STATE OF NEW HAMPSHIRE
TOOLKIT FOR SCHOOLS:
PREVENTION AND MANAGEMENT OF ACUTE VIRAL AND
BACTERIAL GASTROINTESTINAL ILLNESS

July, 2019

New Hampshire Department of Health and Human Services
Division of Public Health Services
# Table of Contents

Purpose.................................................................................................................................3
Introduction...........................................................................................................................3
Outbreak Reporting................................................................................................................3
General Gastrointestinal Illness and Norovirus Information................................................4
Checklist for Responding to a Gastrointestinal Illness Outbreak.......................................5
Prevention and Response....................................................................................................6
Control Measures - Food Service and Dining......................................................................7
Control Measures - Cleaning and Disinfection.................................................................9
Sample Letter for Parents...................................................................................................11
Sample Notification for School Staff................................................................................12
Posters and Handouts.........................................................................................................14
Reportable Illness................................................................................................................13
References............................................................................................................................15
Purpose

This document outlines the State of New Hampshire (NH) Department of Health and Human Services (DHHS), Bureau of Infectious Disease Control’s (BIDC) guidance on preventing, controlling, and reporting outbreaks of gastrointestinal (GI) illness in school settings. The purpose of this toolkit is to provide resources for nurses, schools, and parents regarding the prevention of gastrointestinal illness.

Introduction

Gastrointestinal illness is common, particularly in schools where viruses and bacteria are easily spread. Fortunately, there are many simple interventions that can decrease the spread of these illnesses. Everyone in the school setting can contribute to preventing illness through actions such as proper food preparation, cleaning, hand hygiene and reporting illness. Parents and guardians can play a part by keeping sick children home so they can get well and not spread disease to others.

Case Definition

Gastrointestinal illness is defined as loose, watery stools occurring three or more times a day, with or without vomiting or fever.

Report Outbreaks

In New Hampshire, according to state law RSA 141-C, many communicable diseases must be reported to the state health department. This includes any suspect outbreak, cluster of illness, or unusual occurrence of communicable disease that may pose a threat to the public’s health. For a full list of reportable infectious diseases, see the handouts section of this toolkit.

🔥 - This symbol is used throughout as a handwashing reminder
General Gastrointestinal Illness and Norovirus Information

Gastrointestinal illness is caused by many different bacteria and viruses, and occurs most commonly between November and April. Norovirus is a very common cause of gastrointestinal illness.

What is norovirus?

Norovirus is a very contagious virus that causes acute vomiting and diarrhea. As few as 18 virus particles can cause an infection. Norovirus can survive for weeks on surfaces, such as desks, doorknobs, and toys, if not properly cleaned and disinfected. Norovirus can spread quickly from person to person in places such as schools and childcare centers. It is sometimes called the “stomach flu” but is not related to influenza (flu) viruses, which primarily causes respiratory infection.

How do gastrointestinal illnesses and norovirus spread?

- Touching contaminated surfaces or objects, and then touching one’s mouth before handwashing
- Having direct or indirect contact with an infected person (touching surfaces with germs or other people’s unwashed hands, sharing foods or utensils with an infected person, or changing diapers of a sick child without washing your hands properly afterwards)
- Eating food or drinking liquids contaminated with norovirus, such as food or surfaces touched by an ill person, or undercooked shellfish from contaminated waters
- Sharing toilet facilities with an ill person
- Cleaning up vomit or diarrhea from an infected person without proper protective equipment, such as gloves, masks, and covering for clothes

How can you prevent gastrointestinal illness and norovirus infection?

Things you can do to reduce the risk of getting or spreading norovirus infection include:

- Wash hands often using soap and water; hand-sanitizers are not as effective against norovirus
- Use safe food-handling techniques (e.g., washing fruits and vegetables and cooking shellfish thoroughly)
- If you’re sick, STAY HOME! Isolate yourself and do not participate in group activities until after you are well (at least 48 hours after vomiting and diarrhea stop without using medications)
- Do NOT prepare food or care for others when you are sick with norovirus or any gastrointestinal illness
- Clean and disinfect contaminated surfaces or objects with bleach as soon as possible
 Checklist for Responding to a GI outbreak

- **Recognize** that a cluster or outbreak may be occurring when you observe an increase in individuals ill, above what is normally expected. This may require a discussion with the school office staff.

- **Report** the cluster or outbreak to the NH DHHS Bureau of Infectious Disease Control.

<table>
<thead>
<tr>
<th>Business hours</th>
<th>After hours</th>
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</thead>
<tbody>
<tr>
<td>• 8:00am – 4:30pm Monday - Friday</td>
<td>• Evening/nights (4:30pm – 8:00 am M-F)</td>
</tr>
<tr>
<td>603-271-4496</td>
<td>• Weekends and holidays</td>
</tr>
<tr>
<td>Fax: 603-271-0545</td>
<td>603-271-5300</td>
</tr>
<tr>
<td>Please ask for the public health professional on-call</td>
<td></td>
</tr>
</tbody>
</table>

- **Collaborate** with the Public Health Professional. They will work with you to determine the attack rate for the cluster/outbreak and to implement control measures. You may be asked to provide:
  - Description of the illness
  - Overall census of your school
  - How many students and staff are affected, and whether food service worker or other family members are ill.
  - Any identifiable patterns (such as only certain classrooms affected, any class parties, etc.)

- **Respond**: Implement recommendations under Prevention and Response section:
  - Identify new cases of illness
  - Exclude ill students and staff
  - Educate all students and staff (handwashing, sharing items, cleaning, exclusion)
  - Provide recommendations to Food service (page 7)
  - Provide recommendations for cleaning (page 9)
  - Communicate with staff and parents. NH DHHS strongly advises that schools discuss the cluster/outbreak and develop messaging with the Health Department before sending out notifications to staff and parents
  - Work with the Public Health Professionals at the Health Department to assess how the outbreak is evolving and determine when the outbreak is over
Prevention and Response:

Actions schools should take to prevent the spread of gastrointestinal illness:

Identify, Assess, and Exclude:
- Identify: Know the signs of gastrointestinal illnesses: more than 3 episodes of loose stool a day, with or without vomiting, with or without fever of greater than 100.4 degrees, and stomach cramps.
- Assess: When parents call their children out sick, ask about the illness to determine if there seems to be an outbreak of similar illnesses.
- Exclude: Keep sick children at home: Children should stay home for at least 48 hours after vomiting and diarrhea have stopped - without use of medication.

Education for all staff, faculty, students, parents, and volunteers:
- Strict and frequent handwashing for all students and staff. Advise hand washing after bathroom use, before handling food or drinks, and after contact with affected individuals. Review proper hand washing techniques. Hand washing with soap and water is better than alcohol based hand sanitizers to control norovirus.
- Teach students not to share food or personal items such as water bottles
- Use tongs and other utensils for distributing snacks in classrooms and for student use during class parties
- Educate students and teachers on the signs, symptoms, and ways to prevent GI illness outbreak using posters provided at the end of this toolkit
- Encourage ill staff or students to seek medical attention for prolonged illness. Work with the Health Department to discuss laboratory testing. Analysis of stool samples can be used to identify the cause of an outbreak

Building-wide/administrative changes and policies:
- Advocate for touchless sinks, towel dispensers, etc. to reduce need to clean these high-touch areas
- Consider stopping all group activities in the school in consultation with the Health Department
- Notify visitors about hand washing. There are signs available at the end of this toolkit

Communications:
- School nurses are required (RSA 141-C) to report the cluster/outbreak to NH DHHS as soon as it is suspected. Report to NH DHHS before alerting other staff and parents. A public health professional will work with you to determine what information specific to your setting should be disseminated. Pages 10 and 11 have sample letters to parents and staff.
Control Measures - Food Handling and Dining

- Ill food handlers must be sent home, and remain at home until at least 48 hours after symptoms resolve.
- Require food service workers to follow food guidelines regarding proper cooking and holding temperatures, and refrigerating leftovers within 2 hours of cooking.
- Throw away all potentially contaminated food.
- Require food service workers to wear gloves when handling, serving, and preparing food.
- Ensure clean water, soap, and paper towels are available in dining areas.
- Ensure all food service workers use strict handwashing and soap and water. Hand sanitizers are not an acceptable substitute because they are not as effective against norovirus.
- Stop using self-service or communal food bars for school meals, including shared water pitchers, utensils, salt shakers, etc. Do not let children serve themselves as this might promote direct hand contact with shared foods.
- Wash dishes, utensils, and cups using a dishwasher (with hot water and detergent), or a 3 bay sink, following proper ware washing procedures (wash, rinse and sanitize). Consider using single-use dining materials if reusable dining materials cannot be thoroughly cleaned.
Ways to prevent norovirus outbreaks from food contamination

Kitchen managers should be trained and certified in food safety and ensure that all food service workers follow food safety practices outlined in the FDA model Food Code and CDC guidelines.

- Stay home when sick:
  Food service workers should stay home when sick with vomiting or diarrhea and for at least 48 hours after symptoms stop.

- Cook shellfish thoroughly:
  Avoid serving undercooked (below 140°F) oysters and other shellfish.

- Avoid touching food with bare hands:
  Use utensils and single-use disposable gloves to avoid touching ready-to-eat foods with bare hands.

- Rinse fruits and vegetables:
  Carefully rinse fruits and vegetables before preparing and serving them.

- Clean and sanitize surfaces and utensils:
  Regularly clean and sanitize kitchen surfaces and frequently touched objects, using a chlorine-based product or other sanitizer approved by the Environmental Protection Agency for use against norovirus.

- Wash your hands:
  Wash all parts of hands and exposed portions of arms by rubbing them together vigorously with soap and warm water for at least 20 seconds in a designated hand washing sink.

Control Measures – Cleaning and Disinfection

Bacteria and viruses in vomit and diarrhea settle on nearby surfaces. Cleaning removes visible vomit/feces, but disinfection is required to prevent spread of the illness.

Cleaning:
1. **Remove vomit or diarrhea right away.**
2. Soak up vomit and diarrhea using disposable absorbent materials (cloth, baking soda, paper towels, sawdust, kitty litter)
3. Do not vacuum vomit or diarrhea – this can spread germs in the air.
4. Using gloves, clean up vomit and diarrhea using paper towels.
5. Use soap and water to wash and rinse the area or object. Wipe dry with paper towels.
6. Dispose of all waste in a plastic trash bag or biohazard bag, immediately close, and dispose of the bag.

Disinfection: Bleach is the best chemical to kill gastrointestinal bacteria and viruses. If you do not use bleach, you should use a chemical that is registered with the Environmental Protection Agency as being effective against Norovirus and follow the manufacturers instructions: https://www.epa.gov/pesticide-registration/list-g-epas-registered-antimicrobial-products-effective-against-norovirus

- To prepare a bleach solution, use 3/4 cup concentrated bleach (or 1 cup of regular strength bleach) to one gallon of water.
- Prepare fresh bleach solutions daily. After preparation, the solution will lose its potency over time and not work as well. Make a new cleaning solution often, at least every 24 hours, and especially after cleaning up vomit/feces.
- Disinfect all surfaces within a 10-foot circle from area of vomiting or diarrhea
- Leave bleach on the surface for at least 5 minutes covering the entire surface and then rinse thoroughly with clean water
- **Bleach should never be mixed with other cleaners/disinfectants as it can create poisonous gases**

General cleaning and disinfection recommendations:
- Advise custodial staff to use gloves, mask and cover their clothes whenever they have contact with an affected individual or contaminated environment
- Clean soiled carpets and soft furnishings with hot water and detergent or steam clean; avoid vacuum cleaning to prevent aerosolizing the virus or bacteria
- Discard items that are difficult to clean, like puzzle pieces, chalk, crayons, and clay
- Clean high-touch objects frequently (faucets, door handles, water fountains and toilet or bath rails)
- Prepare plan for meticulous final clearing (sometimes called a “terminal” cleaning) 72 hours after resolution of the last individual ill
Toolkit for Schools: Prevention and Management of Acute Viral and Bacterial Gastrointestinal Illness

Supplies needed:

- Cat litter
- Shovel & scraper
- Mask
- Gloves
- Goggles
- Disposable apron
- Garbage bags
- Soap & water
- Paper towels
- Norovirus sanitizer

1. Put on your gear

2. Add cat litter...WAIT... Scrape & toss

3. Clean with soap & water

4. Spray with sanitizer...WAIT... Wipe up, then get rid of garbage

5. Sanitize everything in a 10 foot circle

Follow these steps to take off your gear:

1) Take off apron
2) Take off gloves
3) Wash hands
4) Take off goggles & mask
5) Wash hands again
6) Get rid of garbage
7) Wash hands again

NH Department of Health and Human Services
Division of Public Health Services

June, 2019
Sample Letter for Parents

Dear Parents/Guardians:

This letter is to inform you of an increased number of students reporting gastrointestinal illness. In an effort to stop the spread of illness, we are requesting that you:

- **Know the signs of gastrointestinal illness:** Look for any symptoms of diarrhea (3 or more loose stools a day), vomiting, fever (over 100.4°F) or stomach cramps.
- **Keep sick children at home:** Students should stay home for at least 48 hours after the last episode of vomiting or diarrhea without medications such as acetaminophen (Tylenol), ibuprofen (Advil), or Imodium. Consider seeking medical care if your child’s illness is not improving on its own.
- **Cleaning:** Use bleach when cleaning. Consider cleaning high traffic areas such as counter tops, doorknobs and tables. Allow the bleach 4 minutes to dry and then the items will be considered disinfected. Bleach is the best chemical to kill these germs. Also, be sure to clean clothes soiled with vomit or diarrhea with bleach or color safe bleach. When mixing a bleach solution for cleaning it should be diluted, 1-part bleach to 10 parts water. This mixture should be changed every day if you are using this in a spray bottle.
- **Report your child’s absence to the school:** When reporting the absence, be sure to advise what your child’s symptoms are so the school can keep track of the types of illnesses that are occurring in the school.
- **Teach your child to wash their hands:** Hand washing with soap and water is the best way to clean hands. Encourage your child to wash their hands with soap and water for at least 20 seconds. *(Tip: Sing the Happy Birthday song TWICE! 🎉)*

Our school works closely with the New Hampshire Department of Health and Human Services, Bureau of Infectious Disease Control to monitor and stop outbreaks of illness. Contact the school nurse with any questions. We will notify you with any changes in our school’s plan to prevent illnesses.

Sincerely,

[School administrator’s name and signature]
Sample Letter for School Staff

Dear Staff,

This letter is to inform you of an increased number of gastrointestinal illnesses at our school. These illnesses may be viral or bacterial. Symptoms may include nausea, vomiting, diarrhea, or fever.

Here are some ways to reduce the spread of germs in our school:

<table>
<thead>
<tr>
<th>Staff</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>All staff</td>
<td>• Stay home for at least 48 hours after your last episode of vomiting or diarrhea that is NOT being controlled by medication  &lt;br&gt; • Wash hands often, with warm water and soap for 15-20 seconds 🧼</td>
</tr>
<tr>
<td>Food service staff</td>
<td>• Wash your hands with soap and warm water before touching or cooking food and after using the restroom 🧼  &lt;br&gt; • Wear gloves when handling ready-to-eat foods and raw foods  &lt;br&gt; • Wash counter surfaces between food groups (meat, fish, veggies, etc.)  &lt;br&gt; • Use a separate cutting board for meat  &lt;br&gt; • Refrigerate leftovers within 2 hours of cooking  &lt;br&gt; • Cook food to the recommended temperature and reheat to at least 165 ˚F</td>
</tr>
<tr>
<td>Custodial staff</td>
<td>• Bleach is the best chemical to kill these germs. If possible, use bleach products and clean frequently touched areas often (water fountains, bathrooms, desks, tables, and door handles). If your school doesn’t permit bleach make sure your product is effective against “caliciviruses” as indicated on the label  &lt;br&gt; • Change cleaning solutions (spray, mop water, etc.) often, especially after cleaning vomit or diarrhea  &lt;br&gt; • Clean lunch room tables with school approved cleaning solution between each lunch period  &lt;br&gt; • Consider giving teachers bleach wipes for classroom use</td>
</tr>
<tr>
<td>Teaching staff</td>
<td>• Send students to the nurse if they have vomited or report having an upset stomach  &lt;br&gt; • Have students wash their hands after using the bathroom, before and after eating, and anytime hands are visibly dirty 🧼  &lt;br&gt; • Wipe down desks with school approved cleaning products between classes in accordance with school policy  &lt;br&gt; • Notify custodial staff if vomit or diarrhea is on any surface</td>
</tr>
</tbody>
</table>

📦 - Handwashing reminders
### State of New Hampshire Reportable Infectious Diseases

<table>
<thead>
<tr>
<th>Disease</th>
</tr>
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<tbody>
<tr>
<td>Acute Flaccid Myelitis</td>
</tr>
<tr>
<td>Acquired Immune Deficiency Syndrome (AIDS)</td>
</tr>
<tr>
<td>Anaplasmosis [Anaplasma Phagocytophilum]</td>
</tr>
<tr>
<td>Anthrax [Bacillus anthracis]</td>
</tr>
<tr>
<td>Arboviral infection, including EEE, WNV, Dengue, Powassan, Zika*</td>
</tr>
<tr>
<td>Babesiosis [Babesia microti]</td>
</tr>
<tr>
<td>Botulism [Clostridium botulinum]*</td>
</tr>
<tr>
<td>Brucellosis [Brucella abortus]*</td>
</tr>
<tr>
<td>Campylobacteriosis [Campylobacter species]</td>
</tr>
<tr>
<td>Carbapenem-resistant enterobacteriaceae*</td>
</tr>
<tr>
<td>Chlamydial infection [Chlamydia trachomatis]</td>
</tr>
<tr>
<td>Cholera [Vibrio cholera]*</td>
</tr>
<tr>
<td>Coccidioidomycosis [Coccidioides immitis]</td>
</tr>
<tr>
<td>Creutzfeldt-Jakob Disease*</td>
</tr>
<tr>
<td>Cryptosporidiosis [Cryptosporidium parvum]</td>
</tr>
<tr>
<td>Cyclospora infection [Cyclospora cayetanensis]</td>
</tr>
<tr>
<td>Diphtheria [Corynebacterium diphtheriae]*</td>
</tr>
<tr>
<td>Ehrlichiosis [Ehrlichia species]</td>
</tr>
<tr>
<td>Escherichia coli O157 infection and other shiga toxin producing E. coli</td>
</tr>
<tr>
<td>Giardiasis [Giardia lamblia]</td>
</tr>
<tr>
<td>Gonorrhea [Neisseria gonorrhoeae]</td>
</tr>
<tr>
<td>Hepatitis, influenza, invasive disease, sterile site*</td>
</tr>
<tr>
<td>Hepatitis, viral A, E, E*</td>
</tr>
<tr>
<td>Hepatitis, viral positive B surface antigen in a pregnant woman</td>
</tr>
<tr>
<td>Hepatitis, viral C (new diagnoses from providers only, no lab reporting)</td>
</tr>
<tr>
<td>Human Immunodeficiency Virus (HIV), including perinatal exposure</td>
</tr>
<tr>
<td>Human Immunodeficiency Virus-related CD4+ counts and all viral loads</td>
</tr>
<tr>
<td>Legionellosis [Legionella pneumophila]</td>
</tr>
<tr>
<td>Leprosy, Hansen's disease [Mycobacterium leprae]</td>
</tr>
<tr>
<td>Leptospirosis [Leptospira species]</td>
</tr>
<tr>
<td>Listeriosis [Listeria monocytogenes]</td>
</tr>
<tr>
<td>Lyme disease [Borrelia burgdorferi]</td>
</tr>
<tr>
<td>Malaria [Plasmodium species]</td>
</tr>
<tr>
<td>Measles [Rubella]*</td>
</tr>
<tr>
<td>Mumps*</td>
</tr>
<tr>
<td>Neisseria meningitidis, invasive disease, sterile site*</td>
</tr>
<tr>
<td>Pertussis [Bordetella pertussis]</td>
</tr>
<tr>
<td>Plague [Yersinia pestis]</td>
</tr>
<tr>
<td>Pneumococcal disease, invasive [Streptococcus pneumoniae]</td>
</tr>
<tr>
<td>Pneumocystis pneumonia [Pneumocystis jiroveci]</td>
</tr>
<tr>
<td>Poliomyelitis [Polio]*</td>
</tr>
<tr>
<td>Psittacosis [Chlamydia psittaci]</td>
</tr>
<tr>
<td>Rabies in humans or animals*</td>
</tr>
<tr>
<td>Rocky Mountain Spotted Fever [Rickettsia rickettsii]</td>
</tr>
<tr>
<td>Rubella, including Congenital Rubella Syndrome*</td>
</tr>
<tr>
<td>Salmonellosis [Salmonella species] (report S. Typhi within 24 hours)</td>
</tr>
<tr>
<td>Shigellosis [Shigella species]</td>
</tr>
<tr>
<td>Syphilis, including Congenital Syphilis Syndrome [Treponema pallidum]</td>
</tr>
<tr>
<td>Tetanus [Clostridium tetani]</td>
</tr>
<tr>
<td>Toxic-Shock Syndrome (TSS) [streptococcal or staphylococcal]</td>
</tr>
<tr>
<td>Trichinosis [Trichinella spiralis]</td>
</tr>
<tr>
<td>Tuberculosis disease [Mycobacterium tuberculosis]*</td>
</tr>
<tr>
<td>Tuberculosis infection, latent (lab reporting only, no provider reporting)</td>
</tr>
<tr>
<td>Typhoid fever [Salmonella Typhi]*</td>
</tr>
<tr>
<td>Typhus [Rickettsia prowazekii]*</td>
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<tr>
<td>Varicella*</td>
</tr>
<tr>
<td>Vibrio*</td>
</tr>
<tr>
<td>Vancocycin Resistant Staphylococcus aureus (VRSA)*</td>
</tr>
<tr>
<td>Yersinia enterocolitica*</td>
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<tr>
<td>Yersiniapestis*</td>
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</table>

### Disease Reporting Guidelines

- Diseases with an asterisk (*) and in red must be reported within 24 hours of diagnosis or suspicion of diagnosis.
- All suspect and confirmed cases must be reported within 72 hours of diagnosis or suspicion of diagnosis.
- Reports are handled under strict confidentiality standards.

#### Disease Reports Must Include

1. Name of the disease
2. Name of the person reporting
3. Patient information: name, date of birth, age, sex, race, ethnicity, address, telephone number, occupation, place of employment, date of illness onset
4. Diagnostic test information: type of test performed, specimen type(s), date, results
5. Treatment: date, medication, dosage

### How to Report a Disease

New Hampshire Department of Health and Human Services, Division of Public Health Services, Bureau of Infectious Disease Control

**Business Hours:** 603-271-4496
**Toll Free (in NH only):** 1-800-852-3345 x 4496
**After Hours:** 603-271-5300
**Toll Free (in NH only):** 1-800-852-3345 x 5300

Fax: 603-271-0545
**Do not fax HIV/AIDS Reports**

Electronically: Call during Business Hours to request an account in the NH Electronic Disease Surveillance System (NHEDSS)

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Reporting requirements are in accordance with Administrative Rules He-P 301 adopted Fall 2016

www.dhhs.nh.gov/dphs/cdcs
Note: A library of posters are available from the Centers for Disease Control (CDC). Several of these are included in this toolkit, but there are more available at this link:

https://www.cdc.gov/handwashing/posters.html
References


**Contact Information**

For questions about this document, please contact:
Bureau of Infectious Disease Control
Division of Public Health Services
NH Department of Health and Human Services
29 Hazen Drive, Concord, NH 03301-6504
Phone: (603) 271-4496
Website: http://www.dhhs.nh.gov/dphs/cdcs/lyme/index.htm