importance of student and staff well-being and safety.

Train staff who answer the phone to help ensure that consistent messages are delivered to all callers. At the onset of an incident, schools may want to conduct a brief training session to provide and review scripts that include questions and answers, names and numbers of referrals, and resources to those who answer the phones.

Parents: Communication actions may include multiple communications via automated phone systems, formal letters from the administration, one letter from the classroom teacher, disease fact sheets and parent meetings.
Reminder: During an outbreak, families often want immediate information and may become concerned if they feel that information is being withheld or delayed. This is a challenge for some infectious disease outbreaks because of the time it takes for results to be reported and for public health interventions to be implemented. Communicate to families that the school is working with public health to stop the outbreak as quickly as possible.

**Establish a Partnership with the Media Before an Event Occurs**

The district and school should take appropriate measures to deliver information to the media including:

- A designated media holding center.
- Identification of the Public Information Officer (PIO) as outlined in the National Incident Management System (NIMS).
- Establishment of media briefing schedules.
- Development procedures for writing and approving news releases.
- Messages with consistent content for dissemination by the various agencies.

**Additional Actions for Schools to Consider When Planning for an Infectious Disease Outbreak**

Creating memoranda of understanding (MOUs) with mental health professionals

Any type of crisis or emergency involving a school can disrupt the sense of safety that teachers, students, and their families experience. The unpredictable nature of an infectious disease outbreak is a source of stress for all, especially when someone is hospitalized, seriously ill or passes away. To supplement the district's crisis intervention team efforts to provide counseling to students, staff and parents, districts may want to partner with local mental health providers. These professionals can step in to help respond and recover from the outbreak. It is important that schools create MOUs with area mental health professionals so that in the event of an infectious disease, or any other incident, there is a clear plan with designated roles and responsibilities for calming fears and anxieties.

Providing guidelines for social distancing

Social distancing refers to procedures to decrease the frequency of contact among people to lessen the risk of spreading an infectious disease. Depending on the type and severity of the infectious disease, closing schools may not be enough to slow the spread. It is recommended that, when closing schools, public health partners encourage social distancing for students and issue guidelines for social distancing. These procedures or guidelines, which may be distributed through the school networks, will play an integral role in limiting the transmission of disease.

Social distancing strategies

Select strategies are based on feasibility given the unique space and needs of the school. Not all strategies will be feasible for all schools. For example, limiting hall movement options can be particularly challenging in secondary schools. Many strategies that are feasible in primary or secondary schools may be less feasible in childcare settings. Administrators are encouraged to think creatively about all opportunities to increase the physical space between students and limit interactions in large group settings. Schools may consider strategies such as:

- **Cancel field trips, assemblies, and other large gatherings.** Cancel activities and events such as field trips, student assemblies, athletic events or practices, performances, school-wide parent meetings, or spirit nights.
- **Cancel or modify classes where students are likely to be in very close contact.** For example, in physical education or choir classes, consider having teachers come to classrooms to prevent classes mixing with others in the gymnasium or music room).
- **Increase the space between desks.** Rearrange student desks to maximize the space between students. Turn desks to face in the same direction (rather than facing each other) to reduce transmission caused from virus-containing droplets (e.g., from talking, coughing, sneezing).
- **Avoid mixing students in common areas.** If it is not possible to suspend use of common areas, try to limit the extent to which students mix with each other, and particularly with students from other classes.
    - Allow students to eat lunch and breakfast in their classrooms rather than mixing in the cafeteria.
    - Stagger lunch by class.
    - Separate lunch and recess area by class.
    - Send a few students into the library to pick out books rather than going as a class.
    - Suspend the use of lockers.
    - Restrict hallway use through homeroom stays or staggered release of classes.
    - Try to avoid taking multiple classes to bathrooms at once (e.g., avoid having all classes use the bathroom right after lunch or recess).

    - In childcare or elementary school settings, consider staggering playground use rather than allowing multiple classes to play together.
    - Limit other activities where multiple classes interact.
- **Stagger arrival and/or dismissal times.** These approaches can limit the amount of close contact between students in high-traffic situations and times.
- **Reduce congestion in the health office.** For example, use the health office for children with flu-like symptoms and a satellite location for first aid or medication distribution.
- **Limit nonessential visitors.** Limit the presence of volunteers for classroom activities, mystery readers, cafeteria support, and other activities.
- **Limit cross-school transfer for special programs.** For example, if students are brought from multiple schools for special programs (e.g., music, robotics, academic clubs), consider using distance learning to deliver the instruction or temporarily offering duplicate programs in the participating schools.
- **Teach staff, students, and their families to maintain a distance of six feet from each other in the school.** Educate staff, students, and their families at the same time and explain why this is important. Visual markers on the ground may encourage social distancing and should be considered in places where students, staff, and visitors congregate (e.g., lunch lines, in the office, outside of classrooms, and in bathrooms).

**Develop a Continuity of Operations (COOP) Plan**

A Continuity of Operations Plan (COOP) or long-term contingency plan ensures that school districts have the capability to continue essential functions across a wide range of crises and emergencies. The purpose of this contingency plan is to continue the performance of essential functions, reduce or mitigate disruptions to operations and achieve a timely recovery and reconstitution of the learning environment.

COOP components that may help districts prepare for, respond to, and recover from a communicable disease outbreak may include, but are not limited to:

- Maintaining essential functions, goods, and services, such as payroll, under a variety of conditions.
- Identifying and providing the support and technology for functions that can be performed from other remote locations.
- Identifying essential people who must continue to work.
- Identifying and delegating authority for closing schools, continuing functions (such as school lunch provision), identifying schools' potential responsibilities and liabilities, granting exemptions to required school days and modifying statewide assessment dates and requirements.
- Maintaining personnel and human resources policies (leave, disability, potential high absenteeism, non-salaried employees) which may involve prior negotiations with officials from employee unions.
- Reviewing policies and contracts, including those pertaining to potentially ordering warehouse items, such as tissues, soap, or hand sanitizer. Identifying financial resources for maintaining a continuous supply of preventive supplies, such as tissues, soap, or hand sanitizer.
- Installing backup power systems or sending all records to other locations for quick retrieval for all "core" functions (e.g., data processing, payroll, student records).
- Developing payroll systems in the event of a long-term closure (establishing alternative regional paycheck distribution sites or requesting employees arrange for direct deposit of paychecks).
- Coordinating with elected officials, government leaders, school officials, response partners and business leaders to plan alternative venues for learning to continue if necessary.
- Planning for the needs of students eligible for free and reduced-price meals in the event of a long-term closure.
- Considering alternative arrangements for students with special health needs that receive physical or occupational therapy at the school during school hours.

**Plan for Alternative School Uses**

School Based Immunization Clinic suggestions:

- Collaborate with the health department on clinic planning.
- Conduct a walk-through of the school with the building engineer to determine appropriate areas and traffic patterns for orienting the families, helping families complete intake forms, keeping children occupied while waiting for medications or immunizations (without the use of commonly-touched objects like books or toys).
- Consider having families wait in their cars, ready to receive a text message when it is their turn.
- Have people who are familiar to the students, families, and community members present at the clinic.

Additional considerations may include:

- Provide signage, directional arrows, or additional staff to help with moving families through the process.
- Have a central site serve as a check in and checkout desk for all those who are working at the clinic.
- If several parts of the building will be used, provide radios, walkie-talkies, and cell phones to avoid delays when trying to locate someone or transmitting a message. If using radios, have people practice how to use them during regularly scheduled fire or other safety drills.
- Determine if the school building requires cleaning or sterilization and if disposal of supplies requires special procedures. Arrange for these services before the clinic is closed in order to restore the learning environment as soon as possible.

**When to Exclude a Child from School***

Many illnesses do not require exclusion. However, children may be excluded if the illness prevents the child from participating comfortably in school activities or if there is risk of spread of harmful disease to others. Criteria include:

1. Severely ill: A child that is lethargic or less responsive, has difficulty breathing, or has a rapidly spreading rash.
2. Fever: A child with a temperature of 101°F or greater AND behavior changes or other signs or symptoms (e.g., sore throat, rash, vomiting, or diarrhea). The child should not return until 24 hours of no fever, without the use of fever-reducing medications.
   *Note: If there is influenza-like-activity or COVID-19-like-activity in the school or in the community, criteria would also include a temperature over 100.4°F and respiratory symptoms (e.g., cough, sore throat).*
3. Diarrhea: A child has two loose or watery stools. The child should have no loose stools for 24 hours prior to returning to school. Exception: A healthcare provider has determined it is not infectious. Diarrhea may be caused by antibiotics or new foods a child has eaten. Discuss with a parent/guardian to find out if this is the likely cause. For students with diarrhea caused by *Campylobacter*, *E. coli*, *Salmonella* or *Shigella*, please refer to the chart below for exclusions and required clearance criteria.
4. Vomiting: A child that has vomited two or more times. The child should have no vomiting episodes for 24 hours prior to returning. Exception: A healthcare provider has determined it is not infectious.
5. Abdominal pain: A child with abdominal pain that continues for more than two hours or intermittent pain associated with fever or other symptoms.
6. Rash: The child with a rash AND has a fever or a change in behavior. Exclude until the rash subsides or until a healthcare provider has determined it is not infectious. For students with a diagnosed rash, please refer to the chart below for exclusions and required clearance criteria.
   *Note: Rapidly spreading bruising or small blood spots under the skin need immediate medical attention.*
7. Skin sores: A child with weeping sores on an exposed area that cannot be covered with waterproof dressing.
8. Certain communicable diseases: Children and staff diagnosed with certain communicable diseases, including COVID-19, may have to be excluded for a certain period of time. **See the chart below for disease-specific exclusion periods.**

* These are general recommendations. Please consult your local health department for additional guidance.

Exclusion criteria should be based on written policies that are shared with families during enrollment and when exclusion is necessary. Written exclusion policies promote consistency and reduce confusion. Extracurricular activities also need to be curtailed when a student has a communicable disease. Anyone with a diarrheal illness (e.g., Norovirus, Salmonellosis, Shigellosis, Shiga-Toxin producing *E. coli*, Giardiasis, or Cryptosporidiosis) should not use swimming pools for two weeks after diarrhea has ceased.

### Maintain a Sanitary Setting

It is important to maintain a sanitary setting to prevent the spread of illnesses. Many items and surfaces in schools must be cleaned and sanitized frequently. To clean and sanitize means to wash vigorously with soap and water, rinse with clean water, and wipe or spray the surface with a sanitizing solution. The surface should air dry for the time listed on the product's instructions. For items that cannot be submerged into solution, spray or wipe with a sanitizing solution. Do not towel dry. Immediately wash, rinse, and sanitize items or surfaces that have been soiled with discharge such as urine or nasal drainage. Follow the Norovirus Cleaning Guidance when cleaning any vomit or stool incidents (http://www.michigan.gov/documents/mdch/NorovirusEnvironCleaning_281018_7.pdf) to prevent spread of norovirus and other gastrointestinal illnesses. Examples of sanitizing solutions include:

- Commercial sanitizers used only in accordance with the manufacturer's instructions.
- A fresh solution of water and non-scented chlorine bleach with a bleach concentration of 50–200 parts per million (one teaspoon to one tablespoon of bleach per gallon of water). More information can be found at https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants

Any cleaning, sanitizing or disinfecting product must always be safely stored out of reach of children. To avoid fumes that may exacerbate asthma, bleach sanitization should occur before or after school, using appropriate concentrations. All sanitizers must be used in a manner consistent with their labeling. If there are questions about the product, guidance is available from the National Antimicrobial Information Network at 1-800-621-8431 or npic@ace.orst.edu or from the National Pesticide Information Center at 1-800-858-7378.

### Vaccination

Vaccination is the best way to prevent many diseases. Monitor the Michigan Care Improvement Registry (MCIR) to assure that children are up to date on their vaccinations for school and childcare. Assure that staff have also received all recommended vaccines. Visit http://www.michigan.gov/mdhhs/0,5885,7-339-73971_4911_4914_68361-344843--,00.html for the Michigan Department of Health and Human Services (MDHHS) Immunization Division's School and Childcare/Pre-school Immunization Rules.

### Reporting

Michigan Law requires schools and childcare centers to report specific diseases according to Act No. 368 of the Public Acts of 1978, which states that physicians, laboratories, primary and secondary schools, child daycares, and camps are required to report the occurrence or suspected occurrence of any disease, condition, or infections as identified in the MDHHS CD rules to your LHD within 24 hours. The creation of consistent reporting procedures and measures across all schools within one district or across the state will allow the rapid detection of unusual changes or trends in student health. It is important for schools to report to their LHD for a number of reasons, including:

- To identify disease trends, outbreaks, and epidemics.
- To enable preventative treatment and/or education.
- To target prevention programs, identify care needs, and allocate resources efficiently.
- To inform epidemiological practice and research.
- To evaluate the success of long-term control efforts.
- To assist with local, state, national, and international disease surveillance efforts.

**Individual Case Reporting**

The diseases highlighted in bold in the "Disease Specific Chart" below represent a subset of the diseases required to be reported on an individual case basis to your LHD. For a complete list of diseases that are required to be reported, and LHD contact numbers, please see:
https://www.michigan.gov/documents/mdch/Reportable_Diseases_Michigan_by_Condition_478488_7.pdf
Because of the risk of **rabies**, animal bites must be reported to your LHD and/or animal control within 24 hours.

The individual case report should include the following information:

- Name of the disease.
- Student demographic information including full name, date of birth, grade, classroom, street address along with zip code, name of parent/guardian, and phone number(s).
- The date the student was first absent.
- The individual who identified the disease (e.g., healthcare provider, parent/guardian, etc.).

Family Educational Rights and Privacy Act (FERPA) allows for the disclosure of personally identifiable information in connection with a health or safety emergency to public health authorities without individual or parent authorization if knowledge of the information is necessary to protect the health or safety of the student or other individuals under § 99.31(a)(10) and § 99.36 of the FERPA regulations.

**Aggregate Reporting**

Weekly aggregate counts of flu-like illness (also referred to as influenza-like illness) are to be reported to your LHD. Influenza-like illness refers to any child with fever and a cough and/or sore throat without a known cause other than influenza. Vomiting and diarrhea alone are NOT indications of influenza or flu-like illness. Some LHDs may also require weekly aggregate counts of gastrointestinal illness, which is defined as any child with diarrhea and/or vomiting for at least 24 hours. Other diseases such as strep throat, pink eye, and head lice may also need to be reported on a weekly basis. Schools should consult their LHD for reporting requirements and how to submit communicable disease reports.

**Requesting Information from Parents**

To assist with illness reporting, schools can provide suggestions to parents/guardians about what they should report regarding their child's illness. For example, "Michigan law requires that schools report the possible occurrence of communicable disease to the local health department. To assist in this reporting, please include the illness (if known) and who diagnosed it OR a detailed description of symptoms such as vomiting, diarrhea, fever, rash, or sore throat when reporting your child's absence." Information about illness reporting can be provided in packets to parents / guardians at the beginning of the school year. This reminder message can be left on the absentee line voice message.

**Immediate Reporting of Serious or Unusual Communicable Disease**

In addition to reporting aggregate and individual cases, call your LHD **immediately** to report any of the following serious illnesses: measles, mumps, rubella, pertussis, *Haemophilus influenzae* Type B, meningitis, encephalitis, hepatitis, tuberculosis, COVID-19, or any other serious or unusual communicable disease.

**Immediate Reporting of Outbreaks**

All outbreaks of suspected or confirmed communicable diseases are **immediately** reportable to your LHD. An outbreak is defined as any increase in a certain type of illness. Your LHD can assist in determining if an outbreak is occurring in the school. Even in the absence of closing a school, families should be notified about any outbreak. LHDs can assist with notification letters to families. This form may be used to assist in reporting to the LHD: https://www.michigan.gov/documents/mdch/Cluster_and_Facility_Outbreak_Report_Form_2015_501633_7.pdf

An influenza-like illness outbreak is when a school building is experiencing influenza-like illnesses among students and staff that are above a level at which would be expected at that time of year. Schools are encouraged to work with their LHD to determine influenza activity in your area.

A gastrointestinal illness outbreak is when a school building is experiencing gastrointestinal illnesses among students and staff that are above a level at which would be expected at that time of year. The sudden onset of vomiting and/or diarrhea in several students or staff may also suggest an outbreak is occurring.

**School Closures due to Illness**

Most gastrointestinal or respiratory illness outbreaks will not necessitate school closure. However, there are some instances where closure may be recommended for disinfection or other mitigation actions. Consult with your LHD for outbreak-specific recommendations. School closures due to illness should be reported **immediately** to your LHD regardless of whether it is an outbreak of one disease, a closure due to a variety of illnesses, or a closure due to staff illnesses.

**Local Health Department Contact Information:** http://www.malph.org/directory or http://www.michigan.gov/mdhhs/0,5885,7-339--96747--,00.html

## Disease-Specific Information and Exclusion Guidelines

All diseases in **bold** are to be reported to your local health department

| Disease | Mode of Spread | Symptoms | Incubation Period | Contagious Period | Contacts | Exclusions (subject to LHD approval) |
|---|---|---|---|---|---|---|
| **Campylobacteriosis**‡ | Ingesting raw milk, undercooked meat, contaminated food / water; animal contact | Diarrhea (may be bloody), abdominal pain, malaise, fever | Average 2-5 days (range 1-10 days) | Throughout illness (usually 1-2 weeks, but up to 7 weeks without treatment) | Exclude with first signs of illness; encourage good hand hygiene | Exclude until diarrhea has ceased for at least 2 days; additional restrictions may apply |
| **Chickenpox**** ‡ **(Varicella)**  | Person-to-person by direct contact, droplet or airborne spread of vesicle fluid, or respiratory tract secretions | Fever, mild respiratory symptoms, body rash of itchy, blister-like lesions, usually concentrated on the face, scalp, trunk | Average 14-16 days (range 10-21 days) | As long as 5 days, but usually 1-2 days before onset of rash and until all lesions have crusted | Exclude contacts lacking documentation of immunity until 21 days after last case onset; consult LHD | Until lesions crusted and no new lesions for 24hr (for non-crusting lesions: until lesions are fading and no new lesions appear) |
| CMV (Cytomegalovirus) | Exposure to infectious tissues, secretions, or excretions | None or "mono-like" | 1 month | Virus may be shed for 6 months to 2 years | If pregnant, consult OB; contacts should not be excluded | No exclusion necessary |
| Common Cold | Airborne or contact with respiratory secretions; person-to-person or by touching contaminated surfaces | Runny or stuffy nose, slight fever, watery eyes | Variable, usually 1-3 days | 24hrs before onset to up to 5 days after onset | Encourage cough etiquette and good hand hygiene | No exclusion necessary |
| **COVID-19** | Airborne or contact with respiratory secretions; person-to-person or by touching contaminated surfaces | Fever, sore throat, shortness of breath, difficulty breathing, cough, runny nose, congestion, fatigue, vomiting, diarrhea | Average 5 days (Range 2-14 days) | 2 days prior to symptom onset and potentially after symptom resolution | Exclude for 14 days since last exposure; Contact LHD for additional guidance on contacts of a confirmed or probable case | Exclude until 24hr with no fever **and** symptoms have improved **and** 10 days since onset; Contact LHD |
| Croup | Airborne or contact with respiratory secretions | Barking cough, difficulty breathing | Variable based on causative organism | Variable based on causative organism | Encourage cough etiquette and good hand hygiene | No exclusion necessary |
| Diarrheal Illness (Unspecified) | Fecal-oral: person-to-person, ingesting contaminated food or liquid, animal contact | Loose stools; potential for fever, gas, abdominal cramps, nausea, vomiting | Variable based on causative organism | Variable based on causative organism | Exclude with first signs of illness; encourage good hand hygiene | Exclude until diarrhea has ceased for 24h or until medically cleared |
| ***E. coli*** ‡ **(Shiga toxin-producing)** | Fecal-oral: person-to-person, from contaminated food or liquid, animal contact | Abdominal cramps, diarrhea (may be bloody), gas, nausea, fever, or vomiting | Variable, usually 2-10 days | For duration of diarrhea until stool culture is negative | Exclude with first signs of illness; encourage good hand hygiene | Medical clearance required; Exclude until diarrhea has ceased for at least 2 days |

| Disease | Mode of Spread | Symptoms | Incubation Period | Contagious Period | Contacts | Exclusions (subject to LHD approval) |
|---|---|---|---|---|---|---|
| Fifth Disease (Erythema infectiosum) (Parvovirus B19) | Person-to-person; Contact with respiratory secretions | Fever, flushed, lacy rash ("slapped cheek") | Variable, usually 4-20 days | Most infectious before 1-2 days prior to onset | If pregnant, consult OB; encourage good hand hygiene; do not share eating utensils | No exclusion if rash is diagnosed as Fifth disease by a healthcare provider |
| **Giardiasis**** ǂ | Person-to-person transmission of cysts from infected feces; contaminated water | Diarrhea, abdominal cramps, bloating, fatigue, weight loss, pale, greasy stools; may be asymptomatic | Average 7-10 days (range 3-25+ days) | During active infection | Encourage good hand hygiene | Exclude until diarrhea has ceased for at least 2 days; may be relapsing; additional restrictions may apply |
| Hand Foot and Mouth Disease** (Coxsackievirus) (Herpangina) | Contact with respiratory secretions or feces from an infected person | Sudden onset of fever, sore throat, cough, tiny blisters in mouth/throat and on extremities | Average 3-5 days (range 2-14 days) | From 2-3 days before onset and several days after onset; shed in feces for weeks | Exclude with first signs of illness; encourage cough etiquette and good hand hygiene | If secretions from blisters can be contained, no exclusion required |
| Head lice (Pediculosis) | Head-to-head contact with an infected person and/or their personal items such as clothing or bedding Head Lice Manual | Itching, especially nape of neck and behind ears; scalp can be pink and dry; patches may be rough and flake off | 1-2 weeks | Until lice and viable eggs are destroyed, which generally requires 1-2 shampoo treatments and nit combing | Avoid head-to-head contact during play; do not share personal items, such as hats, combs; inspect close contacts frequently | Students with live lice may stay in school until end of day; immediate treatment at home is advised; |
| **Hepatitis A**** ǂ  | Fecal-oral; person-to-person or via contaminated food or water | Loss of appetite, nausea, fever, jaundice, abdominal discomfort, diarrhea, dark urine, fatigue | Average 25-30 days (range 15-50 days) | 2 weeks before onset of symptoms to 1 to 2 weeks after onset | Immediately notify LHD regarding evaluation and treatment of close contacts; encourage good hand hygiene | Exclude until at least 7 days after jaundice onset and medically cleared; exclude from food handling for 14 days after onset |
| Herpes simplex I, II (cold sores / fever blisters) (genital herpes) | Infected secretions HSV I – saliva HSV II – sexual | Tingling prior to fluid-filled blister(s) that recur in the same area (mouth, nose, genitals) | 2-14 days | As long as lesions are present; may be intermittent shedding while asymptomatic | Encourage hand hygiene and age-appropriate STD prevention; do not share personal items; avoid blister secretions | No exclusion necessary |
| Impetigo (Impetigo contagiosa) | Direct or indirect contact with lesions and their discharge | Lesions/blisters are generally found on the mouth and nostrils; occasionally near eyes | Variable, usually 4-10 days, but can be as short as 1-3 days | While sores are draining | Encourage good hand hygiene | Treatment may be delayed until end of the day; if treatment started before next day's return, no exclusion necessary; cover lesions |

| Disease | Mode of Spread | Symptoms | Incubation Period | Contagious Period | Contacts | Exclusions (subject to LHD approval) |
|---|---|---|---|---|---|---|
| ***Influenza** (influenza-like illness)**  | Droplet; contact with respiratory secretions or touching contaminated surfaces) | High fever, fatigue, cough, muscle aches, sore throat, headache, runny nose; rarely vomiting or diarrhea | 1-4 days | 1 day prior to onset of symptoms to 1 week or more after onset | Exclude with first signs of illness; encourage cough etiquette and good hand hygiene | Exclude until 24hrs with no fever (without fever-reducing medication) and cough has subsided |
| **Measles** ǂ (Rubeola) (Hard/red measles)**  | Contact with nasal or throat secretions; airborne via sneezing and coughing | High fever, runny nose, cough, red, watery eyes, followed by rash on face, then body | Average 10-12 days (range 7-21 days) from exposure to fever onset | 4 days before to 4 days after rash onset | Exclude contacts lacking documentation of immunity until 21 days after last case onset; consult LHD | Cases: Exclude until 4 days after rash onset |
| **Meningitis** ǂ (Aseptic/viral)** | Varies with causative agent: droplet or fecal oral route; may result from another illness | Severe headache, stiff neck or back, vomiting, fever, light intolerance, neurologic symptoms | Varies with causative agent | Varies with causative agent, but generally 2-14 days | Encourage cough etiquette and good hand hygiene | Exclude until medically cleared |
| **Meningitis** ǂ (Bacterial)**  **(*N. meningitis)* (*H. influenzae)* *(S. pneumoniae)*** | Contact with respiratory secretions; spread by sneezing, coughing, and sharing beverages or utensils | Severe headache, fever, stiff neck or back, vomiting, irritability, light sensitivity, rash, neurologic symptoms; | Average 2-4 days (range 1-10 days) | Generally considered no longer contagious after 24hrs of antibiotic treatment | Immediately notify LHD; encourage good hand hygiene; do not share personal items and eating utensils | Medical clearance required; exclude until 24hrs after antimicrobial treatment |
| Molloscum contagiosum | Transmitted by skin-to-skin contact and through handling contaminated objects | Smooth, firm, flesh-colored papules (bumps) with an indented center | Usually between 2 and 7 weeks | Unknown but likely as long as lesions persist | Do not share personal items | No exclusion necessary |
| Mononucleosis | Person-to-person via saliva | Fever, sore throat, fatigue, swollen lymph nodes, enlarged spleen | 30-50 days | Prolonged, possibly longer than 1 year | Do not share personal items | Exclude until able to tolerate activity; Exclude from contact sports until recovered |
| MRSA** (Methicillin-resistant *Staphylococcus aureus)* | Transmitted by skin-to-skin contact and contact with surfaces that have contacted infection site drainage | Possibly fever; lesion may resemble a spider bite (swollen, draining, painful); asymptomatic carriage is possible | Varies | As long as lesions are draining; found in the environment; good hand hygiene is the best way to avoid infection | Encourage good hand hygiene; do not share personal items such as towels, washcloths, clothing, and uniforms | No exclusion if covered and drainage contained; No swim exclusion if covered by waterproof bandage |
| **Mumps** ǂ**  | Airborne or direct contact with saliva | Salivary gland swelling (usually parotid); chills, fever, headache | Average 16-18 days (range 12-25 days) | 7 days prior to and 8 days after parotitis onset | Exclude contacts lacking documentation of immunity until 25 days after last case onset; consult LHD | Exclude until 5 days after onset of salivary gland swelling |

| Disease | Mode of Spread | Symptoms | Incubation Period | Contagious Period | Contacts | Exclusions (subject to LHD approval) |
|---|---|---|---|---|---|---|
| ***Norovirus** (viral gastroenteritis) | Food, water, surfaces contaminated with vomit or feces, person-to-person, aerosolized vomit | Nausea, vomiting, diarrhea, abdominal pain for 12-72hrs; possibly low-grade fever, chills, headache | Average 24-48hrs (range: 12-72hrs) | Usually from onset until 2-3 days after recovery; typically, virus is no longer shed after 10 days | Encourage good hand hygiene; contact LHD for environmental cleaning recommendations | Exclude until illness has ceased for at least 2 days; exclude from food handling for 3 days after recovery |
| Pink Eye (conjunctivitis) | Discharge from eyes, respiratory secretions; from contaminated fingers, shared eye make-up applicators | Bacterial: Often yellow discharge in both eyes<br>Viral: Often one eye with watery/clear discharge and redness<br>Allergic: itchy eyes with watery discharge | Variable but often 1-3 days | During active infection (range: a few days to 2-3 weeks) | Encourage good hand hygiene | Exclude only if herpes simplex conjunctivitis and eye is watering; exclusion also may be necessary if 2 or more children have watery, red eyes; contact LHD |
| Rash Illness (Unspecified) | Variable depending on causative agent | Skin rash with or without fever | Variable depending on causative agent | Variable depending on causative agent | Variable depending on causative agent | Exclude if fever or behavior changes present; may need medical clearance |
| Respiratory Illness (Unspecified) | Contact with respiratory secretions | Slight fever, sore throat, cough, runny or stuffy nose | Variable but often 1-3 days | Variable depending on causative agent | Encourage cough etiquette and good hand hygiene | Exclude if also fever until fever free for 24hrs without fever-reducing medication |
| Ringworm (Tinea) | Direct contact with an infected animal, person, or contaminated surface | Round patch of red, dry skin with red raised ring; temporary baldness | Usually 4-14 days | As long as lesions are present and fungal spores exist on materials | Inspect skin for infection; do not share personal items; seek veterinary care for pets with signs of skin disease | Treatment may be delayed until end of the day; if treatment started before next day's return, no exclusion necessary; exclude from contact sports, swimming until start of treatment |
| **Rubella** ǂ (German Measles)**  | Direct contact; contact with respiratory secretions; airborne via sneeze and cough | Red, raised rash for ~3 days; possibly fever, headache, fatigue, red eyes | Average 16-18 days (range: 14-21 days) | 7 days before to 7 days after rash onset | If pregnant, consult OB; Exclude contacts lacking documentation of immunity until 21 days after last case onset; consult LHD | Exclude until 7 days after onset of rash |
| **Salmonellosis** ǂ | Fecal-oral: person-to-person, contact with infected animals, or via contaminated food | Abdominal pain, diarrhea (possibly bloody), fever, nausea, vomiting, dehydration | Average 12-36hrs (range: 6hrs-7 days) | During active illness and until organism is no longer detected in feces | Exclude with first signs of illness; encourage good hand hygiene | Exclude until diarrhea has ceased for at least 2 days; additional restrictions may apply |

| Disease | Mode of Spread | Symptoms | Incubation Period | Contagious Period | Contacts | Exclusions (subject to LHD approval) |
|---|---|---|---|---|---|---|
| Scabies | Close, skin-to-skin contact with an infected person or via infested clothing or bedding Scabies Prevention and Control Manual | Extreme itching (may be worse at night); mites burrowing in skin cause rash / bumps | 2-6 weeks for first exposure; 1-4 days for re-exposure | Until mites are destroyed by appropriate treatment; prescription skin and oral medications are generally effective after one treatment | Treat close contacts and infected persons at the same time; avoid skin-to-skin contact; do not share personal items; see exclusion criteria | Treatment may be delayed until end of the day; if treatment started before next day's return, no exclusion necessary |
| **Shigellosis**** ǂ | Fecal-oral: frequently person-to-person; also via contaminated food or water | Abdominal pain, diarrhea (possibly bloody), fever, nausea, vomiting, dehydration | Average 1-3 days (range 12-96hrs) | During active illness and until no longer detected; treatment can shorten duration | Exclude with first signs of illness; encourage good hand hygiene | Exclude until diarrhea has ceased for at least 2 days; Medical clearance required |
| Strep throat / Scarlet Fever | Respiratory droplet or direct contact; via contaminated food | Sore throat, fever; Scarlet Fever: body rash and red tongue | Average 2-5 days (range 1-7 days) | Until 12hrs after treatment; (10-21 days without treatment) | Exclude with signs of illness; encourage good hand hygiene | Exclude until 12hrs after antimicrobial therapy (2+ doses) |
| ***Streptococcus pneumoniae*** ǂ  | Contact with respiratory secretions | Variable: ear infection, sinusitis, pneumonia, or meningitis | Varies; as short as 1-3 days | Until 24hrs after antimicrobial therapy | Consult LHD to discuss the potential need for treatment | Exclude until 24hrs after antimicrobial therapy |
| **Tuberculosis (TB)** ǂ | Airborne; spread by coughing, sneezing, speaking, or singing | Fever, fatigue, weight loss, cough (3+ weeks), night sweats, anorexia | 2-10 weeks | While actively infectious | Consult LHD to discuss need for evaluation and testing of contacts | Exclude until medically cleared |
| **Typhoid fever (*Salmonella* typhi)** ǂ | Fecal-oral: person-to-person, ingestion of contaminated food or water (cases are usually travel-related) | Gradual fever onset, headache, malaise, anorexia, cough, rose spots, abdominal pain, diarrhea, constipation, change in mental status | Average range: 8-14 days (3-60 days reported) | From first week of illness through convalescence | Consult LHD for evaluation of close contacts | Exclude until symptom free; Medical clearance required; Contact LHD about additional restrictions |
| Vomiting Illness (Unspecified) | Varies; See Norovirus | Vomiting, cramps, mild fever, diarrhea, nausea | Varies; See Norovirus | Varies; See Norovirus | Encourage good hand hygiene; See Norovirus | Exclude until 24hrs after last episode |
| **Whooping Cough** (Pertussis)** ǂ  | Contact with respiratory secretions | Initially mild respiratory symptoms, cough; may have inspiratory whoop, posttussive vomiting | Average 7-10 days (range 5-21 days) | With onset of cold-like symptoms until 21 days from onset (or until 5 days of treatment) | Consult LHD to discuss the potential need for treatment | Exclude until 21 days after onset or until 5 days after appropriate antibiotic treatment |
| **West Nile Virus** | Bite from an infected mosquito | High fever, nausea, headache, stiff neck | 3-14 days | Not spread person-to-person | Avoid bites with EPA approved repellents | No exclusion necessary |

*Report only aggregate number of cases for these diseases

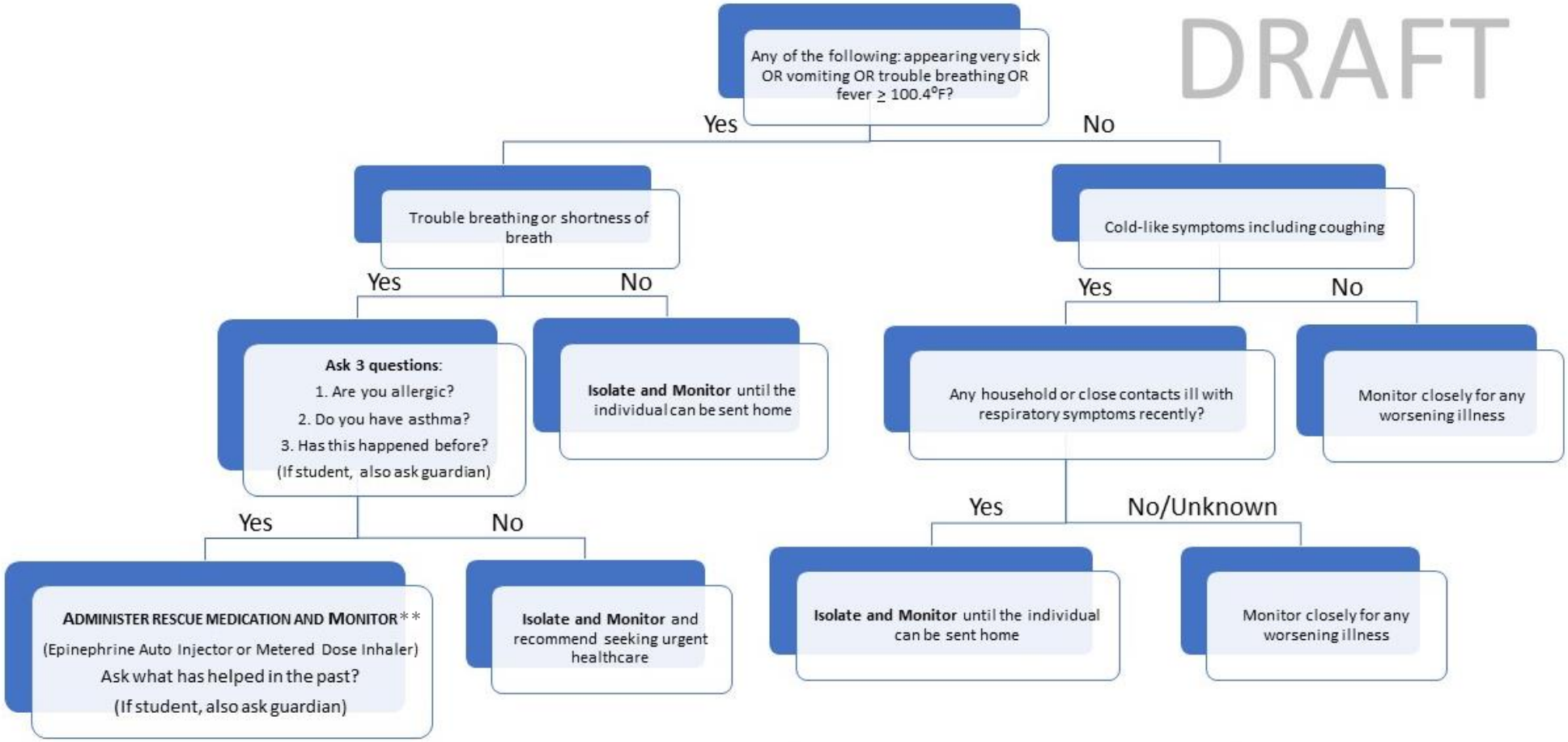
** Contact your local health department for a "letter to parents"

ǂConsult with local health department on case-by-case basis

 Vaccination is highly encouraged to prevent or mitigate disease

# When to Send a Person Home due to Illness*

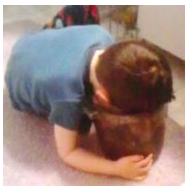
When a student or staff member starts to feel unwell, attempt to take their temperature using a no-touch method.




*This interim guidance may change as additional recommendations from the Centers for Disease Control and Prevention (CDC) are made available.

** Urgent healthcare may be necessary; call 911 if an epinephrine auto injector (EpiPen) was administered.

## Select Diseases: Additional Information



**Norovirus**

Noroviruses are a group of viruses that cause gastroenteritis (GAS-tro-en-ter-I-tis). Norovirus is known incorrectly as the "stomach flu". Norovirus is NOT related to the flu (influenza), which is a respiratory illness caused by a different virus. Norovirus illness usually begins 24-48 hours after exposure but can appear as early as 10 hours after exposure. Symptoms usually include nausea, vomiting, diarrhea, and stomach cramping, but a low-grade fever, chills, headache, muscle aches, and a general sense of tiredness may also be present. The illness is usually brief, with symptoms lasting one to two days. Noroviruses are very contagious and spread easily from person-to-person. The virus is found in the stool and vomit of infected people. People can become infected in several ways, including eating food or drinking liquids that are contaminated by infected food handlers, touching surfaces or objects contaminated with norovirus and then touching their mouth before handwashing, or having direct contact with another person who is infected and then touching their mouth before handwashing. Children and staff exhibiting symptoms of viral gastroenteritis should be excluded from school or other group activities until two days after their symptoms have stopped. Frequent handwashing with warm water and soap for at least 20 seconds is highly encouraged as alcohol-based hand sanitizers are NOT affective against the virus. It is important to note that most household cleaners are ineffective against norovirus; a diluted bleach solution is the most reliable means of disinfection (https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants). Norovirus can survive on surfaces for many days unless disinfected. Please see the References section below for the MDHHS Fact Sheet and Guidelines for Environmental Cleaning and Disinfection of Norovirus.

**Influenza**

Influenza (or "the flu") is a contagious respiratory illness caused by influenza viruses that infect the nose, throat, and lungs. It can cause mild to severe illness, and at times can lead to death. In fact, influenza causes more hospitalizations among young children than any other vaccine-preventable disease. People infected with influenza may experience fever or feeling feverish, chills, cough, sore throat, runny or stuffy nose, muscle or body aches, headaches, and/or fatigue; some children may experience vomiting and diarrhea. Most experts believe that flu viruses spread mainly by droplets produced when people with flu cough, sneeze or talk. These droplets can land in the mouths or noses of people who are nearby. Less often, a person might get infected with the flu by touching a surface contaminated with the influenza virus and then touching their own mouth, eyes, or nose. Most healthy adults may be infectious to others beginning one day before symptoms develop and up to five to seven days after becoming sick. Some people, especially young children and people with weakened immune systems, might shed the virus for even longer. One of the best ways to protect against the flu and its potential severe complications is to get a seasonal influenza vaccine each year. Flu vaccination is recommended for all children aged six months and older. Making healthy choices at school and at home can also help prevent the flu. Encourage children, parents, and staff to take the following everyday preventive actions:

- Stay home when you are sick and avoid close contact with people who are sick.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue away after use and wash your hands. If a tissue is not available, cover your mouth and nose with your sleeve, not your hand.
- Wash your hands often with soap and water. If this is not available, use an alcohol-based hand rub.
- Avoid touching your eyes, nose, or mouth. Germs spread this way.
- Clean and disinfect frequently touched surfaces at home, work, or school, especially when someone is ill.

Please see the References section below for the MDHHS and CDC Websites.

**COVID-19**

COVID-19 is the disease caused by the coronavirus, SARS-CoV-2. COVID-19 is a contagious respiratory illness that can cause mild to severe illness with symptoms including fever, chills, cough, fatigue, shortness of breath, body aches, sore throat, loss of taste or smell, congestion, runny nose, vomiting, and diarrhea. Current data indicate that older adults and those with underlying health conditions are more likely to develop serious illness. In May 2020, notices were distributed on Multisystem Inflammatory Syndrome in Children (MIS-C) associated with COVID-19. This disease is similar to Kawasaki disease and includes symptoms of abdominal pain, red eyes, fever for five or more days, red / cracked lips, rash, and swollen / red hands and feet. This may be sequalae from a recent COVID-19 infection and often requires intensive care. The virus is usually spread by respiratory droplets but may be spread via the airborne route. Individuals can become infected by touching a contaminated surface and then touching their mouth, eyes, or nose. Individuals are infectious beginning two days before symptoms and for days or weeks after symptoms resolve. Those with COVID-19 should isolate for at least 10 days after onset AND at least 24 hours with no fever, AND improvement in other symptoms. Some individuals may shed the virus (or test positive) for longer. Making healthy choices at school and at home can also help prevent COVID-19. Encourage staff and families to take these everyday preventive actions:

- Stay home when you are sick and avoid close contact with people who are sick.
- Stay home if you have been in close contact with someone who may be sick with COVID-19.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue away after use and wash your hands. If a tissue is not available, cover your mouth and nose with your sleeve, not your hand.
- Wash your hands often with soap and water. If unavailable, use an at least 60% alcohol-based hand rub.
- Avoid touching your eyes, nose, or mouth. Germs spread this way.
- Clean and disinfect frequently touched surfaces at home, work, or school, especially when someone is ill.

COVID-19 guidance changes frequently as more is learned about the virus and outbreak progression. For the most current information, visit: www.michigan.gov/coronavirus and www.cdc.gov/coronavirus/2019-ncov/index.html.

**Enterovirus**

Non-polio enteroviruses are very common and can infect anyone. Infants, children, and teenagers are more likely to get infected and become sick because they do not have immunity from previous exposures to the virus. There are over 60 types of non-polio enteroviruses, including polioviruses, coxsackieviruses, and echoviruses. In the United States, enteroviruses cause more than 10 million infections each year and are most likely to occur in the summer and fall. Most people who are infected with an enterovirus do not get sick or have only mild illness, like “the common cold” or a skin rash. Less commonly, an enterovirus infection can result in meningitis and very rarely, myocarditis, encephalitis, or paralysis. Infants and people with weakened immune systems have a greater chance of having these complications. The infection is spread via stool or respiratory secretions from an infected person or by contact with contaminated surfaces. Transmission is difficult to interrupt because most infections are asymptomatic. Good hygienic practices, like handwashing, are recommended, especially for pregnant women around the time of delivery as newborns are at risk for very severe illness. A solution containing 10% bleach is an effective way to inactivate the virus. In most instances, it is not necessary to close schools due to enterovirus. However, the decision to close a school for any communicable disease should be made by school officials in consultation with public health officials. Please see the References section below for the MDHHS Tip Sheet.

**Methicillin – Resistant *Staphylococcus aureus* or MRSA**

MRSA is methicillin-resistant *Staphylococcus aureus*, a type of staph bacteria that is resistant to several antibiotics. MRSA can cause skin and other infections. Usually, it is not necessary to close schools because of a MRSA infection in a student. However, the decision to close a school for any communicable disease should be made by school officials in consultation with local and/or state public health officials. When a MRSA infection occurs within the school population, the school clinician should determine, based on medical judgment, whether some or all students, parents, and staff should be notified. If medical personnel are not available at the school, consultation with the public health authorities should be used to guide this decision. Repeat cases, spread to other students, or complex cases should be reported to the LHD for consultation. MRSA transmission can be prevented by practicing good hand hygiene, especially before eating and after using the bathroom, and ensuring all infections are clean and covered, as this will greatly reduce the risks of surface contamination. Please see the References section below for the CDC Website and MDHHS Brochure.

***Clostridium difficile* Infection or CDI**

*Clostridium difficile* (C. diff) is a spore-forming bacterium that causes inflammation of the colon, known as colitis. It is the most common cause of diarrhea in healthcare settings. Individuals with other illnesses requiring prolonged use of antibiotics, and the elderly, are at greatest risk of acquiring CDI. Any surface or material that becomes contaminated with feces can serve as a reservoir for C. diff spores. Use bleach-based products for disinfection of environmental surfaces. Symptoms include watery diarrhea, fever, loss of appetite, nausea, and abdominal pain or tenderness. As with other diarrheal diseases, students should be excluded from school while they experience symptoms. Good hand hygiene practices will reduce transmission. Please see the References section below for the CDC Website and MDHHS Fact sheet.

**Animals in the Classroom**

Animals can be valuable teaching aids in the school setting, but safe practices are required to reduce the risk of infection or injury. The National Association of State Public Health Veterinarians (NASPHV) has developed guidelines for the exhibition of animals in school and other settings. Schools should ensure that:

- Teachers and staff know which animals are inappropriate as residents or visitors in schools.
- Teachers and staff know which animals should not be in contact with children.
- Personnel providing animals for educational purposes are knowledgeable about animal handling and the diseases that can be transmitted between animals and people.
- Staff and students wash their hands after contact with animals, their feed, or their habitats.

For complete details and recommendations for schools, please review the NASPHV Animal Contact Compendium, Appendix 4, "Guidelines for Exhibition of Animals in School and Child-Care Settings". Please see the References section below for the NASPHV website.

**Bed Bugs (*Cimex lectularius)***

Bed bugs are small, brownish, flattened insects that feed on the blood of people while they are sleeping or inactive. Although the bite does not hurt, it may develop into an itchy welt similar to a mosquito bite. Bed bugs do not transmit disease, but they can cause significant itchiness, anxiety, and sleeplessness. Bed bug infestations are also very difficult and expensive to control. Usually, bed bugs only come out to feed during the night. Unlike head lice, they do not live on a person. However, they can hitchhike from one place to another in backpacks and on other items. Actual bed bug infestations in schools are uncommon. More commonly, a few bed bugs will hitchhike to school from an infested home by hiding in a student's clothing or backpack. Bed bugs could then be carried home by another student, making schools a potential hub for bed bug spread. This is not a minor concern – bed bugs are expensive and difficult to eradicate. If a school plans to use pesticides to control pests indoors, they are required under Michigan law to have an **integrated pest management (IPM)** plan in place. If a bed bug infestation is suspected or students are getting bitten during class, the school should contact a **licensed pest management professional** for assistance. Please see the References section below for the MDHHS Bed Bugs Fact Sheet for Schools.

**Head Lice**

Lice are parasitic insects that can be found on people's heads and bodies and survive by feeding on blood. Head lice infestations are spread most commonly by close person-to-person contact, usually by direct head-to-head contact, with an infested person. Less frequently, lice can be spread by sharing belongings. However, head lice survive less than one to two days if they fall off a person and cannot feed. Pets do not play a role in the transmission of human lice. Lice move by crawling; they cannot hop or fly. Both over-the-counter and prescription medications are available. Head lice are not known to spread disease. To help prevent and control the spread of lice:

- Avoid head-to-head (hair-to-hair) contact during play and other activities at home, school, and elsewhere.
- Do not share personal items such as hats, scarves, or combs or lie on areas exposed to an infested person.
- Machine wash contaminated items using the hot water (130°F) laundry cycle and the high heat drying cycle.

Do not use fumigant sprays or fogs as they are not necessary and can be toxic. It is recommended that schools review the MDHHS Head Lice Manual and develop a written policy addressing how infestations will be managed. Please see the References section below for the CDC Website and the MDHHS Head Lice Manual.

## Acknowledgments

The authors gratefully acknowledge guidance from Kent County Health Department, Livingston County Health Department, Washtenaw County Public Health, Genesee County Health Department, and Kalamazoo County Health & Community Services.

## References

- Bed Bugs Fact Sheet (MDHHS): http://www.michigan.gov/documents/emergingdiseases/Bed_bugs_schools_293498_7.pdf
- *C. difficile* website (CDC): http://www.cdc.gov/hai/organisms/cdiff/Cdiff-patient.html
- *C. difficile* Fact Sheet (MDHHS): http://www.michigan.gov/documents/mdch/CDiffTipSheet_374585_7.pdf
- Communicable Disease Information & Resources Website (MDHHS): www.michigan.gov/cdinfo
- Control of Communicable Diseases Manual. 19th Edition. David L. Heyman, MD Editor. American Public Health Association
- Coronavirus (COVID-19) website (CDC): https://www.cdc.gov/coronavirus/2019-ncov/index.html
- Coronavirus (COVID-19) School website (CDC): Interim Guidance for Administrators of US K-12 Schools and Child Care Programs to Plan, Prepare, and Respond to Coronavirus Disease 2019 (COVID-19): https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/guidance-for-schools-h.pdf
- Coronavirus website (MDHHS): https://www.michigan.gov/coronavirus
- Enterovirus Tip Sheet (MDHHS): http://www.michigan.gov/documents/mdch/Q311_Enterovirus_FINAL_367074_7.pdf
- EPA-Registered Disinfectants: https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants
- Head Lice website (CDC): http://www.cdc.gov/parasites/lice/ or http://www.cdc.gov/parasites/lice/head/prevent.html
- Head Lice Manual (MDHHS): http://www.michigan.gov/documents/Final_Michigan_Head_Lice_Manual_106828_7.pdf
- Influenza website (CDC): http://www.cdc.gov/flu/keyfacts.htm or http://www.cdc.gov/flu/school/index.htm
- Influenza website (MDHHS): www.michigan.gov/flu
- Managing Infectious Diseases in Child Care and Schools. A Quick Reference Guide, 4th Edition. AAP 2017
- MRSA website (CDC): http://www.cdc.gov/mrsa/community/schools/index.html
- MRSA Brochure (MDHHS): http://www.michigan.gov/documents/MRSA_brochure_FINAL_167898_7.pdf
- National Association of School Nurses: https://www.nasn.org/blogs/nasn-profile/2020/05/15/the-lastest-covid-19-resources
- National Association of State Public Health Veterinarians Website: http://www.nasphv.org/
- Norovirus Fact Sheet (MDHHS): http://www.michigan.gov/documents/mdch/NorovirusFactsheet_281017_7.pdf
- Norovirus, Guidelines for Environmental Cleaning and Disinfection (MDHHS): http://www.michigan.gov/documents/mdch/NorovirusEnvironCleaning_281018_7.pdf
- Red Book: 2012 Report of the Committee on Infectious Diseases. 29th Edition. American Academy of Pediatrics
- Scabies Prevention and Control Manual (MDHHS): https://www.michigan.gov/documents/scabies_manual_130866_7.pdf

## Summary of Changes for Managing Communicable Diseases in Schools Version 4.0

- Handwashing Procedures: Antibacterial soap is not recommended
- Maintain a Sanitary Setting: Sanitized surface should air dry for the time listed on product
- Maintain a Sanitary Setting: Bleach should be used before or after school in appropriate dilutions
- Responding to Disease in a School
- Vaccination: Updated website
- When to Exclude a Child from School: Added Severely ill, Abdominal pain, Skin sores
- When to Exclude a Child from School: Changed temperature for fever cutoff,
- When to Exclude a Child from School: Added recommendation for written exclusion criteria
- Requesting Information from Parents: Newly added section
- Immediate Reporting of Outbreaks: Added definitions of ILI and GI outbreaks
- School Closures due to Illness: Newly added section
- Changes in exclusion criteria: Impetigo, MRSA, Pink Eye, Rash, Ringworm, Scabies, Strep Throat
- Animals in the Classroom: Changed from Appendix 3 to Appendix 4
- New links: EPA cleaning guidelines and AAP's Quick Reference for infectious diseases in schools
- Added information on planning before an outbreak including NIMS and Communication Plan
- Added COVID-19 specific information