COVID-19 and HAI Updates and Q&A Webinars for Long-Term Care and Congregate Residential Settings

May 19th , 2023

Housekeeping

- All attendees in listen-only mode
- Submit questions via Q&A pod to **All Panelists**
- Slides and recording will be made available later
- For continuing education credit, complete evaluation survey upon end of webinar
  - Must be registered individually to receive credit

IDPH
Illinois Department of Public Health

Agenda

- Upcoming Webinars
- New COVID-19 Metric
- Norovirus
- Open Q & A

Slides and recording will be made available after the session.

Upcoming Infection Prevention and Control Q&A

1:00 pm - 2:00 pm

Date	Infection Control Topic	Registration Link
Thursday, May 25th	Updated COVID-19 Guidance	https://illinois.webex.com/weblink/register/rf05819c7b445b4a0fac50336134810db
Friday, June 5th	MDRO organisms: C. auris	https://illinois.webex.com/weblink/register/r41548e40d239c7e92a7bf651c8c06dfd

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New COVID-19 Metric

- As you know, CDC COVID-19 Community Transmission and Community Levels are no longer available due to the end of the Public Health Emergency.

- IDPH will align with CDC recommendations to use the rate of COVID-19 New Hospital Admissions **(20 new admissions per 100,000** population **during the past week)** as the new metric used to determine COVID-19 prevention practices in congregate settings.

- This data will be updated weekly and can be found on the CDC Data Tracker, at the same URL that Community Transmission/Levels were previously on.

- **NOT HIGH**: <20/100,000
- **HIGH**: ≥ 20/100,000*

*Please note that this information is also provided in the legend at the bottom of the map on the CDC Data Tracker

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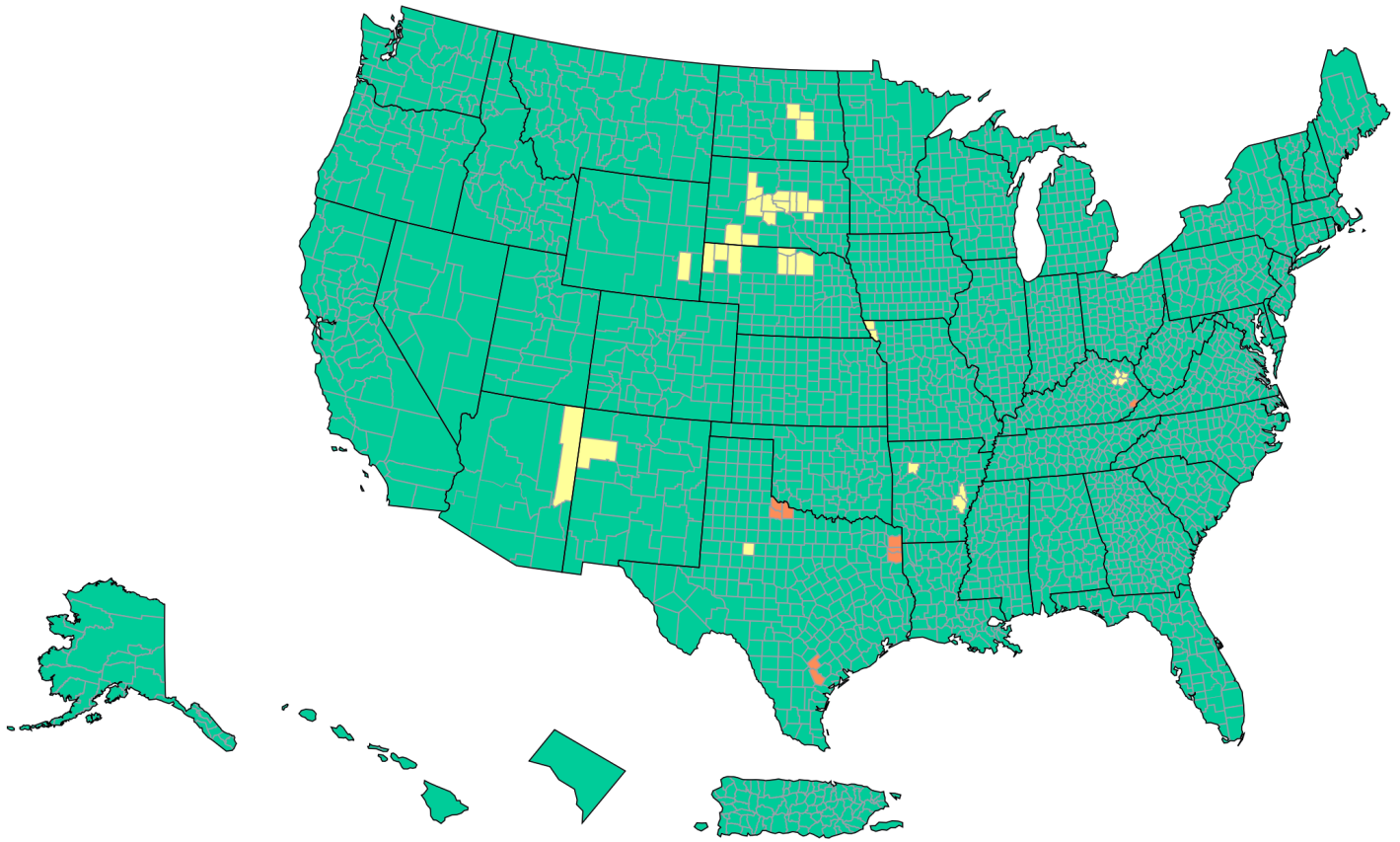
COVID-19 hospital admissions levels in US by county

Based on new COVID-19 hospital admissions per 100,000 population

	Total	Percent	% Change
≥ 20.0	9	0.28%	-0.03%
10.0 - 19.9	35	1.09%	0.59%
<10.0	3179	98.76%	-0.5%

Time Period: New COVID-19 hospital admissions per 100,000 population (7-day total) are calculated using data from the MMWR week (Sat-Sun) ending May 13, 2023.

US Reported COVID-19 New Hospital Admissions Rate per 100,000 in the Past Week, by County



New COVID-19 hospital admissions per 100,000 population, past week (total)

Low (<10.0) Medium (10.0 to 19.9) High (≥20.0) Insufficient data

What Should Facilities do until the New Guidance Drops?

- Please continue to follow the **current iteration of IDPH guidance** for your setting **using the COVID-19 New Hospital Admissions metric** until the new guidance is published.

- At this time, all Illinois Counties are **'NOT HIGH'** for COVID-19 New Hospital Admission rate.

- **Informational webinar has been scheduled for 1:00 PM on Thursday, May 25th, 2023,** where we will review the updated guidance, which is currently under review for approval.

- Enter any questions that you may have into the chat, and we will be sure to answer them during next week's webinar.

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Norovirus

May 19, 2023

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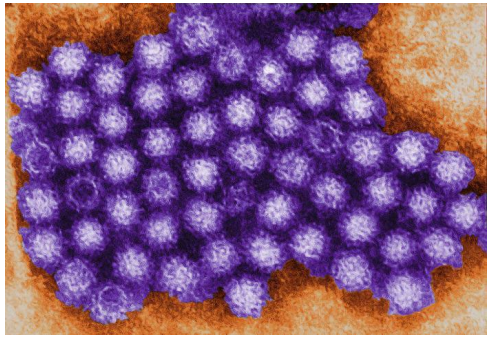
Disclosure

Mary Alice Lavin has no relevant financial relationship(s) to disclose with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

Objectives

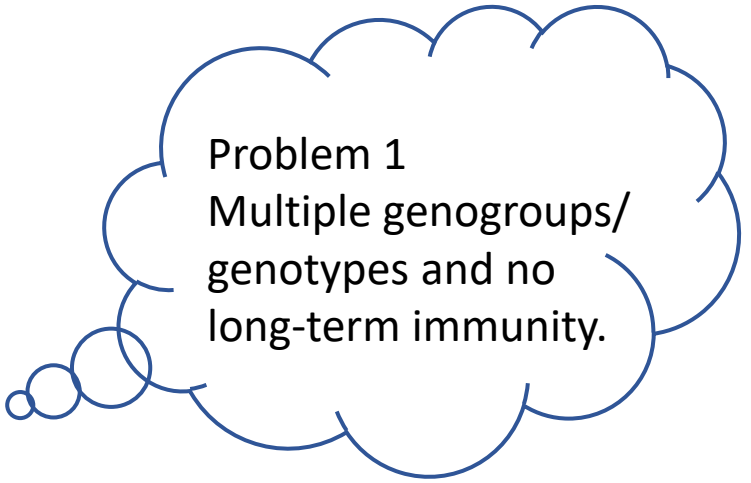
- Recognize the signs and symptoms of norovirus
- Apply infection prevention and control measures to prevent and reduce transmission of norovirus
- Identify resources to support prevention and control of norovirus

What is Norovirus and Why is it a Problem?



https://phil.cdc.gov/Details.aspx?pid=10708

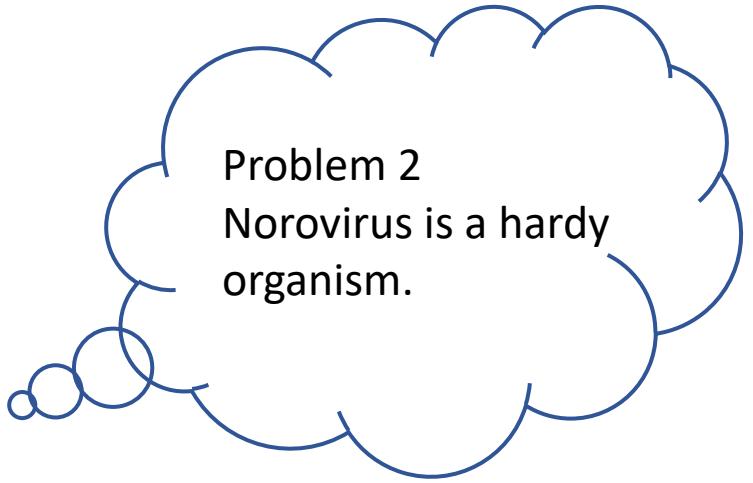
Background



- Norovirus was previously known as Norwalk or Norwalk-like virus
- It is a single-stranded RNA virus belonging to the *Caliciviridae* family
- There are 10 genogroups and 48 genotypes
- No long-term immunity
- Occurs year round with the peak during winter months
  - ➢New strains can cause a surge in cases

https://www.cdc.gov/norovirus/lab/virus-classification.html

Background



- Norovirus is a hardy organism
  - Remains infectious at freezing temperatures
  - Killed at temperatures above 140°F
  - Can remain on surfaces for up to 2 weeks
  - Common disinfectants are not effective

Symptoms

- Nausea
- Vomiting
- Diarrhea
- Abdominal pain
- Body aches
- Headache
- Tiredness
- Low-grade fever

Incubation and Duration of Illness

Incubation

- 24 – 48 hours

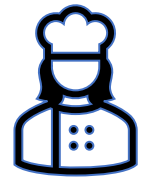
Duration of Illness

- 24 – 60 hours
  - Generally self limiting
  - No known long term effects

Mechanisms of Transmission

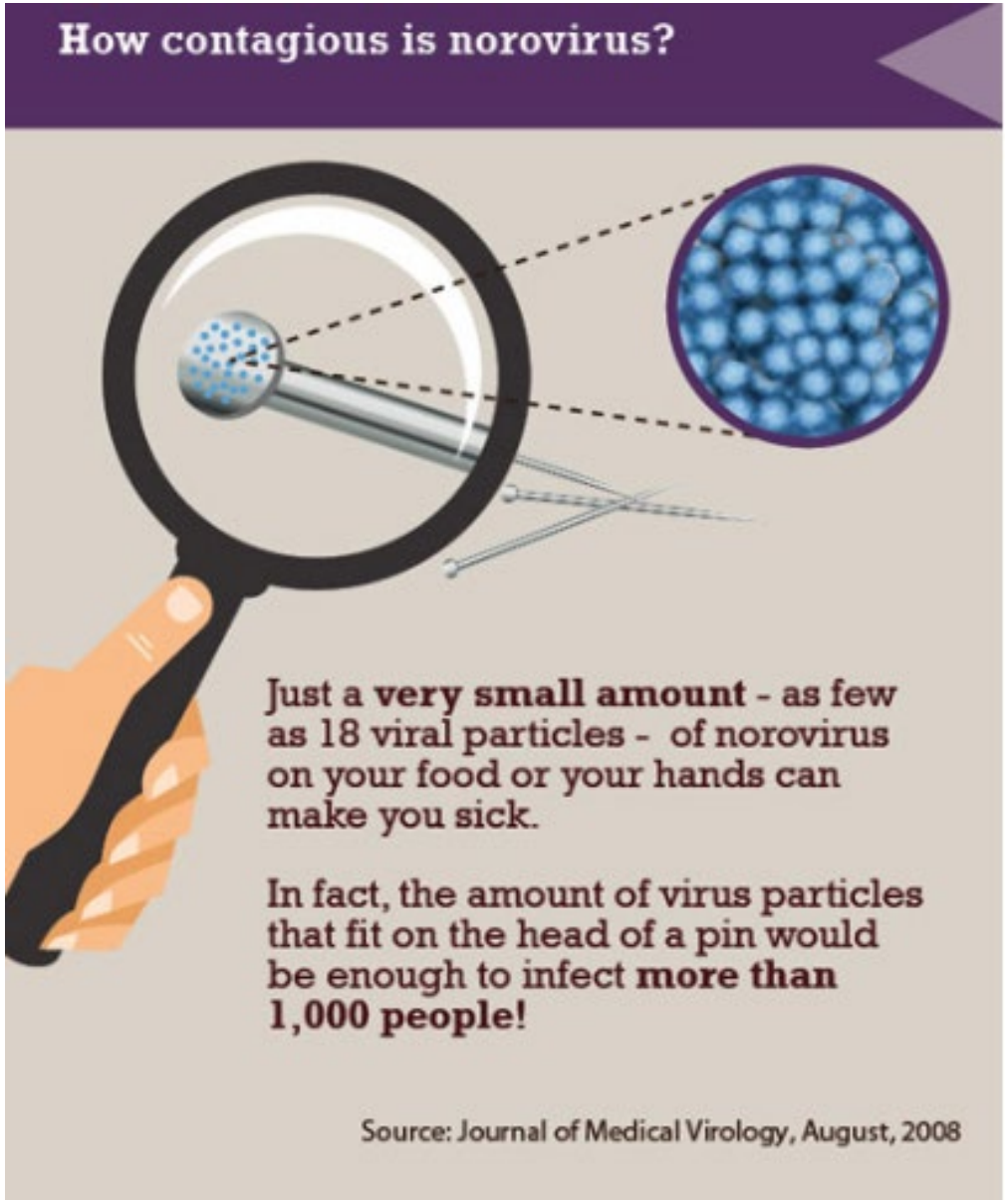
Problem 3
A setting like congregate care can amplify transmission.

- Person to person
  - Fecal – oral
  - Fomites
- Contaminated food
  - Food handler contamination without subsequent cooking
  - Shellfish



- Contaminated water

- *Aerosolized vomit and/or objects contaminated with feces*



https://www.cdc.gov/vitalsigns/norovirus/infographic.html#graphic

Problem 4
As few as 18 viral particles can cause illness.

Multistate Norovirus Outbreak Linked to Raw Oysters from Texas

Print

Updated April 14, 2023

This investigation is closed. Stay up to date on food recalls and outbreaks to avoid getting sick from eating contaminated food.

Recent Recall

The Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), the Texas Department of State Health Services, and other public health partners, investigated a multistate outbreak of norovirus illnesses linked to raw oysters from Texas.

Fast Facts

Illnesses: 322 illnesses* have been reported as of April 11, 2023.

States affected: Alabama (AL), Florida (FL), Georgia (GA), Louisiana (LA), Mississippi (MS) North Carolina (NC), Tennessee (TN), Texas (TX)

Recall: Yes DSHS Recalls Oysters Harvested in Area of Southeastern Galveston Bay | Texas DSHS

https://www.cdc.gov/norovirus/outbreaks/index.html

Preventing Norovirus Outbreaks

Food service has a key role.

Updated Dec. 23, 2019

Problem 5
Food and food handlers contribute to a large number of cases.

June 2014

CDC Vitalsigns™

20M

About 20 million people get sick from norovirus each year, most from close contact with infected people or by eating contaminated food.

#1

Norovirus is the leading cause of disease outbreaks from contaminated food in the US.

70%

Infected food workers cause about 70% of reported norovirus outbreaks from contaminated food.

https://www.cdc.gov/vitalsigns/norovirus/index.html

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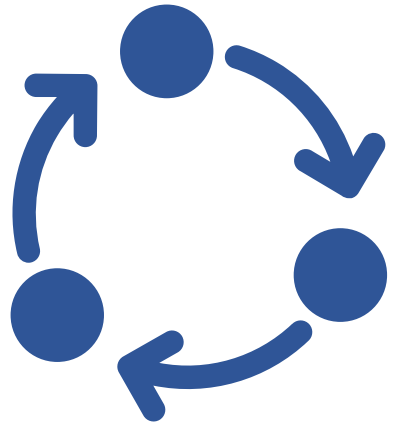
Steps in an Outbreak or Cluster Investigation

- Verify the diagnosis
- Confirm the outbreak
- Communicate
- Establish the case definition
- Identify the cases
- Organize the data
- Observations and data abstraction
- Formulate and test the hypothesis
- Mitigation measures
- Follow Up



https://illinois.webex.com/illinois/ldr.php?RCID=2337f28b2181df0ba62ccb1c33bbf51a

How can a norovirus outbreak be identified?

a) Laboratory testing

b) Clinical and/or epidemiologic data

c) Laboratory testing and clinical and/or epidemiologic data

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Laboratory Diagnosis

- Primarily PCR
- Stool specimens from at least 5 ill individuals
  - During the acute phase of the illness
  - Frozen packs for transportation
- *Vomitus*
  - *Transport frozen*
- Food, water, and environmental samples

https://www.cdc.gov/norovirus/lab/specimen-collection.html

Clinical and Epidemiologic Criteria

Kaplan Criteria[1]

1. A mean (or median) illness duration of 12 to 60 hours,
2. A mean (or median) incubation period of 24 to 48 hours,
3. More than 50% of people with vomiting, and
4. No enteric bacteria found

Lively Criteria[2]

1. A greater proportion of cases with vomiting than with fever,
2. Bloody diarrhea in less than 10% of cases, and
3. Vomiting in greater than 25 % of cases

[1]Kaplan JE, Gary GW, Baron RC, Singh N, Schonberger LB, Feldman R, et al. Epidemiology of Norwalk Gastroenteritis and the Role of Norwalk Virus in Outbreaks of Acute Nonbacterial Gastroenteritis. *Annals of internal medicine*, *96*(6), 756-761.

[2]https://academic.oup.com/ofid/article/5/4/ofy049/4966878?searchresult=1&login=false

Outbreak Definition – Centers for Disease Control and Prevention

An outbreak of norovirus is defined as an occurrence of two or more similar illnesses resulting from a common exposure that is either suspected or laboratory-confirmed to be caused by norovirus.

https://www.cdc.gov/norovirus/trends-outbreaks/responding.html
https://www.corha.org/resources-and-products/?filter_cat=norovirus

Outbreak Definition – Illinois Department of Public Health

Acute gastroenteritis (AGE) in a LTCF- An outbreak is defined as two or more AGE cases occurring in a unit with initial dates of onset within 48 hours of each other.

(IDPH Guidelines for the Prevention and Control of Viral Acute Gastroenteritis Outbreaks in Illinois Long-Term Care Facilities, 2012).

https://www.mchenrycountyil.gov/home/showdocument?id=2119

Acute Gastroenteritis / Norovirus Case Report Worksheet

Reporting facility: _____ Contact Name/Phone Number: _____ Estimated number of exposed patients during outbreak ☐

Street Address: _____ Outbreak Identification Number (Health Dept. assigned) _____ Estimated number of exposed staff during outbreak ☐

Unit: _____

	Patient/Staff Demographics					Case Location	Symptoms						Outcome		Diagnostics			
	Name	Unique ID (optional)	Patient (P) Staff (S)	Age	Sex (M/F)	Patients only: Room/Bed	Symptom onset date (mm/dd/yy)	Vomiting (Y/N)	Diarrhea (Y/N)	Bloody stools (Y/N)	Fever (Y/N)	Abdominal cramps (Y/N)	First symptom-free date (mm/dd/yy)	Died (Y/N/Unk)	Specimen(s) collected for diagnostics (Y/N/Unk)	Date of specimen collection (mm/dd/yy)	Lab Results	Location of stool specimen testing (H=HCF lab, C=contracted lab, S=state lab, CD=CDC lab)
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CS# 216887-A

If required, REDACT Name column prior to faxing; FAX to local/state health department upon completion

Outbreak Scenario

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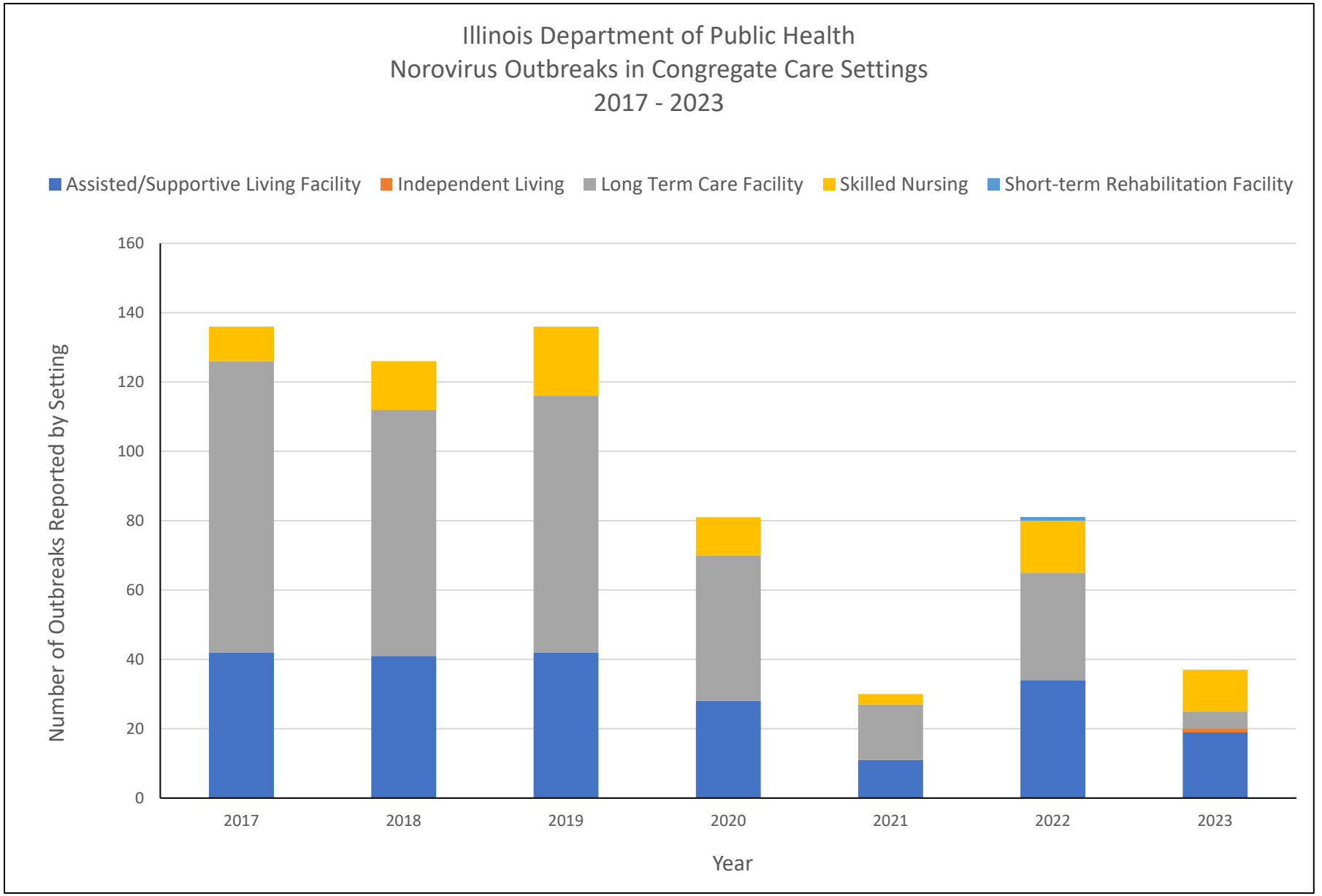

Data courtesy of the Communicable Disease Section

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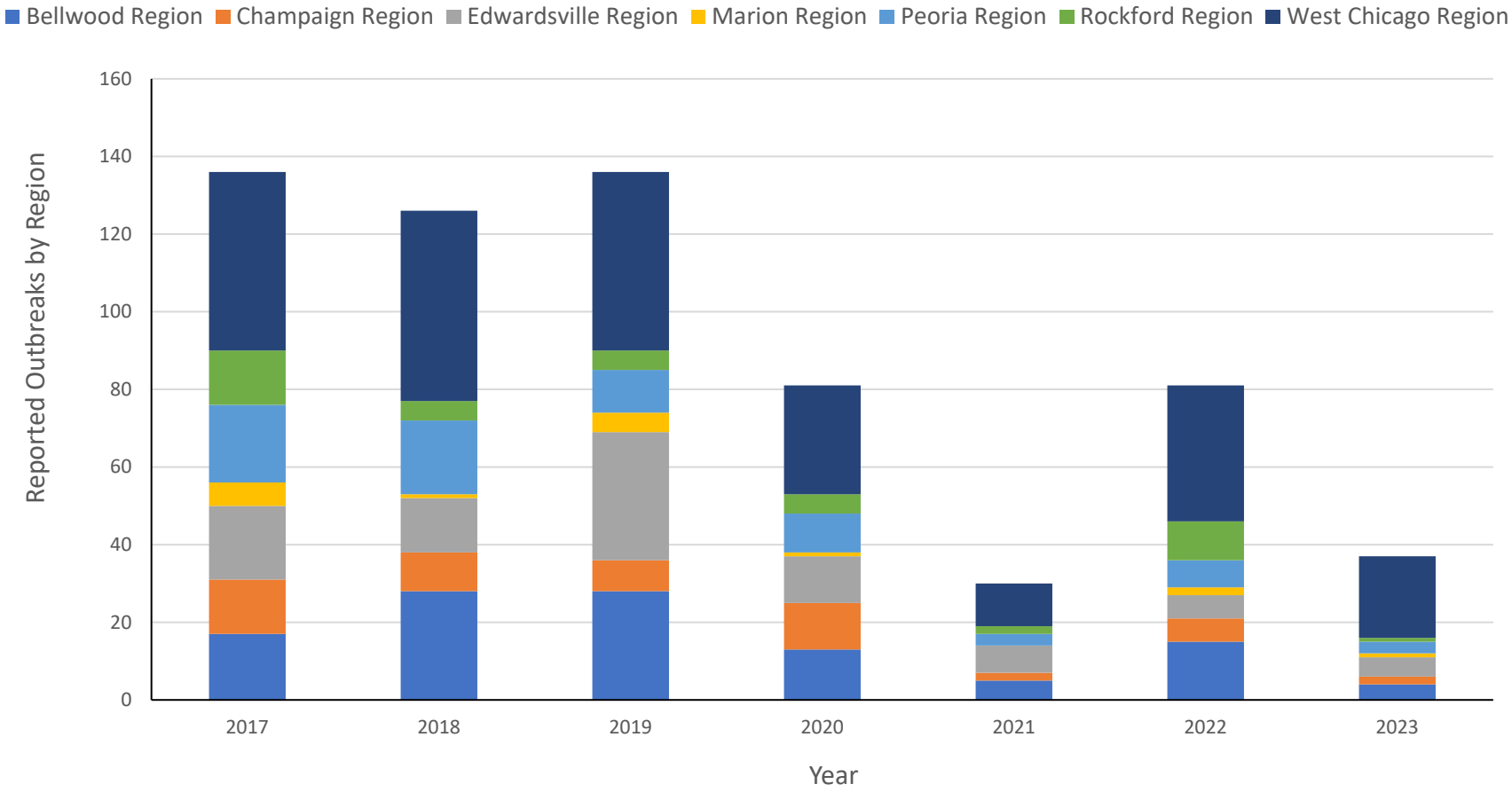
Illinois Department of Public Health
Norovirus Outbreaks in Congregate Care Settings
2017 -2023



Data courtesy of the Communicable Disease Section

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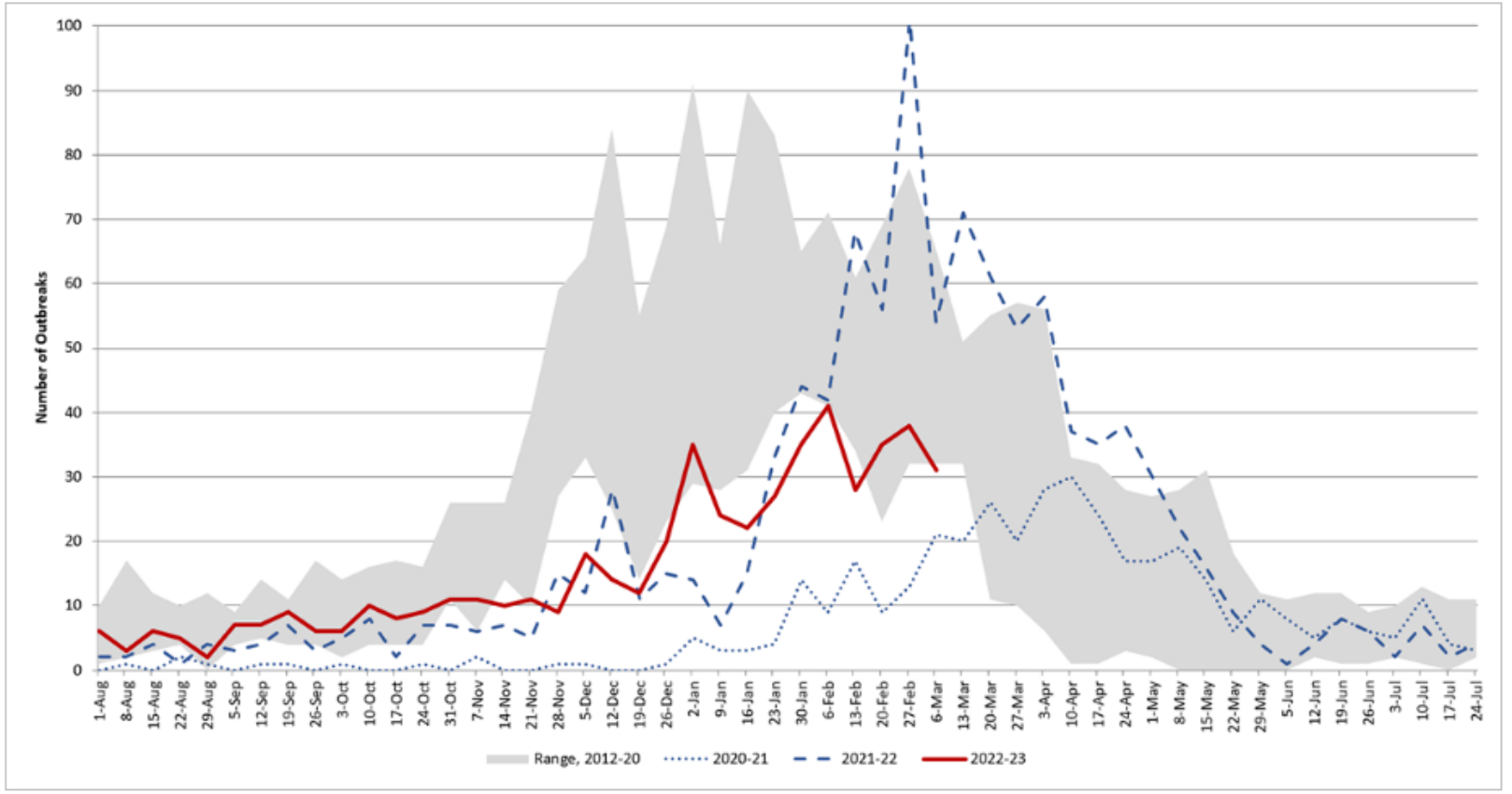
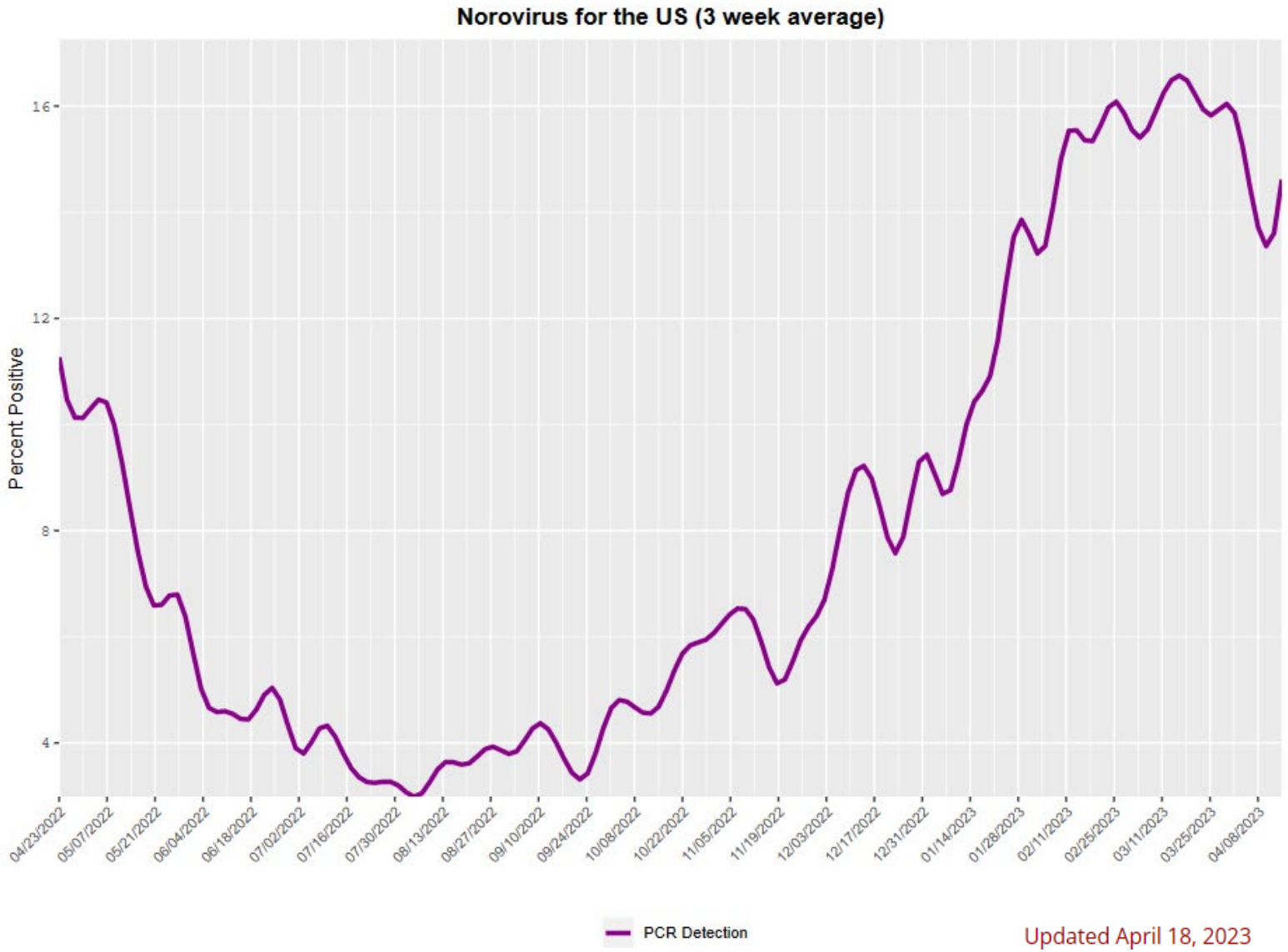
Number of Suspected or Confirmed Norovirus Outbreaks Reported by NoroSTAT-Participating States Per Week, 2012-2023



See data table for this chart.

*reported by the state health departments in Alabama, Massachusetts, Michigan, Minnesota, Nebraska, New Mexico, North Carolina, Ohio, Oregon, South Carolina, Tennessee, Virginia, Wisconsin, and Wyoming to CDC through the National Outbreak Reporting System (NORS) by week of illness onset, 2012-2023.

https://www.cdc.gov/norovirus/reporting/norostat/data.html



https://www.cdc.gov/surveillance/nrevss/norovirus/natl-trend.html

What are the Prevention and Control Measures?

Residents

- Single occupancy room
  - Cohort the sick
  - Limit movement of exposed to another unit
- Contact Precautions with face protection
  - Fluid resistant gowns
- Consider canceling group activities

Visitation

- Notification
  - Prompt reporting of signs and symptoms
  - Signs and symptoms
  - Infectiousness
  - Control measures

- Possible limitation
  - Strict adherence to gown, gloves, face protection and handwashing
  - Restrict contact with other residents

- Restrict symptomatic visitors

§483.10(f)(4) The resident has a right to receive visitors of his or her choosing at the time of his or her choosing, subject to the resident's right to deny visitation when applicable, and in a manner that does not impose on the rights of another resident.

(v) The facility must have written policies and procedures regarding the visitation rights of residents, including those setting forth any clinically necessary or reasonable restriction or limitation or safety restriction or limitation, when such limitations may apply consistent with the requirements of this subpart, that the facility may need to place on such rights and the reasons for the clinical or safety restriction or limitation.

GUIDANCE §483.10(f)(4)(ii)-(v)

Visitation Considerations During a Communicable Disease Outbreak

Facilities may need to modify their visitation practices when there are infectious outbreaks or pandemics to align with current CMS guidance and CDC guidelines that enables maximum visitation, such as by . . .

During an infectious disease outbreak, while not recommended, residents who are on transmission-based precautions (TBP) can still receive visitors. In these cases, before visiting residents who are on TBP, visitors should be made aware of the potential risk of visiting and precautions necessary in order to visit the resident. Visitors should adhere to principles of infection prevention.

https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/R211SOMA.pdf

§483.60(i) Food Safety Requirements
The facility must –

§483.60(i)(3) Have a policy regarding use and storage of foods brought to residents by family and other visitors to ensure safe and sanitary storage, handling, and consumption.

https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/R211SOMA.pdf

Staff

- Positive staff or those with signs and symptoms should be off until 48 hours after resolution of symptoms

- Staff who become ill during the shift should be sent home immediately

- Restrict staff movement
  - Consider cohorting staff

Culinary Services

- Don’t forget about the culinary staff
- Consider discontinuing family style meals
- Discard leftovers and/or open ready to eat products that may be implicated in those who became ill
- Ensure sanitation practices in the kitchen and dining rooms

Laundry

- Laundry staff should wear a gown and gloves at a minimum and manage linens with minimal agitation
- Hot water at the longest cycle should be utilized
- Utilize bleach if it will not damage the fabric
- Machine dry items

Environment of Care

- Ensure a product active against norovirus is available
  - ➢ Clean first
  - ➢ Disinfect second
- Follow the instructions for use
  - ➢ Measure and verify bleach concentration
- Consider increasing the interval for cleaning and disinfection of frequently touched surfaces

https://www.epa.gov/pesticide-registration/list-g-antimicrobial-products-registered-epa-claims-against-norovirus-feline

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Welcome > Health Topics > Environmental and Occupational Health > Water Quality > Chlorine Dilution Calculator

Chlorine Dilution Calculator

This easy-to-use calculator tells you how much bleach product to dilute with water to get your desired concentration (ppm) of chlorine solution.

It is intended for use by public health units, health care facilities, child care centres, swimming pool operators, and the general public (e.g., for disinfection of wells and homes).

Important: Always add the bleach solution to the water when preparing the solution, not vice versa.

If you are a well contractor, please make sure to use the Well Disinfection Tool.

Concentration of bleach product

% sodium hypochlorite

Desired concentration of chlorine solution

ppm or mg/L

Desired volume of chlorine solution

gallons (US)

https://www.publichealthontario.ca/en/health-topics/environmental-occupational-health/water-quality/chlorine-dilution-calculator

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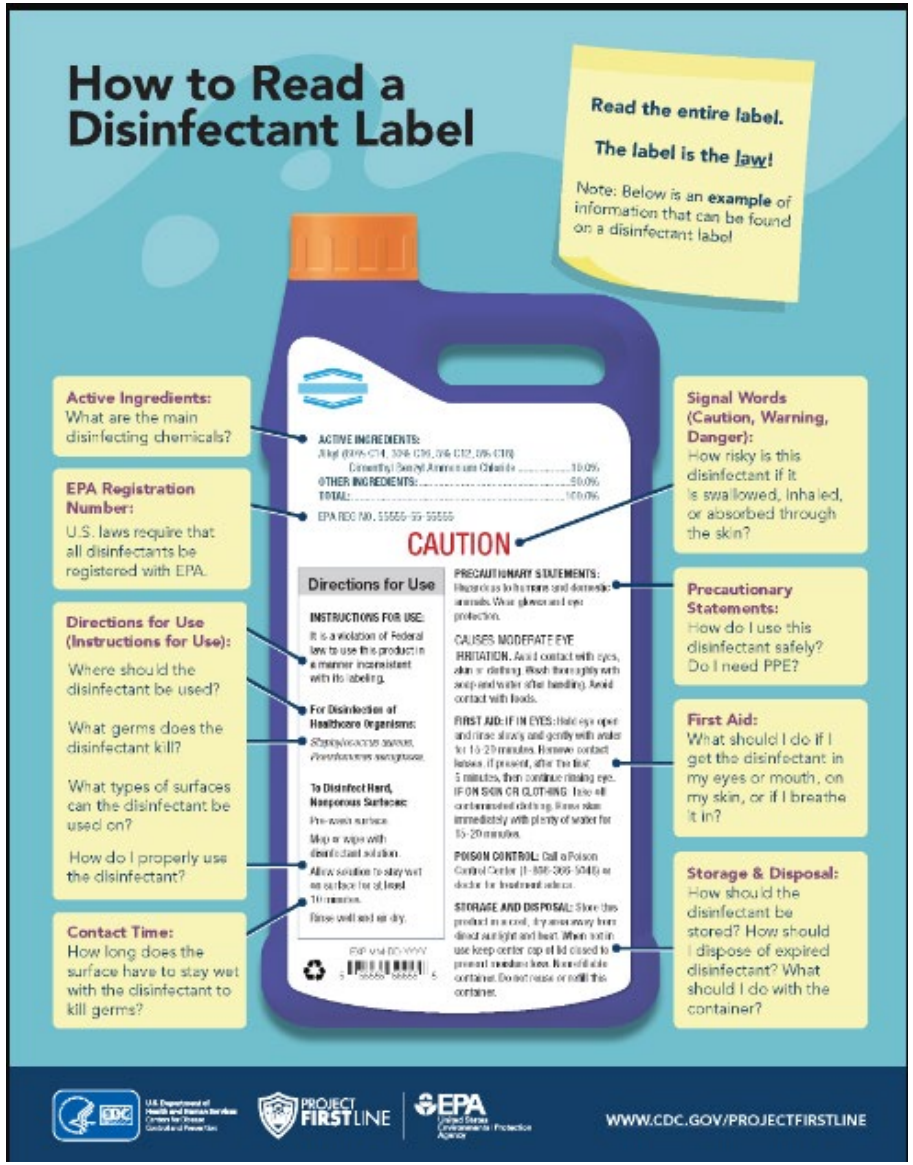
Resources



https://www.epa.gov/system/files/images/2022-09/HowToReadALabel-508c-Final-2022-08-30%20%28005%29_1.png

Investigation and Reporting

Investigation

- Heightened awareness and additional case finding
  - Staff
  - Residents
- Line lists
- 24 hour logs
- Standup
- Call offs

Outbreaks in long term care facilities must be reported to:

a) There is no reporting requirement for outbreaks in long-term care facilities.

b) Only the Director of Nursing.

c) The Director of Nursing and the local health department.

d) The Director of Nursing, the local health department, and the Illinois Department of Public Health (IDPH) Office of Health Care Regulation (OHCR).

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Notification and Reporting

- Internal
  - Chain of command
    - DON/ADON
    - Administrator
    - Medical Director
    - Corporate Leadership
  - Staff
  - Residents
  - Families and visitors

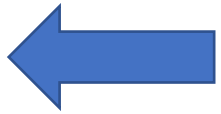
- External
  - Local Health Department
  - IDPH Office of Health Care Regulation

Regulatory Requirements

TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER c: LONG-TERM CARE FACILITIES
PART 295 ASSISTED LIVING AND SHARED HOUSING ESTABLISHMENT CODE
SECTION 295.2050 INCIDENT AND ACCIDENT REPORTING

Section 295.2050 Incident and Accident Reporting

a) An establishment shall report to the Department an incident or accident that has a significant negative effect on a resident's health, safety or welfare. A significant negative effect shall be assumed whenever an unplanned or unscheduled visit to a hospital is necessary as a result of that incident or accident, treatment is provided, and follow-up care is required.



b) The report shall be made by contacting the Department of Public Health Central Complaint Registry or by fax or by other electronic means within 24 hours after the occurrence of the incident or accident.

c) A copy of the report shall be maintained by the establishment for one year after the date of the incident or accident.

(Source: Amended at 28 Ill. Reg. 14593, effective October 21, 2004)

https://www.ilga.gov/commission/jcar/admincode/077/077002950B20500R.html
https://www.ilga.gov/commission/jcar/admincode/077/077003000C06900R.html
https://www.ilga.gov/commission/jcar/admincode/077/077003500F12230R.html
https://www.ilga.gov/commission/jcar/admincode/077/077003700E08200R.html
https://www.ilga.gov/commission/jcar/admincode/077/077003900E11300R.html
https://dph.illinois.gov/content/dam/soi/en/web/idph/forms/topics-services/health-care-regulation/complaints/LTC-incident-reporting-form-7.2022.pdf

Regulatory Requirements

Section 295.4040 Communicable Disease Policies

a) The establishment shall meet the Control of Communicable Diseases Code (77 Ill. Adm. Code 690).

b) The establishment shall not knowingly admit a person with a communicable, contagious, or infectious disease, as defined in the Control of Communicable Diseases Code. A resident who is suspected of or diagnosed as having any such disease shall be placed in isolation, if required, in accordance with the Control of Communicable Diseases Code. If the establishment believes that it cannot provide the necessary infection control measures, it shall initiate residency termination pursuant to Section 80 of the Act.

c) All illnesses required to be reported under the Control of Communicable Diseases Code and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693) shall be reported immediately to the local health department and to the Department. The establishment shall furnish all pertinent information relating to such occurrences. In addition, the establishment shall also inform the Department of all incidents of scabies and other skin infestations.

https://www.ilga.gov/commission/jcar/admincode/077/077002950D40400R.html
https://www.ilga.gov/commission/jcar/admincode/077/077003000E10200R.html
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Regulatory Requirements

SUBPART D: DETAILED PROCEDURES FOR THE CONTROL OF COMMUNICABLE DISEASES

Section 690.295 Any Unusual Case of a Disease or Condition Caused by an Infectious Agent Not Listed in this Part that is of Urgent Public Health Significance (Reportable by telephone immediately (within three hours))

a) Control of Case
Cases shall be evaluated to determine the need for isolation in a health care setting or at the person's residence. The isolation precautions followed shall be based on the most likely pathogen.

b) Control of Contacts
Contacts shall be evaluated to determine the need for quarantine.

c) Persons who identify a single case of a rare or significant infectious disease shall report the case to the local health authority. This may include, but is not limited to, a case of cowpox, Reye's syndrome, glanders, amoebic meningoencephalitis, orf, monkeypox, hemorrhagic fever viruses, infection from a laboratory-acquired recombinant organism, or any disease non-indigenous to the United States.

https://www.ilga.gov/commission/jcar/admincode/077/077006900D02950R.html

Regulatory Requirements

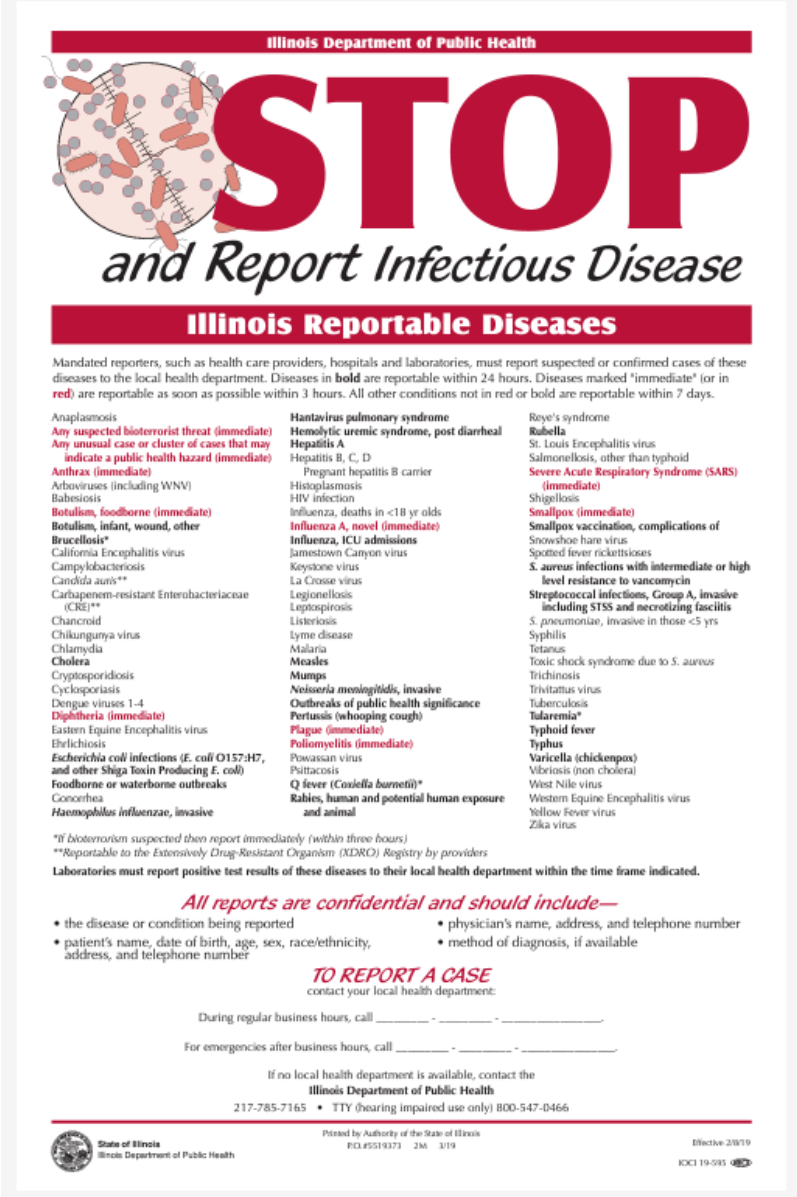
SUBPART D: DETAILED PROCEDURES FOR THE CONTROL OF COMMUNICABLE DISEASES

Section 690.565 Outbreaks of Public Health Significance (Including, but Not Limited to, Foodborne or Waterborne Outbreaks) (Reportable by telephone or electronically as soon as possible, within 24 hours)

a) Investigation of Outbreaks

1) Any pattern of cases, or increased incidence of any illness beyond the expected number of cases in a given period, that may indicate an outbreak, including suspect or confirmed outbreaks of foodborne or waterborne disease, or outbreaks transmitted by laboratory acquisition, animal contact, person-to-person contact, inhalation or other transmission method, shall be reported to the local health authority within 24 hours. This includes, but is not limited to, outbreaks of gastroenteritis and group A streptococcal disease (including invasive infections, necrotizing fasciitis, and toxic shock syndrome).

https://www.ilga.gov/commission/jcar/admincode/077/077006900D05650R.html



Illinois Department of Public Health

STOP

and Report Infectious Disease

Illinois Reportable Diseases

Mandated reporters, such as health care providers, hospitals and laboratories, must report suspected or confirmed cases of these diseases to the local health department. Diseases in **bold** are reportable within 24 hours. Diseases marked "immediate" (or in red) are reportable as soon as possible within 3 hours. All other conditions not in red or bold are reportable within 7 days.

Anaplasmosis
Any suspected bioterrorist threat (immediate)
Any unusual case or cluster of cases that may indicate a public health hazard (immediate)
Anthrax (immediate)
Arboviruses (including WNV)
Babesiosis
Botulism, foodborne (immediate)
Botulism, infant, wound, other
Brucellosis*
California Encephalitis virus
Campylobacteriosis
*Candida auris***
Carbapenem-resistant Enterobacteriaceae (CRE)**
Chancroid
Chikungunya virus
Chlamydia
Cholera
Cryptosporidiosis
Cyclosporiasis
Dengue viruses 1-4
Diphtheria (immediate)
Eastern Equine Encephalitis virus
Ehrlichiosis
***Escherichia coli* infections (*E. coli* O157:H7, and other Shiga Toxin Producing *E. coli*)**
Foodborne or waterborne outbreaks
Gonorrhea
***Haemophilus influenzae*, invasive**
Hantavirus pulmonary syndrome
Hemolytic uremic syndrome, post diarrheal
Hepatitis A
Hepatitis B, C, D
Pregnant hepatitis B carrier
Histoplasmosis
HIV infection
Influenza, deaths in <18 yr olds
Influenza A, novel (immediate)
Influenza, ICU admissions
Jamestown Canyon virus
Keystone virus
La Crosse virus
Legionellosis
Leptospirosis
Listeriosis
Lyme disease
Malaria
Measles
Mumps
***Neisseria meningitidis*, invasive**
Outbreaks of public health significance
Pertussis (whooping cough)
Plague (immediate)
Poliomyelitis (immediate)
Powassan virus
Psittacosis
Q fever (*Coxiella burnetii*)*
Rabies, human and potential human exposure and animal
Reye's syndrome
Rubella
St. Louis Encephalitis virus
Salmonellosis, other than typhoid
Severe Acute Respiratory Syndrome (SARS) (immediate)
Shigellosis
Smallpox (immediate)
Smallpox vaccination, complications of
Snowshoe hare virus
Spotted fever rickettsioses
S. aureus infections with intermediate or high level resistance to vancomycin
Streptococcal infections, Group A, invasive including STSS and necrotizing fasciitis
S. pneumoniae, invasive in those <5 yrs
Syphilis
Tetanus
Toxic shock syndrome due to *S. aureus*
Trichinosis
Trivittatus virus
Tuberculosis
Tularemia*
Typhoid fever
Typhus
Varicella (chickenpox)
Vibriosis (non cholera)
West Nile virus
Western Equine Encephalitis virus
Yellow Fever virus
Zika virus

*If bioterrorism suspected then report immediately (within three hours)
**Reportable to the Extensively Drug-Resistant Organism (XDRO) Registry by providers

Laboratories must report positive test results of these diseases to their local health department within the time frame indicated.

All reports are confidential and should include—

- the disease or condition being reported
- patient's name, date of birth, age, sex, race/ethnicity, address, and telephone number
- physician's name, address, and telephone number
- method of diagnosis, if available

TO REPORT A CASE
contact your local health department:

During regular business hours, call _____ - _____ - _____.

For emergencies after business hours, call _____ - _____ - _____.

If no local health department is available, contact the
Illinois Department of Public Health
217-785-7165 • TTY (hearing impaired use only) 800-547-0466

State of Illinois
Illinois Department of Public Health

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https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/illinois-stop-and-report-disease-poster.pdf

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Norovirus in Healthcare Facilities Fact Sheet

General Information

Virology

Noroviruses (genus Norovirus, family Caliciviridae) are a group of related, single-stranded RNA, non-enveloped viruses that cause acute gastroenteritis in humans. Norovirus is the official genus name for the group of viruses provisionally described as "Norwalk-like viruses". Currently, human noroviruses belong to one of three norovirus genogroups (GI, GII, or GIV), which are further divided into >25 genetic clusters. Over 75% of confirmed human norovirus infections are associated with genotype GII.

Clinical manifestations

The average incubation period for norovirus-associated gastroenteritis is 12 to 48 hours, with a median period of approximately 33 hours. Illness is characterized by nausea, acute-onset vomiting, and watery, non-bloody diarrhea with abdominal cramps. In addition, myalgia, malaise, and headache are commonly reported. Low-grade fever is present in about half of cases. Dehydration is the most common complication and may require intravenous replacement fluids. Symptoms usually last 24 to 60 hours. Up to 30% of infections may be asymptomatic.

Epidemiology of transmission

Noroviruses are highly contagious, with as few as 18 virus particles thought to be sufficient to cause infection. This pathogen is estimated to be the causative agent in over 21 million gastroenteritis cases every year in the United States, representing approximately 60% of all acute gastroenteritis cases from known pathogens. Noroviruses are transmitted primarily through the fecal-oral route, either by direct person-to-person spread or fecally contaminated food or water. Noroviruses can also spread via a droplet route from vomitus. These viruses are relatively stable in the environment and can survive freezing and heating to 60°C (140°F). In healthcare facilities, transmission can also occur through hand transfer of the virus to the oral mucosa via contact with materials, fomites, and environmental surfaces that have been contaminated with either feces or vomitus.

Norovirus infections are seen in all age groups, although severe outcomes and longer durations of illness are most likely to be reported among the elderly. Among hospitalized persons who are immunocompromised or have significant medical comorbidities, norovirus infection can directly result in prolonged hospital stays, additional medical complications, and, rarely, death. There is currently no vaccine available for norovirus and, generally, no specific medical treatment is offered for norovirus infection apart from oral or intravenous repletion of volume.

The ease of its transmission, a very low infectious dose, a short incubation period, environmental persistence, and lack of durable immunity following infection enables norovirus to spread rapidly through confined populations. Healthcare facilities and other institutional settings (e.g., daycare centers, schools, etc.) are particularly at-risk for outbreaks because of increased person-to-person contact. Healthcare facilities managing outbreaks of norovirus gastroenteritis may experience significant costs relating to isolation precautions and personal protective equipment, ward closures, supplemental environmental cleaning, staff cohorting or replacement, and sick time.

Diagnosis of norovirus infection

Diagnosis of norovirus infection relies on the detection of viral RNA in the stools of affected persons, by use of reverse transcription-polymerase chain reaction (RT-PCR) assays. This technology is available at CDC and most state public health laboratories and should be considered in the event of outbreaks of gastroenteritis in healthcare facilities. Enzyme immune-assays may also be used for identification of norovirus outbreak but are not recommended for diagnosis of individuals. Identification of the virus can be best made from stool specimens taken within 48 to 72 hours after onset of symptoms, although positive results can be obtained by using RT-PCR on samples taken as long as 7 days after symptom onset. Because of the limited availability of timely and routine laboratory diagnostic methods, a clinical diagnosis of norovirus infection is often used, especially when other agents of gastroentertis have been ruled out.

https://www.cdc.gov/hai/pdfs/norovirus/229110-ANoroCaseFactSheet508.pdf

Resources

https://waterandhealth.org/resources/posters/#norovirus

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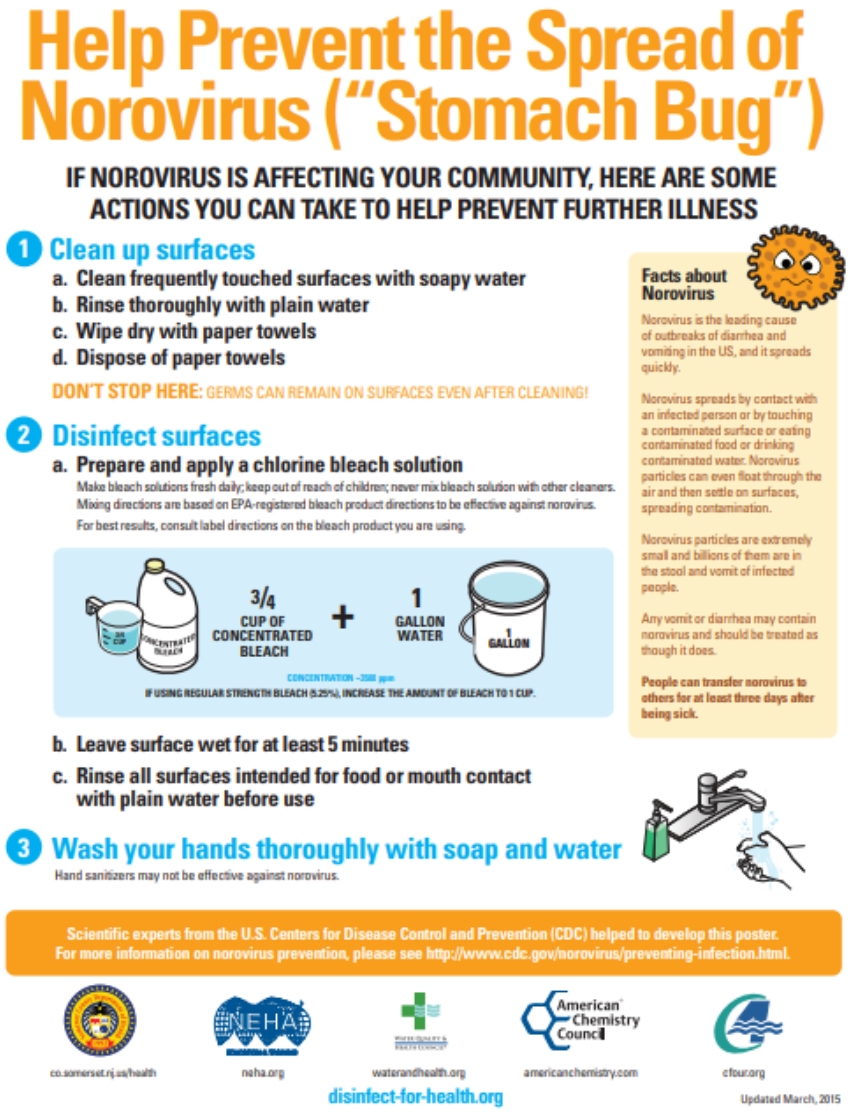

Help Prevent the Spread of Norovirus ("Stomach Bug")

IF NOROVIRUS IS AFFECTING YOUR COMMUNITY, HERE ARE SOME ACTIONS YOU CAN TAKE TO HELP PREVENT FURTHER ILLNESS

1 Clean up surfaces

a. Clean frequently touched surfaces with soapy water
b. Rinse thoroughly with plain water
c. Wipe dry with paper towels
d. Dispose of paper towels

DON'T STOP HERE: GERMS CAN REMAIN ON SURFACES EVEN AFTER CLEANING!

2 Disinfect surfaces

a. Prepare and apply a chlorine bleach solution

Make bleach solutions fresh daily; keep out of reach of children; never mix bleach solution with other cleaners. Mixing directions are based on EPA-registered bleach product directions to be effective against norovirus.

For best results, consult label directions on the bleach product you are using.

3/4 CUP OF CONCENTRATED BLEACH + 1 GALLON WATER

CONCENTRATION ~2500 ppm

IF USING REGULAR STRENGTH BLEACH (5.25%), INCREASE THE AMOUNT OF BLEACH TO 1 CUP.

b. Leave surface wet for at least 5 minutes
c. Rinse all surfaces intended for food or mouth contact with plain water before use

3 Wash your hands thoroughly with soap and water

Hand sanitizers may not be effective against norovirus.

Facts about Norovirus

Norovirus is the leading cause of outbreaks of diarrhea and vomiting in the US, and it spreads quickly.

Norovirus spreads by contact with an infected person or by touching a contaminated surface or eating contaminated food or drinking contaminated water. Norovirus particles can even float through the air and then settle on surfaces, spreading contamination.

Norovirus particles are extremely small and billions of them are in the stool and vomit of infected people.

Any vomit or diarrhea may contain norovirus and should be treated as though it does.

People can transfer norovirus to others for at least three days after being sick.

Scientific experts from the U.S. Centers for Disease Control and Prevention (CDC) helped to develop this poster.
For more information on norovirus prevention, please see http://www.cdc.gov/norovirus/preventing-infection.html.

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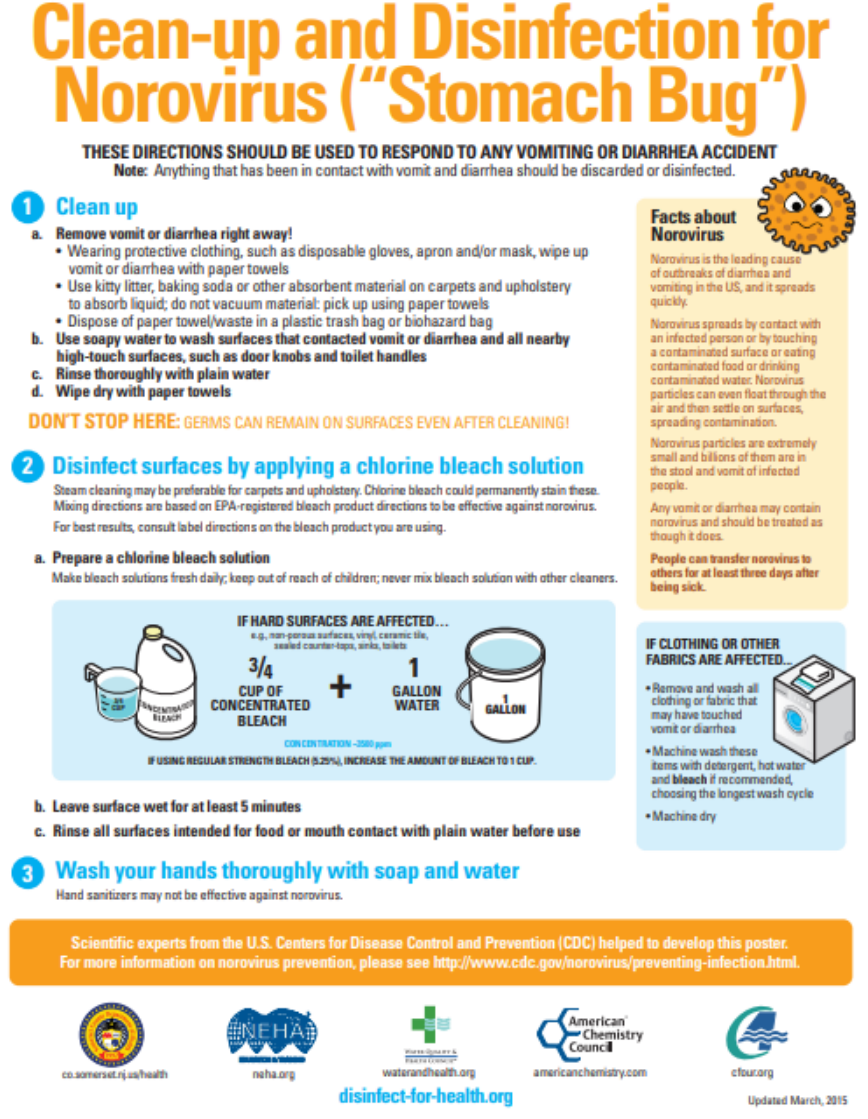
disinfect-for-health.org

Updated March, 2015



Clean-up and Disinfection for Norovirus ("Stomach Bug")

THESE DIRECTIONS SHOULD BE USED TO RESPOND TO ANY VOMITING OR DIARRHEA ACCIDENT

Note: Anything that has been in contact with vomit and diarrhea should be discarded or disinfected.

1 Clean up

a. **Remove vomit or diarrhea right away!**
   - Wearing protective clothing, such as disposable gloves, apron and/or mask, wipe up vomit or diarrhea with paper towels
   - Use kitty litter, baking soda or other absorbent material on carpets and upholstery to absorb liquid; do not vacuum material: pick up using paper towels
   - Dispose of paper towel/waste in a plastic trash bag or biohazard bag
b. **Use soapy water to wash surfaces that contacted vomit or diarrhea and all nearby high-touch surfaces, such as door knobs and toilet handles**
c. **Rinse thoroughly with plain water**
d. **Wipe dry with paper towels**

DON'T STOP HERE: GERMS CAN REMAIN ON SURFACES EVEN AFTER CLEANING!

2 Disinfect surfaces by applying a chlorine bleach solution

Steam cleaning may be preferable for carpets and upholstery. Chlorine bleach could permanently stain these. Mixing directions are based on EPA-registered bleach product directions to be effective against norovirus.

For best results, consult label directions on the bleach product you are using.

a. **Prepare a chlorine bleach solution**

Make bleach solutions fresh daily; keep out of reach of children; never mix bleach solution with other cleaners.

IF HARD SURFACES ARE AFFECTED…
e.g., non-porous surfaces, vinyl, ceramic tile, sealed counter-tops, sinks, toilets

3/4 CUP OF CONCENTRATED BLEACH + 1 GALLON WATER

CONCENTRATION ~2500 ppm

IF USING REGULAR STRENGTH BLEACH (5.25%), INCREASE THE AMOUNT OF BLEACH TO 1 CUP.

b. **Leave surface wet for at least 5 minutes**
c. **Rinse all surfaces intended for food or mouth contact with plain water before use**

3 Wash your hands thoroughly with soap and water

Hand sanitizers may not be effective against norovirus.

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Norovirus particles are extremely small and billions of them are in the stool and vomit of infected people.

Any vomit or diarrhea may contain norovirus and should be treated as though it does.

People can transfer norovirus to others for at least three days after being sick.

IF CLOTHING OR OTHER FABRICS ARE AFFECTED…

- Remove and wash all clothing or fabric that may have touched vomit or diarrhea
- Machine wash these items with detergent, hot water and **bleach** if recommended, choosing the longest wash cycle
- Machine dry

Scientific experts from the U.S. Centers for Disease Control and Prevention (CDC) helped to develop this poster.
For more information on norovirus prevention, please see http://www.cdc.gov/norovirus/preventing-infection.html.

co.somerset.nj.us/health · neha.org · waterandhealth.org · americanchemistry.com · cfour.org

disinfect-for-health.org

Updated March, 2015

https://waterandhealth.org/resources/posters/#norovirus

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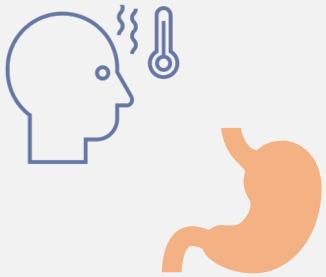
Summary

Reinfection can occur.

Norovirus is a hardy organism.



Signs and symptoms may be called the stomach flu.

Summary

Congregate care can create the perfect storm for transmission.

Norovirus is highly infectious at a small dose.

Outbreaks of norovirus can occur anywhere food is served, or people gather.

Summary

Control measures need to be implemented quickly to limit transmission.

Identify all cases.

Notify and report.

Additional Resources

- McHenry County Department of Public Health. Infectious Insights. Winter 2016. Norovirus. Available at: https://www.mchenrycountyil.gov/home/showpublisheddocument/58871/635902686690130000 Accessed April 26, 2023.
- Centers for Disease Control and Prevention. Norovirus. Reporting and Surveillance for Norovirus. Available at: https://www.cdc.gov/norovirus/reporting/index.html Accessed April 26, 2023.
- Centers for Disease Control and Prevention. Norovirus Gastroenteritis: Management of Outbreaks in Healthcare Settings. https://www.cdc.gov/hai/pdfs/norovirus/NoroVirus-Gen508.pdf Accessed April 26, 2023.
- Wisconsin Department of Health Services. Recommendations for Prevention and Control of Acute Gastroenteritis Outbreaks in Wisconsin Long-Term Care Facilities. December 2017. Available at: https://www.dhs.wisconsin.gov/publications/p0/p00653.pdf Accessed April 26, 2023.
- State of Tennessee. Department of Health. Communicable and Environmental Disease and Emergency Preparedness. Recommendations for the Prevention and Control of Viral Gastroenteritis Outbreaks in Long-Term Care Facilities. Available at: https://www.tn.gov/content/dam/tn/health/documents/LTCF_guidelines.pdf Accessed April 26, 2023.

Open Q&A

Submit questions via Q&A pod to **All Panelists**

Please do not resubmit a single question multiple times

Slides and recording will be made available after the session.

Reminders

- For continuing education credit, please fill out the evaluation survey upon end of webinar

- SIREN Registration
  - To receive situational awareness from IDPH, please use this link to guide you to the correct registration instructions for your public health related classification: http://www.dph.illinois.gov/siren

- NHSN Assistance:
  - Contact Telligen: **nursinghome@telligen.com**